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INTEGRATED WETLAND ASSESSMENT PROGRAM
Part 9: Field Manual for the Vegetation Index of Biotic Integrity for Wetlands
v. 1.4

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PART 9: FIELD MANUAL FOR THE VEGETATION INDEX OF BIOTIC INTEGRITY FOR WETLANDS v. 1.4.

John J. Mack

ABSTRACT

A field manual has been developed documenting sampling, laboratory, and data analysis procedures necessary to calculate the Vegetation Index of Biotic Integrity for wetlands (Mack et al. 2000, Mack 2001b, Mack 2004a, and Mack 2004b). It is intended to be used to standardize vegetation sampling techniques for the development and use of wetland biological assessments using vascular plants as an indicator species. The methods outlined here can also be used in other situations including monitoring mitigation wetlands or for more general plant community characterization. This manual documents methods used in the Ohio Environmental Protection Agency's wetland program. The vegetation sampling procedures were adapted from methods developed for the North Carolina Vegetation Survey as described in Peet et al. (1998). Their method has been used at over 3000 sites for over ten years by the North Carolina Vegetation Survey. Ohio EPA has sampled nearly plots between 1999-2006, including reference wetlands, mitigation banks, and individual mitigation wetlands. The most typical application of the method employs a set of 10 modules in a 20m x 50m layout. Within the site to be surveyed, the 20m x 50m grid is located such that the long axis of the plot is oriented to minimize the environmental heterogeneity within the plot. For very large natural wetlands or large mitigation or restoration sites, e.g. mitigation bank sites, a randomized variation was developed in which a standard 2 x 5 plot with 10 modules is taken apart and individual 10 x 10m modules randomly placed across the wetland or mitigation being sampled. Plot location rules were developed for consistent location of plots. Finally, steps for reducing and analyzing the data collected are outlined.

INTRODUCTION

Background

This field manual documents sampling, laboratory, and data analysis procedures necessary to calculate the Vegetation Index of Biotic Integrity for wetlands (Mack 2004b, Mack and Micacchion 2006). It is intended to be used to standardize and document vegetation sampling techniques for the development and use of wetland biological assessments using vascular plants as an indicator species. The methods outlined here can also be used in other situations including monitoring mitigation wetlands or for more general plant community characterization in wetland and upland plant communities. This manual documents methods used in the Ohio Environmental Protection Agency's wetland program.

The Ohio EPA began evaluating vegetation sampling methods in 1996. Major concerns in selecting a sampling method were ease of use, cost, and reproducibility of results. Ohio EPA sampled disturbed and undisturbed wetlands in western and central Ohio in 1996-1998. Initially, Ohio EPA evaluated a fixed transect method with $1m^2$ and $10m^2$ circular nested quadrats spaced evenly along the transect. A minimum of 30 quadrats were sampled along 3 transects ($30m^2$ area sampled herbaceous vegetation and $300m^2$ woody vegetation), with at least one transect oriented perpendicular to the other two. In addition, plants located outside the quadrats but within a 5m wide "belt" along the transect were identified but no density or dominance information was recorded for these plants (hereafter transect-belt method). Within the quadrats, percent cover and stem counts (woody only) were recorded for each species (Fennessy et al. 1998).

By 1999, it became apparent that many of the more successful attributes were associated with measures of dominance or abundance, e.g. percent cover, density (stems/ha), etc. However, using the transect-belt method, 30% to 60% of the plants observed had only presence/absence data associated with them (Mack et al. 2000). There were also other problems. First, the area sampled to characterize forested communities appeared to be too small. The forestry literature recommends $400\text{-}1000m^2$ as minimum area to adequately characterize eastern forest communities (Peet et al. 1998). Second, the transect method often passed through several different plant communities, homogenizing the vegetation data for wetlands with multiple plant communities. Finally, the transect method appeared to overemphasize wetland “edge” species. Because of this, Ohio EPA reevaluated its sampling method and adopted a method used by the North Carolina Vegetation Survey as described in Peet et al. (1998). This is a multipurpose sampling method that is appropriate for most types of vegetation, flexible in intensity and time commitment, compatible with other data types from other methods, and that provides information on species composition across spatial scales. This revised method has been extensively used by Ohio EPA since 1999.

Vegetation Index of Biotic Integrity

Although the data collected using this method can be used for many purposes, the most common application will be to collect vegetation data that will enable the calculation of the Vegetation IBI for wetlands. The background and development of the VIBI can be found in Mack et al. (2000), Mack (2001b), Mack (2004a,b), and Mack and Micacchion (2006).

The Vegetation IBI is a multimetric index comprised of 10 metrics with a maximum score of 100 and a minimum score of 0. The VIBI is calculated by summing the 10 metric scores. Metrics can receive a score of 0, 3, 7, or 10 based on the value of the metric (Table 2). The VIBI is actually three IBIs: the VIBI-EMERGENT (VIBI-E, including substitute metrics for Lake Erie coastal marshes and mitigation wetlands), the VIBI-FOREST (VIBI-F), and VIBI-SHRUB (VIBI-SH). Each VIBI is designed to be used for wetlands dominated by emergent, forest, or shrub vegetation, respectively. There are 19 metrics in all (Table 3) and each VIBI has its own set of 10 metrics (Table 4). Detailed data collection, reduction, and analysis procedures for calculating the VIBI are discussed below.

Releve method for vegetation sampling - background

Even if only three main classes are identified (forested, shrub, and emergent), a single wetland can have several co-dominant vegetation classes, or a single dominant class and several minor subclasses. Thus, a sampling method should be flexible enough to account for horizontal and vertical variation in vegetation. The method described by Peet et al. (1998) can be used to sample such diverse communities as grass and forb dominated savannahs, dense shrub thickets, forest, and sparsely vegetated rock outcrops. This method incorporates use of reléves similar to that described in the Braun-Blanquet methodology (Mueller-Dombois and Ellenberg 1974) in as much as the length, width, and orientation of the plot is qualitatively determined by the investigator based on site characteristics; however, within the plot, standard quantitative floristic and forestry information is recorded, e.g. frequency, density, basal area, cover, etc. This method has been used at over 3000 sites for over ten years by the North Carolina Vegetation Survey (Peet et al. 1998) and at over 400 sites by Ohio EPA between 1999-2006, including reference wetlands, mitigation banks, and individual mitigation wetlands. In addition to the advantages mentioned above, this method also addresses the problem that processes affecting vegetation composition differ as spatial scales increase or decrease and that vegetation typically exhibits strong autocorrelation (Peet et al. 1998). According to Peet et al. (1998, p. 264), "Our solution to the problems of scale and spatial autocorrelation is to adopt a modular approach to plot layout, wherein all measurements are made in plots comprised of one or more 10m x 10m quadrats or "modules" (100 m^2 = 1 are = 0.01 hectare). The module size and shape were chosen to provide a convenient building block for larger plots, and because a body of data already exists for plots of some multiple of this size. The square shape is efficient to lay out, ensures the observation is typical for species interactions at that scale of observation, and avoids biases built into methods with distributed quadrats or high perimeter-to-area ratios."

METHODS - FOCUSED (FIXED) PLOT SAMPLING DESIGN

The most typical application of the method employs a set of 10 modules in a 20 m x 50 m layout although alternate arrays can also be used depending on site size and the community of interest (Figure 1). The fixed plot sampling design is the basic method to be used in virtually every study of natural or mitigation wetlands in which a Vegetation IBI score is to be calculated. Within the site to be surveyed, the 20 m x 50 m grid is located such that the long axis of the plot is

oriented to minimize the environmental heterogeneity within the plot. At least four 10 m x 10 m modules are intensively sampled with a series of nested quadrats. Within these "intensive" modules, species cover class values are estimated for the 0.01 ha (100 m^2) area of the each intensive module. Species located outside of the intensive modules (the "residual" modules) are also recorded and percent cover is estimated over the residual area (typically 0.06 ha or 600 m^2) of the non-intensive (residual) modules. Woody species are typically measured (diameter at breast height or dbh) and counted separately within each module of the plot.

Subsamples and supersamples

According to Peet et al. (1998), the standard plot can be adapted for unusually high stem densities of woody vegetation (e.g. a dense buttonbush swamp) or unusually low stem densities (e.g. an oak savannah), by sub-sampling or super-sampling the "problem" vegetation. This is accomplished by adjusting the width of the module, as measured from the centerline of the plot by the appropriate percentage. Thus, after laying out a plot in a buttonbush swamp, the shrub stratum is measured in a 5 m x 10 m module by reducing the width of the module by 5 m or 50% (a 50% subsample). The decision to perform a sub- or super-sample is typically made in the field.

Plot orientation

Plots should be placed to minimize within-plot environmental heterogeneity, which implies that the long axis of the plot encounter the least possible variation in these characteristics, unless the heterogeneity in question, would not affect the goal of characterizing the vegetation. In this situation, the particular heterogeneity can be ignored and the long-axis of the plot can be established without regard to that gradient. This situation occurs most frequently with mixed emergent marshes (see discussion below).

Selecting plot locations - General considerations

Prior to selecting the location of the plots, the investigator should be familiar with the site and its major characteristics and plant communities. This is most easily accomplished by one or several prior site visits where the investigator explores the site, walks the site perimeter, obtains a reasonably accurate measurement of the site, and understands the major hydrogeomorphic and landscape level ecological features surrounding the site.

Depending on the size and complexity of the site and the reasons for studying it, one to several plots may be needed. Smaller or differently scaled plots may be necessary. However, given resource limitations (time, personnel, money), it is also a goal to have the fewest number of plots sufficient to characterize the vegetation at a wetland. Ultimately, the decision of the size, shape, orientation, location, and number of the plots is made by the principal investigator; this information and reasons for the investigator's decision should be documented in the field notes for the site.

As opposed to fixed transect, random plot, and plotless methods of vegetation sampling, this method requires the investigator to qualitatively locate a plot or plots in locations which most representative of the plant community or communities of interest at a wetland. For the purposes of wetland IBI development or wetland condition assessment, the goal is to correlate a wetland's aggregate vegetation characteristics (quality) to measures of wetland disturbance and quality. Since the goal is not just plant community classification but also biological

assessment, deciding where to place a survey plot should be based on both of these goals. Where the purpose is assessment of a wetland to determine its antidegradation category under Ohio Administrative Code (OAC) Rule 3745-1-54, the goal in locating a plot (or plots) is to best characterize the regulatory category of the wetland. A plot or plots should be located within areas of the wetland that are most representative of the communities present. Where the purpose is to assess the success (or failure) of a wetland mitigation site, the goal is again to locate a plot or plots in areas that are representative and typical of the mitigation site. For example, if the mitigation wetland has a small vegetated fringe of say 5% of the site and the rest of the site is unvegetated open water, the plot should be located such that focus of the plot is on the failed "pond" area.

At most sites, a "standard" plot will be established consisting of a 2 x 5 array of 10 m x 10 m modules, i.e. 20 m wide by 50 m long (equals 1000 m^2 = 1 are = 0.1 ha), within the jurisdictional boundary of the wetland and within each vegetation community of interest.[1] In some instances, heterogeneity of vegetation or environment, researcher time, or significance of site will make a standard 0.1 ha plot inappropriate or impractical. Where the standard plot will not fit or will be inadequate or heterogeneous, the size or shape of the plot should be modified to obtain a representative sample of the community of interest. According to Peet et al. (1998), numerous plot configurations are possible. Where a standard 2 x 5 plot of 1000 m^2 will not fit, a 2 x 2 plot of 400 m^2 can be a good substitute. Strips of two, three, four, or five modules can also be used where homogeneity considerations limit the number of modules (Figure 1). Peet et al. in one extreme case "stretched" a module to a 2 m x 50 m shape to accommodate a narrow rockface on a steep slope, or they sampled a ridge line using 1 x 5 array. They also state that where site conditions warrant it is even possible to change the shape of the module to ensure homogeneity although this should normally be avoided for reasons related to spatial autocorrelation. For very small wetlands, e.g. <0.1 ha), the entire wetland can be censused rather than sampled, i.e. all species in the wetland are counted and measured.

Selecting plot locations - Specific guidelines

The following are specific plot location rules for locating plots to sample Ohio wetland communities:

1. Emergent communities. In mixed emergent marshes water depth generally decreases towards the upland boundary and the vegetation is zoned in narrow to broad bands. Typically, a narrow shrub zone gives way to a broad emergent zone which grades into a floating-leaved marsh to open water zone. In this situation, a sampling plot should be located such that the intensive modules are located within the emergent zone but the "tails" (ends) of the plot include portions of the shrub and aquatic bed zones. it is important to include the presence and percent cover of the species in the shrub and floating-leaved zones, but the main focus should be on the emergent zone. Since the majority of mitigation wetlands are emergent communities, care should be taken to locate sample plots in areas that are typical of the vegetation (or lack thereof) at the mitigation site being sampled.

[1] Peet et al. (1998) recommend 1000 m^2 area for forest inventory of rich mesic forests and numerous North American forest studies have employed a 1000 m^2 plots. This size plot is similar to the area recommended by Mueller-Dombois and Ellenberg (1974), i.e. 200-500 m^2.

In sedge-grass dominated emergent communities (fens, wet prairies, sand prairies), the overall vegetation is often more uniform and does not exhibit the strong zonation of many mixed emergent marshes. Plots can be located in areas where the sedge-grass community is representative even if this is well away from the wetland edge, although shrubby areas or areas of deeper water like small prairie pothole marshes within a wet prairie can be included.

2. Shrub communities. Large, homogenous shrub swamps can be sampled in a manner similar to forest communities and sedge-grass emergent communities. However, many shrub swamps are relatively small and are surrounded by areas of upland forest and have a narrow forested fringe with an open canopy above the shrub swamp. In this situation, it is important to include the more shallowly inundated forested fringe within the plot, since a lot of the species diversity is around the shallow margins of the pool. It is easy to locate the side of a plot such that it includes this shaded margin, with the main body of the plot located in the unshaded areas of the shrub swamp. In addition, it is often easier to lay out a plot in a shrub swamp by first laying out this shaded 50 m side line and then placing the shorter 20 m perpendicular to this line. This minimizes the distance you need to travel through the dense shrub zone where sight lines are often very restricted and movement difficult.

3. Forest communities. Locating plots within wetlands with a closed canopy of trees (vernal pools, wet woods, densely vegetated forest pools) is generally very straight forward since the issue of zonation that occurs in many marshes is not present. If the forest is mature, the plots should be located to ensure the mature canopy is properly characterized. Microtographic features (hummocks, course woody debris) should be included in the plot since much of the plant diversity in the herb layer will be located there. In some instances it may be necessary to locate part of plot along the upland edge of the pool to adequately characterize a forested wetland; in others, the plot can be located well within the upland edge. Small forested wetlands often make it difficult to locate a standard plot and alternate configurations (e.g. 1 x 5, 2 x 2) may be necessary.

4. Wetlands with multiple dominant plant communities. Codominant communities within a single wetland should be sampled with completely separate plots and data from each should be analyzed as if it were the only community present. Thus, forested wetland data sets should only be graphed and analyzed with other forested wetland data sets.[2] Wetlands with a single dominant community with small amounts of other communities, e.g. the buttonbush swamp with a narrow forested margin, the emergent marsh with a narrow shrub margin or small pool with floating aquatic plants, should be sampled using the plot location rules outlined above which require that the marginal community be included in the plot but not be the focus of the intensive modules.

5. Wetlands with multiple HGM classes. It is a relatively frequent occurrence to have a single

[2] However, from a bioassessment, use attainment, or antidegradation categorization perspective, a single wetland with two co-dominant communities should be assessed or categorized by looking at the result that gives you the best answer, e.g. the forested community has a Category 3 VIBI score while the buttonbush community has a Category 2 VIBI score: the wetland is categorized as a Category 3 wetland.

large "wetland" comprised of multiple hydrogeomorphic (HGM) types. For example, a slope wetland (usually a forest seep or fen) may be contiguous with a riverine mainstem wetland (often a floodplain swamp forest). In this situation, separate plots should be established in each HGM type. The wetland classification system for Ohio wetlands (Mack 2004a) should be used to define HGM classes. The scoring boundary rules developed for ORAM v. 5.0 regulatory categorization purposes (Mack 2001a) can also be used to define "assessment units." In order to use the ORAM, a "scoring boundary" needs to be established in order to determine what is being assessed and what is not. The main rule is that where strong changes in hydrology occur, wetland areas can be scored separately even if they are contiguous to each other. Thus, where a wetland can be split into separate scorable areas, separate sample plots should be established in each scoring area and the data evaluated, analyzed and used as if they were two geographically separated wetlands. For example, Watercress Marsh is a large wetland complex at the headwaters of the Mahoning River in Columbiana County. A large, sloped, tall shrub fen is present on one side of the complex; the rest of the marsh is primarily a cattail or floating leaved marsh with shrubby margins. The hydrology of the fen is driven by calcareous ground water expressing along the slope. The marsh areas receive this ground water but are also fed by run off from the watershed. The marsh is also very disturbed by nutrient enrichment from nearby farms and former road construction; the fen appears to be largely intact and very floristically diverse. Because of the hydrologic discontinuity at the base of the slope fen to the flat marsh, separate scoring boundaries can be established around these two hydrogeomorphically (and floristically) distinct communities.

6. Assessing localized versus global disturbances. It is a not uncommon situation, that a wetland has localized areas of disturbance (filling, cutting, invasive plants) that are relatively minor elements of the wetland's overall plant community(ies). In this situation, a plot should be located such that this minor area of degradation is not included. Alternatively, large portions of a wetland can be disturbed or show signs of expanding disturbance (invasive plants, nutrient or toxic "plumes", etc.), while other areas appear intact or relatively intact. In this situation, a decision should be made as to whether to sample the disturbed area in the same plot, in another plot, or not at all. This answer will vary depending on the purpose for sampling (regulatory categorization, IBI development, assessing degree of disturbance and causes, etc.)

7. Minor upland intrusions into a plot. In some instances, areas of upland impinge on the plot. If this occurs the plot location can be adjusted or plants growing in these areas can be ignored during data collection and a notation made on the field data sheets. This is different from "upland" microtopographic features like hummocks in the margins or centers of wetlands. These should be included in the plot.

8. Applying the data. Once the data from a plot has been collected and analyzed the results need to used. Depending on the purpose for sampling, the following rules apply: (a) when the purpose is regulatory categorization under the wetland antidegradation provisions of OAC Rule 3745-1-54, the "best" answer is used. Thus, if multiple plots are used to assess a single wetland with co-dominant plant communities, the plot with the highest VIBI score is used to define the regulatory

category of the wetland; (b) When the purpose is to collect reference wetland data, the "answer" from all plots can be used. Thus, the data from each plot can be used as part of the appropriate data set: dominant plant community (forest, emergent, shrub); HGM class (depression, riverine, slope, etc.); condition (reference standard, etc.).

Laying out a plot

Once the general location, orientation, and size of the plot is determined, the plot must be measured, laid out, and marked on the ground. For the standard 2 x 5 plot, Peet et al. (1998) recommend laying out the center line and placing permanent markers every 10m along this line. Then 20 m tapes are laid perpendicular to the center at the 0 m, 10 m, 20 m, 30 m, 40 m, and 50 m points to mark the outside points of the plot. For most emergent communities, only the corners of the intensive modules need to be marked and the outer corners of the plot visually identified; but in forested wetlands and shrub swamps it is very helpful to mark every corner to obtain an accurate stem count. If the center line and the sides are marked from the base, a frequent problem is having the sides of the plot converge due to small deviations in compass bearings. The latitude and longitude of the permanent stake as well as the bearing of the center line should be determined and recorded. For dense shrub swamps, it is often easier to lay out the side of the plot (50m) along the edge of the wetland first and then run 20m lines into the shrub thicket.

The modules in the plot are numbered *counterclockwise*, starting with the first module on the baseline to the right of the centerline and proceeding down to the end of the centerline and then back to the baseline (Figure 1). Conversely, the corners of the modules are numbered *clockwise*, starting at the centerline and moving up or down the centerline to avoid having nested quadrats being placed side by side (Figure 1).

Selecting the intensive modules and locating the nested quadrats

In a standard 2 x 5 plot, intensive modules are generally be located in the center of the plot to ensure that the contents are as representative as possible and to reduce subjective bias associated with starting the tape in close proximity to these modules. For the standard plot, Peet et al. (1998) recommend modules 2, 3, 8, and 9 as the intensive modules (Figure 1). For other plot configurations, e.g. 2 x 2 or 1 x 4, all of the modules should be treated as "intensive" modules and the nested quadrats be located in the same positions as modules 2, 3, 8, and 9 of the standard 2 x 5 plot. For longer plots like 1x10 plots, every other module can be selected as intensive (e.g. 2, 4, 6, 8). Sometimes after sampling of a plot has commenced it is determined small portion of a module is located outside of the wetland edge. In this situation, the problem area or corner can be omitted. Peet et al. (1998, p. 269-270) state, "In the typical 0.1ha configuration [2 x 5 plot], two series of nested subquadrats are recorded for each of the four intensive modules, each series being located in a standard fashion that associates its common corner with a fixed stake. Use of the recommended corners distributes the nests and prevents nests from being adjacent. If disturbance or other unusual conditions suggest that a specific corner would be inappropriate, it is possible to switch corners, omit corners, or omit portions of a module."

Background information and plant community and HGM class

A critical prerequisite to calculating a

VIBI score is to properly classify the wetland type and its plant community or communities. This will ensure that the correct VIBI (Table 4), VIBI metrics (Table 3), and metric scoring ranges (Table 2) are used for the data collected in the necessary plot or plots. The Wetland Classification System for Ohio wetlands was discussed and evaluated in detail in *An Ordination and Classification of Wetlands in the Till and Lake Plains and Allegheny Plateau Regions* (Mack 2004a) (Tables 8A and 8B) and is summarized on the reverse side of the Field Data Sheets (Appendix A). The header information on Field Data Sheets 1 and 2 require the investigator to classify the dominant plant community and HGM class within the area sampled in addition to other background information. General information on the wetland being sampled should be summarized on the Background Information Form (Appendix A). In addition, the Narrative and Quantitative Ratings for the Ohio Rapid Assessment Method for Wetlands (ORAM) should also be completed (Mack 2001a).

Sampling period

The basic sampling period for use of this method to calculate a Vegetation IBI score is June 15 to September 15. However, certain wetland types with a high predominance of spring and early summer blooming species should be sampled in the beginning of the sample window. A spring or early summer site visit to collect and identify early blooming and fruiting sedges at sites with a high proportion of these species (e.g. fens, wet prairies, and Lake Plains sand prairies) is helpful when the site will not be sampled until later in the summer. In some instances, the wetland may need to be visited the following year if expected species are not observed or cannot be reliably identified or their abundance estimated during sampling late in the sample period, e.g. skunk cabbage seeps late in the season when the leaves are dying back.

Collecting quantitative vegetation data

The minimum field crew for this sample method is 2 and the recommended crew is 3. *It is necessary that one person be proficient in identifying Ohio's wetland flora in fruit, flower, and vegetatively including difficult groups like the Cyperaceae and Poaceae.* Users who are not so proficient, should collect and preserve for later confirmation by an experienced botanist specimens most or all plants encountered in a plot.[3] Peet et al. (1998) recommend that the investigator most experienced with the local flora complete Data Sheet 1 (Appendix A) and the other persons do all of the other data collection (Data Sheet 2 and 3, clip plots, soil and water sampling, etc.). This has also worked out to be the most efficient field crew arrangement for Ohio EPA.

All vascular plant species within the modules must be identified to the lowest taxonomic level possible using vegetative, floral, and/or fruiting characteristics. In most instances this will be species or genus, except for the varieties and subspecies listed in Appendix C (Andreas et al. 2004). Immature plants or plants missing structures (e.g. fruiting bodies, etc.) that cannot be identified to species should be identified to genus. Otherwise, record the plant as unknown and make a notation as to its type (graminoid, monocot, dicot, forb, etc.). If several unknowns of the same type are present but are obviously different species, they should be distinguished by assigning a number, e.g., unknown graminoid #1, #2, etc. Time and conditions in the field will make keying plants in the field difficult. If a

[3] Essential botanical texts are listed at the end of this manual.

positive sight identification cannot be made in the field, the plant *must be* collected for later identification (See discussion below regarding voucher specimens).

Presence data is recorded in the form of a couplet with the first column used for the "depth" (see definitions) at which a species is first recorded as present and the second number of the couplet is for the cover class assigned to that species. The column in which this couplet is recorded has a heading comprised of the module and corner number (e.g. 2-2, 2-3, etc.), except for (where applicable) an aggregate pair headed R-R (for "releve" level) that contains species first recorded in an aggregate of modules that are supplemental to those sampled intensively (residual modules) (See Field Data Sheet 1, Appendix A). According to Peet et al. (1998, p. 270-273),

"Within a typical intensive module, presence data are recorded for two corners. The normal eight corners for nests are 2-2, 2-4, 3-2, 3-4, 8-2, 8-4, 9-2, 9-4. Starting in the first corner (corner 2) of module 2 (2-2 in the standard 2x5 plot), all species rooted in (having a stem or stems emerging in) a 0.31.6m x 0.31.6m ($0.1m^2$) subquadrat are listed and assigned a value of 4 in the left column (labeled "depth) of the pair of data columns for module 2 corner 2.[4] A 1.0 x 1.0 m ($1.0 m^2$) subquadrat is then surveyed and new species encountered are assigned a value of 3, followed by a 3.16 x 3.16 m ($10m^2$) subquadrat with new species assigned values of 2.....The presence survey is then repeated in the second corner of the module (typically corner 4 in module 2). The presence values are again recorded in the left column of the pair for this corner at levels 4, 3, and 2, with new species names added as needed....The presence survey is completed by listing all species within the module that were not encountered in a set of nested subquadrats and assigning each of them a value of 1, which is recorded in the first column surveyed (i.e., they occurred at level (depth) 1, which is the full $100m^2$, an area shared by all nests within the module).....Cover data for the module are recorded next. When more than one column is available for recording cover in a module (which will be the case whenever more than one nest is recorded), only the first available column is used, and the others are left blank. Cover is recorded after all nests in a module have been completed, thereby assuring a complete species list and maximizing time for familiarization with vegetation in the module."

In summary, all species with stems covering any portion of the focal module should be listed and each of these species has a depth value of 4 ($0.1 m^2$), 3 ($1 m^2$), 2 ($10 m^2$), or 1 ($100 m^2$). Cover values are assigned using the cover classes in Table 1 for every species, except trees >6m tall where only basal area is measured (see measuring woody vegetation below). All shrubs and small trees below the canopy (<6 m tall) should have cover values assigned.[5] The midpoint of the cover class is then used in all subsequent analyses. Differing from Peet et al. (1998), cover values are not assigned to woody vegetation > 6 m tall to calculate the Vegetation IBI metrics and scores. When using this method for other purposes other than the Vegetation IBI, the investigator will likely want to collect cover data for woody species greater than 6 m tall.

[4] Peet et al. (1998) state that a 0.1 x 0.1 m ($0.01m^2$) nested subquadrat can be sampled and marked depth 5. This level of resolution is not necessary for the purposes of this study and the smallest subquadrat recorded will be $0.1m^2$. This is the size of the clip plot used for peak standing biomass estimation.

[5] This is a deviation from the Peet et al. (1998) protocol where cover is recorded for all species in the plot including trees >6m tall.

Measuring woody vegetation

For woody vegetation, stem counts should be made and basal area measured for all trees, shrubs and woody vines, including standing dead trees and shrubs, greater than 1 meter tall, with the exception of multi-stemmed shrubs, e.g. buttonbush. Shrubs with multiple stems from the same root (genets) can be counted once as a "shrub clump" and analyzed with the 0-1cm size class. The diameter classes and midpoints in Table 1 should be used, with stems greater than 40 cm measured to the nearest tenth centimeter and counted and analyzed individually. The midpoints of the class should be used to calculate basal area by class. All woody stems located within the plot should be counted and measured including stems in the residual modules. Data should be recorded for each module separately. For example, in a typical 2 x 5 plot, woody stems are counted, measured, and recorded for module 1. Then the investigators move to module 2 and count, measure, and record all woody species in module 2, and so on (see Field Data Sheet 2, Appendix A).

Measuring standing biomass

Standing biomass (emergent wetlands only) should be estimated by harvesting to ground level all plants rooted in 0.1 m^2 (1000 cm^2) square quadrats (31.6 cm x 31.6 cm) located in the nested corners (corners 2 and 4) of the intensive modules. Alternatively, the corners opposite the nest corners (corners 1 and 3) can be used if harvesting clip plots will interfere with species identification in the nested quadrats. Clip plots are usually collected on the same day vegetation sampling of the plot is done unless it is apparent that the plot is not at or approaching peak biomass, in which case the clip plots should be collected later. All plants within a quadrat should be cut at the soil surface and placed into paper sample bags (grocery bags work well).[6] It is helpful to air dry the paper bags by placing them loose in a ventilated truck cap and allowing air to circulate around them when driving back from a sample site. If this is not possible bags be placed loosely in open baskets or boxes where they can air dry thoroughly if they are not immediately placed into an oven. The bags should be oven dried at 105 ^oC for at least 24 hours. Once the bag is dried, the bag (with the sample inside) should be weighed on scale accurate to one tenth of a gram (total weight). The bag is then emptied and the reweighed (bag weight). The bag weight is subtracted from the total weight to give standing biomass per 0.1 m^2. Samples from all eight bags are then averaged and converted to grams per meter squared.

Measuring physical attributes of the site

In addition to the quantitative vegetation data collected, various physical attributes of the wetland being sampled are also recorded (Field Data Sheet 3). These include depth of standing water, depth to saturated soils, litter depth, number of tussocks and hummocks, number of standing dead trees (snags), amount of coarse woody debris, microhabitat interspersion, physical characteristics of soils (color, texture, redox features, etc.), and where necessary pH and temperature of standing water.

Grab samples of soil and water should also be collected at the time other data in the plot is collected. Soil samples are collected from the center of the plot unless conditions at the wetland (depth of water, substrate characteristics, etc.) make this infeasible, in which case an alternative

[6] Only rooted emersed and floating aquatic plants are harvested in the clip plots, Floating aquatic plants are not harvested, e.g. *Ceratophyllum* sp., *Utricularia* sp., *Elodea* sp., *Lemna* sp., *Spirodela polyrhiza*, *Wolffia* sp., etc.

representative sampling location is identified. Soil samples are taken from the top 12 cm of soil. Samples can be collected with a soil probe or with a bucket auger. Samples should be oven dried at 105 ºC for 24 hours, ground and passed through a 2mm sieve and then analyzed for the following parameters using the methods specified in *Recommended Chemical Soil Test Procedures for the North Central Region*, North Central Research Publication No. 221 (Revised January 1998) or equivalent methods: total organic matter, available phosphorus (Bray P1 extraction), exhangeable potassium, magnesium, calcium, hydrogen, bulk density, and pH. Total carbon and total nitrogen should be measured using a LECO 2000 Analyzer, U.S. EPA Method 415.1 (Organic Carbon, Total, Combustion or Oxidation), SM 5310B(Total Organic Carbon (TOC): Combustion-Infrared Method), or other equivalent methods for measuring %carbon and %nitrogen.

A grab sample of water, if present, should be collected within or near the vegetation sampling location. Grab samples for water are collected by directly filling one quart cubitaners with water from the wetland. Samples should be packed in ice. The samples should be analyzed for pH, temperature, ammonia-N, nitrate-nitrite, total phosphorus, total organic carbon, specific conductivity, turbidity, total solids, total suspended solids, and chloride.

Preserving voucher specimens and assigning voucher numbers

Voucher specimens should be regularly collected, especially the more taxonomically difficult genera and families. Proper calculation of the Vegetation IBI requires that all plant species, including very difficult genera and families like *Carex*, the Cyperaceae, and the Poaceae, that are capable of identification vegetatively, in flower, and/or in fruit, be identified to the lowest taxonomic level possible. Experienced botanists can identify many plants to species or at least genus in vegetative condition and this type of proficiency is expected for accurate calculation of a VIBI.

Although resources often make collecting vouchers of every vascular plant infeasible, a general goal is the collection of a voucher specimen for at least 10% of the vascular plant species observed at any given site. An excellent procedure for new users of this method is to collect every 5th, 10th, or 20th plant such that 10% of the species observed at a site are collected for later confirmation by an experienced botanist. At floristically diverse sites, the number of necessary voucher specimens will be higher; at very depauperate sites with very common wetland species, no vouchers may be needed. However, in every instance in which the identity of any species cannot be confirmed in the field, or where field personnel disagree as to the identity of a species, a voucher specimen should be collected for identification in the office. In particular, species in difficult genuses and families, e.g., Cyperaceae and Poaceae, should almost always be collected until frequently encountered wetlands species are able to be reliably and consistently identified in the field.

Ohio EPA uses the following procedure for collecting and maintaining plant vouchers. In the field a large plastic bag is used as a vasculum.[7] Individual specimens are placed in gallon sized ziplock bags. Often 1 gallon bag per intensive

[7] A "vasculum" is container for collecting plants in the field for later pressing. Traditionally, a vasculum is a metal container with a sealable opening and a carrying strap. Heavy duty ice bags or garbage bags can make portable vasculums.

module can be used. These individual plastic bags are then placed in the vasculum. The specimen is given a unique voucher number in the field. This is recorded on the Field Data Sheet and can also be written on the plastic bags. This double-bagging procedure has the advantage of keeping specimens fresher in hot weather and also keeping fragile specimens and plant parts retrievable, e.g. sedges that are well past fruiting. After sampling a plot, plant specimens are placed in a larger cooler half full of ice to keep the specimens fresh and arrest decomposition in hot weather.

After returning to the office, specimens are immediately pressed in plant press[8] or, if this is not, possible, placed in a refrigerator (Figure 2). Woody and graminoid specimens can often be maintained for 1 to 2 weeks this way. More fragile flowering plants or ferns *may* maintain their condition for a few days. All voucher specimens at Ohio EPA are placed in a plant press, although specimens can also be identified and confirmed fresh if time permits. Confirmation by an outside botanist will almost always require pressing voucher specimens. Ohio EPA presses specimens between sheets of newspaper. On the inside of the paper, the voucher number, plant name, date collected, county collected, and site collected are written directly on the newspaper in indelible ink.

After the press is filled up, it is placed on its side on a plant press drier for several days. This is a simple wood frame with three 100 watt light bulbs in the bottom that allows warm, dry air to circulate through the press desiccating the specimen and killing many insects and insect eggs (Figure 2). Quick drying also improves the color and quality of the specimen. After drying, specimens are removed in their newspaper, and placed in a subzero freezer for at least a two weeks to kill any remaining insect eggs.

Vouchers are removed from the freezer and stored in air-tight herbarium cabinets until they are identified. Ohio EPA then mounts and retains the specimen in a reference collection or sends the specimen to a local or regional herbaria. Half or full size museum quality herbarium cabinets are available at a reasonable cost ($500 to $1000) (Figure 3). Using this procedure, vouchers can be stored indefinitely for later confirmation. Alternatively, specimens can be stored in non air-tight containers or cabinets with moth balls. Ten or 20 gallon storage bins that are large enough to hold specimens can be purchased from local department stores. With moth balls inside, specimens can b e maintained in reasonably good condition for long periods if the moth balls are replaced regularly.

Since this may be the only time that a professional biologist ever visits or collects at that particular wetland, it is strongly recommended and encouraged, from a purely scientific perspective, that plant vouchers be collected and retained and then sent on to regional herbaria for permanent perservation. More pragmatically, developing a reference collection, and keeping pressed specimens for later identification and confirmation also is the best, and perhaps only way, to become proficient in identifying Ohio's flora, and in a year or two, will result in noticeable improvements in positive field identification, and a reduction in the number of "unknown" plants that "need" to be collected.

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[8] A plant press is made of 2 wood frames (riveted oak slats or ply wood), multiple corrugated card board ventilators and felt blotters and newspaper with compression straps. They can be purchased from an herbarium supply company (about $70) or homemade. The voucher specimen is placed between sheets of newspaper, felt blotters, and cardboard.

METHODS - RANDOM PLOT VARIATION

General description

In most instances, a properly positioned fixed plot will provide data that is representative of the plant community and/or wetland being assessed. In some situations however, fixed plots alone may not be sufficient to provide data required to assess or evaluate the wetland or mitigation site. For very large natural wetlands or large mitigation or restoration sites, e.g. mitigation bank sites, statistically reliable estimates of percent area vegetated or dominated by invasive species may be needed in order to assess mitigation performance or overall site characteristics and plant community types. In this situation, a standard 2 x 5 plot with 10 modules can be "deconstructed" or taken apart and individual 10 x 10m modules randomly placed across the wetland or mitigation being sampled. A two part sampling scheme should be used with focused (fixed) plots and randomized plots. Focused plots are placed and sampled as outlined above. For the randomized design, a geospatially referenced 10 m x 10 m grid is over laid on the site and a simple or stratified (if there are multiple subareas of the site) random sample of points is be selected. The same data is collected in the random modules as in the "intensive" modules of the focused plots.

Protocols for selecting random plot locations

The maps and descriptions of site should be reviewed. The site should be visited at least once and a detailed site reconnaissance performed. Subareas of the site, HGM classes, and dominant plant communities should be identified and a determination made whether to stratify the site for focused and random plot sampling. A geospatially referenced 10 m x10 m grid is then created on a map of each site (Figure 4). Depending on the information available, existing maps can geospatially referenced, the perimeters of the site can be mapped using GPS unit, or existing digital map files, can be used to create the 10 m x10 m grid.

Once the grid is created, each grid square is assigned a unique number associated with the latitude and longitude of the center of the square. The list of grid numbers is imported into a statistics program capable of extracting a simple random sample of points. At least twice the number of points needed to sample the area should be selected and grouped into sets of 5, 10, or 20 points depending on the size of the area being sampled. The number of random samples selected will depend on the study design, but Ohio EPA has used the following guidelines in its evaluation of large mitigation bank sites: less than 500 squares (<5 ha) approximately 5 random points; 500-2000 squares (5 to 20 ha) approximately 10 random points; >2000 squares (>20 ha) approximately 20 random points.

A map showing the selected points should be produced for each bank or subunit of a bank that is being sampled (Figure 5). Once the map is created, the location of random points can be evaluated. The first group of points (usually 10) are evaluated in order. If a point is rejected (see below), the second group of random points is evaluated in order. For example, 10 random points will be sampled in a subunit of a mitigation bank. After mapping the points, point No. 5 is found to be located within an existing wetland that was included in the larger bank subunit. This point is then rejected. The next point evaluated as a substitute is point No. 11, the first point in the second set of 10 random points. Ohio EPA has used the following rules for rejecting a point in the office:

1. It is located outside or on the dike of the site.

2. It is located within a preexisting wetland area that was included in the perimeter of a mitigation site, unless the preexisting wetland areas was included as enhancement credit.

3. It is located immediately adjacent to another random point grid square.

4. It is otherwise determined to not be a representative sample point.

The reasons for rejecting a point in the office should be documented in the site file. Finally, an efficient route from point to point is developed to minimize crossing and recrossing the area being sampled.

In the field, a point will be visited after entering the coordinates into a GPS unit and navigating to the point. Once the point is reached a 10 x 10m plot is established with the random point positioned in the center of the plot. Ohio EPA has used the following rules for rejecting a point in the field:

1. It must be possible to wade to the point in chest waders. If the point is located in a deep water area that is not wadable, i.e. greater than about 1.5 m, it should be recorded as "non-wetland, deep open water" with 100% open water cover, and water depth >1.5 m. This rule does not apply to very localized areas of deeper water like small holes or ditches, etc. In this situation, the sample point should be moved 10 m in a randomly selected cardinal compass direction. If the point still cannot be reached, the point should be rejected and an alternate point used.

2. If the point lies outside the wetland or mitigation site, or on a dike or other engineered structure, or is otherwise not "in the wetland" or representative, it should be rejected and an alternate point used. The reasons for rejecting a point should be documented in the field notebook, maps, or field data sheets.

METHODS - DATA REDUCTION, ANALYSIS AND METRIC CALCULATION

The following is a narrative outline of the steps required to reduce and analyze quantitative vegetation data to calculate the Vegetation IBI. Example data and calculations are provided in Appendix B. To calculate the Vegetation IBI requires successive steps of data reduction, calculation, and coding. Once data has been collected, vouchers checked, a final species list with species codes completed, the VIBI can be calculated by hand with a calculator. The procedure outlined here is suggested if more than a few sites are being evaluated at once. As discussed below, Excel™ is the initial data entry and manipulation software. Ohio EPA has developed a dynamic Excel spreadsheet which, after data entry, will reduce, code, and calculate Vegetation IBI metrics and scores for up to 5 individual sites or for one site over 5 monitoring events. It is highly recommended that *Automated Spreadsheets for Calculating and Reporting the Vegetation Index of Biotic Integrity (VIBI) Metrics and Scores v. 1.0.1* (or the most recent version available) (Mack 2007) be used to calculate VIBI scores. A manual approach to data reduction is

discussed below.

STEP 1 - 1st data reduction (Field Data Sheet 1)

Immediately after leaving the site, the lead investigator should review the field data sheets for missing data points especially missing cover class values. If the investigator can recall the cover class of species with missing data, the estimated class should be recorded, otherwise record "md" (missing data) is in the cover class column. Emendations should be noted with reviewer's initials.

After the data sheets have been reviewed, raw data from field data sheets should be entered into a spreadsheet or database. Using a spreadsheet, an electronic version of the field data sheet is created (Appendix B) with site name, date, species, voucher number, notes, module, corner, and cover class. Background information (investigators present, lat-longs, etc.) can be entered in a separate tab of the spreadsheet. Any vouchers collected should be identified or confirmed and the species list in the 1st data reduction amended to reflect changes in species names. After the initial data entry, the spreadsheet should be printed and the entered values compared to the field data sheet for errors. Standardize the file name convention for the spreadsheet (or database) which houses raw data, e.g. 1st reduction plant data 2004.xls.

STEP 2 - Second data reduction (Field Data Sheet 1)

Using the 1st reduction spreadsheet, save it as a new file that can be called, e.g. 2nd _reduction_plant_data_2004.xls. Strip off (delete) the level information from the spreadsheet leaving only site name, date, species name, module number and cover classes (Note: on field data sheet 1, the level is the first number of the couplet; the second number is the cover class for that species in that module). Any species which could not be identified to at least genus should be deleted from the data set here. Any plant that could only identified to genus is retained as separate "species" in the data set, if it can confirmed that, even though the particular plant is not identifiable to species level, it is definitely different from other member(s) of that genus observed at the site. For example, *Carex lupulina* and *Carex grayi* are both collected at a buttonbush swamp along with one other *Carex* spp. that is vegetatively distinct from *C. lupulina* and *C. grayi*. The unidentified *Carex* is retained as a separate species as *Carex* #1. For this buttonbush swamp, the *Carex* metric value is 3 and the *Carex* metric score is 3 (Table 2). If it is not clear that the unidentified *Carex* is different from the two known species, the unidentified *Carex* data should be deleted from the spreadsheet at this step. If multiple plants are observed but can only be identified as belong to the same genus, their cover values should be merged and analyzed as a single "species." For example, what appear to be several different immature specimens of sedges in the Ovales group are collected at a site and recorded as *Carex* #1, *Carex* #2, and *Carex* #3, but they cannot be definitely identified or confirmed as different. Cover values for all three are merged and the plant is recorded and analyzed as *Carex* sp. The *Carex* metric value for this site is 1 if these were the only carices identified and the metric score is 0 (Table 2).

Next, the cover class numbers (0 to 10) should be recoded to the midpoint of that cover class (Table 1). For example, a plant was assigned cover class "5" (5-10% cover). The number "5" should be recoded to 0.075 (7.5%), which is the midpoint of the 5-10% cover class. Where data from a single site is being analyzed, this can be

done manually or by using FIND/REPLACE command in Excel. If multiple sites are being recoded, it is recommended that a statistical program like Minitab or SPSS be used that can perform large data recoding operations with no errors. The data can be temporarily imported into the statistical program, recoded, and then copied back into Excel. Alternatively, a database can be developed which automates this operation.

Once the cover classes have been recoded to cover midpoints, the relative cover of each plant species at the site must be calculated. This is a critical value for several VIBI metrics. Relative cover is calculated by summing the cover midpoints for each species ($\sum A_i$). Next, the total cover per species is summed to yield the total cover of all species at the site ($\sum A_{i\,j}$). Then the total cover for each species is divided by the total cover for all species to obtain relative cover for each plant species, or

$$RC = \sum A_i / \sum A_{i\,j}$$

where A_i = the percent cover midpoints recorded for a species (total cover for each species), and $A_{i\,j}$ = total cover of all species A_i, A_j, etc. Relative cover should be calculated including the cover of bryophyte species in the total cover of all species at a site.

STEP 3 - 3rd data reduction (Field Data Sheet 1)

The final data reduction step is to proof and edit the 2nd reduction spreadsheet for calculation errors, misspellings of plant names, and other data entry errors. Once this is done, the various species, genus, family, and FQAI codes necessary to calculate VIBI metrics should be added as columns in the spreadsheet. Most codes necessary to calculate VIBI metrics are in Appendix C. The following coding columns should be added to the spreadsheet for the 3rd reduction: lifeform (tree, shrub, forb, etc.), group (dicot, monocot, etc.), habit (annual, perennial, etc.)[9], indicator status (FACW, FAC, etc.)[10], shade tolerance (shade, partial shade (facultative shade), tree, adventive), and Coefficient of Conservatism (0, 1, 2, etc.). In addition, for larger data sets a coding column with the following will be helpful: *Carex*, Cyperaceae, *Cephalanthus*, *Typha*, *Phragmites*, and *Phalaris* with all other species coded as "other."

With these codes, the VIBI metrics can be easily calculated using basic descriptive statistics commands and data manipulations in statistical programs. For example, using Minitab v. 12.0, the "store descriptive statistics" command can be used to calculate number of species by wetland indicator status by site. The output from this operation can be "unstacked" into a site x indicator status table and then the FACW and OBL columns added together to obtain the hydrophyte richness metric for the VIBI-E and VIBI-SH. This type of operation can then be repeated until all metrics are calculated. Again, these data operations can be programed into a database so that the necessary calculations are performed automatically after the data is entered.

STEP 4 - Woody stem data reduction (Field Data Sheet 2)

As discussed above, woody stem counts and dbh measurements are recorded separately for each module of the plot. The main data reduction

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[9] Note that woody species are coded as "woody" not as "perennials."

[10] Note that the + and - (e.g. FACW+, FAC-) can be ignored and just the main indicator categories used (UPL, FACU, FAC, FACW, OBL).

task is to merge the counts from each module into a site x species x stem count table with stem counts summed by size class or in the case of trees >40cm dbh, individually recorded (Appendix B). The goal of the woody stem data analysis is to calculate the relative density of trees in the 10-25 cm size classes and importance values of all species at a site. Importance value is the average of relative frequency, relative density, and relative dominance.

Frequency is typically defined as the number of quadrats a species occurs in and relative frequency is the number quadrats a species occurs in dividied by the total number of quadrats. For the VIBI metrics, frequency is defined as the number of dbh size classes a species has stems in, and relative frequency is the number of dbh classes with stems of that species divided by all dbh size classes (12).

Density is the number of stems of a species in the plot and is usually recorded as number of stems per hectare. Relative density is the number of stems of a species divided by the total number of stems of all species. Density and relative density should also be calculate separately for each size class (Appendix C). To calculate size class density, the number of stems in that size class, e.g. 10-15 cm dbh class, are counted and converted to stems per hectare; relative size class density is the number of stems in that size class divided by all stems. To calculate the pole timber (small tree) metric for the VIBI-F, the relative size class density of 10-15 cm, 15-20 cm and 20-25 cm trees must be calculated and then the three relative density values are summed to get the pole timber metric value (Table 3).

The subcanopy IV and canopy IV metrics require the calculation of the average of the average importance value of shade tolerant subcanopy species (small tree and shrub), shade facultative subcanopy species (small tree and shrub), and canopy tree species, respectively. Canopy species are coded as "tree" in the life form column in Appendix C; subcanopy species are coded as "small tree" or "shrub" in the life form column of Appendix C. Shade tolerant species are coded as “shade” in Appendix C and shade facultative species are code as “partial” in Appendix C.

Relative frequency and relative density are calculated as described above. Relative dominance (basal area) is the basal area (m^2) per hectare of each species at a site. Relative dominance is calculated by multiplying the number of stems per hectare in each size class (density) by the midpoint of the size class (Table 1). Each of these basal area values is then added together to obtain the dominance value for that species. Relative dominance is calculated by dividing the basal area of a tree or shrub species by the basal area of all species at a site. The subcanopy IV metric is calculated by summing the importance value of small tree species plus the importance value of shrub species subcanopy species; the canopy IV is calculated by average the IVs of all canopy species.[11] Finally, stems of standing dead woody vegetation are included in all forest metric calculations.

STEP 5 - Metric and VIBI Score Calculation

Once the appropriate metric values have been calculated for the VIBI-E, VIBI-$E_{COASTAL}$, VIBI-$E_{MITIGATION}$, VIBI-SH, or VIBI-F, the metric values are recoded to a metric score of 0, 3, 7, or 10 using the scoring ranges in Table 2. This

[11] Note that a "canopy" species includes immature individuals of that species that are presently located in the subcanopy, with canopy referring to the ultimate growth habit of the tree species.

operation can be automated using a database or easily performed using the recoding features of statistical programs like Minitab or SPSS. Once the metric values have been recoded to the appropriate metric score, the 10 scores are summed and the VIBI score is obtained. This score can then be compared to the wetland aquatic life use and antidegradation category in Table 7 to determine the wetland's regulatory status.

Other attributes

Of course, many other community characteristics can be calculated from the information recorded in a standard plot other than the metrics needed to calculate a VIBI score. Some of this information may be required as part of mitigation performance standards or of interest for other reasons, e.g. ordination of wetland plant community data.

Additional Data Analysis Considerations when Analyzing Data from Random Plots

Various estimates of can be calculated from the random plot data:

1) The areal cover of open water and unvegetated open water was recorded in the field for each random plot. "Open water" is defined as inundated areas without rooted emergent vegetation although submersed (e.g. *Elodea canadensis*) or floating (e.g. *Potamogeton nodosus*) aquatic plants could be present; "unvegetated open water" is defined as areas lacking or nearly lacking in any vegetation including submersed or floating aquatic plants. The %open water or %unvegetated open water is calculated by averaging the cover values for these parameters.

2) The areal cover of plant species or groups of plant species. For example, the areal cover of perennial native hydrophytes can be calculated. In order to obtain an accurate estimate, the estimate should be calculated in four steps. First, the relative cover of plant species in each random module is calculated. Second, the species occurring in the module are coded as native or adventive, perennial/bienniel/annual/woody, and hydrophytes (FAC, FACW, OBL)/upland/not listed. Third, the relative cover values of native perennial hydrophytes are summed. Finally, the summed relative cover values from each random plot are averaged to obtain the estimate for perennial native hydrophyte. The same procedure can be used to calculate areal cover of other metrics like percent tolerant and sensitive species.

3) Whether the plot is a "jurisdictional" wetland was determined. The three parameter approach in the 1987 Delineation Manual can be used and a plot is determined to be "wetland" if hydric soils are present, wetland hydrology is present, and the vegetation is dominated by hydrophytes (FAC, FACW, OBL species).

4) Each random plot and the data collected within it should be assigned a unique alpha-numeric identifier and coded by community type (forest, shrub, marsh, wet meadow, upland forest, upland thicket, pond, old field). The data from each community type within the site can be aggregated and Vegetation IBI scores and metric values and other attributes of interest can be calculated using the aggregated data. For example, at Big Island Area A, 10 random plots were sampled; 5 plots were coded as "forest", 4 plots were coded as "marsh" and 1 plot was coded as wet meadow. Data from the 5 forest plots was combined into a single data set and treated like a focused plot (in effect a 10m x 50m plot) for purpose of

calculating relevant scores and attributes. Table 5 summarizes the focused and aggregated plots by community, HGM class, and site.

Wetland Aquatic Life Use and Antidegradataion Category

A main wetland program goal in developing wetland specific IBIs is to be able to specify numeric biological criteria for wetlands that correspond to various wetland designated uses. Aquatic life use for wetlands have been proposed (Mack 2004b) with differing biological expectations based on landscape positions, plant communities, and ecoregions in Ohio: limited quality wetland habitat (LQWLH), restorable wetland habitat (RWLH), wetland habitat, and superior wetland habitat (SWLH) (Table 7).

Using Tables 5 to 7, a wetland TALU and antidegradation category (OAC 3745-1-54) can be assigned as described in the following example: the wetland being evaluated is a pumpkin ash (*Fraxinus profunda*) swamp in Fowler Woods State Nature Preserve. This is a swamp forest in a depressional landscape position. After a detailed vegetation survey, a Vegetation IBI score of 76 is calculated. Referring to Tables 1A and 1B in Mack (2004a), this wetland is classified as “surface water depression/swamp forest” and receives the use code “IA1a" (back side of Data Sheets 1 and 2). Referring to Tables 5 and 7, a Vegetation IBI score of 76 is in the SWLH (Superior Wetland Habitat) use range. Finally, Table 6 is consulted and it is determined that the wetland has educational uses as a state nature preserve that is open to the public. The Wetland Aquatic Life use designation can then summarized as, "SWLH-IA1a$_B$", where SWLH = means Superior Wetland Habitat, IA1a = surface water depression swamp forest, and the subscript $_B$ = a special use of “educational.” The wetland TALUSs correspond to the three antidegradation categories (Category 1, 2, 3) listed in Ohio Administrative Code (OAC Rule 3745-1-54). However, there may be some instances where a wetland shows moderate to substantial impairment, but it is still categorized as a Category 2 or 3 wetland under the antidegradation rule because it exhibits one or more residual functions or values at moderate to superior levels, e.g. water quality improvement or flood retention. Where a "special use" is assigned to a moderately or severely degraded wetland under the wetland TALUs proposed here, it can serve as an "alert" for antidegradation review purposes that the wetland has a residual function or value that should be protected. In addition, the Narrative Rating in the Ohio Rapid Assessment Method (Mack 2001a) provides for "automatic" categorization of certain types of wetlands regardless of their ecological quality.

DATA REPORTING AND SUBMISSION

Data collected using this method will typically be reported to state or federal agencies. The following information should, at a minimum, be submitted:

Cover page
Narrative (Introduction, Methods, Results, Discussion)
VIBI Background Page (Appendix)
Copies of all field data sheets (Appendix)
List of vouchers and voucher numbers collected

If manual reduction done submit:

- 1st data reduction tables
- 2nd data reduction tables
- 3rd data reduction tables
- Woody stem data reduction tables

Table with metric values, scores, and VIBI score

If the automated spreadsheets are used
submit spreadsheet on CD and attached summary tables to report

HOW TO CALCULATE VIBI METRICS

The various VIBI metrics and metric scoring ranges are summarized in Tables 2 and 3. Below is a detailed narrative description of how to calculate these metrics.

Carex metric. The *Carex* metric is calculated by counting the number of species in the genus *Carex*. The *Carex* metric is used in the VIBI-E (except for Lake Erie coastal marshes) and the VIBI-SH

Cyperaceae metric. The Cyperaceae metric is calculated by counting the number of species in the sedge family (Cyperaceae) including species in the following genera: *Bolboschoenus, Carex, Cyperus, Eleocharis, Schoenoplectus, Scirpus* (the major wetland genera in the Cyperaceae although other Cyperaceae genera should be counted if they are encountered). The Cyperaceae metric is used in the VIBI-$E_{COASTAL}$ as a substitute for the *Carex* metric when the VIBI-E is calculated for Lake Erie coastal marshes.

Dicot metric. The dicot metric is calculated by counting the number of native, dicotyledon (dicot) species using the nativity and group codes in Appendix C.[12] Only dicotyledon species are counted; monocot (monocotyledon), gymnosperm, or seedless vascular plant (fern, fern allies) are excluded. The dicot metric is used in the VIBI-E and the VIBI-SH.

Shrub metric. The shrub metric is calculated by counting the number of native, wetland (FACW, OBL) woody species that have a "shrub" lifeform using the codes for nativity, wetland status, and lifeform in Appendix C. The shrub metric is used in the VIBI-E and the VIBI-SH.

Hydrophyte metric. The hydrophyte metric is calculated by counting the number of native species that have a FACW or OBL wetland indicator status using the wetland and nativity codes in Appendix C. The hydrophyte metric is used in the VIBI-E and the VIBI-SH.

Shade metric. The shade metric is calculated by counting the number of native species that have shade or facultative shade (partial) tolerance status using the shade and nativity codes in Appendix C. Tree (canopy species) and adventives are excluded. Small trees (subcanopy species) and shrubs are included (Codes for these are provided in the "shade" column of Appendix C). The shade metric is used in the VIBI-F.

Seedless Vascular Plant (SVP) metric. The SVP metric is calculated by counting the number of seedless vascular plants (ferns and fern allies) using the group code in Appendix C. The SVP metric is used in the VIBI-F and VIBI-SH.

[12] All of the codes needed to calculate the various Vegetation IBI metrics are included in Appendix C of this manual, the species lookup table of the automated VIBI spreadsheets, and can also be found in Appendix A of the Floristic Quality Assessment Index for Vascular Plants and Mosses for the State of Ohio (Andreas et al. 2004). A spreadsheet version is downloadable from www.epa.state.oh.us/dsw/wetlands/wetland_bioassess.html

Annual/Perennial metric. The annual/perennial (A/P) metric is calculated by dividing the number of annual species by the number of perennial species using the codes for reproductive habit (annual, perennial, biennial, woody) in Appendix C. The A/P metric is used in all versions of the VIBI-E.

FQAI metric. The FQAI (Floristic Quality Assessment Index) metric is calculated by using Equation 7 in Andreas et al. (2004):

$$I = \sum (CC_i)/\sqrt{(N_{\text{all species}})}$$

where I = the FQAI score, CC_i = the coefficient of conservatism of plant species *i*, and $N_{\text{all species}}$ = the total number of species both native and non-native (Fennessy et al. 1998a, 1998b; Lopez and Fennessy 2002). The FQAI metric is used in all variations of the VIBI.

%bryophyte metric. The %bryophyte metric is calculated by summing the relative cover values for all bryophyte species (all moss species plus the aquatic liverworts *Riccia* and *Ricciocarpos*). When completing Field Data Sheet 1, the cover of mosses and aquatic liverworts, individually or in the aggregate, should be recorded. Mosses do not need to be identified to any level beyond moss ("true" mosses or Musci of Division Bryophyta), or can be recorded as Moss #1, Moss #2, etc. All cover values assigned to mosses or aquatic liverworts are summed into an aggregate bryophyte "species" and the relative cover of bryophytes calculated as described above.

%hydrophyte metric. The %hydrophyte metric is calculated by summing the relativer cover value (as calculated above) for native, shade and partial shade hydrophytic plant species using the nativity and indicator status codes (FACW, OBL) in Appendix C. The %hydrophyte metric is used in the VIBI-F.

%tolerant metric. The %tolerant metric is calculated by summing the relative cover values of all species, including adventive species, with Coefficients of Conservatism of 0, 1, and 2 using the coefficients in Andreas et al. (2004) (Appendix C). The %tolerant metric is used in all variations of the VIBI.

%sensitive metric. The %sensitive metric is calculated by summing the relative cover values of all species with Coefficients of Conservatism of 6, 7, 8, 9and 10 using the coefficients in Andreas et al. (2004) (Appendix C). This is the calculation for the VIBI-E and VIBI-F. For the VIBI-SH, the relative cover of buttonbush (Cephalanthus occidentalis) is deducted from the sum of relative cover values of species with C of C's of 6 to 10.

%invasive graminoid metric. The %invasive graminoid metric is calculated by summing the relative cover values of reed canary grass (*Phalaris arundinacea*), cattails (*Typha angustifolia, T. latifolia, T.* x *glauca*), and giant reed (*Phragmites australis*). The invasive graminoid metric is used in the VIBI-E.

Pole timber (small tree) density metric. The pole timber metric is calculated by summing the relative density of tree species in the 10-15 cm, 15-20 cm and 20-25 cm size classes. Relative density of a tree species is calculated by dividing the number of stems counted for that species on Field Data Sheet 2 (woody stem) by the total number of stems of all species counted (see above). The pole timber metric is used in the VIBI-F.

Subcanopy IV metric. The subcanopy importance value (IV) metric is calculated by summing the average importance value of native shade tolerant subcanopy species (shrubs and small trees) plus the average importance value of native facultative shade subcanopy (shrubs and small trees) species using the nativity, lifeform, and shade tolerance codes in Appendix C. Subcanopy trees are coded as "small trees" in Appendix C and are tree species which at maturity do not reach the canopy of the forest, e.g. *Carpinus caroliniana*. The subcanopy metric is used in the VIBI-SH and VIBI-F, except that for leatherleaf bogs (shrub community with shrubs <1m tall), substitute the % invasive graminoid metric.

Canopy IV metric. The canopy importance value (IV) metric is calculated by averaging the importance values of native canopy (tree) species using the nativity and lifeform codes in Appendix C. Canopy tree species are species which at maturity will grow in the canopy of the forest, even though at the time of the sampling immature individuals are growing in the subcanopy. The canopy IV metric is used in the VIBI-F.

Biomass metric. The biomass metric is calculated by averaging the the grams per square meter of standing biomass samples (usually 8) collected in a standard 2x5 plot. Standing biomass is typically sampled by collecting eight $0.1m^2$ clip plots of standing biomass (vegetation) in the corners of the intensive modules of a standard plot. The biomass metric is used in the VIBI-E.

%unvegetated metric. The %unvegetated metric is calculated in two steps. First, the percent unvegetated open water and bare ground (top lines on Field Data Sheet 1) are summed. Note that these are true estimates of the percent of a module that does not have vegetation and not the relative cover of unvegetated areas. Next, the relative cover annual species is calculated using the growth habit codes in Appendix C. The percent unvegetated area and the relative cover of annual species are summed to obtain the %unvegetated metric value. This metric is used a substitute for the biomass metric when the VIBI-E is used for emergent mitigation wetlands, although the biomass metric value should also be calculated and reported.

EQUIPMENT AND SUPPLIES

In order to sample a plot using the methods outlined in this manual, the following equipment will be needed:

100m measuring tape
clip boards (3)
Data Forms (Appendix B) on waterproof paper
Waterproof field notebook
Waterproof pens
Compass
GPS unit
$0.1m^2$ and 1 m^2 quadrat frames[13]
dbh measuring tape (cm)
Regular measuring tape (cm)
1m stake flags (18 per plot) (flourescent pink recommended)
Flagging tape (flourescent pink recommended)
1m permanent stake (rebar or oak survey stake)
Plant press(es)

[13] A hinged quadrat frame is the easiest to use in the field. A simple design is to cut a piece 1x2" hardwood (poplar, oak) into the appropriate lengths (31.6cm and 1m) and attach a simple strap hinge. The frame folds flat for easy storage and carrying and is very easy to slide into dense vegetation.

Vasculum or large garbage size bags and 1 gallon freezer bags for individual specimens)
10x hand lens
Munsell soil color chart
Soil probe, soil auger, and soil sampling containers
Water sampling containers and preservatives
Ice chest
Chest waders and hip boots
Water bottles
Emergency medical kit
Camera
Shovel (shooter spade)
Pruning shears
Grass shears
Paper bags (grocery bag size), permanent marker, and stapler for clip plots

BASIC OHIO BOTANICAL TEXTS

Essential texts

Persons already proficient in Ohio field botany will be familiar with most of these texts. Persons needing to gain the botanical proficiency necessary to use the methods described in this manual should acquire or have access to the following botanical texts and field guides:

Manual of Vascular Plants of Northeastern United States and Adjacent Canada, 2nd Edition (Gleason and Cronquist 1991). This is the best and most complete all around key for the flora of Ohio. It can be usefully supplemented by referring to published volumes of the Flora of North America for new species and nomenclatural changes as well as by referring to Andreas et al. (2004).

The Illustrated Companion to Gleason and Cronquist's Manual (Holmgren et al. 1998). The essential companion volume with excellent line drawings of all species in the manual.

The Monocotyledonae of Ohio (Braun 1967). A little out of date but still an excellent reference for the Ohio species of the Poaceae and Cyperaceae as well as other monocots.

The Woody Plants of Ohio (Braun 1961). An essential text for identifying woody species in twig and leaf. Other texts generally require fruiting and/or flowering material which is usually lacking during wetland vegetation surveys.

Newcomb's Wildflower Guide (Newcomb 1977). An excellent "genus" key for unknown flowers, shrubs and vines. The best beginners guide to "showy" flowering plants available. Unfortunately, there is presently no published equivalent of *Newcomb's Wildflower Guide* for grasses, sedges, and rushes. Most or all published non-technical guides to grasses, sedges, and rushes are of relatively limited utility because of their incomplete coverage of species and lack of keys.

How to Identify Grasses and Grasslike Plants (Harrington 1977). An indispensable picture glossary of technical characters for grasses, sedges, and rushes. Excellent for persons attempting to become proficient in these difficult groups.

Floristic Quality Assessment Index (FQAI) for Vascular Plants and Mosses for the State of Ohio (Andreas et al. 2004). While not intended to be a flora and not containing taxonomic keys, this is complete summary of native and naturalized vascular plants with nomenclature updated from the *Flora of North America* volumes published as of May 2004, and can be used to supplement and update Gleason and Cronquist (1991).

Additional texts

The Dicotyledonae of Ohio. Part 2. Linaceae through Campanulaceae (Cooperrider 1995). A useful supplement to Gleason and Cronquist (1991) with a focus on Ohio material only.

The Dicotyledonae of Ohio. Part 3. Asteraceae (Fisher 1988). A useful supplement to Gleason and Cronquist (1991) with a focus on Ohio material only.

Vascular Plants of Ohio (Braun 1971). Somewhat out of date nomenclaturally and missing many new members of Ohio's flora discovered since it was last revised, but still the most compact and affordable single volume manual to Ohio's flora available.

Michigan Flora series (Voss 1972, 1985, 1996). This is an excellent and affordable series that is very useful in northern Ohio. Part 1 is very useful for its excellent *Carex* keys and descriptions especially for the notoriously difficult Ovales section.

The Illustrated Flora of Illinois, Sedges: Carex (Mohlenbrock 1999). This volume includes most Ohio species of *Carex* and uses a somewhat different key based on more easily observable gross characteristics than most other keys. It also has an excellent overview and discussion of the ecology and evolution of this fascinating genus.

The Vascular Flora of the Glaciated Allegheny Plateau Region of Ohio (Andreas 1985). Not a key but an excellent reference for the vascular plants which can be encountered in the glaciated Allegheny Plateau (northeast Ohio), their habitats, and known counties.

The Vascular Plants of Unglaciated Ohio (Cusick and Silberhorn 1977). Not a key but an excellent reference for the vascular plants which can be encountered in the unglaciated Ohio (southeast Ohio), their habitats, and known counties.

Fruit and Twig Key to Trees and Shrubs (Harlow 1959). A useful and inexpensive key to twigs and fruits of northeastern U.S. woody species.

Aquatic and Wetland Plants of Northeast North America (Crow and Hellquist 2002). A purported new edition to Fassett's *Manual of Aquatic and Wetland Plants*, but really an expanded desktop edition that provides many additional line sketches of the included plants.

Flora of North America series. As of this writing, seven volumes of the *Flora of North America* have been published. These are expensive but useful additions to a botanical library. Several volumes a year should be published.

GLOSSARY OF TERMS

Are - one-hundredth of a hectare (0.01ha) or $100m^2$. A single module is 1 are.

Cover - the percentage of ground surface obscured by the vertical projection of all above ground parts of a given species onto that surface. No single species may exceed 100% cover, though the sum of cover estimates across all species often (usually) exceeds 100%. A plant need not be rooted in the module or plot to have cover in the module or plot. Cover can be estimated separately for each module of a plot or for each intensive module and any residual (nonintensive) modules depending on the study design. Percent cover is recorded for all species less the 6m tall.

Density - the number of stems of a tree or shrub >1m tall in plot. Density should be reported in units of stems per hectare.

Depth (of occurrence) - the size of the subquadrat in which the presence of a species is first noted. In this manual, depth can range from 1 to 3. For example, if the presence of species is first observed in the $1m^2$ subquadrat, the depth of occurrence is 3.

Dominance - the sum of the surface area (basal area) measured at breast height of a tree or shrub >1m tall in a plot. Basal area of woody plant species should be reported in units of square meters per hectare.

FQAI - the FQAI is a variation of the weighted averaging technique (Gauch 1982) that can be conceptualized as a weighted richness metric which assigns Coefficients of Conservatism (C of C's) from 0 to 10 to every species in the flora with these coefficients representing the narrowness or breadth of a species' habitat preferences (Andreas et al. 2004). Coefficients of Conservatism from Andreas et al. (2004) are included in Appendix C.

Frequency - the number diameter classes (Table 1) a woody species has occurrences of at least one stem (size class frequency). In other applications, frequency is the number of quadrats in which a species occurs in.

Hectare - $10,000m^2$ or 100 ares. A typical 2 x 5 plot is made up of 10 modules and is 0.1 hectares.

Importance value (IV) - the average of the relative frequency, relative density, and relative basal area of a woody plant species.

Level (of occurrence) - a synonym for “depth.”

Module - the basic unit of sampling under this method and consists of a 10 x 10m ($100m^2$) quadrat. A plot is made up of one or more (typically 10) modules.

Presence - the occurrence of a species (based on the emergence or aerial cover of stem or stems) within a quadrat, module, or plot.

Plot - an area where vegetation is being sampled at a particular site. A plot is made up of one or more modules. Plots can also be called “releves.”

Releve - a synonym for “plot” or if a plot is comprised of only 1 module, then a synonym for "module." When cover is estimated for nonintensive (residual) modules, it is said to be estimated at the "releve" level.

Relative cover - the sum of the cover values recorded for a plant species in a plot divided by the sum of cover values for all plant species in the plot.

Relative density - the sum of the number of stems of a woody plant species in a plot divided by the sum of all stems of all woody plants in the plot.

Relative dominance - the sum of the surface area (basal area) of all individuals of a woody plant species measured at breast height divided by the sum of the surface areas of all woody plant species in a plot.

Relative frequency - the number of diameter size classes a woody species occurs in divided by the total number of diameter classes (11). In other applications, relative frequency is defined as the

number of quadrats a species occurs in divided by the total number of quadrats.

Quadrat - quadrat refers to the one or more nested quadrats of increasing area ($0.1m^2$, $1m^2$, $10m^2$) that are located in corners of an intensive module (usually corners 2 and 4). Technically, the module itself is a $100m^2$ "quadrat" but in this manual the term quadrat is generally used to describe the smaller nested quadrats located in the corners of the intensive modules.

Richness - the number of taxa in a particular taxa group, e.g. the number of species in a particular genus, the number of shrub species (in a shrub lifeform class), the number of plant species that are "hydrophytes," etc.

Richness ratio. The number of taxa in particular taxa category or group divided by the total number taxa (usually species).

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Table 1. Cover and dbh classes and midpoints. The midpoints of the cover classes are used in the calculation of relative cover. The midpoints of the dbh classes are used in the calculation of basal area (dominance) and relative dominance.

cover class	% cover	midpoint	dbh class	dbh (cm)	mid point (cm)	basal area (cm^2)
1	solitary or few	0.0001	1	0-1	0.5	0.196
2	0-1%	0.005	2	1-2.5	1.75	2.41
3	1-2%	0.015	3	2.5-5	3.75	11.0
4	2-5%	0.035	4	5-10	7.5	44.2
5	5-10%	0.075	5	10-15	12.5	122.7
6	10-25%	0.175	6	15-20	17.5	240.5
7	25-50%	0.375	7	20-25	22.5	397.6
8	50-75%	0.625	8	25-30	27.5	594.0
9	75-95%	0.85	9	30-35	32.5	829.6
10	95-99%	0.97	10	35-40	37.5	1104.5
---	---	---	11	>40 cm	individually	individually

Table 2. Scoring ranges for assigning metric scores for Vegetation IBIs. Descriptions of metrics are found in Table 3. E = Emergent, SH = Shrub, F = Forest, $E_{COASTAL}$ = Lake Erie Coastal Marshes, MITIGATION = emergent mitigation wetlands.

metric	community	score 0	score 3	score 7	score 10
Carex	E, SH	0 - 1	2 - 3	4	≥5
Cyperaceae	$E_{COASTAL}$	0 - 1	2 - 3	4 - 6	≥7
dicot	E	0 - 10	11 - 17	18 - 24	≥25
	SH	0 - 9	10 - 14	15 - 23	≥24
shade	F	0 - 7	8 - 13	14 - 20	≥21
shrub	E, SH	0 -1	2	3 - 4	≥5
hydrophyte	E	0 -10	11 - 20	21 - 30	≥31
	SH	0 -9	10 - 14	15 - 20	≥21
A/P ratio*	E	>0.48	0.32 - 0.48	0.20 - 0.32	0.0 - 0.20
SVP	F, SH	0	1	2	≥3
FQAI	E, SH	0 - 9.9	10.0 - 14.3	14.4 - 21.4	≥21.5
	F	0 - 14.0	14.1 - 19.0	19.1 - 24.0	≥24.1
%bryophyte*	F, SH	0 - 0.01	0.01 - 0.03	0.031 - 0.06	≥0.06
%hydrophyte*	F	0 - 0.1	0.1 - 0.15	0.151 - 0.28	≥0.281
%sensitive*	E	0 - 0.025	0.025 - 0.10	0.10 - 0.15	0.15 - 1.0
	F	0 - 0.035	0.035 - 0.12	0.12 - 0.30	0.31 - 1.0
	SH	0 - 0.02	0.021 - 0.06	0.061 - 0.13	0.131 - 1.0
%tolerant*	E	0.60 - 1.0	0.40 - 0.60	0.20 - 0.40	0 - 0.20
	F	0.45 - 1.0	0.30 - 0.45	0.15 - 0.30	0 - 0.15
	SH	0.15 - 1.0	0.10 - 0.15	0.05 - 0.10	0 - 0.05
%invasive* graminoids	E	0.31 - 1.0	0.15 - 0.3	0.03 - 0.15	0 - 0.03
small tree**	F	0.32 - 1.0	0.22 - 0.32	0.11 - 0.22	0 - 0.11
subcanopy IV**	F	0 - 0.02	0.02 - 0.072	0.072 - 0.13	≥0.131
	SH	0 - 0.02	0.02 - 0.05	0.05 - 0.10	≥ 0.11
canopy IV***	F	0.21 - 1.0	0.17 - 0.21	0.14 - 0.17	0 - 0.14
%unvegetated****	MITIGATION	≥0.46	0.31 - 0.46	0.15 - 0.31	0 - 0.15
biomass	E	≥801 or <100	451 - 800	201 - 450	100 - 200

* If total cover (sum of cover values for all species observed in sample plot) is <10%, abundance metrics are scored as 0.

** If no or only a few woody stems >1m tall in sample plot or if stems per ha <10, score metric as 0.

*** If no canopy trees or only a few individuals of canopy species present in sample plot, score metric as 0.

**** This metric should be calculated for wetland mitigation sites where perennial hydrophyte vegetation is not well established or where g/m^2 of biomass is less than 100.

Table 3. Description of metrics used in VIBI-E, VIBI-F, VIBI-SH. "E" = emergent, "$E_{coastal}$" = Lake Erie Coastal Marsh, "$E_{MITIGATION}$" = Mitigaiton Marshes, "F" = forested", "SH" = shrub.

metric	E, F, SH	code	type	metric increase or decrease w/ disturbance	description
Carex spp.	E, SH	carex	richness	decrease	Number of species in the genus *Carex*
cyperaceae spp.	$E_{coastal}$	cyperaceae	richness	decrease	Number of species in the Cyperaceae family
native dicot spp.	E, SH	dicot	richness	decrease	Number of native dicot (dicotyledon) species
native shade spp.	F	shade	richness	decrease	Number of native shade[14] tolerant or shade facultative species
native, wetland shrub spp.	E, SH	shrub	richness	decrease	Number of shrub species that are native and wetland (FACW, OBL) species
hydrophyte spp.	E, SH	hydrophyte	richness	decrease	Number of vascular plant species with a Facultative Wet (FACW) or Obligate (OBL) wetland indicator status (Reed 1988; 1997; Andreas et al. 2004).
ratio of annual to perennial spp.	E	A/P	richness ratio	decrease	Ratio of number of nonwoody species with annual life cycles to number of nonwoody species with perennial life cycles. Bienniel species excluded from calculation
seedless vascular plant (SVP) spp.	F, SH	SVP	richness	decrease	Number of seedless vascular plant (ferns, fern allies) species
FQAI score	E, F, SH	FQAI	weighted richness index	decrease	The Floristic Quality Assessment Index score calculated using Eqn. 7 and the coefficients in Andreas et al. (2004)
relative cover of bryophytes	F, SH	%bryophyte	dominance ratio	decrease	Sum of the relative cover of all bryophyte species. Bryophytes include all mosses (Musci) and aquatic lichens *Riccia* and *Ricciocarpos*
relative cover of shade tolerant hydrophyte spp.	F	%hydrophyte	dominance ratio	decrease	Sum of the relative cover of shade or partial shade tolerant FACW and OBL plants in the herb and shrub stratums
relative cover of sensitive plant spp.	E, F, SH	%sensitive	dominance ratio	decrease	Sum of the relative cover of plants in herb and shrub stratums with a Coefficient of Conservatism (C of C) of 6,7,8,9 and 10 (Andreas et al. 2004)
relative cover tolerant plant spp.	E, F, SH	%tolerant	dominance ratio	increase	Sum of the relative cover of plants in herb and shrub stratums with a C of C of 0, 1, and 2 (Andreas et al. 2004)

1 Shade tolerance and other codes to calculate VIBI metrics are available in Mack (2004c).

Table 3. Description of metrics used in VIBI-E, VIBI-F, VIBI-SH. "E" = emergent, "$E_{coastal}$" = Lake Erie Coastal Marsh, "$E_{MITIGATION}$" = Mitigaiton Marshes, "F" = forested", "SH" = shrub.

metric	E, F, SH	code	type	metric increase or decrease w/ disturbance	description
relative cover of invasive graminoid spp.	E	%invgram	dominance ratio	increase	Sum of the relative cover of *Typha* spp., *Phalaris arundinacea,* and *Phragmites australis*
relative density of small trees (pole timber)	F	pole timber	density ratio	increase	The density (stems/ha) of a tree species in size classes between 10 and 25 cm dbh divided by the density of all trees
importance of native shade subcanopy spp.	F, SH	subcanopy IV	importance value	decrease	Sum of the mean importance value of shade tolerant subcanopy (shrub, subcanopy tree) species plus the mean importance value of facultative shade subcanopy (shrub, small tree) species. Importance value is the average of relative size class frequency[15], relative density, and relative basal area. Subcanopy trees are tree species which only grow in the subcanopy, e.g. *Carpinus caroliniana*
importance canopy spp.	F	canopy IV	importance value	decrease	The mean of the importance values of trees in the canopy of the forest where importance value is calculated by averaging relative size class frequency, relative density, and relative basal area. Canopy tree species are species which at maturity will inhabit the upper canopy of the forest even if at the time of sampling they are growing in the subcanopy
unvegetated and annual cover	$E_{MITIGATION}$	%unvegetated	dominance ratio	increase	The sum of the relative cover of annual plant species (percent annual spp. cover divided by total spp. cover) and the percent cover of unvegetated areas
standing biomass	E	biomass	primary production	increase	The average grams per square meter of clip plot samples collected at each emergent wetland

2 Size class frequency is the number of size classes in which there is at least one stem for that woody species. There are 11 size classes 0-1, 1-2.5, 2.5-5, 5-10, 10-15, 15-20, 20-25, 25-30, 30-35, 35-40, and >40 cm.

Table 4. Summary of metrics for Vegetation IBIs. See Table 3 for definitions.

VIBI-E	VIBI-$E_{COASTAL}$	VIBI-$E_{MITIGATION}$	VIBI-SH	VIBI-F
---	Cyperaceae	---	---	---
Carex	---	*Carex*	*Carex*	---
Dicot, native	Dicot, native	Dicot, native	Dicot, native	---
Shrub, native, wetland	Shrub, native, wetland	Shrub, native, wetland	Shrub, native, wetland	---
Hydrophyte, native	Hydrophyte, native	Hydrophyte, native	Hydrophyte, native	---
A/P ratio	A/P ratio	A/P ratio	---	---
FQAI score	FQAI score	FQAI score	FQAI score	FQAI score
%tolerant	%tolerant	%tolerant	%tolerant	%tolerant
%sensitive	%sensitive	%sensitive	%sensitive	%sensitive
%invasive graminoids	%invasive graminoids	%invasive graminoids	---	---
biomass	biomass	biomass**	---	---
---	---		---	---
---	---	---	---	Shade
			SVP	SVP
---	---	---	---	%hydrophyte
---	---	---	%bryophyte	%bryophyte
---	---	---	---	pole timber density
---	---	---	subcanopy IV*	subcanopy IV
---	---	---	---	canopy IV

* Substitute %invasive graminoids for this metric for leatherleaf bogs where shrub height is <1m tall
** the %unvegetated metric should also be calculated.

Table 5. General Wetland Aquatic Life Use Designations.

code	designation	definition
SWLH	Superior Wetland Habitat	Wetlands that are capable of supporting and maintaining a high quality community with species composition, diversity, and functional organization comparable to the vegetation IBI score of at least 83% (five-sixths) of the 95th percentile for the appropriate wetland type and region as specified in Table 7.
WLH	Wetland Habitat	Wetlands that are capable of supporting and maintaining a balanced, integrated, adaptive community having a species composition, diversity, and functional organization comparable to the vegetation IBI score of at least 66% (two-thirds) of the 95th percentile for the appropriate wetland type and region as specified in Table 7.
RWLH	Restorable Wetland Habitat	Wetlands which are degraded but have a reasonable potential for regaining the capability of supporting and maintaining a balanced, integrated, adaptive community of vascular plants having a species composition, diversity, and functional organization comparable to the vegetation IBI score of at least 33% (one-third) of the 95th percentile distribution for the appropriate wetland type and region as specified in Table 7.
LQWLH	Limited Quality Wetland Habitat	Wetlands which are seriously degraded and which do not have a reasonable potential for regaining the capability of supporting and maintaining a balanced, integrated, adaptive community having a species composition, diversity, and functional organization comparable to the vegetation IBI score of less 33% (one-third) of the 95th percentile for the appropriate wetland type and region as specified in Table 7.

Table 6. Special wetland use designations.

subscript	special uses	description
A	recreation	wetlands with known recreational uses including hunting, fishing, birdwatching, etc. that are publicly available
B	education	wetlands with known educational uses, e.g. nature centers, schools, etc.
C	fish reproduction habitat	wetlands that provide important reproductive habitat for fish
D	bird habitat	wetlands that provide important breeding and nonbreeding habitat for birds
E	T or E habitat	wetlands that provide habitat for federal or state endangered or threatened species
F	flood storage	wetlands located in landscape positions such that they have flood retention functions
G	water quality improvement	wetlands located in landscape positions such that they can perform water quality improvement functions for streams, lakes, or other wetlands

Table 7. Wetland Tiered Aquatic Life Uses (WTALUs) for specific plant communities and landscape positions. tbd = to be developed. LQWLH = limited quality wetland habitat, RWLH = restorable wetland habitat, WLH = wetland habitat, SWLH = superior wetland habitat. Equivalent antidegradation categories as specified in Ohio Administrative Code Rule 3745-1-54 are indicated in parentheses below the TALU category.

HGM class	HGM subclass	plant community	ecoregions	LQWLH (Category 1)	RWLH (modified Category 2)	WLH (Category 2)	SWLH (Category 3)
Depression	all	Swamp forest, Marsh, Shrub swamp	EOLP	0 - 30	31 - 60	61 - 75	76 - 100
			all other regions	0 - 24	25 - 50	51 - 62	63 - 100
	all	Wet Meadow (incl. prairies and sedge/grass dominated communities that are not slopes)	all regions	0 - 29	30 - 59	60 - 75	76 - 100
Impoundment	all	Swamp forest, Marsh, Shrub Swamp	EOLP	0 - 26	27 - 52	53 - 66	67 - 100
			all other regions	0 - 24	25 - 47	48 - 63	64 - 100
		Wet Meadow (incl. prairies and sedge/grass dominated communities that are not slopes)	all regions	0 - 29	30 - 59	60 - 75	76 - 100
Riverine	Headwater	Swamp forest, Marsh, Shrub swamp	EOLP	0 - 27	28 - 56	57 - 69	70 - 100
			all other regions	0 - 23	24 - 47	48 - 59	60 - 100
	Mainstem	Swamp forest, Marsh, Shrub swamp	EOLP	0 - 29	30 - 56	57 - 73	74 - 100
			all other regions	0 - 20	21 - 41	42 - 52	53 - 100
	Headwater or Mainstem	Wet Meadow (incl. prairies and sedge/grass dominated communities that are not slopes)	all regions	0 - 29	30 - 59	60 - 75	76 - 100
Slope	all	Wet meadow (fen), tall shrub fen, forest seep	all regions	0 - 29	30 - 59	60 - 75	76 - 100
Fringing[1]	Natural Lakes (excluding lacustrine fens) and reservoirs	tbd	tbd	tbd	tbd	tbd	tbd
Coastal[2]	closed embayment, barrier-protected, river mouth	Swamp forest, Marsh, Shrub swamp	all regions	0 - 24	25 - 49	50 - 61	62 - 100
	open embayment, diked (managed unmanaged failed)	tbd	tbd	tbd	tbd	tbd	tbd
Bog	weakly ombrotrophic	Tamarack-hardwood bog, Tall shrub bog	all regions	0 - 32	33 - 65	66 - 82	83 - 100
	moderately to strongly ombrotrophic	Tamarack forest, Leatherleaf bog Sphagnum bog	all regions	0 - 23	24 - 47	48 - 59	60 - 100

1. Depending on the circumstances, scoring breaks for depression, impoundment, or riverine may be used.
2. Scoring breaks for coastal embayment, barrier-protected, and river mouth may be usable.

Table 8A. Hydrogeomorphic classes for wetland classification system for Ohio wetlands adapted from Brinson (1993), Mack (2001b, Tables 6, 7, and 42), Mack (2000a, Table 1) Smith et al. (1995); Cole et al. (1997); Anderson (1982), Cowardin et al. (1978), Chow-Fraser and Albert 1998; Minc and Albert 1998.

	class	class modifiers
I	Depression (incl. areas that could be considered flats, e.g. "wet woods"	(A) Surface water (sheet flow, precipitation) (B) Ground water (seasonal to permanent input)
II	Impoundment	(A) Beaver (B) Human
III	Riverine	(A) Headwater depression (1st or 2nd) (B) Mainstem depression (3rd order or >) (C) Channel
IV	Slope (incl. hillside fens, mound fens, and lacustrine fens)	(A) Riverine (B) Isolated (C) Fringing
V	Fringing (does not include lacustrine fens)	(A) Reservoir (B) Natural lake
VI	Coastal	(A) Open embayment (B) Closed embayment (C) Barrier-protected (D) River mouth (barred and open) (E) Diked - managed (F) Diked - unmanaged (G) Diked - failed (H) Beach swale
VII	Bog	(A) Strongly ombrotrophic (B) Moderately ombrotrophic (C)Weakly ombrotrophic
VIII	Upland habitats	(A) Hydric soils (drained or farmed wetlands) (B) Non-hydric soils (uplands)
add code	Mitigation	Add appropriate pre-code to HGM class: mr - mitigation, restoration mc - mitigation, creation e.g. "mrII" = mitigation, restoration, impoundment

Table 8B. Plant community modifiers for wetland classification system for Ohio wetlands adapted from after Brinson (1993), Mack (2001b, Tables 6, 7, and 42), Mack (2000a, Table 1) Smith et al. (1995); Cole et al. (1997); Anderson (1982), Cowardin et al. (1978).

(1) Forest	(2) Emergent	(3) Shrub	(4) Non Wetland habitats
(a) Swamp forest (incl. wet woods and vernal pools)	(a) Marsh	(a) Shrub Swamp	(a) Non-woody communities
	(I) submergent marsh	(I) buttonbush swamp	(i) Old field
(I) oak-maple	(ii) floating-leaved marsh	(ii) alder swamp	(ii) Farm field
(ii) oak-maple-ash	(iii) mixed emergent marsh	(iii) mixed shrub swamp	(iii) PC farm field
(iii) maple-ash	(iv) cattail marsh	(iv) other (specify)	(iv) Prairie
(iv) pin oak			(v) Pasture
(v) pumpkin ash			(vi) Other herbaceous (specify dominants)
(vi) mixed forest			
(vii) red maple			
(viii) white pine			
(ix) cottonwood			
(x) river birch			
(xi) other (specify dominants)			
(b) Bog Forest	(b) Wet meadow	(b) Bog shrub swamp	(b) Woody communities
(I) tamarack bog	(I) wet prairie (incl. bluejoint/cordgrass meadows)	(I) tall shrub bog	(i) Shrub Thicket
(ii) tamarack-hardwood bog	(ii) oak openings sand prairie	(ii) leatherleaf bog	(ii) Young 2nd growth
	(iii) prairie sedge meadow		(iii) Upland Forest
	(iv) fen meadow		(iv) Savannah
	(v) reed canary grass meadow		
	(vi) other (specify dominants)		
	(vii) sedge meadow (various Cyperaceae spp. as dominants)		
(c) Forest seep	(c) Sphagnum bog (incl. open kettle bogs with scattered shrubs,	(c) Tall shrub fen	(c) Aquatic communities
(I) skunk cabbage seep	classic ringed bogs with open		(i) Pond, unvegetated open
(ii) sedge seep	water centers and perimeters of		water <2 m deep
(iii) skunk cabbage-sedge seep	shrubs and tamarack)		(ii) Lake, open water >2 m
(iv) other (specify)			deep

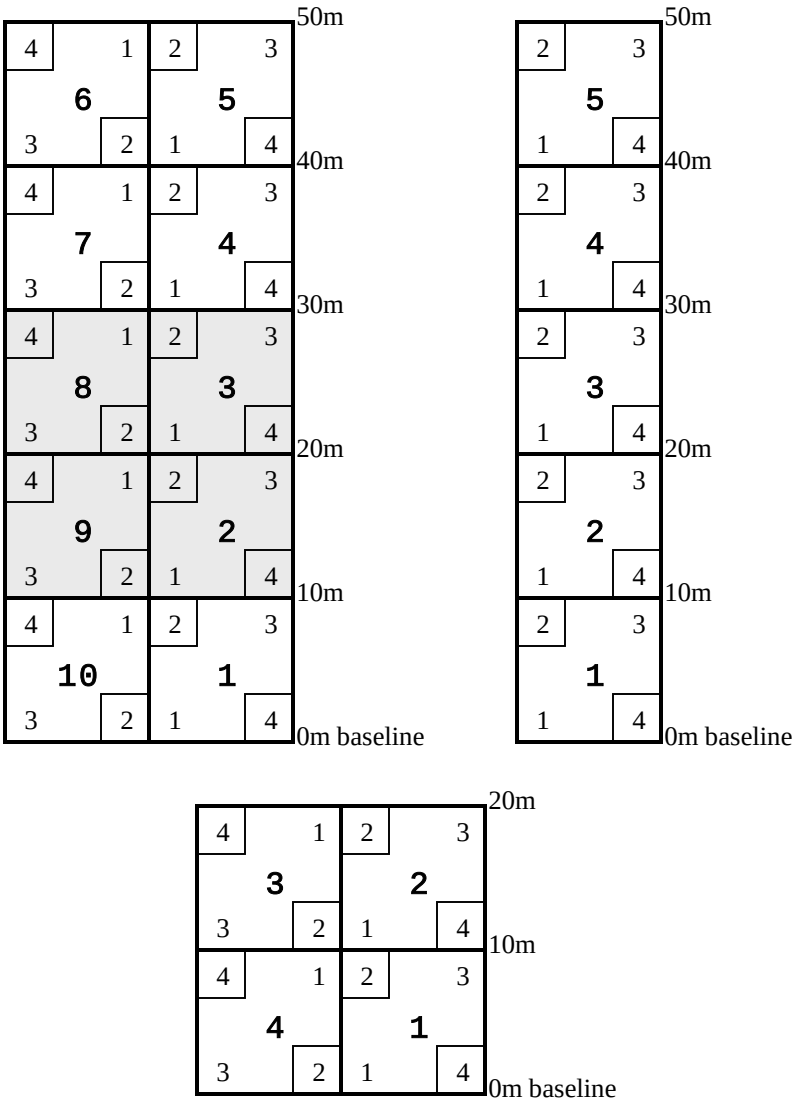


Figure 1. Standard (focused) 20m x 50m (2 x 5) vegetation sample plot and alternate plot configurations frequently used depending on site size and the community of interest. In the 2 x 5 plot, standard intensive modules (2, 3, 8, 9) are shaded. Standard corners for nested quadrats (2, 4) are indicated by small squares. Modules are number in the irection of movement (down 1-5, back 6-10) along the center line; module corners are numbered clockwise in direction of movement down the centerline .

Figure 2. Plant presses and homemade plant press dryer.

Figure 3. Professional herbarium cabinet.

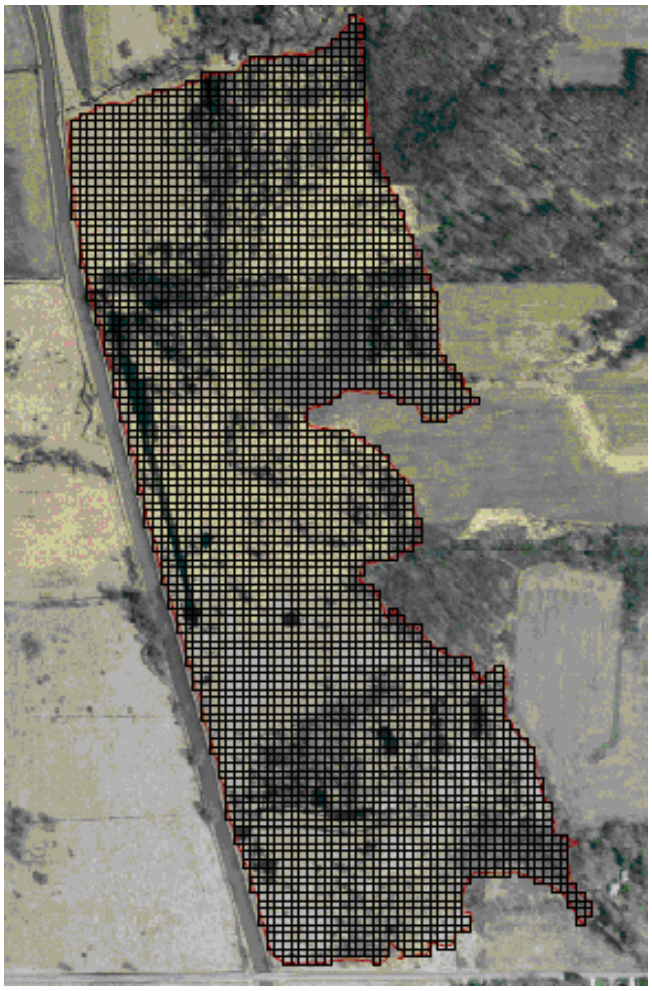


Figure 4. Georeferenced 10m x 10m grid at Chippewa Central Bank, Medina County, Ohio.

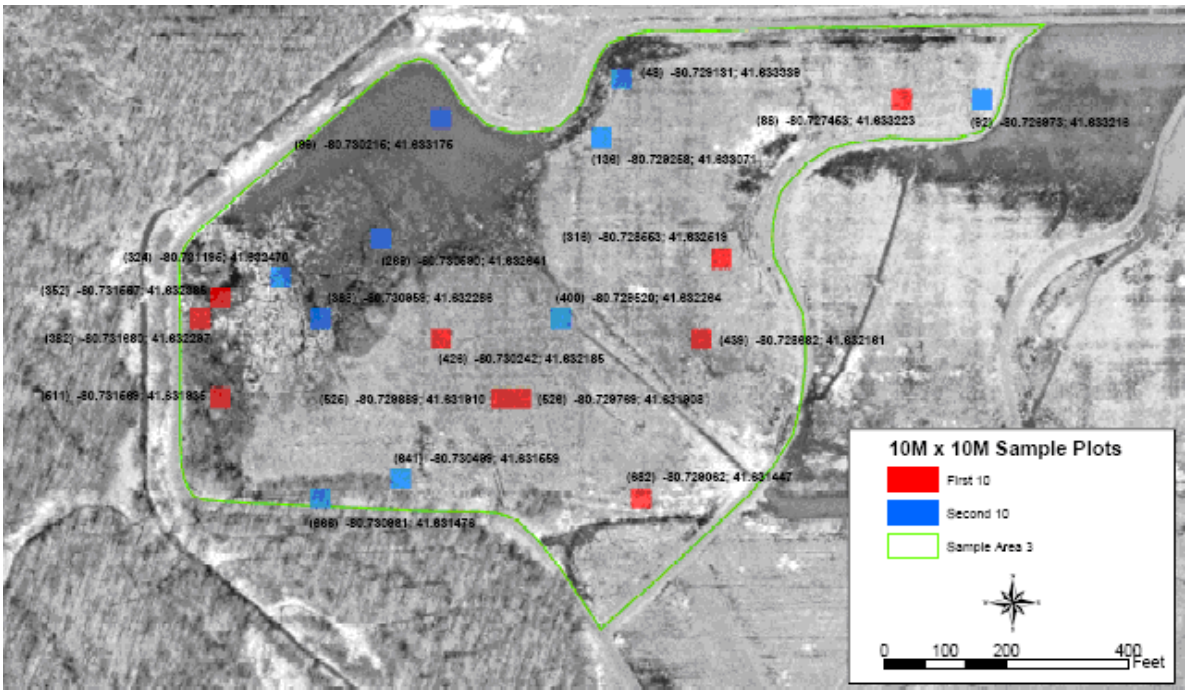


Figure 5. Random point map for Area 3 of Cherry Valley Bank, Ashtabula County, Ohio. Red squares are first 10 random points, blue squares are second 10 random points.

APPENDICES

APPENDIX A - FIELD DATA SHEETS

APPENDIX B - EXAMPLE CALCULATIONS

APPENDIX C - SPECIES CODES FOR VIBI METRIC CALCULATION

BACKGROUND INFORMATION FORM FOR VIBI SUBMISSIONS

Site name and county:

Investigator(s):

Sampling date(s):

Affiliation:

Address:

Phone number:

e-mail address:

Plant communit(ies) (describe):

HGM Class(es) (describe):

YES NO Is the wetland an automatic category 3 using the ORAM v. 5.0 Narrative Rating? If yes, describe.

YES NO Is the wetland degraded but still exhibits at least one function or value at medium to high levels? If yes, describe.

Antidegradation category in accordance with OAC Rule 3745-1-54 (Circle One):

Category 1 Category 2 Category 3

Wetland Tiered Aquatic Life Use. Using Tables 5-7 in the Field Manual, describe the wetland's Tiered Aquatic Life Use:

YES NO Map attached of wetland location. If no, include sketch of general location of wetland include north arrow, landmarks, roads, etc.

Information sources consulted (check all that apply):

___ USGS Topo Map ___ National Wetland Inventory ___ Ohio Wetland Inventory ___ Soil Survey

___Delineation report ___ Other (list)

BACKGROUND INFORMATION FORM FOR VIBI SUBMISSIONS

Site name and county:

Site sketch and plot location(s) (or attache map)

Rationale for location of plot(s). Describe the reasons for establishing the vegetation sampling plot or plots in the configuration, direction, and locations used to sample the site.

I hereby certify that I am sufficiently proficient in the identification of the vascular flora of Ohio vegetatively, in fruit, and in flower to enable the collection of vegetation data for the accurate calculation of a Vegetation Index of Biotic Integrity score, or that I have collected voucher specimens for identification and confirmation by an experienced botanist, and that the location of the plot or plots and the quantitative vegetation data collected therein, is representative of the plant community(ies) and quality of the wetland being sampled.

_____ _____

Signature Date

_____

Name (print)

Investigator(s)	Total Modules		Centerline bearing		Page of
Site	Intensive Modules		1° Plant Community		
County	Plot configuration		2° Plant Community		
Date	Total area (ha)		1° and 2° HGM class		

Latitude		mod#	corner#	mod#	corner#	mod#	corner#	mod#	corner#	mod#	corner#	mod#	corner#	mod#	corner#	mod#	corner#	mod#	corner#	mod#	corner#
Longitude																					
Species name	**voucher #**	level	covclass	level	covclass	level	covclass	level	covclass	level	covclass	level	covclass	level	covclass	level	covclass	level	covclass	level	covcla
%open water		1		1		1		1		1		1		1		1		1		1	
%unvegetated open water		1		1		1		1		1		1		1		1		1		1	
%bare ground		1		1		1		1		1		1		1		1		1		1	
%litter cover		1		1		1		1		1		1		1		1		1		1	

Part 1 Hydrogeomorphic Classification

	class	class modifiers
I	Depression (ind. areas that could be considered flats, e.g. "wet woods"	(A) Surface water (sheet flow, precipitation) (B) Ground water (seasonal to permanent input)
II	Impoundment	(A) Beaver, (B) Human
III	Riverine	(A) Headwater depression (1st or 2nd), (B) Mainstem depression (3rd order or >), (C) Channel
IV	Slope (ind. hillside fens, mound fens, and lacustrine fens)	(A) Riverine, (B) Isolated. (C) Fringing
V	Fringing (does not include lacustrine fens)	(A) Reservoir, (B) Natural lake
VI	Coastal	(A) Open embayment, (B) Closed embayment, (C) Barrier-protected, (D) River mouth (barred and open), (E) Diked - managed, (F) Diked - unmanaged, (G) Diked - failed, (H) Beach swale
VII	Bog	(A) Strongly ombrotrophic, (B) Moderately ombrotrophic, (C) Weakly ombrotrophic
VIII	Upland habitats	(A) Hydric soils (drained or farmed wetlands) (B) Non-hydric soils (uplands)

Cover Classes

class	% cover
1	solitary/few
2	0-1%
3	1-2%
4	2-5%
5	5-10%
6	10-25%
7	25-50%
8	50-75%
9	75-95%
10	95-99%

Vertical Strata Codes

stratum	height	code
herb layer	0-2m	1
shrub/sapling	2-5m	2
pole timber	5-15m	3
tree	15-35m	4
canopy tree	>35	5

Standard plot

nest corners

2-2 2-4

3-2 3-4

8-2 8-4

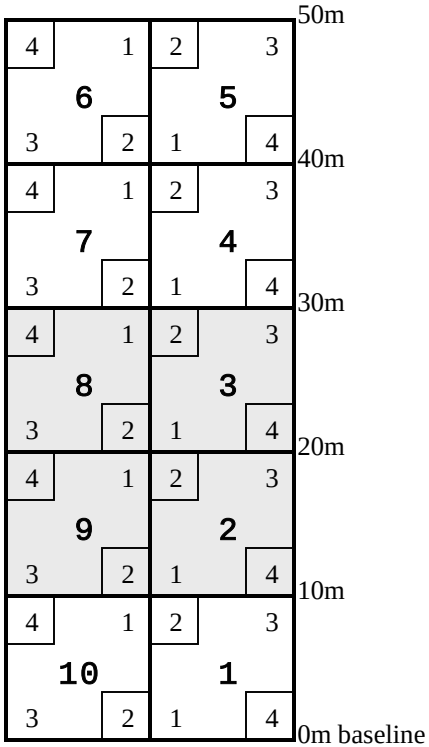
9-2 9-4

Depth (level) Code

quadrat size	quadrat area	code
10x10m	1000m²	1 (releve)
3.16x3.16m	10m²	2
1x1m	1m²	3
0.32x0.32m	0.1m²	4

Part 2 Vegetation Modifiers

(1) Forest	(2) Emergent	(3) Shrub	(4) Non Wetland habitats
(a) Swamp forest (ind. wet woods and vernal pools) (I) oak-maple (ii) oak-maple-ash (iii) maple-ash (iv) pin oak (v) pumpkin ash (vi) mixed forest (vii) red maple (viii) white pine (ix) cottonwood (x) river birch (xi) other (specify dominants)	(a) Marsh (I) submergent marsh (ii) floating-leaved marsh (iii) mixed emergent marsh (iv) cattail marsh	(a) Shrub Swamp (I) buttonbush swamp (ii) alder swamp (iii) mixed shrub swamp (iv) other (specify)	(a) Non-woody communities (i) Old field (ii) Farm field (iii) PC farm field (iv) Prairie (v) Pasture (vi) Other herbaceous (specif dominants)
(b) Bog Forest (I) tamarack bog (ii) tamarack-hardwood bog	(b) Wet meadow (I) wet prairie (incl. bluejoint/cordgrass meadows) (ii) oak openings sand prairie (iii) prairie sedge meadow (iv) fen meadow (v) reed canary grass meadow (vi) other (specify dominants) (vii) sedge meadow (misc. Cyperaceae dominants)	(b) Bog shrub swamp (I) tall shrub bog (ii) leatherleaf bog	(b) Woody communities (i) Shrub Thicket (ii) Young 2nd growth (iii) Upland Forest (iv) Savannah
(c) Forest seep (I) skunk cabbage seep (ii) sedge seep (iii) skunk cabbage-sedge seep (iv) other (specify)	(c) Sphagnum bog (ind. open kettle bogs with scattered shrubs, classic ringed bogs with open water centers and perimeters of shrub, tamarack)	(c) Tall shrub fen	(c) Aquatic communities (i) Pond, unvegetated open v deep (ii) Lake, open water >2 m de



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Investigator(s)		Total Modules		Centerline bearing	
Site		Intensive Modules		Sub or Super Sample?	
County		Plot configuration		total plot canopy closure%	
Date		Total area (ha)		total plot herbaceous cover%	

mod #	species	%sub or super sample	shrub clumps	1 0 -<1	2 1 -<2.5	3 2.5 -<5	3 5 -<10	5 10 -<15	6 15 - <20	7 20 - <25	8 25 - <30	9 30 - <35	10 35 - <40	11 >40 (record each tree)

Part 1 Hydrogeomorphic Classification

	class	class modifiers
I	Depression (ind. areas that could be considered flats, e.g. "wet woods"	(A) Surface water (sheet flow, precipitation) (B) Ground water (seasonal to permanent input)
II	Impoundment	(A) Beaver, (B) Human
III	Riverine	(A) Headwater depression (1st or 2nd), (B) Mainstem depression (3rd order or >), (C) Channel
IV	Slope (ind. hillside fens, mound fens, and lacustrine fens)	(A) Riverine, (B) Isolated. (C) Fringing
V	Fringing (does not include lacustrine fens)	(A) Reservoir, (B) Natural lake
VI	Coastal	(A) Open embayment, (B) Closed embayment, (C) Barrier-protected, (D) River mouth (barred and open), (E) Diked - managed, (F) Diked - unmanaged, (G) Diked - failed, (H) Beach swale
VII	Bog	(A) Strongly ombrotrophic, (B) Moderately ombrotrophic, (C) Weakly ombrotrophic
VIII	Upland habitats	(A) Hydric soils (drained or farmed wetlands) (B) Non-hydric soils (uplands)

Cover Classes

class	% cover
1	solitary/few
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3	1-2%
4	2-5%
5	5-10%
6	10-25%
7	25-50%
8	50-75%
9	75-95%
10	95-99%

Vertical Strata Codes

stratum	height	code
herb layer	0-2m	1
shrub/sapling	2-5m	2
pole timber	5-15m	3
tree	15-35m	4
canopy tree	>35	5

Standard plot

nest corners

2-2 2-4

3-2 3-4

8-2 8-4

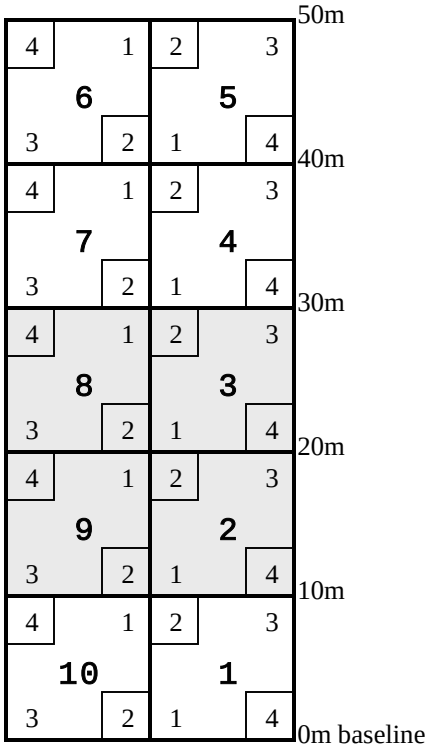
9-2 9-4

Depth (level) Code

quadrat size	quadrat area	code
10x10m	1000m²	1 (releve)
3.16x3.16m	10m²	2
1x1m	1m²	3
0.32x0.32m	0.1m²	4

Part 2 Vegetation Modifiers

(1) Forest	(2) Emergent	(3) Shrub	(4) Non Wetland habitats
(a) Swamp forest (ind. wet woods and vernal pools) (I) oak-maple (ii) oak-maple-ash (iii) maple-ash (iv) pin oak (v) pumpkin ash (vi) mixed forest (vii) red maple (viii) white pine (ix) cottonwood (x) river birch (xi) other (specify dominants)	(a) Marsh (I) submergent marsh (ii) floating-leaved marsh (iii) mixed emergent marsh (iv) cattail marsh	(a) Shrub Swamp (I) buttonbush swamp (ii) alder swamp (iii) mixed shrub swamp (iv) other (specify)	(a) Non-woody communities (i) Old field (ii) Farm field (iii) PC farm field (iv) Prairie (v) Pasture (vi) Other herbaceous (specif dominants)
(b) Bog Forest (I) tamarack bog (ii) tamarack-hardwood bog	(b) Wet meadow (I) wet prairie (incl. bluejoint/cordgrass meadows) (ii) oak openings sand prairie (iii) prairie sedge meadow (iv) fen meadow (v) reed canary grass meadow (vi) other (specify dominants) (vii) sedge meadow (misc. Cyperaceae dominants)	(b) Bog shrub swamp (I) tall shrub bog (ii) leatherleaf bog	(b) Woody communities (i) Shrub Thicket (ii) Young 2nd growth (iii) Upland Forest (iv) Savannah
(c) Forest seep (I) skunk cabbage seep (ii) sedge seep (iii) skunk cabbage-sedge seep (iv) other (specify)	(c) Sphagnum bog (ind. open kettle bogs with scattered shrubs, classic ringed bogs with open water centers and perimeters of shrub, tamarack)	(c) Tall shrub fen	(c) Aquatic communities (i) Pond, unvegetated open v deep (ii) Lake, open water >2 m de



Investigator(s)		Total Modules		visual estimate of % open water over entire site	
Site Name		Intensive Modules		visual estimate of % unvegetated open over entire site	
County		Plot configuration		visual estimate of % invasive species over entire site	
Date		Total area (ha)			

module	corner	water depth center of intensive mods (cm)	litter depth center of intensive mods (cm)	depth to saturated soil center of intensive mods (cm)	number of tussucks level 3 1x1m (count)	number of hummocks level 2 3.16x3.16m (count)	number of macro. depre.* level 1 10x10m (count)	coarse woody debris 0-12cm level 1 10x10m (count)	coarse woody debris 12-40cm level 1 10x10m (count)	coarse woody debris >40cm level 1 10x10m (count)	microhabitat interspersion (scale on back) level 1 (rank)

* keep separate count of with or without outlets to streams

SOIL CHARACTERISTICS

CENTER OF PLOT	matrix color	mottle color	%mottle	oxid. roots		texture*	redox. feat.		hydr. cond.**
5cm				Y	N		Y	N	
20cm				Y	N		Y	N	

* LM=loam SAL=sandy loam SIL=silty loam CL=clay loam SACL=sandy clay loam SICL=silty clay loam C=clay SAC=sandy clay SIC=silty clay
P=peat M=muck SP - sandy peat or muck (Oak Openings) ** I=indundated S=saturated M=moist D=dry

Parameter	Soil Sample		Water Sample		clip plots		pH		Temp	
Collected?	Y	N	Y	N	Y	N	Y	N	Y	N
Time Collected?										
If No, reason?										
List Mod/Corner, Location										
Reading										
Calibrated Prior to Reading?							Y	N	Y	N

pc=previously collected, nw=no water, ns=substrate not able to be sampled, na=not applicable

Part 1 Hydrogeomorphic Classification

	class	class modifiers
I	Depression (ind. areas that could be considered flats, e.g. "wet woods"	(A) Surface water (sheet flow, precipitation) (B) Ground water (seasonal to permanent input)
II	Impoundment	(A) Beaver, (B) Human
III	Riverine	(A) Headwater depression (1st or 2nd), (B) Mainstem depression (3rd order or >), (C) Channel
IV	Slope (ind. hillside fens, mound fens, and lacustrine fens)	(A) Riverine, (B) Isolated. (C) Fringing
V	Fringing (does not include lacustrine fens)	(A) Reservoir, (B) Natural lake
VI	Coastal	(A) Open embayment, (B) Closed embayment, (C) Barrier-protected, (D) River mouth (barred and open), (E) Diked - managed, (F) Diked - unmanaged, (G) Diked - failed, (H) Beach swale
VII	Bog	(A) Strongly ombrotrophic, (B) Moderately ombrotrophic, (C) Weakly ombrotrophic
VIII	Upland habitats	(A) Hydric soils (drained or farmed wetlands) (B) Non-hydric soils (uplands)

Standard plot

nest corners

2-2 2-4

3-2 3-4

8-2 8-4

9-2 9-4

Depth (level) Code

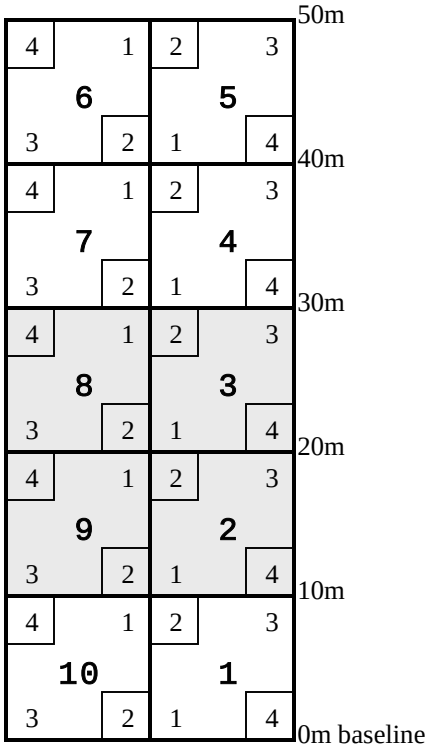
quadrat size	quadrat area	code
10x10m	1000m²	1 (releve)
3.16x3.16m	10m²	2
1x1m	1m²	3
0.32x0.32m	0.1m²	4

Cover scale for microtopographic habitat features. Select one or select two and average.

microtopographic habitat quality	narrative description
0	feature is absent or functionally absent from the wetland
3	feature is present in the wetland in very small amounts or if more common, of low quality
7	feature is present in moderate amounts, but not of highest quality, or in small amounts of highest quality
10	present in moderate or greater amounts and of highest quality

Part 2 Vegetation Modifiers

(1) Forest	(2) Emergent	(3) Shrub	(4) Non Wetland habitats
(a) Swamp forest (incl. wet woods and vernal pools) (i) oak-maple (ii) oak-maple-ash (iii) maple-ash (iv) pin oak (v) pumpkin ash (vi) mixed forest (vii) red maple (viii) white pine (ix) cottonwood (x) river birch (xi) other (specify dominants)	(a) Marsh (i) submergent marsh (ii) floating-leaved marsh (iii) mixed emergent marsh (iv) cattail marsh	(a) Shrub Swamp (i) buttonbush swamp (ii) alder swamp (iii) mixed shrub swamp (iv) other (specify)	(a) Non-woody communities (i) Old field (ii) Farm field (iii) PC farm field (iv) Prairie (v) Pasture (vi) Other herbaceous (specif dominants)
(b) Bog Forest (i) tamarack bog (ii) tamarack-hardwood bog	(b) Wet meadow (i) wet prairie (incl. bluejoint/cordgrass meadows) (ii) oak openings sand prairie (iii) prairie sedge meadow (iv) fen meadow (v) reed canary grass meadow (vi) other (specify dominants) (vii) sedge meadow (misc. Cyperaceae dominants)	(b) Bog shrub swamp (i) tall shrub bog (ii) leatherleaf bog	(b) Woody communities (i) Shrub Thicket (ii) Young 2nd growth (iii) Upland Forest (iv) Savannah
(c) Forest seep (i) skunk cabbage seep (ii) sedge seep (iii) skunk cabbage-sedge seep (iv) other (specify)	(c) Sphagnum bog (ind. open kettle bogs with scattered shrubs, classic ringed bogs with open water centers and perimeters of shrub, tamarack)	(c) Tall shrub fen	(c) Aquatic communities (i) Pond, unvegetated open v deep (ii) Lake, open water >2 m de



APPENDIX B
EXAMPLE HAND CALCULATIONS

Falling Tree Vinton Co. 23 July 2002
Buttonbush swamp; beaver Impoundment
Western Allegheny Plateau

Plot 20 x 40 meters, 4 intensive modules,
Plot area: 0.08 ha

1ST DATA REDUCTION PRESENCE - FIELD DATA SHEET 1

			mod#	corner#	mod#	corner#	mod#	corner#	mod#	corner#	mod#	corner#	mod#	corner#	mod#	corner#	mod#	corner#	mod#	corner#
			2	2	2	4	3	2	3	4	8	2	8	4	9	2	9	4	R	R
	voucher #		depth	cover	depth	cover	depth	cover	depth	cover	depth	cover	depth	cover	depth	cover	depth	cover	depth	cover
Alnus serrulata	2182				1	5			1	5										
Ilex verticillata					2	6			2	4										
Cephalanthus occidentalis					2	5			2	7	4		4	9	4		4	8		
Bidens sp.		prob. discoidea			1	3	4	3			2		3	4	4		3	3		
unknown grass sp.					1	4	2	3												
Moss sp. #1	2184	on buttonbush			1	3			2	2										
Lemna minor	2180				3	2	3	2			2		3	3			1	3		
Utricularia gibba	2181		4	8			4		2	8			1	5	4		3	6		
Betula nigra	2183				3	4	4		2	6										
Galium tinctorium			3	3							3		2	3			2	3		
Polygonum sp.					1	2														
Rosa palustris					1	3														
Osmunda regalis					1	4			4	5										
Sparganium americanum					1	2														
Carex sp.		no fruits			1	1														
Triadenum sp.		see # 2176			1	1														
Moss sp. #2	2185	on buttonbush									3		3	3	2	3				
Moss sp. #3	2186	on buttonbush									3		2	3	2	2				
Juncus effusus									2	2										
Acer rubrum																				
Spiraea tomentosa																			R	2
Scirpus cyperinus																			R	2
Carex crinita		crinita																	R	1
Boehmeria cylindrica																			R	1
Smilax sp.																			R	1
Thelypteris noveboracensis																			R	2

Falling Tree Vinton Co. 23 July 2002
Buttonbush swamp; beaver Impoundment
Western Allegheny Plateau

Plot 20 x 40 meters, 4 intensive modules,
Plot area: 0.08 ha

2ND DATA REDUCTION - FIELD DATA SHEET 1

species	authority	cover1	cover2	cover3	cover4	cover5	cover6	cover7	cover8	cover9	cover10	total cover	relative cover
Acer rubrum	L.	*	*	*	*	*	*	*	*	*	*	*	*
Alnus serrulata	(Aiton) Willd.	*	0.075	*	0.075	*	*	*	*	*	*	0.15	3.4204%
Betula nigra	L.	*	0.035	*	0.175	*	*	*	*	*	*	0.21	4.7885%
Bidens sp.	ND	*	0.015	0.015	*	*	0.035	*	0.015	*	*	0.08	1.8242%
Boehmeria cylindrica	(L.) Sw.	*	*	*	*	*	*	*	*	0.0001	*	0.0001	0.0023%
Bryophyte	ND	*	0.015	*	0.005	*	0.015	0.015	*	0.015	0.005	0.07	1.5962%
Carex crinita	Lam.	*	*	*	*	*	*	*	*	0.0001	*	0.0001	0.0023%
Carex sp.	ND	*	0.0001	*	*	*	*	*	*	*	*	0.0001	0.0023%
Cephalanthus occidentalis	L.	*	0.075	*	0.375	*	0.85	*	0.625	*	*	1.925	43.8947%
Galium tinctorium	(L.) Scop.	0.015	*	*	*	*	0.015	*	0.015	*	*	0.045	1.0261%
Ilex verticillata	(L.) A. Gray	*	0.175	*	0.035	*	*	*	*	*	*	0.21	4.7885%
Juncus effusus	L.	*	*	*	0.005	*	*	*	*	*	*	0.005	0.1140%
Lemna minor	L.	*	0.005	0.005	*	*	0.015	*	0.015	*	*	0.04	0.9121%
Osmunda regalis	L.	*	0.035	*	0.075	*	*	*	*	*	*	0.11	2.5083%
Polygonum sp.	ND	*	0.005	*	*	*	*	*	*	*	*	0.005	0.1140%
Rosa palustris	Marshall	*	0.015	*	*	*	*	*	*	*	*	0.015	0.3420%
Scirpus cyperinus	(L.) Kunth	*	*	*	*	*	*	*	*	0.005	*	0.005	0.1140%
Smilax sp.	ND	*	*	*	*	*	*	*	*	0.0001	*	0.0001	0.0023%
Sparganium americanum	Nutt.	*	0.005	*	*	*	*	*	*	*	*	0.005	0.1140%
Spiraea tomentosa	L.	*	*	*	*	*	*	*	*	0.005	*	0.005	0.1140%
Thelypteris noveboracensis	(L.) Nieuwl.	*	*	*	*	*	*	*	*	0.005	*	0.005	0.1140%
Triadenum sp.	ND	*	0.0001	*	*	*	*	*	*	*	*	0.0001	0.0023%
Utricularia gibba	L.	0.625	*	*	0.625	*	0.075	*	0.175	*	*	1.5	34.2036%
												4.3855	

Falling Tree Vinton Co. 23 July 2002
Buttonbush swamp; beaver Impoundment
Western Allegheny Plateau

Plot 20 x 40 meters, 4 intensive modules,
Plot area: 0.08 ha

3RD DATA REDUCTION - FIELD DATA SHEET 1

species	citation	genus code	family	family code	C of C	lifeform	shade tolerance	habit	native	group	4 indicator	total cover	relative cover
Acer rubrum	L.	other	Aceraceae	other	2	tree	tree	WOODY	native	dicot	FAC	*	*
Alnus serrulata	(Aiton) Willd.	other	Betulaceae	other	6	shrub	full	WOODY	native	dicot	OBL	0.1500	0.03420
Betula nigra	L.	other	Betulaceae	other	9	tree	tree	WOODY	native	dicot	FACW	0.2100	0.04789
Bidens sp.	ND	other	Asteraceae	other	*	forb	full	AN	ND	dicot	ND	0.0800	0.01824
Boehmeria cylindrica	(L.) Sw.	other	Urticaceae	other	4	forb	shade	PE	native	dicot	FACW	0.0001	0.00002
Bryophyte	ND	other	ND	moss	*	moss	bryophyte	ND	ND	bryophyte	ND	0.0700	0.01596
Carex crinita var. crinita	Lam.	carex	Cyperaceae	cyper	3	sedge	shade	PE	native	monocot	OBL	0.0001	0.00002
Carex sp.	ND	carex	Cyperaceae	cyper	*	sedge	ND	PE	native	monocot	ND	0.0001	0.00002
Cephalanthus occidentalis	L.	cephalanthus	Rubiaceae	other	6	shrub	full	WOODY	native	dicot	OBL	1.9250	0.43895
Galium tinctorium	(L.) Scop.	other	Rubiaceae	other	4	forb	full	PE	native	dicot	OBL	0.0450	0.01026
Ilex verticillata	(L.) A. Gray	other	Aquifoliaceae	other	6	shrub	shade	WOODY	native	dicot	FACW	0.2100	0.04789
Juncus effusus	L.	other	Juncaceae	other	1	forb	full	PE	native	monocot	FACW	0.0050	0.00114
Lemna minor	L.	other	Lemnaceae	other	3	forb	full	AN	native	monocot	OBL	0.0400	0.00912
Osmunda regalis	L.	other	Osmundaceae	other	7	fern	partial	PE	native	svp	OBL	0.1100	0.02508
Polygonum sp.	ND	other	Polygonaceae	other	*	forb	ND	ND	ND	dicot	ND	0.0050	0.00114
Rosa palustris	Marshall	other	Rosaceae	other	5	shrub	full	WOODY	native	dicot	OBL	0.0150	0.00342
Scirpus cyperinus	(L.) Kunth	other	Cyperaceae	cyper	1	sedge	full	PE	native	monocot	FACW	0.0050	0.00114
Smilax sp.	ND	other	Smilacaceae	other	*	ND	ND	PE	native	monocot	ND	0.0001	0.00002
Sparganium americanum	Nutt.	other	Sparganiaceae	other	6	forb	full	PE	native	monocot	OBL	0.0050	0.00114
Spiraea tomentosa	L.	other	Rosaceae	other	4	shrub	full	WOODY	native	dicot	FACW	0.0050	0.00114
Thelypteris noveboracensis	(L.) Nieuwl.	other	Thelypteridaceae	other	4	fern	shade	PE	native	svp	FAC	0.0050	0.00114
Triadenum sp.	ND	other	Clusiaceae	other	*	forb	ND	PE	native	dicot	OBL	0.0001	0.00002
Utricularia gibba	L.	other	Lentibulariaceae	other	8	forb	full	PE	native	dicot	OBL	1.5000	0.34204
				sum CofC =	79			TOTAL COVER ALL SPECIES AT SITE				4.3855	
				FQAI N =	17								
				FQAI score =	19.2								

Falling Tree Vinton Co. 23 July 2002
Buttonbush swamp; beaver Impoundment
Western Allegheny Plateau

Plot 20 x 40 meters, 4 intensive modules,
Plot area: 0.08 ha

1ST REDUCTION WOODY STEM - FIELD DATA SHEET 2

					size class (cm) woody stems >1m											
					0	1	2	3	4	5	6	7	8	9	10	
mod #	species	vouch #	area (ha)	%subsample	shrub clump	0-<1	1-<2.5	2.5-<5	5-<10	10-<15	15-<20	20-<25	25-<30	30-<35	35-<40	>40 (record each tree)
2	Ilex verticillata		0.1	0.50	7											
2	Betula nigra		0.1	0.50		4										
2	Alnus serrulata		0.1	0.50		1	2	1								
2	Cephalanthus occidentalis		0.1	0.50	2											
2	Standing dead		0.1	0.50							2	1				
1	Alnus serrulata		0.1	0.50	7											
1	Standing dead		0.1	0.50						1						
1	Acer rubrum		0.1	0.50						2	3					
1	Cephalanthus occidentalis		0.1	0.50	2											
3	Acer rubrum		0.1	0.50											1	42.5
3	Ilex verticillata		0.1	0.50	3											
3	Standing dead		0.1	0.50							1					
3	Betula nigra		0.1	0.50		6										
3	Alnus serrulata		0.1	0.50	1											
3	Cephalanthus occidentalis		0.1	0.50	5											
4	Cephalanthus occidentalis		0.1	0.50	7											
4	Alnus serrulata		0.1	0.50	6											
4	Betula nigra		0.1	0.50		3										
4	Standing dead		0.1	0.50									1			
4	Acer rubrum		0.1	0.50			3	1	2							
5	Acer rubrum		0.1	0.50		3			4		1		1			
5	Alnus serrulata		0.1	0.50	4			1								
5	Ilex verticillata		0.1	0.50	4											
5	Standing dead		0.1	0.50												51
5	Cephalanthus occidentalis		0.1	0.50	3											
5	Betula nigra		0.1	0.50		11		1								

Falling Tree Vinton Co. 23 July 2002
Buttonbush swamp; beaver Impoundment
Western Allegheny Plateau

Plot 20 x 40 meters, 4 intensive modules,
Plot area: 0.08 ha

2nd REDUCTION WOODY STEM - FIELD DATA SHEET 2

species	shade spp	lifeform	indicator	area (ha)	%subsample	clumps c0	0-<1 c1	1-<2.5 c2	2.5-<5 c3	5-<10 c4	10-<15 c5	15-<20 c6	20-<25 c7	25-<30 c8	30-<35 c9	35-<40 c10	>40 all	>40-1
Acer rubrum	tree	tree	FAC	0.08	0.50	0	3	3	1	6	2	4	0	1	0	1	1	42.5
Alnus serrulata	full sun	shrub	OBL	0.08	0.50	18	1	2	2	0	0	0	0	0	0	0	0	0
Betula nigra	tree	tree	FACW	0.08	0.50	24	0	0	1	0	0	0	0	0	0	0	0	0
Cephalanthus occidentalis	full sun	shrub	OBL	0.08	0.50	19	0	0	0	0	0	0	0	0	0	0	0	0
Ilex verticillata	shade	shrub	FACW	0.08	0.50	14	0	0	0	0	0	0	0	0	0	0	0	0
Standing dead	dead	ND	ND	0.08	0.50	0	0	0	0	0	1	3	1	1	0	0	1	51

Falling Tree Vinton Co. 23 July 2002
Buttonbush swamp; beaver Impoundment
Western Allegheny Plateau

Plot 20 x 40 meters, 4 intensive modules,
Plot area: 0.08 ha

3rd REDUCTION WOODY STEM - FIELD DATA SHEET 2

species	class frequency	relative class freq	c5 density stems/ha	c6 density stems/ha	c7 density stems/ha	c5 relative density	c6 relative density	c7 relative density	relative density	dominance m2/ha	relative dominance	importance value
Acer rubrum	9	0.750	50	100	0	0.01818	0.03636	0.00000	0.20000	0.4608	0.53961	0.497
Alnus serrulata	4	0.333	0	0	0	0.00000	0.00000	0.00000	0.20909	0.0031	0.00359	0.182
Betula nigra	2	0.167	0	0	0	0.00000	0.00000	0.00000	0.22727	0.0016	0.00184	0.132
Cephalanthus occidentalis	1	0.083	0	0	0	0.00000	0.00000	0.00000	0.17273	0.0004	0.00044	0.085
Ilex verticillata	1	0.083	0	0	0	0.00000	0.00000	0.00000	0.12727	0.0003	0.00032	0.070
Standing dead	5	0.417	25	75	25	0.00909	0.02727	0.00909	0.06364	0.3879	0.45420	0.312

	metric value
Relative density of C5-C7 stems(pole timber metric) =	0.099
subcanopy IV metric	0.0703
canopy IV metric =	0.314

VIBI SUMMARY TABLE

	value	score
Carex metric =	2	3
Dicot metric =	11	3
Shrub metric =	5	10
Hydrophyte metric =	16	7
SVP metric =	2	7
FQAI score metric =	19.2	7
%bryophyte metric	0.016	3
%tolerant metric =	0.002	10
%sensitive metric =	0.464	10
subcanopy IV metric =	0.070	7
VIBI score =		67

Appendix C
Species Codes for VIBI Metric Calculation

ACRONYM	CofC	SCIENTIFIC NAME	AUTHORITY	NATIVITY	FAMILY	IND	FORM	HABIT	GROUP	SHADE
ABUTHE	0	Abutilon theophrasi	Medik.	adventive	Malvaceae	UPL	forb	AN	DI	advent
ACADEA	0	Acalypha deamii	(Weath.) Ahles.	native	Euphorbiaceae	FAC	forb	AN	DI	partial
ACAOST	0	Acalypha ostryifolia	Riddell	adventive	Euphorbiaceae	FACU-	forb	AN	DI	advent
ACARHO	0	Acalypha rhomboidea	Raf.	native	Euphorbiaceae	FACU-	forb	AN	DI	partial
ACALYP	*	Acalypha sp.	ND	ND	Euphorbiaceae	ND	forb	AN	DI	ND
ACAVIR	0	Acalypha virginica	L.	native	Euphorbiaceae	FACU-	forb	AN	DI	partial
ACENEG	3	Acer negundo	L.	native	Aceraceae	FAC+	tree	W	DI	tree
ACEPAL	0	Acer palmatum	Thunb.	adventive	Aceraceae	[FACU]	tree	W	DI	advent
ACEPEN	10	Acer pensylvanicum	L.	native	Aceraceae	FACU	tree	W	DI	tree
ACEPLA	0	Acer platanoides	L.	adventive	Aceraceae	UPL	tree	W	DI	advent
ACERUB	2	Acer rubrum	L.	native	Aceraceae	FAC	tree	W	DI	tree
ACESAC	3	Acer saccharinum	L.	native	Aceraceae	FACW	tree	W	DI	tree
ACESAR	5	Acer saccharum	Marshall	native	Aceraceae	FACU-	tree	W	DI	tree
ACER	*	Acer sp.	ND	ND	Aceraceae	ND	tree	W	DI	tree
ACESPI	8	Acer spicatum	Lam.	native	Aceraceae	FACU-	tree	W	DI	tree
ACETAT	0	Acer tataricum	L.	adventive	Aceraceae	[FACU]	tree	W	DI	advent
ACHMIL	1	Achillea millefolium	DC.	native	Asteraceae	FACU	forb	PE	DI	full
ACONOV	10	Aconitum noveboracense	A. Gray	native	Ranunculaceae	UPL	forb	PE	DI	shade
ACONIT	10	Aconitum sp.	ND	native	Ranunculaceae	ND	forb	PE	DI	shade
ACOUNC	10	Aconitum uncinatum	L.	native	Ranunculaceae	FAC+	forb	PE	DI	shade
ACOAME	6	Acorus americanus	(Raf.) Raf.	native	Acoraceae	OBL	forb	PE	MO	full
ACOCAL	0	Acorus calamus	L.	adventive	Acoraceae	OBL	forb	PE	MO	advent
ACTALB	7	Actaea alba	(L.) Mill.	native	Ranunculaceae	UPL	forb	PE	DI	shade
ACTRUB	7	Actaea rubra	(Aiton) Willd.	native	Ranunculaceae	UPL	forb	PE	DI	shade
ACTAEA	*	Actaea sp.	ND	native	Ranunculaceae	UPL	forb	PE	DI	shade
ADIPED	6	Adiantum pedatum	L.	native	Pteridaceae	FAC-	fern	PE	SVP	shade
ADLFUN	8	Adlumia fungosa	(Aiton) Greene ex B.S.P.	native	Fumariaceae	UPL	forb	BI	DI	shade
AEGCYL	0	Aegilops cylindrica	Host	adventive	Poaceae	[UPL]	grass	AN	MONO	advent
AEGPOD	0	Aegopodium podagraria	L.	adventive	Apiaceae	FACU	forb	PE	DI	advent
AESFLA	7	Aesculus flava	Aiton	native	Hippocastanaceae	UPL	tree	W	DI	tree
AESGLA	6	Aesculus glabra	Willd.	native	Hippocastanaceae	FACU+	tree	W	DI	tree
AESHIP	0	Aesculus hippocastanum	L.	adventive	Hippocastanaceae	[UPL]	tree	W	DI	advent
AESCUL	*	Aesculus sp.	ND	native	Hippocastanaceae	ND	tree	W	DI	tree
AETCYN	0	Aethusa cynapium	L.	adventive	Apiaceae	[FACU]	forb	AN	DI	advent
TOMAUR	8	Agalinis auriculata	(Michx.) S.F. Blake	native	Scrophulariaceae	UPL	forb	AN	DI	full
AGAGAT	8	Agalinis gattingeri	(Small) Small ex Britton	native	Scrophulariaceae	FACW	forb	AN	DI	full
AGAPUPA	10	Agalinis purpurea var. parviflora	(Benth.) B. Boivin	native	Scrophulariaceae	FACW+	forb	AN	DI	full
AGAPUPU	6	Agalinis purpurea var. purpurea	(L.) Pennell	native	Scrophulariaceae	FACW-	forb	AN	DI	full
AGASKI	10	Agalinis skinneriana	(A.W. Wood) Britton	native	Scrophulariaceae	FACW	forb	AN	DI	full
AGALIN	*	Agalinis sp.	ND	native	Scrophulariaceae	ND	forb	AN	DI	full
AGATEN	4	Agalinis tenuifolia	(M. Vahl) Raf.	native	Scrophulariaceae	FAC	forb	AN	DI	full
AGANEP	4	Agastache nepetoides	(L.) Kuntze	native	Lamiaceae	FACU	forb	PE	DI	shade
AGASCR	4	Agastache scrophulariifolia	(Willd.) Kuntze	native	Lamiaceae	UPL	forb	PE	DI	shade
AGASTA	*	Agastache sp.	ND	native	Lamiaceae	ND	forb	PE	DI	shade
AGRGRY	3	Agrimonia gryposepala	Wallr.	native	Rosaceae	FACU	forb	PE	DI	partial
AGRPAR	2	Agrimonia parviflora	Aiton	native	Rosaceae	FAC	forb	PE	DI	shade
AGRPUB	5	Agrimonia pubescens	Wallr.	native	Rosaceae	UPL	forb	PE	DI	shade
AGRROS	5	Agrimonia rostellata	Wallr.	native	Rosaceae	FACU	forb	PE	DI	shade
AGRIMO	*	Agrimonia sp.	ND	native	Rosaceae	ND	forb	PE	DI	partial
AGRSTR	7	Agrimonia striata	Michx.	native	Rosaceae	FACU-	forb	PE	DI	shade

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ACRONYM	CofC	SCIENTIFIC NAME	AUTHORITY	NATIVITY	FAMILY	IND	FORM	HABIT	GROUP	SHADE
AGRDES	0	Agropyron desertorum	(Fisch. ex Link) Schult.	adventive	Poaceae	[UPL]	grass	PE	MONO	advent
AGRGIT	0	Agrostemma githago	L.	adventive	Caryophyllaceae	FACU	forb	BI	DI	advent
AGRCAP	0	Agrostis capillaris	L.	adventive	Poaceae	UPL	grass	PE	MO	advent
AGRELL	5	Agrostis elliottiana	Schult.	native	Poaceae	UPL	grass	AN	MO	full
AGRGIG	0	Agrostis gigantea	Roth	adventive	Poaceae	FACW	grass	PE	MO	advent
AGRHYE	3	Agrostis hyemalis	(Walter) B.S.P.	native	Poaceae	FAC	grass	PE	MO	shade
AGRPER	4	Agrostis perennans	(Walter) Tuck.	native	Poaceae	FACU	grass	PE	MO	partial
AGROST	*	Agrostis sp.	ND	ND	Poaceae	ND	grass	ND	MO	ND
AGRSTO	0	Agrostis stolonifera	L.	adventive	Poaceae	FACW	grass	PE	MO	advent
AGRTEN	0	Agrostis tenuis	Sibth.	adventive	Poaceae	FACU-	grass	PE	MO	advent
AILALT	0	Ailanthus altissima	(Mill.) Swingle	adventive	Simaroubaceae	FACU-	tree	W	DI	advent
AIRCAR	0	Aira caryophyllea	L.	adventive	Poaceae	[FACU]	grass	AN	MONO	advent
AJUGEN	0	Ajuga genevensis	L.	adventive	Lamiaceae	[FACU]	forb	PE	DI	advent
AJUREP	0	Ajuga reptans	L.	adventive	Lamiaceae	UPL	forb	PE	DI	advent
AKEQUI	0	Akebia quinata	(Houtt.) Decne.	adventive	Lardizabalaceae	UPL	vine	W	DI	advent
ALBJUL	0	Albizia julibrissin	Durazz.	adventive	Mimosaceae	UPL	tree	W	DI	advent
ALEFAR	8	Aletris farinosa	L.	native	Liliaceae	FAC	forb	PE	MO	full
ALISMA	*	Alisma sp.	ND	native	Alismataceae	OBL	forb	PE	MO	full
ALISUB	2	Alisma subcordatum	Raf.	native	Alismataceae	OBL	forb	PE	MO	full
ALITRI	6	Alisma triviale	Pursh	native	Alismataceae	OBL	forb	PE	MO	full
ALLPET	0	Alliaria petiolata	(M. Bieb.) Cavara & Grande	adventive	Brassicaceae	FACU-	forb	BI	DI	advent
ALLCAN	2	Allium canadense	L.	native	Liliaceae	FACU	forb	PE	MO	full
ALLCER	5	Allium cernuum	Roth	native	Liliaceae	FACU	forb	PE	MO	full
ALLSAT	0	Allium sativum	L.	adventive	Liliaceae	UPL	forb	PE	MO	advent
ALLSCH	0	Allium schoenoprasum	L.	adventive	Liliaceae	[FAC]	forb	PE	MONO	advent
ALLIUM	*	Allium sp.	ND	ND	Liliaceae	ND	forb	PE	MO	ND
ALLTRI	5	Allium tricoccum	Aiton	native	Liliaceae	FACU+	forb	PE	MO	shade
ALLVIN	0	Allium vineale	L.	adventive	Liliaceae	FACU-	forb	PE	MO	advent
ALNGLU	0	Alnus glutinosa	(L.) Gaertn.	adventive	Betulaceae	FACW-	shrub	W	DI	advent
ALNINC	6	Alnus incana	(L.) Moench	native	Betulaceae	FACW+	shrub	W	DI	full
ALNSER	6	Alnus serrulata	(Aiton) Willd.	native	Betulaceae	OBL	shrub	W	DI	full
ALNUS	*	Alnus sp.	ND	ND	Betulaceae	ND	shrub	W	DI	ND
ALOAEQ	3	Alopecurus aequalis	Sobol.	native	Poaceae	OBL	grass	PE	MO	partial
ALOCAR	1	Alopecurus carolinianus	Walter	native	Poaceae	FACW	grass	AN	MO	partial
ALOMYO	0	Alopecurus myosuroides	Huds.	adventive	Poaceae	FACW	grass	AN	MONO	advent
ALOPRA	0	Alopecurus pratensis	L.	adventive	Poaceae	FACW	grass	PE	MONO	advent
ALOPEC	*	Alopecurus sp.	ND	native	Poaceae	ND	grass	ND	MO	partial
ALTOFF	0	Althaea officinalis	L.	adventive	Malvaceae	FACW+	forb	PE	DI	advent
ALTROS	0	Althaea rosea	(L.) Cav.	adventive	Malvaceae	UPL	forb	BI	DI	advent
ALYALY	0	Alyssum alyssoides	(L.) L.	adventive	Brassicaceae	UPL	forb	AN	DI	advent
ALYSAX	0	Alyssum saxatile	L.	adventive	Brassicaceae	[FACU]	forb	PE	DI	advent
AMAALB	0	Amaranthus albus	L.	native	Amaranthaceae	FACU	forb	AN	DI	full
AMABLI	0	Amaranthus blitoides	S. Watson	adventive	Amaranthaceae	UPL	forb	AN	DI	advent
AMABLI	0	Amaranthus blitum	L.	adventive	Amaranthaceae	[FAC]	forb	AN	DI	advent
AMACRU	0	Amaranthus cruentus	L.	adventive	Amaranthaceae	[FACU-]	forb	AN	DI	advent
AMAHYB	0	Amaranthus hybridus	L.	adventive	Amaranthaceae	UPL	forb	AN	DI	advent
AMAPAL	0	Amaranthus palmeri	S. Wats.	adventive	Amaranthaceae	FACU	forb	AN	DI	advent
AMAPOW	0	Amaranthus powellii	S. Wats.	adventive	Amaranthaceae	[FACU]	forb	AN	DI	advent
AMARET	0	Amaranthus retroflexus	L.	adventive	Amaranthaceae	FACU	forb	AN	DI	advent
AMARUD	0	Amaranthus rudis	Sauer	adventive	Amaranthaceae	FACW-	forb	AN	DI	advent

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ACRONYM	CofC	SCIENTIFIC NAME	AUTHORITY	NATIVITY	FAMILY	IND	FORM	HABIT	GROUP	SHADE
AMARAN	*	Amaranthus sp.	ND	ND	Amaranthaceae	ND	forb	AN	DI	ND
AMASPI	0	Amaranthus spinosus	L.	adventive	Amaranthaceae	FACU	forb	AN	DI	advent
AMATUB	1	Amaranthus tuberculatus	(Moq.) J.D. Sauer	native	Amaranthaceae	FACW	forb	AN	DI	full
AMBART	0	Ambrosia artemisiifolia	L.	native	Asteraceae	FACU	forb	AN	DI	full
AMBBID	1	Ambrosia bidentata	Michx.	native	Asteraceae	UPL	forb	AN	DI	full
AMBPSI	0	Ambrosia psilostachya	DC.	adventive	Asteraceae	FACU-	forb	PE	DI	advent
AMBROS	*	Ambrosia sp.	ND	ND	Asteraceae	ND	forb	ND	DI	ND
AMBTRI	0	Ambrosia trifida	L.	native	Asteraceae	FAC	forb	AN	DI	full
AMEARB	5	Amelanchier arborea	(F. Michx.) Fernald	native	Rosaceae	FAC-	sm tree	W	DI	shade
AMEINT	4	Amelanchier interior	Nielsen	native	Rosaceae	FACU	sm tree	W	DI	shade
AMELAE	5	Amelanchier laevis	Wiegand	native	Rosaceae	FAC	sm tree	W	DI	shade
AMESAN	7	Amelanchier sanguinea	(Pursh) DC.	native	Rosaceae	UPL	sm tree	W	DI	shade
AMELAN	*	Amelanchier sp.	ND	native	Rosaceae	ND	sm tree	W	di	shade
AMESPI	7	Amelanchier spicata	(Lam.) K. Koch	native	Rosaceae	FACU	sm tree	W	DI	shade
AMMANI	7	Ammania sp.	ND	native	Lythraceae	OBL	forb	AN	DI	full
AMMCOC	7	Ammannia coccinea	Rottb.	native	Lythraceae	OBL	forb	AN	DI	full
AMMROB	7	Ammannia robusta	Heer & Regel	native	Lythraceae	OBL	forb	AN	DI	full
AMMBRE	10	Ammophila breviligulata	Fernald	native	Poaceae	FACU-	grass	PE	DI	full
AMOFRU	3	Amorpha fruticosa	L.	native	Fabaceae	FACW	forb	PE	DI	full
AMPALB	1	Ampelamus albidus	(Nutt.) Britton	native	Asclepiadaceae	FAC	vine	PE	DI	full
AMPBRE	0	Ampelopsis brevipedunculata	(Maxim.) Trautv.	adventive	Vitaceae	UPL	vine	W	DI	advent
AMPCOR	7	Ampelopsis cordata	Michx.	native	Vitaceae	FAC+	vine	W	DI	shade
AMPELO	*	Ampelopsis sp.	ND	ND	Vitaceae	ND	vine	W	DI	ND
AMPDRA	0	Amphiachyris dracunuloides	(DC.) Nutt.	adventive	Asteraceae	UPL	forb	AN	DI	advent
AMPBRA	4	Amphicarpaea bracteata	(L.) Fernald	native	Fabaceae	FAC	forb	PE	DI	shade
AMSLYC	0	Amsinkia lycopsoides	Lehm.	adventive	Boraginaceae	[UPL]	forb	AN	DI	advent
AMSTAB	0	Amsonia tabernaemontana	Walter	adventive	Apocynaceae	[FACU]	forb	PE	DI	advent
ANAARV	0	Anagallis arvensis	L.	adventive	Primulaceae	FACU	forb	AN	DI	advent
ANAMAR	5	Anaphalis margaritacea	(L.) Benth. & Hook.	native	Asteraceae	UPL	forb	PE	DI	full
ANCARV	0	Anchusa arvensis	(L.) Bieb	adventive	Boraginaceae	[FACU]	forb	AN	DI	advent
ANCAZU	0	Anchusa azurea	Mill.	adventive	Boraginaceae	[FACU]	forb	PE	DI	advent
ANCOFF	0	Anchusa officinalis	L.	adventive	Boraginaceae	[UPL]	forb	BI	DI	advent
ANDGLA	10	Andromeda glaucophylla	Link.	native	Ericaceae	OBL	shrub	W	DI	full
ANDGER	5	Andropogon gerardii	Vitman	native	Poaceae	FAC	grass	PE	MO	full
ANDVIRA	6	Andropogon glomeratus	(Walter) B.S.P.	native	Poaceae	FACW+	grass	PE	MO	full
ANDGYR	3	Andropogon gyrans	Ashe	native	Poaceae	UPL	grass	PE	MO	full
ANDROP	*	Andropogon sp.	ND	native	Poaceae	ND	grass	PE	MO	full
ANDVIRV	3	Andropogon virginicus	L.	native	Poaceae	FACU	grass	PE	MO	full
ANDOCC	10	Androsace occidentalis	Pursh	native	Primulaceae	FACU	forb	AN	DI	full
ANECAN	5	Anemone canadensis	L.	native	Ranunculaceae	FACW	forb	PE	DI	full
ANECYL	8	Anemone cylindrica	A. Gray	native	Ranunculaceae	UPL	forb	PE	DI	full
ANEQUI	5	Anemone quinquefolia	L.	native	Ranunculaceae	FACU	forb	PE	DI	shade
ANEMON	*	Anemone sp.	ND	native	Ranunculaceae	ND	forb	PE	DI	ND
ANEVIR	3	Anemone virginiana	L.	native	Ranunculaceae	FACU	forb	PE	DI	shade
ANETHA	6	Anemonella thalictroides	(L.) Spach.	native	Ranunculaceae	UPL	forb	PE	DI	shade
ANEGRA	0	Anethum graveolens	L.	adventive	Apiaceae	[FACU]	forb	AN	DI	advent
ANGATR	6	Angelica atropurpurea	L.	native	Apiaceae	OBL	forb	PE	DI	partial
ANGELI	6	Angelica sp.	ND	native	Apiaceae	ND	forb	PE	DI	ND
ANGVEN	6	Angelica venenosa	(Greenway) Fernald	native	Apiaceae	FACU	forb	PE	DI	full
ANOCRI	0	Anoda cristata	(L.) Schlechtend.	adventive	Malvaceae	UPL	forb	AN	DI	advent

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ACRONYM	CofC	SCIENTIFIC NAME	AUTHORITY	NATIVITY	FAMILY	IND	FORM	HABIT	GROUP	SHADE
ANTNEG	1	Antennaria neglecta	Greene	native	Asteraceae	FACU-	forb	PE	DI	full
ANTPLA	1	Antennaria plantaginifolia	(L.) Richardson	native	Asteraceae	UPL	forb	PE	DI	full
ANTSOL	3	Antennaria solitaria	Rydb.	native	Asteraceae	UPL	forb	PE	DI	full
ANTENN	*	Antennaria sp.	ND	native	Asteraceae	ND	forb	PE	DI	full
ANTVIR	9	Antennaria virginica	Stebbins	native	Asteraceae	UPL	forb	PE	DI	full
ANTARV	0	Anthemis arvensis	L.	adventive	Asteraceae	UPL	forb	AN	DI	advent
ANTCOT	0	Anthemis cotula	L.	adventive	Asteraceae	FACU-	forb	AN	DI	advent
ANTNOB	0	Anthemis nobilis	L.	adventive	Asteraceae	[FACU]	forb	PE	DI	advent
ANTHEM	0	Anthemis sp.	ND	adventive	Asteraceae	ND	forb	ND	DI	advent
ANTTIN	0	Anthemis tinctoria	L.	adventive	Asteraceae	UPL	forb	PE	DI	advent
ANTARI	0	Anthoxanthum aristatum	Boiss.	adventive	Poaceae	[FACU]	grass	AN	MONO	advent
ANTODO	0	Anthoxanthum odoratum	L.	adventive	Poaceae	FACU	grass	PE	MO	advent
ANTCAU	0	Anthriscus caucalis	M. Bieb.	adventive	Apiaceae	[UPL]	forb	AN	DI	advent
ANTSYL	0	Anthriscus sylvestris	(L.) Hoffm.	adventive	Apiaceae	[UPL]	forb	AN	DI	advent
ANTVUL	0	Anthyllis vulneraria	L.	adventive	Fabaceae	[UPL]	forb	PE	DI	advent
ANTMAJ	0	Antirrhinum majus	L.	adventive	Scrophulariaceae	[FACU]	forb	AN	DI	advent
ANTORO	0	Antirrhinum orontium	L.	adventive	Scrophulariaceae	[FACU]	forb	AN	DI	advent
APESPI	0	Apera spica-venti	(L.) P. Beauv.	adventive	Poaceae	[UPL]	grass	AN	MONO	advent
APIAME	3	Apios americana	Medik.	native	Fabaceae	FACW	forb	PE	DI	partial
APIGRA	0	Apium graveolens	l.	adventive	Apiaceae	FAC	forb	PE	DI	advent
APLHYE	7	Aplectrum hyemale	(Muhl. ex Willd.) Torr.	native	Orchidaceae	FAC	forb	PE	MO	shade
APOAND	6	Apocynum androsaemifolium	L.	native	Apocynaceae	FACU-	forb	PE	DI	full
APOCAN	1	Apocynum cannabinum	L.	native	Apocynaceae	FACU	forb	PE	DI	full
APOSIB	4	Apocynum sibiricum	Jacq.	native	Apocynaceae	FAC	forb	PE	DI	full
APOCYN	*	Apocynum sp.	ND	native	Apocynaceae	ND	forb	PE	DI	full
AQUCAN	6	Aquilegia canadensis	L.	native	Ranunculaceae	FAC	forb	PE	DI	shade
AQUVUL	0	Aquilegia vulgaris	L.	adventive	Ranunculaceae	[FACU]	forb	PE	DI	advent
ARATHA	0	Arabidopsis thaliana	(L.) Heynh.	adventive	Brassicaceae	UPL	forb	AN	DI	advent
ARACAN	5	Arabis canadensis	L.	native	Brassicaceae	UPL	forb	BI	DI	shade
ARADIV	9	Arabis divaricarpa	A. Nelson	native	Brassicaceae	FACU	forb	BI	DI	full
ARADRU	9	Arabis drummondii	A. Gray	native	Brassicaceae	FACU	forb	BI	DI	partial
ARAGLA	3	Arabis glabra	(L.) Bernh.	native	Brassicaceae	UPL	forb	BI	DI	full
ARAHIRA	4	Arabis hirsuta var. adpressipilis	(M. Hopkins) Rollins	native	Brassicaceae	FACU	forb	BI	DI	shade
ARAHIRP	6	Arabis hirsuta var. pycnocarpa	(M. Hopkins) Rollins	native	Brassicaceae	FACU	forb	BI	DI	partial
ARALAE	4	Arabis laevigata	(Muhl. ex Willd.) Poir.	native	Brassicaceae	UPL	forb	BI	DI	shade
ARALYR	6	Arabis lyrata	L.	native	Brassicaceae	FACU	forb	BI	DI	full
ARAMIS	9	Arabis missouriensis	Greene	native	Brassicaceae	UPL	forb	BI	DI	shade
ARAPAT	10	Arabis patens	Sull.	native	Brassicaceae	UPL	forb	BI	DI	shade
ARASHO	7	Arabis shortii	(Fernald) Gleason	native	Brassicaceae	UPL	forb	PE	DI	shade
ARABIS	*	Arabis sp.	ND	native	Brassicaceae	ND	forb	BI	DI	ND
ARAHIS	7	Aralia hispida	Vent.	native	Araliaceae	UPL	forb	PE	DI	shade
ARANUD	5	Aralia nudicaulis	L.	native	Araliaceae	FACU	forb	PE	DI	shade
ARARAC	5	Aralia racemosa	L.	native	Araliaceae	UPL	forb	PE	DI	shade
ARALIA	*	Aralia sp.	ND	native	Araliaceae	ND	forb	PE	DI	shade
ARASPI	5	Aralia spinosa	L.	native	Araliaceae	FAC	shrub	W	DI	shade
ARCLAP	0	Arctium lappa	L.	adventive	Asteraceae	FACU+	forb	BI	DI	advent
ARCMIN	0	Arctium minus	Berhn.	adventive	Asteraceae	FACU-	forb	BI	DI	advent
ARCUVA	10	Arctostaphylos uva-ursi	(L.) Spreng.	native	Ericaceae	UPL	shrub	W	DI	full
ARELAT	7	Arenaria lateriflora	L.	native	Caryophyllaceae	FACU-	forb	PE	DI	full
AREPAT	9	Arenaria patula	Michx.	native	Caryophyllaceae	UPL	forb	AN	DI	full

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ARESER	0	Arenaria serpyllifolia	L.	adventive	Caryophyllaceae	FAC	forb	AN	DI	advent
ARENAR	*	Arenaria sp.	ND	ND	Caryophyllaceae	ND	forb	ND	DI	ND
ARESTR	10	Arenaria stricta	Michx.	native	Caryophyllaceae	UPL	forb	PE	DI	full
AREBUL	10	Arethusa bulbosa	L.	native	Orchidaceae	OBL	forb	PE	MO	full
ARGALB	0	Argemone albiflora	Hornem.	adventive	Papaveraceae	[UPL]	forb	AN	DI	advent
ARGMEX	0	Argemone mexicana	L.	adventive	Papaveraceae	[UPL]	forb	AN	DI	advent
ARIDRA	5	Arisaema dracontium	(L.) Schott	native	Araceae	FACW	forb	PE	MO	shade
ARISAE	*	Arisaema sp.	ND	native	Araceae	ND	forb	PE	MO	shade
ARITRIS	7	Arisaema triphyllum subsp. stewardsonii	(Britton) Huttleston	native	Araceae	FACW-	forb	PE	MO	shade
ARITRIT	3	Arisaema triphyllum subsp. triphyllum	(L.) Schott	native	Araceae	FACU-	forb	PE	MO	shade
ARIDIC	1	Aristida dichotoma	Michx.	native	Poaceae	UPL	grass	AN	MO	full
ARILONG	8	Aristida longespica var. geniculata	(Raf.) Fernald	native	Poaceae	UPL	grass	AN	MO	full
ARILONL	4	Aristida longespica var. longespica	Poir.	native	Poaceae	UPL	grass	AN	MO	full
ARIOLI	1	Aristida oligantha	Michx.	native	Poaceae	UPL	grass	AN	MO	full
ARIPUR	7	Aristida purpurascens	Poir.	native	Poaceae	UPL	grass	PE	MO	full
ARISTI	*	Aristida sp.	ND	native	Poaceae	UPL	grass	ND	MO	full
ARICLE	0	Aristolochia clematitis	L.	adventive	Aristolochiaceae	[UPL]	forb	PE	DI	advent
ARISER	7	Aristolochia serpentaria	L.	native	Aristolochiaceae	UPL	forb	PE	DI	shade
ARITOM	0	Aristolochia tomentosa	Sims	adventive	Aristolochiaceae	FAC	vine	W	DI	advent
ARMLAC	10	Armoracia lacustris	(A. Gray) Al-Sheh. &V.M. Bates	native	Brassicaceae	OBL	forb	PE	DI	full
ARMRUS	0	Armoracia rusticana	P. Gaertn., B. Mey. & Scherb.	adventive	Brassicaceae	[FAC]	forb	PE	DI	advent
ARNMIN	0	Arnoseris minima	(L.) Schweigg. & Korte	adventive	Asteraceae	[UPL]	forb	AN	DI	advent
AROARB	9	Aronia arbutifolia	(L.) Pers.	native	Rosaceae	FACW	shrub	W	DI	partial
AROMEL	5	Aronia melanocarpa	(Michx.) Elliott	native	Rosaceae	FAC	shrub	W	DI	partial
ARONIA	*	Aronia sp.	ND	native	Rosaceae	ND	shrub	W	DI	partial
ARRELA	0	Arrhenatherum elatius	P. Beauv.	adventive	Poaceae	FACU	grass	PE	MO	advent
ARTABS	0	Artemisia absinthium	L.	adventive	Asteraceae	[UPL]	forb	PE	DI	advent
ARTANN	0	Artemisia annua	L.	adventive	Asteraceae	FACU	forb	AN	DI	advent
ARTBIE	0	Artemisia biennis	Willd.	adventive	Asteraceae	FACU-	forb	BI	DI	advent
ARTCAM	10	Artemisia campestris var. caudata	(Michx.) E.J. Palm. & Steyerm.	native	Asteraceae	FAC+	forb	PE	DI	full
ARTLUD	0	Artemisia ludoviciana	Nutt.	adventive	Asteraceae	UPL	forb	PE	DI	advent
ARTPON	0	Artemisia pontica	L.	adventive	Asteraceae	UPL	forb	PE	DI	advent
ARTEMS	*	Artemsia sp.	ND	ND	Asteraceae	ND	forb	ND	DI	ND
ARTVUL	0	Artemsia vulgaris	L.	adventive	Asteraceae	FACU-	forb	PE	DI	advent
ARTHIS	0	Arthraxon hispidus	(Thunb.) Makino	adventive	Poaceae	FAC	grass	AN	MO	advent
ARUDIO	6	Aruncus dioicus	(Walter) Fernald	native	Rosaceae	FACU	forb	PE	DI	shade
ARUGIG	7	Arundinaria gigantea	(Walter) Muhl.	native	Poaceae	FACW	grass	PE	MO	full
ASACAN	6	Asarum canadense	L.	native	Aristolochiaceae	FACU-	forb	PE	DI	shade
ASCAMP	7	Asclepias amplexicaulis	Sm.	native	Asclepiadaceae	UPL	forb	PE	DI	full
ASCEXA	8	Asclepias exaltata	L.	native	Asclepiadaceae	FACU	forb	PE	DI	full
ASCHIR	8	Asclepias hirtella	(Pennell) Woodson	native	Asclepiadaceae	UPL	forb	PE	DI	full
ASCINC	4	Asclepias incarnata	L.	native	Asclepiadaceae	OBL	forb	PE	DI	full
ASCPUR	7	Asclepias purpurascens	L.	native	Asclepiadaceae	FACU	forb	PE	DI	full
ASCQUA	6	Asclepias quadrifolia	Jacq.	native	Asclepiadaceae	UPL	forb	PE	DI	full
ASCLEP	*	Asclepias sp.	ND	native	Asclepiadaceae	ND	forb	PE	DI	full
ASCSUL	8	Asclepias sullivantii	Engelm. ex A. Gray	native	Asclepiadaceae	UPL	forb	PE	DI	full
ASCSYR	1	Asclepias syriaca	L.	native	Asclepiadaceae	FACU-	forb	PE	DI	full
ASCTUB	4	Asclepias tuberosa	L.	native	Asclepiadaceae	UPL	forb	PE	DI	full
ASCVAR	7	Asclepias variegata	L.	native	Asclepiadaceae	FACU	forb	PE	DI	full
ASCVER	4	Asclepias verticillata	L.	native	Asclepiadaceae	UPL	forb	PE	DI	full

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ACRONYM	CofC	SCIENTIFIC NAME	AUTHORITY	NATIVITY	FAMILY	IND	FORM	HABIT	GROUP	SHADE
ASCVIR	5	Asclepias viridiflora	Raf.	native	Asclepiadaceae	UPL	forb	PE	DI	full
ASCVID	7	Asclepias viridis	Walter	native	Asclepiadaceae	UPL	forb	PE	DI	full
ASITRI	6	Asimina triloba	(L.) Dunal	native	Annonaceae	FACU+	sm tree	W	DI	shade
ASPOFF	0	Asparagus officinalis	L.	adventive	Liliaceae	FACU	forb	PE	MO	advent
ASPPRO	0	Asperugo procumbens	L.	adventive	Boraginaceae	[FAC]	forb	AN	DI	advent
ASPBRA	8	Asplenium bradleyi	DC. Eaton	native	Aspleniaceae	UPL	fern	PE	SVP	shade
ASPMON	7	Asplenium montanum	Willd.	native	Aspleniaceae	UPL	fern	PE	SVP	shade
ASPPIN	8	Asplenium pinnatifidum	Nutt.	native	Aspleniaceae	UPL	fern	PE	SVP	shade
ASPPLA	3	Asplenium platyneuron	(L.) B.S.P.	native	Aspleniaceae	FACU	fern	PE	SVP	shade
ASPRES	7	Asplenium resiliens	Kunze	native	Aspleniaceae	UPL	fern	PE	SVP	shade
ASPRHI	7	Asplenium rhizophyllum	L.	native	Aspleniaceae	UPL	fern	PE	SVP	shade
ASPRUT	10	Asplenium ruta-muraria	L.	native	Aspleniaceae	UPL	fern	PE	SVP	shade
ASPLEN	*	Asplenium sp.	ND	native	Aspleniaceae	ND	fern	PE	SVP	shade
ASPTRI	7	Asplenium trichomanes	L.	native	Aspleniaceae	UPL	fern	PE	SVP	shade
ASTACU	8	Aster acuminatus	Michx.	native	Asteraceae	FACU+	forb	PE	DI	full
ASTBOR	9	Aster borealis	Prov.	native	Asteraceae	OBL	forb	PE	DI	full
ASTBRA	0	Aster brachyactis	S.F. Blake	adventive	Asteraceae	FAC	forb	AN	DI	advent
ASTCOR	4	Aster cordifolius	L.	native	Asteraceae	UPL	forb	PE	DI	shade
ASTDIV	5	Aster divaricatus	L.	native	Asteraceae	UPL	forb	PE	DI	shade
ASTDRU	6	Aster drummondii	Lindl.	native	Asteraceae	UPL	forb	PE	DI	shade
ASTDUM	9	Aster dumosus	L.	native	Asteraceae	FAC	forb	PE	DI	full
ASTERI	2	Aster ericoides	L.	native	Asteraceae	FACU	forb	PE	DI	full
ASTFIR	7	Aster firmus	Nees	native	Asteraceae	OBL	forb	PE	DI	full
ASTINF	8	Aster infirmus	Michx.	native	Asteraceae	UPL	forb	PE	DI	shade
ASTLAE	6	Aster laevis	L.	native	Asteraceae	UPL	forb	PE	DI	full
ASTLAN	3	Aster lanceolatus	Willd.	native	Asteraceae	FACW	forb	PE	DI	partial
ASTLAT	2	Aster lateriflorus	(L.) Britton	native	Asteraceae	FACW-	forb	PE	DI	shade
ASTLIN	8	Aster linariifolius	L.	native	Asteraceae	UPL	forb	PE	DI	shade
ASTLOW	6	Aster lowrieanus	T.C. Porter	native	Asteraceae	UPL	forb	PE	DI	shade
ASTMAC	5	Aster macrophyllus	L.	native	Asteraceae	UPL	forb	PE	DI	shade
ASTNOV	2	Aster novae-angliae	L.	native	Asteraceae	FACW-	forb	PE	DI	full
ASTOBL	7	Aster oblongifolius	Nutt.	native	Asteraceae	UPL	forb	PE	DI	full
ASTONT	7	Aster ontarionis	Wiegand	native	Asteraceae	FAC	forb	PE	DI	shade
ASTOOL	7	Aster oolentangiensis	Riddell	native	Asteraceae	UPL	forb	PE	DI	full
ASTPAT	6	Aster patens	Aiton	native	Asteraceae	UPL	forb	PE	DI	partial
ASTPTR	4	Aster paternus	Cronquist	native	Asteraceae	UPL	forb	PE	DI	shade
ASTPIL	1	Aster pilosus	Willd.	native	Asteraceae	UPL	forb	PE	DI	full
ASTPRA	6	Aster praealtus	Poir.	native	Asteraceae	FACW	forb	PE	DI	full
ASTPRE	4	Aster prenanthoides	Muhl. ex Willd.	native	Asteraceae	FAC	forb	PE	DI	partial
ASTPUN	7	Aster puniceus	L.	native	Asteraceae	OBL	forb	PE	DI	full
ASTRAC	2	Aster racemosus	Elliott	native	Asteraceae	FACW	forb	PE	DI	full
ASTSAG	3	Aster sagittifolius	Wedem. ex Willd.	native	Asteraceae	UPL	forb	PE	DI	shade
ASTSCH	5	Aster schreberi	Nees	native	Asteraceae	FACU+	forb	PE	DI	shade
ASTSHO	4	Aster shortii	Lindl.	native	Asteraceae	UPL	forb	PE	DI	shade
ASTSOL	8	Aster solidagineus	Michx.	native	Asteraceae	UPL	forb	PE	DI	partial
ASTER	*	Aster sp.	ND	native	Asteraceae	ND	forb	PE	DI	ND
ASTSUB	0	Aster subulatus	Michx.	adventive	Asteraceae	OBL	forb	AN	DI	advent
ASTSUR	9	Aster surculosus	Michx.	native	Asteraceae	UPL	forb	PE	DI	full
ASTUMB	3	Aster umbellatus	Mill.	native	Asteraceae	FACW	forb	PE	DI	partial
ASTUND	3	Aster undulatus	L.	native	Asteraceae	UPL	forb	PE	DI	full

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ACRONYM	CofC	SCIENTIFIC NAME	AUTHORITY	NATIVITY	FAMILY	IND	FORM	HABIT	GROUP	SHADE
ASTCAN	3	Astragalus canadensis	L.	native	Fabaceae	FAC	forb	PE	DI	full
ASTNEG	10	Astragalus neglectus	(Torr. & A. Gray) E. Sheld.	native	Fabaceae	FACU	forb	PE	DI	full
ATHFEL	5	Athyrium filix-femina	(L.) Roth ex Mert.	native	Dryopteridaceae	FAC	fern	PE	SVP	shade
ATHPYC	8	Athyrium pycnocarpon	(Spreng.) Tidestr.	native	Dryopteridaceae	FAC	fern	PE	SVP	shade
ATHYRI	*	Athyrium sp.	ND	native	Dryopteridaceae	FAC	fern	PE	SVP	shade
ATHTHE	6	Athyrium thelypteroides	(Michx.) Desv.	native	Dryopteridaceae	FAC	fern	PE	SVP	shade
ATRPAT	0	Atriplex patula	L.	adventive	Chenopodiaceae	FACW	forb	AN	DI	advent
ATRROS	0	Atriplex rosea	L.	adventive	Chenopodiaceae	[UPL]	forb	AN	DI	advent
AUEROL	*	Auerolaria sp.	ND	native	Scrophulariaceae	UPL	forb	PE	DI	full
AURFLA	7	Aureolaria flava	(L.) Farw.	native	Scrophulariaceae	UPL	forb	PE	DI	full
AURLAE	8	Aureolaria laevigata	(Raf.) Raf.	native	Scrophulariaceae	UPL	forb	PE	DI	full
AURPEDA	10	Aureolaria pedicularia var. ambigens	(Fernald) Farw.	native	Scrophulariaceae	UPL	forb	AN	DI	full
AURPEDP	8	Aureolaria pedicularia var. pedicularia	(L.) Raf.	native	Scrophulariaceae	UPL	forb	AN	DI	shade
AURVIR	8	Aureolaria virginica	(L.) Pennell	native	Scrophulariaceae	UPL	forb	PE	DI	full
AVEFAT	0	Avena fatua	L.	adventive	Poaceae	[UPL]	grass	AN	MONO	advent
AVESAT	0	Avena sativa	L.	adventive	Poaceae	[UPL]	grass	AN	MONO	advent
AZOCAR	0	Azolla caroliniana	Willd.	adventive	Salviniaceae	OBL	fern	PE	SVP	advent
BALNIG	0	Ballota nigra	L.	adventive	Lamiaceae	[FACU]	forb	PE	DI	advent
BAPAUS	6	Baptisia australis	(L.) R. Br.	native	Fabaceae	FACU-	forb	PE	DI	full
BAPLAC	8	Baptisia lactea	(Raf.) Thieret	native	Fabaceae	FACU	forb	PE	DI	full
BAPTIS	*	Baptisia sp.	ND	native	Fabaceae	ND	forb	PE	DI	full
BAPTIN	6	Baptisia tinctoria	(L.) R. Br.	native	Fabaceae	UPL	forb	PE	DI	full
BARBAR	*	Barbarea sp.	ND	adventive	Brassicaceae	ND	forb	BI	DI	advent
BARVER	0	Barbarea verna	(Mill.) Asch.	adventive	Brassicaceae	UPL	forb	BI	DI	advent
BARVUL	0	Barbarea vulgaris	R. Br.	adventive	Brassicaceae	FACU	forb	BI	DI	advent
BARPAN	10	Bartonia paniculata	(Michx.) Muhl.	native	Gentianaceae	OBL	forb	AN	DI	full
BARTON	*	Bartonia sp.	ND	native	Gentianaceae	ND	forb	AN	DI	full
BARVIR	6	Bartonia virginica	(L.) B.S.P.	native	Gentianaceae	FACW	forb	AN	DI	full
BECSYZ	0	Beckmannia syzigachne	(Steud.) Fernald	adventive	Poaceae	OBL	grass	AN	MONO	advent
BELCHI	0	Belamcanda chinensis	(L.) DC.	adventive	Iridaceae	UPL	forb	PE	MO	advent
BELPER	0	Bellis perennis	L.	adventive	Asteraceae	UPL	forb	PE	DI	advent
BERBER	0	Berberis sp.	ND	adventive	Berberidaceae	FACU	shrub	W	DI	advent
BERTHU	0	Berberis thunbergii	DC.	adventive	Berberidaceae	FACU	shrub	W	DI	advent
BERVUL	0	Berberis vulgaris	L.	adventive	Berberidaceae	FACU	shrub	W	DI	advent
BERINC	0	Berteroa incana	(L.) DC.	adventive	Brassicaceae	UPL	forb	AN	DI	advent
BESBUL	9	Besseya bullii	(Eaton) Rydb.	native	Scrophulariaceae	UPL	forb	PE	DI	full
BETALB	0	Betula alba	L.	adventive	Betulaceae	FAC+	tree	W	DI	advent
BETALL	7	Betula alleghaniensis	Britton	native	Betulaceae	FAC	tree	W	DI	tree
BETLEN	7	Betula lenta	L.	native	Betulaceae	FACU	tree	W	DI	tree
BETNIG	9	Betula nigra	L.	native	Betulaceae	FACW	tree	W	DI	tree
BETPAP	0	Betula papyrifera	Marshall	adventive	Betulaceae	FACU	tree	W	DI	advent
BETPEN	0	Betula pendula	Roth	adventive	Betulaceae	[FACW]	tree	W	DI	advent
BETPOP	5	Betula populifolia	Marshall	native	Betulaceae	FAC	tree	W	DI	tree
BETPUM	10	Betula pumila	L.	native	Betulaceae	OBL	shrub	W	DI	full
BETULA	*	Betula sp.	ND	native	Betulaceae	ND	tree	W	DI	tree
BIDARI	4	Bidens aristosa	(Michx.) Britton	native	Asteraceae	FACW-	forb	AN	DI	full
BIDBEC	10	Bidens beckii	Torr. ex Spreng.	native	Asteraceae	OBL	forb	PE	DI	full
BIDBIP	2	Bidens bipinnata	L.	native	Asteraceae	FACU	forb	AN	DI	full
BIDCER	3	Bidens cernua	L.	native	Asteraceae	OBL	forb	AN	DI	full
BIDCOM	3	Bidens comosa	(A. Gray) Wiegand	native	Asteraceae	FACW	forb	AN	DI	full

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BIDCON	3	Bidens connata	Muhl. ex Willd.	native	Asteraceae	FACW+	forb	AN	DI	full
BIDCOR	3	Bidens coronata	(L.) Britton	native	Asteraceae	OBL	forb	AN	DI	full
BIDDIS	7	Bidens discoidea	(Torr. & A. Gray) Britton	native	Asteraceae	FACW	forb	AN	DI	partial
BIDFRO	2	Bidens frondosa	L.	native	Asteraceae	FACW	forb	AN	DI	full
BIDPOL	0	Bidens polylepis	S.F. Blake	adventive	Asteraceae	FACW	forb	AN	DI	advent
BIDENS	*	Bidens sp.	ND	ND	Asteraceae	ND	forb	AN	DI	ND
BIDVUL	2	Bidens vulgata	Greene	native	Asteraceae	FACW	forb	AN	DI	full
BIGCAP	7	Bignonia capreolata	L.	native	Bignoniaceae	FAC+	vine	W	DI	shade
BLECIL	4	Blephilia ciliata	(L.) Benth.	native	Lamiaceae	UPL	forb	PE	DI	shade
BLEHIR	4	Blephilia hirsuta	(Pursh) Benth.	native	Lamiaceae	FACU-	forb	PE	DI	shade
BLEPHI	*	Blephilia sp.	ND	native	Lamiaceae	ND	forb	PE	DI	shade
BOECYL	4	Boehmeria cylindrica	(L.) Sw.	native	Urticaceae	FACW+	forb	PE	DI	shade
BOLFLU	5	Bolboschoenus fluviatilis	(Torr.) Sojak	native	Cyperaceae	OBL	sedge	PE	MO	full
BOLAST	7	Boltonia asteroides	(L.) L'Her	native	Asteraceae	FACW	forb	PE	DI	full
BOROFF	0	Borago officinalis	L.	adventive	Boraginaceae	[UPL]	forb	AN	DI	advent
BOTBIT	4	Botrychium biternatum	(Savigny) Underw.	native	Ophioglossaceae	FAC	fern	PE	SVP	shade
BOTDIS	3	Botrychium dissectum	Spreng.	native	Ophioglossaceae	FAC	fern	PE	SVP	shade
BOTLAN	8	Botrychium lanceolatum	(S.G. Gmelin) Angstr.	native	Ophioglossaceae	FACW	fern	PE	SVP	shade
BOTMAT	5	Botrychium matricariifolium	(Doll) A. Braun ex W. D. J. Koch	native	Ophioglossaceae	FACU	fern	PE	SVP	shade
BOTMUL	4	Botrychium multifidum	(S.G. Gmelin) Rupr.	native	Ophioglossaceae	FACU	fern	PE	SVP	shade
BOTONE	4	Botrychium oneidense	(Gilbert) House	native	Ophioglossaceae	UPL	fern	PE	SVP	shade
BOTSIM	7	Botrychium simplex	E. Hitchc.	native	Ophioglossaceae	FACU	fern	PE	SVP	shade
BOTRYC	*	Botrychium sp.	ND	native	Ophioglossaceae	ND	fern	PE	SVP	shade
BOTVIR	4	Botrychium virginianum	(L.) Sw.	native	Ophioglossaceae	FACU	fern	PE	SVP	shade
BOUCUR	8	Bouteloua curtipendula	(Michx.) Torr.	native	Poaceae	UPL	grass	PE	MO	full
BOUGRA	0	Bouteloua gracilis	(Willd. ex Kunth) Lag. ex Griffiths	adventive	Poaceae	[UPL]	grass	PE	MONO	advent
BOUHIR	0	Bouteloua hirsuta	Lag.	adventive	Poaceae	[UPL]	grass	PE	MONO	advent
BRACHY	*	Brachyeletrum sp.	ND	native	Poaceae	ND	grass	PE	MO	shade
BRAARI	7	Brachyelytrum aristosum	(Michx.) Trel.	native	Poaceae	FAC	grass	PE	MO	shade
BRAERE	5	Brachyelytrum erectum	(Schreb.ex Spreng.) P. Beauv.	native	Poaceae	UPL	grass	PE	MO	shade
BRASCH	7	Brasenia schreberi	J.F. Gmel.	native	Cabombaceae	OBL	forb	PE	DI	full
BRAALB	0	Brassica alba	(L.) Rabenh.	adventive	Brassicaceae	[UPL]	forb	AN	DI	advent
BRAJUN	0	Brassica juncea	(L.) Czern.	adventive	Brassicaceae	UPL	forb	AN	DI	advent
BRANAP	0	Brassica napus	L.	adventive	Brassicaceae	UPL	forb	AN	DI	advent
BRANIG	0	Brassica nigra	(L.) K. Koch	adventive	Brassicaceae	UPL	forb	AN	DI	advent
BRAOLE	0	Brassica oleracea	L.	adventive	Brassicaceae	[FACU]	forb	PE	DI	advent
BRARAP	0	Brassica rapa	L.	adventive	Brassicaceae	UPL	forb	AN	DI	advent
BRASSI	0	Brassica sp.	ND	adventive	Brassicaceae	UPL	forb	AN	DI	advent
BROCOM	0	Bromis commutatus	Schrad.	adventive	Poaceae	UPL	grass	AN	MO	advent
BROARV	0	Bromus arvensis	L.	adventive	Poaceae	[FACU]	grass	AN	MONO	advent
BROBRI	0	Bromus brizaeformis	Fisch. & C.A. Mey.	adventive	Poaceae	[FACU]	grass	AN	MONO	advent
BROCIL	7	Bromus ciliatus	L.	native	Poaceae	FACW	grass	PE	MO	full
BROHOR	0	Bromus hordaceus	L.	adventive	Poaceae	[UPL]	grass	AN	MONO	advent
BROINE	0	Bromus inermis	Leyss.	adventive	Poaceae	UPL	grass	PE	MO	advent
BROJAP	0	Bromus japonicus	Thunb. ex Murray	adventive	Poaceae	FACU-	grass	AN	MO	advent
BROKAL	8	Bromus kalmii	A. Gray	native	Poaceae	FAC-	grass	PE	MO	full
BROALT	6	Bromus latiglumis	(Scribn. ex Shear) Hitchc.	native	Poaceae	FACW	grass	PE	MO	shade
BRONOT	7	Bromus nottowayanus	Fernald	native	Poaceae	FACU+	grass	PE	MO	shade
BROPUB	4	Bromus pubescens	Muhl. ex Willd.	native	Poaceae	FACU	grass	PE	MO	shade
BROSEC	0	Bromus secalinus	L.	adventive	Poaceae	UPL	grass	AN	MO	advent

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BROMUS	*	Bromus sp.	ND	ND	Poaceae	ND	grass	ND	MO	ND
BROTEC	0	Bromus tectorum	L.	adventive	Poaceae	UPL	grass	AN	MO	advent
BROPAP	0	Broussonetia papyrifera	(L.) Vent	adventive	Moraceae	UPL	tree	W	DI	advent
BROAME	0	Browallia americana	L.	adventive	Solanaceae	[FACU]	forb	AN	DI	advent
BUCAME	8	Buchnera americana	L.	native	Scrophulariaceae	FACU	forb	PE	DI	full
BUDDAV	0	Buddleja davidii	Franch.	adventive	Buddlejaceae	[UPL]	shrub	W	DI	advent
BULCAP	3	Bulbostylis capillaris	(L.) Kunth ex C.B. Clarke	native	Cyperaceae	FACU	sedge	AN	MO	full
BUNORI	0	Bunias orientalis	L.	adventive	Brassicaceae	[UPL]	forb	PE	DI	advent
BUPLAN	0	Bupleurum lancifolium	Hornem.	adventive	Apiaceae	[UPL]	forb	AN	DI	advent
BUPROT	0	Bupleurum rotundifolium	L.	adventive	Apiaceae	[UPL]	forb	AN	DI	advent
BUTUMB	0	Butomus umbellatus	L.	adventive	Butomaceae	OBL	forb	PE	MO	advent
BUXSEM	0	Buxus sempervirens	L.	adventive	Buxaceae	[UPL]	shrub	W	DI	advent
CABCAR	0	Cabomba caroliniana	A. Gray	adventive	Cabombaceae	OBL	forb	PE	DI	advent
CACATR	6	Cacalia atriplicifolia	L.	native	Asteraceae	UPL	forb	PE	DI	full
CACMUH	6	Cacalia muhlenbergii	(Schultz-Bip.) Fernald	native	Asteraceae	UPL	forb	PE	DI	full
CACPLA	10	Cacalia plantaginea	(Raf.) Shinners	native	Asteraceae	FACW	forb	PE	DI	full
CACALI	*	Cacalia sp.	ND	native	Asteraceae	ND	forb	PE	DI	full
CACSUA	7	Cacalia suaveolens	L.	native	Asteraceae	FAC-	forb	PE	DI	full
CAKEDE	10	Cakile edentula	(Bigelow) Hook.	native	Brassicaceae	FACU	forb	AN	DI	full
CALCAN	4	Calamagrostis canadensis	(Michx.) P. Beauv.	native	Poaceae	FACW+	grass	PE	MO	full
CALCIN	0	Calamagrostis cinnoides	(Muhl.) Barton	adventive	Poaceae	OBL	grass	PE	MONO	advent
CALINS	8	Calamagrostis insperata	Swallen	native	Poaceae	UPL	grass	PE	MO	shade
CALAMA	*	Calamagrostis sp.	ND	native	Poaceae	ND	grass	PE	MO	ND
CALSTR	7	Calamagrostis stricta	(Timm) Koeler	native	Poaceae	FACW	grass	PE	MO	full
CALARK	8	Calamintha arkansana	(Nutt.) Shinners	native	Lamiaceae	FACU	forb	PE	DI	full
CLLPAL	10	Calla palustris	L.	native	Araceae	OBL	forb	PE	MO	partial
CALHET	4	Callitriche heterophylla	Pursh	native	Callitrichaceae	OBL	forb	AN	DI	full
CALPAL	9	Callitriche palustris	L.	native	Callitrichaceae	OBL	forb	AN	DI	full
CALLIT	*	Callitriche sp.	ND	native	Callitrichaceae	OBL	forb	AN	DI	full
CALTER	6	Callitriche terrestris	Raf.	native	Callitrichaceae	FACW+	forb	AN	DI	full
CALTUB	9	Calopogon tuberosus	(L.) B.S.P.	native	Orchidaceae	FACW+	forb	PE	MO	full
CLTPAL	6	Caltha palustris	L.	native	Ranunculaceae	OBL	forb	PE	DI	shade
CALFLOG	6	Calycanthus floridus var. glaucus	(Willd.) Torr. & A. Gray	native	Calycanthaceae	FACU	shrub	W	DI	shade
CALHED	0	Calystegia hederacea	Wall.	adventive	Convolvulaceae	UPL	forb	PE	DI	advent
CALSEP	1	Calystegia sepium	(L.) R. Br.	native	Convolvulaceae	FAC-	forb	PE	DI	full
CALYST	*	Calystegia sp.	ND	ND	Convolvulaceae	ND	forb	PE	DI	ND
CALSPI	4	Calystegia spithamaea	(L.) Pursh	native	Convolvulaceae	UPL	forb	PE	DI	full
CAMSCI	6	Camassia scilloides	(Raf.) Cory	native	Liliaceae	FAC	forb	PE	MO	partial
CAMMIC	0	Camelina microcarpa	Andrz. ex DC.	adventive	Brassicaceae	UPL	forb	AN	DI	advent
CAMSAT	0	Camelina sativa	(L.) Crantz	adventive	Brassicaceae	UPL	forb	AN	DI	advent
CAMELI	0	Camelina sp.	ND	adventive	Brassicaceae	UPL	forb	AN	DI	advent
CAMAME	4	Campanula americana	L.	native	Campanulaceae	FAC	forb	BI	DI	shade
CAMAPA	7	Campanula aparinoides	Pursh	native	Campanulaceae	OBL	forb	PE	DI	full
CAMRAP	0	Campanula rapunculoides	L.	adventive	Campanulaceae	UPL	forb	PE	DI	advent
CAMROT	10	Campanula rotundifolia	L.	native	Campanulaceae	FACU	forb	PE	DI	full
CAMPAN	*	Campanula sp.	ND	native	Campanulaceae	ND	forb	ND	DI	ND
CAMTRA	0	Campanula trachelium	L.	adventive	Campanulaceae	UPL	forb	PE	DI	advent
CAMRAD	1	Campsis radicans	(L.) See. ex Bureau	native	Bignoniaceae	FAC	vine	W	DI	full
CANSAT	0	Cannabis sativa	L.	adventive	Cannabaceae	FACU	forb	AN	DI	advent

Appendix C
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ACRONYM	CofC	SCIENTIFIC NAME	AUTHORITY	NATIVITY	FAMILY	IND	FORM	HABIT	GROUP	SHADE
CAPBUR	0	Capsella bursa-pastoris	(L.) Medik.	adventive	Brassicaceae	FACU	forb	AN	DI	advent
CARANG	7	Cardamine angustata	O.E. Schulz	native	Brassicaceae	FACU	forb	PE	DI	shade
CARCON	3	Cardamine concatenata	(Michx.) O. Schwarz	native	Brassicaceae	FACU	forb	PE	DI	shade
CARDIP	4	Cardamine diphylla	(Michx.) A.W. Wood	native	Brassicaceae	FACU	forb	PE	DI	shade
CARDIS	7	Cardamine dissecta	(Leavenw.) Al-Sheh.	native	Brassicaceae	FACU+	forb	PE	DI	shade
CARDOU	5	Cardamine douglassii	Britton	native	Brassicaceae	FACW+	forb	PE	DI	shade
CARFLE	0	Cardamine flexuosa	With.	adventive	Brassicaceae	OBL	forb	PE	DI	advent
CARHIR	0	Cardamine hirsuta	L.	adventive	Brassicaceae	FACU	forb	AN	DI	advent
CARIMP	0	Cardamine impatiens	L.	adventive	Brassicaceae	UPL	forb	AN	DI	advent
CARPAR	2	Cardamine parviflora	L.	native	Brassicaceae	FACU	forb	AN	DI	full
CARPEN	3	Cardamine pensylvanica	Muhl. ex Willd.	native	Brassicaceae	OBL	forb	AN	DI	partial
CARPRA	9	Cardamine pratensis	L.	native	Brassicaceae	OBL	forb	PE	DI	partial
CARRHO	5	Cardamine rhomboidea	(Pers.) DC.	native	Brassicaceae	OBL	forb	PE	DI	shade
CARROT	9	Cardamine rotundifolia	Michx.	native	Brassicaceae	OBL	forb	PE	DI	partial
CARDAM	*	Cardamine sp.	ND	ND	Brassicaceae	ND	forb	ND	DI	ND
CARDRA	0	Cardaria draba	(L.) Desv.	adventive	Brassicaceae	UPL	forb	PE	DI	advent
CARHAL	0	Cardiospermum halicacabum	L.	adventive	Sapindaceae	FACU	vine	BI	DI	advent
CARACA	0	Carduus acanthoides	L.	adventive	Asteraceae	UPL	forb	BI	DI	advent
CARNUT	0	Carduus nutans	L.	adventive	Asteraceae	UPL	forb	BI	DI	advent
CARDUU	0	Carduus sp.	ND	adventive	Asteraceae	UPL	forb	BI	DI	advent
CXAGGR	2	Carex aggregata	Mack.	native	Cyperaceae	UPL	sedge	PE	MO	full
CXALAT	7	Carex alata	Torr.	native	Cyperaceae	OBL	sedge	PE	MO	full
CXALBAA	4	Carex albicans var. albicans	Willd. ex Spreng.	native	Cyperaceae	UPL	sedge	PE	MO	shade
CXALBEE	8	Carex albicans var. emmonsii	(Dewey ex Torr.) Rettig	native	Cyperaceae	UPL	sedge	PE	MO	shade
CXALBO	7	Carex albolutescens	Schwein.	native	Cyperaceae	FACW	sedge	PE	MO	shade
CXALBU	6	Carex albursina	E. Sheld.	native	Cyperaceae	UPL	sedge	PE	MO	shade
CXALOP	5	Carex alopecoidea	Tuck.	native	Cyperaceae	FACW	sedge	PE	MO	full
CXAMPH	5	Carex amphibola	Steud.	native	Cyperaceae	FAC	sedge	PE	MO	shade
CXANNE	3	Carex annectens	(E.P. Bicknell) E.P. Bicknell	native	Cyperaceae	FACW	sedge	PE	MO	full
CXAPPA	8	Carex appalachica	J.M. Webber & P.W. Ball	native	Cyperaceae	UPL	sedge	PE	MO	shade
CXAQUA	9	Carex aquatilis	Wahlenb.	native	Cyperaceae	OBL	sedge	PE	MO	full
CXARCT	10	Carex arctata	W. Boott ex Hook.	native	Cyperaceae	UPL	sedge	PE	MO	shade
CXARGY	10	Carex argyrantha	Tuck.	native	Cyperaceae	FACU	sedge	PE	MO	full
CXATHE	7	Carex atherodes	Spreng.	native	Cyperaceae	OBL	sedge	PE	MO	full
CXATLAA	8	Carex atlantica subsp. atlantica	L.H. Bailey	native	Cyperaceae	FACW+	sedge	PE	MO	full
CXATLAC	9	Carex atlantica subsp. capillacea	(L.H. Bailey) Reznicek	native	Cyperaceae	OBL	sedge	PE	MO	full
CXAURE	7	Carex aurea	Nutt.	native	Cyperaceae	FACW	sedge	PE	MO	full
CXBEBB	7	Carex bebbii	Olney ex Fernald	native	Cyperaceae	OBL	sedge	PE	MO	full
CXBICK	9	Carex bicknellii	Britton	native	Cyperaceae	FACU	sedge	PE	MO	full
CXBLAN	1	Carex blanda	Dewey	native	Cyperaceae	FAC	sedge	PE	MO	shade
CXBREV	8	Carex brevior	(Dewey) Mack. ex Lunell	native	Cyperaceae	UPL	sedge	PE	MO	full
CXBROM	7	Carex bromoides	Schkuhr ex Willd.	native	Cyperaceae	FACW	sedge	PE	MO	shade
CXBRUN	9	Carex brunnescens	(Pers.) Poir.	native	Cyperaceae	FACW	sedge	PE	MO	partial
CXBUSH	8	Carex bushii	Mack.	native	Cyperaceae	FACW	sedge	PE	MO	shade
CXBUXB	8	Carex buxbaumii	Wahlenb.	native	Cyperaceae	OBL	sedge	PE	MO	full
CXCANE	7	Carex canescens	L.	native	Cyperaceae	OBL	sedge	PE	MO	shade
CXCARE	7	Carex careyana	Torr. ex Dewey	native	Cyperaceae	UPL	sedge	PE	MO	shade
CXCARO	4	Carex caroliniana	Schwein.	native	Cyperaceae	FACU	sedge	PE	MO	full
CXCPHLO	7	Carex cephaloidea	(Dewey) Dewey	native	Cyperaceae	FAC+	sedge	PE	MO	shade
CXCPHLA	5	Carex cephalophora	Muhl. ex Willd.	native	Cyperaceae	FACU	sedge	PE	MO	shade

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ACRONYM	CofC	SCIENTIFIC NAME	AUTHORITY	NATIVITY	FAMILY	IND	FORM	HABIT	GROUP	SHADE
CXCOMM	4	Carex communis	L.H. Bailey	native	Cyperaceae	UPL	sedge	PE	MO	partial
CXCOMO	2	Carex comosa	Boott	native	Cyperaceae	OBL	sedge	PE	MO	full
CXCOMP	3	Carex complanata	Torr. & Hook.	native	Cyperaceae	[FACU]	sedge	PE	MONO	partial
CXCONJ	5	Carex conjuncta	Boott	native	Cyperaceae	FACW	sedge	PE	MO	full
CXCONO	8	Carex conoidea	Schkuhr ex Willd.	native	Cyperaceae	FACU	sedge	PE	MO	full
CXCRAW	8	Carex crawei	Dewey	native	Cyperaceae	FACW	sedge	PE	MO	full
CXCRINB	3	Carex crinita var. brevicrinis	Fernald	native	Cyperaceae	OBL	sedge	PE	MO	shade
CXCRINC	3	Carex crinita var. crinita	Lam.	native	Cyperaceae	OBL	sedge	PE	MO	shade
CXCRIS	3	Carex cristatella	Britton	native	Cyperaceae	FACW	sedge	PE	MO	full
CXCRUS	8	Carex crus-corvi	Shuttlew. ex Kunze	native	Cyperaceae	OBL	sedge	PE	MO	shade
CXCRYP	9	Carex cryptolepis	Mack.	native	Cyperaceae	OBL	sedge	PE	MO	full
CXCUMB	6	Carex cumberlandensis	Naczi, Cral & Bryson	native	Cyperaceae	FAC	sedge	PE	MO	shade
CXDAVI	5	Carex davisii	Schwein & Torr.	native	Cyperaceae	FAC-	sedge	PE	MO	shade
CXDEBID	7	Carex debilis var. debilis	Michx.	native	Cyperaceae	FAC	sedge	PE	MO	shade
CXDEBIR	8	Carex debilis var. rudgei	L.H. Bailey	native	Cyperaceae	FAC	sedge	PE	MO	shade
CXDECO	10	Carex decomposita	Muhl.	native	Cyperaceae	OBL	sedge	PE	MO	partial
CXDEWE	10	Carex deweyana	Schwein.	native	Cyperaceae	FACU	sedge	PE	MO	shade
CXDIAN	9	Carex diandra	Schrank	native	Cyperaceae	OBL	sedge	PE	MO	full
CXDIGI	4	Carex digitalis	Willd.	native	Cyperaceae	UPL	sedge	PE	MO	shade
CXDISP	10	Carex disperma	Dewey	native	Cyperaceae	FACW+	sedge	PE	MO	partial
CXEBUR	8	Carex eburnea	Boott	native	Cyperaceae	FACU	sedge	PE	MO	shade
CXECHI	10	Carex echinata	Murray	native	Cyperaceae	OBL	sedge	PE	MO	full
CXEMOR	8	Carex emoryi	Dewey	native	Cyperaceae	OBL	sedge	PE	MO	partial
CXFEST	7	Carex festucacea	Schkuhr ex Willd.	native	Cyperaceae	FAC	sedge	PE	MO	partial
CXFLAV	8	Carex flava	L.	native	Cyperaceae	OBL	sedge	PE	MO	full
CXFOLL	7	Carex folliculata	L.	native	Cyperaceae	OBL	sedge	PE	MO	partial
CXFORM	10	Carex formosa	Dewey	native	Cyperaceae	FAC	sedge	PE	MO	shade
CXFRAN	2	Carex frankii	Kunth	native	Cyperaceae	OBL	sedge	PE	MO	full
CXGARB	9	Carex garberi	Fernald	native	Cyperaceae	FACW	sedge	PE	MO	partial
CXGLAU	5	Carex glaucodea	Tuck. ex Olney	native	Cyperaceae	FAC	sedge	PE	MO	shade
CXGRCLE	3	Carex gracilescens	Steud.	native	Cyperaceae	UPL	sedge	PE	MO	shade
CXGRCLI	4	Carex gracillima	Schwein.	native	Cyperaceae	FACU	sedge	PE	MO	shade
CXGRAN	3	Carex granularis	Muhl. ex Willd.	native	Cyperaceae	FACW+	sedge	PE	MO	full
CXGRAY	5	Carex grayi	J. Carey	native	Cyperaceae	FACW+	sedge	PE	MO	shade
CXGRIS	4	Carex grisea	Wahlenb.	native	Cyperaceae	FAC	sedge	PE	MO	shade
CXGYNA	3	Carex gynandra	Schwein.	native	Cyperaceae	OBL	sedge	PE	MO	shade
CXHAYD	7	Carex haydenii	Dewey	native	Cyperaceae	OBL	sedge	PE	MO	partial
CXHIRS	2	Carex hirsutella	Mack.	native	Cyperaceae	FACU	sedge	PE	MO	partial
CXHIRT	3	Carex hirtifolia	Mack.	native	Cyperaceae	UPL	sedge	PE	MO	shade
CXHITC	7	Carex hitchcockiana	Dewey	native	Cyperaceae	UPL	sedge	PE	MO	shade
CXHYAL	5	Carex hyalinolepis	Steud.	native	Cyperaceae	OBL	sedge	PE	MO	partial
CXHYST	5	Carex hystericina	Muhl. ex Willd.	native	Cyperaceae	OBL	sedge	PE	MO	full
CXINTE	8	Carex interior	L.H. Bailey	native	Cyperaceae	OBL	sedge	PE	MO	full
CXINTU	5	Carex intumescens	Rudge	native	Cyperaceae	FACW+	sedge	PE	MO	shade
CXJAME	6	Carex jamesii	Schwein.	native	Cyperaceae	UPL	sedge	PE	MO	shade
CXJUNI	10	Carex juniperorum	Catling, Reznicek, & Crins	native	Cyperaceae	UPL	sedge	PE	MO	partial
CXKRAL	4	Carex kraliana	Naczi & Bryson	native	Cyperaceae	FACU	sedge	PE	MO	shade
CXLACU	5	Carex lacustris	Willd.	native	Cyperaceae	OBL	sedge	PE	MO	partial
CXLAEV	6	Carex laevivaginata	(Kuk.) Mack.	native	Cyperaceae	OBL	sedge	PE	MO	shade
CXLASI	8	Carex lasiocarpa	Ehrh.	native	Cyperaceae	OBL	sedge	PE	MO	full

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ACRONYM	CofC	SCIENTIFIC NAME	AUTHORITY	NATIVITY	FAMILY	IND	FORM	HABIT	GROUP	SHADE
CXLAXC	3	Carex laxiculmis	Schwein.	native	Cyperaceae	UPL	sedge	PE	MO	shade
CXLAXF	3	Carex laxiflora	Lam.	native	Cyperaceae	FACU	sedge	PE	MO	shade
CXLEAV	3	Carex leavenworthii	Dewey	native	Cyperaceae	UPL	sedge	PE	MO	partial
CXLEPTA	7	Carex leptalea	Wahlenb.	native	Cyperaceae	OBL	sedge	PE	MO	full
CXLPTON	4	Carex leptonervia	(Fernald) Fernald	native	Cyperaceae	FACW	sedge	PE	MO	shade
CXLIM	10	Carex limosa	L.	native	Cyperaceae	OBL	sedge	PE	MONO	full
CXLONG	10	Carex longii	Mack.	native	Cyperaceae	OBL	sedge	PE	MO	full
CXLOUS	10	Carex louisianica	L.H. Bailey	native	Cyperaceae	OBL	sedge	PE	MO	shade
CXLUCO	9	Carex lucorum	Willd. ex Link	native	Cyperaceae	UPL	sedge	PE	MO	full
CXLUPF	9	Carex lupuliformis	Sartwell ex Dewey	native	Cyperaceae	FACW+	sedge	PE	MO	partial
CXLUPL	3	Carex lupulina	Muhl. ex Willd.	native	Cyperaceae	OBL	sedge	PE	MO	partial
CXLURI	3	Carex lurida	Wahlenb.	native	Cyperaceae	OBL	sedge	PE	MO	full
CXMEAD	7	Carex meadii	Dewey	native	Cyperaceae	FAC	sedge	PE	MO	full
CXMERF	10	Carex merritt-fernaldii	Mack.	native	Cyperaceae	UPL	sedge	PE	MO	full
CXMESO	6	Carex mesochorea	Mack.	native	Cyperaceae	UPL	sedge	PE	MO	full
CXMOLE	3	Carex molesta	Mack. ex Bright	native	Cyperaceae	FACU	sedge	PE	MO	full
CXMOLS	3	Carex molestiformis	Reznicek & P.E. Rothrock	native	Cyperaceae	[UPL]	sedge	PE	MONO	full
CXMUHL	7	Carex muhlenbergii	Schkuhr ex Willd.	native	Cyperaceae	UPL	sedge	PE	MO	full
CXMUSK	7	Carex muskingumensis	Schwein.	native	Cyperaceae	OBL	sedge	PE	MO	shade
CXNIGR	8	Carex nigromarginata	Schwein.	native	Cyperaceae	UPL	sedge	PE	MO	partial
CXNORM	4	Carex normalis	Mack.	native	Cyperaceae	FACU	sedge	PE	MO	shade
CXOLIGC	6	Carex oligocarpa	Schkuhr ex Willd.	native	Cyperaceae	UPL	sedge	PE	MO	shade
CSOLIGS	10	Carex oligosperma	Michx.	native	Cyperaceae	OBL	sedge	PE	MO	shade
CXPALL	5	Carex pallescens	L.	native	Cyperaceae	FACU	sedge	PE	MO	full
CXPECK	10	Carex peckii	Howe	native	Cyperaceae	UPL	sedge	PE	MO	shade
CXPEDU	7	Carex pedunculata	Muhl. ex Willd.	native	Cyperaceae	UPL	sedge	PE	MO	shade
CXPELL	6	Carex pellita	Muhl.	native	Cyperaceae	OBL	sedge	PE	MO	full
CXPENS	3	Carex pensylvanica	Lam.	native	Cyperaceae	UPL	sedge	PE	MO	shade
CXPLAN	6	Carex planispicata	Naczi	native	Cyperaceae	FACU	sedge	PE	MO	shade
CXPLNT	8	Carex plantaginea	Lam.	native	Cyperaceae	FACU-	sedge	PE	MO	shade
CXPLAT	6	Carex platyphylla	J. Carey	native	Cyperaceae	UPL	sedge	PE	MO	shade
CXPRAE	0	Carex praegracilis	Boott	adventive	Cyperaceae	UPL	sedge	PE	MO	advent
CXPRAI	9	Carex prairea	Dewey ex A.W. Wood	native	Cyperaceae	FACW	sedge	PE	MO	full
CXPRAS	8	Carex prasina	Wahlenb.	native	Cyperaceae	OBL	sedge	PE	MO	shade
CXPROJ	8	Carex projecta	Mack.	native	Cyperaceae	FACW	sedge	PE	MO	partial
CXPSEU	6	Carex pseudocyperus	L.	native	Cyperaceae	OBL	sedge	PE	MO	full
CXPURP	9	Carex purpurifera	Mack.	native	Cyperaceae	UPL	sedge	PE	MO	shade
CXRADI	6	Carex radiata	(Wahlenb.) Small	native	Cyperaceae	FAC	sedge	PE	MO	shade
CXRTRF	4	Carex retroflexa	Muhl. ex Willd.	native	Cyperaceae	UPL	sedge	PE	MO	full
CXRTRS	9	Carex retrorsa	Schwein.	native	Cyperaceae	FACW+	sedge	PE	MO	full
CXRICH	10	Carex richardsonii	R. Br.	native	Cyperaceae	UPL	sedge	PE	MO	shade
CXROSE	3	Carex rosea	Schkuhr ex Willd.	native	Cyperaceae	UPL	sedge	PE	MO	shade
CXSART	8	Carex sartwellii	Dewey	native	Cyperaceae	OBL	sedge	PE	MO	full
CXSCAB	6	Carex scabrata	Schwein.	native	Cyperaceae	OBL	sedge	PE	MO	partial
CXSCOP	3	Carex scoparia	Schkuhr ex Willd.	native	Cyperaceae	FACW	sedge	PE	MO	full
CXSEOR	7	Carex seorsa	Howe	native	Cyperaceae	FACW	sedge	PE	MO	shade
CXSHOR	2	Carex shortiana	Dewey	native	Cyperaceae	FAC	sedge	PE	MO	full
CXSICC	8	Carex siccata	Dewey	native	Cyperaceae	UPL	sedge	PE	MO	full
CAREX	*	Carex sp.	ND	native	Cyperaceae	ND	sedge	PE	MO	ND
CXSPAR	3	Carex sparganioides	Muhl. ex Willd.	native	Cyperaceae	FACU	sedge	PE	MO	shade

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ACRONYM	CofC	SCIENTIFIC NAME	AUTHORITY	NATIVITY	FAMILY	IND	FORM	HABIT	GROUP	SHADE
CXSPIC	0	Carex spicata	Huds.	adventive	Cyperaceae	UPL	sedge	PE	MO	advent
CXSPRE	8	Carex sprengelii	Dewey ex Spreng.	native	Cyperaceae	FACU	sedge	PE	MO	shade
CXSQUA	4	Carex squarrosa	L.	native	Cyperaceae	FACW	sedge	PE	MO	shade
CXSTER	8	Carex sterilis	Willd.	native	Cyperaceae	OBL	sedge	PE	MO	full
CXSTIP	2	Carex stipata	Muhl. ex Willd.	native	Cyperaceae	OBL	sedge	PE	MO	partial
CXSTRM	4	Carex straminea	Willd. ex Schkuhr	native	Cyperaceae	OBL	sedge	PE	MO	full
CXSTRT	5	Carex striatula	Michx.	native	Cyperaceae	UPL	sedge	PE	MO	shade
CXSTRC	5	Carex stricta	Lam.	native	Cyperaceae	OBL	sedge	PE	MO	full
CXSTYL	8	Carex styloflexa	Buckley	native	Cyperaceae	FACW-	sedge	PE	MO	shade
CXSUBE	8	Carex suberecta	(Olney) Britton	native	Cyperaceae	OBL	sedge	PE	MO	full
CXSWAN	4	Carex swanii	(Fernald) Mack.	native	Cyperaceae	FACU	sedge	PE	MO	shade
CXTENE	6	Carex tenera var. echinodes	(Fernald) Wiegand	native	Cyperaceae	FAC	sedge	PE	MO	shade
CXTENT	8	Carex tenera var. tenera	Dewey	native	Cyperaceae	FAC	sedge	PE	MO	shade
CXTENU	10	Carex tenuiflora	Wahlenb.	native	Cyperaceae	OBL	sedge	PE	MO	full
CXTETA	7	Carex tetanica	Schkuhr	native	Cyperaceae	FACW	sedge	PE	MO	full
CXTEXE	0	Carex texensis	(Torr. ex L.H. Bailey) L.H. Bailey	adventive	Cyperaceae	UPL	sedge	PE	MO	advent
CXTIMI	5	Carex timida	Naczi & B.A. Ford	native	Cyperaceae	UPL	sedge	PE	MO	shade
CXTONS	8	Carex tonsa	(Fernald) E.P. Bicknell	native	Cyperaceae	UPL	sedge	PE	MO	full
CXTORT	8	Carex torta	Boott ex Tuck.	native	Cyperaceae	FACW	sedge	PE	MO	full
CXTRIB	4	Carex tribuloides	Wahlenb.	native	Cyperaceae	FACW+	sedge	PE	MO	partial
CXTRIC	8	Carex trichocarpa	Willd.	native	Cyperaceae	OBL	sedge	PE	MO	full
CXTRIS	8	Carex trisperma	Dewey	native	Cyperaceae	OBL	sedge	PE	MO	shade
CXTUCK	8	Carex tuckermanii	Dewey	native	Cyperaceae	OBL	sedge	PE	MO	shade
CXTYPH	5	Carex typhina	Michx.	native	Cyperaceae	FACW+	sedge	PE	MO	shade
CXUMBE	4	Carex umbellata	Schkuhr ex Willd.	native	Cyperaceae	UPL	sedge	PE	MO	full
CXUTRI	7	Carex utriculata	Boott	native	Cyperaceae	OBL	sedge	PE	MO	full
CXVESI	7	Carex vesicaria	L.	native	Cyperaceae	OBL	sedge	PE	MO	partial
CXVIRE	6	Carex virescens	Muhl. ex Willd.	native	Cyperaceae	FACU	sedge	PE	MO	shade
CXVIRI	8	Carex viridula	Michx.	native	Cyperaceae	OBL	sedge	PE	MO	full
CXVULP	1	Carex vulpinoidea	Michx.	native	Cyperaceae	OBL	sedge	PE	MO	full
CXWILL	6	Carex willdenowii	Schkuhr ex Willd.	native	Cyperaceae	UPL	sedge	PE	MO	shade
CXWOOD	7	Carex woodii	Dewey	native	Cyperaceae	UPL	sedge	PE	MO	shade
CXSUBI	5	Carex X subimpressa	Clokey	native	Cyperaceae	OBL	sedge	PE	MO	partial
CRPCAR	5	Carpinus caroliniana	Walter	native	Betulaceae	FAC	sm tree	W	DI	shade
CARCAR	0	Carum carvi	L.	adventive	Apiaceae	UPL	forb	BI	DI	advent
CARCOR	5	Carya cordiformis	(Wangenh.) K. Koch	native	Juglandaceae	FACU+	tree	W	DI	tree
CARGLA	5	Carya glabra	(Mill.) Sweet	native	Juglandaceae	FACU-	tree	W	DI	tree
CARILL	0	Carya illinoensis	(Wangenh.) K. Koch	adventive	Juglandaceae	FACU	tree	W	DI	advent
CARLAC	7	Carya laciniosa	(F. Michx.) Loudon	native	Juglandaceae	FAC	tree	W	DI	tree
CAROVL	5	Carya ovalis	(Wangenh.) Sarg.	native	Juglandaceae	UPL	tree	W	DI	tree
CAROVT	6	Carya ovata	(Miller) K. Koch	native	Juglandaceae	FACU-	tree	W	DI	tree
CARYA	*	Carya sp.	ND	native	Juglandaceae	ND	tree	W	DI	tree
CARTOM	6	Carya tomentosa	(Poir.) Nutt.	native	Juglandaceae	UPL	tree	W	DI	tree
CASDEN	6	Castanea dentata	(Marshall) Borkh.	native	Fagaceae	UPL	tree	W	DI	tree
CASPUM	0	Castanea pumila	(L.) Miller	adventive	Fagaceae	[UPL]	tree	W	DI	advent
CASCOC	6	Castilleja coccinea	(L.) Spreng.	native	Scrophulariaceae	FAC	forb	AN	DI	full
CATBIG	0	Catalpa bignoniodes	Walter	adventive	Bignoniaceae	UPL	tree	W	DI	advent
CATOVA	0	Catalpa ovata	G. Don	adventive	Bignoniaceae	[UPL]	tree	W	DI	advent
CATALP	0	Catalpa sp.	ND	adventive	Bignoniaceae	ND	tree	W	DI	advent

Appendix C
Species Codes for VIBI Metric Calculation

ACRONYM	CofC	SCIENTIFIC NAME	AUTHORITY	NATIVITY	FAMILY	IND	FORM	HABIT	GROUP	SHADE
CATSPE	0	Catalpa speciosa	(Warder) Warder ex Engelm.	adventive	Bignoniaceae	FAC	tree	W	DI	advent
CAUTHA	7	Caulophyllum thalictroides	(L.) Michx.	native	Berberidaceae	UPL	forb	PE	DI	shade
CEAAME	5	Ceanothus americanus	L.	native	Rhamnaceae	UPL	shrub	W	DI	full
CEAHER	9	Ceanothus herbaceus	Raf.	native	Rhamnaceae	UPL	shrub	W	DI	full
CELORB	0	Celastrus orbiculatus	Thunb.	adventive	Celastraceae	FACU	vine	W	DI	advent
CELSCA	2	Celastrus scandens	L.	native	Celastraceae	FACU-	vine	W	DI	shade
CELARG	0	Celosia argentea	L.	adventive	Amaranthaceae	UPL	forb	AN	DI	advent
CELOCC	4	Celtis occidentalis	L.	native	Ulmaceae	FACU	tree	W	DI	tree
CELTIS	*	Celtis sp.	ND	native	Ulmaceae	ND	tree	W	DI	tree
CELTEN	8	Celtis tenuifolia	Nutt.	native	Ulmaceae	UPL	tree	W	DI	tree
CENLON	3	Cenchrus longispinus	(Hack.) Fernald	native	Poaceae	UPL	grass	AN	MO	full
CENCYA	0	Centaurea cyanus	L.	adventive	Asteraceae	UPL	forb	AN	DI	advent
CENDUB	0	Centaurea dubia	Suter	adventive	Asteraceae	UPL	forb	PE	DI	advent
CENJAC	0	Centaurea jacea	L.	adventive	Asteraceae	UPL	forb	PE	DI	advent
CENMAC	0	Centaurea maculosa	Lam.	adventive	Asteraceae	UPL	forb	BI	DI	advent
CENNIG	0	Centaurea nigra	L.	adventive	Asteraceae	UPL	forb	PE	DI	advent
CENREP	0	Centaurea repens	L.	adventive	Asteraceae	[UPL]	forb	PE	DI	advent
CENSCA	0	Centaurea scabiosa	L.	adventive	Asteraceae	[UPL]	forb	PE	DI	advent
CENSOL	0	Centaurea solstitialis	L.	adventive	Asteraceae	[UPL]	forb	AN	DI	advent
CENTAU	0	Centaurea sp.	ND	adventive	Asteraceae	UPL	forb	ND	DI	advent
CENERY	0	Centaurium erythraea	Raf.	adventive	Asteraceae	[UPL]	forb	BI	DI	advent
CENPUL	0	Centaurium pulchellum	(Sw.) Druce	adventive	Gentianaceae	FAC	forb	AN	DI	advent
CENMIN	8	Centunculus minimus	L.	native	Primulaceae	FACW	forb	AN	DI	full
CEPOCC	6	Cephalanthus occidentalis	L.	native	Rubiaceae	OBL	shrub	W	DI	full
CERARV	2	Cerastium arvense	L.	native	Caryophyllaceae	UPL	forb	PE	DI	full
CERBRA	0	Cerastium brachypetalum	Pers.	adventive	Caryophyllaceae	UPL	forb	AN	DI	advent
CERNUT	3	Cerastium nutans	Raf.	native	Caryophyllaceae	FAC	forb	AN	DI	full
CERPUM	0	Cerastium pumilum	Curtis	adventive	Caryophyllaceae	[FACU]	forb	AN	DI	advent
CERSEM	0	Cerastium semidecandrum	L.	adventive	Caryophyllaceae	UPL	forb	AN	DI	advent
CERAST	*	Cerastium sp.	ND	native	Caryophyllaceae	ND	forb	ND	DI	ND
CERTOM	0	Cerastium tomentosum	L.	adventive	Caryophyllaceae	[FACU]	forb	AN	DI	advent
CERVIS	0	Cerastium viscosum	L.	adventive	Caryophyllaceae	UPL	forb	AN	DI	advent
CERVUL	0	Cerastium vulgatum	L.	adventive	Caryophyllaceae	FACU-	forb	PE	DI	advent
CERDEM	2	Ceratophyllum demersum	L.	native	Ceratophyllaceae	OBL	forb	PE	DI	full
CERECH	8	Ceratophyllum echinatum	A. Gray	native	Ceratophyllaceae	OBL	forb	PE	DI	full
CERATO	*	Ceratophyllum sp.	ND	native	Ceratophyllaceae	OBL	forb	PE	DI	full
CERCAN	3	Cercis canadensis	L.	native	Caesalpiniaceae	FACU-	sm tree	W	DI	shade
CHALAG	0	Chaenomeles lagenaria	(Loisel.) Koidz.	adventive	Rosaceae	[UPL]	shrub	W	DI	advent
CHAMIN	0	Chaenorrhinum minus	(L.) Lange	adventive	Scrophulariaceae	UPL	forb	AN	DI	advent
CHAPRO	4	Chaerophyllum procumbens	(L.) Crantz	native	Apiaceae	FACW	forb	AN	DI	shade
CHAFAS	3	Chamaecrista fasciculata	(Michx.) Greene	native	Fabaceae	FACU	forb	AN	DI	full
CHANIC	4	Chamaecrista nictitans	(L.) Moench	native	Fabaceae	FACU-	forb	AN	DI	full
CHAMAE	*	Chamaecrista sp.	ND	native	Fabaceae	ND	forb	AN	DI	full
CHACAL	9	Chamaedaphne calyculata	(L.) Moench	native	Ericaceae	OBL	shrub	W	DI	full
CHALUT	7	Chamaelirium luteum	(L.) A. Gray	native	Liliaceae	FAC	forb	PE	MO	shade
CHALAT	7	Chasmanthium latifolium	(Michx.) H.O. Yates	native	Poaceae	FACU	grass	PE	MO	partial
CHEMAJ	0	Chelidonium majus	L.	adventive	Papaveraceae	UPL	forb	BI	DI	advent
CHEGLA	6	Chelone glabra	L.	native	Scrophulariaceae	OBL	forb	PE	DI	partial
CHEALB	0	Chenopodium album	L.	adventive	Chenopodiaceae	FACU+	forb	AN	DI	advent
CHEAMB	0	Chenopodium ambrosioides	L.	adventive	Chenopodiaceae	FACU	forb	AN	DI	advent

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ACRONYM	CofC	SCIENTIFIC NAME	AUTHORITY	NATIVITY	FAMILY	IND	FORM	HABIT	GROUP	SHADE
CHEBER	1	Chenopodium berlandieri	Moq.	native	Chenopodiaceae	UPL	forb	AN	DI	full
CHEBOT	0	Chenopodium botrys	L.	adventive	Chenopodiaceae	UPL	forb	AN	DI	advent
CHECAP	2	Chenopodium capitatum	(L.) Asch.	native	Chenopodiaceae	UPL	forb	AN	DI	full
CHEGLA	0	Chenopodium glaucum	L.	adventive	Chenopodiaceae	FACW-	forb	AN	DI	advent
CHEINC	0	Chenopodium incanum	(S. Watson) A. Heller	adventive	Chenopodiaceae	[UPL]	forb	AN	DI	advent
CHELEP	2	Chenopodium leptophyllum	(Moq.) Nutt. ex S. Watson	native	Chenopodiaceae	FAC	forb	AN	DI	full
CHEMUR	0	Chenopodium murale	L.	adventive	Chenopodiaceae	UPL	forb	AN	DI	advent
CHEPOL	0	Chenopodium polyspermum	L.	adventive	Chenopodiaceae	UPL	forb	AN	DI	advent
CHENPRA	1	Chenopodium pratericola	Rydb.	native	Chenopodiaceae	UPL	forb	AN	DI	full
CHEPUM	0	Chenopodium pumilio	R. Br.	adventive	Chenopodiaceae	[UPL]	forb	AN	DI	advent
CHESIM	1	Chenopodium simplex	(Torr.) Raf.	native	Chenopodiaceae	UPL	forb	AN	DI	full
CHENOP	*	Chenopodium sp.	ND	ND	Chenopodiaceae	ND	forb	AN	DI	ND
CHESTA	4	Chenopodium standleyanum	Aellen	native	Chenopodiaceae	UPL	forb	AN	DI	full
CHEURB	0	Chenopodium urbicum	L.	adventive	Chenopodiaceae	UPL	forb	AN	DI	advent
CHEVUL	0	Chenopodium vulvaria	L.	adventive	Chenopodiaceae	UPL	forb	AN	DI	advent
CHIMAC	7	Chimaphila maculata	(L.) Pursh	native	Pyrolaceae	UPL	forb	PE	DI	shade
CHIMAP	*	Chimaphila sp.	ND	native	Pyrolaceae	UPL	forb	PE	DI	shade
CHIUMB	8	Chimaphila umbellata	(L.) W.P.C. Barton	native	Pyrolaceae	UPL	forb	PE	DI	shade
CHIVIR	6	Chionanthus virginicus	L.	native	Oleaceae	FAC+	sm tree	W	DI	partial
CHOTEN	0	Chorispora tenella	(Pallas) DC	adventive	Brassicaceae	[UPL]	forb	AN	DI	advent
CHRBAL	0	Chrysanthemum balsamita	L.	adventive	Asteraceae	UPL	forb	PE	DI	advent
CHRLEU	0	Chrysanthemum leucanthemum	L.	adventive	Asteraceae	UPL	forb	PE	DI	advent
CHRMAX	0	Chrysanthemum maximum	Ramond	adventive	Asteraceae	[FACU-]	forb	AN	DI	advent
CHRPAR	0	Chrysanthemum parthenium	(L.) Bernh.	adventive	Asteraceae	UPL	forb	PE	DI	advent
CHRYSA	0	Chrysanthemum sp.	ND	adventive	Asteraceae	UPL	forb	PE	DI	advent
CHRVIR	6	Chrysogonum virginianum	L.	native	Asteraceae	UPL	forb	PE	DI	shade
CHRCAM	0	Chrysopsis camporum	Greene	adventive	Asteraceae	[FACU]	forb	PE	DI	advent
CHRGRA	9	Chrysopsis graminifolia	(Michx.) Elliott	native	Asteraceae	UPL	forb	PE	DI	full
CHRMAR	6	Chrysopsis mariana	(L.) Elliott	native	Asteraceae	UPL	forb	PE	DI	full
CHRYSO	*	Chrysopsis sp.	ND	native	Asteraceae	UPL	forb	PE	DI	full
CHRAME	8	Chrysosplenium americanum	Schwein. ex Hook.	native	Saxifragaceae	OBL	forb	PE	DI	shade
CICINT	0	Cichorium intybus	L.	adventive	Asteraceae	UPL	forb	PE	DI	advent
CICBUL	3	Cicuta bulbifera	L.	native	Apiaceae	OBL	forb	PE	DI	full
CICMAC	3	Cicuta maculata	L.	native	Apiaceae	OBL	forb	PE	DI	full
CICUTA	3	Cicuta sp.	ND	native	Apiaceae	OBL	forb	PE	DI	full
CIMRAC	7	Cimicifuga racemosa	(L.) Nutt.	native	Ranunculaceae	FACU	forb	PE	DI	shade
CINARU	4	Cinna arundinacea	L.	native	Poaceae	FACW	grass	PE	MO	shade
CINLAT	8	Cinna latifolia	(Trevir. ex R. Geopp.) Griseb.	native	Poaceae	FACW	grass	PE	MO	shade
CINNA	*	Cinna sp.	ND	native	Poaceae	FACW	grass	PE	MO	shade
CIRALP	9	Circaea alpina	L.	native	Onagraceae	FACW	forb	PE	DI	shade
CIRLUT	3	Circaea lutetiana	L.	native	Onagraceae	FACU	forb	PE	DI	shade
CIRCAE	*	Circaea sp.	ND	native	Onagraceae	ND	forb	PE	DI	shade
CIRALT	4	Cirsium altissimum	(L.) Hill	native	Asteraceae	UPL	forb	PE	DI	full
CIRARV	0	Cirsium arvense	(L.) Scop.	adventive	Asteraceae	FACU	forb	PE	DI	advent
CIRCAR	7	Cirsium carolinianum	(Walt.) Fernald & B.G. Schub.	native	Asteraceae	UPL	forb	BI	DI	full
CIRDIS	4	Cirsium discolor	(Muhl. ex Willd.) Spreng.	native	Asteraceae	UPL	forb	PE	DI	full
CIRMUT	8	Cirsium muticum	Michx.	native	Asteraceae	OBL	forb	BI	DI	full
CIRPLA	0	Cirsium plattense	(Rydb.) Cockerell ex Daniels	adventive	Asteraceae	[FACU]	forb	BI	DI	advent
CIRPUM	4	Cirsium pumilum	(Nutt.) Spreng.	native	Asteraceae	UPL	forb	BI	DI	full

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ACRONYM	CofC	SCIENTIFIC NAME	AUTHORITY	NATIVITY	FAMILY	IND	FORM	HABIT	GROUP	SHADE
CIRSIU	*	Cirsium sp.	ND	ND	Asteraceae	ND	forb	ND	DI	ND
CIRVUL	0	Cirsium vulgare	(Savi) Ten.	adventive	Asteraceae	FACU-	forb	BI	DI	advent
CITLAN	0	Citrullus lanatus	(Thunb.) Matsum. & Nakai	adventive	Cucurbitaceae	[UPL]	forb	AN	DI	advent
CLAMAR	9	Cladium mariscoides	(Muhl.) Torr.	native	Cyperaceae	OBL	sedge	PE	MO	full
CLALUT	0	Cladrastis lutea	(Michx.) K. Koch	adventive	Fabaceae	[UPL]	tree	W	DI	advent
CLAPUL	0	Clarkia pulchella	Pursh.	adventive	Onagraceae	[FACU]	forb	AN	DI	advent
CLACAR	6	Claytonia caroliniana	Michx.	native	Portulacaceae	FACU	forb	PE	DI	shade
CLAYTO	*	Claytonia sp.	ND	native	Portulacaceae	FACU	forb	PE	DI	shade
CALVIR	2	Claytonia virginica	L.	native	Portulacaceae	FACU	forb	PE	DI	shade
CLEOCC	9	Clematis occidentalis	(Hornem.) DC.	native	Ranunculaceae	UPL	forb	PE	DI	partial
CLEMAT	*	Clematis sp.	ND	native	Ranunculaceae	ND	forb	PE	DI	partial
CLETER	0	Clematis terniflora	DC	adventive	Ranunculaceae	[FACU]	vine	PE	DI	advent
CLEVIO	6	Clematis viorna	L.	native	Ranunculaceae	FAC-	forb	PE	DI	partial
CLEVIR	3	Clematis virginiana	L.	native	Ranunculaceae	FAC	forb	PE	DI	partial
CLEHAS	0	Cleome hassleriana	Chodat	adventive	Capparaceae	FACU-	forb	AN	DI	advent
CLESER	0	Cleome serrulata	Pursh.	adventive	Capparaceae	[FACU-]	forb	AN	DI	advent
CLIVUL	2	Clinopodium vulgare	L.	native	Lamiaceae	UPL	forb	PE	DI	shade
CLIBOR	10	Clintonia borealis	(Aiton) Raf.	native	Liliaceae	FAC	forb	PE	MO	shade
CLINTO	8	Clintonia sp.	ND	native	Liliaceae	ND	forb	PE	MO	shade
CLIUMB	8	Clintonia umbellulata	(Michx.) Morong	native	Liliaceae	UPL	forb	PE	MO	shade
CLIMAR	6	Clitoria mariana	L.	native	Fabaceae	UPL	forb	PE	DI	partial
COEVIR	8	Coeloglossum viride var. virescens	(Muhl. ex Willd.) Luer	native	Orchidaceae	FACU	forb	PE	MO	shade
COLVER	8	Collinsia verna	Nutt.	native	Scrophulariaceae	FAC-	forb	AN	DI	shade
COLCAN	5	Collinsonia canadensis	L.	native	Lamiaceae	FAC+	forb	PE	DI	shade
COLVER	9	Collinsonia verticillata	Baldwin	native	Lamiaceae	UPL	forb	PE	DI	shade
COLLIN	0	Collomia linearis	Nutt.	adventive	Polemoniaceae	FACU	forb	AN	DI	advent
COMUMB	5	Comandra umbellata	(L.) Nutt.	native	Santalaceae	FACU-	forb	PE	DI	full
COMCOM	0	Commelina communis	L.	adventive	Commelinaceae	FAC-	forb	AN	DI	advent
COMDIF	0	Commelina diffusa	Burm. f.	adventive	Commelinaceae	FACW	forb	AN	DI	advent
COMMEL	*	Commelina sp.	ND	ND	Commelinaceae	ND	forb	ND	DI	ND
COMVIR	6	Commelina virginica	L.	native	Commelinaceae	FACW	forb	PE	DI	shade
COMPER	8	Comptonia peregrina	(L.) J. M. Coulter	native	Myricaceae	UPL	shrub	W	DI	full
CONCHI	8	Conioselinum chinense	(L.) B.S.P.	native	Apiaceae	FACW	forb	PE	DI	full
CONMACU	0	Conium maculatum	L.	adventive	Apiaceae	FACW	forb	BI	DI	advent
CONAME	7	Conopholis americana	(L.) Wallr.	native	Orobanchaceae	UPL	forb	AN	DI	shade
CONORI	0	Conringia orientalis	(L.) Andrz.	adventive	Brassicaceae	UPL	forb	AN	DI	advent
CONMAJ	0	Convallaria majalis	L.	adventive	Liliaceae	UPL	forb	PE	DI	advent
CONARV	0	Convolvulus arvensis	L.	adventive	Convolvulaceae	UPL	forb	PE	DI	advent
CONCAN	0	Conyza canadensis	(L.) Cronquist	native	Asteraceae	UPL	forb	AN	DI	full
CONRAM	9	Conyza ramosissima	Cronquist	native	Asteraceae	UPL	forb	AN	DI	full
CONYZA	*	Conyza sp.	ND	native	Asteraceae	UPL	forb	AN	DI	full
COPTRI	7	Coptis trifolia	(L.) Salisb.	native	Ranunculaceae	FACW	forb	PE	DI	shade
CORMAC	5	Corallorhiza maculata	(Raf.) Raf.	native	Orchidaceae	FACU	forb	PE	MO	shade
CORODO	4	Corallorhiza odontorhiza	(Willd.) Poir.	native	Orchidaceae	UPL	forb	PE	MO	shade
CORALL	*	Corallorhiza sp.	ND	native	Orchidaceae	ND	forb	PE	MO	shade
CORTRI	9	Corallorhiza trifida	Chatel.	native	Orchidaceae	FACW	forb	PE	MO	shade
CORWIS	6	Corallorhiza wisteriana	Conrad	native	Orchidaceae	FAC	forb	PE	MO	shade
CORGRA	0	Coreopsis grandiflora	R. Hogg. ex Sweet	adventive	Asteraceae	UPL	forb	PE	DI	advent
CORLAN	0	Coreopsis lanceolata	L.	adventive	Asteraceae	FACU	forb	PE	DI	advent
CORMAJ	7	Coreopsis major	Walter	native	Asteraceae	UPL	forb	PE	DI	shade

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ACRONYM	CofC	SCIENTIFIC NAME	AUTHORITY	NATIVITY	FAMILY	IND	FORM	HABIT	GROUP	SHADE
COREOP	*	Coreopsis sp.	ND	ND	Asteraceae	ND	forb	ND	DI	ND
CORTIN	0	Coreopsis tinctoria	Nutt.	adventive	Asteraceae	FAC-	forb	AN	DI	advent
CORTRP	5	Coreopsis tripteris	L.	native	Asteraceae	FAC	forb	PE	DI	partial
CORSAT	0	Coriandrum sativum	L.	adventive	Apiaceae	[FACU]	forb	AN	DI	advent
CORHYS	0	Corispermum hyssopfolium	L.	adventive	Chenopodiaceae	FACU	forb	AN	DI	advent
CORNIT	0	Corispermum nitidum	Kit. ex Schult.	adventive	Chenopodiaceae	FACU	forb	AN	DI	advent
CORISP	0	Corispermum sp.	ND	adventive	Chenopodiaceae	FACU	forb	AN	DI	advent
CORALT	5	Cornus alternifolia	L.f.	native	Cornaceae	UPL	shrub	W	DI	shade
CORAMO	2	Cornus amomum	Mill.	native	Cornaceae	FACW	shrub	W	DI	full
CORCAN	8	Cornus canadensis	L.	native	Cornaceae	FAC-	shrub	W	DI	shade
CORDRU	3	Cornus drummondii	C.A. Mey.	native	Cornaceae	FAC	shrub	W	DI	partial
CORFLO	5	Cornus florida	L.	native	Cornaceae	FACU-	sm tree	W	DI	shade
CORRAC	1	Cornus racemosa	Lam.	native	Cornaceae	FAC-	shrub	W	DI	full
CORRUG	8	Cornus rugosa	Lam.	native	Cornaceae	UPL	shrub	W	DI	full
CORSER	3	Cornus sericea	L.	native	Cornaceae	FACW+	shrub	W	DI	full
CORNUS	*	Cornus sp.	ND	native	Cornaceae	ND	ND	W	DI	ND
CORVAR	0	Coronilla varia	L.	adventive	Fabaceae	UPL	forb	PE	DI	advent
CORDID	0	Coronopus didymus	(L.) Sm.	adventive	Brassicaceae	UPL	forb	AN	DI	advent
CORAUR	0	Corydalis aurea	Willd.	adventive	Fumariaceae	[UPL]	forb	BI	DI	advent
CORFLA	4	Corydalis flavula	(Raf.) DC.	native	Fumariaceae	FACU	forb	AN	DI	partial
CORSEM	9	Corydalis sempervirens	(L.) Pers.	native	Fumariaceae	UPL	forb	BI	DI	shade
CORYDA	*	Corydalis sp.	ND	native	Fumariaceae	ND	forb	ND	DI	partial
CORAME	4	Corylus americana	Walter	native	Betulaceae	FACU-	shrub	W	DI	full
CORCOR	7	Corylus cornuta	Marshall	native	Betulaceae	FACU-	shrub	W	DI	full
CORYLU	*	Corylus sp.	ND	native	Betulaceae	ND	shrub	W	DI	full
COSBIP	0	Cosmos bipinnatus	Cav.	adventive	Asteraceae	[UPL]	forb	AN	DI	advent
COTCOG	0	Cotinus coggygria	Scop.	adventive	Anacardiaceae	[UPL]	sm tree	W	DI	advent
COTPYR	0	Cotoneaster pyracantha	(L.) Spach	adventive	Rosaceae	[FACU]	sm tree	PE	DI	advent
CRABRA	6	Crataegus brainerdii	Sarg.	native	Rosaceae	UPL	sm tree	W	DI	full
CRACAL	4	Crataegus calpodendron	(Ehrh.) Medik.	native	Rosaceae	UPL	sm tree	W	DI	full
CRACHR	6	Crataegus chrysocarpa	Ashe	native	Rosaceae	UPL	sm tree	W	DI	full
CRACOC	3	Crataegus coccinea	L.	native	Rosaceae	UPL	sm tree	W	DI	full
CRACRU	3	Crataegus crus-galli	L.	native	Rosaceae	FACU	sm tree	W	DI	full
CRAFLA	3	Crataegus flabellata	(Spach) G. Kirchn.	native	Rosaceae	UPL	sm tree	W	DI	full
CRAINT	4	Crataegus intricata	Lange	native	Rosaceae	UPL	sm tree	W	DI	full
CRAMOL	3	Crataegus mollis	Scheele	native	Rosaceae	FACU	sm tree	W	DI	full
CRAMON	0	Crataegus monogyna	Jacq.	adventive	Rosaceae	UPL	sm tree	W	DI	advent
CRAPRU	2	Crataegus pruinosa	(H.L. Wendl.) K. Koch	native	Rosaceae	UPL	sm tree	W	DI	full
CRAPUN	3	Crataegus punctata	Jacq.	native	Rosaceae	UPL	sm tree	W	DI	full
CRATAE	*	Crataegus sp.	ND	ND	Rosaceae	ND	sm tree	W	DI	ND
CRASUC	4	Crataegus succulenta	Schrad. ex Link	native	Rosaceae	UPL	sm tree	W	DI	full
CRAUNI	8	Crataegus uniflora	Muenchh.	native	Rosaceae	UPL	sm tree	W	DI	full
CRAPHA	0	Crateagus phaeno pyrum	(L.f.) Medik.	adventive	Rosaceae	FAC	sm tree	W	DI	advent
CRECAP	0	Crepis capillaris	(L.) Wallr.	adventive	Asteraceae	UPL	forb	AN	DI	advent
CREPUL	0	Crepis pulchra	L.	adventive	Asteraceae	UPL	forb	AN	DI	advent
CREPIS	0	Crepis sp.	ND	adventive	Asteraceae	UPL	forb	AN	DI	advent
CRETEC	0	Crepis tectorum	L.	adventive	Asteraceae	[FACU]	forb	AN	DI	advent
CROSAG	0	Crotolaria sagittalis	L.	adventive	Fabaceae	UPL	forb	AN	DI	advent
CROCAP	0	Croton capitatus	Michx.	adventive	Euphorbiaceae	UPL	forb	AN	DI	advent
CROGLA	0	Croton glandulosus	L.	native	Euphorbiaceae	UPL	forb	AN	DI	full

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ACRONYM	CofC	SCIENTIFIC NAME	AUTHORITY	NATIVITY	FAMILY	IND	FORM	HABIT	GROUP	SHADE
CROMON	0	Croton monanthogynus	Michx.	adventive	Euphorbiaceae	UPL	forb	AN	DI	advent
CROTON	0	Croton sp.	ND	ND	Euphorbiaceae	UPL	forb	AN	DI	ND
CRYSCH	0	Crypsis schoenoides	(L.) Lam.	adventive	Poaceae	[FACW]	grass	AN	MONO	advent
CRYCAN	3	Cryptotaenia canadensis	(L.) DC.	native	Apiaceae	FAC	forb	PE	DI	shade
CUCMEL	0	Cucumis melo	L.	adventive	Cucurbitaceae	[FACU]	vine	AN	DI	advent
CUCFOE	0	Cucurbita foetidissima	Kunth	adventive	Cucurbitaceae	[UPL]	vine	PE	DI	advent
CUCMAX	0	Cucurbita maxima	Duchesne	adventive	Cucurbitaceae	[FACU]	vine	AN	DI	advent
CUCPEP	0	Cucurbita pepo	L.	adventive	Cucurbitaceae	[FACU]	forb	AN	DI	advent
CUNORI	6	Cunila origanoides	(L.) Britton	native	Lamiaceae	UPL	forb	PE	DI	shade
CUPVIS	3	Cuphea viscosissima	Jacq.	native	Lythraceae	FAC-	forb	AN	DI	full
CUSCEP	6	Cuscuta cephalanthi	Engelm.	native	Cuscutaceae	OBL	forb	AN	DI	full
CUSCOM	8	Cuscuta compacta	Juss ex Choisy	native	Cuscutaceae	UPL	forb	AN	DI	full
CUSCOR	5	Cuscuta coryli	Engelm.	native	Cuscutaceae	UPL	forb	AN	DI	full
CUSCUS	8	Cuscuta cuspidata	Engelm.	native	Cuscutaceae	FACW	forb	AN	DI	full
CUSEPI	0	Cuscuta epilinum	Weihe	adventive	Cuscutaceae	[FACU]	forb	PE	DI	advent
CUSEPI	0	Cuscuta epthymum	L.	adventive	Cuscutaceae	UPL	forb	AN	DI	advent
CUSGLO	9	Cuscuta glomerata	Choisy	native	Cuscutaceae	FAC	forb	AN	DI	full
CUSGRO	3	Cuscuta gronovii	Willd. ex Schulte	native	Cuscutaceae	FACW+	forb	AN	DI	full
CUSIND	8	Cuscuta indecora	Choisy	native	Cuscutaceae	FAC	forb	AN	DI	full
CUSPEN	3	Cuscuta pentagona	Engelm.	native	Cuscutaceae	UPL	forb	AN	DI	full
CUCPOL	5	Cuscuta polygonorum	Engelm.	native	Cuscutaceae	UPL	forb	AN	DI	full
CUSCUT	*	Cuscuta sp.	ND	ND	Cuscutaceae	ND	forb	AN	DI	ND
CUSSUA	0	Cuscuta suaveloens	Ser.	adventive	Cuscutaceae	[FACU]	forb	PE	DI	advent
CYCATR	0	Cycloloma atriplicifolium	(Spreng.) J.M. Coult.	adventive	Chenopodiaceae	FACU-	forb	AN	DI	advent
CYMMUR	0	Cymbalaria murabilis	P. Gaertn., B. Mey. & Scherb.	adventive	Scrophulariaceae	[FACU]	vine	PE	DI	advent
CYNDAC	0	Cynodon dactylon	(L.) Pers.	adventive	Poaceae	FACU	grass	PE	DI	advent
CYNOFF	0	Cynoglossum officinale	L.	adventive	Boraginaceae	UPL	forb	BI	MO	advent
CYNGLO	*	Cynoglossum sp.	ND	ND	Boraginaceae	UPL	forb	ND	MO	ND
CYNVIRB	5	Cynoglossum virginianum var. boreale	(Fernald) Cooperrider	native	Boraginaceae	UPL	forb	PE	MO	shade
CYNVIRV	5	Cynoglossum virginianum var. virginianum	L.	native	Boraginaceae	UPL	forb	PE	MO	shade
CYNCRI	0	Cynosurus cristatus	L.	adventive	Poaceae	UPL	grass	PE	DI	advent
CYNECH	0	Cynosurus echinatus	L.	adventive	Poaceae	[FACU]	grass	AN	MONO	advent
CYPACU	8	Cyperus acuminatus	Torr. & Hook. ex Torr.	native	Cyperaceae	OBL	sedge	AN	MO	full
CYPBIP	3	Cyperus bipartitus	Torr.	native	Cyperaceae	FACW+	sedge	AN	MO	full
CYPDIA	7	Cyperus diandrus	Torr.	native	Cyperaceae	FACW	sedge	AN	MO	full
CYPERY	4	Cyperus erythrorhizos	Muhl.	native	Cyperaceae	FACW+	sedge	AN	MO	full
CYPESC	0	Cyperus esculentus	L.	native	Cyperaceae	FACW	sedge	PE	MO	full
CYPFLA	3	Cyperus flavescens	L.	native	Cyperaceae	OBL	sedge	AN	MO	full
CYPLAN	4	Cyperus lancastriensis	Porter ex A. Gray	native	Cyperaceae	FACU	sedge	PE	MO	full
CYPLUP	4	Cyperus lupulinus	(Spreng.) Marcks	native	Cyperaceae	UPL	sedge	PE	MO	full
CYPODO	4	Cyperus odoratus	L.	native	Cyperaceae	FACW	sedge	AN	MO	full
CYPREF	6	Cyperus refractus	Engelm. ex Boeck	native	Cyperaceae	FACU+	sedge	PE	MO	full
CYPRTF	4	Cyperus retrofractus	(L.) Torr.	native	Cyperaceae	UPL	sedge	PE	MO	full
CYPSCH	10	Cyperus schweinitzii	Torr.	native	Cyperaceae	FACU	sedge	PE	MO	full
CYPERU	*	Cyperus sp.	ND	native	Cyperaceae	ND	sedge	ND	MO	full
CYPSQU	3	Cyperus squarrosus	L.	native	Cyperaceae	FACW+	sedge	AN	MO	full
CYPSTR	1	Cyperus strigosus	L.	native	Cyperaceae	FACW	sedge	PE	MO	full
CYPACA	8	Cypripedium acaule	Aiton	native	Orchidaceae	FACU	forb	PE	MO	partial
CYPCAN	9	Cypripedium candidum	Muhl. ex Willd.	native	Orchidaceae	OBL	forb	PE	MO	partial

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CYPPRPA	10	Cypripedium parviflorum var. parviflorum	Salisb.	native	Orchidaceae	FACW-	forb	PE	MO	partial
CYPPRPU	7	Cypripedium parviflorum var. pubescens	(Willd.) O.W. Knight	native	Orchidaceae	FAC+	forb	PE	MO	partial
CYPREG	10	Cypripedium reginae	Walter	native	Orchidaceae	FACW	forb	PE	MO	partial
CYPRIP	*	Cypripedium sp.	ND	native	Orchidaceae	ND	forb	PE	MO	partial
CYSBUL	7	Cystopteris bulbifera	(L.) Bernh.	native	Dryopteridaceae	FAC	fern	PE	SVP	shade
CYSFRA	7	Cystopteris fragilis	(L.) Bernh.	native	Dryopteridaceae	FACU	fern	PE	SVP	shade
CYSPRO	5	Cystopteris protrusa	(Weath.) Blasdell	native	Dryopteridaceae	UPL	fern	PE	SVP	shade
CYSTOP	*	Cystopteris sp.	ND	native	Dryopteridaceae	ND	fern	PE	SVP	shade
CYSTNN	6	Cystopteris tennesseensis	Shaver	native	Dryopteridaceae	UPL	fern	PE	SVP	shade
CYSTEN	5	Cystopteris tenuis	(Michx.) Desv.	native	Dryopteridaceae	UPL	fern	PE	SVP	shade
DACGLO	0	Dactylis glomerata	L.	adventive	Poaceae	FACU	grass	PE	MO	advent
DALLEP	0	Dalea leporina	(Aiton) Bullock	adventive	Fabaceae	[FACU]	forb	AN	DI	advent
DALPUR	9	Dalea purpurea	Vent.	native	Fabaceae	UPL	forb	PE	MO	full
DALREP	8	Dalibarda repens	L.	native	Rosaceae	FAC	forb	PE	DI	shade
DANCOM	4	Danthonia compressa	Austin ex Peck	native	Poaceae	FACU-	grass	PE	MO	shade
DANTHO	4	Danthonia sp.	ND	native	Poaceae	ND	grass	PE	MO	shade
DANSPI	4	Danthonia spicata	(L.) P. Beauv. ex Roem. & Schult.	native	Poaceae	UPL	grass	PE	MO	shade
DAPMEZ	0	Daphne mezereum	L.	adventive	Thymelaceae	[FAC]	shrub	PE	DI	advent
DASMAC	5	Dasistoma macrophylla	(Nutt.) Raf.	native	Scrophulariaceae	FACU	forb	PE	DI	shade
DATSTR	0	Datura stramonium	L.	adventive	Solanaceae	UPL	forb	AN	DI	advent
DATWRI	0	Datura wrightii	Regel	adventive	Solanaceae	[FACU-]	forb	PE	DI	advent
DAUCAR	0	Daucus carota	L.	adventive	Apiaceae	UPL	forb	BI	DI	advent
DECVER	6	Decodon verticillatus	(L.) Elliott	native	Lythraceae	OBL	forb	PE	DI	full
DELAMB	0	Delphinium ambiguum	L.	adventive	Ranunculaceae	UPL	forb	AN	DI	advent
DELEXA	7	Delphinium exaltatum	Aiton	native	Ranunculaceae	FACU	forb	PE	DI	shade
DELPHI	*	Delphinium sp.	ND	ND	Ranunculaceae	ND	forb	ND	DI	ND
DELTRI	4	Delphinium tricorne	Michx.	native	Ranunculaceae	UPL	forb	PE	DI	shade
DENPUN	6	Dennstaedtia punctilobula	(Michx.) T. Moore	native	Dennstaedtiaceae	UPL	fern	PE	SVP	shade
DESCES	10	Deschampsia cespitosa	(L.) P. Beauv.	native	Poaceae	FACW	grass	PE	MO	full
DESFLE	8	Deschampsia flexuosa	(L.) Trin.	native	Poaceae	UPL	grass	PE	MO	full
DESCHA	*	Deschampsia sp.	ND	native	Poaceae	ND	grass	PE	MO	full
DESPINB	8	Descurainia pinnata var. brachycarpa	(Richardson) Fernald	native	Brassicaceae	UPL	forb	AN	DI	full
DESPINP	0	Descurainia pinnata var. pinnata	(Walt.) Britt.	adventive	Brassicaceae	UPL	forb	AN	DI	advent
DESSOP	0	Descurainia sophia	(L.) Webb ex Prantl	adventive	Brassicaceae	UPL	forb	AN	DI	advent
DESCUR	*	Descurainia sp.	ND	ND	Brassicaceae	UPL	forb	AN	DI	ND
DSMILL	3	Desmanthus illinoensis	(Michx.) MacMill.	native	Mimosaceae	FAC	forb	PE	DI	full
DESCNA	4	Desmodium canadense	(L.) DC.	native	Fabaceae	FAC	forb	PE	DI	full
DESCNE	4	Desmodium canescens	(L.) DC.	native	Fabaceae	UPL	forb	PE	DI	full
DESCIL	6	Desmodium ciliare	(Muhl.) DC.	native	Fabaceae	UPL	forb	PE	DI	full
DESCUS	4	Desmodium cuspidatum	(Muhl. ex Willd.) DC. ex Loudon	native	Fabaceae	UPL	forb	PE	DI	partial
DESGLA	6	Desmodium glabellum	(Michx.) DC.	native	Fabaceae	UPL	forb	PE	DI	shade
DESGLU	5	Desmodium glutinosum	(Muhl. ex Willd.) A.W. Wood	native	Fabaceae	UPL	forb	PE	DI	shade
DESILL	9	Desmodium illinoense	A. Gray	native	Fabaceae	UPL	forb	PE	DI	full
DESLAE	5	Desmodium laevigatum	(Nutt.) DC.	native	Fabaceae	UPL	forb	PE	DI	shade
DESMAR	5	Desmodium marilandicum	(L.) DC.	native	Fabaceae	UPL	forb	PE	DI	partial
DESNUD	5	Desmodium nudiflorum	(L.) DC.	native	Fabaceae	UPL	forb	PE	DI	shade
DESOBT	7	Desmodium obtusum	(Muhl. ex Willd.) DC.	native	Fabaceae	FACU	forb	PE	DI	full
DESPAN	3	Desmodium paniculatum	(L.) DC.	native	Fabaceae	UPL	forb	PE	DI	shade
DESPAU	6	Desmodium pauciflorum	(Nutt.) DC.	native	Fabaceae	FACU	forb	PE	DI	shade

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DESROT	6	Desmodium rotundifolium	DC.	native	Fabaceae	UPL	forb	PE	DI	shade
DESSES	8	Desmodium sessilifolium	(Torr.) Torr. & A. Gray	native	Fabaceae	UPL	forb	PE	DI	full
DESMOD	*	Desmodium sp.	ND	native	Fabaceae	ND	forb	PE	DI	ND
DESVIR	5	Desmodium viridiflorum	(L.) DC.	native	Fabaceae	UPL	forb	PE	DI	shade
DIAARM	0	Dianthus armeria	L.	adventive	Caryophyllaceae	UPL	forb	AN	DI	advent
DIABAR	0	Dianthus barbatus	L.	adventive	Caryophyllaceae	UPL	forb	PE	DI	advent
DIACAR	0	Dianthus caryophyllus	L.	adventive	Caryophyllaceae	[FACU]	forb	PE	DI	advent
DIADEL	0	Dianthus deltoides	L.	adventive	Caryophyllaceae	UPL	forb	PE	DI	advent
DIANTH	0	Dianthus sp.	ND	adventive	Caryophyllaceae	UPL	forb	ND	DI	advent
DIAAME	7	Diarrhena americana	P. Beauv. (sensu stricto)	native	Poaceae	FAC+	grass	PE	MO	shade
DIAOBO	7	Diarrhena obovata	(Gleason) Brandenburg	native	Poaceae	FAC+	grass	PE	MO	shade
DIARRH	7	Diarrhena sp.	ND	native	Poaceae	FAC+	grass	PE	MO	shade
DICCAN	6	Dicentra canadensis	(Goldie) Walp.	native	Fumariaceae	UPL	forb	PE	DI	shade
DICCUC	6	Dicentra cucullaria	(L.) Bernh.	native	Fumariaceae	UPL	forb	PE	DI	shade
DICEXI	0	Dicentra eximia	(Ker Gawl.) Torr.	adventive	Fumariaceae	[FACU]	forb	PE	DI	advent
DICENT	6	Dicentra sp.	ND	native	Fumariaceae	UPL	forb	PE	DI	shade
DIELON	7	Diervilla lonicera	Mill.	native	Caprifoliaceae	UPL	shrub	W	DI	full
DIGGRA	0	Digitalis grandiflora	Mill.	adventive	Scrophulariaceae	[FACU]	forb	PE	DI	advent
DIGLUT	0	Digitalis lutea	L.	adventive	Scrophulariaceae	[FACU]	forb	PE	DI	advent
DIGPUR	0	Digitalis purpurea	L.	adventive	Scrophulariaceae	[FAC-]	forb	BI	DI	advent
DIGFIL	4	Digitaria filiformis	(L.) Koeler	native	Poaceae	UPL	grass	AN	MO	full
DIGISC	0	Digitaria ischaemum	(Schreb.) Muhl.	adventive	Poaceae	UPL	grass	AN	MO	advent
DIGSAN	0	Digitaria sanguinalis	(L.) Scop.	adventive	Poaceae	FACU-	grass	AN	MO	advent
DIGITA	*	Digitaria sp.	ND	ND	Poaceae	ND	grass	AN	MO	ND
DIGLAN	0	Digitialis lanata	Ehrh.	adventive	Scrophulariaceae	[FACU]	forb	PE	DI	advent
DIODIA	*	Diodia sp.	ND	native	Rubiaceae	ND	forb	AN	DI	full
DIOTER	3	Diodia teres	Walter	native	Rubiaceae	UPL	forb	AN	DI	full
DIOVIR	8	Diodia virginiana	L.	native	Rubiaceae	FACW	forb	AN	DI	full
DIOBAT	0	Dioscorea batatas	Decne.	adventive	Dioscoreaceae	FACU	vine	PE	DI	advent
DIOQUA	5	Dioscorea quaternata	J.F. Gmel.	native	Dioscoreaceae	FACU	vine	PE	DI	partial
DIOSCO	*	Dioscorea sp.	ND	ND	Dioscoreaceae	ND	vine	PE	DI	ND
DIOVIL	4	Dioscorea villosa	L.	native	Dioscoreaceae	FAC+	vine	PE	DI	partial
DSPVIR	4	Diospyros virginiana	L.	native	Ebenaceae	FAC-	sm tree	W	DI	shade
DIPDIG	1	Diphasiastrum digitatum	(Dill. ex A. Braun) Holub	native	Lycopodiaceae	FACU-	fern	PE	SVP	shade
DIPHAS	*	Diphasiastrum sp.	ND	native	Lycopodiaceae	ND	fern	PE	SVP	shade
DIPTRI	3	Diphasiastrum tristachyum	(Pursh) Holub	native	Lycopodiaceae	UPL	fern	PE	SVP	shade
DIPMUR	0	Diplotaxis muralis	(L.) DC.	adventive	Brassicaceae	UPL	forb	AN	DI	advent
DIPLOT	0	Diplotaxis sp.	ND	adventive	Brassicaceae	UPL	forb	ND	DI	advent
DIPTEN	0	Diplotaxis tenuifolia	(L.) DC.	adventive	Brassicaceae	UPL	forb	PE	DI	advent
DIPSAT	0	Dipsacas sativus	(L.) Honck.	adventive	Dipsacaceae	[UPL]	forb	BI	DI	advent
DIPFUL	0	Dipsacus fullonum	L.	adventive	Dipsacaceae	FACU-	forb	BI	DI	advent
DIPLAC	0	Dipsacus laciniatus	L.	adventive	Dipsacaceae	UPL	forb	BI	DI	advent
DIPSAC	0	Dipsacus sp.	ND	adventive	Dipsacaceae	ND	forb	BI	DI	advent
DIRPAL	7	Dirca palustris	L.	native	Thymelaeaceae	FAC	sm tree	W	DI	shade
DODMEA	7	Dodecatheon meadia	L.	native	Primulaceae	FACU	forb	PE	DI	partial
DOLLAB	0	Dolichos lablab	L.	adventive	Fabaceae	[FACU]	vine	PE	DI	advent
DRABRA	9	Draba brachycarpa	Nutt. ex Torr. & A. Gray	native	Brassicaceae	UPL	forb	AN	DI	full
DRACUN	9	Draba cuneifolia	Nutt. ex Torr. & A. Gray	native	Brassicaceae	UPL	forb	AN	DI	full
DRAREP	7	Draba reptans	(Lam.) Fernald	native	Brassicaceae	UPL	forb	AN	DI	full
DRABA	*	Draba sp.	ND	native	Brassicaceae	UPL	forb	AN	DI	full

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DRAPAR	0	Dracocephalium parviflorum	Nutt.	adventive	Lamiaceae	[UPL]	forb	PE	DI	advent
DROINT	9	Drosera intermedia	Hayne	native	Droseraceae	OBL	forb	PE	DI	full
DROROT	7	Drosera rotundifolia	L.	native	Droseraceae	OBL	forb	PE	DI	full
DROSER	*	Drosera sp.	ND	native	Droseraceae	OBL	forb	PE	DI	full
DRYCAR	5	Dryopteris carthusiana	(Vill.) H.P. Fuchs	native	Dryopteridaceae	FAC+	fern	PE	SVP	shade
DRYCEL	8	Dryopteris celsa	(W. Palmer) Small	native	Dryopteridaceae	OBL	fern	PE	SVP	shade
DRYCLI	8	Dryopteris clintoniana	(DC. Eaton) Dowell	native	Dryopteridaceae	FACW+	fern	PE	SVP	shade
DRYCRI	8	Dryopteris cristata	(L.) A. Gray	native	Dryopteridaceae	FACW+	fern	PE	SVP	shade
DRYFIL	8	Dryopteris filix-mas	L.	native	Dryopteridaceae	UPL	fern	PE	SVP	shade
DRYGOL	7	Dryopteris goldiana	(Hook. ex Goldie) A. Gray	native	Dryopteridaceae	FAC+	fern	PE	SVP	shade
DRYINT	6	Dryopteris intermedia	(Muhl. ex Willd.) A. Gray	native	Dryopteridaceae	FACU	fern	PE	SVP	shade
DRYMAR	5	Dryopteris marginalis	(L.) A. Gray	native	Dryopteridaceae	FACU-	fern	PE	SVP	shade
DRYOPT	*	Dryopteris sp.	ND	native	Dryopteridaceae	ND	fern	PE	SVP	shade
DUCIND	0	Duchesnea indica	(Andrews) Focke	adventive	Rosaceae	FACU-	forb	PE	DI	advent
DULARU	6	Dulichium arundinaceum	(L.) Britton	native	Cyperaceae	OBL	sedge	PE	MO	full
DYSPAP	0	Dyssodia papposa	(Vent.) Hitchc.	adventive	Asteraceae	UPL	forb	PE	DI	advent
ECHPUR	6	Echinacea purpurea	(L.) Moench	native	Asteraceae	UPL	forb	PE	DI	full
ECHCRU	0	Echinochloa crusgalli	(L.) P. Beauv.	adventive	Poaceae	FACU	grass	AN	MO	advent
ECHMUR	3	Echinochloa muricata	(P. Beauv.) Fernald	native	Poaceae	FACW+	grass	AN	MO	full
ECHINO	*	Echinochloa sp.	ND	ND	Poaceae	ND	grass	AN	MO	ND
ECHWAL	6	Echinochloa walteri	(Pursh) A. Heller	native	Poaceae	FACW+	grass	AN	MO	full
ECHLOB	2	Echinocystis lobata	(Michx.) Torr. & A. Gray	native	Cucurbitaceae	FAC	vine	AN	DI	shade
ECHBER	9	Echinodorus berteroi	(Spreng.) Fassett	native	Alismataceae	OBL	forb	AN	DI	full
ECHVUL	0	Echium vulgare	L.	adventive	Boraginaceae	UPL	forb	BI	DI	advent
ECLPRO	3	Eclipta prostrata	(L.) L.	native	Asteraceae	FAC	forb	AN	DI	full
ELAANG	0	Elaeagnus angustifolia	L.	adventive	Elaeagnaceae	FACU	sm tree	W	DI	advent
ELAMUL	0	Elaeagnus multiflora	Thunb.	adventive	Eleagnaceae	[UPL]	sm tree	W	DI	advent
ELAEAG	0	Elaeagnus sp.	ND	adventive	Elaeagnaceae	FACU	sm tree	W	DI	advent
ELAUMB	0	Elaeagnus umbellata	Thun.	adventive	Elaeagnaceae	FACU	sm tree	W	DI	advent
ELATRI	10	Elatine triandra	Schkuhr	native	Elatinaceae	OBL	forb	AN	DI	full
ELEACI	5	Eleocharis acicularis	(L.) Roem. & Schult.	native	Cyperaceae	OBL	sedge	PE	MO	full
ELECOM	7	Eleocharis compressa	Sull.	native	Cyperaceae	FACW+	sedge	PE	MO	full
ELEELL	7	Eleocharis elliptica	Kunth	native	Cyperaceae	FACW+	sedge	PE	MO	full
ELEENG	9	Eleocharis engelmannii	Steud.	native	Cyperaceae	FACW+	sedge	AN	MO	full
ELEERY	4	Eleocharis erythropoda	Steud.	native	Cyperaceae	OBL	sedge	PE	MO	full
ELEFLAO	8	Eleocharis flavescens var. olivacea	(Torr.) Gleason	native	Cyperaceae	OBL	sedge	PE	MO	full
ELEGEN	9	Eleocharis geniculata	(L.) Roem. & Schult.	native	Cyperaceae	FACW	sedge	AN	MO	full
ELEINT	7	Eleocharis intermedia	Schult.	native	Cyperaceae	FACW+	sedge	AN	MO	full
ELEOBT	1	Eleocharis obtusa	(Willd.) Schult.	native	Cyperaceae	OBL	sedge	AN	MO	full
ELEOVA	9	Eleocharis ovata	(Roth) Roem. & Schult.	native	Cyperaceae	OBL	sedge	AN	MO	full
ELEPAL	5	Eleocharis palustris	Britton	native	Cyperaceae	OBL	sedge	PE	MO	full
ELEPAR	9	Eleocharis parvula	(Roem. & Schult.) Link	native	Cyperaceae	OBL	sedge	PE	MO	full
ELEQUA	4	Eleocharis quadrangulata	(Michx.) Roem. & Schult.	native	Cyperaceae	OBL	sedge	PE	MO	full
ELEQUI	10	Eleocharis quinqueflora	(Hartmann) O. Scharz	native	Cyperaceae	OBL	sedge	PE	MO	full
ELEROB	10	Eleocharis robbinsii	Oakes	native	Cyperaceae	OBL	sedge	PE	MO	full
ELEROS	10	Eleocharis rostellata	(Torr.) Torr.	native	Cyperaceae	OBL	sedge	PE	MO	full
ELEOCH	*	Eleocharis sp.	ND	native	Cyperaceae	ND	sedge	ND	MO	full
ELETENT	9	Eleocharis tenuis var. tenuis	(Willd.) Schult.	native	Cyperaceae	FACW+	sedge	PE	MO	full
ELETENV	7	Eleocharis tenuis var. verrucosa	(Svenson) Svenson	native	Cyperaceae	FACW+	sedge	PE	MO	full

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ACRONYM	CofC	SCIENTIFIC NAME	AUTHORITY	NATIVITY	FAMILY	IND	FORM	HABIT	GROUP	SHADE
ELEWOL	9	Eleocharis wolfii	(A. Gray) A. Gray ex Britton	native	Cyperaceae	OBL	sedge	PE	MO	full
ELPCAR	4	Elephantopus carolinianus	Raeusch.	native	Asteraceae	FACU	forb	PE	DI	shade
ELEIND	0	Eleusine indica	(L.) Gaertn.	adventive	Poaceae	FACU-	grass	AN	MO	advent
ELLNYC	0	Ellisia nyctelea	(L.) L.	adventive	Hydrophyllaceae	FACU	forb	AN	DI	advent
ELOCAN	3	Elodea canadensis	Michx.	native	Hydrocharitaceae	OBL	forb	PE	MO	full
ELONUT	5	Elodea nuttallii	(Planch.) St. John	native	Hydrocharitaceae	OBL	forb	PE	MO	full
ELODEA	*	Elodea sp.	ND	native	Hydrocharitaceae	OBL	forb	PE	MO	full
ELYCAN	6	Elymus canadensis	L.	native	Poaceae	FACU+	grass	PE	MO	full
ELYHYS	4	Elymus hystrix	L.	native	Poaceae	UPL	grass	PE	MO	shade
ELYMAC	6	Elymus macgregorii	R. Brooks & J.J.N. Campb.	native	Poaceae	FACW	grass	PE	MO	shade
ELYRIP	5	Elymus riparius	Wiegand	native	Poaceae	FACW	grass	PE	MO	partial
ELYMUS	*	Elymus sp.	ND	native	Poaceae	ND	grass	PE	MO	ND
ELYTRA	7	Elymus trachycaulus	(Link) Gould ex Shinners	native	Poaceae	FACU	grass	PE	MO	partial
ELYVIL	4	Elymus villosus	Muhl. ex Willd.	native	Poaceae	FACU-	grass	PE	MO	partial
ELYVIR	3	Elymus virginicus	L.	native	Poaceae	FACW-	grass	PE	MO	partial
ELYREP	0	Elytrigia repens	(L.) Desv. ex B.D. Jacks	adventive	Poaceae	FACU-	grass	PE	MO	advent
ELYSMI	0	Elytrigia smithii	(Rydb.) Nevski	adventive	Poaceae	UPL	grass	PE	MO	advent
ELYTRI	0	Elytrigia sp.	ND	adventive	Poaceae	ND	grass	PE	MO	advent
EPIVIR	10	Epifagus virginiana	(L.) Barton	native	Orobanchaceae	UPL	forb	AN	DI	shade
EPIREP	8	Epigaea repens	L.	native	Ericaceae	UPL	shrub	W	DI	shade
EPIANG	7	Epilobium angustifolium	L.	native	Onagraceae	FAC	forb	PE	DI	full
EPICIL	4	Epilobium ciliatum	Raf.	native	Onagraceae	FAC-	forb	PE	DI	full
EPICOL	1	Epilobium coloratum	Biehler	native	Onagraceae	OBL	forb	PE	DI	full
EPIHIR	0	Epilobium hirsutum	L.	adventive	Onagraceae	FACW	forb	PE	DI	advent
EPILEP	7	Epilobium leptophyllum	Raf.	native	Onagraceae	OBL	forb	PE	DI	full
EPIPAR	0	Epilobium parviflorum	Schreb.	adventive	Onagraceae	FACW	forb	PE	DI	advent
EPILOB	*	Epilobium sp.	ND	ND	Onagraceae	ND	forb	PE	DI	ND
EPISTR	9	Epilobium strictum	Muhl. ex Spreng.	native	Onagraceae	OBL	forb	PE	DI	shade
EPIHEL	0	Epipactis helleborine	(L.) Crantz	adventive	Equisetaceae	UPL	forb	PE	DI	advent
EQUARV	0	Equisetum arvense	L.	native	Equisetaceae	FAC	fern	PE	SVP	full
EQUFLU	7	Equisetum fluviatile	L.	native	Equisetaceae	OBL	fern	PE	SVP	full
EQUHYE	2	Equisetum hyemale	L.	native	Equisetaceae	FACW	fern	PE	SVP	full
EQULAE	6	Equisetum laevigatum	A. Braun	native	Equisetaceae	FACW	fern	PE	SVP	full
EQUISE	*	Equisetum sp.	ND	native	Equisetaceae	ND	fern	PE	SVP	ND
EQUSYL	7	Equisetum sylvaticum	L.	native	Equisetaceae	FACW	fern	PE	SVP	partial
EQUVAR	8	Equisetum variegatum	Schleich. ex F. Weber & D. Mohr	native	Equisetaceae	FACW	fern	PE	SVP	full
ERACAP	3	Eragrostis capillaris	(L.) Nees	native	Poaceae	UPL	grass	AN	MO	partial
ERACIL	0	Eragrostis cilianensis	(All.) Vignolo ex Janch.	adventive	Poaceae	FACU	grass	AN	MO	advent
ERACUR	0	Eragrostis curvula	(Schrad.) Nees	adventive	Poaceae	[FACU]	grass	PE	MONO	advent
ERAFRA	3	Eragrostis frankii	C.A. Mey. ex Steud.	native	Poaceae	FACW	grass	AN	MO	full
ERAHYP	4	Eragrostis hypnoides	(Lam.) B.S.P.	native	Poaceae	OBL	grass	AN	MO	full
ERAMIN	0	Eragrostis minor	Host	adventive	Poaceae	UPL	grass	AN	MO	advent
ERAPEC	1	Eragrostis pectinacea	(Michx.) Nees ex Steud.	native	Poaceae	FAC	grass	AN	MO	full
ERAPIL	0	Eragrostis pilosa	(L.) P. Beauv.	adventive	Poaceae	FACU	grass	PE	MO	advent
ERIGRO	*	Eragrostis sp.	ND	ND	Poaceae	ND	grass	ND	MO	ND
ERASPE	2	Eragrostis spectabilis	(Pursh) Steud.	native	Poaceae	UPL	grass	PE	MO	partial
ERAHYE	0	Eranthus hyemalis	(L.) Salisb.	adventive	Ranunculaceae	[FACU]	forb	PE	DI	advent
EREHIE	2	Erechtites hieracifolia	(L.) Raf. ex DC.	native	Asteraceae	FACU	forb	AN	DI	full
ERITET	0	Erica tetralix	L.	adventive	Ericaceae	[OBL]	shrub	W	DI	advent

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ACRONYM	CofC	SCIENTIFIC NAME	AUTHORITY	NATIVITY	FAMILY	IND	FORM	HABIT	GROUP	SHADE
ERIBUL	6	Erigenia bulbosa	(Michx.) Nutt.	native	Apiaceae	UPL	forb	PE	DI	shade
ERIANN	0	Erigeron annuus	(L.) Pers.	native	Asteraceae	FACU	forb	AN	DI	full
ERIPHI	2	Erigeron philadelphicus	L.	native	Asteraceae	FACU	forb	BI	DI	full
ERIPUL	5	Erigeron pulchellus	Michx.	native	Asteraceae	FACU	forb	PE	DI	full
ERIGER	*	Erigeron sp.	ND	native	Asteraceae	ND	forb	ND	DI	full
ERISTR	1	Erigeron strigosus	Muhl. ex Willd.	native	Asteraceae	FACU+	forb	AN	DI	full
ERIAQU	10	Eriocaulon aquaticum	(Hill) Druce	native	Eriocaulaceae	OBL	forb	PE	DI	full
ERIOPH	10	Eriophorum sp.	ND	native	Cyperaceae	OBL	sedge	PE	MO	full
ERIVRG	10	Eriophorum virginicum	L.	native	Cyperaceae	OBL	sedge	PE	MO	full
ERIVRD	10	Eriophorum viridicarinatum	(Englem.) Fernald	native	Cyperaceae	OBL	sedge	PE	MO	full
EROCIC	0	Erodium cicutarium	(L.) L'Her ex Aiton	adventive	Geraniaceae	UPL	forb	AN	DI	advent
EROVER	0	Erophila verna	(L.) Besser	adventive	Brassicaceae	UPL	forb	AN	DI	advent
ERUGAL	0	Erucastrum gallicum	(Willd.) O.E. Schulz	adventive	Brassicaceae	UPL	forb	AN	DI	advent
ERYYUC	7	Eryngium yuccifolium	Michx.	native	Apiaceae	FAC	forb	PE	DI	full
ERYASPA	10	Erysimum aspera var. aspera	(Nutt.) DC.	native	Brassicaceae	UPL	forb	BI	DI	full
ERYCHE	0	Erysimum cheiranthoides	L.	adventive	Brassicaceae	FAC	forb	AN	DI	advent
ERYINC	0	Erysimum inconspicuum	(S. Watson) MacMill.	adventive	Brassicaceae	UPL	forb	PE	DI	advent
ERYREP	0	Erysimum repandum	L.	adventive	Brassicaceae	UPL	forb	AN	DI	advent
ERYSIM	*	Erysimum sp.	ND	ND	Brassicaceae	ND	forb	ND	DI	ND
ERYALB	5	Erythronium albidum	Nutt.	native	Liliaceae	FACU	forb	PE	MO	shade
ERYAME	4	Erythronium americanum	Ker Gawl.	native	Liliaceae	UPL	forb	PE	MO	shade
ERYROS	9	Erythronium rostratum	W. Wolf	native	Liliaceae	UPL	forb	PE	MO	shade
ERYTHR	*	Erythronium sp.	ND	native	Liliaceae	ND	forb	PE	MO	shade
ESCCAL	0	Eschscholzia californica	Cham.	adventive	Papaveraceae	[UPL]	forb	PE	DI	advent
EUOALA	0	Euonymus alatus	(Thunb.) Siebold	adventive	Celastraceae	UPL	shrub	W	DI	advent
EUOAME	6	Euonymus americanus	L.	native	Celastraceae	FAC	shrub	W	DI	partial
EUOATR	3	Euonymus atropurpureus	Jacq.	native	Celastraceae	FACU	shrub	W	DI	partial
EUOEUR	0	Euonymus europaeus	L.	adventive	Celastraceae	UPL	shrub	W	DI	advent
EUOFOR	0	Euonymus fortunei	(Turcz.) Hand.-Mazz.	adventive	Celastraceae	UPL	vine	W	DI	advent
EUOOBO	5	Euonymus obovatus	Nutt.	native	Celastraceae	FAC	shrub	W	DI	full
EUONYM	*	Euonymus sp.	ND	ND	Celastraceae	ND	shrub	W	DI	ND
EUPALB	8	Eupatorium album	L.	native	Asteraceae	UPL	forb	PE	DI	shade
EUPALT	0	Eupatorium altissimum	L.	native	Asteraceae	UPL	forb	PE	DI	partial
EUPARO	6	Eupatorium aromaticum	L.	native	Asteraceae	UPL	forb	PE	DI	shade
EUPCOE	3	Eupatorium coelestinum	L.	native	Asteraceae	FAC	forb	PE	DI	partial
EUPFIS	6	Eupatorium fistulosum	Barratt	native	Asteraceae	FACW	forb	PE	DI	partial
EUPHYS	4	Eupatorium hyssopifolium	L.	native	Asteraceae	UPL	forb	PE	DI	full
EUPINC	4	Eupatorium incarnatum	Walter	native	Asteraceae	FAC	forb	PE	DI	shade
EUPMAC	6	Eupatorium maculatum	L.	native	Asteraceae	FACW	forb	PE	DI	full
EUPPER	3	Eupatorium perfoliatum	L.	native	Asteraceae	FACW+	forb	PE	DI	full
EUPPUR	5	Eupatorium purpureum	L.	native	Asteraceae	FAC	forb	PE	DI	partial
EUPROT	6	Eupatorium rotundifolium	L.	native	Asteraceae	FAC-	forb	PE	DI	shade
EUPRUG	3	Eupatorium rugosum	Houtt.	native	Asteraceae	FACU	forb	PE	DI	shade
EUPSER	2	Eupatorium serotinum	Michx.	native	Asteraceae	FAC-	forb	PE	DI	shade
EUPSES	4	Eupatorium sessilifolium	L.	native	Asteraceae	UPL	forb	PE	DI	shade
EUPTOR	*	Eupatorium sp.	ND	native	Asteraceae	ND	forb	PE	DI	ND
EUPHCM	5	Euphorbia commutata	Engelm.	native	Euphorbiaceae	FACU	forb	PE	DI	shade
EUPHCO	4	Euphorbia corollata	L.	native	Euphorbiaceae	UPL	forb	PE	DI	full
EUPCYA	0	Euphorbia cyathophora	Murray	adventive	Euphorbiaceae	[FACU]	forb	PE	DI	advent

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EUPHCY	0	Euphorbia cyparissias	L.	adventive	Euphorbiaceae	UPL	forb	PE	DI	advent
EUPHDE	0	Euphorbia dentata	Michx.	adventive	Euphorbiaceae	UPL	forb	AN	DI	advent
EUPHES	0	Euphorbia esula	L.	adventive	Euphorbiaceae	UPL	forb	PE	DI	advent
EUPFAL	0	Euphorbia falcata	L.	adventive	Euphorbiaceae	[UPL]	forb	AN	DI	advent
EUPHEL	0	Euphorbia helioscopia	L.	adventive	Euphorbiaceae	[UPL]	forb	AN	DI	advent
EUPHHU	3	Euphorbia humistrata	Engelm.	native	Euphorbiaceae	FACU	forb	AN	DI	partial
EUPHMA	0	Euphorbia maculata	L.	native	Euphorbiaceae	FACU-	forb	AN	DI	full
EUPHMR	0	Euphorbia marginata	Pursh	adventive	Euphorbiaceae	UPL	forb	AN	DI	advent
EUPHNU	0	Euphorbia nutans	Lagasca	native	Euphorbiaceae	FACU-	forb	AN	DI	full
EUPHOB	4	Euphorbia obtusata	Pursh	native	Euphorbiaceae	FACU-	forb	AN	DI	shade
EUPHPE	0	Euphorbia peplus	L.	adventive	Euphorbiaceae	UPL	forb	AN	DI	advent
EUPHPL	0	Euphorbia platyphyllos	L.	adventive	Euphorbiaceae	UPL	forb	AN	DI	advent
EUPHPO	10	Euphorbia polygonifolia	L.	native	Euphorbiaceae	FACU	forb	AN	DI	full
EUPPRO	0	Euphorbia prostrata	Aiton	adventive	Euphorbiaceae	[UPL]	forb	AN	DI	advent
EUPHPU	9	Euphorbia purpurea	(Raf.) Fernald	native	Euphorbiaceae	FAC	forb	PE	DI	shade
EUPHSE	8	Euphorbia serpens	Kunth	native	Euphorbiaceae	FACW	forb	AN	DI	full
EUPHOR	*	Euphorbia sp.	ND	ND	Euphorbiaceae	ND	forb	ND	DI	ND
EUPHVE	0	Euphorbia vermiculata	Raf.	native	Euphorbiaceae	UPL	forb	AN	DI	full
EUTGRA	2	Euthamia graminifolia	(L.) Nutt.	native	Asteraceae	FAC	forb	PE	DI	full
EUTREM	9	Euthamia remota	Greene	native	Asteraceae	FAC	forb	PE	DI	full
EUTHAM	*	Euthamia sp.	ND	native	Asteraceae	FAC	forb	PE	DI	full
FAGESC	0	Fagopyrum esculentum	Moench	adventive	Polygonaceae	UPL	forb	AN	DI	advent
FAGGRA	7	Fagus grandifolia	Ehrh.	native	Fagaceae	FACU	tree	W	DI	tree
FESELA	0	Festuca elatior	L.	adventive	Poaceae	FACU	grass	PE	MO	advent
FESOVI	0	Festuca ovina	L.	adventive	Poaceae	UPL	grass	PE	MO	advent
FESPRA	0	Festuca pratensis	Huds.	adventive	Poaceae	FACU-	grass	PE	MO	advent
FESRUB	0	Festuca rubra	L.	adventive	Poaceae	FACU	grass	PE	MO	advent
FESTUC	0	Festuca sp.	ND	adventive	Poaceae	ND	grass	PE	MO	advent
FESSUB	5	Festuca subverticillata	(Pers.) E. Alexeev	native	Poaceae	FACU	grass	PE	MO	shade
FILGER	0	Filago germanica	(L.) Huds.	adventive	Asteraceae	UPL	forb	AN	DI	advent
FILRUB	8	Filipendula rubra	(Hill) B.L. Rob.	native	Rosaceae	FACW	forb	PE	DI	full
FILIPE	*	Filipendula sp.	ND	ND	Rosaceae	ND	forb	PE	DI	ND
FILULM	0	Filipendula ulmaria	(L.) Maxim.	adventive	Rosaceae	UPL	forb	PE	DI	advent
FIMAUT	5	Fimbristylis autumnalis	(L.) Roem. & Schult.	native	Cyperaceae	FACW+	sedge	AN	MO	full
FLOPRO	5	Floerkea proserpinacoides	Willd.	native	Limnanthaceae	FAC	forb	AN	DI	shade
FOEVUL	0	Foeniculum vulgare	Mill.	adventive	Apiaceae	UPL	forb	BI	DI	advent
FORINT	0	Forsythia x intermedia	Zabel	adventive	Oleaceae	[UPL]	shrub	W	DI	advent
FRACHI	0	Fragaria chiloensis	(L.) Mill.	adventive	Rosaceae	[FACU]	forb	PE	DI	advent
FRAGAR	*	Fragaria sp.	ND	ND	Rosaceae	ND	forb	PE	DI	ND
FRAVESA	3	Fragaria vesca var. americana	Porter	native	Rosaceae	UPL	forb	PE	DI	full
FRAVESV	0	Fragaria vesca var. vesca	L.	adventive	Rosaceae	UPL	forb	PE	DI	advent
FRAVIR	1	Fragaria virginiana	Duchesne	native	Rosaceae	FACU	forb	PE	DI	full
FRACAR	7	Frasera caroliniensis	Walter	native	Gentianaceae	UPL	forb	PE	DI	shade
FRAAME	6	Fraxinus americana	L.	native	Oleaceae	FACU	tree	W	DI	tree
FRANIG	7	Fraxinus nigra	Marshall	native	Oleaceae	FACW	tree	W	DI	tree
FRAPEN	3	Fraxinus pennsylvanica	Marshall	native	Oleaceae	FACW	tree	W	DI	tree
FRAPRO	7	Fraxinus profunda	(Bush) Bush	native	Oleaceae	OBL	tree	W	DI	tree
FRAQUA	7	Fraxinus quadrangulata	Michx.	native	Oleaceae	UPL	tree	W	DI	tree
FRAXIN	*	Fraxinus sp.	ND	native	Oleaceae	ND	tree	W	DI	tree

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FROFLO	2	Froelichia floridana	(Nutt.) Moq.	native	Amaranthaceae	UPL	forb	AN	DI	full
FROGRA	0	Froelichia gracilis	(Hook.) Moq.	adventive	Amaranthaceae	UPL	forb	AN	DI	advent
FROELI	*	Froelichia sp.	ND	ND	Amaranthaceae	UPL	forb	AN	DI	ND
FUMOFF	0	Fumaria officinalis	L.	adventive	Fumariaceae	UPL	forb	AN	DI	advent
GAIPUL	0	Gaillardia pulchella	Foug.	adventive	Asteraceae	[UPL]	forb	BI	DI	advent
GALVOL	9	Galactia volubilis	(L.) Britton	native	Fabaceae	FAC+	forb	PE	DI	full
GALNIV	0	Galanthus nivalis	L.	adventive	Liliaceae	[FAC+]	forb	PE	MONO	advent
GALURC	0	Galax urceolata	(Poir.) Brummitt	adventive	Diapensiaceae	[FACU-]	forb	PE	DI	advent
GALLAD	0	Galeopsis ladanum	L.	adventive	Lamiaceae	UPL	forb	AN	DI	advent
GALEOP	0	Galeopsis sp.	ND	adventive	Lamiaceae	UPL	forb	AN	DI	advent
GALTET	0	Galeopsis tetrahit	L.	adventive	Lamiaceae	UPL	forb	AN	DI	advent
GALPED	0	Galim pedemontanum	(Bellardi) All.	adventive	Rubiaceae	UPL	forb	AN	DI	advent
GALPAR	0	Galinsoga parviflora	Cav.	adventive	Asteraceae	UPL	forb	AN	DI	advent
GALQUA	0	Galinsoga quadriradiata	Ruiz & Pav.	adventive	Asteraceae	UPL	forb	AN	DI	advent
GALINS	0	Galinsoga sp.	ND	adventive	Asteraceae	UPL	forb	AN	DI	advent
GALAPA	0	Galium aparine	L.	native	Rubiaceae	FACU	forb	AN	DI	partial
GALASP	4	Galium asprellum	Michx.	native	Rubiaceae	OBL	forb	PE	DI	partial
GALBOR	8	Galium boreale	L.	native	Rubiaceae	FACU	forb	PE	DI	partial
GALCIR	4	Galium circaezans	Michx.	native	Rubiaceae	UPL	forb	PE	DI	shade
GALCON	5	Galium concinnum	Torr. & A. Gray	native	Rubiaceae	UPL	forb	PE	DI	shade
GALLAB	10	Galium labradoricum	(Wiegand) Wiegand	native	Rubiaceae	OBL	forb	PE	DI	partial
GALLAN	5	Galium lanceolatum	Torr.	native	Rubiaceae	UPL	forb	PE	DI	shade
GALMOL	0	Galium molluga	L.	adventive	Rubiaceae	UPL	forb	PE	DI	advent
GALOBT	5	Galium obtusum	Bigelow	native	Rubiaceae	FACW+	forb	PE	DI	full
GALODO	0	Galium odoratum	(L.) Scop.	adventive	Rubiaceae	UPL	forb	PE	DI	advent
GALPAL	9	Galium palustre	L.	native	Rubiaceae	OBL	forb	PE	DI	full
GALPIL	4	Galium pilosum	Aiton	native	Rubiaceae	UPL	forb	PE	DI	shade
GALIUM	*	Galium sp.	ND	ND	Rubiaceae	ND	forb	ND	DI	ND
GALTIN	4	Galium tinctorium	(L.) Scop.	native	Rubiaceae	OBL	forb	PE	DI	full
GALTFI	7	Galium trifidum	L.	native	Rubiaceae	FACW+	forb	PE	DI	partial
GALTFL	4	Galium triflorum	Michx.	native	Rubiaceae	FACU	forb	PE	DI	shade
GALVER	0	Galium verum	L.	adventive	Rubiaceae	UPL	forb	PE	DI	advent
GAUHIS	10	Gaultheria hispidula	(L.) Muhl. ex Bigelow	native	Ericaceae	FACW	shrub	W	DI	shade
GAUPRO	5	Gaultheria procumbens	L.	native	Ericaceae	FACU	shrub	W	DI	shade
GAULTH	*	Gaultheria sp.	ND	native	Ericaceae	ND	shrub	W	DI	shade
GAUBIE	1	Gaura biennis	L.	native	Onagraceae	FACU	forb	BI	DI	full
GAULON	0	Gaura longiflora	Spach	adventive	Onagraceae	[FACU]	forb	PE	DI	advent
GAUPAR	0	Gaura parviflora	Douglas ex Lehm.	adventive	Onagraceae	[FACU]	forb	AN	DI	advent
GAYBAC	6	Gaylussacia baccata	(Wangenh.) K. Koch	native	Ericaceae	FACU	shrub	W	DI	partial
GENTIN	0	Genista tinctoria	L.	adventive	Fabaceae	[FAC]	shrub	PE	DI	advent
GENAND	5	Gentiana andrewsii	Griseb.	native	Gentianaceae	FACW	forb	PE	DI	full
GENCLA	6	Gentiana clausa	Raf.	native	Gentianaceae	FACW	forb	PE	DI	full
GENFLA	8	Gentiana flavida	A. Gray	native	Gentianaceae	FACU	forb	PE	DI	full
GENPUB	10	Gentiana puberulenta	J.S. Pringle	native	Gentianaceae	FACU+	forb	PE	DI	full
GENSAP	10	Gentiana saponaria	L.	native	Gentianaceae	FACW	forb	PE	DI	full
GENTIA	*	Gentiana sp.	ND	native	Gentianaceae	ND	forb	PE	DI	full
GENVIL	7	Gentiana villosa	L.	native	Gentianaceae	UPL	forb	PE	DI	full
GENQUI	8	Gentianella quinquefolia	(L.) Small	native	Gentianaceae	FAC	forb	BI	DI	full
GENCRI	7	Gentianopsis crinita	(Froelich) Ma	native	Gentianaceae	OBL	forb	AN	DI	full
GENPRO	7	Gentianopsis procera	(T. Holm) Ma	native	Gentianaceae	FACW+	forb	AN	DI	full

Appendix C
Species Codes for VIBI Metric Calculation

ACRONYM	CofC	SCIENTIFIC NAME	AUTHORITY	NATIVITY	FAMILY	IND	FORM	HABIT	GROUP	SHADE
GENTIO	7	Gentianopsis sp.	ND	native	Gentianaceae	ND	forb	AN	DI	full
GERBIC	7	Geranium bicknellii	Britton	native	Geraniaceae	UPL	forb	AN	DI	full
GERCAR	3	Geranium carolinianum	L.	native	Geraniaceae	UPL	forb	AN	DI	full
GERCOL	0	Geranium columbinum	L.	adventive	Geraniaceae	UPL	forb	AN	DI	advent
GERDIS	0	Geranium dissectum	L.	adventive	Geraniaceae	UPL	forb	AN	DI	advent
GERMAC	4	Geranium maculatum	L.	native	Geraniaceae	FACU	forb	PE	DI	shade
GERMOL	0	Geranium molle	L.	adventive	Geraniaceae	UPL	forb	AN	DI	advent
GERROB	4	Geranium robertianum	L.	native	Geraniaceae	UPL	forb	AN	DI	shade
GERANI	*	Geranium sp.	ND	ND	Geraniaceae	ND	forb	ND	DI	ND
GERPUS	0	Gernaium pusillum	L.	adventive	Geraniaceae	UPL	forb	AN	DI	advent
GERSAN	0	Gernaium sanguineum	L.	adventive	Geraniaceae	[FACU]	forb	PE	DI	advent
GEUALE	3	Geum aleppicum	Jacq.	native	Rosaceae	FAC	forb	PE	DI	shade
GEUCAN	2	Geum canadense	Jacq.	native	Rosaceae	FACU	forb	PE	DI	shade
GEULAC	2	Geum laciniatum	Murray	native	Rosaceae	FAC+	forb	PE	DI	shade
GEURIV	9	Geum rivale	L.	native	Rosaceae	OBL	forb	PE	DI	shade
GEUM	*	Geum sp.	ND	native	Rosaceae	ND	forb	PE	DI	shade
GEUVER	2	Geum vernum	(Raf.) Torr. & A. Gray	native	Rosaceae	FACU	forb	PE	DI	shade
GEUVIR	3	Geum virginianum	L.	native	Rosaceae	FAC-	forb	PE	DI	shade
GILCAP	0	Gilia capitata	Sims	adventive	Polemoniaceae	[UPL]	forb	PE	DI	advent
GILRUB	0	Gilia rubra	(L.) Wherry	adventive	Polemoniaceae	[UPL]	forb	BI	DI	advent
GLEHED	0	Glechoma hederacea	L.	adventive	Lamiaceae	FACU	forb	PE	DI	advent
GLETRI	4	Gleditsia triacanthos	L.	native	Caesalpinaceae	FAC-	tree	W	DI	tree
GLYACU	9	Glyceria acutiflora	Torr.	native	Poaceae	OBL	grass	PE	MO	partial
GLYBOR	9	Glyceria borealis	(Nash) Batch.	native	Poaceae	OBL	grass	PE	MO	full
GLYCAN	7	Glyceria canadensis	(Michx.) Trin.	native	Poaceae	OBL	grass	PE	MO	full
GLYGRA	7	Glyceria grandis	S. Watson	native	Poaceae	OBL	grass	PE	MO	full
GLYMEL	7	Glyceria melicaria	(Michx.) F.T. Hubb.	native	Poaceae	OBL	grass	PE	MO	full
GLYSEP	6	Glyceria septentrionalis	Hitchc.	native	Poaceae	OBL	grass	PE	MO	shade
GLYCER	*	Glyceria sp.	ND	native	Poaceae	OBL	grass	PE	MO	ND
GLYSTR	2	Glyceria striata	(Lam.) Hitchc.	native	Poaceae	OBL	grass	PE	MO	shade
GLYMAX	0	Glycine max	(L.) Merr.	adventive	Fabaceae	[FACU-]	forb	AN	DI	advent
GNAMAC	3	Gnaphalium macounii	Greene	native	Asteraceae	UPL	forb	AN	DI	full
GNAOBT	2	Gnaphalium obtusifolium	L.	native	Asteraceae	UPL	forb	AN	DI	full
GNAPUR	3	Gnaphalium purpureum	L.	native	Asteraceae	FACU	forb	AN	DI	full
GNAULI	0	Gnaphalium uliginosum	L.	adventive	Asteraceae	FAC	forb	AN	DI	advent
GNAPHA	*	Gnaphallium sp.	ND	ND	Asteraceae	ND	forb	AN	DI	ND
GOMGLO	0	Gomphrena globosa	L.	adventive	Amaranthaceae	[FACU]	forb	AN	DI	advent
GOOPUB	6	Goodyera pubescens	(Willd.) R. Br. ex W.T. Aiton	native	Orchidaceae	FACU-	forb	PE	MO	shade
GOODYE	*	Goodyera sp.	ND	native	Orchidaceae	FACU-	forb	PE	MO	shade
GOOTES	10	Goodyera tesselata	Lodd.	native	Orchidaceae	FACU-	forb	PE	MO	shade
GRANEG	3	Gratiola neglecta	Torr.	native	Scrophulariaceae	OBL	forb	AN	DI	full
GRATIO	*	Gratiola sp.	ND	native	Scrophulariaceae	OBL	forb	ND	DI	full
GRAVIR	5	Gratiola virginiana	L.	native	Scrophulariaceae	OBL	forb	AN	DI	full
GRAVIS	6	Gratiola viscidula	Pennell	native	Scrophulariaceae	OBL	forb	PE	DI	full
GRILAN	0	Grindelia lanceolata	Nutt.	adventive	Asteraceae	UPL	forb	PE	DI	advent
GRINDE	0	Grindelia sp.	ND	adventive	Asteraceae	ND	forb	ND	DI	advent
GRISQU	0	Grindelia squarrosa	(Pursh) Dunal	adventive	Asteraceae	FACU	forb	BI	DI	advent
GYMAPP	9	Gymnocarpium appalachianum	Pryer & Haufler	native	Dryopteridaceae	UPL	fern	PE	SVP	shade
GYMDRY	7	Gymnocarpium dryopteris	(L.) Newman	native	Dryopteridaceae	UPL	fern	PE	SVP	shade
GYMNOC	*	Gymnocarpium sp.	ND	native	Dryopteridaceae	UPL	fern	PE	SVP	shade

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ACRONYM	CofC	SCIENTIFIC NAME	AUTHORITY	NATIVITY	FAMILY	IND	FORM	HABIT	GROUP	SHADE
GYMDIO	3	Gymnocladus dioicus	(L.) K. Koch	native	Fabaceae	UPL	tree	W	DI	tree
GYMAMB	8	Gymnopogon ambiguus	(Michx.) B.S.P.	native	Poaceae	UPL	grass	PE	MO	full
GYPMUR	0	Gypsophila muralis	L.	adventive	Caryophyllaceae	[FACU]	forb	AN	DI	advent
GYPPAN	0	Gypsophila paniculata	L.	adventive	Caryophyllaceae	[UPL]	forb	PE	DI	advent
GYPSCO	0	Gypsophila scorzonerifolia	Ser.	adventive	Caryophyllaceae	[UPL]	forb	PE	DI	advent
HACDEF	6	Hackelia deflexa	(Wahlenb.) Opiz.	native	Boraginaceae	UPL	forb	BI	DI	shade
HACKEL	*	Hackelia sp.	ND	native	Boraginaceae	ND	forb	BI	DI	shade
HACVIR	2	Hackelia virginiana	(L.) I. M. Johnst.	native	Boraginaceae	FACU	forb	BI	DI	shade
HALCAR	5	Halesia carolina	L.	native	Styracaceae	FACU	sm tree	W	DI	shade
HAMVIR	5	Hamamelis virginiana	L.	native	Hamamelidaceae	FAC-	sm tree	W	DI	shade
HEDHIS	7	Hedeoma hispida	Pursh	native	Lamiaceae	UPL	forb	AN	DI	full
HEDPUL	2	Hedeoma pulegioides	(L.) Pers.	native	Lamiaceae	UPL	forb	AN	DI	shade
HEDEOM	*	Hedeoma sp.	ND	native	Lamiaceae	UPL	forb	AN	DI	ND
HEDHEL	0	Hedera helix	L.	adventive	Araliaceae	UPL	vine	W	DI	advent
HEDCAE	3	Hedyotis caerulea	(L.) Hook.	native	Rubiaceae	FACU	forb	PE	DI	full
HEDCAN	6	Hedyotis canadensis	(Willd. ex Roem. & Schult.) Fosberg	native	Rubiaceae	UPL	forb	PE	DI	partial
HEDLON	5	Hedyotis longifolia	(Gaertn.) Hook.	native	Rubiaceae	UPL	forb	PE	DI	full
HEDNIG	8	Hedyotis nigricans	(Lam.) Fosb.	native	Rubiaceae	UPL	forb	PE	DI	full
HEDPUR	5	Hedyotis purpurea	(L.) Torr. & A. Gray	native	Rubiaceae	UPL	forb	PE	DI	partial
HEDYOT	*	Hedyotis sp.	ND	native	Rubiaceae	ND	forb	PE	DI	ND
HELAMA	0	Helenium amarum	(Raf.) H. Rock	adventive	Asteraceae	FACU-	forb	PE	DI	advent
HELAUT	4	Helenium autumnale	L.	native	Asteraceae	FACW+	forb	PE	DI	full
HELFLE	0	Helenium flexuosum	Raf.	adventive	Asteraceae	FAC-	forb	PE	DI	advent
HELENI	*	Helenium sp.	ND	ND	Asteraceae	ND	forb	PE	DI	ND
HELBIC	9	Helianthemum bicknellii	Fernald	native	Cistaceae	UPL	forb	PE	DI	full
HELCAN	9	Helianthemum canadense	(L.) Michx.	native	Cistaceae	UPL	forb	PE	DI	full
HELANT	9	Helianthemum sp.	ND	native	Cistaceae	UPL	forb	PE	DI	full
HELANG	0	Helianthus angustifolius	L.	adventive	Asteraceae	FACW	forb	PE	DI	advent
HELANN	0	Helianthus annuus	L.	adventive	Asteraceae	FAC-	forb	AN	DI	advent
HELDEC	4	Helianthus decapetalus	L.	native	Asteraceae	FACU	forb	PE	DI	shade
HELDIV	4	Helianthus divaricatus	L.	native	Asteraceae	UPL	forb	PE	DI	shade
HELGIG	6	Helianthus giganteus	L.	native	Asteraceae	FACW	forb	PE	DI	full
HELGRO	4	Helianthus grosseserratus	M. Martens	native	Asteraceae	FACW	forb	PE	DI	full
HELHIR	4	Helianthus hirsutus	Raf.	native	Asteraceae	UPL	forb	PE	DI	full
HELMAX	0	Helianthus maximiliani	Schrad.	adventive	Asteraceae	UPL	forb	PE	DI	advent
HELMIC	5	Helianthus microcephalus	Torr. & A. Gray	native	Asteraceae	UPL	forb	PE	DI	shade
HELMOL	7	Helianthus mollis	Lam.	native	Asteraceae	UPL	forb	PE	DI	full
HELOCC	7	Helianthus occidentalis	Riddell	native	Asteraceae	UPL	forb	PE	DI	full
HELPET	0	Helianthus petiolaris	Nutt.	adventive	Asteraceae	UPL	forb	AN	DI	advent
HELIAN	*	Helianthus sp.	ND	ND	Asteraceae	ND	forb	AN	DI	ND
HELSTR	4	Helianthus strumosus	L.	native	Asteraceae	UPL	forb	PE	DI	full
HELTUB	3	Helianthus tuberosus	L.	native	Asteraceae	FAC	forb	PE	DI	full
HELHEL	5	Heliopsis helianthoides	(L.) Sweet	native	Asteraceae	UPL	forb	PE	DI	full
HELEUR	0	Heliotropium europaeum	L.	adventive	Boraginaceae	[FACU]	forb	PE	DI	advent
HELIND	0	Heliotropium indicum	L.	adventive	Boraginaceae	[FACW]	forb	AN	DI	advent
HELVIR	0	Helleborus viridis	L.	adventive	Ranunculaceae	[FACU-]	forb	PE	DI	advent
HEMFUL	0	Hemerocallis fulva	(L.) L.	adventive	Liliaceae	UPL	forb	PE	MO	advent
HEMLIL	0	Hemerocallis lilioasphodelus	L.	adventive	Liliaceae	[FAC+]	forb	PE	MONO	advent
HEPACU	5	Hepatica acutiloba	DC.	native	Ranunculacea	UPL	forb	PE	DI	shade

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ACRONYM	CofC	SCIENTIFIC NAME	AUTHORITY	NATIVITY	FAMILY	IND	FORM	HABIT	GROUP	SHADE
HEPAME	5	Hepatica americana	(DC.) Ker Gawl.	native	Ranunculacea	UPL	forb	PE	DI	shade
HEPATI	5	Hepatica sp.	ND	native	Ranunculacea	UPL	forb	PE	DI	shade
HERLAN	4	Heracleum lanatum	Michx.	native	Apiaceae	FACU-	forb	PE	DI	full
HERMAN	0	Heracleum mantegazzianum	Sommier & Levier	adventive	Asteraceae	[FAC+]	forb	PE	DI	advent
HESMAT	0	Hesperis matronlis	L.	adventive	Brassicaceae	FACU-	forb	BI	DI	advent
HETREN	10	Heteranthera reniformis	Ruiz & Pav.	native	Pontederiaceae	OBL	forb	PE	DI	full
HEUAME	4	Heuchera americana	L.	native	Saxifragaceae	FACU-	forb	PE	DI	shade
HEULON	8	Heuchera longiflora	Rydb.	native	Saxifragaceae	UPL	forb	PE	DI	shade
HEUPAR	10	Heuchera parviflora	Bartl.	native	Saxifragaceae	UPL	forb	PE	DI	shade
HEUCHE	*	Heuchera sp.	ND	native	Saxifragaceae	ND	forb	PE	DI	shade
HEUVIL	10	Heuchera villosa	Michx.	native	Saxifragaceae	UPL	forb	PE	DI	shade
HEXSPI	9	Hexalectris spicata	(Walter) Barnhart	native	Orchidaceae	UPL	forb	PE	MO	shade
HIBLAE	7	Hibiscus laevis	All.	native	Malvaceae	OBL	forb	PE	DI	full
HIBMOS	4	Hibiscus moscheutos	L.	native	Malvaceae	OBL	forb	PE	DI	full
HIBISC	*	Hibiscus sp.	ND	native	Malvaceae	OBL	forb	PE	DI	full
HIBSYR	0	Hibiscus syriacus	L.	adventive	Malvaceae	[UPL]	shrub	W	DI	advent
HIBTRI	0	Hibiscus trionum	L.	adventive	Malvaceae	UPL	forb	AN	DI	advent
HIEAUR	0	Hieracium aurianticum	L.	adventive	Asteraceae	UPL	forb	PE	DI	advent
HIECAE	0	Hieracium caespitosum	Dumort	adventive	Asteraceae	UPL	forb	PE	DI	advent
HIEFLO	0	Hieracium floribundum	Wimm. & Grab.	adventive	Asteraceae	UPL	forb	PE	DI	advent
HIEGRO	5	Hieracium gronovii	L.	native	Asteraceae	UPL	forb	PE	DI	partial
HIEKALF	6	Hieracium kalmii L. var. fasciculatum	(Pursh) Lepage	native	Asteraceae	UPL	forb	PE	DI	full
HIELON	9	Hieracium longipilum	Torr.	native	Asteraceae	UPL	forb	PE	DI	full
HIEPAN	6	Hieracium paniculatum	L.	native	Asteraceae	UPL	forb	PE	DI	shade
HIEPLSA	0	Hieracium pilosella	L.	adventive	Asteraceae	UPL	forb	PE	DI	advent
HIEPLOI	0	Hieracium piloselloides	Vill.	adventive	Asteraceae	UPL	forb	PE	DI	advent
HIESCA	5	Hieracium scabrum	Michx.	native	Asteraceae	UPL	forb	PE	DI	full
HIERAC	*	Hieracium sp.	ND	ND	Asteraceae	UPL	forb	PE	DI	ND
HIEVEN	6	Hieracium venosum	L.	native	Asteraceae	UPL	forb	PE	DI	shade
HIEODO	8	Hierochloe odorata	(L.) P. Beauv.	native	Poaceae	FACW	grass	PE	MO	full
HOLLAN	0	Holcos lanatus	L.	adventive	Poaceae	FACU	grass	PE	MO	advent
HOLUMB	0	Holosteum umbellatum	L.	adventive	Caryophyllaceae	UPL	forb	AN	DI	advent
HORPUS	0	Hordeam pusillum	L.	adventive	Poaceae	FAC	grass	AN	MO	advent
HORDEU	0	Hordeam sp.	ND	adventive	Poaceae	FAC	grass	ND	MO	advent
HORVUL	0	Hordeaum vulgare	L.	adventive	Poaceae	[FACU]	grass	AN	MONO	advent
HORJUB	0	Hordeum jubatum	L.	adventive	Poaceae	FAC	grass	PE	MO	advent
HOSLAN	0	Hosta lancifolia	(Thunb.) Engl.	adventive	Liliaceae	[FACU-]	forb	PE	MONO	advent
HOSVEN	0	Hosta ventricosa	(Salisb.) Stearn	adventive	Liliaceae	FAC	forb	PE	MO	advent
HOTINF	8	Hottonia inflata	Elliott	native	Primulaceae	OBL	forb	AN	DI	full
HUDTOM	0	Hudsonia tomentosa	Nutt.	adventive	Cistaceae	UPL	forb	PE	DI	advent
HUMJAP	0	Humulus japonicus	Siebold & Zucc.	adventive	Cannabaceae	FACU	vine	AN	DI	advent
HUMLUP	2	Humulus lupulus	L.	native	Cannabaceae	FACU	vine	PE	DI	shade
HUMULU	*	Humulus sp.	ND	ND	Cannabaceae	FACU	vine	ND	DI	ND
HUPAPP	8	Huperzia appalachiana	Beitel & Mickel	native	Lycopodiaceae	UPL	fern	PE	SVP	shade
HUPLUC	5	Huperzia lucidula	(Michx.) Trevis	native	Lycopodiaceae	FACW-	fern	PE	SVP	shade
HUPPOR	9	Huperzia porophila	(F. E. Lloyd & Underw.) Holub	native	Lycopodiaceae	FACU-	fern	PE	SVP	shade
HUPERZ	*	Huperzia sp.	ND	native	Lycopodiaceae	ND	fern	PE	SVP	shade
HYBCON	7	Hybanthus concolor	(T. Forst.) Spreng.	native	Violaceae	FACU-	forb	PE	DI	shade
HYDARB	7	Hydrangea arborescens	L.	native	Hydrangeaceae	FACU	shrub	W	DI	shade

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ACRONYM	CofC	SCIENTIFIC NAME	AUTHORITY	NATIVITY	FAMILY	IND	FORM	HABIT	GROUP	SHADE
HDRCAN	7	Hydrastis canadensis	L.	native	Ranunculacea	UPL	forb	PE	DI	shade
HYDAME	7	Hydrocotyle americana	L.	native	Apiaceae	OBL	forb	PE	DI	shade
HYDRAN	0	Hydrocotyle ranunculoides	L. f.	adventive	Apiaceae	OBL	forb	PE	DI	advent
HYDSIB	0	Hydrocotyle sibthorpioides	Lam.	adventive	Apiaceae	[FAC]	forb	PE	DI	advent
HYDROC	*	Hydrocotyle sp.	ND	ND	Apiaceae	OBL	forb	PE	DI	ND
HYDUMB	8	Hydrocotyle umbellata	L.	native	Apiaceae	OBL	forb	PE	DI	shade
HYDAPP	5	Hydrophyllum appendiculatum	Michx.	native	Hydrophyllaceae	UPL	forb	BI	DI	shade
HYDCAN	5	Hydrophyllum canadense	L.	native	Hydrophyllaceae	FACU	forb	PE	DI	shade
HYDMAC	6	Hydrophyllum macrophyllum	Nutt.	native	Hydrophyllaceae	FACU	forb	PE	DI	shade
HYDROP	*	Hydrophyllum sp.	ND	native	Hydrophyllaceae	ND	forb	ND	DI	shade
HYDVIR	4	Hydrophyllum virginianum	L.	native	Hydrophyllaceae	FAC	forb	PE	DI	shade
HYMHER	10	Hymenoxys herbacea	(Greene) Cusick	native	Asteraceae	UPL	forb	PE	DI	full
HYPBOR	9	Hypericum boreale	(Britton) E.P. Bicknell	native	Clusiaceae	OBL	forb	PE	DI	full
HYPCAN	7	Hypericum canadense	L.	native	Clusiaceae	FACW	forb	AN	DI	full
HYPDEN	7	Hypericum denticulatum	Walter	native	Clusiaceae	FACW-	forb	PE	DI	partial
HYPDRU	4	Hypericum drummondii	(Grev. & Hook.) Torr. & A. Gray	native	Clusiaceae	UPL	forb	AN	DI	full
HYPELL	8	Hypericum ellipticum	Hook.	native	Clusiaceae	OBL	forb	PE	DI	full
HYPGEN	3	Hypericum gentianoides	(L.) B.S.P.	native	Clusiaceae	UPL	forb	AN	DI	full
HYPGYM	9	Hypericum gymnanthum	Engelm. & A. Gray	native	Clusiaceae	OBL	forb	AN	DI	full
HYPHYP	6	Hypericum hypericoides	(L.) Crantz	native	Clusiaceae	UPL	shrub	W	DI	full
HYPKAL	8	Hypericum kalmianum	L.	native	Clusiaceae	FAC	shrub	W	DI	full
HYPMAJ	6	Hypericum majus	(A. Gray) Britton	native	Clusiaceae	FACW	forb	PE	DI	full
HYPMUT	3	Hypericum mutilum	L.	native	Clusiaceae	FACW	forb	AN	DI	full
HYPPER	0	Hypericum perforatum	L.	adventive	Clusiaceae	UPL	forb	PE	DI	advent
HYPPRO	3	Hypericum prolificum	L.	native	Clusiaceae	FACU	shrub	W	DI	full
HYPPUN	2	Hypericum punctatum	Lam.	native	Clusiaceae	FAC-	forb	PE	DI	full
HYPPYR	7	Hypericum pyramidatum	Aiton	native	Clusiaceae	FAC	forb	BI	DI	full
HYPERI	*	Hypericum sp.	ND	ND	Clusiaceae	ND	ND	ND	DI	ND
HYPSPH	6	Hypericum sphaerocarpum	Michx.	native	Clusiaceae	FACU	forb	PE	DI	partial
HYPRAD	0	Hypochoeris radicata	L.	adventive	Asteraceae	UPL	forb	PE	DI	advent
HYPHIR	6	Hypoxis hirsuta	(L.) Coville	native	Liliaceae	FAC	forb	PE	MO	partial
IBEUMB	0	Iberis umbellata	L.	adventive	Brassicaceae	[UPL]	forb	AN	DI	advent
ILEOPA	0	Ilex opaca	Aiton	adventive	Aquifoliaceae	FACU+	sm tree	W	DI	advent
ILEVER	6	Ilex verticillata	(L.) A. Gray	native	Aquifoliaceae	FACW+	shrub	W	DI	shade
IMPBAL	0	Impatiens balsamina	L.	adventive	Balsaminaceae	[FACU-]	forb	AN	DI	advent
IMPCAP	2	Impatiens capensis	Meerb.	native	Balsaminaceae	FACW	forb	AN	DI	partial
IMPPAL	3	Impatiens pallida	Nutt.	native	Balsaminaceae	FACW	forb	AN	DI	shade
IMPATI	*	Impatiens sp.	ND	native	Balsaminaceae	FACW	forb	AN	DI	partial
INUHEL	0	Inula helenium	L.	adventive	Asteraceae	FACU	forb	AN	DI	advent
IODPIN	7	Iodanthus pinnatifidus	(Michx.) Steud.	native	Brassicaceae	FACW	forb	AN	DI	shade
IPOCOC	0	Ipomoea coccinea	L.	adventive	Convolvulaceae	FACU	forb	AN	DI	advent
IPOHED	0	Ipomoea hederacea	Jacq.	adventive	Convolvulaceae	FACU	forb	AN	DI	advent
IPOLAC	4	Ipomoea lacunosa	L.	native	Convolvulaceae	FACW	forb	AN	DI	full
IPOPAN	2	Ipomoea pandurata	(L.) G. Mey.	native	Convolvulaceae	FACU	forb	AN	DI	full
IPOPUR	0	Ipomoea purpurea	(L.) Roth	adventive	Convolvulaceae	UPL	forb	AN	DI	advent
IPOMOE	*	Ipomoea sp.	ND	ND	Convolvulaceae	ND	forb	AN	DI	ND
IRIBRE	7	Iris brevicaulis	Raf.	native	Iridaceae	OBL	forb	PE	MO	partial
IRICRI	5	Iris cristata	Aiton	native	Iridaceae	UPL	forb	PE	MO	partial

Appendix C
Species Codes for VIBI Metric Calculation

ACRONYM	CofC	SCIENTIFIC NAME	AUTHORITY	NATIVITY	FAMILY	IND	FORM	HABIT	GROUP	SHADE
IRIGER	0	Iris germanica	L.	adventive	Iridaceae	[FACW]	forb	PE	MONO	advent
IRIPSE	0	Iris pseudacorus	L.	adventive	Iridaceae	OBL	forb	PE	MO	advent
IRIS	*	Iris sp.	ND	ND	Iridaceae	ND	forb	PE	MO	ND
IRIVERN	9	Iris verna	L.	native	Iridaceae	UPL	forb	PE	MO	partial
IRIVERS	6	Iris versicolor	L.	native	Iridaceae	OBL	forb	PE	MO	partial
IRIVIR	6	Iris virginica	L.	native	Iridaceae	OBL	forb	PE	MO	partial
ISABRA	3	Isanthus brachiatus	(L.) B.S.P.	native	Lamiaceae	UPL	forb	AN	DI	full
ISOECH	10	Isoetes echinospora	Durieu	native	Isoetaceae	OBL	fern	PE	SVP	full
ISOENG	6	Isoetes engelmannii	A. Braun	native	Isoetaceae	OBL	fern	PE	SVP	full
ISOETE	*	Isoetes sp.	ND	native	Isoetaceae	OBL	fern	PE	SVP	full
ISOBIT	7	Isopyrum biternatum	(Raf.) (Torr. & A. Gray)	native	Ranunculaceae	FAC	forb	PE	DI	shade
ISOMED	7	Isotria medeoloides	(Pursh) Raf.	native	Orchidaceae	FACU	forb	PE	MO	shade
ISOTRI	7	Isotria sp.	ND	native	Orchidaceae	FACU	forb	PE	MO	shade
ISOVER	7	Isotria verticillata	Raf.	native	Orchidaceae	FACU	forb	PE	MO	shade
IVAANN	0	Iva annua	L.	adventive	Asteraceae	FAC	forb	AN	DI	advent
IVAXAN	0	Iva xanthifolia	Nutt.	adventive	Asteraceae	FAC	forb	AN	DI	advent
JACTAM	0	Jacquemontia tamnifolia	(L.) Choisy	adventive	Convolvulaceae	FAC	vine	AN	DI	advent
JEFDIP	6	Jeffersonia diphylla	(L.) Pers.	native	Berberidaceae	UPL	forb	PE	DI	shade
JUGCIN	7	Juglans cinerea	L.	native	Juglandaceae	FACU+	tree	W	DI	tree
JUGNIG	5	Juglans nigra	L.	native	Juglandaceae	FACU	tree	W	DI	tree
JUGLAN	*	Juglans sp.	ND	native	Juglandaceae	ND	tree	W	DI	tree
JUNACU	4	Juncus acuminatus	Michx.	native	Juncaceae	OBL	forb	PE	MO	full
JUNALP	8	Juncus alpinus	Vill.	native	Juncaceae	OBL	forb	PE	MO	full
JUNANT	4	Juncus anthelatus	(Wigand) R.E. Brooks	native	Juncaceae	FAC-	forb	PE	MO	full
JUNART	3	Juncus articulatus	L.	native	Juncaceae	OBL	forb	PE	MO	full
JUNARC	6	Juncus balticus	Willd.	native	Juncaceae	FACW+	forb	PE	MO	full
JUNBRCR	5	Juncus brachycarpus	Englem.	native	Juncaceae	FACW	forb	PE	MO	full
JUNBRCP	8	Juncus brachycephalus	(Engelm.) Buchenau	native	Juncaceae	OBL	forb	PE	MO	full
JUNBUF	2	Juncus bufonius	L.	native	Juncaceae	FACW	forb	AN	MO	full
JUNCAN	4	Juncus canadensis	J. Gay ex Laharpe	native	Juncaceae	OBL	forb	PE	MO	full
JUNDIC	5	Juncus dichotomous	Elliott	native	Juncaceae	FACW-	forb	PE	MO	full
JUNDIF	6	Juncus diffusissimus	Buckley	native	Juncaceae	FACW	forb	PE	MO	full
JUNDUD	3	Juncus dudleyi	Wiegand	native	Juncaceae	FACW-	forb	PE	MO	full
JUNEFF	1	Juncus effusus	L.	native	Juncaceae	FACW+	forb	PE	MO	full
JUNGER	0	Juncus gerardii	Loisel.	adventive	Juncaceae	FACW+	forb	PE	MO	advent
JUNGRE	7	Juncus greenei	Oakes & Tuck.	native	Juncaceae	FAC	forb	PE	MO	full
JUNINT	4	Juncus interior	Wiegand	native	Juncaceae	FACU	forb	PE	MO	full
JUNMAR	4	Juncus marginatus	Rostk.	native	Juncaceae	FACW	forb	PE	MO	full
JUNNOD	5	Juncus nodosus	L.	native	Juncaceae	OBL	forb	PE	MO	full
JUNSEC	5	Juncus secundus	P. Beauv. ex Poir.	native	Juncaceae	FACU	forb	PE	MO	full
JUNCUS	*	Juncus sp.	ND	native	Juncaceae	ND	forb	PE	MO	full
JUNSUB	6	Juncus subcaudatus	(Engelm.) Coville & S.F. Blake	native	Juncaceae	OBL	forb	PE	MO	full
JUNTEN	1	Juncus tenuis	Willd.	native	Juncaceae	FAC-	forb	PE	MO	partial
JUNTOR	3	Juncus torreyi	Coville	native	Juncaceae	FACW	forb	PE	MO	full
JUNCOM	8	Juniperus communis	L.	native	Cupressaceae	FACU-	shrub	W	GYMN	full
JUNIPE	*	Juniperus sp.	ND	native	Cupressaceae	ND	ND	W	GYMN	ND
JUNVIR	3	Juniperus virginiana	L.	native	Cupressaceae	FACU	tree	W	GYMN	tree
JUSAME	9	Justicia americana	(L.) M. Vahl.	native	Acanthaceae	OBL	forb	PE	DI	full
KALLAT	7	Kalmia latifolia	L.	native	Ericaceae	FACU	shrub	W	DI	shade

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ACRONYM	CofC	SCIENTIFIC NAME	AUTHORITY	NATIVITY	FAMILY	IND	FORM	HABIT	GROUP	SHADE
KERJAP	0	Kerria japonica	(L.) DC	adventive	Rosaceae	[FACU]	shrub	W	DI	advent
KICELA	0	Kickxia elatine	(L.) Dumort	adventive	Scrophulariaceae	FAC	forb	AN	DI	advent
KICSPU	0	Kickxia spuria	(L.) Dumort	adventive	Scrophulariaceae	[UPL]	forb	AN	DI	advent
KOCSCO	0	Kochia scoparia	(L.) Roth ex Schrad.	adventive	Chenopodiaceae	UPL	forb	AN	DI	advent
KOEPYR	10	Koeleria pyramidata	(Lam.) P. Beauv.	native	Poaceae	UPL	grass	PE	MO	full
KOEPAN	0	Koelreuteria paniculata	Laxm.	adventive	Sapindaceae	[FACU]	tree	W	DI	advent
KRIBIF	5	Krigia biflora	(Walter) S.F. Blake	native	Asteraceae	FACU	forb	PE	DI	full
KRIDAN	6	Krigia dandelion	(L.) Nutt.	native	Asteraceae	FAC	forb	PE	DI	full
KRIGIA	*	Krigia sp.	ND	native	Asteraceae	ND	forb	PE	DI	full
KRIVIR	8	Krigia virginica	(L.) Willd.	native	Asteraceae	UPL	forb	AN	DI	full
KUHEUP	7	Kuhnia eupatorioides	L.	native	Asteraceae	UPL	forb	PE	DI	full
KYLPUM	4	Kyllinga pumila	Michx.	native	Cyperaceae	FACW	sedge	AN	MO	full
LACBIE	1	Lactuca biennis	(Moench) Fernald	native	Asteraceae	FACU	forb	BI	DI	partial
LACCAN	1	Lactuca canadensis	L.	native	Asteraceae	FACU-	forb	BI	DI	partial
LACFLO	3	Lactuca floridana	(L.) Gaertn.	native	Asteraceae	FACU-	forb	BI	DI	partial
LACHIR	7	Lactuca hirsuta	Muhl. ex Nutt.	native	Asteraceae	UPL	forb	BI	DI	partial
LACPUL	0	Lactuca pulchella	(Pursh) DC.	adventive	Asteraceae	FAC	forb	BI	DI	advent
LACSAL	0	Lactuca saligna	L.	adventive	Asteraceae	FACU	forb	BI	DI	advent
LACSER	0	Lactuca serriola	L.	adventive	Asteraceae	FAC-	forb	BI	DI	advent
LACTUC	*	Lactuca sp.	ND	ND	Asteraceae	ND	forb	ND	DI	ND
LAMAMP	0	Lamium amplexicaule	L.	adventive	Lamiaceae	UPL	forb	AN	DI	advent
LAMMAC	0	Lamium maculatum	L.	adventive	Lamiaceae	UPL	forb	PE	DI	advent
LAMPUR	0	Lamium purpuream	L.	adventive	Lamiaceae	UPL	forb	AN	DI	advent
LAMIUM	0	Lamium sp.	ND	adventive	Lamiaceae	UPL	forb	ND	DI	advent
LAPCAN	5	Laportea canadensis	(L.) Wedd.	native	Urticaceae	FACW	forb	PE	DI	shade
LAPSQU	0	Lappula squarrosa	(Retz.) Dumort.	adventive	Boraginaceae	UPL	forb	AN	DI	advent
LAPCOM	0	Lapsana communis	L.	adventive	Asteraceae	UPL	forb	AN	DI	advent
LARLAR	9	Larix laricina	(Du Roi) K. Koch	native	Pinaceae	FACW	tree	W	GYMN	tree
LATLAT	0	Lathyrus latifolius	L.	adventive	Fabaceae	UPL	forb	PE	DI	advent
LATMAR	10	Lathyrus maritimus	(L.) Bigelow	native	Fabaceae	FACU-	forb	PE	DI	full
LATOCH	9	Lathyrus ochroleucus	Hook.	native	Fabaceae	UPL	forb	PE	DI	full
LATODO	0	Lathyrus odoratus	L.	adventive	Fabaceae	UPL	forb	AN	DI	advent
LATPAL	5	Lathyrus palustris	L.	native	Fabaceae	FACW+	forb	PE	DI	full
LATPRA	0	Lathyrus pratensis	L.	adventive	Fabaceae	FACU	vine	AN	DI	advent
LATHYR	*	Lathyrus sp.	ND	ND	Fabaceae	ND	forb	ND	DI	ND
LATTUB	0	Lathyrus tuberosus	L.	adventive	Fabaceae	UPL	forb	PE	DI	advent
LATVEN	8	Lathyrus venosus	Muhl. ex Willd.	native	Fabaceae	FACW	forb	PE	DI	full
LEAUNI	9	Leavenworthia uniflora	(Michx.) Britton	native	Brassicaceae	FAC	forb	AN	DI	full
LECINT	7	Lechea intermedia	Legg. ex Britton	native	Cistaceae	UPL	forb	PE	DI	full
LECMIN	8	Lechea minor	L.	native	Cistaceae	UPL	forb	PE	DI	full
LECMUC	7	Lechea mucronata	Raf.	native	Cistaceae	UPL	forb	PE	DI	full
LECPUL	7	Lechea pulchella	Raf.	native	Cistaceae	UPL	forb	PE	DI	full
LECRAC	5	Lechea racemulosa	Michx.	native	Cistaceae	UPL	forb	PE	DI	full
LECHEA	*	Lechea sp.	ND	native	Cistaceae	UPL	forb	PE	DI	full
LECTEN	8	Lechea tenuifolia	Michx.	native	Cistaceae	UPL	forb	PE	DI	full
LEDGRO	10	Ledum groenlandicum	Oeder	native	Ericaceae	OBL	shrub	W	DI	full
LEELEN	9	Leersia lenticularis	Michx.	native	Poaceae	OBL	grass	PE	MO	partial
LEEORY	1	Leersia oryzoides	(L.) Sw.	native	Poaceae	OBL	grass	PE	MO	full
LEERSI	*	Leersia sp.	ND	native	Poaceae	ND	grass	PE	MO	ND

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ACRONYM	CofC	SCIENTIFIC NAME	AUTHORITY	NATIVITY	FAMILY	IND	FORM	HABIT	GROUP	SHADE
LEEVIR	4	Leersia virginica	Willd.	native	Poaceae	FACW	grass	PE	MO	shade
LEMMIN	3	Lemna minor	L.	native	Lemnaceae	OBL	forb	AN	MO	full
LEMNA	*	Lemna sp.	ND	native	Lemnaceae	OBL	forb	AN	MO	full
LEMTRI	6	Lemna trisulca	L.	native	Lemnaceae	OBL	forb	AN	MO	full
LEMVAL	8	Lemna valdiviana	Phil.	native	Lemnaceae	OBL	forb	AN	MO	full
LEOAUT	0	Leontodon autumnalis	L.	adventive	Asteraceae	UPL	forb	PE	DI	advent
LEOHIS	0	Leontodon hispidus	L.	adventive	Asteraceae	UPL	forb	PE	DI	advent
LEONTO	0	Leontodon sp.	ND	adventive	Asteraceae	UPL	forb	PE	DI	advent
LEOTAR	0	Leontodon taraxacoides	(Villars) Merat	adventive	Asteraceae	FACU	forb	PE	DI	advent
LEOCAR	0	Leonurus cardiaca	L.	adventive	Lamiaceae	UPL	forb	PE	DI	advent
LEOMAR	0	Leonurus marrubiastrum	L.	adventive	Lamiaceae	UPL	forb	BI	DI	advent
LEONUR	0	Leonurus sp.	ND	adventive	Lamiaceae	UPL	forb	ND	DI	advent
LEPCAM	0	Lepidium campestre	(L.) R. Br.	adventive	Lamiaceae	UPL	forb	AN	DI	advent
LEPDEN	0	Lepidium densiflorum	Schrad.	adventive	Brassicaceae	FAC	forb	AN	DI	advent
LEPPER	0	Lepidium perfoliatum	L.	adventive	Brassicaceae	UPL	forb	AN	DI	advent
LEPRUD	0	Lepidium ruderale	L.	adventive	Brassicaceae	UPL	forb	AN	DI	advent
LEPSAT	0	Lepidium sativum	L.	adventive	Brassicaceae	[FACU]	forb	AN	DI	advent
LEPIDI	*	Lepidium sp.	ND	ND	Lamiaceae	ND	forb	AN	DI	ND
LEPVIR	1	Lepidium virginicum	L.	native	Brassicaceae	FACU-	forb	AN	DI	full
LEPFAS	0	Leptochloa fascicularis	(Lam.) A. Gray	adventive	Poaceae	FACW	grass	AN	MO	advent
LEPFIL	0	Leptochloa filiformis	(Lam.) P. Beauv.	adventive	Poaceae	FACW	grass	AN	MONO	advent
LEPCOG	4	Leptoloma cognatum	(Schultes) Chase	native	Poaceae	UPL	grass	PE	MO	full
LESBIC	0	Lespedeza bicolor	Turcz.	adventive	Fabaceae	[FACU]	shrub	PE	DI	advent
LESCAP	5	Lespedeza capitata	Michx.	native	Fabaceae	FACU-	forb	PE	DI	full
LESCUN	0	Lespedeza cuneata	(Dumont) G. Don	adventive	Fabaceae	FACU-	forb	PE	DI	advent
LESFOR	0	Lespedeza formosa	(Vogel) Koehne	adventive	Fabaceae	[UPL]	forb	PE	DI	advent
LESHIR	5	Lespedeza hirta	(L.) Hornem.	native	Fabaceae	UPL	forb	PE	DI	full
LESINT	3	Lespedeza intermedia	(S. Watson) Britton	native	Fabaceae	UPL	forb	PE	DI	full
LESPRO	5	Lespedeza procumbens	Michx.	native	Fabaceae	UPL	forb	PE	DI	full
LESREP	6	Lespedeza repens	(L.) Barton	native	Fabaceae	UPL	forb	PE	DI	full
LESPED	*	Lespedeza sp.	ND	ND	Fabaceae	ND	forb	PE	DI	ND
LESSTI	0	Lespedeza stipulacea	Maxim.	adventive	Fabaceae	FACU	forb	PE	DI	advent
LESSTR	0	Lespedeza striata	(Thunb.) Hook. & Arn.	adventive	Fabaceae	FACU	forb	PE	DI	advent
LESTHU	0	Lespedeza thunbergii	(DC.) Nakai	adventive	Fabaceae	[FACW]	forb	PE	DI	advent
LESVIO	4	Lespedeza violacea	(L.) Pers.	native	Fabaceae	UPL	forb	PE	DI	full
LESVIR	3	Lespedeza virginica	(L.) Britton	native	Fabaceae	UPL	forb	PE	DI	full
LEUAES	0	Leucojum aestivum	L.	adventive	Liliaceae	[FACW]	forb	PE	MONO	advent
LEUMUL	5	Leucospora multifida	(Michx.) Nutt.	native	Scrophulariaceae	OBL	forb	AN	DI	full
LEVOFF	0	Levisticum officinale	W.D.J. Koch	adventive	Apiaceae	[FAC]	forb	PE	DI	advent
LIAASP	6	Liatris aspera	Michx.	native	Asteraceae	UPL	forb	PE	DI	full
LIACYL	8	Liatris cylindracea	Michx.	native	Asteraceae	UPL	forb	PE	DI	full
LIAPUN	0	Liatris punctata	Hook.	adventive	Asteraceae	[UPL]	forb	PE	DI	advent
LIAPYC	0	Liatris pycnostachya	(L.) Willd.	adventive	Asteraceae	FACU	forb	PE	DI	advent
LIASCA	6	Liatris scariosa	(L.) Willd.	native	Asteraceae	UPL	forb	PE	DI	full
LIATRIS	*	Liatris sp.	ND	ND	Asteraceae	ND	forb	PE	DI	full
LIASPI	7	Liatris spicata	(L.) Willd.	native	Asteraceae	FAC+	forb	PE	DI	full
LIASQU	8	Liatris squarrosa	(L.) MIchx.	native	Asteraceae	UPL	forb	PE	DI	full
LIGCAN	6	Ligusticum canadense	(L.) Britton	native	Apiaceae	FAC	forb	PE	DI	shade

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LIGOBT	0	Ligustrum obtusifolium	Sieb. & Zucc.	adventive	Oleaceae	UPL	shrub	W	DI	advent
LIGOVA	0	Ligustrum ovalifolium	Hassk.	adventive	Oleaceae	[UPL]	shrub	W	DI	advent
LIGUST	0	Ligustrum sp.	ND	adventive	Oleaceae	ND	shrub	W	DI	advent
LIGVUL	0	Ligustrum vulgare	L.	adventive	Oleaceae	FACU	shrub	W	DI	advent
LILCAN	5	Lilium canadense	L.	native	Liliaceae	FAC+	forb	PE	MO	partial
LILMIC	6	Lilium michiganense	Farw.	native	Liliaceae	FAC+	forb	PE	MO	shade
LILPHI	7	Lilium philadelphicum	L.	native	Liliaceae	FACU+	forb	PE	MO	shade
LILIUM	*	Lilium sp.	ND	native	Liliaceae	ND	forb	PE	MO	partial
LILSUP	8	Lilium superbum	L.	native	Liliaceae	FACW+	forb	PE	MO	partial
LINCAN	4	Linaria canadensis	(L.) Chaz.	native	Scrophulariaceae	UPL	forb	AN	DI	full
LINDAL	0	Linaria dalmatica	(L.) Mill.	adventive	Scrophulariaceae	[UPL]	forb	PE	DI	advent
LINGEN	0	Linaria genistifolia	(L.) Mill.	adventive	Scrophulariaceae	[UPL]	forb	PE	DI	advent
LINARI	*	Linaria sp.	ND	ND	Scrophulariaceae	UPL	forb	ND	DI	ND
LINVUL	0	Linaria vulgaris	Mill.	adventive	Scrophulariaceae	UPL	forb	PE	DI	advent
LINBEN	5	Lindera benzoin	(L.) Blume	native	Lauraceae	FACW-	shrub	W	DI	shade
LINDUB	2	Lindernia dubia	(L.) Pennell	native	Scrophulariaceae	OBL	forb	AN	DI	full
LINBOR	10	Linnaea borealis	L.	native	Caprifoliaceae	FAC	forb	PE	DI	full
LINGRA	0	Linum grandiflorum	Desf.	adventive	Linaceae	[FACU]	forb	AN	DI	advent
LINMED	5	Linum medium	(Planch.) Britton	native	Linaceae	FACU	forb	PE	DI	full
LINPER	0	Linum perenne	L.	adventive	Linaceae	UPL	forb	PE	DI	advent
LINUM	*	Linum sp.	ND	ND	Linaceae	ND	forb	ND	DI	ND
LINSTR	5	Linum striatum	Walter	native	Linaceae	FACW	forb	PE	DI	full
LINSUL	7	Linum sulcatum	Riddell	native	Linaceae	UPL	forb	AN	DI	full
LINUSI	0	Linum usitatissimum	L.	adventive	Linaceae	UPL	forb	AN	DI	advent
LINVIR	4	Linum virginianum	L.	native	Linaceae	FACU	forb	PE	DI	full
LIPLIL	5	Liparis lilifolia	(L.) Rich.	native	Orchidaceae	FACU-	forb	PE	MO	full
LIPLOE	7	Liparis loeselii	(L.) Rich.	native	Orchidaceae	FACW	forb	PE	MO	full
LIPARI	*	Liparis sp.	ND	native	Orchidaceae	ND	forb	PE	MO	full
LIPDRU	10	Lipocarpha drummondii	(Nees) G.C. Tucker	native	Cyperaceae	OBL	sedge	AN	MO	full
LIPMIC	8	Lipocarpha micrantha	(Vahl) G.C. Tucker	native	Cyperaceae	FACW+	sedge	AN	MO	full
LIPOCA	*	Lipocarpha sp.	ND	native	Cyperaceae	ND	sedge	AN	MO	full
LIQSTY	6	Liquidambar styraciflua	L.	native	Hamamelidaceae	FAC	tree	W	DI	tree
LIRTUL	6	Liriodendron tulipifera	L.	native	Magnoliaceae	FACU	tree	W	DI	tree
LISCOR	10	Listera cordata	(L.) R. Br.	native	Orchidaceae	FACW+	forb	PE	MO	full
LITARV	0	Lithospermum arvense	L.	adventive	Boraginaceae	UPL	forb	AN	DI	advent
LITCAN	6	Lithospermum canescens	(Michx.) Lehm.	native	Boraginaceae	UPL	forb	PE	DI	full
LITCAR	9	Lithospermum caroliniense	(Walter ex J.F. Gmel.) MacMill.	native	Boraginaceae	UPL	forb	PE	DI	full
LITLAT	7	Lithospermum latifolium	Michx.	native	Boraginaceae	UPL	forb	PE	DI	full
LITOFF	0	Lithospermum officinale	L.	adventive	Boraginaceae	[FACU]	forb	PE	DI	advent
LITHOS	*	Lithospermum sp.	ND	ND	Boraginaceae	UPL	forb	ND	DI	ND
LOBCAR	5	Lobelia cardinalis	L.	native	Campanulaceae	FACW+	forb	PE	DI	partial
LOBINF	1	Lobelia inflata	L.	native	Campanulaceae	FACU	forb	AN	DI	full
LOBKAL	9	Lobelia kalmii	L.	native	Campanulaceae	OBL	forb	PE	DI	full
LOBPUB	5	Lobelia puberula	Michx.	native	Campanulaceae	FACW-	forb	PE	DI	shade
LOBSIP	3	Lobelia siphilitica	L.	native	Campanulaceae	FACW+	forb	PE	DI	shade
LOBELI	*	Lobelia sp.	ND	native	Campanulaceae	ND	forb	ND	DI	ND
LOBSPI	5	Lobelia spicata	Lam.	native	Campanulaceae	FAC-	forb	PE	DI	full
LOBMAR	0	Lobularia maritima	(L.) Desv.	adventive	Brassicaceae	UPL	forb	AN	DI	advent
LOLMUL	0	Lolium multiflorum	Lam.	adventive	Poaceae	FACU-	grass	PE	MONO	advent

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ACRONYM	CofC	SCIENTIFIC NAME	AUTHORITY	NATIVITY	FAMILY	IND	FORM	HABIT	GROUP	SHADE
LOLPER	0	Lolium perenne	L.	adventive	Poaceae	FACU-	grass	PE	MO	advent
LOLTEM	0	Lolium temulentum	(L.) Darnel	adventive	Poaceae	[UPL]	grass	AN	MONO	advent
LONCAN	8	Lonicera canadensis	Barton ex Marshall	native	Caprifoliaceae	FACU	shrub	W	DI	shade
LONDIO	5	Lonicera dioica	L.	native	Caprifoliaceae	FACU	vine	W	DI	shade
LONFLA	8	Lonicera flava	Sims	native	Caprifoliaceae	UPL	vine	W	DI	shade
LONFRA	0	Lonicera fragrantissima	Lindl. & Paxt.	adventive	Caprifoliaceae	UPL	shrub	W	DI	advent
LONJAP	0	Lonicera japonica	Thunb.	adventive	Caprifoliaceae	FAC-	vine	W	DI	advent
LONMOR	0	Lonicera morrowii	A. Gray	adventive	Caprifoliaceae	FACU	shrub	W	DI	advent
LONOBL	9	Lonicera oblongifolia	(Goldie) Hook.	native	Caprifoliaceae	OBL	shrub	W	DI	partial
LONRET	7	Lonicera reticulata	Raf.	native	Caprifoliaceae	UPL	vine	W	DI	shade
LONSEM	8	Lonicera sempervirens	L.	native	Caprifoliaceae	FACU	vine	W	DI	partial
LONICE	*	Lonicera sp.	ND	ND	Caprifoliaceae	ND	ND	W	DI	ND
LONTAT	0	Lonicera tatarica	L.	adventive	Caprifoliaceae	FACU	shrub	W	DI	advent
LONVIL	9	Lonicera villosa	(Michx.) Schult.	native	Caprifoliaceae	FACW+	shrub	W	DI	shade
LONXYL	0	Lonicera xylosteum	L.	adventive	Caprifoliaceae	UPL	shrub	W	DI	advent
LONMAA	0	Loniciera maackii	(Rupr.) Maxim.	adventive	Caprifoliaceae	UPL	shrub	W	DI	advent
LOTCOR	0	Lotus corniculatus	L.	adventive	Fabaceae	FACU-	forb	PE	DI	advent
LUDALT	3	Ludwigia alternifolia	L.	native	Onagraceae	FACW+	forb	PE	DI	full
LUDDEC	0	Ludwigia decurrens	Walter	adventive	Onagraceae	OBL	forb	AN	DI	advent
LUDLEP	0	Ludwigia leptocarpa	(Nutt.) Hara	adventive	Onagraceae	OBL	forb	AN	DI	advent
LUDPAL	3	Ludwigia palustris	(L.) Elliott	native	Onagraceae	OBL	forb	AN	DI	full
LUDPEP	0	Ludwigia peploides	(Kunth) P.H. Raven	adventive	Onagraceae	OBL	forb	PE	DI	advent
LUDPOL	5	Ludwigia polycarpa	Short & R. Peter	native	Onagraceae	OBL	forb	PE	DI	full
LUDWIG	*	Ludwigia sp.	ND	ND	Onagraceae	ND	forb	ND	DI	ND
LUNANN	0	Lunaria annual	L.	adventive	Brassicaceae	UPL	forb	AN	DI	advent
LUNRED	0	Lunaria rediviva	L.	adventive	Brassicaceae	[UPL]	forb	PE	DI	advent
LUPPER	7	Lupinus perennis	L.	native	Fabaceae	UPL	forb	PE	DI	full
LUZACU	6	Luzula acuminata	Raf.	native	Juncaceae	FAC	forb	PE	MO	shade
LUZBUL	5	Luzula bulbosa	(A.W. Wood) Rydb.	native	Juncaceae	FACU	forb	PE	MO	shade
LUZECH	4	Luzula echinata	(Small) F.J. Herm.	native	Juncaceae	FACU	forb	PE	MO	shade
LUZMUL	3	Luzula multiflora	(Retz.) Lej.	native	Juncaceae	FACU	forb	PE	MO	shade
LUZULA	*	Luzula sp.	ND	native	Juncaceae	ND	forb	PE	MO	shade
LYCCOR	0	Lychnis coronaria	(L.) Desr.	adventive	Caryophyllaceae	UPL	forb	PE	DI	advent
LYCFLO	0	Lychnis flos-cuculi	L.	adventive	Caryophyllaceae	FACU	forb	PE	DI	advent
LYCVIS	0	Lychnis viscaria	L.	adventive	Caryophyllaceae	[UPL]	forb	PE	DI	advent
LYCBAR	0	Lycium barbarum	L.	adventive	Solanaceae	UPL	shrub	W	DI	advent
LYCESC	0	Lycopersicon esculentum	Mill.	adventive	Solanaceae	UPL	forb	AN	DI	advent
LYCINU	7	Lycopodiella inundata	(L.) Holub	native	Lycopodiaceae	OBL	fern	PE	SVP	shade
LYCMAR	7	Lycopodiella margueritae	J.G. Bruce, W.H. Wagner & Beitel	native	Lycopodiaceae	FACW	fern	PE	SVP	shade
LYCOPD	*	Lycopodiella sp.	ND	native	Lycopodiaceae	ND	fern	PE	SVP	shade
LYCSUB	9	Lycopodiella subapressa	J.G. Bruce, W.H. Wagner & Beitel	native	Lycopodiaceae	FACW	fern	PE	SVP	shade
LYCCLA	3	Lycopodium clavatum	L.	native	Lycopodiaceae	FAC	fern	PE	SVP	shade
LYCDEN	5	Lycopodium dendroideum	Michx.	native	Lycopodiaceae	FACU	fern	PE	SVP	shade
LYCHIC	5	Lycopodium hickeyi	W.H. Wagner, Beitel & DC. Moran	native	Lycopodiaceae	FACU	fern	PE	SVP	shade
LYCLAG	3	Lycopodium lagopus	(Laest. ex Hartm.) G. Zinserl. ex Kuz	native	Lycopodiaceae	UPL	fern	PE	SVP	shade
LYCOBS	5	Lycopodium obscurum	L.	native	Lycopodiaceae	FACU	fern	PE	SVP	shade
LYCOPO	*	Lycopodium sp.	ND	native	Lycopodiaceae	ND	fern	PE	SVP	shade
LYCAME	3	Lycopus americanus	Muhl. ex W.P.C. Barton	native	Lamiaceae	OBL	forb	PE	DI	full
LYCASP	0	Lycopus asper	Greene	adventive	Lamiaceae	OBL	forb	PE	DI	advent

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ACRONYM	CofC	SCIENTIFIC NAME	AUTHORITY	NATIVITY	FAMILY	IND	FORM	HABIT	GROUP	SHADE
LYCEUR	0	Lycopus europaeus	L.	adventive	Lamiaceae	OBL	forb	PE	DI	advent
LYCRUB	4	Lycopus rubellus	Moench	native	Lamiaceae	OBL	forb	PE	DI	partial
LYCOPU	*	Lycopus sp.	ND	ND	Lamiaceae	OBL	forb	PE	DI	ND
LYCUNI	3	Lycopus uniflorus	Michx.	native	Lamiaceae	OBL	forb	PE	DI	full
LYCVIR	3	Lycopus virginicus	L.	native	Lamiaceae	OBL	forb	PE	DI	full
LICSQU	0	Lycoris squamigera	Maxim	adventive	Liliaceae	[FACU]	forb	PE	MONO	advent
LYGPAL	5	Lygodium palmatum	(Bernh.) Sw.	native	Schizaeaceae	FACW	fern	PE	DI	full
LYOLIG	8	Lyonia ligustrina	(L.) DC.	native	Ericaceae	FACW	shrub	W	DI	partial
LYSCIL	4	Lysimachia ciliata	L.	native	Primulaceae	FACW	forb	PE	DI	shade
LYSLAN	6	Lysimachia lanceolata	Walter	native	Primulaceae	FAC	forb	PE	DI	full
LYSNUM	0	Lysimachia nummularia	L.	adventive	Primulaceae	OBL	forb	PE	DI	advent
LYSPUN	0	Lysimachia punctata	L.	adventive	Primulaceae	OBL	forb	PE	DI	advent
LYSQFL	7	Lysimachia quadriflora	Sims	native	Primulaceae	FACW+	forb	PE	DI	partial
LYSQFO	5	Lysimachia quadrifolia	L.	native	Primulaceae	FACU-	forb	PE	DI	partial
LYSIMA	*	Lysimachia sp.	ND	native	Primulaceae	ND	forb	PE	DI	ND
LYSTER	6	Lysimachia terrestris	(L.) B.S.P.	native	Primulaceae	OBL	forb	PE	DI	full
LYSTHY	6	Lysimachia thyrsiflora	L.	native	Primulaceae	OBL	forb	PE	DI	full
LYSVUL	0	Lysimachia vulgaris	L.	adventive	Primulaceae	FAC+	forb	PE	DI	advent
LYTALA	6	Lythrum alatum	Pursh	native	Lythraceae	FACW+	forb	PE	DI	full
LYTHYS	0	Lythrum hyssopifolium	L.	adventive	Lythraceae	OBL	forb	BI	DI	advent
LYTSAL	0	Lythrum salicaria	L.	adventive	Lythraceae	FACW+	forb	PE	DI	advent
MACCOR	0	Macleaya cordata	(Willd.) R. Br.	adventive	Papaveraceae	[FACU]	forb	PE	DI	advent
MACPOM	0	Maclura pomifera	(Raf.) C.K. Schneid.	adventive	Moraceae	UPL	tree	W	DI	advent
MAGACU	7	Magnolia acuminata	(L.) L.	native	Magnoliaceae	UPL	tree	W	DI	tree
MAGMAC	8	Magnolia macrophylla	Michx.	native	Magnoliaceae	UPL	tree	W	DI	tree
MAGNOL	*	Magnolia sp.	ND	native	Magnoliaceae	ND	tree	W	DI	tree
MAGTRI	8	Magnolia tripetala	(L.) L.	native	Magnoliaceae	FACU	tree	W	DI	tree
MAICAN	6	Maianthemum canadense	Desf.	native	Liliaceae	FAC-	forb	PE	MO	shade
MAIRAC	4	Maianthemum racemosum	(L.) Link	native	Liliaceae	FACU-	forb	PE	MO	shade
MAIANT	*	Maianthemum sp.	ND	native	Liliaceae	ND	forb	PE	MO	shade
MAISTE	7	Maianthemum stellatum	(L.) Link	native	Liliaceae	FACW	forb	PE	MO	shade
MAITRI	10	Maianthemum trifolium	(L.) Sloboda	native	Liliaceae	OBL	forb	PE	MO	shade
MALBAY	6	Malaxis bayardii	Fern.	native	Orchidaceae	UPL	forb	PE	MO	shade
MALAXI	6	Malaxis sp.	ND	native	Orchidaceae	ND	forb	PE	MO	shade
MALUNI	6	Malaxis unifolia	Michx.	native	Orchidaceae	FAC	forb	PE	MO	shade
MALALC	0	Malva alcea	L.	adventive	Malvaceae	[UPL]	forb	PE	DI	advent
MALMOS	0	Malva moschata	L.	adventive	Malvaceae	UPL	forb	PE	DI	advent
MALNEG	0	Malva neglecta	Wallr.	adventive	Malvaceae	UPL	forb	AN	DI	advent
MALROT	0	Malva rotundifolia	L.	adventive	Malvaceae	UPL	forb	AN	DI	advent
MALVA	0	Malva sp.	ND	adventive	Malvaceae	UPL	forb	ND	DI	advent
MALSYL	0	Malva sylvestris	L.	adventive	Malvaceae	UPL	forb	BI	DI	advent
MALVER	0	Malva verticillata	L.	adventive	Malvaceae	[UPL]	forb	AN	DI	advent
MANVIR	9	Manfreda virginica	(L.) Salisb. ex Rose	native	Agavaceae	UPL	forb	PE	MO	full
MARVUL	0	Marrubium vulgare	L.	adventive	Lamiaceae	UPL	forb	PE	DI	advent
MARQUA	0	Marsilea quadrifolia	L.	adventive	Marsiliaceae	OBL	fern	PE	SVP	advent
MATOBL	4	Matelea obliqua	(Jacq.) Woodson	native	Asclepiadaceae	UPL	vine	PE	DI	partial
MATMAR	0	Matricaria maritima	L.	adventive	Asteraceae	UPL	forb	AN	DI	advent
MATMAT	0	Matricaria matricarioides	(Less.) Porter	adventive	Asteraceae	FACU	forb	AN	DI	advent
MATREC	0	Matricaria recutita	L.	adventive	Asteraceae	UPL	forb	AN	DI	advent
MATRIC	0	Matricaria sp.	ND	adventive	Asteraceae	ND	forb	AN	DI	advent

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ACRONYM	CofC	SCIENTIFIC NAME	AUTHORITY	NATIVITY	FAMILY	IND	FORM	HABIT	GROUP	SHADE
MATSTR	6	Matteuccia struthiopteris	(L.) Tod.	native	Dryopteridaceae	FACW	fern	PE	DI	shade
MAZPUM	0	Mazus pumilus	(Burm. f.) Steenis	adventive	Scrophulariaceae	FACU-	forb	PE	DI	advent
MEDVIR	6	Medeola virginiana	L.	native	Liliaceae	UPL	forb	PE	MO	shade
MEDLUP	0	Medicago lupulina	L.	adventive	Fabaceae	UPL	forb	AN	DI	advent
MEDSAT	0	Medicago sativa	L.	adventive	Fabaceae	UPL	forb	PE	DI	advent
MEDICA	0	Medicago sp.	ND	adventive	Fabaceae	UPL	forb	ND	DI	advent
MEECOR	7	Meehania cordata	(Nutt.) Britton	native	Lamiaceae	FACU+	forb	PE	DI	shade
MELLIN	8	Melampyrum lineare	Desr.	native	Scrophulariaceae	FACU	forb	AN	DI	shade
MELVIR	9	Melanthium virginicum	L.	native	Liliaceae	FACW+	forb	PE	MO	full
MELWOO	10	Melanthium woodii	(J.W. Robbins ex A.W. Wood) Baker	native	Liliaceae	UPL	forb	PE	MO	shade
MELNIT	8	Melica nitens	(Scribn.) Nutt. ex Piper	native	Poaceae	UPL	grass	PE	MO	shade
MELALB	0	Melilotus alba	Medik.	adventive	Fabaceae	FACU-	forb	BI	DI	advent
MELALT	0	Melilotus altissima	Thuill.	adventive	Fabaceae	[UPL]	forb	PE	DI	advent
MELOFF	0	Melilotus officinalis	(L.) Pall.	adventive	Fabaceae	FACU-	forb	BI	DI	advent
MELILO	0	Melilotus sp.	ND	adventive	Fabaceae	FACU-	forb	BI	DI	advent
MLIOFF	0	Melissa officinalis	L.	adventive	Lamiaceae	UPL	forb	PE	DI	advent
MENCAN	5	Menispermum canadense	L.	native	Menispermaceae	FACU	vine	PE	DI	shade
MENARV	2	Mentha arvensis	L.	native	Lamiaceae	FACW	forb	PE	DI	full
MENLON	0	Mentha longifolia	(L.) L.	adventive	Lamiaceae	FACU	forb	PE	DI	advent
MENTHA	*	Mentha sp.	ND	ND	Lamiaceae	ND	forb	PE	DI	ND
MENSPI	0	Mentha spicata	L.	adventive	Lamiaceae	FACW+	forb	PE	DI	advent
MENPIP	0	Mentha x piperata	L.	adventive	Lamiaceae	FACW+	forb	PE	DI	advent
MENTRI	9	Menyanthes trifoliata	L.	native	Menyanthaceae	OBL	forb	PE	DI	full
MERANN	0	Mercurialis annua	L.	adventive	Euphorbiaceae	UPL	forb	AN	DI	advent
MERVIR	6	Mertensia virginica	(L.) Pers. ex Link	native	Boraginaceae	FACW	forb	PE	DI	shade
MICVIM	0	Microstegium vimineum	(Trin.) A. Camus	adventive	Poaceae	FAC	grass	AN	MO	advent
MIKSCA	6	Mikania scandens	(L.) Willd.	native	Asteraceae	FACW+	shrub	W	DI	shade
MILEFF	7	Milium effusum	L.	native	Poaceae	UPL	grass	PE	MO	shade
MIMALA	6	Mimulus alatus	Aiton	native	Scrophulariaceae	OBL	forb	PE	DI	full
MIMRIN	4	Mimulus ringens	L.	native	Scrophulariaceae	OBL	forb	PE	DI	full
MIMULU	*	Mimulus sp.	ND	native	Scrophulariaceae	OBL	forb	PE	DI	full
MIRALB	0	Mirabilis albida	(Walter) Heimerl	adventive	Nyctaginaceae	[UPL]	forb	PE	DI	advent
MIRHIR	0	Mirabilis hirsuta	(Pursh) MacMill.	adventive	Nyctaginaceae	[UPL]	forb	PE	DI	advent
MIRJAL	0	Mirabilis jalapa	L.	adventive	Nyctaginaceae	UPL	forb	PE	DI	advent
MIRNYC	0	Mirabilis nyctaginea	(Michx.) MacMill.	adventive	Nyctaginaceae	FACU-	forb	PE	DI	advent
MIRABI	0	Mirabilis sp.	ND	adventive	Nyctaginaceae	ND	forb	PE	DI	advent
MISSIN	0	Miscanthus sinensis	Andersson	adventive	Poaceae	FACU	grass	PE	MO	advent
MITREP	5	Mitchella repens	L.	native	Rubiaceae	FACU	forb	PE	DI	shade
MITDIP	6	Mitella diphylla	L.	native	Saxifragaceae	FACU	forb	PE	DI	shade
MOETRI	0	Moehringia trinervia	(L.) Clairv.	adventive	Caryophyllaceae	[FACU-]	forb	PE	DI	advent
MOLVER	0	Mollugo verticillata	L.	adventive	Molluginaceae	FAC	forb	AN	DI	advent
MONCLI	4	Monarda clinopodia	L.	native	Lamiaceae	FAC+	forb	PE	DI	partial
MONDID	6	Monarda didyma	L.	native	Lamiaceae	FAC+	forb	PE	DI	partial
MONFIS	3	Monarda fistulosa	L.	native	Lamiaceae	UPL	forb	PE	DI	full
MONPUN	7	Monarda punctata	L.	native	Lamiaceae	UPL	forb	PE	DI	full
MONARD	*	Monarda sp.	ND	native	Lamiaceae	ND	forb	PE	DI	ND
MONUNI	8	Moneses uniflora	(L.) A. Gray	native	Pyrolaceae	FACU	forb	PE	DI	shade
MONNUT	0	Monolepis nuttalliana	(Schult.) Greene	adventive	Chenopodiaceae	[UPL]	forb	AN	DI	advent
MONHYP	6	Monotropa hypopithys	L.	native	Monotropaceae	UPL	forb	PE	DI	shade

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MONOTR	*	Monotropa sp.	ND	native	Monotropaceae	ND	forb	PE	DI	shade
MNTUNI	5	Monotropa uniflora	L.	native	Monotropaceae	FACU-	forb	PE	DI	shade
MORALB	0	Morus alba	L.	adventive	Moraceae	UPL	tree	W	DI	advent
MORRUB	7	Morus rubra	L.	native	Moraceae	FACU	tree	W	DI	tree
MOSS	*	Moss sp.	ND	ND	Musci	ND	bryo	bryo	bryo	bryo
MUHASP	0	Muhlenbergia asperifolia	(Nees & Meyen ex Trin.) Parodi	adventive	Poaceae	FACW	grass	PE	MO	advent
MUHCAP	8	Muhlenbergia capillaris	(Lam.) Trin.	native	Poaceae	FACU-	grass	PE	MO	full
MUHCUS	9	Muhlenbergia cuspidata	(Torr. ex Hook.) Rydb.	native	Poaceae	UPL	grass	PE	MO	full
MUHFRO	3	Muhlenbergia frondosa	(Poir.) Fernald	native	Poaceae	FAC	grass	PE	MO	full
MUHGLA	5	Muhlenbergia glabrifloris	Scribn.	native	Poaceae	FACW	grass	PE	MO	shade
MUHGLO	9	Muhlenbergia glomerata	(Willd.) Trin.	native	Poaceae	FACW	grass	PE	MO	full
MUHMEX	4	Muhlenbergia mexicana	(L.) Trin.	native	Poaceae	FACW	grass	PE	MO	full
MUHSCH	0	Muhlenbergia schreberi	J.F. Gmel.	native	Poaceae	FAC	grass	PE	MO	full
MUHSOB	8	Muhlenbergia sobolifera	(Muhl. ex Willd.) Trin.	native	Poaceae	UPL	grass	PE	MO	shade
MUHLEN	*	Muhlenbergia sp.	ND	ND	Poaceae	ND	grass	PE	MO	ND
MUHSYL	6	Muhlenbergia sylvatica	(Torr.) Torr. ex A. Gray	native	Poaceae	FAC+	grass	PE	MO	shade
MUHTEN	6	Muhlenbergia tenuiflora	(Willd.) B.S.P.	native	Poaceae	UPL	grass	PE	MO	shade
MUSBOT	0	Muscari botryoides	(L.) Mill.	adventive	Liliaceae	UPL	forb	PE	MO	advent
MYOARV	0	Myosotis arvensis	(L.) Hill	adventive	Boraginaceae	UPL	forb	AN	DI	advent
MYODIS	0	Myosotis discolor	Pers.	adventive	Boraginaceae	UPL	forb	AN	DI	advent
MYOLAX	7	Myosotis laxa	Lehm.	native	Boraginaceae	OBL	forb	PE	DI	partial
MYOMAC	4	Myosotis macrosperma	Engelm.	native	Boraginaceae	FAC	forb	AN	DI	shade
MYOSOT	*	Myosotis sp.	ND	ND	Boraginaceae	ND	forb	ND	DI	ND
MYOSYL	0	Myosotis sylvatica	Ehrh. ex Hoffm.	adventive	Boraginaceae	UPL	forb	PE	DI	advent
MYOVER	4	Myosotis verna	Nutt.	native	Boraginaceae	FAC-	forb	AN	DI	partial
MYOMIN	0	Myosurus minimus	L.	adventive	Ranunculaceae	FACW+	forb	AN	DI	advent
MYRPEN	10	Myrica pensylvanica	Loesel	native	Myricaceae	FAC	shrub	W	DI	full
MYRAQU	0	Myriophyllum aquaticum	(Vell.) Verdc.	adventive	Haloragaceae	OBL	forb	PE	DI	advent
MYRHET	10	Myriophyllum heterophyllum	Michx.	native	Haloragaceae	OBL	forb	PE	DI	full
MYRHUM	0	Myriophyllum humile	(Raf.) Morong	adventive	Haloragaceae	OBL	forb	PE	DI	advent
MYRPIN	0	Myriophyllum pinnatum	(Walter) Britton	adventive	Haloragaceae	OBL	forb	PE	DI	advent
MYRSIB	9	Myriophyllum sibiricum	Kom.	native	Haloragaceae	OBL	forb	PE	DI	full
MYRIOP	*	Myriophyllum sp.	ND	ND	Haloragaceae	OBL	forb	PE	DI	ND
MYRSPI	0	Myriophyllum spicatum	L.	adventive	Haloragaceae	OBL	forb	PE	DI	advent
MYRVER	10	Myriophyllum verticillatum	L.	native	Haloragaceae	OBL	forb	PE	DI	full
MYOMIC	0	Mysotis micrantha	Pall. ex Lehm.	adventive	Boraginaceae	UPL	forb	AN	DI	advent
MYOSCO	0	Mysotis scorpioides	L.	adventive	Boraginaceae	OBL	forb	PE	DI	advent
NAJFLE	5	Najas flexilis	(Willd.) Rostk. & W.L.E Schmidt	native	Najadaceae	OBL	forb	AN	MO	full
NAJGRA	10	Najas gracillima	(A. Braun ex Engelm.) Magnus	native	Najadaceae	OBL	forb	AN	MO	full
NAJGUA	6	Najas guadalupensis	(Spreng.) Magnus	native	Najadaceae	OBL	forb	AN	MO	full
NAJMARA	0	Najas marina	L.	adventive	Najadaceae	OBL	forb	AN	MO	advent
NAJMARN	8	Najas marina	L.	native	Najadaceae	OBL	forb	AN	MO	full
NAJMIN	0	Najas minor	All.	adventive	Najadaceae	OBL	forb	AN	MO	advent
NAJAS	*	Najas sp.	ND	ND	Najadaceae	OBL	forb	AN	MO	full
NAPDIO	4	Napaea dioica	L.	native	Malvaceae	FACW	forb	PE	DI	shade
NARPOE	0	Narcissus poeticus	L.	adventive	Liliaceae	[UPL]	forb	PE	MONO	advent
NARPSE	0	Narcissus pseudonarcissus	L.	adventive	Liliaceae	[UPL]	forb	PE	MONO	advent
NAVINT	0	Navarretia intertexta	(Benth.) Hook.	adventive	Polemoniaceae	[FACW]	forb	AN	DI	advent
NELLUT	7	Nelumbo lutea	Willd.	native	Nelumbonaceae	OBL	forb	PE	DI	full

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NELNUC	0	Nelumbo nucifera	Gaertn.	adventive	Nelumbonaceae	OBL	forb	PE	DI	advent
NEMMUC	10	Nemopanthus mucronatus	(L.) Loes.	native	Aquifoliaceae	OBL	shrub	W	DI	partial
NEPCAT	0	Nepeta cataria	L.	adventive	Lamiaceae	FACU	forb	PE	DI	advent
NESPAN	0	Neslia paniculata	(L.) Desv.	adventive	Brassicaceae	UPL	forb	AN	DI	advent
NICPHY	0	Nicandra physalodes	(L.) Gaertn.	adventive	Solanaceae	UPL	forb	AN	DI	advent
NICALA	0	Nicotiana alata	Link & Otto	adventive	Solanaceae	[FACU]	forb	PE	DI	advent
NICTAB	0	Nicotiana tabacum	L.	adventive	Solanaceae	UPL	forb	PE	DI	advent
NIGDAM	0	Nigella damascena	L.	adventive	Ranunculaceae	[UPL]	forb	AN	DI	advent
NOTBIV	7	Nothoscordum bivalve	(L.) Britton	native	Liliaceae	FACU	forb	PE	MO	partial
NUPADV	4	Nuphar advena	(Aiton) W.T. Aiton	native	Nymphaceae	OBL	forb	PE	DI	full
NUPHAR	*	Nuphar sp.	ND	native	Nymphaceae	OBL	forb	PE	DI	full
NUPVAR	10	Nuphar variegata	Durand	native	Nymphaceae	OBL	forb	PE	DI	full
NYMODO	6	Nymphaea odorata	Aiton	native	Nymphaceae	OBL	forb	PE	DI	full
NYMPEL	0	Nympoides peltata	(S.G. Gmel.) Kuntze	adventive	Menyanthaceae	OBL	forb	PE	DI	advent
NYSSYL	7	Nyssa sylvatica	Marshall	native	Cornaceae	FAC	tree	W	DI	tree
OBOVIR	7	Obolaria virginica	L.	native	Gentianaceae	UPL	forb	PE	DI	shade
OENAQU	0	Oenanthe aquatica	(L.) Poir.	adventive	Apiaceae	OBL	forb	PE	DI	advent
OENBIE	1	Oenothera biennis	L.	native	Onagraceae	FACU-	forb	BI	DI	full
OENCLE	8	Oenothera clelandii	W. Dietr. P.H. Raven, & W.L. Wagner	native	Onagraceae	UPL	forb	BI	DI	full
OENFRU	4	Oenothera fruticosa	L.	native	Onagraceae	FAC	forb	BI	DI	full
OENLAC	4	Oenothera laciniata	Hill	native	Onagraceae	FACU-	forb	AN	DI	full
OENOAK	10	Oenothera oakesiana	(A. Gray) J. W. Robbins	native	Onagraceae	FACU-	forb	AN	DI	full
OENPAR	7	Oenothera parviflora	L.	native	Onagraceae	FACU-	forb	BI	DI	full
OENPER	3	Oenothera perennis	L.	native	Onagraceae	FAC-	forb	PE	DI	partial
OENPIL	3	Oenothera pilosella	Raf.	native	Onagraceae	FAC	forb	PE	DI	partial
OENOTH	*	Oenothera sp.	ND	ND	Onagraceae	ND	forb	ND	DI	ND
OENSPE	0	Oenothera speciosa	Nutt.	adventive	Onagraceae	UPL	forb	PE	DI	advent
OENTET	4	Oenothera tetragona	Roth	native	Onagraceae	FAC	forb	PE	DI	partial
OENTRI	9	Oenothera triloba	Nutt.	native	Onagraceae	[UPL]	forb	PE	DI	partial
ONOSEN	2	Onoclea sensibilis	L.	native	Dryopteridaceae	FACW	fern	PE	SVP	full
ONOACA	0	Onopordium acanthium	L.	adventive	Asteraceae	UPL	forb	BI	DI	advent
ONOMOL	7	Onosmodium molle	Michx.	native	Boraginaceae	FACU	forb	PE	DI	full
OPHENG	9	Ophioglossum engelmannii	Prantl.	native	Ophioglossaceae	FACU	fern	PE	SVP	shade
OPHPUS	6	Ophioglossum pusillum	Raf.	native	Ophioglossaceae	FACW	fern	PE	SVP	shade
OPHIOG	*	Ophioglossum sp.	ND	native	Ophioglossaceae	ND	fern	PE	SVP	shade
OPHVUL	6	Ophioglossum vulgatum	L.	native	Ophioglossaceae	FACW	fern	PE	SVP	shade
OPUHUM	8	Opuntia humifusa	(Raf.) Raf.	native	Cactaceae	UPL	shrub	W	DI	full
OPUMAC	0	Opuntia macrorhiza	Engelm.	adventive	Cactaceae	[UPL]	forb	PE	DI	advent
ORBONO	5	Orbexilum onobrychis	(Nutt.) Rydb.	native	Fabaceae	UPL	forb	PE	DI	full
ORBPED	7	Orbexilum pedunculatum	(Miller) Rydb.	native	Fabaceae	UPL	forb	PE	DI	full
ORBEXI	*	Orbexilum sp.	ND	native	Fabaceae	UPL	forb	PE	DI	full
ORCSPE	7	Orchis spectabilis	L.	native	Orchidaceae	UPL	forb	PE	MO	shade
ORIVUL	0	Origanum vulgare	L.	adventive	Lamiaceae	[UPL]	forb	PE	DI	advent
ORNUMB	0	Ornithogalum umbellatum	L.	adventive	Liliaceae	FACU	forb	PE	MO	advent
OROLUD	2	Orobanche ludoviciana	Nutt.	native	Orobanchaceae	UPL	forb	PE	DI	full
OROBAN	*	Orobanche sp.	ND	native	Orobanchaceae	ND	forb	PE	DI	full
OROUNI	6	Orobanche uniflora	L.	native	Orobanchaceae	FACU	forb	PE	DI	full
ORYASP	10	Oryzopsis asperifolia	Michx.	native	Poaceae	UPL	grass	PE	MO	shade
ORYRAC	10	Oryzopsis racemosa	(Sm.) Ricker ex Hitchc.	native	Poaceae	UPL	grass	PE	MO	shade
OSMOCL	4	Osmorhiza claytonii	(Michx.) C.B. Clarke	native	Apiaceae	FACU-	forb	PE	DI	shade

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ACRONYM	CofC	SCIENTIFIC NAME	AUTHORITY	NATIVITY	FAMILY	IND	FORM	HABIT	GROUP	SHADE
OSMOLO	4	Osmorhiza longistylis	(Torr.) DC.	native	Apiaceae	FACU	forb	PE	DI	shade
OSMORH	4	Osmorhiza sp.	ND	native	Apiaceae	ND	forb	PE	DI	shade
OSMCIN	6	Osmunda cinnamomea	L.	native	Osmundaceae	FACW	fern	PE	SVP	partial
OSMCLA	6	Osmunda claytoniana	L.	native	Osmundaceae	FAC	fern	PE	SVP	shade
OSMREG	7	Osmunda regalis	L.	native	Osmundaceae	OBL	fern	PE	SVP	shade
OSTVIR	5	Ostrya virginiana	(Miller) K. Koch	native	Betulaceae	FACU-	tree	W	DI	shade
OXAACE	9	Oxalis acetosella	L.	native	Oxalidaceae	FAC-	forb	PE	DI	shade
OXACOR	0	Oxalis corniculata	L.	adventive	Oxalidaceae	FACU	forb	PE	DI	advent
OXADIL	0	Oxalis dillenii	Jacq.	native	Oxalidaceae	FACU	forb	PE	DI	full
OXAGRA	7	Oxalis grandis	Small	native	Oxalidaceae	UPL	forb	PE	DI	shade
OXALIS	*	Oxalis sp.	ND	ND	Oxalidaceae	ND	forb	PE	DI	ND
OXASTR	0	Oxalis stricta	L.	native	Oxalidaceae	UPL	forb	PE	DI	full
OXAVIO	6	Oxalis violacea	L.	native	Oxalidaceae	UPL	forb	PE	DI	shade
OXYARB	7	Oxydendron arboreum	(L.) DC.	native	Ericaceae	UPL	tree	W	DI	tree
OXYRIG	7	Oxypolis rigidior	(L.) Raf.	native	Apiaceae	OBL	forb	PE	DI	full
ORYZOP	10	Oyrzopsis sp.	ND	native	Poaceae	UPL	grass	PE	MO	shade
PACTER	0	Pachysandra terminalis	Siebold & Zucc.	adventive	Buxaceae	[FACU]	vine	PE	DI	advent
PANQUI	6	Panax quinquefolius	L.	native	Araliaceae	UPL	forb	PE	DI	shade
PANAX	6	Panax sp.	ND	native	Araliaceae	ND	forb	PE	DI	shade
PANTRI	6	Panax trifolius	L.	native	Araliaceae	FACU	forb	PE	DI	shade
PANACU	2	Panicum acuminatum	Sw.	native	Poaceae	FAC	grass	PE	MO	full
PANANC	3	Panicum anceps	Michx.	native	Poaceae	FAC	grass	PE	MO	full
PANBOR	6	Panicum boreale	Nash	native	Poaceae	FACU	grass	PE	MO	full
PANBOS	6	Panicum boscii	Poir.	native	Poaceae	UPL	grass	PE	MO	shade
PANCAP	1	Panicum capillare	L.	native	Poaceae	FAC-	grass	AN	MO	full
PANCLA	2	Panicum clandestinum	L.	native	Poaceae	FAC+	grass	PE	MO	shade
PANCOL	6	Panicum columbianum	Scribn.	native	Poaceae	FACU	grass	PE	MO	full
PANCOM	9	Panicum commonsianum	Ashe	native	Poaceae	FACU	grass	PE	MO	full
PANCOM	5	Panicum commutatum	Schult.	native	Poaceae	FACU+	grass	PE	MO	shade
PANDEP	8	Panicum depauperatum	Muhl.	native	Poaceae	UPL	grass	PE	MO	shade
PANDIC	0	Panicum dichotomiflorum	Michx.	native	Poaceae	FACW-	grass	AN	MO	full
PANDIC	4	Panicum dichotomum	L.	native	Poaceae	FAC	grass	PE	MO	partial
PANFLE	5	Panicum flexile	(Gatt.) Scribn.	native	Poaceae	FACU	grass	AN	MO	partial
PANIMP	9	Panicum implicatum	Scribn.	native	Poaceae	FACW	grass	PE	MO	full
PANLAN	3	Panicum lanuginosum	Elliott	native	Poaceae	FAC	grass	PE	MO	full
PANLAT	4	Panicum latifolium	L.	native	Poaceae	FACU-	grass	PE	MO	shade
PANLAX	7	Panicum laxiflorum	Lam.	native	Poaceae	FACU	grass	PE	MO	shade
PANLEI	8	Panicum leibergii	(Vasey) Scribn.	native	Poaceae	FACU	grass	PE	MO	full
PANLIN	9	Panicum lindheimeri	Nash	native	Poaceae	OBL	grass	PE	MO	full
PANLIN	4	Panicum linearifolium	Scribn.	native	Poaceae	UPL	grass	PE	MO	full
PANRIGP	9	Panicum longifolium	Torr.	native	Poaceae	OBL	grass	PE	MO	full
PANMER	9	Panicum meridionale	Ashe	native	Poaceae	UPL	grass	PE	MO	full
PANMIC	5	Panicum microcarpon	Muhl. ex Elliott	native	Poaceae	FACU	grass	PE	MO	full
PANMIL	0	Panicum miliaceum	L.	adventive	Poaceae	[UPL]	grass	AN	MONO	advent
PANOLI	6	Panicum oligosanthes	Schult.	native	Poaceae	FACU	grass	PE	MO	partial
PANPER	9	Panicum perlongum	Nash	native	Poaceae	UPL	grass	PE	MO	full
PANPHI	4	Panicum philadelphicum	Bernh. ex Trin.	native	Poaceae	FAC-	grass	AN	MO	full
PANPOL	3	Panicum polyanthes	Schult.	native	Poaceae	FACU	grass	PE	MO	shade
PANPRA	9	Panicum praecocius	Hitchc. & Chase	native	Poaceae	UPL	grass	PE	MO	full
PANRIGR	5	Panicum rigidulum	Bosc ex Nees	native	Poaceae	FACW+	grass	PE	MO	full

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ACRONYM	CofC	SCIENTIFIC NAME	AUTHORITY	NATIVITY	FAMILY	IND	FORM	HABIT	GROUP	SHADE
PANSCO	6	Panicum scoparium	Lam.	native	Poaceae	FACW	grass	PE	MO	full
PANICU	*	Panicum sp.	ND	native	Poaceae	ND	grass	ND	MO	ND
PANSPH	4	Panicum sphaerocarpon	Muhl. ex Elliott	native	Poaceae	FACU	grass	PE	MO	shade
PANSPR	9	Panicum spretum	Schult.	native	Poaceae	FAC	grass	PE	MO	full
PANVER	7	Panicum verrucosum	Muhl.	native	Poaceae	FACW	grass	AN	MO	shade
PANVIR	4	Panicum virgatum	L.	native	Poaceae	FAC	grass	PE	MO	full
PANYAD	7	Panicum yadkinense	Ashe	native	Poaceae	FAC	grass	PE	MO	shade
PAPARG	0	Papaver argemone	L.	adventive	Papaveraceae	[UPL]	forb	AN	DI	advent
PAPDUB	0	Papaver dubium	L.	adventive	Papaveraceae	UPL	forb	AN	DI	advent
PAPRHO	0	Papaver rhoeas	L.	adventive	Papaveraceae	UPL	forb	AN	DI	advent
PAPSOM	0	Papaver somniferum	L.	adventive	Papaveraceae	UPL	forb	AN	DI	advent
PAPAVE	0	Papaver sp.	ND	adventive	Papaveraceae	UPL	forb	AN	DI	advent
PARPEN	4	Parietaria pensylvanica	Muhl. ex Willd.	native	Urticaceae	FACU-	forb	AN	DI	shade
PARGLA	10	Parnassia glauca	Raf.	native	Saxifragaceae	OBL	forb	PE	DI	full
PARCAN	5	Paronychia canadensis	(L.) A.W. Wood	native	Caryophyllaceae	UPL	forb	AN	DI	full
PARFAS	5	Paronychia fastigiata	(Raf.) Fernald	native	Caryophyllaceae	UPL	forb	AN	DI	partial
PARONY	5	Paronychia sp.	ND	native	Caryophyllaceae	UPL	forb	AN	DI	ND
PARHYS	0	Parthenium hysterophorus	L.	adventive	Asteraceae	[UPL]	forb	AN	DI	advent
PARINT	0	Parthenium integrifolium	L.	adventive	Asteraceae	[UPL]	forb	PE	DI	advent
PARQUI	2	Parthenocissus quinquefolia	(L.) Planch.	native	Vitaceae	FACU	vine	W	DI	shade
PARTHE	*	Parthenocissus sp.	ND	native	Vitaceae	FACU	vine	W	DI	shade
PARVIT	1	Parthenocissus vitacea	(Knerr) Hitchc.	native	Vitaceae	FACU	vine	W	DI	shade
PASFLO	0	Paspalum floridanum	Michx.	adventive	Poaceae	FACW	grass	PE	MONO	advent
PASLAE	2	Paspalum laeve	Michx.	native	Poaceae	FAC+	grass	PE	MO	full
PASPUB	3	Paspalum pubiflorum	Rupr. ex Fourn.	native	Poaceae	FAC	grass	PE	MO	full
PASFLU	9	Paspalum repens	Berg.	native	Poaceae	OBL	grass	PE	MO	full
PASSET	2	Paspalum setaceum	Michx.	native	Poaceae	FACU+	grass	PE	MO	partial
PASPAL	*	Paspalum sp.	ND	native	Poaceae	ND	grass	PE	MO	ND
PASINC	6	Passiflora incarnata	L.	native	Passifloraceae	UPL	vine	PE	DI	full
PASLUT	4	Passiflora lutea	L.	native	Passifloraceae	UPL	vine	PE	DI	partial
PASSIF	*	Passiflora sp.	ND	native	Passifloraceae	UPL	vine	PE	DI	ND
PASSAT	0	Pastinaca sativa	L.	adventive	Apiaceae	UPL	forb	BI	DI	advent
PAUTOM	0	Paulownia tomentosa	(Thunb.) Siebold & Zucc. ex Steud.	adventive	Bignoniaceae	UPL	tree	W	DI	advent
PAXCAN	10	Paxistima canbyi	A. Gray	native	Celastraceae	UPL	shrub	W	DI	shade
PEDCAN	6	Pedicularis canadensis	L.	native	Scrophulariaceae	FACU	forb	PE	DI	full
PEDLAN	8	Pedicularis lanceolata	Michx.	native	Scrophulariaceae	FACW	forb	PE	DI	full
PEDICU	*	Pedicularis sp.	ND	native	Scrophulariaceae	ND	forb	PE	DI	full
PELATR	10	Pellaea atropurpurea	(L.) Link	native	Pteridaceae	UPL	fern	PE	SVP	shade
PELGLA	10	Pellaea glabella	Mett. ex Kuhn	native	Pteridaceae	UPL	fern	PE	SVP	shade
PELLAE	*	Pellaea sp.	ND	native	Pteridaceae	UPL	fern	PE	SVP	shade
PELVIR	5	Peltandra virginica	(L.) Schott	native	Araceae	OBL	forb	PE	MO	full
PENCOB	0	Penstemon cabaea	Nutt.	adventive	Scrophulariaceae	[UPL]	forb	PE	DI	advent
PENCAL	2	Penstemon calycosus	Small	native	Scrophulariaceae	UPL	forb	PE	DI	full
PENCAN	6	Penstemon canescens	(Britton) Britton	native	Scrophulariaceae	UPL	forb	PE	DI	full
PENDIG	2	Penstemon digitalis	Nutt. ex Sims	native	Scrophulariaceae	FAC	forb	PE	DI	full
PENGRA	0	Penstemon grandiflorus	Nutt.	adventive	Scrophulariaceae	[UPL]	forb	PE	DI	advent
PENHIR	3	Penstemon hirsutus	(L.) Willd.	native	Scrophulariaceae	UPL	forb	PE	DI	full
PENLAE	5	Penstemon laevigatus	Aiton	native	Scrophulariaceae	FACU	forb	PE	DI	full
PENPAL	5	Penstemon pallidus	Small	native	Scrophulariaceae	FACU	forb	PE	DI	full
PENSTE	*	Penstemon sp.	ND	native	Scrophulariaceae	ND	forb	PE	DI	full

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PENTUB	5	Penstemon tubaeflorus	Nutt.	native	Scrophulariaceae	UPL	forb	PE	DI	full
PENSED	2	Penthorum sedoides	L.	native	Saxifragaceae	OBL	forb	PE	DI	full
PERAME	8	Perideridia americana	(Nutt.ex DC.) Rchb.	native	Apiaceae	UPL	forb	PE	DI	full
PERFRU	0	Perilla frutescens	(L.) Britton	adventive	Lamiaceae	FACU+	forb	AN	DI	advent
PETHYB	0	Petasites hybridus	(L.) P. Gaertn., B. Mey. & Scherb.	adventive	Asteraceae	{FACW+}	forb	PE	DI	advent
PETPRO	0	Petrorhagia prolifera	(L.) Link	adventive	Caryophyllaceae	[UPL]	forb	AN	DI	advent
PETSAX	0	Petrorhagia saxifraga	(L.) Link	adventive	Caryophyllaceae	[UPL]	forb	PE	DI	advent
PETCRI	0	Petroselinum crispum	(Mill.) Nyman ex A.W. Hill	adventive	Apiaceae	[UPL]	forb	BI	DI	advent
PTNHYB	0	Petunia x hybrida	Vilm.	adventive	Solanaceae	[UPL]	forb	AN	DI	advent
PHABIP	4	Phacelia bipinnatifida	Michx.	native	Hydrophyllaceae	FACW-	forb	BI	DI	shade
PHADUB	10	Phacelia dubia	(L.) Trel.	native	Hydrophyllaceae	UPL	forb	AN	DI	shade
PHAPUR	4	Phacelia purshii	Buckley	native	Hydrophyllaceae	UPL	forb	AN	DI	shade
PHARAN	8	Phacelia ranunculacea	(Nutt.) Constance	native	Hydrophyllaceae	FACW	forb	AN	DI	shade
PHACEL	*	Phacelia sp.	ND	native	Hydrophyllaceae	ND	forb	ND	DI	shade
PHAARU	0	Phalaris arundinacea	L.	adventive	Poaceae	FACW+	grass	PE	MO	full
PHACAN	0	Phalaris canariensis	L.	adventive	Poaceae	FACU	grass	AN	MONO	advent
PHACOC	0	Phaseolus coccineus	L.	adventive	Fabaceae	[FACU]	vine	AN	DI	advent
PHAPOL	3	Phaseolus polystachios	(L.) B.S.P.	native	Fabaceae	UPL	forb	PE	DI	shade
PHAVUL	0	Phaseolus vulgaris	L.	adventive	Fabaceae	[FACU]	forb	AN	DI	advent
PHICOR	0	Philadelphus coronarius	L.	adventive	Hydrangeaceae	UPL	shrub	W	DI	advent
PHIINO	0	Philadelphus inodorus	L.	adventive	Hydrangeaceae	[FACU]	shrub	W	DI	advent
PHIPUB	0	Philadelphus pubescens	Loisel	adventive	Hydrangeaceae	[FACU]	shrub	W	DI	advent
PHLPRA	0	Phleum pratense	L.	adventive	Poaceae	FACU	grass	PE	MO	advent
PHLDIV	4	Phlox divaricata	L.	native	Polemoniaceae	FACU	forb	PE	DI	shade
PHLGLA	5	Phlox glaberrima	L.	native	Polemoniaceae	FAC	forb	PE	DI	partial
PHLMAC	7	Phlox maculata	L.	native	Polemoniaceae	FACW	forb	PE	DI	partial
PHLOVA	9	Phlox ovata	L.	native	Polemoniaceae	UPL	forb	PE	DI	shade
PHLPAN	2	Phlox paniculata	L.	native	Polemoniaceae	FACU	forb	PE	DI	shade
PHLPIL	6	Phlox pilosa	L.	native	Polemoniaceae	FACU	forb	PE	DI	partial
PHLOX	*	Phlox sp.	ND	native	Polemoniaceae	ND	forb	PE	DI	partial
PHLSTO	9	Phlox stolonifera	Sims	native	Polemoniaceae	UPL	forb	PE	DI	shade
PHLSUBA	0	Phlox subulata	L.	adventive	Polemoniaceae	UPL	forb	PE	DI	advent
PHLSUBN	7	Phlox subulata	L.	native	Polemoniaceae	UPL	forb	PE	DI	full
PHOSER	9	Phoradendron serotinum	(Raf.) M.C. Johnst.	native	Viscaceae	UPL	shrub	W	DI	full
PHRAUSAM	7	Phragmites australis subsp. americanus	Saltonstall, P.M. Peterson & Soreng	native	Poaceae	[OBL]	grass	PE	MONO	full
PHRAUSAU	0	Phragmites australis subsp. australis	(Cav.) Trin.	adventive	Poaceae	FACW	grass	PE	MONO	full
PHRLEP	5	Phryma leptostachya	L.	native	Verbenaceae	FACU-	forb	PE	DI	shade
PHYLAN	3	Phyla lanceolata	(Michx.) Greene	native	Verbenaceae	OBL	forb	PE	DI	full
PHYCAR	6	Phyllanthus caroliniensis	Walter	native	Euphorbiaceae	FAC+	forb	AN	DI	full
PHYALK	0	Physalis alkekengi	L.	adventive	Solanaceae	UPL	forb	PE	DI	advent
PHYHET	1	Physalis heterophylla	Nees	native	Solanaceae	UPL	forb	PE	DI	partial
PHYHIS	0	Physalis hispida	(Waterfall) Cronq.	adventive	Solanaceae	[UPL]	forb	PE	DI	advent
PHYLON	1	Physalis longifolia	Nutt.	native	Solanaceae	UPL	forb	PE	DI	partial
PHYPHI	0	Physalis philadelphica	Lam.	adventive	Solanaceae	UPL	forb	AN	DI	advent
PHYPUB	1	Physalis pubescens	L.	native	Solanaceae	FACU-	forb	AN	DI	full
PHYSAL	*	Physalis sp.	ND	ND	Solanaceae	ND	forb	ND	DI	ND
PHYVIR	7	Physalis virginiana	Mill.	native	Solanaceae	UPL	forb	PE	DI	partial
PHYOPU	4	Physocarpus opulifolius	(L.) Maxim.	native	Rosaceae	FACW-	shrub	W	DI	full
PHSVIR	5	Physostegia virginiana	(L.) Benth.	native	Lamiaceae	FAC+	forb	PE	DI	full

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PHYAME	1	Phytolacca americana	L.	native	Phytolaccaceae	FACU+	forb	PE	DI	full
PICECH	0	Picris echioides	L.	adventive	Asteraceae	UPL	forb	AN	DI	advent
PICHIE	0	Picris heiracioides	L.	adventive	Asteraceae	[UPL]	forb	AN	DI	advent
PILFON	4	Pilea fontana	(Lunnell) Rydb.	native	Urticaceae	FACW+	forb	AN	DI	partial
PILPUM	2	Pilea pumila	(L.) A. Gray	native	Urticaceae	FACW	forb	AN	DI	partial
PILEA	*	Pilea sp.	ND	native	Urticaceae	ND	forb	AN	DI	partial
PINBAN	0	Pinus banksiana	Lambert	adventive	Pinaceae	FACU	tree	W	GYMN	advent
PINECH	8	Pinus echinata	Mill.	native	Pinaceae	UPL	tree	W	GYMN	tree
PINNIG	0	Pinus nigra	Arn.	adventive	Pinaceae	UPL	tree	W	GYMN	advent
PINPUN	0	Pinus pungens	Lambert	adventive	Pinaceae	[UPL]	tree	W	GYMN	advent
PINRES	0	Pinus resinosa	Aiton	adventive	Pinaceae	FACU	tree	W	GYMN	advent
PINRIG	7	Pinus rigida	Mill.	native	Pinaceae	FACU	tree	W	GYMN	tree
PINSTRN	6	Pinus strobus	L.	native	Pinaceae	FACU	tree	W	GYMN	tree
PINSYL	0	Pinus sylvestris	L.	adventive	Pinaceae	UPL	tree	W	GYMN	advent
PINVIR	3	Pinus virginiana	Mill.	native	Pinaceae	UPL	tree	W	GYMN	tree
PIPAVE	8	Piptochaetium avenaceum	(L.) Parodi	native	Poaceae	UPL	grass	PE	MO	shade
PLANAR	0	Plantago aristata	Michx.	adventive	Plantaginaceae	UPL	forb	AN	DI	advent
PLANCO	9	Plantago cordata	Lam.	native	Plantaginaceae	OBL	forb	PE	DI	full
PLANLA	0	Plantago lanceolata	L.	adventive	Plantaginaceae	UPL	forb	PE	DI	advent
PLANMA	0	Plantago major	L.	adventive	Plantaginaceae	FACU	forb	PE	DI	advent
PLANPA	7	Plantago patagonica	Jacq.	native	Plantaginaceae	UPL	forb	AN	DI	full
PLANPS	0	Plantago psyllium	L.	adventive	Plantaginaceae	UPL	forb	AN	DI	advent
PLANRU	0	Plantago rugelii	Decne.	native	Plantaginaceae	FACU	forb	PE	DI	full
PLANTA	*	Plantago sp.	ND	ND	Plantaginaceae	ND	forb	ND	DI	ND
PLANVI	1	Plantago virginica	L.	native	Plantaginaceae	UPL	forb	AN	DI	full
PLAAQU	8	Platanthera aquilonis	Sheviak	native	Orchidaceae	FACW	forb	PE	MO	partial
PLABLE	10	Platanthera blephariglottis	(Willd.) Lindl.	native	Orchidaceae	OBL	forb	PE	MO	partial
PLACIL	8	Platanthera ciliaris	(L.) Lindl.	native	Orchidaceae	FACW	forb	PE	MO	partial
PLACLA	6	Platanthera clavellata	(Michx.) Luer	native	Orchidaceae	FACW+	forb	PE	MO	shade
PLAFLA	6	Platanthera flava	(L.) Lindl.	native	Orchidaceae	FACW	forb	PE	MO	partial
PLAGRA	10	Platanthera grandiflora	(Bigelow) Lindl.	native	Orchidaceae	FACW	forb	PE	MO	partial
PLAHOO	8	Platanthera hookeri	(Torr. ex A. Gray) Lindl.	native	Orchidaceae	FAC	forb	PE	MO	shade
PLALAC	3	Platanthera lacera	(Michx.) G. Don	native	Orchidaceae	FACW	forb	PE	MO	full
PLALEU	8	Platanthera leucophaea	(Nutt.) Lindl.	native	Orchidaceae	FACW+	forb	PE	MO	full
PLAORB	7	Platanthera orbiculata	(Pursh) Lindl.	native	Orchidaceae	FAC	forb	PE	MO	shade
PLAPER	6	Platanthera peramoena	(A. Gray) A. Gray	native	Orchidaceae	FACW	forb	PE	MO	partial
PLAPSY	8	Platanthera psycodes	(L.) Lindl.	native	Orchidaceae	FACW	forb	PE	MO	partial
PLATAN	*	Platanthera sp.	ND	native	Orchidaceae	ND	forb	PE	MO	ND
PLAOCC	7	Platanus occidentalis	L.	native	Platanaceae	FACW-	tree	W	DI	tree
POLPOL	8	Pleopeltis polypodioides	(L.) E.G. Andrews & Windham	native	Polypodiaceae	UPL	fern	PE	SVP	shade
PLUCAM	6	Pluchea camphorata	(L.) DC.	native	Asteraceae	FACW	forb	AN	DI	partial
POAALS	5	Poa alsodes	A. Gray	native	Poaceae	FACW-	grass	PE	MO	shade
POAANN	0	Poa annual	L.	adventive	Poaceae	FACU	grass	AN	MO	advent
POABUL	0	Poa bulbosa	L.	adventive	Poaceae	FAC	grass	PE	MO	advent
POACHA	0	Poa chapmaniana	Scribn.	adventive	Poaceae	UPL	grass	AN	MO	advent
POACOM	0	Poa compressa	L.	adventive	Poaceae	FACU	grass	PE	MO	advent
POACUS	7	Poa cuspidata	Nutt.	native	Poaceae	UPL	grass	PE	MO	shade
POALAN	6	Poa languida	Hitchc.	native	Poaceae	UPL	grass	PE	MO	shade
POANEM	0	Poa nemoralis	L.	adventive	Poaceae	FAC	grass	PE	MO	advent
POAPLU	9	Poa paludigena	Fernald & Wiegand	native	Poaceae	FACW+	grass	PE	MO	partial

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ACRONYM	CofC	SCIENTIFIC NAME	AUTHORITY	NATIVITY	FAMILY	IND	FORM	HABIT	GROUP	SHADE
POAPAL	5	Poa palustris	L.	native	Poaceae	FACW	grass	PE	MO	full
POAPRA	0	Poa pratensis	L.	adventive	Poaceae	FACU	grass	PE	MO	advent
POASAL	8	Poa saltuensis	Fernald & Wiegand	native	Poaceae	UPL	grass	PE	MO	partial
POA	*	Poa sp.	ND	ND	Poaceae	ND	grass	ND	MO	ND
POASYL	5	Poa sylvestris	A. Gray	native	Poaceae	FACW	grass	PE	MO	shade
POATRI	0	Poa trivialis	L.	adventive	Poaceae	FACW	grass	PE	MO	advent
POAWOL	7	Poa wolfii	Scribn.	native	Poaceae	UPL	grass	PE	MO	shade
PODPEL	4	Podophyllum peltatum	L.	native	Berberidaceae	FACU	forb	PE	MO	shade
PODCER	10	Podostemum ceratophyllum	Michx.	native	Podostemaceae	OBL	forb	PE	DI	full
POGOPH	9	Pogonia ophioglossoides	(L.) Ker Gawl.	native	Orchidaceae	OBL	forb	PE	MO	full
POLDOD	3	Polanisia dodecandra	(L.) DC.	native	Capparaceae	FACU	forb	AN	DI	full
POLJAM	0	Polansia jamesii	(T. & G.) Iltis	adventive	Capparaceae	[UPL]	forb	AN	DI	advent
POLCAE	0	Polemonium caeruleum	L.	adventive	Polemoniaceae	[FAC]	forb	PE	DI	advent
POLREP	5	Polemonium reptans	L.	native	Polemoniaceae	FACU	forb	PE	DI	shade
PLYCRU	10	Polygala cruciata	L.	native	Polygalaceae	FACW+	forb	AN	DI	full
PLYCUR	8	Polygala curtissii	A. Gray	native	Polygalaceae	UPL	forb	AN	DI	full
PLYINC	6	Polygala incarnata	L.	native	Polygalaceae	UPL	forb	AN	DI	full
PLYPAU	8	Polygala paucifolia	Willd.	native	Polygalaceae	FACU	forb	PE	DI	full
PLYPOL	10	Polygala polygama	Walter	native	Polygalaceae	UPL	forb	PE	DI	full
PLYSAN	2	Polygala sanguinea	L.	native	Polygalaceae	FACU	forb	AN	DI	full
PLYSEN	7	Polygala senega	L.	native	Polygalaceae	FACU	forb	PE	DI	full
POLYGA	*	Polygala sp.	ND	native	Polygalaceae	ND	forb	ND	DI	full
PLYVER	2	Polygala verticillata	L.	native	Polygalaceae	UPL	forb	AN	DI	full
POLBIF	4	Polygonatum biflorum	(Walter) Elliott	native	Liliaceae	FACU	forb	PE	MO	shade
POLPUB	5	Polygonatum pubescens	(Willd.) Pursh	native	Liliaceae	UPL	forb	PE	MO	shade
POLYGO	*	Polygonatum sp.	ND	native	Liliaceae	ND	forb	PE	MO	shade
PLGACH	0	Polygonum achoreum	S.F. Blake	adventive	Polygonaceae	FACU	forb	AN	DI	advent
PLGAMP	4	Polygonum amphibium	L.	native	Polygonaceae	OBL	forb	PE	DI	full
POLARE	0	Polygonum arenastrum	Jord. Ex Boreau	adventive	Polygonaceae	[UPL]	forb	PE	DI	advent
PLGARI	4	Polygonum arifolium	L.	native	Polygonaceae	OBL	forb	AN	DI	full
PLGAVI	0	Polygonum aviculare	L.	adventive	Polygonaceae	FACU	forb	AN	DI	advent
PLGCAR	9	Polygonum careyi	Olney	native	Polygonaceae	FACW	forb	AN	DI	full
PLGCES	0	Polygonum cespitosum	Blume	adventive	Polygonaceae	FACU-	forb	AN	DI	advent
PLGCIL	8	Polygonum cilinode	Michx.	native	Polygonaceae	UPL	vine	PE	DI	shade
PLGCON	0	Polygonum convolvulus	L.	adventive	Polygonaceae	FACU	vine	AN	DI	advent
PLGCUS	0	Polygonum cuspidatum	Siebold & Zucc.	adventive	Polygonaceae	FACU-	forb	PE	DI	advent
PLGERE	1	Polygonum erectum	L.	native	Polygonaceae	FACU	forb	AN	DI	full
PLGHPR	1	Polygonum hydropiper	L.	native	Polygonaceae	OBL	forb	AN	DI	full
PLGHPO	6	Polygonum hydropiperoides	Michx.	native	Polygonaceae	OBL	forb	PE	DI	full
PLGLAP	1	Polygonum lapathifolium	L.	native	Polygonaceae	FACW+	forb	AN	DI	full
PLGORI	0	Polygonum orientale	L.	adventive	Polygonaceae	FACU-	forb	AN	DI	advent
PLGPEN	0	Polygonum pensylvanicum	L.	native	Polygonaceae	FACW	forb	AN	DI	full
PLGPER	0	Polygonum persicaria	L.	adventive	Polygonaceae	FACW	forb	AN	DI	advent
PLGPUN	6	Polygonum punctatum	Elliott	native	Polygonaceae	OBL	forb	PE	DI	full
PLGRAM	1	Polygonum ramosissimum	Michx.	native	Polygonaceae	FAC	forb	AN	DI	full
PLGROB	5	Polygonum robustius	(Small) Fernald	native	Polygonaceae	OBL	forb	PE	DI	full
PLGSAC	0	Polygonum sachalinense	F. W. Schmidt ex Maxim.	adventive	Polygonaceae	UPL	forb	PE	DI	advent
PLGSAG	2	Polygonum sagittatum	L.	native	Polygonaceae	OBL	forb	AN	DI	full
PLGSCA	2	Polygonum scandens	L.	native	Polygonaceae	FAC	vine	PE	DI	partial
PLGSET	6	Polygonum setaceum	Baldwin	native	Polygonaceae	OBL	forb	PE	DI	full

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ACRONYM	CofC	SCIENTIFIC NAME	AUTHORITY	NATIVITY	FAMILY	IND	FORM	HABIT	GROUP	SHADE
POLYGN	*	Polygonum sp.	ND	ND	Polygonaceae	ND	ND	ND	DI	ND
PLGTEN	4	Polygonum tenue	Michx.	native	Polygonaceae	UPL	forb	AN	DI	full
PLGVIR	3	Polygonum virginianum	L.	native	Polygonaceae	FAC	forb	PE	DI	shade
POLCAN	5	Polymnia canadensis	L.	native	Asteraceae	UPL	forb	PE	DI	shade
POLYMN	*	Polymnia sp.	ND	native	Asteraceae	UPL	forb	PE	DI	shade
POLUVE	7	Polymnia uvedalia	(L.) L.	native	Asteraceae	UPL	forb	PE	DI	shade
POLAPP	8	Polypodium appalachianum	Haufler & Windham	native	Polypodiaceae	UPL	fern	PE	SVP	shade
POLYPOD	*	Polypodium sp.	ND	native	Polypodiaceae	UPL	fern	PE	SVP	shade
POLVIG	8	Polypodium virginianum	L.	native	Polypodiaceae	UPL	fern	PE	SVP	shade
POLACR	3	Polystichum acrostichoides	(Michx.) Schott	native	Dryopteridaceae	FACU-	fern	PE	SVP	shade
PONCOR	6	Pontederia cordata	L.	native	Pontederiaceae	OBL	forb	PE	MO	full
POPALB	0	Populus alba	L.	adventive	Salicaceae	UPL	tree	W	DI	advent
POPBAL	3	Populus balsamifera	L.	native	Salicaceae	FACW	tree	W	DI	tree
POPDEL	3	Populus deltoides	W. Bartram ex Marshall	native	Salicaceae	FAC	tree	W	DI	tree
POPGRA	2	Populus grandidentata	Michx.	native	Salicaceae	FACU-	tree	W	DI	tree
POPHET	9	Populus heterophylla	L.	native	Salicaceae	FACW+	tree	W	DI	tree
POPNIG	0	Populus nigra var. italica	Du Roi	adventive	Salicaceae	UPL	tree	W	DI	advent
POPULU	*	Populus sp.	ND	ND	Salicaceae	ND	tree	W	DI	ND
POPTRE	2	Populus tremuloides	Michx.	native	Salicaceae	FACU	tree	W	DI	tree
PORTER	6	Porteranthus sp.	ND	native	Rosaceae	UPL	forb	PE	DI	shade
PORSTI	6	Porteranthus stipulatus	(Muhl. ex Willd.) Britton	native	Rosaceae	UPL	forb	PE	DI	shade
PORTRI	6	Porteranthus trifoliatus	(L.) Britton	native	Rosaceae	UPL	forb	PE	DI	shade
PORGRA	0	Portulaca grandiflora	Hook.	adventive	Portulacaceae	[UPL]	forb	AN	DI	advent
POROLE	0	Portulaca oleracea	L.	adventive	Portulacaceae	FAC	forb	AN	DI	advent
PTMAMP	8	Potamogeton amplifolius	Tuck.	native	Potamogetonaceae	OBL	forb	PE	MO	full
PTMCRI	0	Potamogeton crispus	L.	adventive	Potamogetonaceae	OBL	forb	PE	MO	advent
PTMDIV	5	Potamogeton diversifolius	Raf.	native	Potamogetonaceae	OBL	forb	PE	MO	full
PTMEPI	6	Potamogeton epihydrus	Raf.	native	Potamogetonaceae	OBL	forb	PE	MO	full
PTMFOL	2	Potamogeton foliosus	Raf.	native	Potamogetonaceae	OBL	forb	PE	MO	full
PTMFRI	10	Potamogeton friesii	Rupr.	native	Potamogetonaceae	OBL	forb	PE	MO	full
PTMGRA	10	Potamogeton gramineus	L.	native	Potamogetonaceae	OBL	forb	PE	MO	full
PTMHIL	9	Potamogeton hillii	Morong	native	Potamogetonaceae	OBL	forb	PE	MO	full
PTMILL	8	Potamogeton illinoensis	Morong	native	Potamogetonaceae	OBL	forb	PE	MO	full
PTMNAT	8	Potamogeton natans	L.	native	Potamogetonaceae	OBL	forb	PE	MO	full
PTMNOD	3	Potamogeton nodosus	Poir.	native	Potamogetonaceae	OBL	forb	PE	MO	full
PTMPER	10	Potamogeton perfoliatus	L.	native	Potamogetonaceae	OBL	forb	PE	MO	full
PTMPRA	10	Potamogeton praelongus	Wulfen	native	Potamogetonaceae	OBL	forb	PE	MO	full
PTMPUL	8	Potamogeton pulcher	Tuck.	native	Potamogetonaceae	OBL	forb	PE	MO	full
PTMPUS	4	Potamogeton pusillus	L.	native	Potamogetonaceae	OBL	forb	PE	MO	full
PTMRIC	10	Potamogeton richardsonii	(A. Benn.) Rydb.	native	Potamogetonaceae	OBL	forb	PE	MO	full
PTMROB	10	Potamogeton robbinsii	Oakes	native	Potamogetonaceae	OBL	forb	PE	MO	full
POTAMO	*	Potamogeton sp.	ND	native	Potamogetonaceae	OBL	forb	PE	MO	full
PTMSPI	10	Potamogeton spirillus	Tuck.	native	Potamogetonaceae	OBL	forb	PE	MO	full
PTMSTR	10	Potamogeton strictifolius	A. Benn.	native	Potamogetonaceae	OBL	forb	PE	MO	full
PTMTEN	9	Potamogeton tennesseensis	Fernald	native	Potamogetonaceae	OBL	forb	PE	MO	full
PTMVAS	10	Potamogeton vaseyi	J.W. Robbins	native	Potamogetonaceae	OBL	forb	PE	MO	full
PTMZOS	8	Potamogeton zosteriformis	Fernald	native	Potamogetonaceae	OBL	forb	PE	MO	full
POTANS	5	Potentilla anserina	L.	native	Rosaceae	OBL	forb	PE	DI	full
POTARG	0	Potentilla argentea	L.	adventive	Rosaceae	UPL	forb	PE	DI	advent
POTARU	5	Potentilla arguta	Pursh	native	Rosaceae	UPL	forb	PE	DI	full

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ACRONYM	CofC	SCIENTIFIC NAME	AUTHORITY	NATIVITY	FAMILY	IND	FORM	HABIT	GROUP	SHADE
POTCAN	3	Potentilla canadensis	L.	native	Rosaceae	UPL	forb	PE	DI	full
POTFRU	10	Potentilla fruticosa	L.	native	Rosaceae	FACW	shrub	W	DI	full
POTINC	0	Potentilla inclinata	Villars	adventive	Rosaceae	[UPL]	forb	PE	DI	advent
POTINT	0	Potentilla intermedia	L.	adventive	Rosaceae	UPL	forb	PE	DI	advent
POTNOR	1	Potentilla norvegica	L.	native	Rosaceae	FACU	forb	AN	DI	full
POTPAL	8	Potentilla palustris	(L.) Scop.	native	Rosaceae	OBL	forb	PE	DI	full
POTPAR	9	Potentilla paradoxa	Nutt.	native	Rosaceae	OBL	forb	AN	DI	full
POTREC	0	Potentilla recta	L.	adventive	Rosaceae	UPL	forb	PE	DI	advent
POTREP	0	Potentilla reptans	L.	adventive	Rosaceae	UPL	forb	PE	DI	advent
POTSIM	1	Potentilla simplex	Michx.	native	Rosaceae	FACU-	forb	PE	DI	full
POTENT	*	Potentilla sp.	ND	ND	Rosaceae	ND	ND	ND	DI	ND
PREALB	5	Prenanthes alba	L.	native	Asteraceae	FACU	forb	PE	DI	shade
PREALT	4	Prenanthes altissima	L.	native	Asteraceae	FACU-	forb	PE	DI	shade
PREASP	9	Prenanthes aspera	Michx.	native	Asteraceae	UPL	forb	PE	DI	shade
PRECRE	8	Prenanthes crepidinea	Michx.	native	Asteraceae	FACU	forb	PE	DI	shade
PRERAC	8	Prenanthes racemosa	Michx.	native	Asteraceae	FACW-	forb	PE	DI	full
PRESER	5	Prenanthes serpentaria	Pursh	native	Asteraceae	UPL	forb	PE	DI	shade
PRENAN	*	Prenanthes sp.	ND	native	Asteraceae	ND	forb	PE	DI	ND
PRETRI	10	Prenanthes trifoliolata	(Cass.) Fernald	native	Asteraceae	UPL	forb	PE	DI	shade
PROLOU	0	Proboscidea louisianica	(Mill.) Thell.	adventive	Pedaliaceae	FACU	forb	AN	DI	advent
PROLAN	7	Prosartes lanuginosa	(Michx.) D. Don	native	Liliaceae	UPL	forb	PE	DI	shade
PROMAC	9	Prosartes maculata	(Buckley) A. Gray	native	Liliaceae	UPL	forb	PE	DI	shade
PROSAR	*	Prosartes sp.	ND	native	Liliaceae	UPL	forb	PE	DI	shade
PROPAL	7	Proserpinaca palustris	L.	native	Haloragaceae	OBL	forb	PE	DI	full
PRUVUL	0	Prunella vulgaris	L.	native	Lamiaceae	FACU+	forb	PE	DI	partial
PRUAME	3	Prunus americana	Marshall	native	Rosaceae	FACU-	sm tree	W	DI	partial
PRUAVE	0	Prunus avium	L.	adventive	Rosaceae	UPL	sm tree	W	DI	advent
PRUCER	0	Prunus cerasus	L.	adventive	Rosaceae	UPL	sm tree	W	DI	advent
PRUHOR	3	Prunus hortulana	L.H. Bailey	native	Rosaceae	UPL	sm tree	W	DI	full
PRUMAH	0	Prunus mahaleb	L.	adventive	Rosaceae	UPL	sm tree	W	DI	advent
PRUMEX	8	Prunus mexicana	S. Watson	native	Rosaceae	UPL	sm tree	W	DI	full
PRUMUN	3	Prunus munsoniana	W. Wight & Hedrick	native	Rosaceae	UPL	sm tree	W	DI	full
PRUNIG	4	Prunus nigra	Aiton	native	Rosaceae	UPL	sm tree	W	DI	full
PRUPEN	4	Prunus pensylvanica	L.f.	native	Rosaceae	FACU-	sm tree	W	DI	partial
PRUPER	0	Prunus persica	(L.) Batsch	adventive	Rosaceae	UPL	sm tree	W	DI	advent
PRUPUM	10	Prunus pumila	L.	native	Rosaceae	UPL	sm tree	W	DI	full
PRUSER	3	Prunus serotina	Ehrh.	native	Rosaceae	FACU	tree	W	DI	tree
PRUNUS	*	Prunus sp.	ND	ND	Rosaceae	ND	ND	W	DI	ND
PRUTOM	0	Prunus tomentosa	Thunb.	adventive	Rosaceae	[FACU]	shrub	W	DI	advent
PRUVIR	2	Prunus virginiana	L.	native	Rosaceae	FACU	sm tree	W	DI	shade
PTETRI	5	Ptelea trifoliata	L.	native	Rutaceae	FAC	sm tree	W	DI	shade
PTEAQU	1	Pteridium aquilinum	(L.) Kuhn	native	Dennstaedtiaceae	FACU	fern	PE	SVP	partial
PUCDIS	0	Puccinellia distans	(L.) Parl.	adventive	Poaceae	OBL	grass	PE	MO	advent
PUCPAL	7	Puccinellia pallida	(Torr.) R.T. Clausen	native	Poaceae	OBL	grass	PE	MO	partial
PUCCIN	*	Puccinellia sp.	ND	ND	Poaceae	OBL	grass	PE	MO	advent
PUELOB	0	Pueraria lobata	(Willd.) Ohwi	adventive	Fabaceae	UPL	vine	W	DI	advent
PYCINC	6	Pycnanthemum incanum	(L.) Michx.	native	Lamiaceae	UPL	forb	PE	DI	shade
PYCMUT	6	Pycnanthemum muticum	(Michx.) Pers.	native	Lamiaceae	FACW	forb	PE	DI	partial
PYCPYC	6	Pycnanthemum pycnanthemoides	(Leavenw.) Fernald	native	Lamiaceae	UPL	forb	PE	DI	shade
PYCNAN	*	Pycnanthemum sp.	ND	native	Lamiaceae	ND	forb	PE	DI	ND

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PYCTEN	4	Pycnanthemum tenuifolium	Schrad.	native	Lamiaceae	FACW	forb	PE	DI	full
PYCVERP	5	Pycnanthemum verticillatum var. pilosum	(Nutt.) Cooperrider	native	Lamiaceae	FAC	forb	PE	DI	partial
PYCVERV	4	Pycnanthemum verticillatum var. verticillatum	(Michx.) Pers.	native	Lamiaceae	FAC	forb	PE	DI	partial
PYCVIR	4	Pycnanthemum virginianum	(L.) Durand & B.D. Jackson	native	Lamiaceae	FAC	forb	PE	DI	full
PYRCHL	8	Pyrola chlorantha	Sw.	native	Pyrolaceae	FACU	forb	PE	DI	shade
PYRELL	7	Pyrola elliptica	Nutt.	native	Pyrolaceae	UPL	forb	PE	DI	shade
PYRROT	7	Pyrola rotundifolia var. americana	(Sweet) Fernald	native	Pyrolaceae	FAC	forb	PE	DI	shade
PYRSEC	8	Pyrola secunda	L.	native	Pyrolaceae	FAC	forb	PE	DI	shade
PYROLA	*	Pyroloa sp.	ND	native	Pyrolaceae	ND	forb	PE	DI	shade
PYRANG	5	Pyrus angustifolia	Aiton	native	Rosaceae	UPL	sm tree	W	DI	full
PYRCAL	0	Pyrus callieryana	Decn.	adventive	Rosaceae	[UPL]	sm tree	W	DI	full
PYRCOM	0	Pyrus communis	L.	adventive	Rosaceae	UPL	sm tree	W	DI	advent
PYRCOR	3	Pyrus coronaria	L.	native	Rosaceae	UPL	sm tree	W	DI	full
PYRIOE	0	Pyrus ioensis	(A.W. Wood) L.H Bailey	adventive	Rosaceae	UPL	sm tree	W	DI	advent
PYRMAL	0	Pyrus malus	L.	adventive	Rosaceae	UPL	sm tree	W	DI	advent
PYRUS	*	Pyrus sp.	ND	ND	Rosaceae	UPL	sm tree	W	DI	ND
QUEALB	6	Quercus alba	L.	native	Fagaceae	FACU-	tree	W	DI	tree
QUEBIC	7	Quercus bicolor	Willd.	native	Fagaceae	FACW+	tree	W	DI	tree
QUECOC	6	Quercus coccinea	Muenchh.	native	Fagaceae	UPL	tree	W	DI	tree
QUEFAL	7	Quercus falcata	Michx.	native	Fagaceae	FACU-	tree	W	DI	tree
QUEIMB	5	Quercus imbricaria	Michx.	native	Fagaceae	FAC	tree	W	DI	tree
QUEMAC	6	Quercus macrocarpa	Michx.	native	Fagaceae	FAC-	tree	W	DI	tree
QUEMAR	8	Quercus marilandica	Munchh.	native	Fagaceae	UPL	tree	W	DI	tree
QUEMUE	7	Quercus muehlenbergii	Engelm.	native	Fagaceae	UPL	tree	W	DI	tree
QUEPAL	5	Quercus palustris	Muenchh.	native	Fagaceae	FACW	tree	W	DI	tree
QUEPRI	7	Quercus prinus	L.	native	Fagaceae	UPL	tree	W	DI	tree
QUERUB	6	Quercus rubra	L.	native	Fagaceae	FACU-	tree	W	DI	tree
QUESHU	7	Quercus shumardii	Buckley	native	Fagaceae	FAC+	tree	W	DI	tree
QUERCU	*	Quercus sp.	ND	native	Fagaceae	ND	tree	W	DI	tree
QUESTE	7	Quercus stellata	Wangenh.	native	Fagaceae	UPL	tree	W	DI	tree
QUEVEL	7	Quercus velutina	Lam.	native	Fagaceae	UPL	tree	W	DI	tree
RANABO	1	Ranunculus abortivus	L.	native	Ranunculaceae	FACW-	forb	PE	DI	shade
RANACR	0	Ranunculus acris	L.	adventive	Ranunculaceae	FAC+	forb	PE	DI	advent
RANALL	5	Ranunculus allegheniensis	Britton	native	Ranunculaceae	FAC	forb	PE	DI	shade
RANAMB	8	Ranunculus ambigens	S. Watson	native	Ranunculaceae	OBL	forb	PE	DI	partial
RANBUL	0	Ranunculus bulbosus	L.	adventive	Ranunculaceae	UPL	forb	PE	DI	advent
RANFAS	6	Ranunculus fascicularis	Muhl. ex Bigelow	native	Ranunculaceae	FACU	forb	PE	DI	partial
RANFIC	0	Ranunculus ficaria	L.	adventive	Ranunculaceae	FAC	forb	PE	DI	advent
RANFLA	8	Ranunculus flabellaris	Raf.	native	Ranunculaceae	OBL	forb	PE	DI	partial
RANHIS	4	Ranunculus hispidus	Michx.	native	Ranunculaceae	FAC	forb	PE	DI	shade
RANLON	5	Ranunculus longirostris	Godr.	native	Ranunculaceae	OBL	forb	PE	DI	full
RANMIC	5	Ranunculus micranthus	Nutt.	native	Ranunculaceae	FACU	forb	PE	DI	shade
RANPEN	4	Ranunculus pensylvanicus	L.f.	native	Ranunculaceae	OBL	forb	PE	DI	full
RANPUS	8	Ranunculus pusillus	Poir.	native	Ranunculaceae	OBL	forb	AN	DI	full
RANREC	3	Ranunculus recurvatus	Poir.	native	Ranunculaceae	FAC+	forb	PE	DI	shade
RANREP	0	Ranunculus repens	L.	adventive	Ranunculaceae	FAC	forb	PE	DI	advent
RANSCE	1	Ranunculus sceleratus	L.	native	Ranunculaceae	OBL	forb	PE	DI	full
RANUNC	*	Ranunculus sp.	ND	ND	Ranunculaceae	ND	forb	ND	DI	ND
RANTES	0	Ranunculus testiculatus	Crantz	adventive	Ranunculaceae	UPL	forb	AN	DI	advent

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ACRONYM	CofC	SCIENTIFIC NAME	AUTHORITY	NATIVITY	FAMILY	IND	FORM	HABIT	GROUP	SHADE
RAPRAP	0	Raphanus raphanistrum	L.	adventive	Brassicaceae	[FACU]	forb	BI	DI	advent
RAPSAT	0	Raphanus sativus	L.	adventive	Brassicaceae	[FACU]	forb	BI	DI	advent
RATPIN	5	Ratibida pinnata	(Vent.) Barnhart	native	Asteraceae	UPL	forb	PE	DI	full
RESALB	0	Reseda alba	L.	adventive	Resedaceae	[UPL]	forb	AN	DI	advent
RESLUT	0	Reseda luteola	L.	adventive	Resedaceae	[UPL]	forb	AN	DI	advent
RHAALN	8	Rhamnus alnifolia	L'Her	native	Rhamnaceae	OBL	shrub	W	DI	partial
RHACAR	4	Rhamnus caroliniana	Walter	native	Rhamnaceae	FAC	shrub	W	DI	partial
RHACAT	0	Rhamnus cathartica	L.	adventive	Rhamnaceae	FACU+	sm tree	W	DI	advent
RHAFRA	0	Rhamnus frangula	L.	adventive	Rhamnaceae	FAC	shrub	W	DI	advent
RHALAN	4	Rhamnus lanceolata	Pursh	native	Rhamnaceae	FACU-	shrub	W	DI	partial
RHAMNU	*	Rhamnus sp.	ND	ND	Rhamnaceae	ND	ND	W	DI	ND
RHERHA	0	Rheum rhabarbarum	L.	adventive	Polygonaceae	[FACU-]	forb	PE	DI	advent
RHEVIR	7	Rhexia virginica	L.	native	Melastomataceae	OBL	forb	PE	DI	full
RHOCAL	8	Rhododendron calendulaceum	(Michx.) Torr.	native	Ericaceae	UPL	shrub	W	DI	shade
RHOMAX	8	Rhododendron maximum	L.	native	Ericaceae	FAC	shrub	W	DI	shade
RHOPER	7	Rhododendron periclymenoides	(Michx.) Shinners	native	Ericaceae	FAC	shrub	W	DI	shade
RHOPRI	7	Rhododendron prinophyllum	(Small) Millais	native	Ericaceae	FAC	shrub	W	DI	shade
RHODOD	*	Rhododendron sp.	ND	native	Ericaceae	ND	shrub	W	DI	shade
RHUAARE	10	Rhus aromatica var. arenaria	(Greene) Fernald	native	Anacardiaceae	UPL	shrub	W	DI	full
RHUAARO	3	Rhus aromatica var. aromatica	Aiton	native	Anacardiaceae	UPL	shrub	W	DI	full
RHUCOP	4	Rhus copallinum	L.	native	Anacardiaceae	FACU-	shrub	W	DI	full
RHUGLA	2	Rhus glabra	L.	native	Anacardiaceae	UPL	shrub	W	DI	full
RHUS	*	Rhus sp.	ND	native	Anacardiaceae	ND	shrub	W	DI	full
RHUTYP	2	Rhus typhina	L.	native	Anacardiaceae	UPL	shrub	W	DI	full
RHYALB	10	Rhynchospora alba	(L.) Vahl	native	Cyperaceae	OBL	sedge	PE	MO	full
RHYCPC	9	Rhynchospora capillacea	Torr.	native	Cyperaceae	OBL	sedge	PE	MO	full
RHYCPT	7	Rhynchospora capitellata	(Michx.) Vahl	native	Cyperaceae	OBL	sedge	PE	MO	full
RHYREC	10	Rhynchospora recognita	(Gale) Kral	native	Cyperaceae	FACW	sedge	PE	MO	full
RHYNCH	*	Rhynchospora sp.	ND	native	Cyperaceae	ND	sedge	PE	MO	full
RIBAME	4	Ribes americanum	Mill.	native	Grossulariaceae	FACW	shrub	W	DI	partial
RIBCYN	3	Ribes cynosbati	L.	native	Grossulariaceae	UPL	shrub	W	DI	partial
RIBGLA	10	Ribes glandulosum	Grauer	native	Grossulariaceae	FACW	shrub	W	DI	partial
RIBHIR	7	Ribes hirtellum	Michx.	native	Grossulariaceae	FAC	shrub	W	DI	partial
RIBMIS	8	Ribes missouriense	Nutt.	native	Grossulariaceae	UPL	shrub	W	DI	partial
RIBODO	0	Ribes odoratum	H. Wendl.	adventive	Grossulariaceae	FACU	shrub	W	DI	advent
RIBROT	0	Ribes rotundifolium	Michx.	adventive	Grossulariaceae	[UPL]	shrub	W	DI	advent
RIBSAT	0	Ribes sativum	Syme	adventive	Grossulariaceae	UPL	shrub	W	DI	advent
RIBES	*	Ribes sp.	ND	ND	Grossulariaceae	ND	shrub	W	DI	ND
RIBTRI	8	Ribes triste	Pall.	native	Grossulariaceae	OBL	shrub	W	DI	full
RIBUVA	0	Ribes uva-crispa	L.	adventive	Grossulariaceae	[FACU-]	shrub	W	DI	advent
RICFLU	*	Riccia fluitans	L.	ND	Ricciaceae	ND	bryo	bryo	bryo	bryo
RICNAT	*	Ricciocarpos natans	(L.) Corda	ND	Ricciaceae	ND	bryo	bryo	bryo	bryo
RICCOM	0	Ricinus communis	L.	adventive	Euphorbiaceae	UPL	forb	AN	DI	advent
ROBHIS	0	Robinia hispida	L.	adventive	Fabaceae	UPL	shrub	W	DI	advent
ROBPSE	0	Robinia pseudoacacia	L.	native	Fabaceae	FACU-	tree	W	DI	tree
ROBVIS	0	Robinia viscosa	Vent.	adventive	Fabaceae	UPL	tree	W	DI	advent
RORNAS	0	Rorippa nasturtium-aquaticum	(L.) Hayek	adventive	Brassicaceae	OBL	forb	PE	DI	partial
RORPAL	2	Rorippa palustris	(L.) Besser	native	Brassicaceae	OBL	forb	AN	DI	full
RORSES	6	Rorippa sessiliflora	(Nutt.) Hitchc.	native	Brassicaceae	OBL	forb	AN	DI	full

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ACRONYM	CofC	SCIENTIFIC NAME	AUTHORITY	NATIVITY	FAMILY	IND	FORM	HABIT	GROUP	SHADE
RORIPP	*	Rorippa sp.	ND	ND	Brassicaceae	ND	forb	ND	DI	ND
RORSYL	0	Rorippa sylvestris	(L.) Besser	adventive	Brassicaceae	FACW	forb	PE	DI	advent
ROSARK	4	Rosa arkansana	Porter	native	Rosaceae	UPL	shrub	W	DI	full
ROSBLA	4	Rosa blanda	Aiton	native	Rosaceae	FACU	shrub	W	DI	full
ROSCAN	0	Rosa canina	L.	adventive	Rosaceae	UPL	shrub	W	DI	advent
ROSCAR	4	Rosa carolina	L.	native	Rosaceae	UPL	shrub	W	DI	full
ROSEGL	0	Rosa eglanteria	L.	adventive	Rosaceae	UPL	shrub	W	DI	advent
ROSGAL	0	Rosa gallica	L.	adventive	Rosaceae	[UPL]	shrub	W	DI	advent
ROSMAJ	0	Rosa majalis	Herrm.	adventive	Rosaceae	[UPL]	shrub	W	DI	advent
ROSMIC	0	Rosa micrantha	J. E. Smith	adventive	Rosaceae	FACU	shrub	W	DI	advent
ROSMUL	0	Rosa multiflora	Thunb. ex Murray	adventive	Rosaceae	FACU	shrub	W	DI	advent
ROSNIT	0	Rosa nitida	Willd.	adventive	Rosaceae	[UPL]	shrub	W	DI	advent
ROSPAL	5	Rosa palustris	Marshall	native	Rosaceae	OBL	shrub	W	DI	full
ROSRUG	0	Rosa rugosa	Thunb.	adventive	Rosaceae	FACU-	shrub	W	DI	advent
ROSSET	4	Rosa setigera	Michx.	native	Rosaceae	FACU	shrub	W	DI	full
ROSA	*	Rosa sp.	ND	ND	Rosaceae	ND	shrub	W	DI	ND
ROSWIC	0	Rosa wichuriana	Crep.	adventive	Rosaceae	UPL	shrub	W	DI	advent
ROTRAM	6	Rotala ramosior	(L.) Koehne	native	Lythraceae	OBL	forb	AN	DI	full
RUBALL	1	Rubus allegheniensis	Porter	native	Rosaceae	FACU-	shrub	W	DI	full
RUBDIS	0	Rubus discolor	Weihe & Nees	adventive	Rosaceae	[UPL]	shrub	W	DI	advent
RUBFLA	1	Rubus flagellaris	Willd.	native	Rosaceae	FACU	shrub	W	DI	full
RUBHIS	5	Rubus hispidus	L.	native	Rosaceae	FACW	forb	PE	DI	partial
RUBIDAI	0	Rubus ideaus var. ideaus	L.	adventive	Rosaceae	FAC-	shrub	W	DI	advent
RUBIDAS	6	Rubus ideaus var. strigosus	(Michx.) Maxim.	native	Rosaceae	FAC-	shrub	W	DI	full
RUBLAC	0	Rubus laciniatus	Willd.	adventive	Rosaceae	UPL	shrub	W	DI	advent
RUBOCC	1	Rubus occidentalis	L.	native	Rosaceae	UPL	shrub	W	DI	full
RUBODO	5	Rubus odoratus	L.	native	Rosaceae	UPL	shrub	W	DI	full
RUBPEN	1	Rubus pensylvanicus	Poir.	native	Rosaceae	FACU	shrub	W	DI	full
RUBPHO	0	Rubus phoenicolasius	Maxim.	adventive	Rosaceae	UPL	shrub	W	DI	advent
RUBPUB	7	Rubus pubescens	Raf.	native	Rosaceae	FACW	forb	PE	DI	partial
RUBUS	*	Rubus sp.	ND	ND	Rosaceae	ND	ND	ND	DI	ND
RUBTRI	3	Rubus trivialis	Michx.	native	Rosaceae	[FACU]	shrub	W	DI	partial
RUDFUL	6	Rudbeckia fulgida	Aiton	native	Asteraceae	FAC	forb	PE	DI	full
RUDHIR	1	Rudbeckia hirta	L.	native	Asteraceae	FACU-	forb	PE	DI	full
RUDLAC	6	Rudbeckia laciniata	L.	native	Asteraceae	FACW	forb	PE	DI	partial
RUDBEC	*	Rudbeckia sp.	ND	native	Asteraceae	ND	forb	ND	DI	ND
RUDTRI	5	Rudbeckia triloba	L.	native	Asteraceae	FACU	forb	BI	DI	full
RUECAR	4	Ruellia caroliniensis	(J.F. Gmel.) Steud.	native	Acanthaceae	UPL	forb	PE	DI	full
RUEHUM	6	Ruellia humilis	Nutt.	native	Acanthaceae	UPL	forb	PE	DI	full
RUELLI	*	Ruellia sp.	ND	native	Acanthaceae	ND	forb	PE	DI	full
RUESTR	5	Ruellia strepens	L.	native	Acanthaceae	FAC	forb	PE	DI	full
RUMACE	0	Rumex acetosella	L.	adventive	Polygonaceae	UPL	forb	PE	DI	advent
RUMALT	2	Rumex altissimus	A.W. Wood	native	Polygonaceae	FACW-	forb	PE	DI	full
RUMCON	0	Rumex conglomeratus	Murray	adventive	Polygonaceae	FAC	forb	PE	DI	advent
RUMCRI	0	Rumex crispus	L.	adventive	Polygonaceae	FACU	forb	PE	DI	advent
RUMMAR	0	Rumex maritimus	L.	adventive	Polygonaceae	FACW	forb	AN	DI	advent
RUMOBT	0	Rumex obtusifolius	L.	adventive	Polygonaceae	FACU-	forb	PE	DI	advent
RUMORB	5	Rumex orbiculatus	A. Gray	native	Polygonaceae	OBL	forb	PE	DI	full
RUMPAT	0	Rumex patienta	L.	adventive	Polygonaceae	UPL	forb	PE	DI	advent

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ACRONYM	CofC	SCIENTIFIC NAME	AUTHORITY	NATIVITY	FAMILY	IND	FORM	HABIT	GROUP	SHADE
RUMEX	*	Rumex sp.	ND	ND	Polygonaceae	ND	forb	ND	DI	ND
RUMVER	6	Rumex verticillatus	L.	native	Polygonaceae	OBL	forb	PE	DI	full
RUPCIR	3	Ruppia cirrhosa	(Petagna) Grande	native	Ruppiaceae	OBL	forb	PE	MO	full
SABANG	4	Sabatia angularis	(L.) Pursh	native	Gentianaceae	FAC+	forb	BI	DI	full
ERIALO	6	Saccharum alopecuroidum	(L.) Nutt.	native	Poaceae	FAC	grass	PE	DI	full
SAGDEC	0	Sagina decumbens	(Ell.) Torr. & A. Gray	native	Caryophyllaceae	FAC	forb	AN	DI	full
SAGPRO	0	Sagina procumbens	L.	adventive	Caryophyllaceae	FACW-	forb	PE	DI	advent
SAGINA	*	Sagina sp.	ND	ND	Caryophyllaceae	ND	forb	ND	DI	ND
SAGAUS	3	Sagittaria australis	(J.G. Sm.) Small	native	Alismataceae	OBL	forb	PE	MO	full
SAGBRE	6	Sagittaria brevirostra	Mack. & Bush	native	Alismataceae	OBL	forb	PE	MO	full
SAGCUN	8	Sagittaria cuneata	E. Sheld.	native	Alismataceae	OBL	forb	PE	MO	full
SAGGRA	9	Sagittaria graminea	Michx.	native	Alismataceae	OBL	forb	PE	MO	full
SAGLAT	1	Sagittaria latifolia	Willd.	native	Alismataceae	OBL	forb	PE	MO	full
SAGCAL	8	Sagittaria montevidensis	Cham. & Schlect.	native	Alismataceae	OBL	forb	AN	MO	full
SAGPLA	6	Sagittaria platyphylla	(Engelm.) J.G. Sm.	native	Alismataceae	OBL	forb	PE	MO	full
SAGRIG	8	Sagittaria rigida	Pursh	native	Alismataceae	OBL	forb	PE	MO	full
SAGITT	*	Sagittaria sp.	ND	native	Alismataceae	OBL	forb	PE	MO	full
SALEUR	0	Salicornia europaea	L.	adventive	Chenopodiaceae	OBL	forb	AN	DI	advent
SLXALB	0	Salix alba	L.	adventive	Salicaceae	FACW	tree	W	DI	advent
SLXAMY	3	Salix amygdaloides	Andersson	native	Salicaceae	FACW	tree	W	DI	tree
SLXBAB	0	Salix babylonica	L.	adventive	Salicaceae	FACW-	tree	W	DI	advent
SLXBEB	5	Salix bebbiana	Sarg.	native	Salicaceae	FACW	shrub	W	DI	full
SLXCAN	10	Salix candida	Flugge ex Willd.	native	Salicaceae	OBL	shrub	W	DI	full
SLXCAP	0	Salix caprea	L.	adventive	Salicaceae	UPL	shrub	W	DI	advent
SLXCAR	10	Salix caroliniana	Michx.	native	Salicaceae	OBL	shrub	W	DI	full
SLXCIN	0	Salix cinera	L.	adventive	Salicaceae	[FACW]	tree	W	DI	advent
SLXDIS	3	Salix discolor	Muhl.	native	Salicaceae	FACW	shrub	W	DI	full
SLXERI	2	Salix eriocephala	Michx.	native	Salicaceae	FACW	shrub	W	DI	full
SLXEXI	1	Salix exigua	Nutt.	native	Salicaceae	OBL	shrub	W	DI	full
SLXFRA	0	Salix fragilis	L.	adventive	Salicaceae	FAC+	tree	W	DI	advent
SLXHUM	4	Salix humilis	Marshall	native	Salicaceae	FACU	shrub	W	DI	full
SLXLUC	4	Salix lucida	Muhl.	native	Salicaceae	FACW	shrub	W	DI	full
SLXMYR	10	Salix myricoides	(Muhl.) J. Carey	native	Salicaceae	FAC	shrub	W	DI	full
SLXNIG	2	Salix nigra	Marshall	native	Salicaceae	FACW+	tree	W	DI	tree
SLXOCC	5	Salix occidentalis	Walter	native	Salicaceae	UPL	shrub	W	DI	full
SLXPED	9	Salix pedicellaris	Pursh	native	Salicaceae	OBL	shrub	W	DI	full
SLXPEN	0	Salix pentandra	L.	adventive	Salicaceae	UPL	tree	W	DI	advent
SLXPET	8	Salix petiolaris	Sm.	native	Salicaceae	OBL	shrub	W	DI	full
SLXPUR	0	Salix purpurea	L.	adventive	Salicaceae	FACW	shrub	W	DI	advent
SLXSRC	4	Salix sericea	Marshall	native	Salicaceae	OBL	shrub	W	DI	full
SLXSRS	10	Salix serissima	(L.H. Bailey) Fernald	native	Salicaceae	OBL	shrub	W	DI	full
SALIX	*	Salix sp.	ND	ND	Salicaceae	ND	ND	W	DI	ND
SALKAL	0	Salsola kali	L.	adventive	Chenopodiaceae	FACU	forb	AN	DI	advent
SALAZU	0	Salvia azurea	Michx. ex Lam.	adventive	Lamiaceae	[UPL]	forb	PE	DI	advent
SALCOC	0	Salvia coccinea	Buc'hoz ex Etl.	adventive	Lamiaceae	[UPL]	forb	PE	DI	advent
SALLYR	3	Salvia lyrata	L.	native	Lamiaceae	UPL	forb	PE	DI	full
SALOFF	0	Salvia officinalis	L.	adventive	Lamiaceae	[UPL]	forb	PE	DI	advent
SALPRA	0	Salvia pratensis	L.	adventive	Lamiaceae	[UPL]	forb	PE	DI	advent

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SALREF	0	Salvia reflexa	Hornem.	adventive	Lamiaceae	UPL	forb	AN	DI	advent
SALVIA	*	Salvia sp.	ND	ND	Lamiaceae	UPL	forb	ND	DI	ND
SALSPL	0	Salvia splendens	Sellow ex Roem. & Schult.	adventive	Lamiaceae	[UPL]	forb	PE	DI	advent
SALSUP	0	Salvia x superba	Stapf	adventive	Lamiaceae	[UPL]	forb	PE	DI	advent
SAMCAN	3	Sambucus canadensis	L.	native	Caprifoliaceae	FACW-	shrub	W	DI	full
SAMPUB	7	Sambucus pubens	(Michx.) House	native	Caprifoliaceae	FACU	shrub	W	DI	full
SAMBUC	*	Sambucus sp.	ND	native	Caprifoliaceae	ND	shrub	W	DI	full
SAMPAR	4	Samolus floribundus	Kunth	native	Primulaceae	OBL	forb	PE	DI	full
SANCAN	5	Sanguinaria canadensis	L.	native	Papaveraceae	UPL	forb	PE	DI	shade
SANGCA	8	Sanguisorba canadensis	L.	native	Rosaceae	FACW+	forb	PE	DI	full
SANICAN	3	Sanicula canadensis	L.	native	Apiaceae	UPL	forb	PE	DI	shade
SANIGR	3	Sanicula gregaria	E.P. Bicknell	native	Apiaceae	FACU	forb	PE	DI	shade
SANIMA	3	Sanicula marilandica	L.	native	Apiaceae	UPL	forb	PE	DI	shade
SANICU	3	Sanicula sp.	ND	native	Apiaceae	ND	forb	PE	DI	shade
SANITR	3	Sanicula trifoliata	E.P. Bicknell	native	Apiaceae	UPL	forb	PE	DI	shade
SAPOFF	0	Saponaria officinalis	L.	adventive	Caryophyllaceae	FACU-	forb	PE	DI	advent
SARPUR	9	Sarracenia purpurea	L.	native	Sarraceniaceae	OBL	forb	PE	DI	full
SASALB	3	Sassafras albidum	(Nutt.) Nees	native	Lauraceae	FACU-	tree	W	DI	tree
SATHOR	0	Satureja hortensis	L.	adventive	Lamiaceae	[UPL]	forb	PE	DI	advent
SAUCER	8	Saururus cernuus	L.	native	Saururaceae	OBL	forb	PE	MO	shade
SAXPEN	7	Saxifraga pensylvanica	L.	native	Saxifragaceae	OBL	forb	PE	DI	partial
SAXIFR	*	Saxifraga sp.	ND	native	Saxifragaceae	ND	forb	PE	DI	partial
SAXVIR	5	Saxifraga virginiensis	Michx.	native	Saxifragaceae	FAC-	forb	PE	DI	shade
SCACOL	0	Scabiosa columbaria	L.	adventive	Dipsacaceae	[UPL]	forb	PE	DI	advent
SCAPEC	0	Scandix pecten-veneris	L.	adventive	Apiaceae	[UPL]	forb	AN	DI	advent
SCHPAL	10	Scheuchzeria palustris	L.	native	Scheuchzeriaceae	OBL	forb	PE	MO	full
SCHPUR	10	Schizachne purpurascens	(Torr.) Swallen	native	Poaceae	FACU-	grass	PE	MO	shade
SCHSCOL	10	Schizachyrium littorale	(Nash) E.P. Bicknell	native	Poaceae	UPL	grass	PE	MO	full
SCHSCOS	5	Schizachyrium scoparium	(Michx.) Nash	native	Poaceae	FACU-	grass	PE	MO	full
SCHIZA	*	Schizachyrium sp.	ND	native	Poaceae	ND	grass	PE	MO	full
SCHACU	7	Schoenoplectus acutus	(Muhl. ex Bigelow) A. Love & D. Love	native	Cyperaceae	OBL	sedge	PE	MO	full
SCHAME	9	Schoenoplectus americanus	(Pers.) Volk. ex Schinz & R. Keller	native	Cyperaceae	OBL	sedge	PE	MO	full
SCHMUC	0	Schoenoplectus mucronatus	(L.) Palla	adventive	Cyperaceae	OBL	sedge	PE	MONO	full
SCHPUN	5	Schoenoplectus pungens	(Vahl) Palla	native	Cyperaceae	FACW+	sedge	PE	MO	full
SCHPUR	6	Schoenoplectus purshianus	(Fernald) M.T. Strong	native	Cyperaceae	OBL	sedge	AN	MO	full
SCHSAX	7	Schoenoplectus saximontanus	(Fernald) J. Raynal	native	Cyperaceae	OBL	sedge	AN	MONO	full
SCHSMI	9	Schoenoplectus smithii	(A. Gray) Sojak	native	Cyperaceae	OBL	sedge	AN	MO	full
SCHOEN	*	Schoenoplectus sp.	ND	native	Cyperaceae	ND	sedge	ND	MO	full
SCHSUB	10	Schoenoplectus subterminalis	(Torr.) Sojak	native	Cyperaceae	OBL	sedge	PE	MO	full
SCHTAB	2	Schoenoplectus tabernaemontani	(C.C. Gmel.) Palla	native	Cyperaceae	OBL	sedge	PE	MO	full
SCHTOR	10	Schoenoplectus torreyi	(Olney) Palla	native	Cyperaceae	OBL	sedge	PE	MO	full
SCINON	0	Scilla nonscripta	(L.) Hoffmanns. & Link	adventive	Liliaceae	[FACU]	forb	PE	MONO	advent
SCIATR	1	Scirpus atrovirens	Willd.	native	Cyperaceae	OBL	sedge	PE	MO	full
SCICYP	1	Scirpus cyperinus	(L.) Kunth.	native	Cyperaceae	FACW+	sedge	PE	MO	full
SCIEXP	9	Scirpus expansus	Fernald	native	Cyperaceae	OBL	sedge	PE	MO	partial
SCIGEO	2	Scirpus georgianus	R.M. Harper	native	Cyperaceae	OBL	sedge	PE	MO	full
SCIHAT	1	Scirpus hattorianus	Makino	native	Cyperaceae	OBL	sedge	PE	MO	full
SCIPED	3	Scirpus pedicellatus	Fernald	native	Cyperaceae	OBL	sedge	PE	MO	full
SCIPEN	2	Scirpus pendulus	Muhl.	native	Cyperaceae	OBL	sedge	PE	MO	full

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ACRONYM	CofC	SCIENTIFIC NAME	AUTHORITY	NATIVITY	FAMILY	IND	FORM	HABIT	GROUP	SHADE
SCIPOL	6	Scirpus polyphyllus	Vahl	native	Cyperaceae	OBL	sedge	PE	MO	full
SCIRPU	*	Scirpus sp.	ND	native	Cyperaceae	ND	sedge	PE	MO	ND
SCLANN	0	Scleranthus annuus	L.	adventive	Caryophyllaceae	FACU-	forb	AN	DI	advent
SCLOLI	9	Scleria oligantha	Michx.	native	Cyperaceae	FACU+	sedge	PE	MO	full
SCLPAU	9	Scleria pauciflora	Muhl. ex Willd.	native	Cyperaceae	FACU+	sedge	PE	MO	full
SCLERI	*	Scleria sp.	ND	native	Cyperaceae	ND	sedge	PE	MO	full
SCLTRI	7	Scleria triglomerata	Michx.	native	Cyperaceae	FAC	sedge	PE	MO	full
SCLVER	9	Scleria verticillata	Muhl. ex Willd.	native	Cyperaceae	OBL	sedge	AN	MO	full
SCRLAN	4	Scrophularia lanceolata	Pursh	native	Scrophulariaceae	FACU+	forb	PE	DI	partial
SCRMAR	4	Scrophularia marilandica	L.	native	Scrophulariaceae	FACU-	forb	PE	DI	shade
SCROPH	F	Scrophularia sp.	ND	native	Scrophulariaceae	ND	forb	PE	DI	partial
SCUELL	5	Scutellaria elliptica	Muhl. ex Spreng.	native	Lamiaceae	UPL	forb	PE	DI	partial
SCUGAL	6	Scutellaria galericulata	L.	native	Lamiaceae	OBL	forb	PE	DI	full
SCUINC	4	Scutellaria incana	Biehler	native	Lamiaceae	UPL	forb	PE	DI	shade
SCUINT	6	Scutellaria integrifolia	L.	native	Lamiaceae	FACW	forb	PE	DI	partial
SCULAT	3	Scutellaria lateriflora	L.	native	Lamiaceae	FACW+	forb	PE	DI	partial
SCUNER	6	Scutellaria nervosa	Pursh	native	Lamiaceae	FAC	forb	PE	DI	shade
SCUOVA	5	Scutellaria ovata	Hill	native	Lamiaceae	FACU	forb	PE	DI	shade
SCUPAR	6	Scutellaria parvula	Michx.	native	Lamiaceae	UPL	forb	PE	DI	full
SCUSAX	8	Scutellaria saxatilis	Riddell	native	Lamiaceae	UPL	forb	PE	DI	partial
SCUSER	7	Scutellaria serrata	Andrews	native	Lamiaceae	UPL	forb	PE	DI	shade
SCUTEL	*	Scutellaria sp.	ND	native	Lamiaceae	ND	forb	PE	DI	ND
SECCER	0	Secale cereale	L.	adventive	Poaceae	UPL	grass	AN	MO	advent
SEDACR	0	Sedum acre	L.	adventive	Crassulaceae	UPL	forb	PE	DI	advent
SEDALB	0	Sedum album	L.	adventive	Crassulaceae	UPL	forb	PE	DI	advent
SEDPUR	0	Sedum purpuream	(L.) J.A. Schultes	adventive	Crassulaceae	UPL	forb	PE	DI	advent
SEDSAR	0	Sedum sarmentosum	Bunge	adventive	Crassulaceae	UPL	forb	PE	DI	advent
SEDSEX	0	Sedum sexangulare	L.	adventive	Crassulaceae	[UPL]	forb	PE	DI	advent
SEDUM	*	Sedum sp.	ND	ND	Crassulaceae	UPL	forb	PE	DI	ND
SEDTEL	0	Sedum telephioides	Michx.	adventive	Crassulaceae	[UPL]	forb	PE	DI	advent
SEDTER	5	Sedum ternatum	Michx.	native	Crassulaceae	UPL	forb	PE	DI	full
SELAPO	7	Selaginella apoda	(L.) Spring	native	Selaginellaceae	FACW	fern	PE	SVP	partial
SELECL	9	Selaginella eclipes	W.R. Buck	native	Selaginellaceae	FACW+	fern	PE	SVP	partial
SELRUP	10	Selaginella rupestris	(L.) Spring	native	Selaginellaceae	UPL	fern	PE	SVP	full
SELAGI	*	Selaginella sp.	ND	native	Selaginellaceae	ND	fern	PE	SVP	partial
SENANO	2	Senecio anonymous	A.W. Wood	native	Asteraceae	UPL	forb	PE	DI	full
SENAUR	4	Senecio aureus	L.	native	Asteraceae	FACW	forb	PE	DI	shade
SENGLA	0	Senecio glabellus	Poir.	adventive	Asteraceae	OBL	forb	AN	DI	advent
SENOBO	4	Senecio obovatus	Muhl. ex Willd.	native	Asteraceae	FACU-	forb	PE	DI	shade
SENPAU	9	Senecio pauperculus	Michx.	native	Asteraceae	FAC	forb	PE	DI	full
SENPLA	5	Senecio plattensis	Nutt.	native	Asteraceae	UPL	forb	BI	DI	full
SENECI	*	Senecio sp.	ND	ND	Asteraceae	ND	forb	ND	DI	ND
SENSYL	0	Senecio sylvaticus	L.	adventive	Asteraceae	[UPL]	forb	AN	DI	advent
SENVUL	0	Senecio vulgaris	L.	adventive	Asteraceae	FACU	forb	AN	DI	advent
SENHEB	4	Senna hebecarpa	(Fernald) Irwin & Barneby	native	Fabaceae	FAC	forb	PE	DI	full
SENMAR	4	Senna marilandica	(L.) Link	native	Fabaceae	FAC+	forb	PE	DI	full
SENNA	4	Senna sp.	ND	native	Fabaceae	ND	forb	PE	DI	full
SETFAB	0	Setaria faberi	R.A.W. Herrm.	adventive	Poaceae	UPL	grass	AN	MO	advent
SETGEN	0	Setaria geniculata	(Lam.) P. Beauv.	adventive	Poaceae	FAC	grass	PE	MO	advent

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ACRONYM	CofC	SCIENTIFIC NAME	AUTHORITY	NATIVITY	FAMILY	IND	FORM	HABIT	GROUP	SHADE
SETGLA	0	Setaria glauca	(L.) P. Beauv.	adventive	Poaceae	FAC	grass	AN	MO	advent
SETITA	0	Setaria italica	(L.) P. Beauv.	adventive	Poaceae	FACU	grass	AN	MO	advent
SETARI	0	Setaria sp.	ND	adventive	Poaceae	ND	grass	ND	MO	advent
SETVER	0	Setaria verticillata	(L.) P. Beauv.	adventive	Poaceae	FAC	grass	AN	MO	advent
SETVIR	0	Setaria viridis	(L.) P. Beauv.	adventive	Poaceae	UPL	grass	AN	MO	advent
SHECAN	9	Shepherdia canadensis	(L.) Nutt.	native	Elaeagnaceae	UPL	forb	PE	DI	full
SHEARV	0	Sherardia arvensis	L.	adventive	Rubiaceae	UPL	forb	AN	DI	advent
SIBVIR	0	Sibara virginica	(L.) Rollins	adventive	Brassicaceae	UPL	forb	AN	DI	advent
SICANG	3	Sicyos angulatus	L.	native	Cucurbitaceae	FACU	vine	AN	DI	partial
SIDHER	6	Sida hermaphrodita	(L.) Rusby	native	Malvaceae	FAC	forb	PE	DI	full
SIDA	*	Sida sp.	ND	ND	Malvaceae	ND	forb	ND	DI	ND
SIDSPI	0	Sida spinosa	L.	adventive	Malvaceae	UPL	forb	AN	DI	advent
SILANT	1	Silene antirrhina	L.	native	Caryophyllaceae	UPL	forb	AN	DI	full
SILARM	0	Silene armeria	L.	adventive	Caryophyllaceae	UPL	forb	AN	DI	advent
SILCARP	8	Silene caroliniana var. pensylvanica	(Michx.) Fernald	native	Caryophyllaceae	UPL	forb	PE	DI	full
SILCARW	9	Silene caroliniana var. wherryi	(Small) Fernald	native	Caryophyllaceae	UPL	forb	PE	DI	full
SILCON	0	Silene conica	L.	adventive	Caryophyllaceae	[UPL]	forb	AN	DI	advent
SILCSE	0	Silene cserei	Baumg.	adventive	Caryophyllaceae	UPL	forb	BI	DI	advent
SILDIC	0	Silene dichotoma	Ehrh.	adventive	Caryophyllaceae	UPL	forb	AN	DI	advent
SILDIO	0	Silene dioica	(L.) Clairv.	adventive	Caryophyllaceae	UPL	forb	PE	DI	advent
SILLAT	0	Silene latifolia	Poir.	adventive	Caryophyllaceae	UPL	forb	BI	DI	advent
SILNIV	8	Silene nivea	(Nutt.) Muhl. ex Otth.	native	Caryophyllaceae	FAC	forb	PE	DI	shade
SILNOC	0	Silene noctiflora	L.	adventive	Caryophyllaceae	UPL	forb	AN	DI	advent
SILREG	8	Silene regia	Sims	native	Caryophyllaceae	UPL	forb	PE	DI	full
SILROT	10	Silene rotundifolia	Nutt.	native	Caryophyllaceae	UPL	forb	PE	DI	full
SILENE	*	Silene sp.	ND	ND	Caryophyllaceae	ND	forb	ND	DI	ND
SILSTE	6	Silene stellata	(L.) W.T. Aiton	native	Caryophyllaceae	UPL	forb	PE	DI	shade
SILVIR	5	Silene virginica	L.	native	Caryophyllaceae	UPL	forb	PE	DI	full
SILVUL	0	Silene vulgaris	(Moench) Garcke	adventive	Caryophyllaceae	UPL	forb	PE	DI	advent
SLPLAC	8	Silphium laciniatum	L.	native	Asteraceae	UPL	forb	PE	DI	full
SLPPER	6	Silphium perfoliatum	L.	native	Asteraceae	FACU	forb	PE	DI	full
SILPHI	*	Silphium sp.	ND	native	Asteraceae	ND	forb	PE	DI	full
SLPTER	8	Silphium terebinthinaceum	Jacq.	native	Asteraceae	UPL	forb	PE	DI	full
SLPTRI	5	Silphium trifoliatum	L.	native	Asteraceae	FAC	forb	PE	DI	full
SILMAR	0	Silybum marianum	(L.) Gaertn.	adventive	Asteraceae	UPL	forb	BI	DI	advent
SINALB	0	Sinapsis alba	L.	adventive	Brassicaceae	UPL	forb	AN	DI	advent
SINARV	0	Sinapsis arvensis	L.	adventive	Brassicaceae	UPL	forb	AN	DI	advent
SINAPS	0	Sinapsis sp.	ND	adventive	Brassicaceae	UPL	forb	AN	DI	advent
SISALT	0	Sisymbrium altissimum	L.	adventive	Brassicaceae	FACU-	forb	AN	DI	advent
SISLOE	0	Sisymbrium loeselii	L.	adventive	Brassicaceae	UPL	forb	AN	DI	advent
SISOFF	0	Sisymbrium officinale	(L.) Scop.	adventive	Brassicaceae	UPL	forb	AN	DI	advent
SISYMB	0	Sisymbrium sp.	ND	adventive	Brassicaceae	ND	forb	AN	DI	advent
SISALB	6	Sisyrinchium albidum	Raf.	native	Iridaceae	FAC	forb	PE	MO	full
SISANG	2	Sisyrinchium angustifolium	Mill.	native	Iridaceae	FACW-	forb	PE	MO	full
SISATL	10	Sisyrinchium atlanticum	E.P. Bicknell	native	Iridaceae	FACW	forb	PE	MO	full
SISMON	7	Sisyrinchium montanum	Greene	native	Iridaceae	FAC	forb	PE	MO	full
SISMUC	8	Sisyrinchium mucronatum	Michx.	native	Iridaceae	FAC+	forb	PE	MO	full
SISYRI	*	Sisyrinchium sp.	ND	native	Iridaceae	ND	forb	PE	MO	full
SIUSUA	6	Sium suave	Walter	native	Apiaceae	OBL	forb	PE	DI	partial

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ACRONYM	CofC	SCIENTIFIC NAME	AUTHORITY	NATIVITY	FAMILY	IND	FORM	HABIT	GROUP	SHADE
SMXECI	5	Smilax ecirrhata	(Engelm.) S. Watson	native	Smilacaceae	UPL	forb	PE	MO	shade
SMXGLA	5	Smilax glauca	Walter	native	Smilacaceae	FACU	vine	W	MO	shade
SMXHERH	4	Smilax herbacea	L.	native	Smilacaceae	FAC	forb	PE	MO	partial
SMXHIS	3	Smilax hispida	Muhl.	native	Smilacaceae	FAC	vine	W	MO	shade
SMXILL	6	Smilax illinoensis	Mangalay	native	Smilacaceae	UPL	vine	W	MO	shade
SMXHERL	6	Smilax lasioneura	Hook.	native	Smilacaceae	FAC	forb	PE	MO	shade
SMXHERP	6	Smilax pulverulenta	Michx.	native	Smilacaceae	FACU	forb	PE	MO	shade
SMXROT	4	Smilax rotundifolia	L.	native	Smilacaceae	FAC	vine	W	MO	shade
SMILAX	*	Smilax sp.	ND	native	Smilacaceae	ND	ND	ND	MO	partial
SLMCAR	0	Solanum carolinense	L.	adventive	Solanaceae	UPL	forb	PE	DI	advent
SLMDUL	0	Solanum dulcamara	L.	adventive	Solanaceae	FAC-	vine	PE	DI	advent
SLMNIG	1	Solanum nigrum	L.	native	Solanaceae	FACU-	forb	AN	DI	partial
SOLPHY	0	Solanum physalifolium	Rusby	adventive	Solanaceae	[FAC]	forb	AN	DI	advent
SLMROS	0	Solanum rostratum	Dunal	adventive	Solanaceae	UPL	forb	AN	DI	advent
SOLANU	*	Solanum sp.	ND	ND	Solanaceae	ND	ND	ND	DI	ND
SOLTRI	0	Solanum triflorum	Nutt.	adventive	Solanaceae	[UPL]	forb	AN	DI	advent
SOLTUB	0	Solanum tuberosum	L.	adventive	Solanaceae	[FACU-]	forb	PE	DI	advent
SOLARG	6	Solidago arguta	Aiton	native	Asteraceae	UPL	forb	PE	DI	partial
SOLBIC	5	Solidago bicolor	L.	native	Asteraceae	UPL	forb	PE	DI	shade
SOLCAE	5	Solidago caesia	L.	native	Asteraceae	FACU	forb	PE	DI	shade
SOLCAN	1	Solidago canadensis	L.	native	Asteraceae	FACU	forb	PE	DI	full
SOLERE	6	Solidago erecta	Pursh	native	Asteraceae	UPL	forb	PE	DI	shade
SOLFLE	5	Solidago flexicaulis	L.	native	Asteraceae	FACU	forb	PE	DI	shade
SOLGIG	3	Solidago gigantea	Aiton	native	Asteraceae	FACW	forb	PE	DI	partial
SOLHIS	4	Solidago hispida	Muhl. ex Willd.	native	Asteraceae	UPL	forb	PE	DI	full
SOLJUN	2	Solidago juncea	Aiton	native	Asteraceae	UPL	forb	PE	DI	partial
SOLNEM	2	Solidago nemoralis	Aiton	native	Asteraceae	UPL	forb	PE	DI	full
SOLODO	8	Solidago odora	Aiton	native	Asteraceae	UPL	forb	PE	DI	shade
SOLOHI	9	Solidago ohioensis	Riddell	native	Asteraceae	OBL	forb	PE	DI	full
SOLPAT	6	Solidago patula	Muhl. ex Willd.	native	Asteraceae	OBL	forb	PE	DI	partial
SOLPTA	10	Solidago ptarmicoides	(Nees) B. Boivin	native	Asteraceae	UPL	forb	PE	DI	full
SOLPUB	5	Solidago puberula	Nutt.	native	Asteraceae	FACU-	forb	PE	DI	full
SOLRID	8	Solidago riddellii	Frank ex Riddell	native	Asteraceae	OBL	forb	PE	DI	full
SOLRIG	8	Solidago rigida	L.	native	Asteraceae	UPL	forb	PE	DI	full
SOLRUG	2	Solidago rugosa	Mill.	native	Asteraceae	FAC	forb	PE	DI	full
SOLSEM	0	Solidago sempervirens	L.	adventive	Asteraceae	FACW	forb	PE	DI	advent
SOLIDA	*	Solidago sp.	ND	native	Asteraceae	ND	forb	PE	DI	ND
SOLSPE	5	Solidago speciosa	Nutt.	native	Asteraceae	UPL	forb	PE	DI	full
SOLSPH	7	Solidago sphacelata	Raf.	native	Asteraceae	UPL	forb	PE	DI	shade
SOLSQU	7	Solidago squarrosa	Muhl.	native	Asteraceae	UPL	forb	PE	DI	shade
SOLULI	9	Solidago uliginosa	Nutt.	native	Asteraceae	OBL	forb	PE	DI	full
SOLULM	5	Solidago ulmifolia	Muhl. ex Willd.	native	Asteraceae	UPL	forb	PE	DI	shade
SONARV	0	Sonchus arvensis	L.	adventive	Asteraceae	UPL	forb	PE	DI	advent
SONASP	0	Sonchus asper	(L.) Hill	adventive	Asteraceae	FAC	forb	AN	DI	advent
SONCHU	0	Sonchus sp.	ND	adventive	Asteraceae	ND	forb	ND	DI	advent
SONOLE	0	Soncus oleraceus	L.	adventive	Asteraceae	UPL	forb	AN	DI	advent
SORSOR	0	Sorbaria sorbifolia	(L.) A. Br.	adventive	Rosaceae	UPL	shrub	W	DI	advent
SORAUC	0	Sorbus aucuparia	L.	adventive	Rosaceae	UPL	sm tree	W	DI	advent
SORDEC	4	Sorbus decora	(Sarg.) C.K. Schneid.	native	Rosaceae	FAC	sm tree	W	DI	shade

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SORBUS	*	Sorbus sp.	ND	ND	Rosaceae	ND	sm tree	W	DI	ND
SORNUT	5	Sorghastrum nutans	(L.) Nash	native	Poaceae	UPL	grass	PE	MO	full
SORBIC	0	Sorghum bicolor	(L.) Moench	adventive	Poaceae	UPL	grass	AN	MO	advent
SORHAL	0	Sorghum halepense	(L.) Pers.	adventive	Poaceae	FACU	grass	PE	MO	advent
SORGHU	0	Sorghum sp.	ND	adventive	Poaceae	ND	grass	ND	MO	advent
SPAAME	6	Sparganium americanum	Nutt.	native	Sparganiaceae	OBL	forb	PE	MO	full
SPAAND	7	Sparganium androcladum	(Engelm.) Morong	native	Sparganiaceae	OBL	forb	PE	MO	full
SPACHL	8	Sparganium emersum	Rehmann	native	Sparganiaceae	OBL	forb	PE	MO	full
SPAEUR	4	Sparganium eurycarpum	Engelm. ex A. Gray	native	Sparganiaceae	OBL	forb	PE	MO	full
SPARGA	*	Sparganium sp.	ND	native	Sparganiaceae	OBL	forb	PE	MO	full
SPAPEC	5	Spartina pectinata	Link	native	Poaceae	OBL	grass	PE	MO	full
SPEARV	0	Spergula arvensis	L.	adventive	Caryophyllaceae	UPL	forb	AN	DI	advent
SPEMAR	0	Spergularia marina	(L.) Griseb.	adventive	Caryophyllaceae	OBL	forb	AN	DI	advent
SPEMED	0	Spergularia media	(L.) C. Presl. ex Griseb.	adventive	Caryophyllaceae	FACW	forb	PE	DI	advent
SPERUB	0	Spergularia rubra	(L.) J. Presl. & C. Presl.	adventive	Caryophyllaceae	FACU	forb	AN	DI	advent
SPERGU	0	Spergularia sp.	ND	adventive	Caryophyllaceae	ND	forb	ND	DI	advent
SPEGLA	8	Spermacoce glabra	Michx.	native	Rubiaceae	FACW	forb	PE	DI	shade
SPHAG	*	Sphagnum sp.	ND	ND	Musci	ND	bryo	bryo	bryo	bryo
SPHNIT	7	Sphenopholis nitida	(Biehler) Scribn.	native	Poaceae	UPL	grass	PE	MO	shade
SPHOB TM	4	Sphenopholis obtusata var. major	(Torr.) Erdman	native	Poaceae	FAC	grass	PE	MO	full
SPHOBTO	8	Sphenopholis obtusata var. obtusata	(Michx.) Scribn.	native	Poaceae	FAC-	grass	PE	MO	full
SPHPEN	6	Sphenopholis pensylvanica	(L.) Hitchc.	native	Poaceae	OBL	grass	PE	MO	full
SPHENO	*	Sphenopholis sp.	ND	native	Poaceae	ND	grass	PE	MO	ND
SPIALA	3	Spiraea alba	Du Roi	native	Rosaceae	FACW+	shrub	W	DI	full
SPIJAP	0	Spiraea japonica	L.f.	adventive	Rosaceae	FACU-	shrub	W	DI	advent
SPIPRU	0	Spiraea prunifolia	Siebold & Zucc.	adventive	Rosaceae	UPL	shrub	W	DI	advent
SPIRAE	*	Spiraea sp.	ND	ND	Rosaceae	ND	shrub	W	DI	ND
SPITOM	4	Spiraea tomentosa	L.	native	Rosaceae	FACW	shrub	W	DI	full
SPIVIR	10	Spiraea virginiana	Britton	native	Rosaceae	FACU	shrub	W	DI	shade
SPRCERC	4	Spiranthes cernua var. cernua	(L.) Rich.	native	Orchidaceae	FACW	forb	PE	MO	full
SPRCERO	5	Spiranthes cernua var. ochroleuca	(Rydb.) Ames	native	Orchidaceae	FACU	forb	PE	MO	full
SPRLAC	4	Spiranthes lacera	(Raf.) Raf.	native	Orchidaceae	FACU-	forb	PE	MO	full
SPRLUC	7	Spiranthes lucida	(H. H. Eaton) Ames	native	Orchidaceae	FACW	forb	PE	MO	full
SPRMAG	8	Spiranthes magnicamporum	Sheviak	native	Orchidaceae	FACU-	forb	PE	MO	full
SPROVA	6	Spiranthes ovalis	Lindl.	native	Orchidaceae	FAC	forb	PE	MO	full
SPRROM	10	Spiranthes romanzoffiana	Cham.	native	Orchidaceae	OBL	forb	PE	MO	full
SPIRAN	*	Spiranthes sp.	ND	native	Orchidaceae	ND	forb	PE	MO	full
SPRTUB	6	Spiranthes tuberosa	Raf.	native	Orchidaceae	FACU-	forb	PE	MO	full
SPRVER	7	Spiranthes vernalis	Engelm. & A. Gray	native	Orchidaceae	FAC	forb	PE	MO	full
SPIPOL	5	Spirodela polyrhiza	(L.) Schleid.	native	Lemnaceae	OBL	forb	AN	MO	full
SPOASP	2	Sporobolus asper	(P. Beauv.) Kunth	native	Poaceae	UPL	grass	PE	MO	full
SPOCRY	6	Sporobolus cryptandrus	(Torr.) A. Gray	native	Poaceae	UPL	grass	PE	MO	full
SPOHET	8	Sporobolus heterolepis	(A. Gray) A. Gray	native	Poaceae	UPL	grass	PE	MO	full
SPONEG	2	Sporobolus neglectus	Nash	native	Poaceae	FACU-	grass	AN	MO	full
SPOOZA	5	Sporobolus ozarkanus	Fernald	native	Poaceae	UPL	grass	AN	MO	full
SPOROB	*	Sporobolus sp.	ND	native	Poaceae	ND	grass	ND	MO	full
SPOVAG	2	Sporobolus vaginiflorus	(Torr.) A.W. Wood	native	Poaceae	UPL	grass	AN	MO	full
STAASP	2	Stachys aspera	Michx.	native	Lamiaceae	FACW	forb	PE	DI	full
STACOR	4	Stachys cordata	Riddell	native	Lamiaceae	FAC	forb	PE	DI	full

Appendix C
Species Codes for VIBI Metric Calculation

ACRONYM	CofC	SCIENTIFIC NAME	AUTHORITY	NATIVITY	FAMILY	IND	FORM	HABIT	GROUP	SHADE
STAGER	0	Stachys germanica	L.	adventive	Lamiaceae	[FAC]	forb	PE	DI	advent
STAPAL	6	Stachys palustris	L.	native	Lamiaceae	OBL	forb	PE	DI	full
STACHY	*	Stachys sp.	ND	native	Lamiaceae	ND	forb	PE	DI	full
STATEN	4	Stachys tenuifolia	Willd.	native	Lamiaceae	FACW+	forb	PE	DI	full
STNDEAD	*	Standing dead	ND	ND	ND	ND	tree	ND	ND	tree
STATRI	6	Staphylea trifolia	L.	native	Staphyleaceae	FAC	shrub	W	DI	shade
STEALS	0	Stellaria alsine	Grimm	adventive	Caryphyllaceae	OBL	forb	AN	DI	advent
STEAQU	0	Stellaria aquatica	(L.) Scop.	adventive	Caryophyllaceae	FACW	forb	PE	DI	advent
STEGRA	0	Stellaria graminea	L.	adventive	Caryophyllaceae	FACU-	forb	PE	DI	advent
STEHOL	0	Stellaria holostea	L.	adventive	Caryophyllaceae	[FAC]	forb	PE	DI	advent
STELON	4	Stellaria longifolia	Muhl. ex Willd.	native	Caryophyllaceae	FACW	forb	PE	DI	shade
STEMED	0	Stellaria media	(L.) Vill.	adventive	Caryophyllaceae	UPL	forb	AN	DI	advent
STEPAL	0	Stellaria pallida	(Dumort) Pire	adventive	Caryophyllaceae	UPL	forb	AN	DI	advent
STEPUB	5	Stellaria pubera	Michx.	native	Caryophyllaceae	UPL	forb	PE	DI	full
STELLA	*	Stellaria sp.	ND	ND	Caryophyllaceae	ND	forb	ND	DI	ND
STNGRA	8	Stenanthium gramineum	(Ker Gawl.) Morong	native	Liliaceae	FACW	forb	PE	DI	shade
STISPA	10	Stipa spartea	Trin.	native	Poaceae	UPL	grass	PE	MO	full
STRROS	8	Streptopus lanceolatus	(Aiton) Reveal	native	Liliaceae	FAC-	forb	PE	DI	shade
STRHEL	3	Strophostyles helvula	(L.) Elliott	native	Fabaceae	FACU-	forb	AN	DI	partial
STRLEI	0	Strophostyles leiosperma	(T. & G.) Piper	adventive	Fabaceae	[FACU-]	forb	AN	DI	advent
STROPH	*	Strophostyles sp.	ND	ND	Fabaceae	ND	forb	ND	DI	ND
STRUMB	0	Strophostyles umbellata	(Muhl. ex Willd.) Britton	adventive	Fabaceae	FACU	forb	PE	DI	advent
STUFIL	10	Stuckenia filiformis	(Pers.) Boerner	native	Potamogetonaceae	OBL	forb	PE	MO	full
STUPEC	2	Stuckenia pectinata	(L.) Boerner	native	Potamogetonaceae	OBL	forb	PE	MO	full
STUCKE	*	Stuckenia sp.	ND	native	Potamogetonaceae	OBL	forb	PE	MO	full
STYDIP	6	Stylophorum diphyllum	(Michx.) Nutt.	native	Papaveraceae	UPL	forb	PE	DI	shade
STYBIF	3	Stylosanthes biflora	(Michx.) B.S.P.	native	Fabaceae	UPL	forb	PE	DI	shade
STYGRA	9	Styrax grandifolius	Aiton	native	Styracaceae	FACU	shrub	W	DI	shade
SUACAL	0	Suaeda calceoliformis	(Hook.) Moq.	adventive	Chenopodiaceae	OBL	forb	PE	DI	advent
SULSUL	9	Sullivantia sullivantii	(Torr. & A. Gray) Britton	native	Saxifragaceae	UPL	forb	PE	DI	shade
SYMALBA	8	Symphoricarpos albus var. albus	(L.) S.F. Blake	native	Caprifoliaceae	FACU-	shrub	W	DI	partial
SYMALBL	0	Symphoricarpos albus var. laevigatus	(Fernald) S.F. Blake	adventive	Caprifoliaceae	UPL	shrub	W	DI	advent
SYMOCC	0	Symphoricarpos occidentalis	Hook.	adventive	Caprifoliaceae	[FACU]	shrub	W	DI	advent
SYMORB	3	Symphoricarpos orbiculatus	Moench	native	Caprifoliaceae	UPL	shrub	W	DI	partial
SYMPHO	*	Symphoricarpos sp.	ND	ND	Caprifoliaceae	ND	shrub	W	DI	ND
SYMASP	0	Symphytum asperum	Lepech.	adventive	Boraginaceae	UPL	forb	PE	DI	advent
SYMOFF	0	Symphytum officinale	L.	adventive	Boraginaceae	UPL	forb	PE	DI	advent
SYMPHY	0	Symphytum sp.	ND	adventive	Boraginaceae	UPL	forb	PE	DI	advent
SYMFOE	7	Symplocarpus foetidus	(L.) Salisb. ex Barton	native	Araceae	OBL	forb	PE	MO	shade
SYNHIS	7	Synandra hispidula	(Michx.) Baill.	native	Lamiaceae	FAC-	forb	PE	DI	shade
SYRVUL	0	Syringa vulgaris	L.	adventive	Oleaceae	UPL	shrub	W	DI	advent
TAEINT	6	Taenidia integerrima	(L.) Drude	native	Apiaceae	UPL	forb	PE	DI	full
TAMCHI	0	Tamarix chinensis	Lour.	adventive	Tamaricaceae	[FACW]	sm tree	W	DI	advent
TANVUL	0	Tanacetum vulgare	L.	adventive	Asteraceae	UPL	forb	PE	DI	advent
TARLAE	0	Taraxacum laevigatum	(Willd.) DC.	adventive	Asteraceae	UPL	forb	PE	DI	advent
TAROFF	0	Taraxacum officinale	Weber ex F.H. Wigg.	adventive	Asteraceae	FACU-	forb	PE	DI	advent
TARAXA	0	Taraxacum sp.	ND	adventive	Asteraceae	ND	forb	PE	DI	advent
TAXDIS	0	Taxodium distichum	(L.) Rich	adventive	Taxodiaceae	OBL	tree	W	DI	advent
TAXCAN	8	Taxus canadensis	Marshall	native	Taxaceae	FAC	shrub	W	GYMN	shade

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ACRONYM	CofC	SCIENTIFIC NAME	AUTHORITY	NATIVITY	FAMILY	IND	FORM	HABIT	GROUP	SHADE
TEPVIR	6	Tephrosia virginiana	(L.) Pers.	native	Fabaceae	UPL	forb	PE	DI	full
TEUCAN	3	Teucrium canadense	L.	native	Lamiaceae	FACW-	forb	PE	DI	full
THADAS	4	Thalictrum dasycarpum	Fisch. & Ave-Lall.	native	Ranunculaceae	FACW	forb	PE	DI	full
THADIO	5	Thalictrum dioicum	L.	native	Ranunculaceae	FAC	forb	PE	DI	full
THAPUB	5	Thalictrum pubescens	Pursh	native	Ranunculaceae	FACW+	forb	PE	DI	full
THAREV	7	Thalictrum revolutum	DC.	native	Ranunculaceae	UPL	forb	PE	DI	full
THALIC	*	Thalictrum sp.	ND	native	Ranunculaceae	ND	forb	PE	DI	full
THABAR	4	Thaspium barbinode	(Michx.) Nutt.	native	Apiaceae	UPL	forb	PE	DI	full
THASPI	4	Thaspium sp.	ND	native	Apiaceae	ND	forb	PE	DI	full
THATRI	4	Thaspium trifoliatum	(L.) A. Gray	native	Apiaceae	FACU	forb	PE	DI	full
THEHEX	7	Thelypteris hexagonaptera	(Michx.) Weath.	native	Thelypteridaceae	FAC	fern	PE	SVP	shade
THENOV	4	Thelypteris noveboracensis	(L.) Nieuwl.	native	Thelypteridaceae	FAC	fern	PE	SVP	shade
THEPAL	6	Thelypteris palustris	Schott	native	Thelypteridaceae	FACW+	fern	PE	SVP	full
THEPHE	9	Thelypteris phegopteris	(L.) Sloss	native	Thelypteridaceae	FACU	fern	PE	SVP	shade
THELYP	*	Thelypteris sp.	ND	native	Thelypteridaceae	ND	fern	PE	SVP	shade
THLALL	0	Thlaspi alliaceum	L.	adventive	Brassicaceae	[FACW-]	forb	AN	DI	advent
THLARV	0	Thlaspi arvense	L.	adventive	Brassicaceae	UPL	forb	AN	DI	advent
THLPER	0	Thlaspi perfoliatum	L.	adventive	Brassicaceae	UPL	forb	AN	DI	advent
THLASP	0	Thlaspi sp.	ND	adventive	Brassicaceae	UPL	forb	AN	DI	advent
THUOCC	9	Thuja occidentalis	L.	native	Cupressaceae	FACW	tree	W	GYMN	tree
THYPAS	0	Thymelaea passerina	(L.) Coss. & Germ.	adventive	Thymelaeaceae	[FACU]	forb	AN	DI	advent
THYSER	0	Thymus serpyllum	L.	adventive	Lamiaceae	[FACU]	shrub	W	DI	advent
TIACOR	6	Tiarella cordifolia	L.	native	Saxifragaceae	FAC-	forb	PE	DI	shade
TILAME	6	Tilia americana	L.	native	Tiliaceae	FACU	tree	W	DI	tree
TILHET	6	Tilia heterophylla	Vent.	native	Tiliaceae	FACU	tree	W	DI	tree
TILIA	6	Tilia sp.	ND	native	Tiliaceae	FACU	tree	W	DI	tree
TIPDIS	6	Tipularia discolor	(Pursh) Nutt.	native	Orchidaceae	FACU	forb	PE	MO	shade
TORARV	0	Torilis arvensis	(Huds.) Link	adventive	Apiaceae	UPL	forb	AN	DI	advent
TORJAP	0	Torilis japonica	(Houtt.) DC.	adventive	Apiaceae	UPL	forb	AN	DI	advent
TORILI	0	Torilis sp.	ND	adventive	Apiaceae	UPL	forb	AN	DI	advent
TOXRAD	1	Toxicodendron radicans	(L.) Kuntze	native	Anacardiaceae	FAC	vine	W	DI	partial
TOXRYD	3	Toxicodendron rydbergii	(Small ex Rydb.) Greene	native	Anacardiaceae	FAC-	vine	W	DI	partial
TOXVER	7	Toxicodendron vernix	(L.) Kuntze	native	Anacardiaceae	OBL	shrub	W	DI	full
TRABRA	0	Tradescantia bracteata	Small	adventive	Commelinaceae	UPL	forb	PE	DI	advent
TRAOHI	5	Tradescantia ohiensis	Raf.	native	Commelinaceae	FAC	forb	PE	DI	full
TRADES	5	Tradescantia sp.	ND	native	Commelinaceae	ND	forb	PE	DI	ND
TRASUB	5	Tradescantia subaspera	Ker Gawl.	native	Commelinaceae	FACU	forb	PE	DI	shade
TRAVIR	5	Tradescantia virginiana	L.	native	Commelinaceae	FACU	forb	PE	DI	shade
TRADUB	0	Tragogpogon dubius	Scop.	adventive	Asteraceae	UPL	forb	PE	DI	advent
TRAPOR	0	Tragopogon porrifolius	L.	adventive	Asteraceae	UPL	forb	PE	DI	advent
TRAPRA	0	Tragopogon pratensis	L.	adventive	Asteraceae	UPL	forb	PE	DI	advent
TRAGOP	0	Tragopogon sp.	ND	adventive	Asteraceae	UPL	forb	PE	DI	advent
TRIFRA	6	Triadenum fraseri	(Spach) Gleason	native	Clusiaceae	OBL	forb	PE	DI	full
TRIADE	*	Triadenum sp.	ND	native	Clusiaceae	OBL	forb	PE	DI	ND
TRITUB	8	Triadenum tubulosum	(Walter) Gleason	native	Clusiaceae	OBL	forb	PE	DI	shade
TRIVIR	6	Triadenum virginicum	(L.) Raf.	native	Clusiaceae	OBL	forb	PE	DI	full
TRIWAL	8	Triadenum walteri	(J.G. Gmel) Gleason	native	Clusiaceae	OBL	forb	PE	DI	partial
TRIGLU	10	Triantha glutinosa	(Michx.) Baker	native	Liliaceae	OBL	forb	PE	MO	full
TRITER	0	Tribulus terrestris	L.	adventive	Zygophyllaceae	UPL	forb	AN	DI	advent

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TRIBOS	10	Trichomanes boschianum	J. W. Sturm	native	Hymenophyllaceae	FACW	fern	PE	SVP	shade
TRIINT	10	Trichomanes intricatum	Farrar	native	Hymenophyllaceae	UPL	fern	PE	SVP	shade
TRICHO	10	Trichomanes sp.	ND	native	Hymenophyllaceae	ND	fern	PE	SVP	shade
TRIPLA	7	Trichophorum planifolium	(Spreng.) Palla	native	Cyperaceae	UPL	sedge	PE	MO	partial
TRIDOC	4	Trichostema dichotomum	L.	native	Lamiaceae	UPL	forb	AN	DI	full
TRISET	7	Trichostema setaceum	Houtt.	native	Lamiaceae	UPL	forb	AN	DI	full
TRICHS	*	Trichostema sp.	ND	native	Lamiaceae	UPL	forb	AN	DI	full
TRIFLA	1	Tridens flavus	(L.) Hitchc.	native	Poaceae	FACU	grass	PE	MO	full
TRIBOR	7	Trientalis borealis	Raf.	native	Primulaceae	FAC	forb	PE	DI	shade
TRFARV	0	Trifolium arvense	L.	adventive	Fabaceae	UPL	forb	AN	DI	advent
TRFAUR	0	Trifolium aureum	Pollich	adventive	Fabaceae	UPL	forb	AN	DI	advent
TRFCAM	0	Trifolium campestre	Schreb.	adventive	Fabaceae	UPL	forb	AN	DI	advent
TRFDUB	0	Trifolium dubium	Sibth.	adventive	Fabaceae	UPL	forb	AN	DI	advent
TRFHYB	0	Trifolium hybridum	L.	adventive	Fabaceae	FACU-	forb	PE	DI	advent
TRFINC	0	Trifolium incarnatum	L.	adventive	Fabaceae	UPL	forb	AN	DI	advent
TRFPRA	0	Trifolium pratense	L.	adventive	Fabaceae	FACU-	forb	PE	DI	advent
TRFREF	8	Trifolium reflexum	L.	native	Fabaceae	UPL	forb	BI	DI	partial
TRFREP	0	Trifolium repens	L.	adventive	Fabaceae	FACU-	forb	PE	DI	advent
TRIFOL	*	Trifolium sp.	ND	ND	Fabaceae	ND	forb	ND	DI	ND
TRFSTO	5	Trifolium stoloniferum	Muhl. ex Eaton	native	Fabaceae	FACU+	forb	PE	DI	partial
TRIMAR	10	Triglochin maritima	L.	native	Juncaginaceae	OBL	forb	PE	MO	full
TRIPAL	10	Triglochin palustre	L.	native	Juncaginaceae	OBL	forb	PE	MO	full
TRIGLO	10	Triglochin sp.	ND	native	Juncaginaceae	OBL	forb	PE	MO	full
TRLCER	7	Trillium cernuum	L.	native	Liliaceae	FACW	forb	PE	MO	shade
TRLERE	7	Trillium erectum	L.	native	Liliaceae	FACU-	forb	PE	MO	shade
TRLFLE	6	Trillium flexipes	Raf.	native	Liliaceae	FAC	forb	PE	MO	shade
TRLGRA	5	Trillium grandiflorum	(Michx.) Salisb.	native	Liliaceae	UPL	forb	PE	MO	shade
TRLNIV	9	Trillium nivale	Riddell	native	Liliaceae	UPL	forb	PE	MO	shade
TRLREC	6	Trillium recurvatum	L.C. Beck	native	Liliaceae	UPL	forb	PE	MO	shade
TRLSES	5	Trillium sessile	L.	native	Liliaceae	UPL	forb	PE	MO	shade
TRILLI	*	Trillium sp.	ND	native	Liliaceae	ND	forb	PE	MO	shade
TRLUND	8	Trillium undulatum	Willd.	native	Liliaceae	FACU	forb	PE	MO	shade
TRDPER	2	Triodanis perfoliata	(L.) Nieuwl.	native	Scrophulariaceae	FAC	forb	AN	DI	full
TRIANG	5	Triosteum angustifolium	L.	native	Caprifoliaceae	FAC	forb	PE	DI	full
TRIAUR	5	Triosteum aurantiacum	E.P. Bicknell	native	Caprifoliaceae	UPL	forb	PE	DI	full
TRIPER	5	Triosteum perfoliatum	L.	native	Caprifoliaceae	UPL	forb	PE	DI	full
TRIOST	5	Triosteum sp.	ND	native	Caprifoliaceae	ND	forb	PE	DI	full
TRITRI	9	Triphora trianthophora	(Sw.) Rydb.	native	Orchidaceae	UPL	forb	PE	MO	shade
TRIPUR	9	Triplasis purpurea	(Walter) Chapm.	native	Poaceae	UPL	grass	AN	MO	full
TRIDAC	0	Tripsacum dactyloides	(L.) L.	adventive	Poaceae	FACW	grass	PE	MONO	advent
TRIAES	0	Triticum aestivum	L.	adventive	Poaceae	UPL	grass	AN	MONO	advent
TROLAX	9	Trollius laxus	Salisb.	native	Ranunculaceae	OBL	forb	PE	DI	partial
TSUCAN	8	Tsuga canadensis	(L.) Carriere	native	Pinaceae	FACU	tree	W	GYMN	tree
TULGES	0	Tulipa gesneriana	L.	adventive	Liliaceae	UPL	forb	PE	MONO	advent
TUSFAR	0	Tussilago farfara	L.	adventive	Asteraceae	FACU	forb	PE	DI	advent
TYPANG	0	Typha angustifolia	L.	adventive	Typhaceae	OBL	forb	PE	MO	advent
TYPLAT	1	Typha latifolia	L.	native	Typhaceae	OBL	forb	PE	MO	full
TYPHA	*	Typha sp.	ND	adventive	Typhaceae	OBL	forb	PE	MO	ND
TYPGLA	0	Typha x glauca	Godr.	adventive	Typhaceae	OBL	forb	PE	MO	advent
ULMAME	2	Ulmus americana	L.	native	Ulmaceae	FACW-	tree	W	DI	tree

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ULMPUM	0	Ulmus pumila	L.	adventive	Ulmaceae	UPL	tree	W	DI	advent
ULMRUB	3	Ulmus rubra	Muhl.	native	Ulmaceae	FAC	tree	W	DI	tree
ULMUS	*	Ulmus sp.	ND	ND	Ulmaceae	ND	ND	W	DI	ND
ULMTHO	7	Ulmus thomasii	Sarg.	native	Ulmaceae	FACU+	sm tree	W	DI	partial
URTCHA	9	Urtica chamaedryoides	Pursh	native	Urticaceae	FACU	forb	AN	DI	shade
URTDIOD	0	Urtica dioica var. dioica	L.	adventive	Urticaceae	FACU	forb	PE	DI	advent
URTIDIOP	1	Urtica dioica var. procera	(Muhl. ex Willd.) Wedd.	native	Urticaceae	FAC-	forb	PE	DI	full
URTICA	*	Urtica sp.	ND	ND	Urticaceae	ND	forb	ND	DI	ND
UTRCOR	10	Utricularia cornuta	Michx.	native	Lentibulariaceae	OBL	forb	PE	DI	full
UTRGEM	10	Utricularia geminiscapa	Benj.	native	Lentibulariaceae	OBL	forb	PE	DI	full
UTRGIB	8	Utricularia gibba	L.	native	Lentibulariaceae	OBL	forb	PE	DI	full
UTRINT	10	Utricularia intermedia	Hayne	native	Lentibulariaceae	OBL	forb	PE	DI	full
UTRMIN	8	Utricularia minor	L.	native	Lentibulariaceae	OBL	forb	PE	DI	full
UTRICU	*	Utricularia sp.	ND	native	Lentibulariaceae	OBL	forb	PE	DI	full
UTRVUL	6	Utricularia vulgaris	L.	native	Lentibulariaceae	OBL	forb	PE	DI	full
UVUGRA	5	Uvularia grandiflora	Sm.	native	Liliaceae	UPL	forb	PE	MO	shade
UVUPER	5	Uvularia perfoliata	L.	native	Liliaceae	FACU	forb	PE	MO	shade
UVUSES	5	Uvularia sessilifolia	L.	native	Liliaceae	FACU-	forb	PE	MO	shade
UVULAR	5	Uvularia sp.	ND	native	Liliaceae	ND	forb	PE	MO	shade
VACHIS	0	Vaccaria hispanica	(Mill.) Rauschert	adventive	Caryophyllaceae	UPL	forb	AN	DI	advent
VACANG	7	Vaccinium angustifolium	Aiton	native	Ericaceae	FACU-	shrub	W	DI	shade
VACCOR	6	Vaccinium corymbosum	L.	native	Ericaceae	FACW-	shrub	W	DI	partial
VACMAC	8	Vaccinium macrocarpon	Aiton	native	Ericaceae	OBL	shrub	W	DI	full
VACMYR	9	Vaccinium myrtilloides	Michx.	native	Ericaceae	FAC	shrub	W	DI	shade
VACOXY	10	Vaccinium oxycoccos	L.	native	Ericaceae	OBL	shrub	W	DI	full
VACPAL	6	Vaccinium pallidum	Aiton	native	Ericaceae	UPL	shrub	W	DI	shade
VACCIN	*	Vaccinium sp.	ND	native	Ericaceae	ND	shrub	W	DI	ND
VACSTA	6	Vaccinium stamineum	L.	native	Ericaceae	FACU-	shrub	W	DI	shade
VALCIL	10	Valeriana ciliata	Torr. & A. Gray	native	Valerianaceae	OBL	forb	PE	DI	full
VALOFF	0	Valeriana officinalis	L.	adventive	Valerianaceae	FACU	forb	PE	DI	advent
VALPAU	7	Valeriana pauciflora	Michx.	native	Valerianaceae	FACW	forb	PE	DI	full
VALERI	*	Valeriana sp.	ND	ND	Valerianaceae	ND	forb	PE	DI	ND
VALULI	10	Valeriana uliginosa	(Torr. & A. Gray) Rydb.	native	Valerianaceae	FACW+	forb	PE	DI	full
VALCHE	4	Valerianella chenopodifolia	(Pursh) DC.	native	Valerianaceae	FAC-	forb	AN	DI	full
VALLOC	0	Valerianella locusta	(L.) Latourr.	adventive	Valerianaceae	UPL	forb	AN	DI	advent
VALRAD	0	Valerianella radiata	(L.) Dufr.	adventive	Valerianaceae	FAC	forb	AN	DI	advent
VALERN	*	Valerianella sp.	ND	native	Valerianaceae	ND	forb	AN	DI	ND
VALUMB	2	Valerianella umbilicata	(Sull.) A.W. Wood	native	Valerianaceae	FAC	forb	AN	DI	full
VALAME	8	Vallisneria americana	Michx.	native	Hydrocharitaceae	OBL	forb	PE	MO	full
VERVIR	6	Veratrum viride	Aiton	native	Liliaceae	FACW+	forb	PE	MO	shade
VERBLA	0	Verbascum blattaria	L.	adventive	Scrophulariaceae	UPL	forb	BI	DI	advent
VERPHL	0	Verbascum phlomoides	L.	adventive	Scrophulariaceae	[UPL]	forb	BI	DI	advent
VERBAS	0	Verbascum sp.	ND	adventive	Scrophulariaceae	UPL	forb	BI	DI	advent
VERTHA	0	Verbascum thapsus	L.	adventive	Scrophulariaceae	UPL	forb	BI	DI	advent
VERVIR	0	Verbascum virgatum	Stokes	adventive	Scrophulariaceae	[UPL]	forb	BI	DI	advent
VERBRA	0	Verbena bracteata	Lag. & Rodr.	native	Verbenaceae	UPL	forb	PE	DI	full
VERCAN	0	Verbena canadensis	(L.) Britton	adventive	Verbenaceae	UPL	forb	PE	DI	advent
VERHAS	4	Verbena hastata	L.	native	Verbenaceae	FACW+	forb	PE	DI	full
VERSIM	5	Verbena simplex	Lehm.	native	Verbenaceae	UPL	forb	PE	DI	full
VERBEN	*	Verbena sp.	ND	ND	Verbenaceae	ND	forb	PE	DI	ND

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ACRONYM	CofC	SCIENTIFIC NAME	AUTHORITY	NATIVITY	FAMILY	IND	FORM	HABIT	GROUP	SHADE
VERSTR	3	Verbena stricta	Vent.	native	Verbenaceae	UPL	forb	PE	DI	full
VERURT	3	Verbena urticifolia	L.	native	Verbenaceae	FACU	forb	PE	DI	full
VERALT	5	Verbesina alternifolia	(L.) Britton ex Kearney	native	Asteraceae	FAC	forb	PE	DI	partial
VERHEL	5	Verbesina helianthoides	Michx.	native	Asteraceae	UPL	forb	PE	DI	full
VEROCC	5	Verbesina occidentalis	(L.) Walter	native	Asteraceae	UPL	forb	PE	DI	shade
VERBES	5	Verbesina sp.	ND	native	Asteraceae	ND	forb	PE	DI	ND
VERVIR	0	Verbesina virginica	L.	adventive	Asteraceae	UPL	forb	PE	DI	advent
VERFAS	8	Vernonia fasciculata	Michx.	native	Asteraceae	FAC+	forb	PE	DI	full
VERGIG	2	Vernonia gigantea	(Walter) Trel.	native	Asteraceae	FAC	forb	PE	DI	full
VERMIS	8	Vernonia missurica	Raf.	native	Asteraceae	FACU+	forb	PE	DI	full
VERNOV	3	Vernonia noveboracensis	(L.) Michx.	native	Asteraceae	FACW+	forb	PE	DI	full
VERNON	*	Vernonia sp.	ND	native	Asteraceae	ND	forb	PE	DI	full
VERAGR	0	Veronica agrestis	L.	adventive	Scrophulariaceae	UPL	forb	AN	DI	advent
VERAME	6	Veronica americana	Schwein. ex Benth.	native	Scrophulariaceae	OBL	forb	PE	DI	partial
VERANA	6	Veronica anagallis-aquatica	L.	native	Scrophulariaceae	OBL	forb	PE	DI	full
VERARV	0	Veronica arvensis	L.	adventive	Scrophulariaceae	UPL	forb	AN	DI	advent
VERBEC	0	Veronica beccabunga	L.	adventive	Scrophulariaceae	OBL	forb	PE	DI	advent
VERCAT	6	Veronica catenata	Pennell	native	Scrophulariaceae	OBL	forb	PE	DI	full
VERCHA	0	Veronica chamaedrys	L.	adventive	Scrophulariaceae	UPL	forb	PE	DI	advent
VERFIL	0	Veronica filiformis	Sm.	adventive	Scrophulariaceae	UPL	forb	PE	DI	advent
VERHED	0	Veronica hederaefolia	L.	adventive	Scrophulariaceae	UPL	forb	AN	DI	advent
VERLAT	0	Veronica latifolia	L.	adventive	Scrophulariaceae	UPL	forb	PE	DI	advent
VERLON	0	Veronica longifolia	L.	adventive	Scrophulariaceae	UPL	forb	PE	DI	advent
VEROFF	0	Veronica officinalis	L.	adventive	Scrophulariaceae	FACU-	forb	PE	DI	advent
VERPERP	1	Veronica peregrina var. peregrina	L.	native	Scrophulariaceae	FACU-	forb	AN	DI	full
VERPERX	0	Veronica peregrina var. xalapensis	(Kunth) H. St. John & F.A. Warren	adventive	Scrophulariaceae	FACU-	forb	AN	DI	advent
VERPER	0	Veronica persica	Poir.	adventive	Scrophulariaceae	UPL	forb	AN	DI	advent
VERPOL	0	Veronica polita	Fr.	adventive	Scrophulariaceae	UPL	forb	AN	DI	advent
VERSCU	6	Veronica scutellata	L.	native	Scrophulariaceae	OBL	forb	PE	DI	full
VERSER	0	Veronica serpyllifolia	L.	adventive	Scrophulariaceae	FAC+	forb	PE	DI	advent
VERONI	*	Veronica sp.	ND	ND	Scrophulariaceae	ND	forb	ND	DI	ND
VERVER	0	Veronica verna	L.	adventive	Scrophulariaceae	UPL	forb	AN	DI	advent
VERVIN	7	Veronicastrum virginicum	(L.) Farw.	native	Scrophulariaceae	FACU	forb	PE	DI	full
VIBACE	6	Viburnum acerifolium	L.	native	Caprifoliaceae	UPL	shrub	W	DI	shade
VIBALN	8	Viburnum alnifolium	Marshall	native	Caprifoliaceae	FAC	shrub	W	DI	shade
VIBCAS	5	Viburnum cassinoides	L.	native	Caprifoliaceae	FACW	shrub	W	DI	shade
VIBDEN	2	Viburnum dentatum	L.	native	Caprifoliaceae	FAC	shrub	W	DI	full
VIBLAN	0	Viburnum lantana	L.	adventive	Caprifoliaceae	UPL	shrub	W	DI	advent
VIBLEN	5	Viburnum lentago	L.	native	Caprifoliaceae	FAC	shrub	W	DI	partial
VIBMOL	6	Viburnum molle	Michx.	native	Caprifoliaceae	UPL	shrub	W	DI	shade
VIBOPUA	8	Viburnum opulus var. americana	Aiton	native	Caprifoliaceae	FACW	shrub	W	DI	shade
VIBOPUO	0	Viburnum opulus var. opulus	L.	adventive	Caprifoliaceae	FACW	shrub	W	DI	advent
VIBPRU	4	Viburnum prunifolium	L.	native	Caprifoliaceae	FACU	shrub	W	DI	shade
VIBRAF	5	Viburnum rafinesquianum	Schult.	native	Caprifoliaceae	UPL	shrub	W	DI	shade
VIBREC	2	Viburnum recognitum	Aiton	native	Caprifoliaceae	FACW-	shrub	W	DI	partial
VIBRUF	6	Viburnum rufidulum	Raf.	native	Caprifoliaceae	UPL	shrub	W	DI	partial
VIBURN	*	Viburnum sp.	ND	native	Caprifoliaceae	ND	shrub	W	DI	ND
VICAME	5	Vicia americana	Muhl. ex Willd.	native	Fabaceae	UPL	forb	PE	DI	full
VICANG	0	Vicia angustifolia	L.	adventive	Fabaceae	FACU-	vine	AN	DI	advent

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VICCAR	5	Vicia caroliniana	Walter	native	Fabaceae	FACU-	forb	PE	DI	full
VICCRA	0	Vicia cracca	L.	adventive	Fabaceae	UPL	forb	PE	DI	advent
VICDAS	0	Vicia dasycarpa	Ten.	adventive	Fabaceae	UPL	forb	AN	DI	advent
VICHIR	0	Vicia hirsuta	(L.) Gray	adventive	Fabaceae	UPL	forb	AN	DI	advent
VICSAT	0	Vicia sativa	L.	adventive	Fabaceae	FACU-	forb	AN	DI	advent
VICIA	*	Vicia sp.	ND	ND	Fabaceae	ND	forb	ND	DI	ND
VICTET	0	Vicia tetrasperma	(L.) Schrebr.	adventive	Fabaceae	[UPL]	vine	AN	DI	advent
VICVIL	0	Vicia villosa	Roth	adventive	Fabaceae	UPL	forb	AN	DI	advent
VINMAJ	0	Vinca major	L.	adventive	Apocynaceae	[FACU-]	forb	PE	DI	advent
VINMIN	0	Vinca minor	L.	adventive	Apocynaceae	UPL	vine	PE	DI	advent
VINNIG	0	Vincetoxicum nigrum	(L.) Moench	adventive	Asclepiadaceae	UPL	forb	PE	DI	advent
VIOARV	0	Viola arvensis	Murray	adventive	Violaceae	UPL	forb	AN	DI	advent
VIOBLA	7	Viola blanda	Willd.	native	Violaceae	FACW	forb	PE	DI	shade
VIOCAN	5	Viola canadensis	L.	native	Violaceae	UPL	forb	PE	DI	shade
VIOCON	5	Viola conspersa	Rchb.	native	Violaceae	FACW	forb	PE	DI	partial
VIOCUC	6	Viola cucullata	Aiton	native	Violaceae	FACW+	forb	PE	DI	partial
VIOHAS	7	Viola hastata	Michx.	native	Violaceae	UPL	forb	PE	DI	shade
VIOLAN	8	Viola lanceolata	L.	native	Violaceae	OBL	forb	PE	DI	full
VIOMAC	8	Viola macloskeyi	F.E. Lloyd	native	Violaceae	OBL	forb	PE	DI	partial
VIOMIS	10	Viola missouriensis	Greene	native	Violaceae	FACU	forb	PE	DI	shade
VIONEP	10	Viola nephrophylla	Greene	native	Violaceae	FACW	forb	PE	DI	partial
VIOODO	0	Viola odorata	L.	adventive	Violaceae	UPL	forb	PE	DI	advent
VIOPPAL	4	Viola palmata var. palmata	L.	native	Violaceae	FACW	forb	PE	DI	partial
VIOPPED	9	Viola palmata var. pedatifida	(G. Don) Cronquist	native	Violaceae	FACU-	forb	PE	DI	full
VIOPED	8	Viola pedata	L.	native	Violaceae	UPL	forb	PE	DI	full
VIOPRI	8	Viola primulifolia	L.	native	Violaceae	FAC+	forb	PE	DI	full
VIOPUB	4	Viola pubescens	Aiton	native	Violaceae	FACU-	forb	PE	DI	shade
VIORAF	2	Viola rafinesquii	Greene	native	Violaceae	UPL	forb	AN	DI	full
VIOROS	5	Viola rostrata	Pursh	native	Violaceae	FACU	forb	PE	DI	shade
VIOROT	8	Viola rotundifolia	Michx.	native	Violaceae	FAC+	forb	PE	DI	shade
VIOSAG	4	Viola sagittata	Aiton	native	Violaceae	FACW	forb	PE	DI	full
VIOSOR	1	Viola sororia	Willd.	native	Violaceae	FAC-	forb	PE	DI	shade
VIOLA	*	Viola sp.	ND	native	Violaceae	ND	forb	ND	DI	ND
VIOSTR	5	Viola striata	Aiton	native	Violaceae	FACW	forb	PE	DI	partial
VIOTRC	0	Viola tricolor	L.	adventive	Violaceae	UPL	forb	AN	DI	advent
VIOTRP	7	Viola tripartita	Elliott	native	Violaceae	UPL	forb	PE	DI	shade
VIOVIL	6	Viola villosa	Brainerd	native	Violaceae	FACU-	forb	PE	DI	full
VIOWAL	9	Viola walteri	House	native	Violaceae	UPL	forb	PE	DI	shade
VITNEG	0	Vitex negundo	L.	adventive	Verbenaceae	[UPL]	sm tree	W	DI	advent
VITAES	4	Vitis aestivalis	Michx.	native	Vitaceae	FACU	vine	W	DI	shade
VITCIN	6	Vitis cinerea	(Engelm.) Millard	native	Vitaceae	FACW	vine	W	DI	partial
VITLAB	3	Vitis labrusca	L.	native	Vitaceae	FACU	vine	W	DI	full
VITRIP	3	Vitis riparia	Michx.	native	Vitaceae	FACW	vine	W	DI	partial
VITIS	*	Vitis sp.	ND	native	Vitaceae	ND	vine	W	DI	ND
VITVUL	3	Vitis vulpina	L.	native	Vitaceae	FAC	vine	W	DI	shade
VITAPP	10	Vittaria appalachiana	Farrar & Mickel	native	Vittariaceae	FACU	fern	PE	DI	shade
VULBRO	0	Vulpia bromoides	(L.) Gray	adventive	Poaceae	FACW	grass	AN	MONO	advent
VULMYU	0	Vulpia myuros	(L.) C.C. Gmel.	adventive	Poaceae	UPL	grass	AN	MONO	advent
VULOCT	4	Vulpia octoflora	(Walter) Rydb.	native	Poaceae	UPL	grass	AN	MO	full

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WALFRA	6	Waldsteinia fragarioides	(Michx.) Tratt.	native	Rosaceae	UPL	forb	PE	DI	full
WISFLO	0	Wisteria floribunda	(Willd.) DC	adventive	Fabaceae	[FACU]	shrub	W	DI	advent
WISFRU	0	Wisteria frutescens	(L.) Poir.	adventive	Fabaceae	FACW-	vine	PE	DI	advent
WOLBOR	6	Wolffia borealis	(Engelm. ex Hegelm.) Landolt	native	Lemnaceae	OBL	forb	AN	MO	full
WOLBRA	6	Wolffia brasiliensis	Weddell	native	Lemnaceae	OBL	forb	AN	MO	full
WOLCOL	3	Wolffia columbiana	Karsten	native	Lemnaceae	OBL	forb	AN	MO	full
WOLFFI	*	Wolffia sp.	ND	native	Lemnaceae	OBL	forb	AN	MO	full
WOLGLA	7	Wolffiella gladiata	(Hegelm.) Hegelm.	native	Lemnaceae	OBL	forb	AN	MO	full
WOOILV	9	Woodsia ilvensis	(L.) R. Br.	native	Dryopteridaceae	UPL	fern	PE	SVP	shade
WOOOBT	6	Woodsia obtusa	(Spreng.) Torr.	native	Dryopteridaceae	UPL	fern	PE	SVP	shade
WOODSI	*	Woodsia sp.	ND	native	Dryopteridaceae	UPL	fern	PE	SVP	shade
WOOARE	6	Woodwardia areolata	(L.) T. Moore	native	Blechnaceae	FACW+	fern	PE	SVP	full
WOODWA	*	Woodwardia sp.	ND	native	Blechnaceae	ND	fern	PE	SVP	full
WOOVIR	8	Woodwardia virginica	(L.) Sm.	native	Blechnaceae	OBL	fern	PE	SVP	full
XANTHI	0	Xanthium sp.	ND	adventive	Asteraceae	ND	forb	AN	DI	advent
XANSPI	0	Xanthium spinosum	L.	adventive	Asteraceae	FACU	forb	AN	DI	advent
XANSTR	0	Xanthium strumarium	L.	adventive	Asteraceae	FAC	forb	AN	DI	advent
XANSIM	0	Xanthorhiza simplicissima	Marshall	adventive	Ranunculaceae	FACW	forb	PE	DI	advent
XYRDIF	10	Xyris difformis	Chapm.	native	Xyridaceae	OBL	forb	PE	MO	full
XYRIS	10	Xyris sp.	ND	native	Xyridaceae	OBL	forb	PE	MO	full
XYRTOR	10	Xyris torta	Sm.	native	Xyridaceae	OBL	forb	PE	MO	full
YUCFIL	0	Yucca filamentosa	L.	adventive	Agavaceae	[UPL]	forb	PE	MONO	advent
ZANPAL	6	Zannichellia palustris	L.	native	Najadaceae	OBL	forb	PE	MO	full
ZANAME	3	Zanthoxylum americanum	Mill.	native	Rutaceae	FACU	shrub	W	DI	shade
ZEAMAY	0	Zea mays	L.	adventive	Poaceae	[UPL]	grass	AN	MONO	advent
ZIGELE	10	Zigadenus elegans	Pursh	native	Liliaceae	FAC+	forb	PE	MO	shade
ZIZAQU	9	Zizania aquatica	L.	native	Poaceae	OBL	grass	AN	DI	full
ZIZAPT	7	Zizia aptera	(A. Gray) Fernald	native	Apiaceae	FAC	forb	PE	DI	full
ZIZAUR	6	Zizia aurea	(L.) W.D.J. Koch	native	Apiaceae	FAC	forb	PE	DI	full
ZIZIA	*	Zizia sp.	ND	native	Apiaceae	FAC	forb	PE	DI	full
ZOSDUB	5	Zosterella dubia	(Jacq.) Small	native	Pontederiaceae	OBL	forb	PE	MO	full