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ENVIRONMENTAL RESTORATION PROGRAM

Survey of Protected Vascular Plants on the Oak Ridge Reservation, Oak Ridge, Tennessee

ENERGY SYSTEMS ER

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LOCKHEED MARTIN ENERGY SYSTEMS, INC.
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PREFACE

This technical report was prepared as the final report of the Threatened and Endangered Vascular Plants Project of the Environmentally Sensitive Areas Surveys Program. This work was conducted under Work Breakdown Structure 1.4.12.2.3.04.03.01 (Activity Data Sheet 8304) and the milestone titled *Final Report of Baseline Threatened and Endangered Vascular Plant Species Conditions on the Oak Ridge Reservation.*

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ABBREVIATIONS

CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	*Code of Federal Regulations*
CWA	Clean Water Act
DOE	U.S. Department of Energy
EM	Environmental Restoration and Waste Management Program
ESA	Endangered Species Act
FWS	U. S. Fish and Wildlife Service
GIS	geographic information systems
GWOU	groundwater operable unit
NEPA	National Environmental Policy Act
NRDA	National Resource Damage Assessments
OREIS	Oak Ridge Environmental Information System
ORNL	Oak Ridge National Laboratory
ORR	Oak Ridge Reservation
OU	operable unit
T&E	threatened and endangered
TDEC	Tennessee Department of Environment and Conservation
TNC	The Nature Conservancy
TVA	Tennessee Valley Authority
UT	The University of Tennessee
WAG	waste area grouping

EXECUTIVE SUMMARY

Vascular plant surveys were initiated during fiscal year 1992 by the environmentally sensitive areas program to determine the baseline condition of threatened and endangered (T&E) vascular plant species on the Oak Ridge Reservation (ORR). T&E species receive protection under federal and state regulations. In addition, the National Environmental Policy Act (NEPA) requires that federally–funded projects avoid or mitigate impacts to listed species.

T&E plant species found on or near the U. S. Department of Energy's (DOE) Oak Ridge Reservation (ORR) are identified. Twenty–eight species identified on the ORR are listed by the Tennessee Department of Environment and Conservation as either endangered, threatened, or of special concern. Four of these have been under review by the U.S. Fish and Wildlife Service for possible listing (listed in the formerly–used C2 candidate category). Additional species listed by the state occur near and may be present on the ORR. A range of habitats support the rare taxa on the ORR: river bluffs, sinkholes, calcareous barrens, wetlands, utility corridors, and forests. The list of T&E plant species and their locations on the ORR should be considered provisional because the entire ORR has not been surveyed, and state and federal status of all species continues to be updated.

The purpose of this document is to present information on the listed T&E plant species currently known to occur on the ORR as well as listed species potentially occurring on the ORR based on geographic range and habitat availability. For the purpose of this report, "T&E species" include all federal- and state-listed species, including candidates for listing, and species of special concern. For project planning purposes, this report is most useful in alerting planners and site managers that T&E species are known to exist in certain areas. Consideration of T&E plant habitats is an important component of resource management and land–use planning; protection of rare species in their natural habitat is the best method of ensuring their long–term survival.

1. INTRODUCTION

The U.S. Department of Energy's (DOE's) Oak Ridge Reservation (ORR) encompasses approximately 15,000 ha in the Ridge and Valley physiographic province of Tennessee. Threatened and endangered (T&E) plant species on the ORR may receive protection under federal and state laws.

The federal Endangered Species Act of 1973 (ESA), as amended, provides for the listing and protection of species in danger of becoming extinct and conservation of the habitats on which such species depend. ESA makes it illegal to kill, collect, remove, harass, import, or export an endangered or threatened species without a permit from the Secretary of the Interior. Federal regulations that implement Sect. 7, "Interagency Cooperation," of the ESA (16 U.S.C. 1531 et seq.) require federal agencies to assess the impacts of their actions on plant and animal species listed by the U. S. Fish and Wildlife Service (FWS) as threatened or endangered and on areas designated or proposed for designation as critical habitat. FWS recommends that federal agencies also consider species that are candidates for listing during environmental planning since candidate species may eventually be listed.

The National Environmental Policy Act (NEPA) requires that federally–funded projects avoid or mitigate impacts to listed species. DOE NEPA implementing regulations (10 *CFR* 1021) require consideration of adverse affects to "environmentally sensitive resources" including "federally listed threatened or endangered species or their habitat (including critical habitat), federally proposed or candidate species or their habitat, or state–listed endangered or threatened species or their habitat."

Plant species listed by the Tennessee Department of Environment and Conservation (TDEC) are also provided limited protection by the Tennessee Rare Plant Protection and Conservation Act of 1985 (Tennessee Code Annotated Title 11–26, Sects. 201–214). This act protects listed plant species from removal or destruction without the consent of the landowner. DOE supports the protection of state–listed species on the ORR.

The DOE Environmental Restoration and Waste Management Program (EM) has supported a program to survey the ORR for species listed as T&E. Vascular plant surveys were initiated during fiscal year 1992 by the Environmentally Sensitive Areas Program to determine the baseline condition of T&E vascular plant species on the ORR. The primary concern of the T&E plant survey project is the identification of vascular plant species occurring on the ORR that are federally listed as endangered or threatened, candidate species for federal listing, listed by the State of Tennessee, or are of special concern (considered at risk) based on other sources. Additionally, the surveys allow the identification of potential habitat for such species on the ORR and the identification of potential threats to such species on the ORR.

Data collected during these surveys aids in Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) remedial investigations on the ORR. The surveys also provide data for EM decision documents, ensure that remedial decisions have legal defensibility, provide a baseline for ensuring compliance with principal legal requirements [including ESA, NEPA, CERCLA, National Resource Damage Assessments (NRDA), and the Clean Water Act (CWA)] and will increase public confidence in DOE's adherence to all related environmental resources rules, laws, regulations, and instructions.

2. METHODS

The ORR T&E plant survey project can be broken down into three primary tasks: compilation of existing data, field surveys, and documentation.

2.1. COMPILATION OF PRE–EXISTING DATA

Data existing prior to the initiation of this project was compiled and published during Fall 1993 (Cunningham et al. 1993; Pounds, Parr, and Ryan 1993). Updated state and federal rare plant lists were obtained from TDEC and the *Federal Register*. Data from previous plant surveys on the ORR were reviewed and evaluated for completeness. A preliminary map of areas for which rare plant data was available and was prepared using geographic information systems (GIS); this coverage was then overlaid onto the EM waste areas map to determine the availability of rare plant data for the waste areas. The following data sets were compiled:

- Vascular plants documented to occur on the ORR
- T&E vascular plant species not documented from the ORR but known to exist in areas near the ORR
- T&E vascular plant species occurring in the Ridge and Valley Physiographic Province of Tennessee which potentially occur in habitat types found on the ORR
- Characterization data for T&E vascular plant species occurring on the ORR, near the ORR, or potentially within habitats present on the ORR (i.e., range information; habitat requirements; life cycle characteristics such as dates of emergence, flowering, and setting of fruit or seed; and distinguishing morphologic features)
- Descriptions of environmentally sensitive areas on the ORR known to contain rare plants or rare communities
- Landscape elements frequently associated with rare species on the ORR (landscape elements are land types and formations which provide the underlying structure for the development of biological habitats and communities; many T&E species are associated with or restricted to certain land types/formations)

2.2. FIELD SURVEYS

Field surveys were conducted to locate and identify T&E plant species and sensitive habitats on the ground. Areas of the ORR lacking sufficient information concerning rare plants and sensitive habitats were ranked for urgency of field surveys and selected for site visits in a roughly descending order based on the following priorities: (1) EM waste areas, (2) areas where projects have been proposed, (3) areas most likely to be impacted in the near future, (4) areas containing landscape elements and natural communities associated with T&E species, (5) remaining areas of the ORR. In addition, selected areas with known rare plant populations were visited to collect baseline data on those populations.

Field surveys were conducted by trained biologists familiar with the regional flora who have familiarized themselves with the distinguishing morphologic characteristics, life cycles, and habitats of the rare plant species occurring or potentially occurring in the area investigated. Field surveys sometimes required multiple site visits when taxonomic identifications required plant parts available during other seasons ("seasonal identification") when environmental conditions were unfavorable for the growth and/or observation of a species during the initial visit or when population monitoring efforts were undertaken. Types of records produced in the course of field surveys included species lists, data sheets, maps, photos, herbarium specimens, and written reports. The following types of methods were applied in the course of field surveys and are presented in order of decreasing areal scale and increasing level of detail of data provided: exploration, systematic search, and population monitoring.

2.2.1 Exploration

Exploration is the least costly and labor intensive survey method, and is generally applied over areas on a scale of 10–1000 acres. In an exploration, landscape features frequently associated with T&E species present on the ORR are sought out and identified during the site visit, and ground coverage is skewed towards those areas most likely to yield important results. Sensitive landscape elements potentially associated with T&E species on the ORR include wetlands, springs and seeps, barrens, steep slopes, rock outcrops, sinkholes, cliffs, streams, and large unfragmented native forest tracts. In addition, some artificial habitats may be associated with T&E species: in particular, unusual disturbances, anthropogenic impoundments, and areas where woody growth is suppressed but natural vegetation dominates, such as under power lines.

2.2.2 Systematic Search

A systematic search is the method of choice when intensive disturbance is planned for a specific site, and increased documentation is required for legal purposes. A systematic search is generally applied over a scale of 1–10 acres. During a systematic search, the entire area is walked and searched for T&E plant species in a pattern of transects. This allows a more complete visual coverage of the site, taking into account topographic features (such as hills and obstacles) and existing sight range limiting conditions (such as light level, fog, and vegetation density). The surveyor develops and maintains mental search images of the potential T&E species occurring on the ORR by visiting sites where they have been found and by viewing photographs prior to the search. The surveyor also must maintain an alertness to unusual conditions or features which may signal the presence of a T&E species.

2.2.3 Population Monitoring

Population monitoring is used to provide detailed baseline population data for selected rare species. Monitoring is generally applied on a scale of less than 1 acre to 2 acres. The level of detail involved in a monitoring effort ranges from simply checking for the continued existence and reproduction of a species at a site to population estimates, direct population counts, or determination of age, size, and /or sexual structure of the population. In addition, ancillary information about the site, such as topographic position, slope, aspect, light conditions, moisture levels, disturbances, and presence of pollinators, may also be collected.

2.3 DOCUMENTATION

Documentation of vascular plant species occurring on the ORR was accomplished by combining specimens, photography, and the ORR vascular flora data base. Taxonomic identification of vascular plant species was performed using appropriate regional guides (Radford et al. 1968, Wofford 1989, Cronquist 1980, Kral 1983, Massey et al. 1983, Gleason 1952, Gleason and Cronquist 1991). Difficult to identify specimens and specimens which potentially represented T&E species were then referred to appropriate taxonomic experts at the University of Tennessee (UT), the Tennessee State Heritage Program, and other universities, herbaria, and museums for identification. Voucher specimens were collected as physical documentation for vascular plant species when removal of the specimen was not deemed to jeopardize the population. When collection of a voucher specimen was deemed unacceptable, a photograph was taken in its place. Voucher specimens were collected for both listed and nonlisted vascular plant species occurring on the ORR. Baseline documentation for currently non–T&E species as well as T&E species were provided, since species may be added to federal and state lists in the future. Voucher specimens were mounted on nonacidic herbarium paper, labeled with the location found, the collector's name, and the collection date, and then filed in the ORR herbarium. Species which were not vouchered through removal of a physical specimen were instead vouchered by mounting and filing a photograph of the specimen taken on–location. In addition, all T&E species were photographed on location. Photographs were supplied with ORNL Photography Department numbers, and the negatives are maintained by the ORNL Photography Department. All vascular plant species identified from the ORR were entered into the ORR vascular flora data base, along with supporting information. An explanation of the data contained in the ORR vascular flora data base, along with a printout of the data base, is provided in Appendix A.

Documentation of surveys and field sample sites for T&E species, their habitats, and associated sensitive landscape elements was accomplished through mapping using a GIS. Environmentally sensitive areas on the ORR are delineated by combining data from multiple sources to identify the extents of sensitive species, their habitats, and necessary buffer zones. Spatial data is input into the GIS through digitizing and/or use of global positioning systems. Mapped coverages of T&E plant species and sensitive habitat locations are being provided to the Oak Ridge Environmental Information System (OREIS). Access to some kinds of information (e.g., actual locations of T&E species) will be restricted.

3. RESULTS

3.1 SURVEY COVERAGE

During 1991–1994, approximately 12,000 acres of the ORR were surveyed for T&E vascular plants (Figure 1); summary data for 1992–1994 is presented in Table 1. During 1995 and 1996, field surveys for T&E vascular plants were conducted on approximately 2,000 acres of the ORR (Figs. 1, 2). Field survey data for 1995–1996 is presented in Table 2. Approximately 14,000 acres of the ORR have been surveyed for T&E vascular plants as of May 1996. Approximately 21,000 acres of the ORR have not been surveyed for T&E vascular plant species; survey coverage gaps are shown in fig. 3.

3.2 T&E SPECIES ON THE ORR

Of the 28 listed vascular plant species identified on the ORR to date (Table 3), 18 were reported prior to 1993 (Cunningham et al. 1993, Pounds 1993), and an additional 10 were reported between 1993 and 1996. Fig. 4 shows identified point occurrences for T&E vascular plant species on the ORR based on field survey sample sites (this data should not be interpreted as indicating the areal extent of these species). T&E vascular plant species have been identified from a total of 267 sites on the ORR to date. T&E vascular plant sites identified at existing sources and field surveys prior to 1995 total 82. An additional 185 T&E vascular plant sites were identified as a result of field surveys conducted during 1995 through May 1996.

Specific locations of rare plants on the ORR are kept on file by the Oak Ridge National Laboratory (ORNL) area manager. The occurrence of T&E species within operable units (OUs) and waste area groupings (WAGs), environmentally sensitive areas, and other areas on the ORR, is presented in Table 4. Environmentally sensitive areas, including the extent of T&E plant species as currently known, their habitats, and necessary buffer zones, are shown in Fig. 5. Occurrence sites (Fig. 4) and ranges, associated rare natural communities (TNC 1995, Grossman et al. 1994), environmentally sensitive landscape elements, and appropriate buffer zones based on local topography were used to delineate environmentally sensitive areas.

3.2.1 Federal T&E Species

No federally listed vascular plant species have been found on the ORR during this survey. Four vascular plant species reported from the ORR are of "special concern" at the federal level because not enough information is currently available to determine their status; these four species were listed on the formerly used C2 federal candidate list [*Aureolaria patula, Cimicifuga rubifolia, Delphinium exaltatum, Juglans cinerea* (Table 3)]. *Juglans cinerea* has been attacked by butternut canker throughout its range; identifiable (mature) growth of *Juglans cinerea* was not found on the ORR during this survey although rootstocks and sprouts which may represent this species are present.

3.2.2 Tennessee T&E Species

Twenty–eight vascular plant species that have been listed by the state of Tennessee have been reported as occurring within the current ORR boundaries to date; these species are listed in Table 3 along with their status. Two of the species, *Lilium michiganense and Carex oxylepis var.*

pubescens have been identified from the ORR in the past but were not found during this survey. *Lilium michiganense* may have been extirpated from the ORR by the impoundment at Melton Hill dam. Also included in Table 3 is a nonlisted vascular plant species found on the ORR, *Collinsonia verticillata*, which is ranked highly by The Nature Conservancy (TNC) and may be a potential candidate for listing in Tennessee.

3.2.3 Other T&E Species Which May Be Present on the ORR

The following vascular plant species listed by the state of Tennessee were reported from sites which are no longer part of the ORR: *Agalinis auriculata* (also listed under the formerly used federal C2 candidate designation), *Gnaphalium helleri, Liatris cylindracea,* and *Solidago ptarmicoides.* These species may be present within the current ORR boundaries but were not found during this survey. Other listed vascular plant species deemed as potentially occurring on the ORR (occurring near the ORR and/or occurring in habitat found on the ORR) which may be present on the ORR but were not found during this survey are listed in Table 5.

3.3 VOUCHERS

Over 1,100 species of vascular plants have been identified on the ORR to date (Appendix A). Approximately 983 of these species were recorded prior to 1993 (Cunningham et al. 1993). An additional 144 species were recorded and vouchered (specimens placed in the ORR herbarium)as a result of field surveys during 1992–1996 (Table 6). Other institutional herbariums (in addition to the ORNL herbarium) that maintain vascular plant voucher specimens from the ORR are listed in Appendix A. Voucher photographs of Tennessee state–listed and federal "special concern" vascular plant species and their habitats on the ORR are filed with the ORNL Photography Department. A list of voucher photographs and their ORNL Photography Department numbers is provided in Table 7.

3.4 CHARACTERIZATION ABSTRACTS

Information for the following species characterization abstracts was taken from the following sources: Radford et al. 1968, Wofford 1989, Cronquist 1980, Kral 1983, Massey et al. 1983, Gleason 1952, Gleason and Cronquist 1991, Pyne and Shea 1994a,b,c. Range information was compiled from these sources and Chester et al. (1993). A discussion by TNC (1995) of the conservation significance of ORR populations of rare plants has been quoted in the abstracts when available. Table 8 provides abbreviations for U.S. states used in these abstracts.

3.4.1 T&E Vascular Plant Species Found on the ORR

3.4.1.1 *Aureolaria patula* (Chapm.) Pennell

Common name: Spreading false–foxglove

Family: Scrophulariaceae

Federal status: Special Concern (listed under the formerly used C2 candidate designation)

Tennessee status: Threatened

Location on ORR: Bethel Valley groundwater operable unit (GWOU), K-25 GWOU, Melton Valley GWOU, NA1, NA3, NA6, NA14, NA16, NA17, NA19, NA20, NA30, NA32, NA33, NA37, NA45

Habitat: Wooded, calcareous, river and creek bluffs (Kral 1983)

Habitat on ORR: In shade on calcareous bluffs and talus slopes along the Clinch River and several tributaries (often at the edge of a lake or large stream)

Range: Central KY to north GA and AL

Tennessee counties: Anderson, Coffee, Knox, Morgan, and Roane

Description: Erect to decumbent perennial herb with stems up to 12 dm in length. Stem not glaucus somewhat hairy. Lower leaves lobed. Corolla yellow, pedicels 15 to 25 mm long, capsule glabrous

Similar species:
1. *Aureolaria virginica* has short pedicels (1–3 mm)
2. *Aureolaria laevigata* and *A. flava* lack hairs

Flowering date: Late July through early October

Fruiting date: October–November

Comments: Other rare or uncommon species co–occurring with *A. patula* on the ORR are *Cimicifuga rubifolia*, *Diervilla lonicera*, *Thuja occidentalis*, and a mat-forming variant of *Blephilia ciliata*

Threats on ORR: Habitat destruction, excessive reservoir water level fluctuations, recreational activity on river banks, and tree canopy removal. Overgrowth by kudzu, an aggressive exotic vine, threatens at least one population.

TNC ORR conservation significance: "A number of populations of this species occur on ORR. Many of these sites adjoin the Clinch River, and often occur near the water's edge. It is possible that it is being dispersed by water. Spreading false–foxglove has a small range, and is rare and scattered within it. All remaining viable populations are important to its survival."

3.4.1.2 ***Carex gravida*** **Bailey**

Common name: Heavy sedge

Family: Cyperaceae

Federal status: None

Tennessee status: Special Concern

Location on ORR: Bethel Valley GWOU, K–25 GWOU, Melton Valley GWOU, NA 32, NA 42, NA51

Habitat: Dry, open areas

Habitat on ORR: Wooded, rocky slopes

Range: Southeast MI, south IA, and KS; south to TX and further east (TN, NC) perhaps as a recent introduction

Tennessee counties: Knox, Meigs, Montgomery, and Roane

Description: An inconspicuous sedge. Difficult to identify in the field below genus level. Expert consultation is required for positive identification. May sometimes be detected in the field by noting that the fruiting culms are leaning over close to the ground and thus the common name but other *Carex* species may do this also.

Fruiting date: Summer

Comments: *C. gravida* is growing in surprisingly shady and undisturbed locations on the ORR. Radford et al. (1968) describe the species habitat in the Carolinas as waste places.

Threats on ORR: Habitat destruction

TNC ORR conservation significance: "The populations on the ORR are at the eastern limit of this primarily midwestern species. Populations peripheral to the main range of a species often indicate unusual habitats and represent unique genetic material."

3.4.1.3 *Carex howei* Mack (*Carex atlantica* L.H. Bailey var. *capillacea* (L.H. BAILEY) Reznicek)

Common name: Howe's Sedge

Family: Cyperacae

Federal status: None

Tennessee status: Endangered

Location on ORR: NA55

Habitat: Shaded wetlands

Habitat on ORR: Shaded wetlands

Range: Mainly on the coastal plain but occasionally inland to OH, southern Ontario, southern MI, and northern IN

Tennessee counties: Hardeman, Chester, Hardin, Lewis, Hickman, Maury, Putnam, White, Roane

(ORR), Cocke[Great Smoky Mountains National Park (GSMNP)]

Description: culms 2.5–5.5 dm tall, blades usually about 1mm (less than 1.3 mm), perigynia spreading, staminate flowers mostly at the base of the terminal spike

Similar species:
1. *Carex interior* differs in having no nerves on the perigynia (rarely a few) while C. howei has several.
2. *Carex incomperta* (*Carex atlantica* var. *atlantica*) differs in having blades 1.5–4 mm rather than less than 1.3 mm

Flowering date: May–June

Threats on ORR: This species could be negatively effected by canopy opening, change in hydrological regime and/or siltation

TNC ORR conservation significance: This species was discovered on the ORR after TNC report

3.4.1.4 *Carex oxylepis* Torr. & Hook. var. *pubescens* J.K. Underw.

Common name: Hairy sharp–scaled sedge

Family: Cyperaceae

Federal status: None

Tennessee status: Special Concern

Location on ORR: Melton Valley GWOU, WAG 2, CMA 5

Habitat: Shaded wetland

Habitat on ORR: Shaded wetland.

Range: Southeastern VA to northern FL, west to east and southeastern TX, northward in the interior to OK, AK, MO, TN

Tennessee counties: Cheatham, Davidson, Perry, Roane, Rutherford

Description: A sedge similar to the more common *Carex debilis*. Expert consultation is required for positive identification.

Fruiting date: Late spring and summer

Comments: Carex expert V. McNeilis (UT herbarium) does not consider this to be a valid taxon, but it is recognized by TDEC. The only specimen of this variety taken from the ORR is in the Smithsonian Institute herbarium (Washington, D.C.). The other variety of the species (*Carex oxylepis* var. *oxylepis*) has been collected several times on the ORR.

Threats on ORR: Habitat destruction and habitat invasion by *Microstegium vimineum*

TNC ORR conservation significance: "The current status of this variety at ORR is uncertain; it has not been seen in recent years."

3.4.1.5 *Cimicifuga rubifolia* Kearney

Common name: Appalachian bugbane

Family: Ranunculaceae

Federal status: Special Concern (was listed under the formerly used C2 candidate designation)

Tennessee status: Threatened

Location on ORR: NA1, NA3, NA11, NA 15, NA19, NA23

Habitat: Wooded bluffs, ravines, coves, north–facing talus slopes; prefers limestone or calcareous shale (Massey et al. 1983)

Habitat on ORR: Wooded talus slopes along Clinch River and Grassy Creek, a tributary of Clinch River

Range: AL, IL, IN, KY, NC, PA, TN, and VA

Tennessee counties: Anderson, Claiborne, Grainger, Hamblin, Hancock, Hawkins, Jefferson, Knox, Loudon, Meigs, Montgomery, Roane, Stewart, and Sullivan

Description: Perennial herb with mostly basal, compound leaves of three to nine leaflets. Base of terminal leaflet is deeply cordate. Solitary, wand-like flowering stem up to 14 dm tall. Flowers are white.

Similar species:
1. *Astilbe biternatum* is vegatatively very similar and grows in the same habitat. It is useful to look for old flowering stalks to aid the identification.
2. Other *Cimicifuga* have 15 or more leaflets per leaf while *C. rubifolia* normally has 3–9.

Flowering date: July–October

Fruiting date: September–October

Comments: Other rare species co–occurring with *C. rubifolia* on the ORR are *Saxifraga careyana*, *Diervilla lonicera*, and *Aureolaria patula*.

Threats on ORR: Habitat destruction, tree canopy removal, invasion of habitat by competing exotic species (which may result from forest fragmentation)

TNC ORR conservation significance: "This species is scarce throughout its narrow range.

Important populations of this species occur on ORR."

3.4.1.6 *Collinsonia verticillata* Baldwin ex Elliot

Common name: Whorled horse–balm

Family: Lamiaceae

Federal status: None

Tennessee status: None

Location on ORR: BCOU4, K–25 GWOU, Melton Valley GWOU, NA39, NA41, NA44, NA45, NA52, NA54

Habitat: Wooded slopes.

Habitat on ORR: Mature mesic forest.

Range: AL, GA, NC, SC, TN, VA (disjunct), OH (disjunct).

Tennessee counties: Blount, Cumberland, Hamilton, Knox, McMinn, Meigs, Rhea, Roane, Sevier, possibly Anderson

Description: Perennial herb (2–8 dm) with upper leaves appearing whorled. Flowers are lavender, light pink, or white.

Similar species:
1. *Collinsonia canadensis* might be confused with *C. verticillata* when flowers are absent, but usually the leaves do not appear whorled on *Collinsonia canadensis.*

Flowering date: Late April through early June

Fruiting date: June–July

Comments: Highly ranked by TNC

Threats on ORR: Habitat loss

TNC ORR conservation significance: Not described in the ORR report

3.4.1.7 *Cypripedium acaule* Ait.

Common name: Pink lady–slipper

Family: Orchidaceae

Federal status: None

Tennessee status: Endangered (due to commercial exploitation)

Location on ORR: BCOU4, Bethel Valley GWOU, Melton Valley GWOU, HA2, HA4, HA7, NA4, NA6, NA14, NA20, NA24, NA25, NA42, NA46, NA47, RA 6, RA9

Habitat: Bogs and dry, acid pine woods (Radford et al. 1968)

Habitat on ORR: Moist to dry acid woods with pine trees

Range: East US; south to SC and AL

Tennessee counties: Perhaps in all counties of East Tennessee, but not found west of the eastern Highland Rim

Description: Two large, ribbed ovate leaves are at the base of a single flowered scape. Flower pink, fissured in front

Similar species: *Cypripedium acaule* is rarely white flowered, possibly leading to confusion, but the pair of large basal leaves is unique among our *Cypripedium.*

Flowering date: April–July

Comments: *C. acaule* is a showy species much prized in the wildflower trade. Evidence to date indicates that not only is the species being removed from its habitat in large numbers across the state, but also, no propagation techniques are known to be successful. For this reason, TDEC lists the species as endangered in Tennessee.

Threats on ORR: Habitat loss, tree canopy removal, and illegal digging

TNC ORR conservation significance: "The significance of ORR populations of this widespread and common species is minor. It grows in several ORR locations, mostly in moist to dry acidic woods, especially in successional pine forests. Occurrences on ORR are more protected from collection (one of the main threats to the species) than populations on private or unrestricted public land."

3.4.1.8 *Delphinium exaltatum* Ait.

Common name: Tall larkspur

Family: Ranunculaceae

Federal status: Special Concern (listed under the formerly used C2 candidate designation)

Tennessee status: Endangered

Location on ORR: Bethel Valley GWOU, NA7, NA8, NA35, NA36, NA43

Habitat: Rich, moist, loamy soils of open, calcareous, wooded ravines (Kral 1976)

Habitat on ORR: Open, rocky, calcareous woods , barrens, and utility right of ways

Range: IN, MO, NC, OH, PA, TN, VA, WV, IA, and ME

Tennessee counties: Anderson, Hamilton, and Roane

Description: Erect, solitary stems to 15 dm in height. Branched racemes with blue flowers late in season

Similar species:
1. *Aconitum uncinatum* in the early stages (basal leaves) before the stem develops is very similar and should be differentiated at a later stage.
2. Other species of *Delphinium* which might be confused with *D. exaltatum* are hairy on the stem below the inflorescence.

Flowering date: August–September

Fruiting date: September–October

Threats on ORR: Habitat destruction, invasion of habitat by woody species, shade, fire suppression

TNC ORR conservation significance: "One of the largest range–wide populations of this species occurs on ORR. Several additional populations are also important to this species' survival."

3.4.1.9 *Diervilla lonicera* P. Mill.

Common name: Northern bush–honeysuckle

Family: Caprifoliaceae

Federal status: None

Tennessee status: Threatened

Location on ORR: NA11, NA14

Habitat: Woodlands and rocky bluffs (Radford et al. 1968)

Habitat on ORR: Calcareous, rocky bluffs along the Clinch River

Range: AL, CT, DE, GA, IA, IL, IN, KS, MA, ME, MI, MN, NC, NH, NY, OH, PA, SC, TN, VA, VT, WI, and WV

Tennessee counties: Anderson, Cheatham, Polk, and Sevier

Description: Deciduous shrub to 20 dm tall. Simple, opposite, lanceolate leaves. Light–yellow flowers resembling honeysuckle that turn red with age

Similar species:
1. Shrubby honeysuckles (*Lonicera*) do not have teeth on the leaves.

2. *Diervilla sessilifolia* has sessile leaves.

Flowering date: June–July

Fruiting date: August–October

Comments: Other rare or uncommon species co–occurring with *D. lonicera* on the ORR are *Thuja occidentalis*, *Cimicifuga rubilfolia*, and *Aureolaria patula*.

Threats on ORR: Habitat destruction.

TNC ORR conservation significance: "Populations on ORR and nearby represent a somewhat disjunct concentration of populations of this northern shrub. Populations peripheral to the main range of a species often indicate unusual habitats and represent unique genetic material."

3.4.1.10 *Draba ramosissima* Desv.

Common name: Branching whitlow–grass

Family: Brassicaceae

Federal status: None

Tennessee status: Special Concern

Location on ORR: K–25 GWOU, NA37

Habitat: Dry, usually calcareous bluffs (Wofford 1989)

Habitat on ORR: Dry limestone ledges along Watts Bar Lake

Range: VA, WV, eastern KY, NC, and TN

Tennessee counties: Anderson, Blount, DeKalb, Hancock, Polk, Putnam and Roane

Description: Mat–forming perennial. Basal rosettes with oblanceolate, toothed leaves. Petals entire, style persistent, and fruit twisted. Flowering stems (1–4 dm). Flowers are white.

Flowering date: April–May

Fruiting date: May–July

Threats on ORR: Habitat destruction, habitat invasion by competing exotic species following forest fragmentation

TNC ORR conservation significance: "This species is very rare in Tennessee and has only a narrow distribution in the Central and Southern Appalachians."

3.4.1.11 *Elodea nuttallii* (Planch.) St. John

Common name: Nuttall waterweed

Family: Hydrocharitaceae

Federal status: None

Tennessee status: Special Concern

Location on ORR: Bethel Valley GWOU, Melton Valley GWOU, NA6, NA47, RA28

Habitat: Lakes, ponds, and sluggish streams (Radford et al. 1968)

Habitat on ORR: Clinch River embayment, ponds

Range: MA to VA; west to MN, MO, and OR; now known from TN and NC

Tennessee counties: Lake, Montgomery, Obion, and Roane

Description: Submerged aquatic with whorls of three leaves. Leaves are linear, acute, and densely imbricate at growing tips. The miniscule staminate flowers are free floating, sometimes appearing as a white powder on the surface of the water.

Similar species:
1. *Elodea canadensis* does not have the free floating flowers

Flowering date: July–September

Comments: No other rare species are known to co–occur with *E. nuttallii* on the ORR. Probably a recent introduction

Threats on ORR: Habitat destruction, draining of ponds, water temperature change, water pollution

TNC ORR conservation significance: "Nuttall's waterweed has established itself at ORR in artificial ponds or embayments of the Clinch River. It may be dispersed by waterfowl. The ORR lies at the edge of the range of this species. Populations peripheral to the main range of a species often indicate unusual habitats and represent unique genetic material."

3.4.1.12 *Fothergilla major* (Sims) Lodd.

Common name: Mountain witch–alder

Family: Hamamelidaceae

Federal status: None

Tennessee status: Threatened

Location on ORR: NA12

Habitat: Rocky woodlands (Wofford 1989)

Habitat on ORR: On west–facing slope in woods

Range: AL, AR, GA, NC, SC, and TN

Tennessee counties: Anderson, Grainger, Greene, Scott, and Sevier

Description: Stoloniferous shrub or small tree. Alternately arranged, deciduous leaves are pinnately veined. Flowers are white and epetalate and occur in terminal spikes.

Similar species:
1. *Hamamelis virginica* is similar when flowers and fruit are absent but lacks stellate hairs on the undersides of the leaves

Flowering date: April–May

Fruiting date: July

Comments: No other listed species are known to occur with *F. major* on the ORR

Threats on ORR: Habitat destruction, severe fire, and tree canopy removal

TNC ORR conservation significance: "Currently known from a single site on ORR, Mountain Witch–alder is rare and scattered throughout its range. In Tennessee, it is primarily in the Blue Ridge province, and its occurrence on ORR is somewhat isolated. Populations peripheral to the main range of a species often indicate unusual habitats and represent unique genetic material."

3.4.1.13 *Hydrastis canadensis* L.

Common name: Golden seal

Family: Ranunculaceae

Federal status: None (was listed under the formerly used 3C category)

Tennessee status: Threatened

Location on ORR: NA2, NA6, NA10, NA21, NA47, NA52, RA8

Habitat: Rich woods (Radford et al. 1968)

Habitat on ORR: Rich, moist woods

Range: AL, AR, CT, DE, GA, IA, IL, IN, KY, MA, MI, MN, MO, MS, NC, NY, OH, PA, TN, VA, VT, WI, and WV

Tennessee counties: Anderson, Blount, Campbell, Cannon, Carter, Clay, Coffee, Cumberland, Davidson, DeKalb, Fentress, Franklin, Grundy, Hancock, Hardin, Jackson, Knox, Loudon, Marion,

Montgomery, Morgan, Obion, Putnam, Rhea, Roane, Scott, Shelby, Stewart, Sullivan, Sumner, Tipton, Van Buren, Warren, Wayne, and White

Description: Erect, perennial herb with thick yellow rhizomes. Stems 1.5–5 dm tall. Solitary, greenish–white, epetalate flowers with numerous stamens

Similar species: None

Flowering date: April to May

Fruiting date: June–July

Comments: *Hydrastis canadensis* is a valued medicinal herb on both national and international markets. Like ginseng, its rarity is primarily the result of herb collectors digging the plants. Other rare species that co–occur with *H. canadensis* on the ORR are *Spiranthes ovalis* and *Lilium canadense*.

Threats on ORR: Habitat destruction, unauthorized digging to remove plants, tree canopy removal, invasion of habitat by competing exotic species following forest fragmentation, erosion and siltation related to upslope timber salvage activities

TNC ORR conservation significance: "ORR populations are more protected from collection pressures (one of the main threats to the species) than populations on private or unrestricted public land. The importance of these populations needs further assessment."

3.4.1.14 *Juglans cinerea* L.

Common name: Butternut, white walnut

Family: Juglandaceae

Federal status: Special Concern (was listed under formerly used C2 candidate designation)

Tennessee status: Threatened

Location on ORR: Melton Valley GWOU, WAG 2, NA32 (These specimens are most likely *Juglans cinerea* L., but they cannot be confirmed because of immature specimen growth.)

Habitat: Rich woods

Habitat on ORR: Slopes near major streams

Range: New Brunswick to Ontario; south to MI and ND; south to VA, GA, AR, and KS

Tennessee counties: Anderson, Blount, Campbell, Carter, Chester, Cooke, Cumberland, Franklin, Hamilton, Hawkins, Hickman, Houston, Lewis, Monroe, Polk, Roane, Sevier, Stewart, Sumner, Tipton, Van Buren, Wayne, and Williamson

Description: A walnut tree that can be distinguished from the common black walnut by its

elongated fruit (ellipsoidal vs. spherical) and smoother bark. Pith color and hairiness above the leaf scar characteristics appear to be difficult to apply.

Similar species: see "Description" and "Comments"

Flowering date: April–May

Fruiting date: October

Comments: Butternut was previously listed under formerly used C2 candidate designation by the U. S. Fish and Wildlife Service (USFWS) because of the threat of a fatal disease— butternut canker. We have observed no nut production in butternut on the ORR. The identification of walnut species at two locations is in question. The identification of these young trees was based on pith color, which may not be reliable. The ORR herbarium has a specimen from 1965. M. W. Bierner verified the identification in 1974. There is a possibility that Manchurian walnut has been introduced on the ORR. It could be confused with the other two species of walnut.

Threats on ORR: Habitat destruction, cutting

TNC ORR conservation significance: "The importance and health of these populations needs additional assessment. Reproducing populations are extremely rare."

3.4.1.15 *Juncus brachycephalus* (Engelm.) Buchenau

Common name: Small–head rush

Family: Juncaceae

Federal status: None

Tennessee status: Special Concern

Location on ORR: Bethel Valley GWOU, NA24, NA38

Habitat: Fens

Habitat on ORR: Open wetlands

Range: ME to northern Ontario and WI, south to PA, OH, and IN. Disjunct in TN.

Tennessee counties: Cheatham, Claiborne, Humphrey, Lewis, Maury, Roane, Warren, Wayne

Description: Rushes are grass–like plants. This species bears mature fruits after the other rushes on the ORR

Fruiting date: Late July, Aug., possibly Sept.

Threats on ORR: Habitat destruction from project development, hydrologic regime change, and at one site, possible disturbance related to the adjacent highway

TNC ORR conservation significance: "This species is very rare in Tennessee. The ORR population is one of very few known in the Ridge and Valley Province of Tennessee. Populations peripheral to the main range of a species often indicate unusual habitats and represent unique genetic material."

3.4.1.16 *Lilium canadense* L.

Common name: Canada lily

Family: Liliaceae

Federal status: None

Tennessee status: Threatened

Location on ORR: BCOU4, Bethel Valley GWOU, Melton Valley GWOU, NA2, NA8, NA13. NA22, NA25, NA26, NA29, NA31, NA34, NA35, NA36, NA42, NA50, NA56

Habitat: Wet meadows, bogs, and balds (Radford et al. 1968)

Habitat on ORR: Moist woods, forest edges, and power line openings through moist forest

Range: Quebec and ME to MN; AL, CT, DE, DC, IA, IN, KS, KY, MA, ME, MI, MO, NE, NH, NY, OH, OK, PA, RI, SC, SD, TN, VT, VA, WV, and WI

Tennessee counties: Anderson, Campbell, Claiborne, Cumberland, Davidson, DeKalb, Johnson, Montgomery, Morgan, Overton, Putnam, Roane, Rutherford, Scott, Sevier, and Stewart

Description: Stems to 20 dm tall with whorls of 5–11 leaves. Flower segments are yellow–orange to red, spotted, and slightly recurred to spreading. Petals and sepals more than 6 cm long

Similar species:
1. *Lilium michiganense* is very similar but can be distinguished when in bloom. *Lilium canadense* has anthers held close together, barely, or not at all exerted from the only slightly or moderately recurved tepals rather than anthers well separated on strongly divergent filaments with the tepals strongly recurved–reflexed.
2. *Lilium superbum* has smooth leaf margins rather than spiculate–scabrous.

Flowering date: June–July

Fruiting date: July–September

Comments: This species is very similar vegetatively to and may be confused with *Lilium michiganense*, which is also a Tennessee state–listed threatened species. These native lilies rarely bloom on the ORR. It is possible that the populations which have not been seen to flower include *Lilium michiganense.*

Threats on ORR: Digging up for transplanting, habitat destruction, indiscriminate use of herbicides, fire supression

TNC ORR conservation significance: "Occurrences on ORR are more protected from collection (one of the main threats to the species) than populations on private or unrestricted public land. Wetlands in the Ridge and Valley Province are rare and often in poor condition, while those on the ORR are in better condition. Populations peripheral to the main range of a species often indicate unusual habitats and represent unique genetic material."

3.4.1.17 ***Lilium michiganense*** **Farw.**

Common name: Michigan lily

Family: Liliaceae

Federal status: None

Tennessee status: Threatened

Location on ORR: Not currenty known to exist on the ORR. See "Threats on ORR" below.

Habitat: Wetlands

Habitat on ORR: Wetlands

Range: Western NY and southern Ontario to Manitoba, south to TN and AL

Tennessee counties: Shelby, Lewis, Steward, Montgomery, Dickson, Davidson, White, Warren, Van Buren, Bledsoe, Coffee, Grundy, Sequatchie, Anderson

Description: Stems to 20 dm tall with whorls of 5–11 leaves. Flower segments are yellow–orange to red, spotted, and slightly recurred to spreading. Petals and sepals more than 6 cm long.

Similar species:
1. *Lilium superbum* has smooth leaf margins rather than spiculate-scabrous.
2. *Lilium canadense* has anthers held close together, barely, or not at all exerted from the only slightly or moderately recurved tepals rather than anthers well separated on strongly divergent filaments with the tepals strongly recurved-reflexed.

Flowering date: June–July

Fruiting date: Late summer

Threats on ORR:. Digging up for transplanting, habitat destruction, indiscriminate use of herbicides, fire suppression. May have been extirpated from the ORR by the impoundment at Melton Hill Dam.

TNC ORR conservation significance: This species was not described in the ORR report

3.4.1.18 ***Liparis loeselii*** **(L.) L. C. Rich**

Common name: Fen orchid

Family: Orchidaceae

Federal status: None

Tennessee status: Endangered

Location on ORR: NA24

Habitat: Cool ravines and moist seepage slopes (Radford et al. 1968)

Habitat on ORR: Wetland in immature forest with wetland shrubs overstory

Range: Nova Scotia and Quebec to Manitoba; south to NJ, AL, OH, IN, and NE

Tennessee counties: DeKalb, Carter, Unicoi, and Roane

Description: Scapose herb with two basal leaves. Stem slender, 6–26 cm tall. Flowers yellowish–green to white. Pedicels 3–6 mm long.

Similar species: *1. Liparis liliifolia* has purple flowers

Flowering date: May–July

Fruiting date: July–August

Comments: *L. loeselli* typically does not occur at low elevations as far south as the ORR

Threats on ORR: Habitat destruction, change in hydrologic regime (drainage or flooding), and tree canopy removal

TNC ORR conservation significance: "This species has fewer than ten occurrences statewide. It grows in ORR wetlands sheltered by immature woods. Wetlands in the Ridge and Valley province are rare and often in poor condition, while those on the ORR are in better condition."

3.4.1.19 *Panax quinquifolius* L.

Common name: Ginseng

Family: Araliaceae

Federal status: None (was listed under the formerly used 3C candidate category)

Tennessee status: Threatened

Location on ORR: BCOU4, Bethel Valley GWOU, Melton Valley GWOU, HA1, HA3, HA5, HA6, NA4, NA6, NA11, NA12, NA36, NA44, NA47, NA51, NA52, NA54, NA56, RA14

Habitat: Rich woods (Radford et al. 1968)

Habitat on ORR: Rich, moist to dry woods

Range: AL, AR, CT, DE, GA, IA, IL, IN, KY, LA, MA, ME, MI, MN, MO, MS, NC, NE, NH, NJ, NY, OH, OK, PA, SC, SD, TN, VA, VT, WI, and WV

Tennessee counties: Virtually all counties

Description: Glabrous, perennial herb arising from tuberous roots. Stems erect, 1.5–6 dm tall. Petiolate, palmately compound leaves in a whorl at apex of the solitary stem

Flowering date: May–June

Fruiting date: August–October

Comments: Ginseng is prized in this country and abroad for its reputed medicinal properties and is highly sought by herb collectors. Its rarity in Tennessee is the result of commercial exploitation. Tennessee state law specifies a harvest season (August 15–December 31) and landowner permission to dig ginseng (ginseng berries should be replanted on site).

Harvesting of ginseng in Tennessee:

According to the "Ginseng Harvest Season Act of 1985" (Acts 1985, Ch. 177, 1; Tennessee Code Annotated 11–26–101) it is unlawful in Tennessee for any person to dig, harvest, collect or remove wild ginseng from any land for the purpose of sale or export under the following circumstances:

(a) On any date not within the ginseng harvest season (harvest season is Aug. 15–Dec. 31)
(b) Plants with green berries or less than three prongs
(c) To remove the berries of wild ginseng from the approximate location harvested
(d) Plants that were harvested from any state other than Tennessee unless such ginseng has been approved for export by the state from which it was harvested
(e) Without permission of the landowner

Penalties for violation of this law, upon conviction, are a fine not to exceed $250 and forfeiture of all ginseng harvested, collected, removed, or sold in violation of the law.

Ginseng dealers must be registered and obtain a permit from the Department of Environment and Conservation, 701 Broadway, Nashville, Tennessee 37243. Monthly records and an annual report must be filed with this department. Dealers exporting ginseng from Tennessee must attach a Tennessee ginseng export certificate with each sale of roots.

Threats on ORR: Digging to remove plants, habitat destruction, and tree canopy removal. There has been a recent (1995) increase in the price of ginseng; this may increase the demand and the frequency of poaching.

TNC ORR conservation significance: "Ginseng occurs sporadically across ORR lands. ORR populations are more protected from collection pressures (one of the main threats to the species) than populations on private or unrestricted public land. The importance of these populations needs further assessment. Populations on ORR are probably able to maintain a normal age structure."

3.4.1.20 ***Platanthera flava*** **var.** ***herbiola*** **(R.Br.) Luer**

Common name: Tubercled rein–orchid

Family: Orchidaceae

Federal status: None

Tennessee status: Threatened

Location on ORR: BCOU4, Melton Valley GWOU, NA4, NA13, NA28, NA48, NA50, NA52
Habitat: Alluvial woods, wet meadows, and marshes (Radford et al. 1968)

Habitat on ORR: Forested wetlands and wet meadow site

Range: Nova Scotia to southern Ontario; central MN; south to MO; east to mountains of NC, VA, and TN

Tennessee counties: Anderson, Campbell, Cocke, and Roane

Description: Erect, glabrous plant with lanceolate leaves sheathing the stem, reduced to bracts on upper stem. A spike of yellow–green flowers on stems to 5 dm in height. Floral bracts much exceed the flowers

Similar species:
1. *Platanthera flava* var. *flava* (also state listed) is not as leafy in the inflorescence.

Flowering date: May–August

Comments: Variety *herbiola* is the northern variety of *P. flava* and is more rare in Tennessee than the southern variety, *flava*. It is noteworthy that the Bear Creek wetland and Hembree Cemetery marsh both support typically northern taxa that are rare in Tennessee. *Liparis loeselii*, the northern counterpart of *Liparis lilifolia*, occurs in the forested wetland adjoining Hembree Cemetery marsh.

Threats on ORR: Habitat destruction, change in hydrologic regime (draining or flooding), and tree canopy removal

TNC ORR conservation significance: "This variety grows in several ORR wetlands; these occurrences are the largest known in Tennessee. ORR occurrences are at the southern range periphery and may represent unique genetic material. Wetlands in the Ridge and Valley province are rare and often in poor condition, while those on the ORR are in better condition."

3.4.1.21 ***Platanthera peramoena*** **(A.Gray) A.Gray**

Common name: Purple fringeless orchid

Family: Orchidaceae

Federal status: None (was listed under the formerly used 3C candidate category)

Tennessee status: Threatened

Location on ORR: BCOU4, Melton Valley GWOU, CMA1, NA13, NA27, NA29

Habitat: Moist woods, meadows, and stream banks (Radford et al. 1968)

Habitat on ORR: Wet depressions in utility right of ways

Range: North to OH and MO; south to NC, AL, and TN

Tennessee counties: Benton, Bledsoe, Carroll, Dyer, Fayette, Henry, Johnson, McNairy, Roane, Robertson, Shelby, and Weakley

Description: Erect, glabrous herb with elliptic to lanceolate leaves. Inflorescence is a showy raceme of purple flowers up to 10.5 dm tall.

Similar species:
1. Other pinkish flowered *Platanthera* have fringed flowers

Flowering date: July–August

Comments: *P. flava* occurs with *P. peramoena* at one site on the ORR

Threats on ORR: Habitat destruction, indiscriminate use of herbicides, invasion of woody vegetation, change in hydrologic regime (drainage or flooding), and digging by collectors

TNC ORR conservation significance: "Wetlands in the Ridge and Valley Province are rare and often in poor condition, while those on the ORR are in better condition. ORR populations are more protected from collection pressures (one of the main threats to the species) than populations on private or unrestricted public land."

3.4.1.22 *Pycnanthemum verticillatum* (Michx.) Pers. (species cluster)

Common name: Whorled mountain–mint

Family: Lamiaceae

Federal status: None

Tennessee status: Endangered, possibly extirpated (this may be changed because of specimens from ORR)

Location on ORR: Bethel Valley GWOU, HA8

Habitat: Woodlands and woodland borders (Radford et al. 1968)

Habitat on ORR: Wetlands and barrens

Range: VT to OH; south to west VA; CT, MN, NY, OH, PA, TN, VA, WV, MA, MI, NJ, RI, VT, and NC

Tennessee counties: Anderson, Fentress, and Roane

Description: Pubescent and canescent perennial herb to 8 dm in height. Stems branched in the upper part, pubescence spread over the stem surface and not confined to the angles of the square stem. Leaves narrowly lanceolate, leaf bases rounded. Reportedly entirely apomictic

Similar species: See "Comments"

Flowering date: July–September

Fruiting date: August–October

Comments: This confusing species cluster includes three rare and difficult to separate species of Pycnanthemum: *P. verticillatum*, *P. virginiana*, and *P. torrei*. Expert consultation is required for positive identification. *Pycnanthemum verticillatum* has not been identified recently in Tennessee and was listed as possibly extirpated. *Pycnanthemum torrei* has been identified in Tennessee only from a recent collection at one site in Oak Ridge. Both *P. verticillatum* (in the broad or narrow sense) and *P. torrei* are very rare in Tennessee. *Pycnanthemum virginianum* is not currently listed by the state but is also considered rare in Tennessee (personal communication, Paul Somers, TDEC, to L. Pounds, ORR Research Park, 1989).

TNC ORR Conservation significance: This species was not described in the ORR report.

3.4.1.23 *Rhynchospora colorata* (L.) Pfeiffer

Common name: White–topped sedge

Family: Cyperaceae

Federal status: None

Tennessee status: Special Concern

Location on ORR: NA46

Habitat: "Damp, often sandy soil" (Gleason and Cronquist 1991)

Habitat on ORR: Limestone quarry, just above water line

Range: VA to Mexico and West Indies

Tennessee counties: Roane

Description: Tufted perennial herb with solitary terminal inflorescence atop triangular stem,

5–6 dm tall. The inflorescence is distinctive, surrounded by 4–6 bicolored bracts which are white at the bases and green at the tips. The bracts are unequal in length. The narrowly linear leaves are usually shorter than the stem.

Similar species:
White–topped sedges are distinctive and all are rare or unknown in Tennessee

Flowering date: May–September

Fruiting date: July–October.

Comments: Currently the only verified population for Tennessee

Threats on ORR: Habitat destruction, digging up for transplanting

TNC ORR conservation significance: This species was not described in the ORR report

3.4.1.24 *Ruellia purshiana* Fern.

Common name: Pursh's wild–petunia

Family: Acanthaceae

Federal status: None

Tennessee status: Special Concern

Location on ORR: Melton Valley GWOU, NA51, NA53

Habitat: Rocky upland woods

Habitat on ORR: Partly shaded rocky limestone slope

Range: Appalachian region from MD to GA and AL

Tennessee counties: Hawkins, Roane

Description: A blue–flowered herb (3–7 dm tall). Leaves petiolate and flowers short–pediceled on peduncles from middle nodes. Stem equally hairy on all sides.

Similar species:
1. *R. strepens* has wider calyx lobes (2mm or more).
2. *R. humilis* has shorter petioles (3mm or less).
3. *R. carolina* has two sides of the stem hairier than the other two.

Flowering date: June–August

Comments: Taxonomic problems may exist within this genus (*Ruellia*)

Threats on ORR: Habitat destruction

TNC ORR conservation significance: This species was identified on the ORR after the ORR report

3.4.1.25 *Saxifraga careyana* A. Gray

Common name: Carey saxifrage

Family: Saxifragaceae

Federal status: None (was listed under the formerly used 3C candidate category)

Tennessee status: Special Concern

Location on ORR: NA1, NA3, NA5, NA11, NA15, NA16, NA17, NA18, NA21, NA23

Habitat: Moist rocks and seepage slopes (Radford et al. 1968)

Habitat on ORR: Rocky, calcareous bluffs and sinks along the Clinch River

Range: GA, MA, NC, PA, TN, and VA

Tennessee counties: Anderson, Bledsoe, Blount, Carter, Cocke, Franklin, Grainger, Hamilton, Hancock, Knox, Loudon, Marion, Monroe, Pickett, Polk, Rhea, Roane, Sevier, Sullivan, Unicoi, and Van Buren

Description: Small, perennial herb forming rather fleshy rosettes and short offsets from the crown. Hairy leaves are slightly concave on the upper surface, rounded and frequently reddish on the underside. White to pale–pink flowers with scapes up to 3 dm tall

Similar species:
1. *S. caroliniana* is similar but it has clavalate filaments

Flowering date: April–June

Fruiting date: May–June

Comments: The taxonomy of *S. careyana* and *S. caroliniana* is confusing, so much so that the species have been called "the *careyana–caroliniana* complex." *S. caroliniana* is a federal "Species of Concern" (listed under the formerly used C2 candidate category) and is listed as endangered in Tennessee. Some of the populations on the ORR have not been surveyed in the flowering stage, a stage necessary to distinguish the two species. *Saxifraga caroliniana* is not reported to occur in the Ridge and Valley Province in eastern Tennessee, so these populations are most likely *S. careyana*. Rare species that co-occur with *S. careyana* on the ORR are *Aureolaria patula*, *Cimicifuga rubifolia*, and *Diervilla lonicera*.

Threats on ORR: Habitat destruction, tree canopy removal, erosion and siltation related to upslope timber removal or development

TNC ORR conservation significance: "ORR represents an important concentration of populations of this narrowly distributed endemic."

3.4.1.26 ***Scirpus fluviatilis*** **(Torr.) A. Gray**

Common name: River bulrush

Family: Cyperaceae

Federal status: None

Tennessee status: Special Concern

Location on ORR: Melton Valley GWOU, WAG 2, CMA5

Habitat: Open wetland

Habitat on ORR: Wetland at the edge of White Oak Lake

Range: Northern U.S. and southern. Canada, south to VA, MO, KS and now disjunct to TN

Tennessee counties: Henry, Roane

Description: Grass–like plant with stout triangular shaped stem (6–15 dm tall). Normally does not fruit in consecutive years

Flowering date: June–August

Fruiting date: Summer

Comments: The ORR occurrence of this species is the second known for the southeastern U.S.

Threats on ORR: Habitat destruction; the habitat could be destroyed during contamination remediation projects on White Oak Lake.

TNC ORR conservation significance: This species was discovered prior to the ORR report but was apparently overlooked by TNC

3.4.1.27 ***Spiranthes lucida*** **(H. Eaton) Ames**

Common name: Shining ladies'–tresses

Family: Orchidaceae

Federal status: None

Tennessee status: Threatened

Location on ORR: NA33

Habitat: Moist calcareous sites

Habitat on ORR: Wetland under shrub cover

Range: Canada south to KY, TN, WV

Tennessee counties: Claiborne, Franklin, Johnson, Lewis, Roane

Description: Ladies'–tresses are small orchids. Shining ladies'–tresses is distinguished by its bright yellow lip and spring blooming

Flowering date: May–July

Threats on ORR: Habitat destruction, change in hydrologic regime (drainage or flooding). This species is currently (1995) near construction activity.

TNC ORR conservation significance: This species was discovered on the ORR after TNC report.

3.4.1.28 *Spiranthes ovalis* Lindl.

Common name: Lesser ladies'–tresses

Family: Orchidaceae

Federal status: None

Tennessee status: Special Concern

Location on ORR: CROU2, Melton Valley GWOU, WAG 2, CMA4, CMA5, NA9, NA10

Habitat: Moist, shady woods, thickets, and swamp margins (Radford et al. 1968)

Habitat on ORR: Moist second–growth woods

Range: AR, DC, FL, GA, IL, IO, KS, KY, LA, MI, MS, MO, OH, OK, PA, SC, TN, VA, WI, and WV

Tennessee counties: Anderson, Cannon, Franklin, Lake, Lewis, Montgomery, Obion, Putnam, Roane, Sevier, Tipton, and Warren

Description: Erect stems to 4.5 dm tall with two–four basal oblanceolate leaves. Small white flowers are congested on the slender spike

Similar species:
1. *S. cernua* has larger flowers (over 7.5 mm)
2. *S. lacera* has greenish lip.

Flowering date: August–November

Fruiting date: October–November

Comments: Ginseng and goldenseal co–occur with *S. ovalis* on the ORR.

Threats on ORR: Habitat destruction and tree canopy removal

TNC ORR conservation significance: "The significance of these populations needs further assessment."

3.4.1.29 ***Viola tripartita*** **Elliot var.** ***tripartita***

Common name: Three–parted violet

Family: Violaceae

Federal status: None

Tennessee status: Special Concern

Location on ORR: NA51

Habitat: Rich woods

Habitat on ORR: Cherty soil under mixed white pine and hardwoods in an area of shallow sinkholes

Range: (the following is the range of the species rather than the range of this variety) southwestern PA and southern OH to NC and SC, GA, AL, and northeastern MS

Tennessee counties: Roane (ORR) and possibly Hamilton

Description: A yellow-flowered violet with a "leafy stem," the early leaves are dissected into three leaflets in this variety

Similar species:
1. *Viola tripartita* var. *glaberrima* may have cleft leaves but not so deeply cleft as to form leaflets.

Flowering date: April–May

Comments: Both varieties of *Viola tripartita* are found on the ORR. On the ORR these varieties are distinct, showing no tendency to intergrade, and are found in different habitats with var. *tripartita* found in a drier habitat.

Threats on ORR: Habitat destruction, removal of tree canopy (and subsequent erosion of substrate)

TNC ORR conservation significance: This species was discovered on the ORR after TNC report.

3.4.2 Additional T&E Vascular Plant Species That Occur Near And May Be Present on the ORR

3.4.2.1 *Berberis canadensis* Mill.

Common name: Barberry

Family: Berberidaceae

Federal status: None

Tennessee status: Special concern

Habitat: Rocky bluffs, creek banks and roadsides (Radford et al. 1968)

Habitat near ORR: Rocky bluff on Tennessee River

Range: VA and WV to GA and AL; MO and IN

Tennessee counties: Cumberland, Hawkins, Knot, Knox, Morgan, Sullivan, and Washington

Description: Deciduous shrub 2–20 dm in height with three–pronged thorns. Leaves alternate, ovate or elliptic to obovate. Berries scarlet, 5–7 mm long

Flowering date: April–May

Fruiting date: September–October

Locations near ORR: Rocky bluffs along Tennessee River in Knox Co.

Comments: An immature specimen of *B. canadensis* or a similar species was collected on the ORR in 1983. It is not possible to positively identify the specimen collected, and in a subsequent search for *B. canadensis* in the area of collection, no individuals were observed. The species may be present on the ORR on rocky bluffs along Clinch River or on creek banks.

3.4.2.2 *Gnaphalium helleri* Britt.

Common name: Catfoot

Family: Asteraceae

Federal status: None

Tennessee status: Special Concern

Habitat: Openings in woods and woodland borders (Radford et al. 1968)

Habitat near ORR: Dry woodland edge

Range: ME to GA; IN, AR, and TX

Tennessee counties: Blount, Grundy, and Roane

Description: Annual with lanceolate leaves not decurrent on stem. Green, conspicuously hairy stem with greater than 15 leaves below the infloresence

Flowering date: September–October

Fruiting date: September–October

Locations near ORR: Dry, calcareous soil adjacent to the Clinch River, formerly part of the ORR, now owned by Boeing Tennessee, Inc.

Comments: Specimen collected in 1983 on Campbell Bend. The species may be present on the ORR on barren openings or dry woodland edges.

3.4.2.3 *Liatris cylindracea* Michx.

Common name: Slender blazing star

Family: Asteraceae

Federal status: None

Tennessee status: Endangered

Habitat: Dry, open places (Gleason 1952)

Habitat near ORR: Open, dry, calcareous barrens

Range: West NY and south Ontario to south OH; north IN, MI, MN, then south to north AR

Tennessee counties: Decatur, Marion, Roane, and Rutherford

Description: Glabrous perennial with numerous stiff, linear leaves. Pink–purple, discoid flowers on stalks to 6 dm tall. Involucral bracts appressed, broadly rounded, and mucronate

Flowering date: August–September

Fruiting date: September–October

Locations near ORR: Dry, calcareous barren at Campbell Bend on the Clinch River, locally called the Crowder Cemetery Barren. Formerly part of NA1 the land is now owned by Boeing Tennessee, Inc. The barren is protected by an agreement between TDEC and Boeing and is a registered Tennessee Natural Area. Last observed in 1990. Roane County

Comments: Other rare species that co–occur with *L. cylindracea* at the Crowder Cemetery Barren are *Tomanthera auriculata*, *Solidago ptarmicoides*, and *Delphinium exaltatum*. *Liatris squarrosa*

also occurs at this site, and an apparent blending of morphological characteristics suggests that it may be hybridizing with *L. cylindracea*. *Liatris cylindracea* may be present on the ORR on barrens.

3.4.2.4 *Lonicera dioica* L.

Common name: Mountain honeysuckle

Family: Caprifoliaceae

Federal status: None

Tennessee status: Special Concern

Habitat: Woodlands and thickets (Radford et al. 1968)

Habitat near ORR: Rocky river banks

Range: Southwest ME and southwest Quebec to Manitoba; south to GA and MO

Tennessee counties: Anderson, Cheatham, Johnson, Polk, Marion, and Roane

Description: Climbing vine with glabrous stems. Leaves glaucous beneath. Inflorescence a terminal spike, corollas less than 3 cm long. Ovaries not fused

Flowering date: June–August

Fruiting date: August–September

Locations near ORR: Rocky banks of the Emory River near Harriman

Comments: The species may be present on the ORR on rocky banks and bluffs on Clinch River and its tributaries.

3.4.2.5 *Meehania cordata* (Nutt.) Britt.

Common name: Heartleaf meehania

Family: Lamiaceae

Federal status: None

Tennessee status: Threatened

Habitat: Rich, wooded slopes and coves (Radford et al. 1968)

Habitat near ORR: Wooded, calcareous slope along Clinch River

Range: Southwest PA and south OH to TN and NC; IL

Tennessee counties: Anderson

Description: Perennial herb spreading by stolons and forming carpets. Erect flowering stems to 2 dm tall. Four anther-bearing stamens, four-parted ovary, basal style, and flowers more than 2 cm long

Flowering date: May–June

Fruiting date: June–July

Locations near ORR: On a wooded slope near Norris Lake on Clinch River. Anderson County

Comments: The species may be present on the ORR on rich, wooded slopes along Clinch River and its tributaries.

3.4.2.6 *Pedicularis lanceolata* Michx.

Common name: Swamp lousewort

Family: Scrophulariaceae

Federal status: None

Tennessee status: Threatened

Habitat: Wet meadows on basic soils (Radford et al. 1968)

Habitat near ORR: Wet meadow/seep at base of ridge

Range: MA to MI, MN, MAN, and ND; south to NC, MO, and NE

Tennessee counties: Roane and Union

Description: Perennial with basal rosette. Stems to 8 dm in height. Leaves sessile, lanceolate and shallowly, crenately lobed. Corolla yellow

Flowering date: August–October

Fruiting date: September–October

Location near ORR: Wet meadow off Highway 72 south of Kingston. On private property. Last observed in 1992. Roane County

Comments: No other listed plant species co-occur with *P. lanceolata* at this site. This species may be present on the ORR on wet meadows and on seeps.

3.4.2.7 *Solidago ptarmicoides* (Nees) Boivin

Common name: Prairie goldenrod

Family: Asteraceae

Federal status: None

Tennessee status: Endangered

Habitat: Prairies and open dry places (Gleason 1952)

Habitat near ORR: Dry, calcareous barren

Range: VT and west Quebec to GA; west to Saskatchewan, WY, CO, and AR; CT, CO, GA, IA, IL, MA, MN, MO, NC, ND, NY, OK, PA, SD, TN, WI, KS, WY, NE, OH, and VT

Tennessee counties: Anderson, Rhea, and Roane

Description: Scabrous perennial to 7 dm tall. Leaves stiff, linear–oblanceolate to linear. Infloresence corymbiform, rays and disk of flowers are white

Flowering date: July–September

Fruiting date: September–October

Locations near ORR:
1. Dry, calcareous barren on Campbell Bend in Clinch River, locally called the Crowder Cemetery Barren. Formerly part of NA1, the land is now owned by Boeing Tennessee, Inc. The barren is protected by an agreement between TDEC and Boeing and is a registered Tennessee Natural Area. Last observed in 1990. Roane County
2. Dry, calcareous opening at the Oak Ridge Barrens, a registered Tennessee Natural Area owned by the City of Oak Ridge, next to Jefferson Junior High School. Last observed in 1990. Anderson County

COMMENTS: Other rare species that co–occur with *S. ptarmicoides* at sites near the ORR are *Liatris cylindracea*, *Tomanthera auriculata*, and *Delphinium exaltatum*. *Solidago ptarmicoides* may be present on the ORR on barrens. *Solidago ptarmicoides* was planted in the Environmental Sciences Division's (ORNL) Barrens Research Garden and has been reproducing very successfully.

3.4.2.8 *Tomanthera auriculata* (Michx.) Raf.

Common name: Earleaf foxglove

Family: Scrophulariaceae

Federal status: SPC

Tennessee status: Endangered

Habitat: Dry or moist soil, in prairies or open, upland woods (Gleason 1952)

Habitat near ORR: Calcareous barren

Range: OH to WI and MN; south to MO and KS; also locally in southern states; AR, PA, MO, MS, KS, IA, IL, OH, TN, and SC

Tennessee counties: Bledsoe, Carroll, and Roane

Description: Hemiparasitic, annual herb to 8 dm in height. Foliage purple-green when in full sun. Upper leaves with divergent basal auricles. Flowers sessile in leafy spikes, corolla pink with purple spots on throat

Flowering date: August–September

Fruiting date: September–October

Locations near ORR: Bottom of gentle slope on dry, calcareous barren near Clinch River. Population size estimated to be 2400. Last observed in 1990. Roane County

Comments: *Tomanthera auriculata* is a hemiparasite that forms haustoria on roots of *Helianthus occidentalis*, *Solidago rigida*, and *Rudbeckia fulgida*. In the field a host is apparently necessary for normal growth and flowering (Cunningham and Parr 1990). Other rare species that co-occur with *T. auriculata* at this site are *Liatris cylindracea*, *Solidago ptarmicoides*, and *Delphinium exaltatum*. *Tomanthera auriculata* may be present on the ORR on barrens.

4. RECOMMENDATIONS

4.1 FOLLOW–UP SURVEYS

4.1.1 Future Surveys at Environmental Restoration Remediation Sites

Systematic T&E vascular plant surveys are necessary prior to initiation of remediation or other project activities at a site when any of the following conditions apply:

- The area has never been surveyed using systematic ground coverage.
- The area has not been surveyed in multiple seasons.
- The area has not been surveyed within 5 years prior to the commencement of activities at the site.

4.1.2 Additional Surveys

Follow–up surveys may be required in the future. Follow–up surveys for T&E vascular plants are recommended for the following reasons:

- Detailed T&E vascular plant surveys (which include systematic ground coverage and multiple season site visits) have not been performed for large areas of the ORR. The existence of additional sites for T&E vascular plant species, which were not detected during this survey, is likely.
- Additional species (not investigated in this survey) may be added to state and federal lists in the future.
- Under certain environmental conditions, some rare plants, including T&E species that have been found on the ORR, may undergo prolonged periods of dormancy in which the individual or population exists for many years either as rhizomes (underground) or as propagules in soil seedbanks. Such species may not have been detected during this survey and may "re–appear" after extended intervals.
- Plants, including T&E species, will sometimes occur in atypical habitats. An example of a rare taxon occurring in an atypical habitat on the ORR is heavy sedge (*Carex gravida*), a prairie species typical of open sites, which has been found at two forested sites on the ORR. Rare taxa in atypical habitats may be less likely to be discovered because (1) the habitat is not identified during the initial survey as potential habitat for the taxon, (2) the field botanist might not be using that particular search image if the taxon is not expected to occur in the habitat, or (3) the taxon might have an unusual growth form because of habitat location and thus differ from the botanist's search image.

4.2 MAINTENANCE AND UPDATE OF DATABASES AND VOUCHER COLLECTION

The following data generated during this project will be submitted to OREIS:

- Sample point locations for T&E vascular plant species (GIS coverage)
- ORR environmentally sensitive areas (GIS coverage)

- T&E vascular plant survey coverage data (GIS coverage)
- ORR vascular flora data base (spreadsheet data)

Data bases and collections documenting T&E species on the ORR that are not submitted to OREIS (because they do not fit OREIS data requirements) are also valuable resources. Readily available access to updated T&E data sources would facilitate future compliance with environmental regulations. Specifically, the following resources should be maintained:

- Voucher specimen collection (ORNL herbarium)
- T&E photographic collection (negatives maintained by ORNL Photography Department)
- ORR Heritage data base (maintained by ORNL area manager)

4.3 AVOIDANCE OF ORR ENVIRONMENTALLY SENSITIVE AREAS

Protection of T&E species in their natural habitats is the most effective method of ensuring their long–term survival. ORR environmentally sensitive areas include T&E species and their habitats, sensitive landscape elements and rare natural communities associated with T&E species, as well as necessary buffers. Project planners should seriously consider avoiding altogether or taking extra precautions in areas designated as ORR environmentally sensitive areas (Fig. 5).

4.4 IMPACT ASSESSMENT

4.4.1 Scale of Concern

Impacts to T&E species on the ORR should be considered at both local and regional scales. Impacts to sensitive species and natural communities on the ORR may have regional consequences. Although the original forests had been cleared, and the land was in agriculture at the time the ORR was purchased by the U.S. government in 1942, much of the ORR has been relatively undisturbed since 1942, and many areas have been allowed to undergo natural succession. In contrast, the land surrounding the ORR has either remained in agriculture or been developed for commercial, industrial, and residential purposes. As a result, the natural vegetation on the ORR has become increasingly significant in relation to regional biodiversity. TNC reports that ORR natural habitats "provide a refuge for many plants, animals and natural communities that are disappearing from surrounding lands..." (TNC 1995). This significance is evident in the significant number of T&E vascular plant species (Table 3) and rare natural communities (TNC 1995; Grossman, Goodin, and Reuss 1994) found on the ORR. One T&E plant species on the ORR (*Rhynchospora colorata*) is currently known from no other location in the state of Tennessee.

4.4.2 Threats to T&E Vascular Plant Species

Project activities on the ORR may have the potential to adversely impact T&E species both directly and indirectly. Adverse impacts to T&E plants, both to T&E plants on site (direct) and to T&E plants off site (indirect) may occur on the ORR as a result of:

- predevelopment site monitoring and characterization activities;
- installation of equipment (for monitoring or infrastructure);

- use of earth–moving equipment;
- road building;
- site preparation, grading, and landscaping;
- construction of facilities;
- disposal of waste materials;
- alteration of hydrologic regime (drainage of water or flooding);
- timber removal;
- mowing; and
- pesticide application.

Direct threats to T&E plants include removal, burial, poisoning, or otherwise physically damaging the plants themselves, and direct disturbance or destruction of their habitats. Indirect impacts to T&E species occur as a result of project activities but do not involve direct contact or interference with the plants themselves. Indirect threats to T&E plants include the following.

- Habitat fragmentation: loss of landscape connectivity between areas of natural habitat. Habitat connectivity may be necessary to allow genetic exchange between populations or to support or allow access to the habitat by animals which carry the seeds.
- Creation of disturbed openings and additional forest edges: these openings provide an entry route for the invasion of T&E species habitats by competing weedy species.
- Planting of aggressive or persistent exotic (also known as "non–native" or "introduced") species (for erosion control, site stabilization, reforestation, landscaping, etc.): exotic species may subsequently migrate from the target site and compete with T&E species. Over 190 species of vascular plants that are not native to this region have been found growing wild on the ORR to date. Exotic plant species currently associated with adverse impact to T&E species or have a high potential to adversely impact T&E species are listed in Table 9.
- Exposure of T&E plants to damaging agents (including insect pests, diseases, grazing by deer, and picking or digging of plants by humans) as a result of increasing access to the site.
- Reduction of pollinators (through loss of supporting habitat or poisoning): loss of pollinators may result in reproductive failure in the plant species. Many types of insects, and some birds and mammals (such as bats) may act as plant pollinators.
- Creation or loss of shade: plant species are adapted to growth under particular light levels, and within particular microclimates. Changes in light level directly affect a plant's ability to photosynthesize and grow and drive other changes in the site microclimate such as increasing dryness or humidity. Such changes may allow competing weedy species to invade the site.
- Fire suppression: some T&E plant species, particularly those associated with calcareous barrens, may require fire to maintain their habitat open.
- Changes in maintenance activities in T&E plant zones (such as those within utility corridors and hay fields): timing of mowing and/or other maintenance activities to avoid blooming and fruiting periods may be critical to the survival of populations of T&E plants in maintained areas.

- Erosion and/or siltation resulting from up–slope activities (including facility maintenance, timber removal, and excavations): adverse impacts of site runoff and sediment movement to nearby T&E plant may include burial, drowning, root exposure, scouring, or up-rooting.
- Chemical changes: input or diversion of nutrients may adversely affect sensitive species.

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Appendix A

TABLES

Table 1. T&E Vascular Plant Surveys on the ORR Fiscal Years 1992-1994, Summary Data (King, et al., 1994)

Survey Name	Month (s) of Survey	Year (s) of Survey	Estimated Area Covered (acres)	Method*	Number of Rare Species	Sensitive Habitats*	Priority for Revisit*	Records*	Investigators*	Comments
Operating Units (OU):										
CR OU 1		91	10	S	0		4	r,m	L.P.	
CR OU 2		91	10	S	1	We,Ot	3	r,m	L.P.	Ot=Ash
CR OU 3		91	1	S	0		4	r,m	L.P.	
CR OU 4		91	5	S	0	Ro	3	r,m,h,	L.P.	
Bethel Valley GW OU	4,5,6,9/8	93/94	1650	S, M	7	Ro, Ba, Sp, We	3	r,m,h,	L.P.	
Melton Valley GW OU	4,5,6,7,8	93	2000	S	7	We	1	r,m	L.P.,R.C.	
UEFPC OU 1	4,9	93	200	S	1		4	r,m	L.P.	Seasonal identification needed
South Campus Facility OU	6	93	45	S	0		1	r,m	L.P.	Seasonal identification needed
Freels Bend OU	6,7,8	93	20	S	0		3	r,m	L.P.,R.C.	
Bear Creek OU 4	7,8,9	93	1800	S	5	We,Ro,Sp,Ot	3	r,m	L.P.,R.C.	Ot=Beech/Mtn.Laurel
K-25 GW OU	7,8,9/4,7	93/94	2100	S	3	Ro, Ba, We	1	r,m,p,h	L.P.,R.C.	
Requested Surveys:										
Pine Plantations	8 to 5	93/94	3000+	E, S	1	We,St,Sp,Ba,Ro	1	r,m	L.P,D.A.,B.R.,B.W.	Seasonal identification needed
Poplar Creek	8	94	150	E	1	We	2	n,l	D.A.,B.R.	
E. TN Natural Gas	8	94	3	S	1	We	3	r	D.A.,L.P.	
Special Interest Areas:										
West HPRR area	4,6	94	8	E	0		3	n,h	L.P.	
K-25 Pumping Station	4,7	94	6	S	3	Ba,Ro	2	n,p,h	L.P.,D.A. .	
Bearden Embayment	6	94	2	M	1	We	3	n,h	L.P.	
Pine Ridge (West end)	4,7,8	94	50	E	0		3	n,h	L.P.	
Black Oak Ridge (West end)	4,8	94	17	E	2	We	2	n,h	L.P	
Area around Natural Area 7	8	94	9	E	1	Ro	2	n,h	L.P.	
Area West of Reference Area 1	8	94	15	E	0		2	n,h	L.P.	

Table 1. (continued)

Survey Name	Month (s) of Survey	Year (s) of Survey	Estimated Area Covered (acres)	Method*	Number of Rare Species	Sensitive Habitats*	Priority for Revisit*	Records*	Investigators*	Comments
National Environmental Research Park Sensitive Areas:										
Natural Area 22	6	94	3	S,M	2	Ro	2	r,d	R.C.,D.A.	
Natural Area 25	6	94	9	S,M	1	St	1	r,d	R.C.,D.A.	
Natural Area 26	6	94	2	S,M	2	Ro	1	r,d	R.C.,D.A.	
Reference Area 29	6	94	6	S,M	1	We	4	r,d	R.C.,D.A.,L.P.	
Natural Area 11	7	94	2	S,M	1	St	4	r,d	R.C.	
Natural Area 13	7	94	1	S,M	1	We	3	r,d	R.C.,D.A.	
Natural Area 14	7	94	5	S,M	1	We,Ot	4	r,d	R.C.,D.A	Ot=upland grasslands
Natural Area 21	7	94	3	S,M	0	Ot	4	r,d	R.C.,D.A.	Ot=rocky limestone forest
Natural Area 2	7,8	94	10	S,M	1	Ba	4	r,d	R.C.	
Natural Area 10	8	94	2	S	4	Ra, Ot	4	r,d	R.C.,D.A.	Ot=mature mesic hardwood
Natural Area 27	8	94	1	S	1	We, Ba	1	n	R.C.,D.A.	
Natural Area 7	8	94	4	S	1	Ba	4	r,d	R.C.	
Natural Area 8	8	94	5	S	3	Ro, We	1	n	D.A.,L.P.	Seasonal identification needed
Natural Area 24	8	94	2	M	1	We	3	n,h	L.P.	
Reference Area 1	8	94	5	E	1	Ro	2	n,h	L.P.	
Natural Area 19	8	94	10	E,M	1	Ro	3	n	L.P.	

* Explanation of Codes

Methods:
E=Exploratory Survey
S=Systematic Survey
M=Population Monitoring

Sensitive Habitats:
We=Wetlands
St=Stream
Sp=Spring
Ba=Barrens
Ro=Cliff/Rock Outcrop
Ot=Other

Priority for Revisit:
1=Highest
4=Lowest

Records:
r=report
m=maps
d=data sheets
h=herbarium specimen
p=photographs
n=field notes
l=species list

Investigators:
B.R.= Barbara Rosensteel
B.W.=Beth Wade
D.A.=Deborah Awl
L.P.=Larry Pounds
R.C.=Rebecca Cook

Table 1. (continued)

Survey Name	Month (s) of Survey	Year (s) of Survey	Estimated Area Covered (acres)	Method*	Number of Rare Species	Sensitive Habitats*	Priority for Revisit*	Records*	Investigators*	Comments
National Environmental Research Park Sensitive Areas:										
Natural Area 22	6	94	3	S,M	2	Ro	2	r,d	R.C.,D.A.	
Natural Area 25	6	94	9	S,M	1	St	1	r,d	R.C.,D.A.	
Natural Area 26	6	94	2	S,M	2	Ro	1	r,d	R.C.,D.A.	
Reference Area 29	6	94	6	S,M	1	We	4	r,d	R.C.,D.A.,L.P.	
Natural Area 11	7	94	2	S,M	1	St	4	r,d	R.C.	
Natural Area 13	7	94	1	S,M	1	We	3	r,d	R.C.,D.A.	
Natural Area 14	7	94	5	S,M	1	We,Ot	4	r,d	R.C.,D.A	Ot=upland grasslands
Natural Area 21	7	94	3	S,M	0	Ot	4	r,d	R.C.,D.A.	Ot=rocky limestone forest
Natural Area 2	7,8	94	10	S,M	1	Ba	4	r,d	R.C.	
Natural Area 10	8	94	2	S	4	Ra, Ot	4	r,d	R.C.,D.A.	Ot=mature mesic hardwood
Natural Area 27	8	94	1	S	1	We, Ba	1	n	R.C.,D.A.	
Natural Area 7	8	94	4	S	1	Ba	4	r,d	R.C.	
Natural Area 8	8	94	5	S	3	Ro, We	1	n	D.A.,L.P.	Seasonal identification needed
Natural Area 24	8	94	2	M	1	We	3	n,h	L.P.	
Reference Area 1	8	94	5	E	1	Ro	2	n,h	L.P.	
Natural Area 19	8	94	10	E,M	1	Ro	3	n	L.P.	

* Explanation of Codes

Methods:
E=Exploratory Survey
S=Systematic Survey
M=Population Monitoring

Sensitive Habitats:
We=Wetlands
St=Stream
Sp=Spring
Ba=Barrens
Ro=Cliff/Rock Outcrop
Ot=Other

Priority for Revisit:
1=Highest
4=Lowest

Records:
r=report
m=maps
d=data sheets
h=herbarium specimen
p=photographs
n=field notes
l=species list

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B.R.= Barbara Rosensteel
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L.P.=Larry Pounds
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Table 2. T&E Vascular Plant Surveys on the ORR Fiscal Years 1995-1996, Summary Data

INDEX	DATE	SITE	REQUEST	ACRES	INVESTIGATOR
1	1/16/95	W of 0907		29.67	L.P.
2	1/17/95	E and S of 0907		37.47	L.P.
3	2/23/95	Pine Ridge		7.23	L.P.
4	2/23/95	LLWDF	Larry Cox/LLWDF	20.96	L.P., B.R.
5	3/4/95	Pine Ridge N of LLDWF		13.57	L.P.
6	3/9/95	NA36		4.6	L.P.
7	3/10/95	Walker Branch		4.02	L.P.
8	3/12/95	K-25 Beech-Laurel Area		2.5	L.P.
9	3/12/95	PRA-D (S of Dyllis Rd)		3.87	L.P.
10	3/12/95	W of PRA-D		16.52	L.P.
11	3/15/95	Pine Ridge (E of Bear Creek Gap)		2.54	L.P.
12	3/15/95	Pine Ridge W of Hwy 95		13.73	L.P.
13	3/17/95	W end of Pine Ridge		21.65	L.P.
14	3/18/95	Clinch River shore N of Bridge		0.78	L.P.
15	3/18/95	RA8		2.94	L.P.
16	3/21/95	NA20		2.79	L.P.
17	3/21/95	Barrens W of Herrel Rd		4.18	L.P.
18	3/21/95	McKinney Ridge		4.24	L.P.
19	3/21/95	Black Oak Ridge E of Poplar Creek		7.4	L.P.
20	3/24/95	Bottom along McNew Hollow Rd		1.76	L.P.
21	3/24/95	Pine Ridge W of Gum Hollow Rd		17.43	L.P.
22	3/25/95	Area along Old Bethel Valley Rd		2.46	L.P.
23	3/25/95	ROW along Old Bethel Valley Rd		5.05	L.P.
24	3/26/95	NA1 Mid-section		0.44	L.P.
25	3/26/95	NA1 Disturbed Area		0.5	L.P.
26	3/26/95	NA1 Rocky Slopes		0.93	L.P.
27	3/26/95	NA1 Low Areas (N)		1.09	L.P.
28	3/26/95	NA1 ROW Barren and S		2.89	L.P.
29	3/28/95	NA35		5.11	L.P.
30	3/29/95	NA18		23.07	L.P.
31	3/31/95	SA-A (Shepard Cemetary Area)		11.24	L.P.
32	4/7/95	NA23		6.67	L.P.
33	4/8/95	W of Mt Vernon Rd		9.94	L.P.
34	4/8/95	Walker Branch		47.37	L.P.
35	4/18/95	NA41		2.7	L.P.

Table 2. (continued)

METHOD	RECORDS	T&E OBSERVED	T&E SITE LIST	LANDSCAPE ELEMENTS	COMMUNITIES	COMMENTS
E	g				Pp, Xh, Mh, Bu	unidentified mint
E	g			We, Or, Op, Wr	Ba, Pp, Xh, Mh, Bu	
E	g				Xh, Mh	search for sweet pinesap
S	g, r			Op, We	Xh, Mh, Mo	potential construction site
E	g				Mx, Mh, Xh	search for sweet pinesap
E	g		Lc	We	Mh	unknown lily-like plant
E	g			We	Mh, Xh	search for sweet pinesap
E	g				Mh	rare community: beech-laurel
E	g				Np, Xh	search for sweet pinesap
E	g				Np, Mh, Xh	search for sweet pinesap
E	g			Wr	Xh	vouchered lady's tresses fern
E	g			We	Xh, Mh	unknown orchid not yet evident
E	g				Xh, Mh, Np	search for sweet pinesap
E	g				Mh	used low water to search bank
E	g			Or, Op	Ba, Xh	
E	g		Ap	Cl	Mh	
E	g			Or, Op	Ba, Xh, Th	search for winter annuals
E	g			Cl, Mf	Mh, He	search for sweet pinesap
E	g				Xh, Mx	search for sweet pinesap
E	g				Bh	
E	g			Mf	Xh, Mh	search for sweet pinesap
E	g				Th	search for winter annuals
E	g			Op	Mo	search for winter annuals
E	g			We	Th	
E	g			Op	Th	search for winter annuals
E	g		Ap, Rp	Or, Cl, Op	Ba, Xh	search for winter annuals
E	g			We	Bh, Ma	
E	g			Ba, Or, We	Bu, Bh	search for winter annuals
E	g		De, Lc	Or, Op, We	Np, Pp, Bh, Xh, Ba	winter annual search
E	g	Sc	Sc	Cl, Wr	Mh, Xh	
E	g			Mf	Mh, Np	
E	g	Sc. (Cr?)	Sc	Cl, Mf	Mh	
E	g			Or, Op	Ba.Mh, Bh	
E	g			We	Mh	
E	g	Cv	Cv	Wr. Mf	Mh	

Table 2. (continued)

INDEX	DATE	SITE	REQUEST	ACRES	INVESTIGATOR
36	4/22/95	NA20		2.19	L.P.
37	4/22/95	Mckinney Ridge		14.66	L.P.
38	4/25/95	Walker Branch		10.87	L.P.
39	4/27/95	NA43		18.48	L.P.
40	5/4/95	Flashlight Cave Area		1.6	L.P.
41	5/4/95	RA21 and Vicinity		16.65	L.P.
42	5/5/95	W End of NA 41		13.7	LP
43	5/6/95	NA 18 and More		34.99	L.P.
44	5/7/95	NA2		5.61	L.P.
45	5/8/95	W of Scarboro Rd		2.27	L.P.
46	5/8/95	N of Rogers Quarry		2.45	L.P.
47	5/12/95	Haw Ridge SE of Scarboro Facility		10.3	L.P.
48	5/13/95	NA1 Open Slopes		0.95	L.P.
49	5/13/95	NA1 ROW Barren		2.04	L.P.
50	5/17/95	K-25 Filtration Plant Pond		0.7	L.P.
51	5/17/95	NA27		0.71	L.P.
52	5/17/95	New Platanthera flava Site		3.82	L.P.
53	5/21/95	S of Robotics Lab		12.3	L.P.
54	5/25/95	SA-A (SW end)		3.34	L.P.
55	5/25/95	SA-A (E end)		8.05	L.P.
56	5/27/95	ROW S of Bear Creek		0.46	L.P.
57	5/27/95	NA2		12.26	L.P.
58	5/28/95	S of ROW and N of NA2		10.4	L.P.
59	6/4/95	W End of NA41		8.97	L.P.
60	6/8/95	NA2 S Extension		10.45	L.P.
61	6/10/95	ROW N of NA2		16.07	L.P.
62	6/14/95	Upper Ish Creek Wetland (1)		3.8	L.P.
63	6/14/95	W Trans Chestnut Ridge ROW		4.99	L.P.
64	6/19/95	Melton Shore		57.56	L.P.
65	6/21/95	Grassy Creek Pumping Station and N		1.43	L.P.
66	6/21/95	N of K-25 Filtration Plant Pond		2.21	L.P.
67	6/21/95	SE of Gallaher Bridge Wetland		4.45	L.P.
68	6/22/95	Haw Ridge W of Solway Bridge		20.42	L.P.
69	6/23/95	NA2		0.24	L.P.
70	6/23/95	Outcrop Area Near NA2		6.09	L.P.
71	6/24/95	ROW at Gum Hollow Rd (W)		0.34	L.P.

Table 2. (continued)

METHOD	RECORDS	T&E OBSERVED	T&E SITE LIST	LANDSCAPE ELEMENTS	COMMUNITIES	COMMENTS
E	g		Ap	Cl, Wr	Mh	
E	g	Ap, Cv		Cl, Wr	Mh	
E	g			We	Mh	
E	g		De	Cl, Op, Mf	Mh	
E	g			Wr	Mh	
E	g			We	Op, Mh	
E	g	Cv, Pq	Cv	Mf	Xh, Mh	
E	g	Sc	Sc	Cl, Mf	Mh	
E	g		Hc, Lc	Wr, Mf	Mh	
E	g			Wr	Ha	
E	g			We	Th, Ma	
E	g				Xh, Mh	
E	g	Rp	Ap	Or, Op	Xh, Ba	
E	g			Op	Bu, Ba	
E	g	Sl, Ap	Ap	We	Bh, Th	
E	g		Pp	We	Mo	
E	g	Pf		We	Bh	
E	g			We, Cl	Mh	
E	g			Mf	Mh	
E	g			Mf	Mh	
E	g			We, Op	Mh	
E	g	Hc	Hc, Lc	Mf	Mh	
E	g			Wr	Mh	
E	g	Cv	Cv	Mf	Mh	
E	g, h	Lc		We	Mh, Xh	unknown Juncus (later identified)
E	g				Bu	
E	g			We	Bh	
E	g			Op	Bu	
E	g	Ap, Sc	Ap, Sc, Cg	Cl, Mf	Mh	
E	g			We	Mh	
E	g			Op, We	Bu	
E	g. h			We	Bu, Pp	possible specimen of Carex echinata
E	g			Wr, Mf	Mh	
E	g		Lc, Hc	Mf	Mh	
E	g			Wr	Mh	
E	g			Op, We	Mo	

Table 2. (continued)

INDEX	DATE	SITE	REQUEST	ACRES	INVESTIGATOR
72	6/24/95	NA1 Open Slopes		1.12	L.P.
73	6/24/95	NA1 ROW Barren		1.72	L.P.
74	6/25/95	Chestnut Ridge Substation Wetland		0.3	L.P.
75	6/25/95	Chestnut Ridge ROWs		16.56	L.P.
76	6/26/95	A Pine Ridge Stream		23.01	L.P.
77	6/28/95	Wet ditch next to road near EFPC gaging station	Parcel ED-1	0.59	D.A.
78	6/28/95	Spring near Lambert's Quarry	Parcel ED-1	0.66	D.A.
79	6/28/95	Lower EFPC floodplain	Parcel ED-1	0.92	D.A.
80	6/28/95	East of Herrel Rd	Parcel ED-1	1.89	D.A.
81	6/28/95	RA3a	Parcel ED-1	1.94	D.A.
82	6/28/95	East Quarry Rd, tributary to EFPC	Parcel ED-1	3.04	D.A.
83	6/28/95	North of Bull Bluff Road		7.54	DA.
84	6/29/95	Lower EFPC Floodplain	Parcel ED-1	14.06	D.A., B.R.
85	6/30/95	RA21		2.82	L.P.
86	7/10/95	Beaver Pond EFPC	Parcel ED-1	0.27	L.P.
87	7/10/95	Herrel Rd Barrens	Parcel ED-1	0.88	L.P.
88	7/12/95	Lambert's Quarry	Parcel ED-1	4.21	L.P.
89	7/12/95	EFPC	Parcel ED-1	4.24	L.P.
90	7/13/95	K-25 Old Barracks Site		3.16	L.P.
91	7/13/95	Herrel Rd area (S area)	Parcel ED-1	31.99	R.C.
92	7/14/95	Lower EFPC	Parcel ED-1	44.35	D.A., B.R.
93	7/15/95	Hydrastis canadensis site EFPC	Parcel ED-1	0.34	L.P.
94	7/15/95	Beech-Maple Forest	Parcel ED-1	5.37	L.P.
95	7/15/95	EFPC	Parcel ED-1	7.08	L.P.
96	7/16/95	Stream E of Lambert Quarry	Parcel ED-1	2.16	L.P.
97	7/16/95	SE End of EFPC	Parcel ED-1	7.52	L.P.
98	7/18/95	SW End of EFPC	Parcel ED-1	1.95	LP
99	7/18/95	NA27		6.51	L.P.
100	7/18/95	Herrel Rd area (N area)	Parcel ED-1	18.76	R.C.
101	7/19/95	Lily Bloom Area (NA22)		0.99	R.C.
102	7/19/95	NW End of EFPC	Parcel ED-1	2.53	LP
103	7/20/95	Clearcut S of EFPC Rd.	Parcel ED-1	2.89	R.C.
104	7/20/95	Possible Plantation Covered Barren	Parcel ED-1	2.98	R.C.

Table 2. (continued)

METHOD	RECORDS	T&E OBSERVED	T&E SITE LIST	LANDSCAPE ELEMENTS	COMMUNITIES	COMMENTS
E	g		Rp, Ap	Or, Op	Xh, Ba	
E	g			Or, Op	Bu, Ba	
E	g			We	Mo	
E	g			Op	Mo, Bu	
E	g			We	Mh	
E	g, r				clearcut	confusing Typha specimens
E	g, r			We	Bh	wetland around spring w/saprophytic muck, sweetflag & sycamore
E	g, r			We,	Bh	
E	g, r			Rs	clearcut, Mh	the sink is a southeastern shrew site
E	g, r			We	Bh, Cn	
E	g, r			We	Mh, Bh, clearcut	
M	p, g	Lc	Lc	Op	Mh, Mo	Lc in bloom
E	g, r			We	Bh, Ma, Cn	critical wetland, springs
E	g			We	Mh	
E	g, r			We	Bh	
E	g, r			Or, Op	Xh, Ba	
E	g, h, r	(Rc)		We, Cl	Xh	found Rhynchospora colorata (new for TN)
E	g, r			Cl	Mh	
E	g				Th	
E	g, r			Or, Op	Ba, Xh, Mh	
E	g, r			We, Cl	Bh, Mh, Th, Cn, Ma, Np, Pp, Wp, clearcut	(by canoe) cliffs/outcrops not evident from topo map
E	g, r	Hc			Mh	
E	g, r			Mf	Mh, Bm	beech-maple is unusual
E	g, r			Cl	Mh	
E	g, r			We	Mh	
E	g, r				Mh	
E	g, r				Mh	unidentified mint
E	g	Pp	Pp	We	Mo	
E	g, r	Hc	Hc	Mf	Xh, Mh	drainage enters rocky near mature forest
M	g, r	Lc	Lc	We	Mo	no seed formed following blooming
E	g, r				Mh	
E	g, r				clearcut	
E	g, r				Pp	no distinctive barren vegetation found

Table 2. (continued)

INDEX	DATE	SITE	REQUEST	ACRES	INVESTIGATOR
105	7/20/95	Lambert Quarry Pond (Canoe)	Parcel ED-1	4.24	L.P., D.A.
106	7/20/95	Bear Cr near EFPC	Parcel ED-1	25.35	R.C.
107	7/21/95	Upper Ish Wetland (2)		6.52	L.P.
108	7/23/95	ROW N of NA37		0.38	LP
109	7/23/95	NA37		1.04	LP
110	7/23/95	W End Fence-to-bound Strip B. O. R.		15.65	LP
111	7/30/95	Chestnut Ridge SDZ (E Bound.)		3.62	L.P.
112	7/30/95	Beaver Pond along Hwy 95		4.26	L.P.
113	8/1/95	Parcel ED-1 NE Boundary	Parcel ED-1	10.09	L.P.
114	8/2/95	NA46 and N		9.6	L.P.
115	8/3/95	NA36		3.57	L.P.
116	8/4/95	TSR (stream area)		4.07	L.P.
117	8/4/95	TSR (E end)		30.9	L.P.
118	8/6/95	NA1 Open Slopes		0.57	L.P.
119	8/6/95	NA1 ROW Barren		1.54	L.P.
120	8/9/95	NA2		41.82	L.P.
121	8/10/95	NA27 area		5.09	L.P.
122	8/10/95	RA13 and Vicinity (TSR)		45.08	L.P.
123	8/12/95	W of Lambert Quarry		5.23	L.P.
124	8/12/95	N of Lambert Quarry		30.47	L.P.
125	8/14/95	S of East Fork Ridge		12.32	L.P.
126	8/15/95	Leatherwood Bluffs (NA 41)		3.39	L.P.
127	8/17/95	Springs between Bethel Valley Rds		2.09	L.P.
128	8/17/95	N of Roger Quarry		2.27	L.P.
129	8/17/95	W of Deer Checking Staation		11.9	L.P.
130	8/18/95	W Walker Branch		9.83	L.P.
131	8/18/95	ROW W of Mt. Vernon Rd		19.61	L.P.
132	8/23/95	NA7		22.4	L.P.
133	8/24/95	Wetlands/Springs at Bear Cr, 95 Jct		4.31	L.P.
134	8/24/95	Chestnut Ridge E of HWY 95		10.39	L.P.
135	8/25/95	RA12		18.82	L.P.
136	8/31/95	Chestnut Ridge ROWs		5.46	L.P.
137	9/1/95	A Bethel Valley Pond		0.42	L.P.
138	9/1/95	Pond W of Deer Checking Station		0.71	L.P.
139	9/1/95	Fly Ash Area		5.51	L.P.
140	9/5/95	Pond N of Roger's Quarry		2.83	L.P.

Table 2. (continued)

METHOD	RECORDS	T&E OBSERVED	T&E SITE LIST	LANDSCAPE ELEMENTS	COMMUNITIES	COMMENTS
E	g, r	Rc	Rc	We, Cl	Xh	
E	g, r				Mh	
E	g			We	Mh	
E	g			Op, Or, Op	Bu, Ba	
E	g		Ap, Dr	Cl, Or, Wr, Op	Mh, Xh,Ba	2 vouchers
E	g	Cv		Mf	Mh, Th	
E	g			Op	Mo, Mh	
E	g			We	Mh	
E	g, r			Mf	Mh, Np	
E	g	Cv		Mf	Xh, Np, Mh	
E	g			Mf, Wr, We	Mh	found Isoetes
E	g				Mh, Xh	
E	g				Mh, Xh	
E	g		Rp, Ap	Or, Op	Xh, Ba	checked Rp
E	g			Or, Op	Bu, Ba	
E	g			We, Wr	Mh, Xh	
E	g			We	Mh	
E	g	(see comment)		Rs	Mh, Xh	may have found Viola tripartita var. tripartita
E	g			We	Mh, Xh	unknown plant in sometimes wet distrurbed open area
E	g	Ca	Ca	Mf	Mh, Xh, Np	more Ca sites
E	g				Mh, Xh	
E	g		Cv	Mf, Wr	Mh	unkown mint past flowering
E	g			We	Mh	
E	g			We	Th, Ma	beaver dam
E	g			We, Op	Bu, Ha	
E	g			Mh	Mh	
E	g			Or, Op	Bu, Ba	
E	g		De	Op	Mh, Xh, Bu	
E	g			We	Mh	
E	g				Mh, Xh	
E	g	Cg		Cl, Or	Xh	
E	g			Op	Bu, Mo	
E	g			We	Bu	unknown Sagittaria
E	g			We	Bu	
E	g		So	We	Th	
E	g			We	Pp	unknown Sagittaria found

Table 2. (continued)

INDEX	DATE	SITE	REQUEST	ACRES	INVESTIGATOR
141	9/6/95	NA36		2.35	L.P.
142	9/6/95	ROW SW of SA-A		3.68	L.P.
143	9/6/95	ROW SW of Katie's Kitchen (E)		5.04	L.P.
144	9/8/95	N of Pine Ridge Streag		0.7	L.P.
145	9/8/95	S of Bear Cr Mowed Area (Middle)		2.76	L.P.
146	9/9/95	ROW SW of 0907 (W)		27.38	L.P.
147	9/12/95	RA12		26.89	L.P.
148	9/13/95	Robert's Branch (RA24)		3.71	L.P.
149	9/14/95	S of Bear Cr Mowed Area (E End)		2.31	L.P.
150	9/14/95	E end of NA27		2.79	L.P.
151	9/14/95	NW end of NA2		6.55	L.P.
152	9/15/95	NA43 and ROW on N Side		24.3	L.P.
153	9/18/95	Bull Bluff Above the Cliff		13.65	L.P.
154	9/18/95	Bull Bluff Bend		22.28	L.P.
155	9/19/95	N End of NA23		4.18	L.P.
156	9/20/95	Slope Bottom NA41		4.22	L.P.
157	9/21/95	Chestnut Ridge ROW		1.85	L.P.
158	9/23/95	W Bethel Valley Pond		2.48	L.P.
159	9/25/95	Pine Ridge Gasline and Power ROW's		20.18	L.P.
160	9/26/95	RA19		1.82	L.P.
161	9/26/95	Hembree Marsh		2.55	L.P.
162	9/26/95	Red Barren E of 95		4.27	L.P.
163	9/27/95	Jct. 95 & Bear Cr (N)		1.19	L.P.
164	9/27/95	East Fork Ridge		6.69	L.P.
165	9/29/95	Mckinney Ridge near Popular Creek		5.81	L.P.
166	2/21/96	Outside Kerr Hollow Fence		4.36	L.P.
167	3/22/96	S end of Mckinney Ridge		36.19	L.P.
168	3/24/96	W of Hot Yard Rd		12.78	L.P.
169	3/26/96	Chestnut Ridge (cabin road)		6.97	L.P.
170	3/30/96	Rainy Knob		4.21	L.P.
171	3/30/96	S of Clark Center		6.65	L.P.
172	4/1/96	TSF southwest		19.12	L.P.
173	4/2/96	TSF W Copper Ridge		1.88	L.P.
174	4/2/96	TSF cave area		10.67	L.P.
175	4/2/96	TSF including bluffs		27.33	L.P.
176	4/3/96	Jct Poplar Cr & EFPC		1.05	L.P.
177	4/3/96	S of East Fork Ridge		7.01	L.P.
178	4/3/96	N of Lambert Quarry		20.05	L.P.
179	4/10/96	TSF upper west bluffs		14.25	L.P.

Table 2. (continued)

METHOD	RECORDS	T&E OBSERVED	T&E SITE LIST	LANDSCAPE ELEMENTS	COMMUNITIES	COMMENTS
E	g		Lc	We, Mf	Mh	3rd cluster of lily like plant found but no flowers
E	g			Op	Bu	
E	g			Op, Or	Ba, Bu, Xh	
E	g			We	Bh	supposed Gentian was Phlox
E	g			We	Mo	
E	g			Op	Bu	
E	g		Cg	Cl, Mf	Xh, Mh	
E	g			We	Bh	new embayment wetland discovered
E	g			We	Mo	
E	g		Pp	We, Op	Bu, Mo	
E	g	Hc	Hc	Wr, Mf	Mh, Bu	a possible Cr specimen apparently died back
E	g	De		Wr, Or, Op	Ba, Xh, Bu	found large new De population
E	g	Dl	Dl	Wr, Rs	Mh, Xh	possible new cave entrances
E	g				Mh, Th, Ha	
E	g	Cr		Wo, Mf	Mh, Xh, Ba	Cr presence confirmed
E	g			Wr, Cl	Mh	perhaps a new species of waterleaf (check in May)
E	g, h				Bu, Mo	Cyperus odorata (new for OR)
E	g			We	Bu	collected Sagittaria
E	g			Op	Bu, Mo	
E	g			We	Bh, Ma	
E	g	Ll. Jb	Ll	We	Bh, Ma	found new T&Esites
E	g			Op	Ba, Np	
E	g			We	Th	
E	g			Wr	Xh	
E	g		Ap,	We, Wr	Mh	
E	g			We	La, Mh	
E	g				Mh, Xh	pipeline to go into this area
E	g			We	Mh, Pp	
E	g				Mh, Xh	
E	g	Sc	Sc,	Cl, Rs, Wr	Mh	
E	g		Lc	Mf	Mh	
E	g		Cg	Wr	La, Mh, Xh	
E	g			Wr	Hh	
E	g			Rs, Or	La, Mh, Xh	
E	g			Wr	Mh, Xh	
E	g			Wr,We	Mh	mudflats checked
E	g			Wr	Mh, Xh	
E	g		Ca	Mf	Mx, Mh, Xh	
E	g		Cg	Wr	Mh, Xh	

Table 2. (continued)

INDEX	DATE	SITE	REQUEST	ACRES	INVESTIGATOR
180	4/10/96	TSF stream		24.17	L.P.
181	4/11/96	S slope East Fork Ridge		13.21	L.P.
182	4/11/96	NA19 plus		14.61	L.P.
183	4/12/96	S of Perimeter Rd		2.31	L.P.
184	4/12/96	N of Perimeter Rd		3.61	L.P.
185	4/12/96	Chestnut Ridge Creek		5.47	L.P.
186	4/12/96	Chestnut Ridge (cabin loop)		10.89	L.P.
187	4/13/96	N of NA19 and some of NA19		3.94	L.P.
188	4/15/96	Bear Creek triangle		2.43	L.P.
189	4/15/96	Ish Creek Branch		15.71	L.P.
190	4/18/96	E end of NA19		4.32	L.P.
191	4/18/96	NA39		17	L.P.
192	4/20/96	Upper Ish Creek		7.22	L.P.
193	4/25/96	Large new l ily population		5.98	L.P.
194	4/25/96	Bull Bluff		22.52	L.P.
195	4/29/96	S slope East Fork Ridge		12.16	L.P.
196	4/29/96	Bear Ck. to Hot Yard Rd		15.56	L.P.
197	4/30/96	Freels Bend		23.47	L.P.
198	5/2/96	Inside Kerr Hollow Fence		4.82	L.P.
199	5/2/96	E of Bearden Creek		16.78	L.P.
200	5/6/96	Bear Creek		6.14	L.P.
201	5/8/96	SE of Gallaher Bridge		1	L.P.
202	5/9/96	Upper Chestnut Ridge Wetland		6.47	L.P.
203	5/10/96	E of Bull Bluff Rd.		12.86	L.P.
204	5/18/96	Robert's Branch Wetland		8.42	L.P.
205	5/20/96	E of 95 Copper Ridge		2.74	L.P.
206	5/20/96	RA12 and ROW		13.11	L.P.

INVESTIGATOR

L.P. = Larry Pounds
D.A. = Deborah Awl
B.R. = Barbara Rosensteel

METHOD

E = exploratory
S = systematic
M = monitoring

RECORDS

p = photograph
g = GIS map data
h = herbarium specimen
r = report

T&E OBSERVED = T&E species observed during visit
T&E SITE LIST = all T&E species known from the site

Ap = *Aureolaria patula*
Cg = *Carex gravida*
Ch = *Carex howei*
Co = *Carex oxylepis* var. *pubescens*
Cr = *Cimicifuga rubifolia*
Ca = *Cypripedium acaule*
De = *Delphinum exaltatum*
Dl = *Diervilla lonicera*
Dr = *Draba ramosissima*
En = *Elodea nuttallii*
Fm = *Fothergilla major*
Hc = *Hydrastis canadensis*
Jc = *Juglans cinerea*
Jb = *Juncus brachycephalus*
Lc = *Lilium canadense*
Ll = *Liparis loeselii*
Pq = *Panax quinquifolius*
Pf = *Platanthera flava* var. *herbiola*
Pp = *Platanthera peramoena*
Pv = *Pycnanthemum verticillatum*
Rc = *Rhynchospora colorata*

Table 2. (continued)

METHOD	RECORDS	T&E OBSERVED	T&E SITE LIST	LANDSCAPE ELEMENTS	COMMUNITIES	COMMENTS
E	g			Rs	Np, Mh	
E	g			Wr	Mh, Xh	
E	g		Cr,	Wr. We	Mh. Mx	need to cofirm Cr site
E	g			Cl, Wr	Mh, Xh	
E	g				Np, Mh	checking for sweet pine sap
E	g			We	Bh	
E	g			We	Mh, Xh	
E	g	Ap, Cv, Pq	Ap	Mf. Wr, Or	Mh, Xh	
E	g			We, Wr	Mh	
E	g			We	Bh	excellent wetland
E	g		Ap	Wr. Or, We	Mh, Xh	unknown plant flagged
E	g		Cv	Mf	Mh, Mx	Cv not yet up
E	g	Ca		We	Bh	
E	g	Lc		We	Mh	perhaps ORR's largest Lc
E	g	Pq, Dl	Dl,	Cl, Mf	Mh	
E	g			Wr	Mh, Xh	
E	g	Pf, Lc		We	Mh, Cn	
E	g				Xh, Mh	
E	g, h			Cl,We	La, Mh	
E	g	Pq	Lc	Or, We, Mf	Xh, Mh	
E	g	Cv. Hc, Pq		We, Wr	Mh, Mo	
E	g			We	Th, Mh	search for Carex muricata
E	g			We	Mh	possible rare sedge found
E	g	Lc, Pq		We, Mf	Mh	
E	g	Sc	Sc	We, Wr	Bh, Th, Pp, Ma	
E	g	Rp		Or, Op, Wr	Xh	
E	g	Rp	Cg	Or. Wr. Cl	Xh	

Rp = *Ruellia purshiana*
Sc = *Saxifraga careyana*
Sf = *Scirpus fluviatilis*
Sl = *Spiranthes lucida*
So = *Spiranthes ovalis*
Vt = *Viola tripartita var tripartita*

LANDSCAPE ELEMENTS

Cl = Cliff
Wr = Wooded rock outcrop
Or = Open rock outcrop
Rs = Rocky sink
Mf = Mature forest
We = Wetlands, ponds, springs, seeps
Op = Open areas (natural or maintained)

COMMUNITIES

Ba = Limestone barren
Np = Natural Pine
Pp = Pine Plantation
Wp = Walnut Plantation
Mh = Mesic Hardwoods
Xh = Xeric Hardwoods
Ha = Hay field
Bu = Bush-hogged
Mo = Mown
Bh = Bottomland Hardwoods
Th = Thicket
He = Hemlock
Mx = Mixed pine and hardwood
La = Lawn
Or = Ornamental (landscaping)

Table 3. Vascular Plant Species Found on the Oak Ridge Reservation Which Are Listed by State or Federal Agencies (May, 1996)

Species	Common name	Habitat on ORR, Status[c]
Aureolaria patula	Spreading false-foxglove	River bluff(C2), T
Carex gravida	Heavy sedge	Varied, S
Carex howei	Howe's sedge	Shaded wetlands, E
Carex oxylepis var. *pubescens*[a]	Hairy sharp-scaled sedge	Shaded wetlands, S
Cimicifuga rubifolia	Appalachian bugbane	River slope(C2), T
Cypripedium acaule	Pink lady's-slipper	Dry to rich woods, E*
Delphinum exaltatum	Tall larkspur	Barrens and woods(C2), E
Diervilla lonicera	Northern bush-honeysuckle	River bluff, T
Draba ramosissima	Branching whitlow-grass	Limestone cliff, S
Elodea nuttallii	Nuttall waterweed	Pond, embayment, S
Fothergilla major	Mountain witch-alder	Woods, T
Hydrastis canadensis	Golden seal	Rich woods, T
Juglans cinerea	Butternut	Slope near stream(C2), T
Juncus brachycephalus	Small-head rush	Wetland, S
Lilium canadense	Canada lily	Moist woods, T
Lilium michiganense[b]	Michigan lily	Moist woods, T
Liparis loeselii	Fen orchid	Forested wetland, E
Panax quinquifolius	Ginseng	Rich woods, T

Table 3. (continued)

Species	Common name	Habitat on ORR, Status[c]
Platanthera flava var. *herbiola*	Tuberculed rein-orchid	Forested wetland, T
Platanthera peramoena	Purple fringeless orchid	Wet meadow, T
Pycnanthemum verticillatum	Whorled mountain-mint	Wetlands and barrens, E
Rhynchospora colorata	White-topped sedge	Rocky edge of pond, S
Ruellia purshiana	Pursh's wild-Petunia	Dry, open woods, S
Saxifraga careyana	Carey saxifrage	River bluff, sink hole, S
Scirpus fluviatilis	River bulrush	Wetland, S
Spiranthes lucida	Shining ladies'-tresses	Wetland, T
Spiranthes ovalis	Lesser ladies'-tresses	Moist to dry woods, S
Viola tripartita var. *tripartita*	Three-parted violet	Rocky woods, S

[a]*Carex oxylepis var. pubescens* was not re-located during surveys 1991-1996.

[b]*Lilium michiganense* is believed to have been extirpated from the ORR by the impoundment at Melton Hill.

[c]Status codes:

(C2)	Under review for federal listing; was listed under the formely used C2 candidate designation. More information needed to determine status.
E	Endangered in Tennessee.
E*	Endangered in Tennessee due to commercial exploitation.
T	Threatened in Tennessee.
S	Special Concern in Tennessee.
none*	No status currently, but high state rank (Tennessee Natural Heritage Program) and under evaluation for state listing.

Table 4. Occurrence of Listed Vascular Plant Species in OU's, WAG's, Environmentally Sensitive Areas, and Other Areas on the ORR

RARE PLANT TAXA	Ap	Cg	Ch	Co	Cr	Cv	Ca	De	Dl	Dr	En	Fm	Hc	Jc	Jb	Lc	Ll	Pq	Pf	Pp	Pv	Rc	Rp	Sc	Sf	Sl	So	Vt
LOCATION																												
BCOU4						x	x									x		x	x	x								
Bethel Valley GWOU	x						x	x			x				x	x		x			x							
CROU2																											x	
Melton Valley GWOU	x			x		x	x				x			x*		x		x	x	x			x		x		x	
K-25 GWOU	x					x				x																		
WAG 2				x										x*											x		x	
NA 1	x				x																			x				
NA 2													x			x												
NA (TVA) 3	x				x																			x				
NA 4							x											x	x									
NA (TVA) 5																								x				
NA 6	x						x				x		x					x										
NA 7								x																				
NA 8								x								x												
NA 9																											x	
NA 10													x														x	
NA 11					x				x									x						x				
NA 12												x						x										
NA 13																x			x	x								

Table 4. (continued)

RARE PLANT TAXA	Ap	Cg	Ch	Co	Cr	Cv	Ca	De	Dl	Dr	En	Fm	Hc	Jc	Jb	Lc	Ll	Pq	Pf	Pp	Pv	Rc	Rp	Sc	Sf	Sl	So	Vt
LOCATION																												
NA 14	x						x		x																			
NA 15					x																			x				
NA 16	x																							x				
NA 17	x																							x				
NA 18																								x				
NA 19	x				x																							
NA 20	x						x																					
NA 21													x											x				
NA 22																x												
NA 23					x																			x				
NA 24							x								x		x											
NA 25							x									x												
NA 26																x												
NA 27																				x								
NA 28																			x									
NA 29																x				x								
NA 30	x																											
NA 31																x												
NA 32	x	x												x*														
NA 33	x																									x		
NA 34																x												

Table 4. (continued)

RARE PLANT TAXA	Ap	Cg	Ch	Co	Cr	Cv	Ca	De	Dl	Dr	En	Fm	Hc	Jc	Jb	Lc	Ll	Pq	Pf	Pp	Pv	Rc	Rp	Sc	Sf	Sl	So	Vt
LOCATION																												
NA 35								x								x												
NA 36								x								x		x										
NA 37	x									x																		
NA 38															x													
NA 39						x																						
NA 41						x																						
NA 42		x					x									x												
NA 43								x																				
NA 44						x												x										
NA 45	x					x																						
NA 46							x															x						
NA 47							x				x		x					x										
NA 48																			x									
NA 50																x			x									
NA 51		x																x					x				x	
NA 52						x							x					x	x									
NA 53																							x					
NA 54						x												x										
NA 55			x																									
NA 56																x		x										

Table 4. (continued)

RARE PLANT TAXA	Ap	Cg	Ch	Co	Cr	Cv	Ca	De	Dl	Dr	En	Fm	Hc	Jc	Jb	Lc	Ll	Pq	Pf	Pp	Pv	Rc	Rp	Sc	Sf	Sl	So	Vt
LOCATION																												
RA 6							x																					
RA 8													x															
RA 9							x																					
RA 14																		x										
RA 28											x																	
CMA 1																				x								
CMA 4																											x	
CMA 5				x																					x		x	
HA 1																		x										
HA 2							x																					
HA 3																		x										
HA 4							x																					
HA 5																		x										
HA 6																		x										
HA 7							x																					
HA 8																					x							

* These areas contain specimens which are most likely Jc, but cannot be confirmed due to immaturity of the growth.

Table 4. (continued)

SPECIES	
Aureolaria patula	Ap
Carex gravida	Cg
Carex howei	Ch
Carex oxylepis v pubescens	Co
Cimicifuga rubifolia	Cr
Collinsonia verticillata	Cv
Cypripedium acaule	Ca
Delphinium exaltatum	De
Diervilla lonicera	Dl
Draba ramosissima	Dr
Elodea nuttallii	En
Fothergilla major	Fm
Hydrastis canadensis	Hc
Juglans cinerea	Jc
Juncus brachycephalus	Jb
Lilium canadense	Lc
Liparis loeselii	Ll
Panax quinquifolius	Pq
Platanthera flava v herbiola	Pf
Platanthera peramoena	Pp
Pycnanthemum verticillatum	Pv
Rhynchospora colorata	Rc
Ruellia purshiana	Rp
Saxifraga careyana	Sc
Scirpus fluviatilis	Sf
Spiranthes lucida	Sl
Spiranthes ovalis	So
Viola tripartita var.tripartita	Vt

Table 5. T&E Vascular Plant Species Potentially Occurring on the ORR

TAXON	COMMON NAME	HABITAT	TN STATUS	U.S. STATUS
Arabis patens	Spreading rockcress	Limestone slopes	E	
Asplenium scolopendrium var. americana	American hart's tongue fern	Cave entrance	E	T
Aster ericoides	White heath aster	Dry, open areas	T	
Aster pratensis	Aster	Dry prairies	T	
Berberis canadensis	American barberry	Rocky bluffs	S	
Carex muricata var. angusta	Little prickly sedge	Wetlands	T	
Chrysogonum virginianum	Green-and-gold	Rocky woodlands	T	
Gnaphalium helleri	Catfoot	Dry forest edge	S	
Heuchera longifolia var. aceriodes	Maple-leaf alumroot	Calcareous woods	S	
Isotria medeoloides	Small whorled pogonia	Under trees	E	E
Liatris cylindracea	Slender blazing-star	Barren	E	
Lonicera dioica	Mountain honeysuckle	Rocky river banks	S	
Lonicera flava	Yellow honeysuckle	Woodlands	S	
Marshallia grandiflora	Large-flowered Barbara's-buttons	Gravel bars	T	(C2)
Meehania cordata	Heartleaf meehania	River slopes	T	
Pedicularis lanceolata	Swamp lousewort	Wet meadow, seeps	T	
Polymnia laevigata	Tennessee leafcup	Woodlands	S	
Rhamnus alnifolia	Alderleaf buckthorn	Swamps, low woods	E	

Table 5. (continued)

Rhynchospora capillacea	Capillary beakrush	Limestone seeps	E-P	
Silphium laciniatum	Compass plant	Prairies	T	
Silphium wasiotense	Kentucky rosinweed	Forest edge	T	
Solidago ptarmicoides	Prairie goldenrod	Barren	E	
Spiraea virginiana	Virginia spiraea	Gravel bars	E	T
Synandra hispidula	Gyandotte beauty	Rich wooded slopes	T	
Tetragonotheca helianthoides	Pineland squarehead	Woods, thickets	E-P	
Tomanthera auriculata	Earleaf fox-glove	Barren	E	(C2)
Trifolium calcaricum	Running glade glover	Barrens	E	(C2)
Woodwardia virginica	Virginia chainfern	Wet acid soils	S	

Status codes:

(C2) Under review for federal listing; was listed under the formely used C2 candidate designation. More information needed to determine status.
E Endangered in Tennessee.
E* Endangered in Tennessee due to commercial exploitation.
T Threatened in Tennessee.
S Special Concern in Tennessee.
none* No status currently, but high state rank (Tennessee Natural Heritage Program) and under evaluation for state listing.

Table 6. Additions (144) to the ORR Vascular Flora, 1994 through May, 1996

GENUS	SPECIES	VARIETY	SYNONYM	ADD YEAR
Ageratina	*aromatica*	-	*Eupatorium aromaticum*	1994
Allium	*ampeloprasum*	-	-	1994
Ambrosia	*bidentata*	-	-	1994
Anthoxanthum	*odoratum*	-	-	1994
Arabis	*canadensis*	-	-	1994
Aristida	*dichotoma*	-	-	1994
Asclepias	*viridiflora*	-	-	1994
Aster	*divaricatus*	-	-	1994
Aster	*laevis*	-	-	1994
Bidens	*bipinnata*	-	-	1994
Bromus	*altiissimus*	-	*B. latiglumis*	1994
Bromus	*tectorum*	-	-	1994
Carex	*eburnea*	-	-	1994
Carex	*gracillima*	-	-	1994
Carex	*stipata*	-	-	1994
Cirsium	*arvense*	-	-	1994
Commandra	*umbellata*	-	-	1994
Cornus	*drummondii*	-	-	1994
Crataegus	*calpodenron*	-	-	1994

Table 6. (continued)

GENUS	SPECIES	VARIETY	SYNONYM	ADD YEAR
Cyperus	*pseudovegetus*	-	-	1994
Desmanthus	*illinoesis*	-	-	1994
Desmodium	*glutinosum*	-	-	1994
Draba	*ramosissima*	-	-	1994
Eleocharis	*parvula*	-	-	1994
Elodea	*canadensis*	-	-	1994
Eragrostis	*curvula*	-	-	1994
Euphorbia	*humistrata*	-	*Chamaesyce*	1994
Festuca	*subverticillata*	-	*F. obtusa*	1994
Galax	*urceolata*	-	*G. aphylla*	1994
Gaultheria	*procumbens*	-	-	1994
Gnaphalium	*purpureum*	-	-	1994
Helianthus	*decapetalus*	-	-	1994
Hordeum	*pusillum*	-	-	1994
Hypericum	*prolificum*	-	-	1994
Iris	*virginica*	-	-	1994
Iva	*annua*	-	-	1994
Juncus	*brachycephalus*	-	-	1994
Lechea	*racemulosa*	-	-	1994
Linaria	*canadensis*			1994

Table 6. (continued)

GENUS	SPECIES	VARIETY	SYNONYM	ADD YEAR
Linum	*sulcatum*	-	-	1994
Muhlenbergia	*tenuiflora*	-	-	1994
Panicum	*virgatum*	-	-	1994
Phaseolus	*polystachyus*	-	-	1994
Phlox	*stolonifera*	-	-	1994
Poa	*sylvestris*	-	-	1994
Polygonum	*cuspidatum*	-	-	1994
Quercus	*michauxii*	-	-	1994
Rhexia	*mariana*	var.mariana	-	1994
Rhus	*aromatica*	-	-	1994
Rubus	*phoenicolasius*	-	-	1994
Salix	*alba*	-	-	1994
Scirpus	*fluviatilis*	-	-	1994
Sparganium	*americanum*	-	-	1994
Spiranthes	*tuberosa*	-	*S. grayi*	1994
Sporobolus	*clandestinus*	-	-	1994
Sporobolus	*indicus*	-	*S. poiretii*	1994
Stipa	*avenacea*	-	-	1994
Strophostyles	*umbellata*	-	-	1994
Tussilago	*farfara*	-	-	1994

Table 6. (continued)

GENUS	SPECIES	VARIETY	SYNONYM	ADD YEAR
Veronica	*arvensis*	-	-	1994
Viburnum	*prunifolium*	-	-	1994
Vinca	*minor*	-	-	1994
Alopecurus	*carolinianus*	-	-	1995
Amelanchier	*laevis*	-	-	1995
Aralia	*racemosa*	-	-	1995
Arctinium	*minus*	-	-	1995
Arenaria	*serpyllifolia*	-	-	1995
Asclepias	*quadrifolia*	-	-	1995
Betula	*nigra*	-	-	1995
Buglossoides	*arvense*	-	*Lithospermum*	1995
Calystegia	*spithamaea*	-	-	1995
Cardamine	*parviflora*	-	-	1995
Carex	*atlantica*	spp. atlantica	-	1995
Carex	*bromoides*	-	-	1995
Carex	*jamesii*	-	-	1995
Carex	*muhlenbergii*	var. muhlenbergii	-	1995
Carex	*platyphylla*	-	-	1995
Carex	*purpurifera*	-	-	1995
Carex	*styloflexa*	-	-	1995

Table 6. (continued)

GENUS	SPECIES	VARIETY	SYNONYM	ADD YEAR
Carex	*virescens*	-	-	1995
Celastrus	*orbiculatus*	-	-	1995
Chaennorrhinum	*minus*	-	-	1995
Chaerophyllum	*procumbens*	-	-	1995
Croton	*monanthogynus*	-	-	1995
Cyperus	*croceus*	-	-	1995
Cyperus	*odoratus*	-	-	1995
Disporum	*lanuginosum*	-	-	1995
Elaeagnus	*pungens*	-	-	1995
Eragrostis	*frankii*	-	-	1995
Erythronium	*americanum*	-	-	1995
Festuca	*rubra*	-	-	1995
Geranium	*columbinum*	-	-	1995
Glechoma	*hederacea*	-	-	1995
Hedyotis	*crassifolia*	-	*Houstonia*	1995
Hemerocallis	*fulva*	-	-	1995
Hibiscus	*trionum*	-	-	1995
Hydrophyllum	*macrophyllum*	-	-	1995
Ilex	*verticillata*	-	-	1995
Iris	*pseudacorus*	-	-	1995

Table 7. ORNL Photography Numbers for Photographs of T&E Vascular Plant Species and Their Habitats

Species	ORNL Number	Photo View	Date	Witness
Aureolaria patula	4341-83	Close-up; flowers	9/19/81	P. D. Parr
A. patula	4342-83	Habitat; river bluffs	Sep-81	P. D. Parr
A. patula	7586-87	Entire specimen	9/30/87	P. D. Parr
A. patula	7593-87	Close-up	9/30/87	P. D. Parr
A. patula	7590-87	Close-up; leaves & flower	9/30/87	P. D. Parr
A. patula	7594-87	Close-up; leaves & flower	9/30/87	P. D. Parr
A. patula	7587-87	Close-up; leaves & seedheads	9/30/87	P. D. Parr
A. patula	7588-87	Entire specimen; no flowers	9/30/87	P. D. Parr
A. patula	7592-87	Partial specimen; leaves	9/30/87	P. D. Parr
A. patula	7591-87	Entire specimen	9/30/87	P. D. Parr
Blephilia ciliata	3796-95	Herbarium specimen	1995	L. R. Pounds
Carex gravida	3795-95	Herbarium specimen	1995	L. R. Pounds
Cimicifuga rubifolia	4340-83	Close-up; leaves	9/19/81	T. Patrick
C. rubifolia	4338-83	Close-up; flower spike	9/19/81	T. Patrick
C. rubifolia	4342-83	Entire specimen & habitat	Sep-81	T. Patrick
C. rubifolia	6825-87	Entire specimen with flowers		R. A. Cook
C. rubifolia	6823-87	Sampling sites		R. A. Cook
C. rubifolia	6824-87	Entire specimen; R. A. Cook		R. A. Cook
Collinsonia verticillata	3792-95	Entire specimen with flowers	1995	L. R. Pounds
C. verticillata	3789-95	Habitat	1995	L. R. Pounds
C. verticillata	3793-95	Habitat	1995	L. R. Pounds
Cypripedium acaule	3791-95	Entire specimens	1995	L. R. Pounds
C. acaule	3790-95	Entire specimens	1995	L. R. Pounds
Delphinium exaltatum	5357-85	Close-up; flower spike	8/2/79	P. D. Parr
D. exaltatum	4387-83	Habitat patch	8/2/79	P. D. Parr
Diervilla lonicera	7904-92	Partial specimen		R. A. Cook
D. lonicera	7903-92	Close-up; leaves and flowers		R. A. Cook
Draba ramosissima	2601-94	Specimen grouping	1994	L. R. Pounds
D. ramosissima	2600-94	Specimen grouping	1994	L. R. Pounds
D. ramosissima	2599-94	Habitat and specimens	1994	L. R. Pounds
D. ramosissima	2598-94	Habitat and specimens	1994	L. R. Pounds
D. ramosissima	2597-94	Habitat and specimens	1994	L. R. Pounds
Elodea nuttallii	7550-90	Pond habitat and plants	1990	L. R. Pounds
E. nuttallii	7549-90	Close-up; flowers	1990	L. R. Pounds
Fothergilla major	4379-83	Close-up; leaves & flowers	4/30/79	F. Taylor
F. major	4384-83	Habitat	May-79	P. D. Parr
Hydrastis canadensis	4386-83	Close-up; flower and leaves	4/15/79	P. D. Parr

Table 7. (continued)

Juncus brachycephalus	7055-94	Close-up; seedheads	1994	L. R. Pounds
J. brachycephalus	7054-94	Specimen grouping	1994	L. R. Pounds
J. brachycephalus	7053-94	Habitat	1994	L. R. Pounds
Juglans cinerea	3787-95	Herbarium specimen-1974		L. R. Pounds
Lilium canadense	4383-83	Entire specimen with flowers	7/12/78	P. D. Parr
L. canadense	4385-83	Close-up; flower	7/12/78	P. D. Parr
L. canadense	5177-94	Close-up; flower	1994	R. A. Cook
L. canadense	5170-94	Habitat and specimens	1994	R. A. Cook
L. canadense	5171-94	Entire specimens	1994	R. A. Cook
L. canadense	5173-94	Entire specimens	1994	R. A. Cook
L. canadense	5176-94	Close-up; flowers	1994	R. A. Cook
L. canadense	5174-94	Entire specimen	1994	R. A. Cook
L. canadense	5178-94	Entire specimen	1994	R. A. Cook
L. canadense	5172-94	Specimen group; R. A. Cook	1994	R. A. Cook
L. canadense	5175-94	Habitat	1994	R. A. Cook
Liparis loeselii	9051-91	Entire specimen	1991	P. D. Parr
L. loeselii	9052-91	Entire specimen	1991	P. D. Parr
L. loeselii	9049-91	Habitat	1991	P. D. Parr
L. loeselii	9050-91	Habitat	1991	P. D. Parr
L. loeselii	9046-91	Habitat	1991	P. D. Parr
Panax quinquefolius	4377-83	Close-up; leaves and fruit	Aug-78	P. D. Parr
Platanthera peramoena	7548-90	Habitat		L. R. Pounds
P. peramoena	7546-90	Close-up; flower head		L. R. Pounds
P. peramoena	7547-90	Close-up; flower head		L. R. Pounds
Saxifraga careyana	4380-83	Specimen group	5/2/78	P. D. Parr
S. careyana	4375-83	Habitat	Aug-77	P. D. Parr
Scirpus fluviatilis	3794-95	Herbarium specimen		L. R. Pounds
Solidago ptarmicoides		Close-up; flowers	8/5/81	T. Patrick
S. ptarmicoides	4336-83	Entire specimen	8/22/83	P. D. Parr
S. ptarmicoides	6248-86	Entire specimen		
S. ptarmicoides	4339-83	Habitat		P. D. Parr
Spiranthes ovalis	5653-83	Entire specimen	9/7/83	P. D. Parr
S. ovalis	5654-83	Close-up; flower stalk	9/7/83	P. D. Parr
S. ovalis	4382-83	Close-up; flower stalk	9/9/78	P. D. Parr
S. ovalis	4376-83	Entire specimen	9/9/78	P. D. Parr
Tomanthera auriculata	4337-83	Close-up; flower stalk	8/8/81	T. Patrick
T. auriculata	6249-86	Close-up; flowers		P. D. Parr
T. auriculata	6245-86	Close-up; flower stalk		P. D. Parr
T. auriculata	6251-86	Close-up; flowers		P. D. Parr
T. auriculata	6417-89	Partial specimen; leaves & stalk		P. D. Parr
T. auriculata	6250-86	Habitat; Monitoring plots	1987	P. D. Parr
T. auriculata	6252-86	Habitat; Monitoring plots	1987	P. D. Parr

Table 7. (continued)

T. auriculata	6247-86	Habitat	1987	P. D. Parr
Trillium vaseyi	3788-95	Entire specimen	1995	L. R. Pounds

Table 8. U.S. State Abreviations

USA

AK	Alaska	MT	Montana
AL	Alabama	NC	North Carolina
AR	Arkansas	ND	North Dakota
AZ	Arizona	NE	Nebraska
CA	California	NH	New Hampshire
CO	Colorado	NJ	New Jersey
CT	Connecticut	NM	New Mexico
DC	District of Columbia	NV	Nevada
DE	Delaware	NY	New York
FL	Florida	OH	Ohio
GA	Georgia	OK	Oklahoma
HI	Hawaii	OR	Oregon
IA	Iowa	PA	Pennsylvania
ID	Idaho	PR	Puerto Rico
IL	Illinois	RI	Rhode Island
IN	Indiana	SC	South Carolina
KS	Kansas	SD	South Dakota
KY	Kentucky	TN	Tennessee
LA	Louisiana	TX	Texas
ME	Maine	UT	Utah
MA	Massachusetts	VA	Virginia
MD	Maryland	VT	Vermont
MI	Michigan	WA	Washington
MN	Minnesota	WI	Wisconsin
MO	Missouri	WV	West Virginia
MS	Mississippi	WY	Wyoming

CANADA

AB	Alberta	NS	Nova Scotia
BC	British Columbia	ON	Ontario
LB	Labrador	PE	Prince Edward Island
MB	Manitoba	PQ	Quebec
NB	New Brunswick	SK	Saskatchewan
NF	New Foundland	YT	Yukon Territory
NT	Northwest Territories		

Table 9. Exotic Plant Species Associated with Adverse Impact to T&E Species or with High Potential to Adversely Impact T&E Species

GENUS	SPECIES	SYNONYM	COMMON NAME
Ailanthus	altissima	-	Tree-of-heaven
Albizia	julibrissin	-	Mimosa
Arthraxon	hispidus	-	(none)
Celastrus	orbiculatus	-	Oriental bittersweet
Coronilla	varia	-	Crown-vetch
Dioscorea	batatas	-	Chinese yam
Elaeagnus	pungens	-	Oleaster
Elaeagnus	umbellata	-	Oleaster
Festuca	arundinacea	F. elatior var. arundinacea	Meadow fescue
Festuca	pratensis	-	Fescue
Glechoma	hederacea	-	Ground-ivy
Kummerowia	stipulacea	Lespedeza	Korean bush-clover
Kummerowia	striata	Lespedeza	Japanese clover
Lespedeza	bicolor	-	Shrubby bushclover
Lespedeza	cuneata	-	Cuneate bus-clover
Ligustrum	sinense	-	Privet
Ligustrum	vulgare*	-	Privet
Lonicera	japonica	-	Japanese honeysuckle
Lythrum	salicaria	-	Purple loosestrife
Mahonia	bealei	-	Oregon grape
Mentha	spicata	-	Spearmint
Mentha	x piperita	-	Peppermint
Microstegium	vimineum	Eulalia viminea	Nepal grass
Murdannia	keisak	Aneilema	Alligator-weed
Myriophyllum	spicatum	-	European water-milfoil
Nasturtium	officinale	-	Watercress
Paulownia	tomentosa	-	Princess-tree
Plantago	lanceolata	-	Plantain

Table 9. (continued)

Poa	pratensis	-	Junegrass
Polygonum	persicaria	-	Smartweed
Poncircus	trifoliata	-	Trifoliate orange
Potamogeton	crispus	-	Pondweed
Pueraria	lobata	-	Kudzu
Rosa	multiflora	-	Multiflora rose
Rubus	phoenicolasius	-	Wineberry
Rumex	conglomeratus	-	Dock
Sorghum	halepense	-	Johnson grass
Tussilago	farfara	-	Coltsfoot
Urtica	dioica	-	Stinging nettle
Vinca	minor	-	Periwinkle

Appendix B

FIGURES

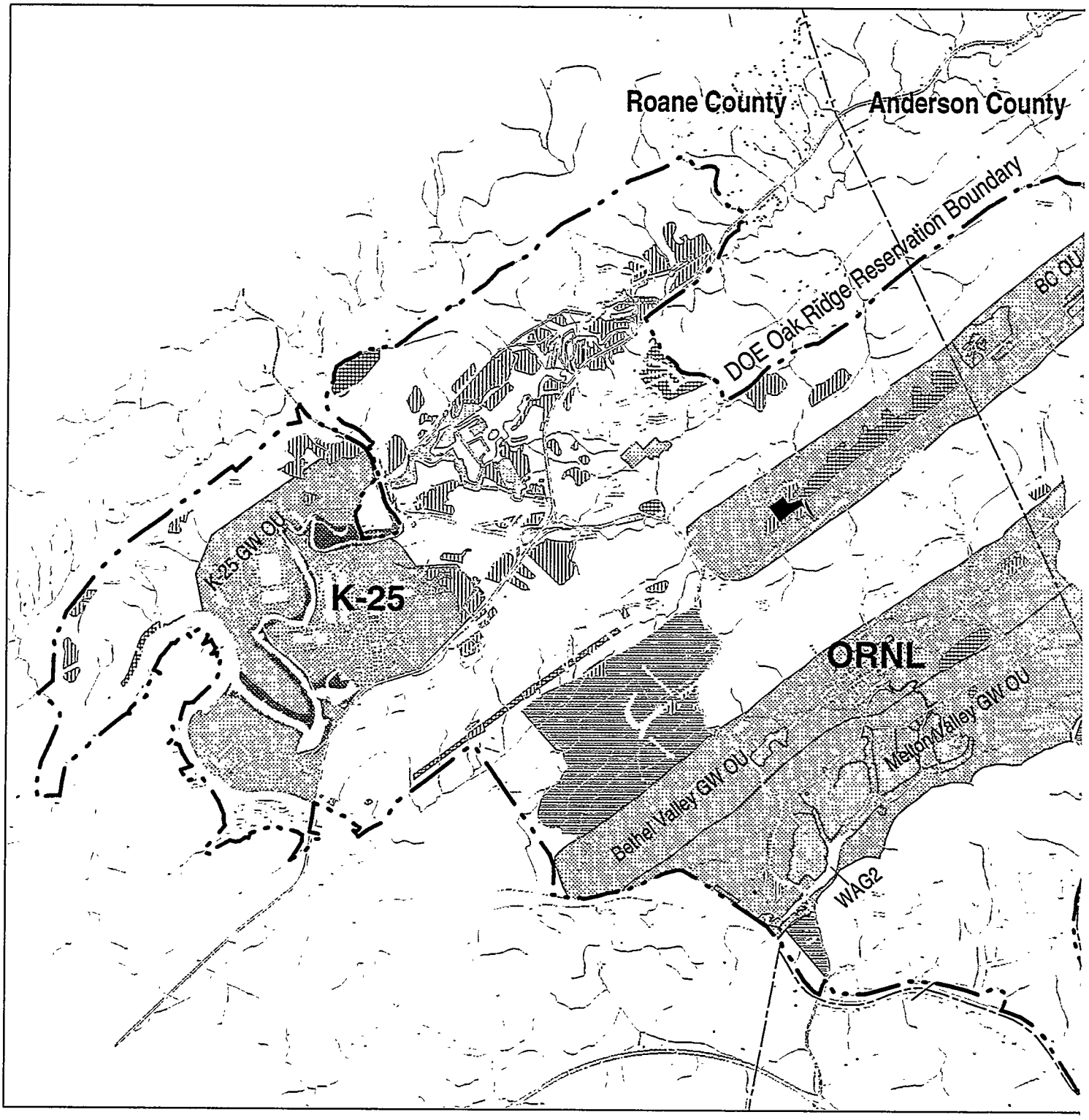
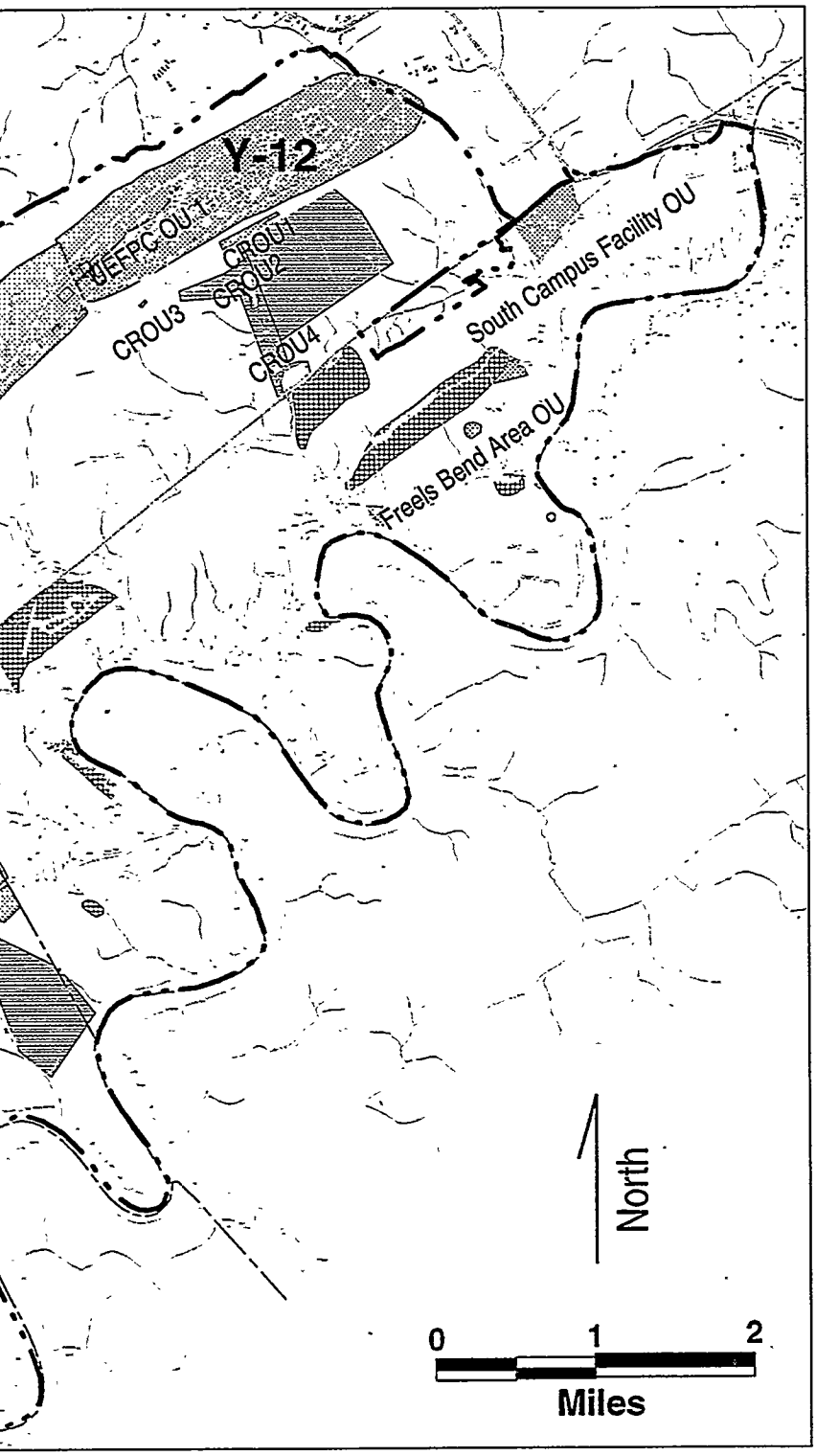


Fig. 1 T&E Vascular Plant Surveys on the Oak Ridge Reservation (th



T&E Vascular Plant Surveys on the Oak Ridge Reservation (through May, 1996)

- Special Concern (1995-1996)
- Parcel ED-1 (1995)
- Low Level Waste Disposal Facility (1995)
- Poplar Creek (1994)
- Pine Plantations (timber salvage areas, 1993-1994)
- Natural & Reference Areas surveyed in 1994
- Waste Area Groupings (WAG; included in OU)
- Operable Units (OU; 1991-1994)
- Other Surveys (pre-1992)

COORDINATE SYSTEM:
Tennessee State Plane (NAD 83)

BASE DATA:
ORNL Shared Data Initiative (SDI)

MAP COMPOSITION
Date: May, 1996
Designer: D. Awl

--JAYCOR Environmental--

Prepared for
the Environmental Restoration Program
by
Environmental Sciences Division
Oak Ridge National Laboratory

ugh May 1996)

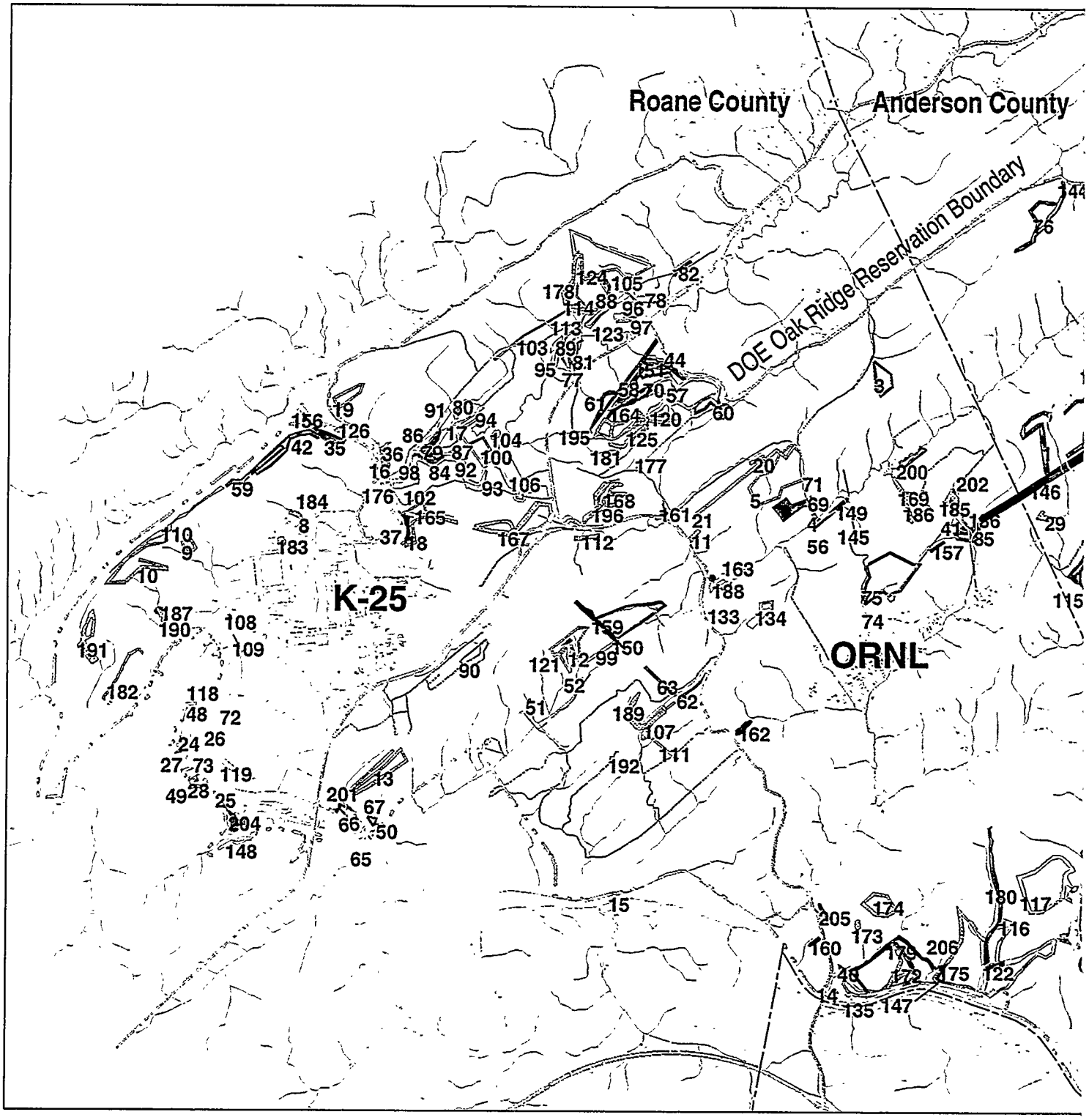
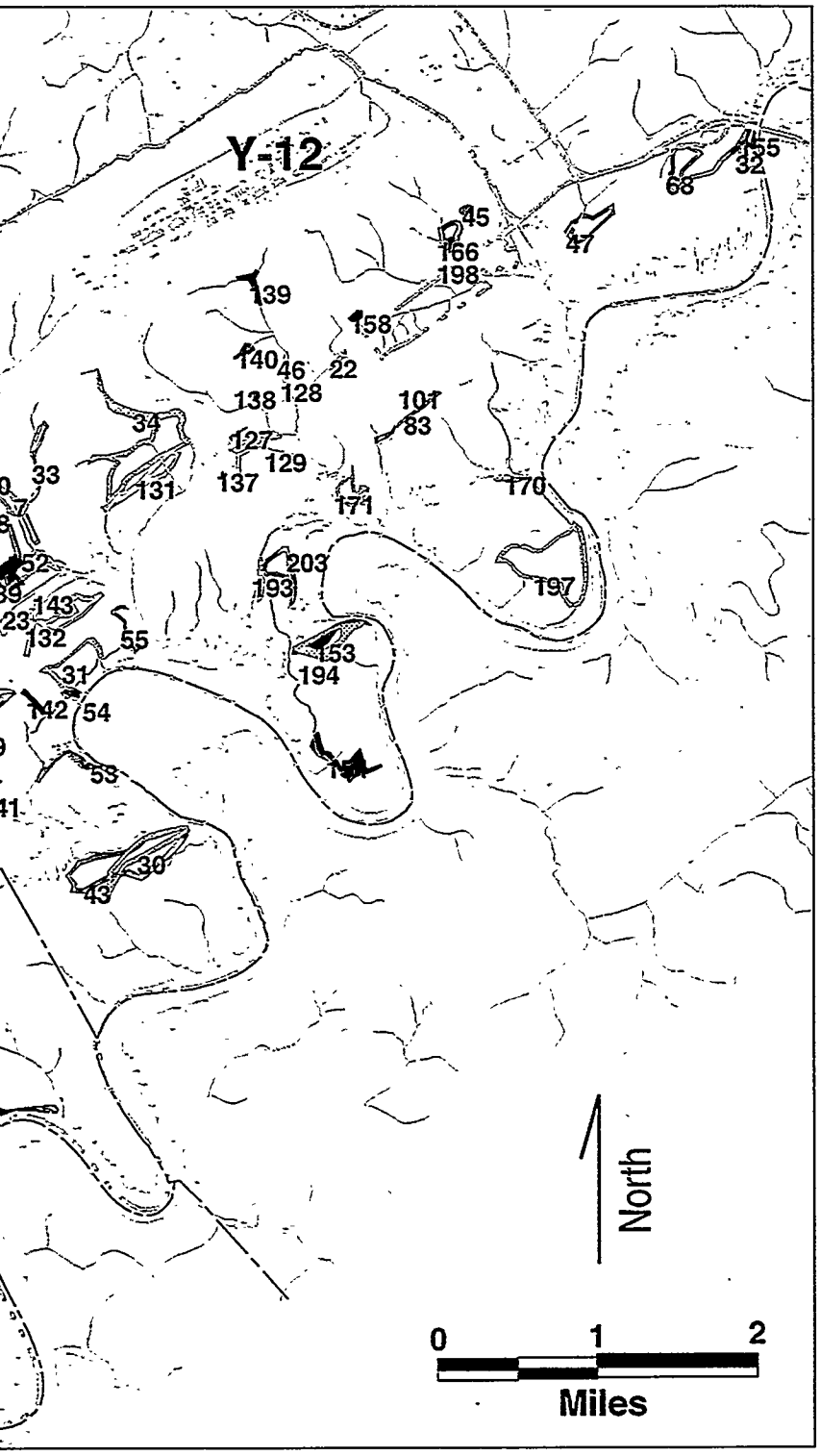


Fig. 2 T&E Vascular Plant Surveys on the Oak Ridge Reservation (1995–



T&E Vascular Plant Surveys on the Oak Ridge Reservation (1995 through May, 1996) Labeled by Survey Index Number

- Summer
- Winter
- Early Spring
- Late Spring
- Fall

COORDINATE SYSTEM:
Tennessee State Plane (NAD 83)

BASE DATA:
ORNL Shared Data Initiative (SDI)

MAP COMPOSITION
Date: May, 1996
Designer: D. Awl

--JAYCOR Environmental--

Prepared for
the Environmental Restoration Program
by
Environmental Sciences Division
Oak Ridge National Laboratory

lay 1996)

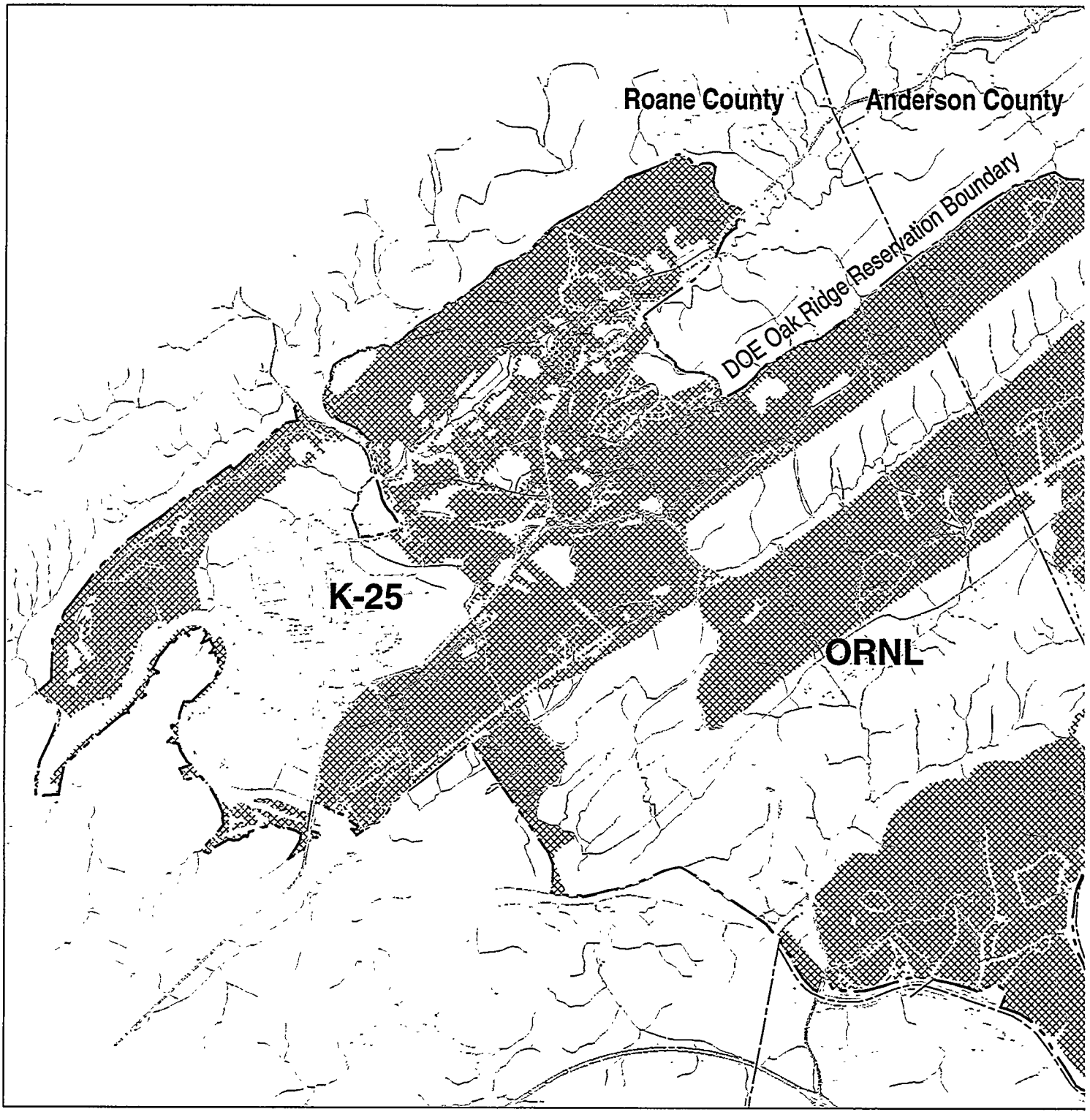


Fig. 3 Gaps in Coverage ofT&E Vascular Plant Surveys on the Oak Ridge Reser

Gaps in coverage of T&E Vascular Plant Surveys on the Oak Ridge Reservation (Through May, 1996)

Note: Small surveyed areas within the gaps may not be visible at this scale.

T&E Vascular Plant Survey Coverage Gaps
(areas requiring further surveys to document T&E species)
T&E Vascular Plant Survey Areas (1991- May, 1996)

COORDINATE SYSTEM:
Tennessee State Plane (NAD 83)

BASE DATA:
ORNL Shared Data Initiative (SDI)

MAP COMPOSITION
Date: May, 1996
Designer: D. Awl

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Prepared for
the Environmental Restoration Program
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Oak Ridge National Laboratory

ıtion (through May 1996)

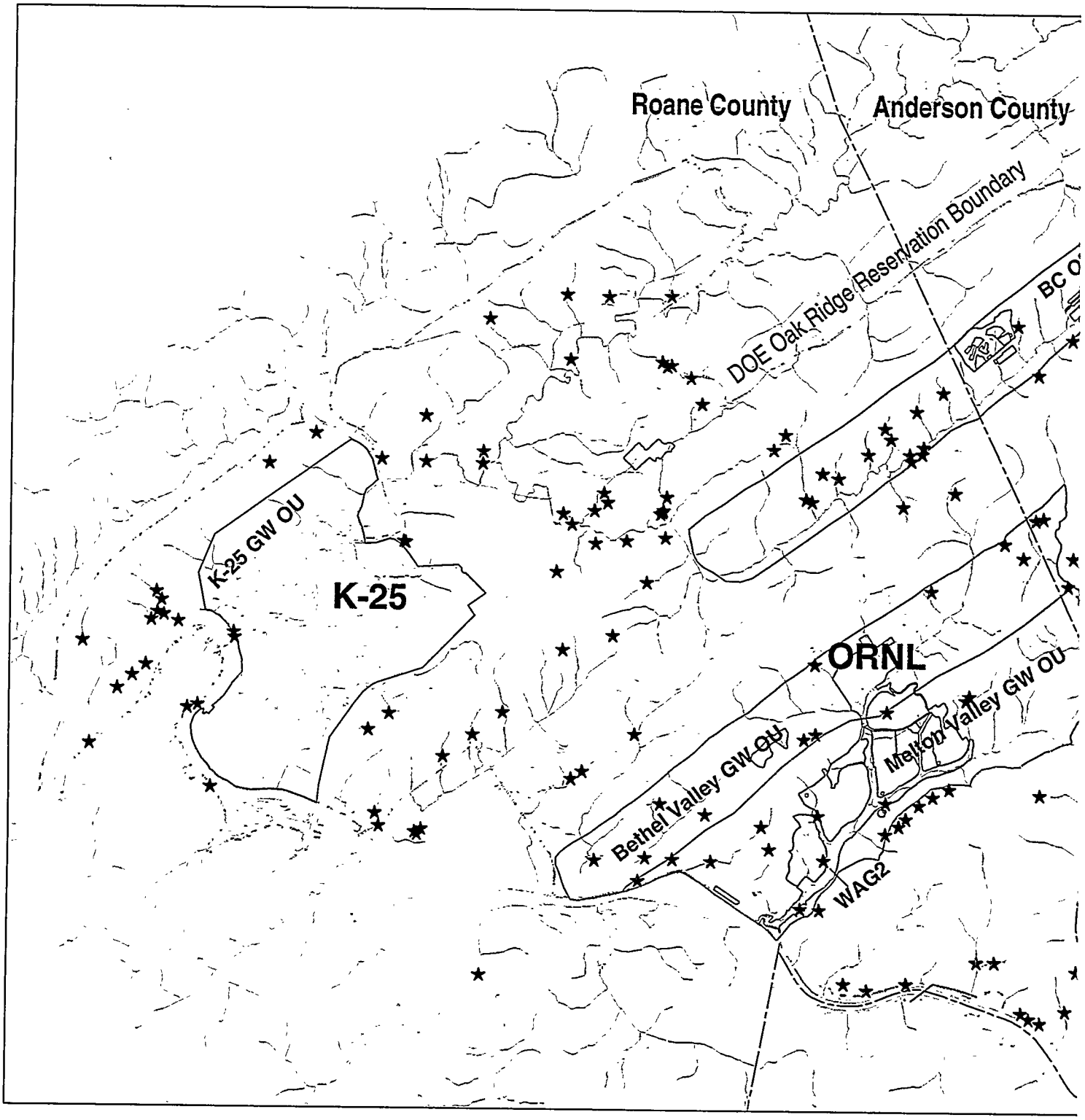
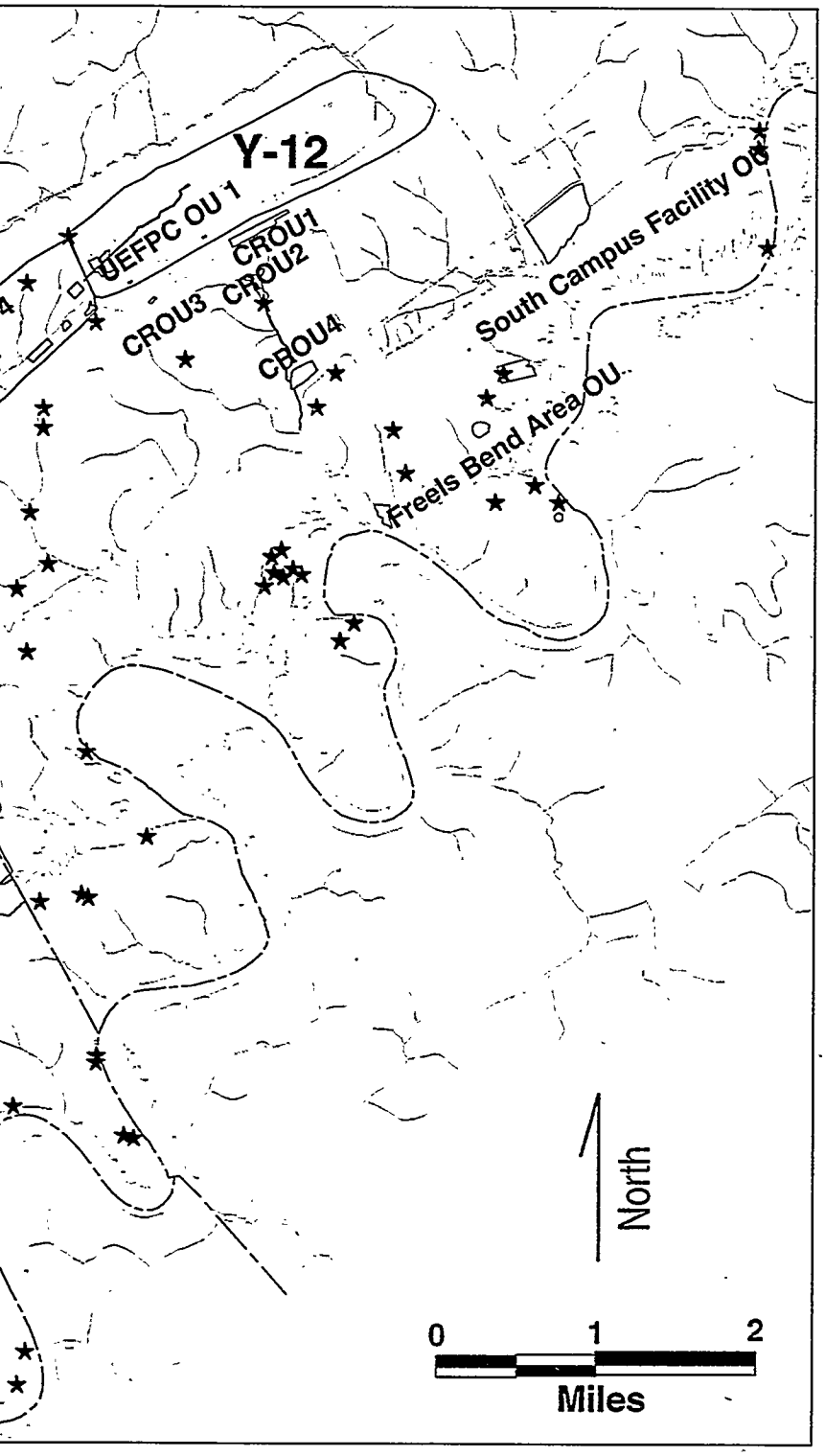


Fig. 4 Point Locations for T&E Vascular Plant Specieson the Oak Ridge Reservation Base



on Field Survey Sample Sites(Through May 1996)

Point Locations for T&E Vascular Plant Species on the Oak Ridge Reservation Based on Field Survey Sample Sites (Through May, 1996)

Notes: Point locations do not represent the areal extent of these species. Some points appear within the Clinch River; these sites include the now flooded Michigan Lily site, and sites located at the water's edge which may experience temporary flooding.

★T&E Vascular Plant Point Locations (267 points)

COORDINATE SYSTEM:
Tennessee State Plane (NAD 83)

BASE DATA:
ORNL Shared Data Initiative (SDI)

MAP COMPOSITION
Date: May, 1996
Designer: D. Awl

--JAYCOR Environmental--

Prepared for
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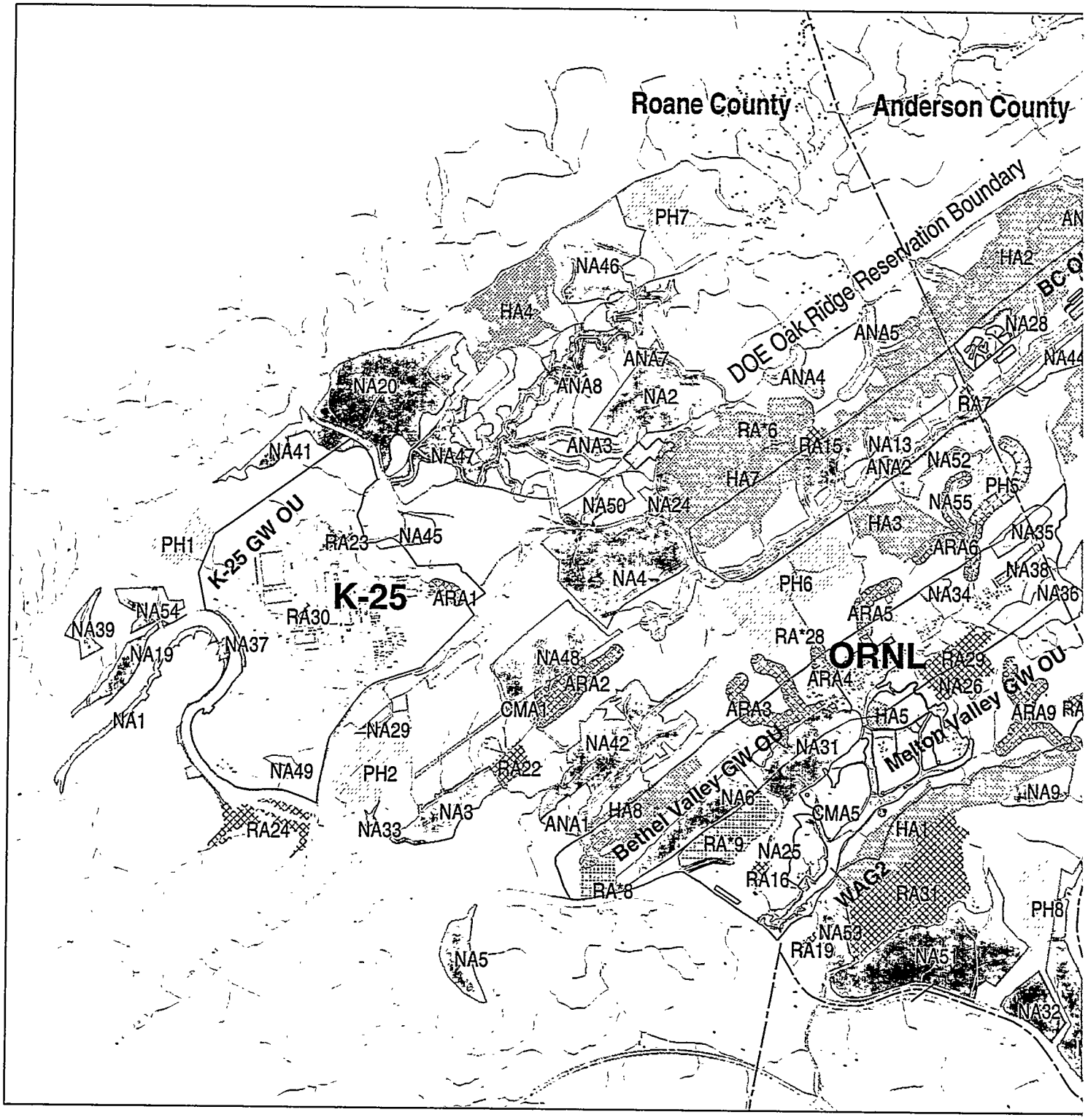
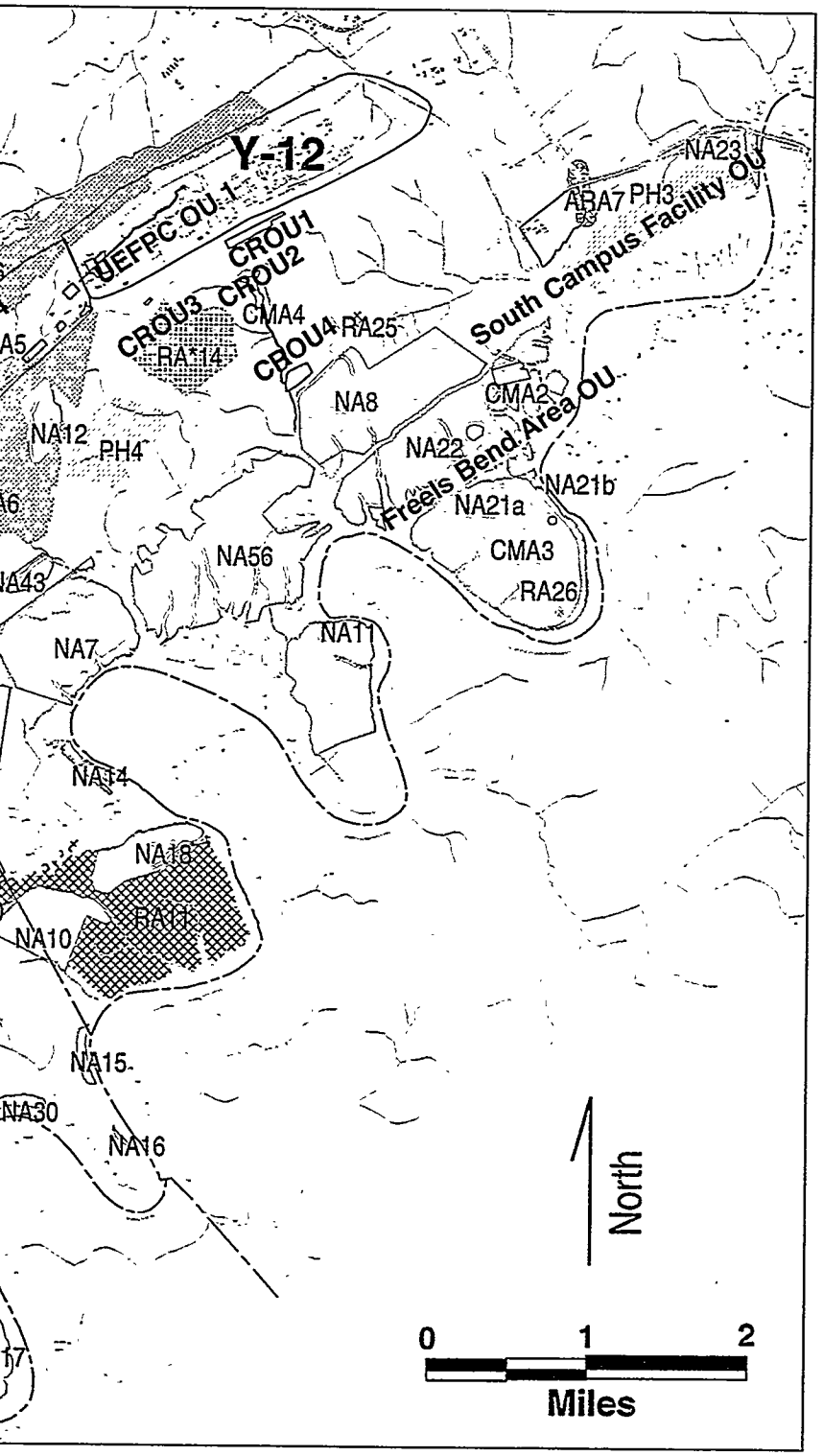


Fig. 5 Environmentally Sensitive Areas on the Oak Ridge Res



vation (May 1996)

Environmentally Sensitive Areas on the Oak Ridge Reservation (May, 1996)

- Habitat Area (HA, contains T&E species)
- Natural Area (NA, contains T&E species)
- Reference Area (RA* containing T&E species)
- Cooperative Management Area for T&E species (CMA)
- Aquatic Natural Area (ANA)
- Potential Habitat for T&E species (PH)
- Reference Area (RA)
- Aquatic Reference Area (ARA)

COORDINATE SYSTEM:
Tennessee State Plane (NAD 83)

BASE DATA:
ORNL Shared Data Initiative (SDI)

MAP COMPOSITION
Date: May, 1996
Designer: D. Awl

--JAYCOR Environmental--

Prepared for
the Environmental Restoration Program
by
Environmental Sciences Division
Oak Ridge National Laboratory

Appendix C
ORR VASCULAR FLORA DATA BASE

THE ORR VASCULAR FLORA DATA BASE

This species list is a revision of List 1 in Appendix E of the *Resource Management Plan for the Oak Ridge Reservation, Volume 29: Rare Plants on the Oak Ridge Reservation* (Cunningham et al 1993). More than 100 additional species have been found on the ORR since 1985. Some species listed in an unpublished report by the Tennessee Valley Authority (TVA) (1950–1953), *An Ecological Survey of White Oak Creek on the White Oak Creek*, do not appear on the current ORR list because research park staff were unable to locate the corresponding herbarium specimens for verification. These specimens are presumed to have been refiled since they were not found under the species names used in the report. Refiling normally indicates a change in identification. No attempt was made to find the new location of a specimen, i.e., its new identification.

Data base field descriptions:

FAMILY, GENUS, SPECIES, VARIETY

The scientific names (genus, species, variety and family), are primarily taken from Wofford and Kral (1993). A few taxa are not referenced in this source; other sources were used for these scientific names, and these taxa are indicated in the COMMENTS field. The other sources are Gleason and Cronquist (1991) and Radford, Ahles, and Bell (1986).

Some taxa do not meet criteria for inclusion in the ORR flora but have been included in the data base to clarify their status; these ineligible SPECIES are marked with an asterisk (*). The ELIGIBILITY field indicates why these taxa are not included in the ORR flora.

SYNONYM

In some cases synonyms for scientific names are given which might be more familiar to the user than those chosen by our sources. If the synonyms differ only as to genus, then only genus is given in the synonym column.

COMMON NAME

The principle sources used for common names were Great Smoky Mountain Natural History Association and Gleason and Cronquist (1991). A standard list of common names is expected to be published soon by John T. Kartesz and Rosemarie Kartesz. This list may be used in future versions of this data base.

ELIGIBILITY (ORR FLORA)

The data base contains some taxa which are not eligible for inclusion in the ORR vascular flora but have been retained in the data base to clarify their status; these SPECIES are marked with an asterisk (*). The column headed ELIGIBILITY indicates why these taxa are not included in the ORR flora:

- el = meets criteria for membership in ORR flora (see note below)
- ne (not established) = exotic taxon from horticulture which has not yet shown that it can survive without horticulture

- qr (questionable report) = questionable report of the taxon
- hy (hybrid) = a hybrid that does not seem to be established independently of parent species
- id (identification) = the identification is questionable
- tax (taxonomy) = there may be confusion in the taxonomy
- pl (previous list) = on Mann, Patrick, and De Slem. (1985) (*A Checklist of the Vascular plants of the Department of Energy Oak Ridge Reservation*), but currently we do not have evidence in the form of a specimens or a confident report from a botanist for the occurrence of the taxon on the ORR
- ot (ownership transferred) = the location where the taxon was found is outside the current ORR boundary (the ORR boundary has changed due to the transfer of "surplus" land)
- nt (new taxon) = the taxon has recently been described, and is likely to occur on the ORR, but there has not yet been a search for it

Note: The following criteria must be met for inclusion in the ORR vascular flora:

1. The taxon is a vascular plant.
2. Verification exists (see PROOF) that the taxon occurs within the ORR boundaries as of October. 1995. Verification includes herbarium specimens, photographs, and confident reports of botanists. We are in the process of obtaining specimens in cases where the only verification is a confident report.
3. The taxon appears capable of maintaining itself indefinitely without horticultural support (a natural occurrence). The list does not include many of the taxa currently used for plantings around buildings, or taxa which were planted originally at homesteads but are gradually dying out as the homestead sites return to natural vegetation.
4. The taxonomic identification of the specimen is accepted. The identification of a specimen may be tentative in several ways: (1) the quality of the available specimen is inadequate, (2) a botanist with expertise in the taxa and able to confirm the identification has not yet been located; (3) the material cannot be clearly identified because it may represent plants unidentifiable by available taxonomic literature, e.g., the material is from a hybrid, diseased, or undescribed plant.
5. The taxon is valid; for example, a taxon may be invalid if it is distinguished from other taxa based on environmentally determined (rather than genetically) determined characters. We try to follow expert opinion as to validity, but the experts do not always agree.

PROOF

This column lists the verification for the occurrence of each taxon on the ORR:

- ORRH = specimen in the ORR herbarium
- ORRHv = only specimen stored in the ORR herbarium vault
- ORRHs = specimen in a special collection at the ORR herbarium (not filed with general specimens)
- UTK = specimen in the UTK herbarium
- US = specimen in the Smithsonian Institute herbarium

- DU = specimen in the Duke University herbarium
- P = photographs in the ORR Environmental Research Park office and in the herbarium
- r (report) = reported with confidence by a botanist

CONTAMINATED

This column indicates taxa that have a specimen sequestered in a vault adjacent to the ORR herbarium at Bldg. 0907. These specimens are contaminated with radioactive material.

c = contaminated

COMMENTS

This field indicates species which are not included in Wofford and Kral (1993), a source which attempts to list all species naturally occurring in Tennessee. The source used for these species is given in this field. This field also indicates species which are rare in Tennessee and/or East Tennessee (east of the central basin) based on range maps in Chester et al. (1993) and unpublished range maps kept in the University of Tennessee herbarium.

TN NATIVE VS. EXOTIC

This column indicates whether the taxon is considered to be native or exotic in Tennessee according to Wofford and Kral (1993). Wofford and Kral do not define native in this 1993 work. Native to Tennessee might be defined as occurring naturally in Tennessee previous to the influence of European culture and not solely in Native American cultivation. Taxa may be native to Tennessee but not to East Tennessee, e.g., bald cypress; such taxa are not differentiated in the data base. In many cases direct evidence of pre-European occurrence is lacking, and the conclusion is a best guess. Exotic is taken to mean not native. Aggressive vs. passive was determined based on the field experience of ORR Research Park botanical staff.

- nat = native to TN (may not be native to the ORR)
- ea = (exotic aggressive), observed to exclude native species on the ORR
- ea? = (exotic aggressive questionable), not yet observed to exclude native species but has characteristics that make it likely to become a problem in the future
- ep = (exotic passive), not observed to exclude nor expected to exclude native species
- ep? = (exotic passive questionable), not observed to threaten native species, but information is lacking
- e = (exotic), no information on the threat to native species

FREQUENCY (ORR)

This field indicates the approximate frequency of occurrence of each taxon on the ORR as estimated by research park staff based on field experience. Except for rare species, frequencies for taxa are subjective. Question marks are used with the codes to indicate a higher degree of uncertainty. The frequency codes are a modification of those used by the Great Smoky Mountains Natural History Association (no publication date) in *Flowering Plants of the Great Smoky Mountains National Park.*

- c = (common) found regularly in common habitats
- f = (frequent) found somewhat irregularly in common habitats
- o = (occasional) found at 14–20 sites
- i = (infrequent) found at 9–13 sites
- s = (scarce) found at 4–8 sites
- r = (rare) found at 2–3 sites or at one site with more than 20 individuals
- vr = (very rare) found at 1 site with less than 20 individuals
- ? = (status uncertain) higher than normal level of uncertainty

TN STATUS

This column lists the status assigned to the taxon by TDEC. Codes and code assignment to species are taken from an unpublished TDEC list (1994).

TN code:

- S = special concern
- T = threatened
- E = endangered
- E* = endangered due to commercial exploitation
- P = possibly extirpated from Tennessee [records are historical (not current)]

U.S. STATUS

This column lists the status assigned to these taxa by the FWS (1993).

- C2 = a second priority level candidate for federal listing under the Endangered Species Act (currently called species of concern)
- 3C = a species which was a candidate for listing but did not achieve listing and is no longer considered a candidate for listing

R2IND (WETLAND INDICATOR STATUS)

The FWS (Reed 1988) has developed a classification system that assigns species to wetland indicator classes according to the frequency with which these species occur in a wetland. These indicators are used to establish the hydrophytic vegetation criterion for identification and delineation of jurisdictional wetlands (U.S. Army Corps of Engineers 1987). "R2IND" refers to the indicator (IND) that has been assigned to the species in EPA Region 2 (R2), which includes most of the southeastern U.S. A species which is considered to be an upland species in all regions of the U.S. is not included on this list. This creates a problem in interpreting this list because species found on the ORR and not found in Reed (1988) may be upland or not treated by Reed and thus may have a status other than upland. In these cases, a judgment was made by research park staff. If the species appeared to be an upland species, it was given that code in the column. If not, a question mark (?) was placed in that column, and in some cases a wetland indicator code was given by the staff for the species as seen on the ORR in another

column (ORRIND). In a few cases observations on the ORR did not agree with the indicator code assigned by Reed. These disagreements are indicated by an alternative indicator codes in the ORRIND column.

ORRIND (ORR alternative wetland indicator)

If a species is not listed in Reed (1988), it is generally assumed to be an upland species. If the species appears to exist in only xeric, upland situations on the ORR, the UPL indicator was placed in the R2IND column. However, some of these species have routinely been found in wetland conditions on the ORR. In this case a question mark has been placed in the R2IND column, and in the ORRIND column has been placed an unoffical indicator status for the species based on the professional judgment of the research park staff. The ORRIND column also includes alternative indicators for some species for which field observations were not in agreement with the indicator listed by Reed. The ORRIND column should be considered preliminary and should not be used in conducting wetland determinations.

These codes and their assignment are taken from Reed (1988) except for ? and in some cases for UPL (see previous paragraph). Percents indicate the probability that the species will occur in a wetland (wetland fidelity or frequency).

- UPL(upland) = < 1% wetland fidelity.
- FACU (facultative upland) = wetland fidelity in the range 1–33%
- FACU- (facultative upland -) = wetland fidelity in the lower part of the range 1–33%
- FACU+ (facultative upland +) = wetland fidelity in the upper part of the range 1–33%
- FAC (facultative) = wetland fidelity in the range 34– 66%
- FAC- (facultative -) = wetland fidelity in the lower part of the range 34–66%
- FAC+ (facultative +) = wetland fidelity in the upper part of the range 34–66%
- FACW (facultative wetland) = wetland fidelity in the range 67–99%
- FACW- (facultative wetland -) = wetland fidelity in the lower part of the range 67–99%
- FACW+ (facultative wetland +) = wetland fidelity in the upper part of the range 67–99%
- OBL (obligate) = >99% wetland fidelity
- NI (no indicator) = no indicator was assigned because of insufficient information
- NO = not believed to be found in Region 2 by Reed
- NA = no indicator status assigned because of lack of agreement among those polled
- ? = the taxon was not found in Reed (1988), but it does not appear to be an upland species (UPL)

ADDITIONAL DATA FIELDS

The following data fields are not included in this appendix but are available in the complete data base on OREIS.

TAXONOMIC GROUPING

Taxa are broken down into the following general groups:

- fern ally
- fern
- gymnosperm
- monocot
- dicot

LIFE SPAN

This field indicates whether a species is an annual, biennial, perennial, or a combination of these. Information was compiled from the Soil Conservation Service, Gleason and Cronquist (1991), and the national PLANTS data base (USDA, NRCS 1995). Where the Soil Conservation Service (1982) and Gleason and Cronquist (1991) disagreed, information from Gleason and Cronquist was used with a question mark. In a few cases no information was available from these sources, and only a question mark was used for the code. Reproductive schedule within a species may vary with variety, seasonal weather conditions, and/or geographical region.

- annual = a plant that reproduces and dies after 1 year (one reproductive period)
- biennial = a plant that reproduces and dies after 2 years (one reproductive period)
- perennial = a plant that lives more than 2 years (usually more than one reproductive period)

STRATA

This column separates herbaceous (coded as grasslike or forb) plants from woody plants and divides the woody plants by growth form. The classification of woody plants used in *Trees of the Great Smoky Mountains* (Great Smoky Mountains Natural History Association, no publication date) has been followed with an additional code (h, hemishrub) taken from USDA (1982). The decision as to which code to use for a species was influenced by observations on the ORR.

- ct = canopy tree
- ut = understory or small tree
- sh = shrub
- ss (sub-shrub) = very small shrub (normally less than 30 cm high and often not of typical shrub form)
- wv = woody vine

- hs (hemishrub) = some woodiness at the base of the plant (suffrutescent)
- gr (grasslike) = a grass, sedge, or rush
- fo (forb) = an herbaceous plant that is not grasslike (G) nor a vine (V)
- vi = an herbaceous vine

SYMBIOSIS

This column indicates plants with special features. Information was compiled from the Soil Conservation Service (1982), Gleason and Cronquist (1991), and the national PLANTS data base (USDA, NRCS 1995). Where the Soil Conservation Service and Gleason and Cronquist disagreed, information from Gleason and Cronquist was used with a question mark.

- epiphyte = a plant growing on a tree which does not have roots in the ground nor in the living part of the tree (e.g. mistletoe is not considered to be an epiphyte but rather a parasite)
- parasite = a plant that gains all or a significant amount of its nutrition from another vascular plant by root penetration
- mycotroph = a plant that gains most of its nutrition from association with a fungus (in certain cases loosely called saprophytic)

AQUATIC HABIT

This column indicates plants with special features. Information was compiled from the Soil Conservation Service (1982), Gleason and Cronquist (1991), and the national PLANTS data base (USDA, NRCS 1995). Where the Soil Conservation Service and Gleason and Cronquist disagreed, information from Gleason and Cronquist was used with a question mark.

- submersed = a plant that is normally entirely under water
- emergent = a plant normally growing in water with part of the plant above the water
- floating = a plant normally growing in water with part or all of the plant floating at the water surface (some are rooted in soil below the water)

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ORR Vascular Flora Database

FAMILY	GENUS	SPECIES	VARIETY	SYNONYM	COMMON NAME	ORR FLORA ELIGIBILITY	PROOF	CONTAMINATED SPECIMEN	COMMENTS	TN NATIVE VS. EXOTIC	FREQUENCY (ORR)	TN STATUS	US STATUS	R2IND (WETLAND INDICATOR STATUS)	ORRIND
Euphorbiaceae	Acalypha	gracilens	-	-	narrow-leaved three-seeded mercury	el	ORRHv, US, DU	c	-	n	i?	-	-	UPL	-
Euphorbiaceae	Acalypha	rhomboidea	-	-	three-seeded mercury	el	ORRH		-	n	i?	-	-	FAC-	-
Euphorbiaceae	Acalypha	virginica	-	-	Virginia three-seeded mercury	el	ORRH, US, DU		-	n	o?	-	-	FACU-	-
Aceraceae	Acer	drummondii*	-	-	Drummond red maple	nt	-		split from A. rubrum, not studied on the ORR	n	?	'	'	OBL	-
Aceraceae	Acer	negundo	-	-	box-elder	el	ORRH,ORRHv	c	-	n	o	-	-	FACW	-
Aceraceae	Acer	rubrum	-	-	red maple	el	ORRH		-	n	c	-	-	FAC	-
Aceraceae	Acer	saccharinum	-	-	silver maple	el	ORRH		-	n	s	-	-	FACW	-
Aceraceae	Acer	saccharum	ssp. saccharum	-	sugar maple	el	ORRH		-	n	f	-	-	FACU	-

ORR Vascular Flora Database

FAMILY	GENUS	SPECIES	VARIETY	SYNONYM	COMMON NAME	ORR FLORA ELIGIBILITY	PROOF	CONTAMINATED SPECIMEN	COMMENTS	TN NATIVE VS. EXOTIC	FREQUENCY (ORR)	TN STATUS	US STATUS	R2IND (WETLAND INDICATOR STATUS)	ORRIND
Asteraceae	Achillea	millefolium	-	-	yarrow	el	ORRH, US, DU		there are native and exotic varieties	n	f	-	-	FACU	-
Ranunculaceae	Aconitum	uncinatum	-	-	monk's hood	el	ORRH		-	n	i	-	-	UPL	-
Araceae	Acorus	americanus	-	-	sweet-flag	el	ORRH		split from A. calamus which is now Eurasian	n	i	-	-	OBL	-
Ranunculaceae	Actaea	pachypoda	-	-	doll's eyes	el	ORRH		-	n	i	-	-	UPL	-
Sinopteridaceae	Adiantum	pedatum	-	-	maidenhair fern	el	ORRH, US, DU		-	n	o	-	-	FACU	-
Hippocastanaceae	Aesculus	flava	-	-	yellow buckeye	el	ORRH, US, DU		-	n	i	-	-	UPL	-
Hippocastanaceae	Aesculus	sylvatica	-	-	painted buckeye	el	ORRH		-	n	i	-	-	FAC	-
Scophulariaceae	Agalinis	auriculata*	-	Tomanthera	earleaf foxglove	ot	TENN		-	n	?	E	SpC	?	-

ORR Vascular Flora Database

FAMILY	GENUS	SPECIES	VARIETY	SYNONYM	COMMON NAME	ORR FLORA ELIGIBILITY	PROOF	CONTAMINATED SPECIMEN	COMMENTS	TN NATIVE VS. EXOTIC	FREQUENCY (ORR)	TN STATUS	US STATUS	R2IND (WETLAND INDICATOR STATUS)	ORRIND
Scrophulariaceae	Agalinis	purpurea	-	-	purple gerardia	el	ORRH		-	n	o	-	-	FACW	-
Scrophulariaceae	Agalinis	tenuifolia	-	-	slender gerardia	el	ORRH,ORRHv	c	-	n	o	-	-	FACU	-
Lamiaceae	Agastache	nepetoides	-	-	yellow giant-hyssop	el	ORRH		-	n	s	-	-	FAC	-
Asteraceae	Ageratina	altissima	-	Eupatorium rugosum	white snakeroot	el	ORRH		-	n	f?	-	-	FACU-	-
Asteraceae	Ageratina	aromatica	-	Eupatorium aromaticum		el	ORRH		-	n	o?	-	-	UPL	-
Rosaceae	Agrimonia	parviflora	-	-	southern agrimony	el	ORRH		-	n	o	-	-	FAC	-
Rosaceae	Agrimonia	pubescens	-	-	downy agrimony	el	ORRH		-	n	o	-	-	UPL	-
Rosaceae	Agrimonia	rostellata	-	-	woodland agrimony	el	ORRH		-	n	o	-	-	FAC	-
Caryophyllaceae	Agrostemma	githago	-	-	corncockle	el	r		-	p	r?	-	-	UPL	-

FAMILY	GENUS	SPECIES	VARIETY	SYNONYM	COMMON NAME	ORR FLORA ELIGIBILITY	PROOF	CONTAMINATED SPECIMEN	COMMENTS	TN NATIVE VS. EXOTIC	FREQUENCY (ORR)	TN STATUS	US STATUS	R2IND (WETLAND INDICATOR STATUS)	ORRIND
Poaceae	Agrostis	hyemalis	-	-	hairgrass	el	ORRHs, ORRH		-	n	f	-	-	FAC	-
Poaceae	Agrostis	perennans	-	-	upland bentgrass	el	ORRH, US, DU		-	n	f	-	-	FACU	-
Poaceae	Agrostis	stolonifera	-	-	creeping bentgrass	el	ORRH		-	?	i	-	-	FACW	-
Simaroubaceae	Ailanthus	altissima	-	-	tree-of-heaven	el	ORRH		-	a	o	-	-	NI	-
Fabaceae	Albizia	julibrissin	-	-	mimosa	el	ORRH		-	a?	o	-	-	UPL	-
Alismataceae	Alisma	subcordatum	-	-	water-plaintain	el	ORRH,ORRHv	c	-	n	s	-	-	OBL	-
Liliaceae	Allium	ampeloprasum	-	-	garlic	el	ORRH	-	-	p	r	-	-	UPL	-
Liliaceae	Allium	canadense	-	-	wild garlic	el	ORRH, US	-	-	n	f	-	-	FACU-	-
Liliaceae	Allium	cernuum	-	-	nodding onion	el	ORRH	-	-	n	i	-	-	UPL	-
Liliaceae	Allium	vineale	-	-	field garlic	el	ORRH	-	-	?	f	-	-	FACU	-
Betulaceae	Alnus	serrulata	-	-	common alder	el	ORRH,ORRHv	c	-	n	f	-	-	FACW+	-

ORR Vascular Flora Database

FAMILY	GENUS	SPECIES	VARIETY	SYNONYM	COMMON NAME	ORR FLORA ELIGIBILITY	PROOF	CONTAMINATED SPECIMEN	COMMENTS	TN NATIVE VS. EXOTIC	FREQUENCY (ORR)	TN STATUS	US STATUS	R2IND (WETLAND INDICATOR STATUS)	ORRIND
Poaceae	Alopecurus	carolinianus	-	-	Carolina-foxtail	el	ORRH	-	-	n	vr	-	-	FACW	-
Amaranthaceae	Amaranthus	hybridus	-	-	amaranth	el	US	-	-	p?	s?	-	-	UPL	-
Amaranthaceae	Amaranthus	spinosus*	-	-	spiny amaranth	ot	ORRH	-	-	?	?	'	'	FACU	'
Asteraceae	Ambrosia	artemisiifolia	-	-	ragweed	el	ORRH, US	-	-	n	f	-	-	FACU	-
Asteraceae	Ambrosia	bidentata	-	-	ragweed	el	ORRH	-	-	n	r	-	-	UPL	-
Asteraceae	Ambrosia	trifida	-	-	ragweed	el	ORRH, US, DU	-	-	n	f	-	-	FAC	-
Rosaceae	Amelanchier	arborea	-	-	downy juneberry	el	ORRH	-	-	n	o	-	-	FACU	-
Rosaceae	Amelanchier	laevis	-	-	smooth juneberry	el	ORRH	-	-	n	s?	-	-	UPL	-
Liliaceae	Amianthium	muscaetoxicum	-	-	fly poison	el	ORRH	-	-	n	o	-	-	FAC	-
Lythraceae	Ammannia	coccinea	-	-	toothcup	el	ORRH	-	-	n	r	-	-	FACW+	-

ORR Vascular Flora Database

FAMILY	GENUS	SPECIES	VARIETY	SYNONYM	COMMON NAME	ORR FLORA ELIGIBILITY	PROOF	CONTAMINATED SPECIMEN	COMMENTS	TN NATIVE VS. EXOTIC	FREQUENCY (ORR)	TN STATUS	US STATUS	R2IND (WETLAND INDICATOR STATUS)	ORRIND
Fabaceae	Amorpha	fruticosa	-	-	false indigo	el	ORRH, US, DU,ORRHv	c	-	n	f	-	-	FACW	-
Vitaceae	Ampelopsis	cordata	-	-	raccoon-grape	el	TENN, US, DU	-	-	n	i	-	-	FAC+	-
Fabaceae	Amphicarpaea	bracteata	-	-	hog-peanut	el	ORRH, US	-	-	n	c	-	-	FAC	-
Apocynaceae	Amsonia	tabernaemontana	var. tabernaemontana	-	willow amsonia	el	ORRH, US, DU	-	-	n	i	-	-	FACW	-
Primulaceae	Anagallis	arvensis	-	-	pimpernel	el	ORRH	-	-	p	o	-	-	FACU+	-
Poaceae	Andropogon	gerardii	-	-	big bluestem	el	ORRH	-	-	n	i	-	-	FAC	-
Poaceae	Andropogon	gyrans*	-	-		ot	TENN	-	-	n	?	'	'	UPL	'
Poaceae	Andropogon	ternarius	-	-	silver bluestem	el	ORRH, US, DU	-	-	n	?	-	-	FACU	-
Poaceae	Andropogon	virginicus	-	-	Virginia broomsedge	el	ORRH	-	-	n	c	-	-	FAC-	-
Ranunculaceae	Anemone	quinquefolia	-	-	wood anemone	el	ORRH	-	-	n	i	-	-	NI	-
Ranunculaceae	Anemone	virginiana	-	-	thimble weed	el	ORRH, US, DU	-	-	n	f	-	-	NI	-

ORR Vascular Flora Database

FAMILY	GENUS	SPECIES	VARIETY	SYNONYM	COMMON NAME	ORR FLORA ELIGIBILITY	PROOF	CONTAMINATED SPECIMEN	COMMENTS	TN NATIVE VS. EXOTIC	FREQUENCY (ORR)	TN STATUS	US STATUS	R2IND (WETLAND INDICATOR STATUS)	ORRIND
Apiaceae	Angelica	venenosa	-	-	hairy angelica	el	ORRH	-	-	n	o	-	-	UPL	-
Asteraceae	Antennaria	plantaginifolia	-	-	pussy-toes	el	ORRH, US, DU	-	-	n	f?	-	-	UPL	-
Asteraceae	Antennaria	solitaria	-	-	pussy-toes	el	ORRH	-	-	n	f?	-	-	UPL	-
Poaceae	Anthoxanthum	odoratum	-	-	sweet vernal grass	el	ORRH	-	-	p	r	-	-	FACU	-
Fabaceae	Apios	americana	-	-	ground-nut	el	ORRH	-	-	n	o	-	-	FACW	-
Orchidaceae	Aplectrum	hyemale	-	-	putty root	el	ORRH	-	-	n	s?	-	-	FAC+	-
Apocynaceae	Apocynum	cannabinum	-	-	dogbane	el	ORRH,ORRHv	c	-	n	o	-	-	FAC-	-
Ranunculaceae	Aquilegia	canadensis	-	-	columbine	el	ORRH	-	-	n	s	-	-	FAC-	-
Brassicaceae	Arabidopsis	thaliana	-	-	mouse-ear cress	el	ORRH, US, DU	-	-	p	o?	-	-	UPL	-
Brassicaceae	Arabis	canadensis	-	-	sicklepod	el	US	-	-	n	r	-	-	UPL	-
Brassicaceae	Arabis	laevigata	-	-	smooth rockcress	el	ORRH	-	-	n	i	-	-	UPL	-
Araliaceae	Aralia	racemosa	-	-	spikenard	el	ORRH	-	-	n	r	-	-	UPL	-
Araliaceae	Aralia	spinosa	-	-	devil's walking stick	el	ORRH	-	-	n	f	-	-	FAC	-

FAMILY	GENUS	SPECIES	VARIETY	SYNONYM	COMMON NAME	ORR FLORA ELIGIBILITY	PROOF	CONTAMINATED SPECIMEN	COMMENTS	TN NATIVE VS. EXOTIC	FREQUENCY (ORR)	TN STATUS	US STATUS	R2IND (WETLAND INDICATOR STATUS)	ORRIND
Asteraceae	Arctinium	minus	-	-	burdock	el	ORRH	-	-	p	s	-	-	UPL	-
Caryophyllaceae	Arenaria	patula	-	Minuartia	sandwort	el	ORRH	-	-	n	vr	-	-	UPL	-
Caryophyllaceae	Arenaria	serpyllifolia	-	-	thyme-leaf sandwort	el	ORRH	-	-	p?	s?	-	-	FAC	-
Araceae	Arisaema	dracontium	-	-	green dragon	el	ORRH, US, DU	-	-	n	i	-	-	FACW	-
Araceae	Arisaema	triphyllum	-	-	jack-in-the-pulpit	el	ORRH, US, DU	-	-	n	o	-	-	FACW-	-
Poaceae	Aristida	dichotoma	-	-	churchmouse three-awn grass	el	ORRH, US, DU	-	-	n	o	-	-	FACU	-
Poaceae	Aristida	longespica	-	-	slimspike three-awn grass	el	ORRH	-	-	n	o	-	-	FACU	-
Poaceae	Aristida	oligantha	-	-	prairie three-awn grass	el	ORRH, US, DU	-	-	n	o	-	-	UPL	-
Poaceae	Aristida	purpurascens	-	-	purple three-awn grass	el	ORRH	-	-	n	o	-	-	UPL	-

ORR Vascular Flora Database

FAMILY	GENUS	SPECIES	VARIETY	SYNONYM	COMMON NAME	ORR FLORA ELIGIBILITY	PROOF	CONTAMINATED SPECIMEN	COMMENTS	TN NATIVE VS. EXOTIC	FREQUENCY (ORR)	TN STATUS	US STATUS	R2IND (WETLAND INDICATOR STATUS)	ORRIND
Asclepiadaceae	Asclepias	quadrifolia	-	-		el	ORRH	-	-	n	vr	-	-	UPL	-
Asclepiadaceae	Asclepias	syriaca	-	-	common milkweed	el	ORRH, US	-	-	n	i	-	-	UPL	-
Asclepiadaceae	Asclepias	tuberosa	-	-	butterfly-weed	el	ORRH, US, DU	-	-	n	f	-	-	UPL	-
Asclepiadaceae	Asclepias	variegata	-	-	white milkweed	el	ORRH	-	-	n	r	-	-	UPL	-
Asclepiadaceae	Asclepias	verticillata	-	-	whorled milkweed	el	ORRH	-	-	n	i	-	-	UPL	-
Asclepiadaceae	Asclepias	viridiflora	-	-	milkweed	el	ORRH	-	-	n	s?	-	-	UPL	-
Annonaceae	Asimina	triloba	-	-	paw-paw	el	ORRH, US	-	-	n	f	-	-	FAC	-
Liliaceae	Asparagus	officinalis	-	-	asparagus	el	ORRH	-	-	p	s	-	-	FACU-	-
Aspleniaceae	Asplenium	platyneuron	-	-	ebony spleenwort	el	ORRH, US	-	-	n	c	-	-	FACU	-
Aspleniaceae	Asplenium	resiliens	-	-	black-stemmed spleenwort	el	ORRH, US, DU	-	-	n	o	-	-	UPL	-

FAMILY	GENUS	SPECIES	VARIETY	SYNONYM	COMMON NAME	ORR FLORA ELIGIBILITY	PROOF	CONTAMINATED SPECIMEN	COMMENTS	TN NATIVE VS. EXOTIC	FREQUENCY (ORR)	TN STATUS	US STATUS	R2IND (WETLAND INDICATOR STATUS)	ORRIND
Poaceae	Aristida	virigata*	-	-	perenial three-awn grass	id	ORRH	-	-	n	?	'	'	FACW-	'
Aristolochiaceae	Aristolochia	macrophylla	-	-	Dutchman's pipe	el	ORRH	-	-	n	vr?	-	-	UPL	-
Aristolochiaceae	Aristolochia	serpentaria	-	-	Virginia-snakeroot	el	ORRH	-	-	n	f	-	-	FACU	-
Rosaceae	Aronia	arbutifolia	-	-	hairy chokeberry	el	ORRH	-	-	n	vr	-	-	FACW	-
Poaceae	Arthraxon	hispidus	-	-		el	ORRH	-	-	a	f	-	-	FACU+	-
Rosaceae	Aruncus	dioicus	-	-	goat's beard	el	ORRH	-	-	n	s?	-	-	FACU+	-
Poaceae	Arundinaria	gigantea	-	-	cane	el	ORRH, US, DU	-	-	n	s	-	-	FACW	-
Aristolochiaceae	Asarum	canadense	-	-	wild ginger	el	ORRH	-	-	n	s	-	-	UPL	-
Asclepiadaceae	Asclepias	amplexicaulis	-	-	blunt-leaved milkweed	el	ORRH	-	-	n	s?	-	-	UPL	-
Asclepiadaceae	Asclepias	incarnata	-	-	swamp milkweed	el	ORRH	-	-	n	i	-	-	OBL	-

ORR Vascular Flora Database

FAMILY	GENUS	SPECIES	VARIETY	SYNONYM	COMMON NAME	ORR FLORA ELIGIBILITY	PROOF	CONTAMINATED SPECIMEN	COMMENTS	TN NATIVE VS. EXOTIC	FREQUENCY (ORR)	TN STATUS	US STATUS	R2IND (WETLAND INDICATOR STATUS)	ORRIND
Aspleniaceae	Asplenium	rhizophyllum	-	-	walking fern	el	ORRH	-	-	n	o	-	-	UPL	-
Aspleniaceae	Asplenium	ruta-muraria	-	-	wall-rue	el	ORRH, US, DU	-	-	n	r	-	-	UPL	-
Aspleniaceae	Asplenium	trichomanes	-	-	maidenhair spleenwort	el	ORRH	-	-	n	vr	-	-	UPL	-
Aspleniaceae	Asplenium	x ebenoides*	-	-	Scott's spleenwort	hy	r	-	at Bull Bluff	n	vr	'	'	UPL	'
Asteraceae	Aster	cordifolius	-	-	heart-leaved aster	el	ORRH, US, DU	-	-	n	f?	-	-	UPL	-
Asteraceae	Aster	divaricatus	-	-	white wood aster	el	ORRH	-	-	n	o?	-	-	UPL	-
Asteraceae	Aster	dumosus	-	-	bushy aster	el	ORRH, TENN, US, DU,ORRHv	c	-	n	c	-	-	FAC	-
Asteraceae	Aster	laevis	-	-	smooth aster	el	ORRH	-	-	n	s	-	-	UPL	-
Asteraceae	Aster	lateriflorus	-	-	calico aster	el	ORRH, US, DU,ORRHv	c	-	n	f	-	-	FAC	-
Asteraceae	Aster	novae-anglae	-	-	New England aster	el	ORRH	-	-	n	vr	-	-	FACW	-

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Asteraceae	Aster	oblongifolius	-	-	aromatic aster	el	ORRH	-	-	n	s?	-	-	UPL	-
Asteraceae	Aster	ontarionis	-	-	bottomland aster	el	ORRHv	c	-	n	i?	-	-	FAC	-
Asteraceae	Aster	patens	-	-	late purple aster	el	ORRH, US	-	-	n	f?	-	-	UPL	-
Asteraceae	Aster	pilosus	-	-	downy aster	el	ORRH, US.ORRHv	c	-	n	f	-	-	FAC-	-
Asteraceae	Aster	shortii	-	-	midwestern heart-leaved aster	el	ORRH	-	-	n	o?	-	-	UPL	-
Asteraceae	Aster	surculosos	-	-	recurved aster	el	ORRH	-	-	n	i?	-	-	UPL	-
Asteraceae	Aster	undulatus	-	-	clasping heart-leaved aster	el	ORRH	-	-	n	i?	-	-	UPL	-
Asteraceae	Aster	urophyllus	-	A. sagittifolious	arrow-leaved aster	el	ORRH	-	-	n	s	-	-	UPL	-
Woodsiaceae	Athyrium	filix-femina	var. asplenioides	-	lady fern	el	ORRH	-	-	n	o	-	-	FAC	-

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Scophulariaceae	Aureolaria	flava*	-	-	yellow false-foxglove	ot	TENN	-	-	n	?	-	-	UPL	-
Scrophulariaceae	Aureolaria	laevigata	-	-	smooth false-foxglove	el	ORRH	-	-	n	o	-	-	UPL	-
Scrophulariaceae	Aureolaria	patula	-	-	spreading false-foxglove	el	ORRH	-	-	n	i	T	SpC	UPL	-
Scrophulariaceae	Aureolaria	virginica	-	-	downy false-foxglove	el	ORRH	-	-	n	i	-	-	UPL	-
Brassicaceae	Barbarea	vulgaris	var. arcuata	-	yellow rocket	el	ORRH	-	-	p	o?	-	-	FAC	-
Gentianaceae	Bartonia	paniculata	-	-	screwstem	el	ORRH	-	-	n	r	-	-	OBL	-
Iridaceae	Belamcanda	chinensis	-	-	blackberry lily	el	ORRH	-	-	p	r	-	-	UPL	-
Berberidaceae	Berberis	canadensis*	-	-	American barberry	id	ORRH	-	-	n	?	s	-	UPL	-
Berberidaceae	Berberis	thunbergii*	-	-	Japanese barberry	ne	-	-	-	p	i	-	-	UPL	-
Rhamnaceae	Berchemia	scandens*	-	-	supple-jack	ot	TENN	-	-	n	?	-	-	FACW	-
Betulaceae	Betula	nigra	-	-	river birch	el	ORRH	-	-	n	vr	-	-	FACW	-

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Asteraceae	Bidens	cernua	-	-	stick-tights	el	ORRH, US, DU	-	-	n	s?	-	-	OBL	-
Asteraceae	Bidens	frondosa	-	-	beggar-ticks	el	ORRHv, US, DU	c	-	n	o?	-	-	FACW	-
Asteraceae	Bidens	polylepis	-	-	Ozark tickseed	el	ORRH	-	-	n	r?	-	-	FACW	-
Asteraceae	Bidens	tripartita	-	-	stick-tight	el	ORRH	-	-	n	o	-	-	OBL	-
Asteraceae	Bidens	bipinnata	-	-	Spanish-needles	el	ORRH, US	-	-	n	o	-	-	FAC	-
Bignoniaceae	Bignonia	capreolata	-	-	cross-vine	el	ORRH	-	-	n	f	-	-	FAC	-
Lamiaceae	Blephilia	ciliata	-	-	woodmint	el	ORRH	-	mat-forming	n	r	-	-	UPL	-
Uticaceae	Boehmeria	cylindrica	-	-	false-nettle	el	ORRH, US, DU,ORRHv	c	-	n	o	-	-	FACW+	-
Ophioglossaceae	Botrychium	biternatum	-	-	sparse-lobed grape fern	el	ORRH	-	-	n	f	-	-	FAC	-
Ophioglossaceae	Botrychium	dissectum	-	-	common grape fern	el	ORRH	-	-	n	f	-	-	FAC	-
Ophioglossaceae	Botrychium	virginianum	-	-	rattlesnake fern	el	ORRH	-	-	n	o	-	-	FACU	-

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Poaceae	Bouteloua	curtipendula	-	-	side-oats gramma grass	el	ORRH	-	-	n	vr	-	-	UPL	-
Poaceae	Brachyeletrum	erectum	-	-		el	ORRH	-	-	n	f	-	-	UPL	-
Brassicaceae	Brassica	rapa	-	B. napus	rape mustard	el	ORRHs	-	-	p	o?	-	-	UPL	-
Poaceae	Bromus	commutatus	-	-	common brome grass	el	ORRH	-	-	?	f	-	-	UPL	-
Poaceae	Bromus	hordeaceus	-	B. mollis	soft chess	el	ORRH	-	-	?	o	-	-	UPL	-
Poaceae	Bromus	japonicus	-	-	Japanese chess	el	ORRH	-	-	?	o	-	-	FACU	-
Poaceae	Bromus	altiissimus	-	B. latiglumis		el	ORRH	-	not in Wofford and Kral (1993); nomenclature Gleason and Cronquist (1991)	n	r?	-	-	FACW+	-
Poaceae	Bromus	pubescens	-	B. purgans		el	ORRH	-	-	n	o	-	-	UPL	-
Poaceae	Bromus	tectorum	-	-	brome grass	el	ORRH, US	-	-	?	o	-	-	UPL	-

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Boraginaceae	Buglossoides	arvense	-	Lithospermum		el	TENN	-	-	p	?	-	-	UPL	-
Cyperaceae	Bulbostylis	capillaris	-	-	sedge	el	ORRH	-	-	n	vr	-	-	FAC	-
Sapotaceae	Bumelia	lycioides	-	-	smooth southern buckthorn	el	ORRH	-	-	n	i	-	-	FACW	-
Buxaceae	Buxus	sempervirens*	-	-	boxwood	pl	'	-	-	p	?	'	'	UPL	'
Asteraceae	Cacalia	atriplicifolia	-	-	pale Indian-plantain	el	TENN	-	-	n	o	-	-	UPL	-
Asteraceae	Cacalia	muehlenbergii*	-	-	great Indian-plantain	ot	TENN	-	-	n	?	'	'	?	'
Lamiaceae	Calamintha	nepeta	-	Satureja calamintha	basil-thyme	el	ORRH	-	-	p	o	-	-	UPL	-
Callitrichaceae	Callitriche	heterophylla	-	-	water star-wort	el	ORRH	-	-	n	vr	-	-	OBL	-
Calycanthaceae	Calycanthus	floridus	-	-	sweetshrub	el	ORRH	-	-	n	vr	-	-	FACU+	-

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Convolvulaceae	Calystegia	sepium	-	-	hedge bindweed	el	ORRH	-	-	n	f	-	-	FAC	-
Convolvulaceae	Calystegia	spithamaea	-	-	low bindweed	el	ORRH	-	-	n	vr	-	-	UPL	-
Liliaceae	Camassia	scilloides*	-	-	wild hyacinth	ot	TENN	-	-	n	?	-	-	FACW	-
Campanulaceae	Campanula	americana	-	-	tall bellwort	el	ORRH	-	-	n	f	-	-	FAC	-
Campanulaceae	Campanula	divaricata	-	-	southern harebell	el	ORRH	-	-	n	f	-	-	UPL	-
Brassicaceae	Capsella	bursa-pastoris	-	-	sheperd's purse	el	ORRH	-	-	p	o	-	-	FACU+	-
Brassicaceae	Cardamine	douglassii	-	-	pink spring-cress	el	ORRH	-	-	n	r	-	-	OBL	-
Brassicaceae	Cardamine	hirsuta	-	-	hairy bittercress	el	ORRH	-	-	p	o	-	-	FAC	-
Brassicaceae	Cardamine	parviflora	-	-		el	ORRH	-	-	p	r?	-	-	UPL	-

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Brassicaceae	Cardamine	pensylvanica	-	-	Pennsylvania bittercresss	el	ORRH	-	-	n	s	-	-	FACW+	-
Brassicaceae	Cardamine	rhombiodea	-	C. bulbosa	spring-cress	el	ORRH, US, DU	-	-	n	i	-	-	OBL	-
Cyperaceae	Carex	abscondita	-	-	thicket sedge	el	TENN	-	-	n	?	-	-	FACW	-
Cyperaceae	Carex	albicans	var. emmonsii	C. emmonsii	sedge	el	ORRH	-	-	n	?	-	-	UPL	-
Cyperaceae	Carex	albicans	var. albicans	C. artitecta	sedge	el	TENN	-	-	n	?	-	-	UPL	-
Cyperaceae	Carex	albolutescens	-	-	light-colored sedge	el	ORRH	-	-	n	?	-	-	FAC+	-
Cyperaceae	Carex	albursina		C. laxiflora var. latifolia	sedge	el	ORRH	-	-	n	r	-	-	UPL	-
Cyperaceae	Carex	amphibola	-	-	sedge	el	ORRH	-	-	n	?	-	-	FACW	-
Cyperaceae	Carex	atlantica	spp. atlantica	-	sedge	el	ORRH	-	-	n	r?	-	-	FACW	-

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Cyperaceae	Carex	crus-corvi	-	-	sedge	el	ORRH	-	-	n	r	-	-	OBJ	-
Cyperaceae	Carex	debilis	-	-	necklace sedge	el	ORRH	-	-	n	o	-	-	FACW	-
Cyperaceae	Carex	digitalis	-	-	sedge	el	ORRH, US, DU	-	-	n	f	-	-	FACU	-
Cyperaceae	Carex	eburnea	-	-	black-fruited sedge	el	ORRH	-	-	n	r	-	-	FACU	-
Cyperaceae	Carex	echinata*	-	C. muricata var. angustata	little prickly sedge	id	ORRH	-	-	n	?	s	'	OBL	'
Cyperaceae	Carex	festucacea	-	-	sedge	el	ORRH	-	first for east TN	n	r	-	-	FACW	-
Cyperaceae	Carex	frankii	-	-	Frank's sedge	el	ORRH,US,DU	c	-	n	f	-	-	OBL	-
Cyperaceae	Carex	gracillima*	-	-	graceful sedge	qr	r	-	-	n	?	'	'	NI	'
Cyperaceae	Carex	granularis	-	-	granular sedge	el	ORRH,US,DU,ORRHv	c	-	n	i	-	-	FACW	-
Cyperaceae	Carex	gravida	-	-	heavy sedge	el	ORRH	-	first for east TN	n	r	S	-	UPL	-
Cyperaceae	Carex	grayi	-	-	Gray's sedge	el	ORRH	-	-	n	s	-	-	FACW	-
Cyperaceae	Carex	grisea	-	-	sedge	el	ORRH	-	-	n	?	-	-	UPL	-

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Cyperaceae	Carex	atlantica	spp. capillacea	C. howei	Howe's sedge	el	ORRH,TENN	-	-	n	r	E	-	OBJ	-
Cyperaceae	Carex	baileyi	-	-	Bailey's sedge	el	TENN	-	-	n	o	-	-	FACW	-
Cyperaceae	Carex	blanda	-	-	sedge	el	ORRH, US	-	-	n	?	-	-	FAC-	-
Cyperaceae	Carex	bromoides	-	-	sedge	el	ORRH	-	-	n	vr	-	-	FACW	-
Cyperaceae	Carex	bushii*	-	-	sedge	pl	'	-	-	n	?	'	'	FACW	'
Cyperaceae	Carex	caroliniana	-	-	Carolina sedge	el	ORRH, US, DU	-	-	n	i	-	-	FACW	-
Cyperaceae	Carex	cephalophora	-	-	sedge	el	ORRH, US, DU	-	-	n	?	-	-	FAC	-
Cyperaceae	Carex	cherokeensis	-	-	Cherokee sedge	el	ORRH	-	-	n	r	-	-	FACW-	-
Cyperaceae	Carex	complanata	-	C. hirsutella	sedge	el	ORRH, US, DU	-	-	n	c	-	-	FAC+	-
Cyperaceae	Carex	conjuncta	-	-	sedge	el	ORRH	-	-	n	r	-	-	FAC+	-
Cyperaceae	Carex	crinita	-	-	drooping sedge	el	ORRH	-	-	n	f	-	-	FACW+	-

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Cyperaceae	Carex	intumescens	-	-	intumescent sedge	el	ORRH	-	-	n	o	-	-	FACW	-
Cyperaceae	Carex	jamesii	-	-	sedge	el	ORRH	-	-	n	r	-	-	UPL	-
Cyperaceae	Carex	laevivaginata	-	-	sedge	el	ORRH	-	-	n	vr	-	-	OBL	-
Cyperaceae	Carex	laxiculmis*	-	-	sedge	ot	TENN	-	-	n	?	-	'	?	'
Cyperaceae	Carex	laxiflora	-	-	broad-leaved sedge	el	ORRH	-	-	n	f	-	-	NI	-
Cyperaceae	Carex	leptalea	-	-	sedge	el	ORRH	-	-	n	r?	-	-	OBL	-
Cyperaceae	Carex	louisianica	-	-	Louisiana sedge	el	ORRH	-	infreq. east TN	n	r	-	-	OBL	-
Cyperaceae	Carex	lupulina	-	-	large hop sedge	el	ORRH	-	-	n	s	-	-	OBL	-
Cyperaceae	Carex	lurida	-	-	smaller hop sedge	el	ORRH, US, DU,ORRHv	e	-	n	o	-	-	OBL	-
Cyperaceae	Carex	meadii	-	-	sedge	el	ORRH	-	rare east TN	n	?3	-	-	FAC	-
Cyperaceae	Carex	muhlenbergii	var. muhlenbergii	-	sedge	el	ORRH	-	-	n	?	-	-	UPL	-

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Cyperaceae	Carex	nigromarginata	-	-	black-margined sedge	el	ORRH, TENN, US	-	-	n	o	-	-	FACU-	-
Cyperaceae	Carex	normalis	-	-	sedge	el	ORRH, US, DU,ORRHv	c	-	n	o	-	-	FACW-	-
Cyperaceae	Carex	oligocarpa	-	-	sedge	el	ORRH, US, DU	-	-	n	i?	-	-	UPL	-
Cyperaceae	Carex	oxylepis	var. oxylepis	-	sedge	el	ORRH	-	-	n	i	-	-	FACW-	-
Cyperaceae	Carex	oxylepis	var. pubescens*	-	sedge	tax	US	-	this variety may not be valid	n	vr	s	'	FACW-	'
Cyperaceae	Carex	pensylvanica	-	-	sedge	el	ORRH	-	-	n	o	-	-	UPL	-
Cyperaceae	Carex	platyphylla	-	-	sedge	el	ORRH	-	-	n	r?	-	-	UPL	-
Cyperaceae	Carex	prasina	-	-	drooping sedge	el	ORRH	-	-	n	o	-	-	OBL	-
Cyperaceae	Carex	projecta	-	-	sedge	el	ORRH	-	rare in TN	n	r?	-	-	FACW+	-
Cyperaceae	Carex	purpurifera	-	-	sedge	el	ORRH	-	-	n	vr	-	3C	UPL	-
Cyperaceae	Carex	retroflexa	-	-	sedge	el	ORRH	-	-	n	?	-	-	UPL	-

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Cyperaceae	Carex	rosea	-	C. radiata	sedge	el	ORRH, US, DU	-	-	n	f	-	-	UPL	-
Cyperaceae	Carex	scoparia	-	-	sedge	el	ORRH	-	-	n	s?	-	-	FACW	-
Cyperaceae	Carex	shortiana	-	-	sedge	el	ORRH,ORRHv	c	infreq. TN	n	s	-	-	FACW	-
Cyperaceae	Carex	squarrosa	-	-	round-headed sedge	el	ORRH	-	-	n	i	-	-	FACW	-
Cyperaceae	Carex	stipata	-	-	stipatate sedge	el	ORRH	-	-	n	r	-	-	UPL	OBL
Cyperaceae	Carex	striatula	-	-	sedge	el	ORRH	-	-	n	r?	-	-	UPL	-
Cyperaceae	Carex	styloflexa	-	-	sedge	el	ORRH	-	-	n	r	-	-	FACW	-
Cyperaceae	Carex	swanii	-	-	Swan's sedge	el	ORRH	-	-	n	f	-	-	UPL	-
Cyperaceae	Carex	tribuloides	-	-	sedge	el	ORRH, US, DU,ORRHv	c	-	n	o	-	-	FACW+	-
Cyperaceae	Carex	venusta	-	-	sedge	el	ORRH	-	rare in TN	n	...	-	-	FACW+	-
Cyperaceae	Carex	virescens	-	-	sedge	el	ORRH	-	-	n	r?	-	-	UPL	-
Cyperaceae	Carex	vulpinoidea	-	-	fox sedge	el	ORRH, US, DU.ORRHv	c	-	n	o	-	-	OBL	-
Cyperaceae	Carex	willdenowii	-	-	sedge	el	ORRH	-	-	n	r?	-	-	FACW	-

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Juglandaceae	Carya	cordiformis	-	-	bitternut hickory	el	ORRH	-	-	n	?	-	-	FAC	-
Juglandaceae	Carya	glabra	-	-	pignut hickory	el	ORRH	-	-	n	?	-	-	FACU	-
Juglandaceae	Carya	ovalis	var. odorata	C. glabra	sweet pignut hickory	el	r	-	-	n	?	-	-	FACU	-
Juglandaceae	Carya	ovata	-	-	shagbark hickory	el	ORRH	-	-	n	?	-	-	FACU	-
Juglandaceae	Carya	tomentosa	-	-	mockernut hickory	el	ORRH, US, DU	-	-	n	?	-	-	UPL	-
Fagaceae	Castanea	dentata	-	-	American chestnut	el	ORRH	-	some burrs on trees on ORR	n	o	-	-	UPL	-
Bignoniaceae	Catalpa	bignonioides	-	-	catalpa	el	ORRH	-	-	p	r	-	-	FAC-	-
Bignoniaceae	Catalpa	speciosa*	-	-	northern catalpa	pl	'	-	-	n	?	'	'	FACU	'
Berberidaceae	Caulophyllum	thalictroides	-	-	blue cohosh	el	ORRH	-	-	n	i	-	-	UPL	-
Rhamnaceae	Ceanothus	americanus	-	-	New Jersey tea	el	ORRH	-	-	n	o	-	-	UPL	-

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FAMILY	GENUS	SPECIES	VARIETY	SYNONYM	COMMON NAME	ORR FLORA ELIGIBILITY	PROOF	CONTAMINATED SPECIMEN	COMMENTS	TN NATIVE VS. EXOTIC	FREQUENCY (ORR)	TN STATUS	US STATUS	R2IND (WETLAND INDICATOR STATUS)	ORRIND
Celastraceae	Celastrus	orbiculatus	-	-	Oriental bittersweet	el	ORRH	-	-	a	s	-	-	NI	-
Celastraceae	Celastrus	scandens	-	-	climbing bittersweet	el	ORRH	-	-	n	o	-	-	NI	-
Ulmaceae	Celtis	laevigata	-	-	smooth hackberry	el	TENN	-	-	n	o	-	-	FACW	-
Ulmaceae	Celtis	occidentalis	-	-	common hackberry	el	ORRH	-	-	n	o	-	-	FACU	-
Ulmaceae	Celtis	tenuifolia*	-	-	dwarf hackberry	pl	'	-	-	n	?	'	'	UPL	'
Asteraceae	Centaurea	cyanus	-	-	bachelor's button	el	ORRH	-	-	p	r?	-	-	UPL	-
Asteraceae	Centaurea	maculosa	-	-	bachelor's button	el	ORRH	-	-	p	r?	-	-	UPL	-
Fabaceae	Centrosema	virginianum	-	-	butterfly-pea	el	ORRH	-	-	n	o?	-	-	UPL	-
Rubiaceae	Cephalanthus	occidentalis	-	-	buttonbush	el	ORRH, US, DU	-	-	n	o	-	-	OBL	-
Caryophyllaceae	Cerastium	fontanum	ssp. triviale	C. vulgatum	mouse-ear chickweed	el	ORRH	-	-	p	f?	-	-	FAC-	-

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Caryophyllaceae	Cerastium	glomeratum	-	-	mouse-ear chickweed	el	ORRH	-	-	p	f?	-	-	UPL	-
Ceratophyllaceae	Ceratophyllum	demersum	-	-	hornwort	el	ORRH	-	-	n	vr	-	-	OBL	-
Fabaceae	Cercis	canadensis	-	-	redbud	el	ORRH, US, DU	-	-	n	c	-	-	FACU	-
Scrophulariaceae	Chaennorrhinum	minus	-	-	lesser toadflax	el	ORRH	-	-	p	i	-	-	UPL	-
Apiaceae	Chaerophyllum	procumbens	-	-	spreading chervil	el	ORRH	-	-	n	s?	-	-	FACW	-
Apiaceae	Chaerophyllu	tainturieri	-	-	wild cervil	el	ORRH	-	-	n	r?	-	-	FAC	-
Fabaceae	Chamaecrista	fasciculata	-	Cassia	partridge-pea	el	ORRH, US	-	-	n	o	-	-	FACU	-
Fabaceae	Chamaecrista	nictitans	-	Cassia	sensitive-pea	el	ORRH, US, DU	-	-	n	i	-	-	FACU	-
Liliaceae	Chamaelirium	luteum	-	-	fairy wand	el	US	-	-	n	i	-	-	FACU+	-
Poaceae	Chasmanthiu	latifolium	-	-	spangle grass	el	ORRH	-	-	n	i	-	-	FAC-	-
Poaceae	Chasmanthium	laxum	-	-	slender spike grass	el	ORRH	-	-	n	i	-	-	FACW-	-

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Poaceae	Chasmanthium	sessiliflorum	-	-	long-leaf spike grass	el	ORRH	-	-	n	i	-	-	FAC+	-
Sinopteridaceae	Cheilanthes	alabamensis	-	-	Alabama lipfern	el	ORRH	-	-	n	s	-	-	UPL	-
Sinopteridaceae	Cheilanthes	lanosa	-	-	hairy lipfern	el	ORRH	-	-	n	s	-	-	UPL	-
Scrophulariaceae	Chelone	glabra	-	-	white turtlehead	el	ORRH, US	-	-	n	i	-	-	OBL	-
Chenopodiaceae	Chenopodium	album	-	-	white goosefoot	el	ORRH	-	-	p	r?	-	-	FAC-	-
Chenopodiaceae	Chenopodium	ambrosioides	-	-	fragrant goosefoot	el	ORRH, TENN, US	-	-	p	i	-	-	FACU	-
Ericaceae	Chimaphila	maculata	-	-	striped pipsissewa	el	ORRH, US, DU	-	-	n	c	-	-	UPL	-
Oleaceae	Chionanthus	virginicus	-	-	fringe-tree	el	ORRH	-	-	n	vr	-	-	FACU	-
Asteraceae	Chrysanthemu	leucanthemum	-	Leucanthemum vulgare	daisy	el	ORRH, US, DU	-	-	p	f	-	-	UPL	-
Asteraceae	Cichorium	intybus	-	-	chicory	el	ORRH	-	-	p	f	-	-	UPL	-

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Apiaceae	Cicuta	maculata	-	-	water-hemlock	el	ORRH, US, DU	-	-	n	o	-	-	OBL	-
Ranunculaceae	Cimicifuga	racemosa	-	-	black cohosh	el	ORRH	-	-	n	f	-	-	UPL	-
Ranunculaceae	Cimicifuga	rubifolia	-	-	Appalachian bugbane	el	ORRH	-	-	n	s	T	SpC	UPL	-
Onagraceae	Circaea	lutetiana	ssp. canadensis	-	larger enchanter's-nightshade	el	ORRH	-	-	n	o	-	-	FACU	-
Asteraceae	Cirsium	arvense	-	-	Canada thistle	el	ORRH	-	-	?	?	-	-	FACU+	-
Asteraceae	Cirsium	discolor	-	-	thistle	el	ORRH	-	-	n	?	-	-	UPL	-
Asteraceae	Cirsium	muticum	-	-	swamp thistle	el	ORRH	-	-	n	?	-	-	OBL	-
Asteraceae	Cirsium	vulgare	-	-	bull thistle	el	ORRH	-	-	?	?	-	-	FAC	-
Portulacaceae	Claytonia	caroliniana	-	-	broad-leaved spring beauty	el	ORRH	-	-	n	s?	-	-	FACU	-
Portulacaceae	Claytonia	virginica	-	-	narrow-leaved spring beauty	el	ORRH, US, DU	-	-	n	s?	-	-	FACU-	-
Ranunculaceae	Clematis	versicolor*	-	-	clematis	ot	ORRH	-	-	n	?	'	'	?	'

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Ranunculaceae	Clematis	viorna	-	-	leather flower	el	ORRH	-	-	n	i	-	-	UPL	-
Ranunculaceae	Clematis	virginiana	-	-	virgin's bower	el	ORRH	-	-	n	o	-	-	FAC+	-
Fabaceae	Clitoria	mariana	-	-	butterfly-pea	el	ORRH	-	-	n	o?	-	-	UPL	-
Menispermaceae	Cocculus	carolinus	-	-	snailseed	el	ORRH	-	-	n	i	-	-	FAC	-
Lamiaceae	Collinsonia	canadensis	-	-	stoneroot	el	ORRH	-	-	n	f	-	-	FAC	-
Lamiaceae	Collinsonia	verticillata	-	-	whorled stoneroot	el	ORRH	-	9 counties in TN	n	s	-	-	UPL	-
Santalaceae	Commandra	umbellata	-	-	bastard toad-flax	el	ORRH	-	-	n	r	-	-	UPL	-
Commelinaceae	Commelina	communis	-	-	common dayflower	el	ORRH	-	-	p	f	-	-	FAC	-
Commelinaceae	Commelina	erecta	-	-	erect dayflower	el	ORRH	-	-	n	r	-	-	UPL	'
Commelinaceae	Commelina	virginica	-	-	Virginia dayflower	el	ORRH	-	-	n	i	-	-	FACW	-
Asteraceae	Conoclinium	coelestinum	-	Eupatorium	mist flower	el	ORRH, US, DU	-	-	n	o	-	-	FAC	-

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Orobranchaceae	Conopholis	americana	-	-	squawroot	el	ORRH, US	-	-	n	o	-	-	UPL	-
Ranunculaceae	Consolida	ambigua	-	Delphium ajacis	rocket larkspur	el	ORRH	-	-	p	vr	-	-	UPL	-
Liliaceae	Convallaria	majalis	-	-	lily-of-the-valley	el	ORRH	-	-	p	vr?	-	-	UPL	-
Asteraceae	Conyza	canadensis	-	-	horseweed	el	ORRHv	c	-	n	o?	-	-	FACU	-
Orchidaceae	Corallorrhiza	odontorhiza	-	-	autumn coralroot	el	ORRH, US	-	-	n	f	-	-	UPL	-
Orchidaceae	Corallorrhiza	wisteriana	-	-	spring coralroot	el	TENN, US, DU	-	-	n	r	-	-	FAC	-
Asteraceae	Coreopsis	auriculata	-	-	lobed tickseed	el	ORRH, US, DU	-	-	n	i	-	-	UPL	-
Asteraceae	Coreopsis	lanceolata*	-	-	longstalk-tickseed	pl	'	-	-	n	?	'	'	UPL	'
Asteraceae	Coreopsis	major	-	-	wood tickseed	el	ORRH, US, DU	-	-	n	o?	-	-	UPL	-
Asteraceae	Coreopsis	tinctoria	-	-	plains tickseed	el	ORRH, US, DU	-	-	n	i	-	-	FAC	-

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Asteraceae	Coreopsis	tripteris	-	-	tall tickseed	el	ORRH	-	-	n	o	-	-	FAC	-
Cornaceae	Cornus	amomum	-	-	silky dogwood	el	ORRH,ORRHv	c	-	n	o	-	-	FACW+	-
Cornaceae	Cornus	drummondii	-	-	rough-leaved dogwood	el	ORRH	-	-	n	vr	-	-	FAC	-
Cornaceae	Cornus	florida	-	-	flowering dogwood	el	ORRH, US, DU	-	-	n	c	-	-	FACU	FAC
Cornaceae	Cornus	foemina	-	C. stricta	southern swamp dogwood	el	ORRH	-	-	n	i	-	-	FACW-	-
Fabaceae	Coronilla	varia	-	-	crown-vetch	el	ORRH	-	-	a	o	-	-	UPL	-
Fumariaceae	Corydalis	flavula	-	-	short-spurred corydalis	el	ORRH	-	-	n	vr	-	-	FACU	-
Betulaceae	Corylus	americana	-	-	American hazelnut	el	ORRH,ORRHv	c	-	n	o	-	-	FACU	-
Rosaceae	Crataegus	calpodenron	-	-	hawthorn	el	ORRH	-	or similar species	n	vr	-	-	UPL	-
Rosaceae	Crataegus	crus-galli	-	-	hawthorn	el	ORRH, US, DU	-	-	n	o	-	-	FAC-	-

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Rosaceae	Crataegus	marshallii*	-	-	parsley hawthorn	pl	'	-	-	n	?	'	'	UPL	'
Asteraceae	Crepis	pulchra	-	-	hawk's beard	el	ORRH	-	-	p	vr	-	-	UPL	-
Fabaceae	Crotalaria	sagittalis	-	-	weedy rattlebox	el	ORRH	-	-	n	i	-	-	UPL	-
Euphorbiaceae	Croton	glandulosus	-	-	tooth-leaved croton	el	ORRH	-	-	n	r	-	-	UPL	-
Euphorbiaceae	Croton	monanthogynus	-	-		el	ORRH	-	-	n	o	-	-	UPL	-
Apiaceae	Cryptotaenia	canadensis	-	-	honewort	el	ORRH	-	-	n	f	-	-	FAC+	-
Lamiaceae	Cunila	origanoides	-	-	dittany	el	ORRH	-	-	n	o	-	-	UPL	-
Lythraceae	Cuphea	viscosissima	-	-	clammy cuphea	el	US	-	-	n	i	-	-	FACU	-
Convolvulaceae	Cuscuta	campestris	-	-	field dodder	el	ORRH,ORRHv	c	-	n	i?	-	-	UPL	-
Convolvulaceae	Cuscuta	compacta	-	-	bracted dodder	el	ORRH	-	-	n	i?	-	-	UPL	-
Convolvulaceae	Cuscuta	gronovii	-	-	dodder	el	TENN	-	-	n	i?	-	-	UPL	-

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Asclepiadaceae	Cynanchum	laeve	-	Ampelamus albidus	sandvine	el	ORRH	-	-	n	s?	-	-	FAC	-
Poaceae	Cynodon	dactylon	-	-	Bermuda grass	el	TENN	-	-	p	f	-	-	FACU	-
Boraginaceae	Cynoglossum	virginianum	-	-	wild comfrey	el	TENN, ORRH	-	-	n	f	-	-	UPL	-
Cyperaceae	Cyperus	acuminatus	-	-	umbrella sedge	el	ORRH	-	rare east TN	n	vr	-	-	OBL	-
Cyperaceae	Cyperus	croceus	-	-	umbrella sedge	el	ORRH	-	-	n	r?	-	-	UPL	-
Cyperaceae	Cyperus	echinatus	-	Cyperus ovularis	umbrella sedge	el	ORRH	-	-	n	i	-	-	FAC	-
Cyperaceae	Cyperus	esculentus	-	-	chufa	el	ORRH	-	-	n	o	-	-	FAC	-
Cyperaceae	Cyperus	ferruginescens	-	-	umbrella sedge	el	TENN	-	-	n	r?	-	-	FAC	-
Cyperaceae	Cyperus	flavescens	var. poaeformis	-	umbrella sedge	el	TENN, US, DU	-	-	n	o	-	-	OBL	-

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Cyperaceae	Cyperus	lancastriensis	-	-	umbrella sedge	el	ORRH	-	-	n	o	-	-	FAC	-
Cyperaceae	Cyperus	odoratus	-	-	umbrella sedge	el	ORRH,ORRHv	c	-	n	r	-	-	FACW	-
Cyperaceae	Cyperus	pseudovegetus	-	-	umbrella sedge	el	ORRH	-	-	n	vr	-	-	FACW	-
Cyperaceae	Cyperus	retrofractus	-	-	umbrella sedge	el	ORRH	-	-	n	?	-	-	UPL	'
Cyperaceae	Cyperus	strigosus	-	-	umbrella sedge	el	ORRH, US, DU	-	-	n	f	-	-	FACW	-
Orchidaceae	Cypripedium	acaule	-	-	pink lady's slipper	el	P	-	-	n	o	E*	-	FAC	-
Woodsiaceae	Cystopteris	protrusa	-	-	southern fragile fern	el	r	-	-	n	vr	-	-	UPL	-
Poaceae	Dactylis	glomerata	-	-	orchard grass	el	ORRH	-	-	p	f	-	-	FACU	-
Poaceae	Danthonia	spicata	-	-	poverty grass	el	ORRH, US, DU	-	-	n	c	-	-	UPL	-
Scrophulariaceae	Dasystoma	macrophylla	-	Dasistoma	mullein-foxglove	el	ORRH	-	extirpated ?	n	?	-	-	FAC	-

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Solanaceae	Datura	stramonium	-	-	jimson weed	el	ORRH	-	-	p	i	-	-	UPL	-
Apiaceae	Daucus	carota	-	-	Queen Anne's lace	el	ORRH	-	-	p	f	-	-	UPL	-
Ranunculaceae	Delphinium	exaltatum	-	-	tall larkspur	el	ORRH	-	-	n	s	E	SpC	UPL	-
Ranunculaceae	Delphinium	tricorne	-	-	dwarf larkspur	el	ORRH	-	-	n	s?	-	-	UPL	-
Brassicaceae	Dentaria	diphylla	-	Cardamine	toothwort	el	TENN	-	-	n	f	-	-	NI	-
Brassicaceae	Dentaria	heterophylla	-	Cardamine	pepperwort	el	ORRH	-	-	n	f	-	-	UPL	-
Brassicaceae	Dentaria	laciniata	-	Cardamine concatenata	cut-leaved toothwort	el	TENN, US, DU	-	-	n	f	-	-	FACU	-
Brassicaceae	Dentaria	multifida	-	Cardamine angustata	fine-leaved toothwort	el	ORRH	-	-	n	vr	-	-	FAC+	-
Woodsiaceae	Deparia	acrostichoides	-	Athyrium thelypteroides	silvery glade fern	el	ORRH	-	-	n	r?	-	-	FAC	-
Fabaceae	Desmanthus	illinoesis	-	-	bundleflower	el	ORRH	-	-	n	r	-	-	FAC	-
Fabaceae	Desmodium	canescens	-	-	tick-trefoil	el	ORRH	-	-	n	?	-	-	UPL	-
Fabaceae	Desmodium	ciliare.	-	-	tick-trefoil	el	ORRH, US	-	-	n	?	-	-	UPL	-
Fabaceae	Desmodium	cuspidatum	-	-	tick-trefoil	el	ORRH	-	-	n	?	-	-	UPL	-

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Fabaceae	Desmodium	glutinosum	-	-	whorled tick-trefoil	el	ORRH	-	-	n	r	-	-	UPL	-
Fabaceae	Desmodium	laevigatum*	-	-	smooth tick-trefoil	pl	-	-	-	n	?	-	-	?	-
Fabaceae	Desmodium	marilandicum	-	-	narrow tick-trefoil	el	ORRH	-	-	n	?	-	-	UPL	-
Fabaceae	Desmodium	nudiflorum	-	-	naked-flowered tick-trefoil	el	ORRH, US	-	-	n	f	-	-	UPL	-
Fabaceae	Desmodium	nuttallii	-	-	Nuttall's tick-trefoil	el	ORRH,ORRHv	c	-	n	?	-	-	UPL	-
Fabaceae	Desmodium	paniculatum	-	D. dilleni	paniculed tick-trefoil	el	ORRH	-	-	n	?	-	-	FACU	-
Fabaceae	Desmodium	pauciflorum	-	-	few-flowered tick-trefoil	el	ORRH	-	-	n	i	-	-	UPL	-
Fabaceae	Desmodium	rotundifolium	-	-	prostrate tick-trefoil	el	ORRH	-	-	n	o	-	-	UPL	-
Fabaceae	Desmodium	viridiflorum	-	-	tick-trefoil	el	ORRHs	-	-	n	?	-	-	UPL	-

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Caryophyllaceae	Dianthus	armeria	-	-	deptford pink	el	ORRH, US	-	-	p	i	-	-	UPL	-
Poaceae	Diarrhena	americana*	-	-		pl	'	-	-	n	?	'	'	?	'
Caprifoliaceae	Diervilla	lonicera	-	-	bush honeysuckle	el	P	-	-	n	r	T	-	UPL	-
Poaceae	Digitaria	ischaemum	-	-	smooth crabgrass	el	ORRH	-	-	p	o	-	-	UPL	-
Poaceae	Digitaria	sanguinalis	-	-	crabgrass	el	ORRH, US, ORRHv	c	-	p	o	-	-	FAC-	-
Rubiaceae	Diodia	teres	-	-	rough buttonweed	el	ORRH, US, DU	-	-	n	o	-	-	FACU-	-
Rubiaceae	Diodia	virginiana	-	-	Virginia buttonweed	el	ORRH, US,ORRHv	c	-	n	i	-	-	FACW	-
Discoreaceae	Dioscorea	batatas	-	-	Chinese yam	el	ORRH	-	-	a	f	-	-	UPL	-
Dioscoreaceae	Dioscorea	villosa	-	D. quaternata	wild yam	el	ORRH, US, DU	-	-	n	i	-	-	FAC	-
Ebenaceae	Diospyros	virginiana	-	-	persimmon	el	ORRH, US	-	-	n	f	-	-	FAC	-
Lycopodiaceae	Diphasiastrum	digitatum	-	Lycopodium flabelliforme	ground cedar	el	ORRH	-	-	n	f	-	-	UPL	-

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Woodsiaceae	Diplazium	pycnocarpon	-	Athyrium	glade fern	el	ORRH	-	-	n	r?	-	-	FAC	-
Dipsacaceae	Dipsacus	fullonum	-	D. sylvestris	teasel	el	ORRH	-	-	p?	f	-	-	FAC	-
Thymelaeaceae	Dirca	plaustris	-	-	leatherwood	el	ORRH	-	-	n	vr	-	-	FACU-	-
Liliaceae	Disporum	lanuginosum	-	-	Mandarin lily	el	ORRH	-	-	n	?	-	-	UPL	-
Liliaceae	Disporum	maculatum*	-	-	Mandarin lily	pl	'	-	-	n	?	'	'	UPL	-
Primulaceae	Dodecatheon	meadia	-	-	shooting star	el	r	-	-	n	r	-	-	FACU	-
Asteraceae	Doellingeria	infirmus	-	Aster	entire-leaved aster	el	ORRH	-	-	n	i	-	-	UPL	-
Brassicaceae	Draba	brachycarpa	-	-	short-fruited whitlow-grass	el	ORRH	-	-	n	s	-	-	UPL	-
Brassicaceae	Draba	ramosissima	-	-	branched whitlow grass	el	ORRH	-	-	n	r	S	-	UPL	-

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FAMILY	GENUS	SPECIES	VARIETY	SYNONYM	COMMON NAME	ORR FLORA ELIGIBILITY	PROOF	CONTAMINATED SPECIMEN	COMMENTS	TN NATIVE VS. EXOTIC	FREQUENCY (ORR)	TN STATUS	US STATUS	R2IND (WETLAND INDICATOR STATUS)	ORRIND
Brassicaceae	Draba	verna	-	-	whitlow grass	el	TENN, US	-	-	p	?	-	-	UPL	-
Dryopteridaceae	Dryopteris	marginalis	-	-	marginal woodfern	el	TENN	-	-	n	s	-	-	FACU	-
Rosaceae	Duchesnea	indica	-	-	barren strawberry	el	ORRH	-	-	p	i	-	-	NI	-
Asteraceae	Echinacea	purpurea	-	-	purple coneflower	el	ORRH	-	-	n	vr	-	-	UPL	-
Poaceae	Echinochloa	crusgalli	-	-	barnyard grass	el	ORRH, US, DU,ORRHv	c	-	p?	o	-	-	FACW-	-
Poaceae	Echinochloa	muricata	-	-	barnyard grass	el	TENN	-	-	n	r?	-	-	FAC	-
Asteraceae	Eclipta	prostrata	-	-	yerba-de-tajo	el	ORRH, US, DU	-	-	n	r?	-	-	OBL	-
Elaegnaceae	Elaeagnus	pungens	-	-	oleaster	el	ORRH	-	-	a?	s	-	-	?	-
Elaegnaceae	Elaeagnus	umbellata	-	-	oleaster	el	ORRH	-	-	a	f	-	-	UPL	-
Cyperaceae	Eleocharis	acicularis	-	-	spike-rush	el	ORRH	-	rare or overlooked in east TN	n	r	-	-	OBL	-
Cyperaceae	Eleocharis	erythropoda	-	E. calva	spike-rush	el	ORRH	-	-	n	r	-	-	OBL	-

FAMILY	GENUS	SPECIES	VARIETY	SYNONYM	COMMON NAME	ORR FLORA ELIGIBILITY	PROOF	CONTAMINATED SPECIMEN	COMMENTS	TN NATIVE VS. EXOTIC	FREQUENCY (ORR)	TN STATUS	US STATUS	R2ND (WETLAND INDICATOR STATUS)	ORRIND
Cyperaceae	Eleocharis	obtusa	-	-	spike-rush	el	ORRH, US, DU,ORRHv	c	-	n	f	-	-	OBL	-
Cyperaceae	Eleocharis	palustris	-	-	spike-rush	el	ORRH	-	-	n	o	-	-	OBL	-
Cyperaceae	Eleocharis	parvula	-	-	spike-rush	el	ORRH, TENN	-	state record; nomenclature Gleason and Cronquist (1991)	n	r	-	-	OBL	-
Cyperaceae	Eleocharis	quadrangulata	-	-	spike-rush	el	ORRH	-	-	n	r	-	-	OBL	-
Cyperaceae	Eleocharis	tenuis	-	-	spike-rush	el	ORRH	-	-	n	f	-	-	FACW	-
Asteraceae	Elephantopus	carolinianus	-	-	elephant's foot	el	ORRH, US	-	-	n	o	-	-	FAC	-
Asteraceae	Elephantopus	tomentosus	-	-	elephant's foot	el	ORRH, US, DU	-	-	n	o	-	-	UPL	-
Poaceae	Eleusine	indica	-	-	goosegrass	el	ORRH, US	-	-	p	o	-	-	FACU	-
Hydrocharitaceae	Elodea	canadensis	-	-	common water-weed	el	ORRH	-	-	n	vr	-	-	OBL	-
Hydrocharitaceae	Elodea	nuttallii	-	-	free-flowered water weed	el	ORRH	-	-	n	r	S	-	OBL	-

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FAMILY	GENUS	SPECIES	VARIETY	SYNONYM	COMMON NAME	ORR FLORA ELIGIBILITY	PROOF	CONTAMINATED SPECIMEN	COMMENTS	TN NATIVE VS. EXOTIC	FREQUENCY (ORR)	TN STATUS	US STATUS	R2IND (WETLAND INDICATOR STATUS)	ORRIND
Poaceae	Elymus	villosus	-	-	downy wild rye	el	ORRH	-	-	n	i	-	-	FACU	-
Poaceae	Elymus	virginicus	var. glabriflorus	-	wild rye	el	ORRH	-	-	n	?	-	-	FAC	-
Poaceae	Elymus	virginicus	var. virginicus	-	wild rye	el	ORRH	-	-	n	f	-	-	FAC	-
Orobranchaceae	Epifagus	virginiana	-	-	beech drops	el	ORRH	-	-	n	o	-	-	UPL	-
Ericaceae	Epigaea	repens	-	-	trailing arbutus	el	ORRH	-	-	n	o	-	-	UPL	-
Onagraceae	Epilobium	coloratum	-	-	willow-herb	el	ORRH, US, DU,ORRHv	c	-	n	i	-	-	OBL	-
Equisetaceae	Equisetum	arvense	-	-	field horsetail	el	ORRH	-	-	n	r	-	-	FAC	-
Equisetaceae	Equisetum	hyemale	-	-	scouring rush	el	ORRH	-	-	n	r	-	-	FAC+	-
Poaceae	Eragrostis	capillaris*	-	-		pl	'	-	-	n	?	'	'	UPL	'
Poaceae	Eragrostis	cilianensis	-	-	lovegrass	el	ORRH	-	-	p	o	-	-	FACU	'
Poaceae	Eragrostis	curvula	-	-	South African lovegrass	el	ORRH	-	-	p	o	-	-	UPL	'

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Poaceae	Eragrostis	frankii	-	-		el	ORRH	-	-	n	?	-	-	FACW	'
Poaceae	Eragrostis	hypnoides	-	-	creeping lovegrass	el	ORRHv	c	-	n	f	-	-	OBL	'
Poaceae	Eragrostis	pectinacea	-	-	Carolina lovegrass	el	ORRH	-	-	n	o	-	-	FAC	'
Poaceae	Eragrostis	spectabilis	-	-	tumblegrass	el	ORRH	-	-	n	o	-	-	FACU	'
Asteraceae	Erechtites	hieracifolia	-	-	pilewort	el	ORRH	-	-	n	i	-	-	FAC-	'
Poaceae	Erianthus	alopecuroides	-	-	beardgrass	el	ORRH	-	-	n	c	-	-	FAC	'
Poaceae	Erianthus	giganteus	-	-	tall beardgrass	el	ORRH	-	-	n	s	-	-	FACW	'
Apiaceae	Erigenia	bulbosa	-	-	salt-and-pepper	el	ORRH	-	not seen recently	n	vr?	-	-	UPL	'
Asteraceae	Erigeron	annuus	-	-	annual fleabane	el	ORRH, US, DU	-	-	n	o	-	-	FACU	'
Asteraceae	Erigeron	philadelphicus	-	-	fleabane	el	ORRH	-	-	n	o	-	-	FAC	'
Asteraceae	Erigeron	pulchellus	-	-	Robin's plantain	el	ORRH, US, DU	-	-	n	r	-	-	FACU+	'
Asteraceae	Erigeron	strigosus	-	-	fleabane	el	ORRH,ORRHv	c	-	n	o?	-	-	FAC	'

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FAMILY	GENUS	SPECIES	VARIETY	SYNONYM	COMMON NAME	ORR FLORA ELIGIBILITY	PROOF	CONTAMINATED SPECIMEN	COMMENTS	TN NATIVE VS. EXOTIC	FREQUENCY (ORR)	TN STATUS	US STATUS	R2IND (WETLAND INDICATOR STATUS)	ORRIND
Apiaceae	Eryngium	yuccifolium*	-	-	rattlesnake-master	qr	'	-	-	n	vr?	'	'	FAC	'
Brassicaceae	Erysimum	cheiranthoides	-	-	worm-seed mustard	el	ORRH	-	-	p	?	-	-	UPL	'
Liliaceae	Erythronium	americanum	-	-	trout-lily	id	ORRH	-	-	n	?	'	'	FAC	'
Liliaceae	Erythronium	umbilicatum	-	-	trout-lily	el	ORRH	-	-	n	s	-	-	FAC	'
Celastraceae	Euonymus	americanus	-	-	heart's-a-bursting	el	ORRH, US, DU	-	-	n	f	-	-	FAC-	'
Celastraceae	Euonymus	atropurpureus	-	-	wahoo	el	ORRH	-	-	n	s	-	-	FAC	'
Asteraceae	Eupatorium	album	-	-	white eupatorium	el	ORRH	-	-	n	o	-	-	UPL	'
Asteraceae	Eupatorium	altissimum	-	-	tall eupatorium	el	ORRH	-	-	n	f	-	-	UPL	'
Asteraceae	Eupatorium	capillifolium	-	-	dog-fennel	el	ORRH	-	-	n	vr	-	-	FACU	'
Asteraceae	Eupatorium	fistulosum	-	-	Joe-Pye-weed	el	ORRH	-	-	n	f	-	-	FAC+	'
Asteraceae	Eupatorium	hyssopifolium	-	-	narrow-leaved snakeroot	el	ORRH	-	-	n	s	-	-	UPL	'
Asteraceae	Eupatorium	perfoliatum	-	-	boneset	el	ORRH	-	-	n	i	-	-	FACW+	'

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Asteraceae	Eupatorium	pilosum	-	E. rotundifolium var. saundersii	ragged eupatorium	el	ORRH	-	-	n	o?	-	-	FACW	'
Asteraceae	Eupatorium	purpureum	-	Eupatoriadelphus purpureus	woodland Joe-Pye-weed	el	ORRH	-	-	n	o	-	-	FAC	'
Asteraceae	Eupatorium	rotundifolium	ssp. ovatum	-	round-leaved snakeroot	el	ORRH	-	-	n	i	-	-	FAC	'
Asteraceae	Eupatorium	serotinum	-	-	acuminate-leaved snakeroot	el	ORRH, US, DU,ORRHv	c	-	n	o	-	-	FAC	'
Asteraceae	Eupatorium	sessilifolium	-	-	upland boneset	el	ORRH	-	-	n	o?	-	-	UPL	'
Euphorbiaceae	Euphorbia	corollata	-	-	flowering spurge	el	ORRH, US, DU	-	-	n	f	-	-	UPL	'
Euphorbiaceae	Euphorbia	dentata	-	-	toothed spurge	el	ORRH	-	-	n	o?	-	-	UPL	'
Euphorbiaceae	Euphorbia	heterophylla	-	E. cyanthophora	fire-on-the-mountain	el	ORRH	-	-	n	r	-	-	FAC	'
Euphorbiaceae	Euphorbia	humistrata	-	Chamaesyce	spurge	el	ORRH	-	-	n	r	-	-	FACW	'

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FAMILY	GENUS	SPECIES	VARIETY	SYNONYM	COMMON NAME	ORR FLORA ELIGIBILITY	PROOF	CONTAMINATED SPECIMEN	COMMENTS	TN NATIVE VS. EXOTIC	FREQUENCY (ORR)	TN STATUS	US STATUS	R2IND (WETLAND INDICATOR STATUS)	ORRIND
Euphorbiaceae	Euphorbia	maculata	-	-	nodding spurge	el	ORRH	-	-	n	o?	-	-	FACU	'
Euphorbiaceae	Euphorbia	mercurialina	-	-	Cumberland spurge	el	ORRH	-	-	n	o	-	-	UPL	'
Euphorbiaceae	Euphorbia	nutans	-	-	eyebane	el	ORRH	-	-	n	o	-	-	FACU	'
Asteraceae	Euthamia	graminifolia	-	-	common flat-topped goldenrod	el	ORRH	-	-	n	vr	-	-	FACU	'
Fagaceae	Fagus	grandifolia	-	-	American beech	el	ORRH, US	-	-	n	f	-	-	FACU	'
Poaceae	Festuca	arundinacea	-	F. elatior var. arundinacea	meadow fescue	el	ORRH	-	-	a	?	-	-	FAC-	'
Poaceae	Festuca	pratensis	-	-	fescue	el	ORRH	-	-	a	?	-	-	FACU	'
Poaceae	Festuca	rubra	-	-	red fescue	el	ORRH	-	-	p	s?	-	-	FACU+	'
Poaceae	Festuca	subverticillata	-	F. obtusa	woodland fescue	el	ORRH	-	-	n	r	-	-	FACU	'
Cyperaceae	Fimbristylis	autumnalis	-	-		el	ORRH, US, DU,ORRHv	c	-	n	o	-	-	OBL	'

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Asteraceae	Fleishmannia	incarnata	-	-	pink eupatorium	el	ORRH	-	-	n	i	-	-	FACU+	'
Hamamelidaceae	Fothergilla	major	-	-	witch-alder	el	ORRH	-	-	n	vr	T	-	UPL	'
Rosaceae	Fragaria	virginiana	-	-	wild strawberry	el	ORRH	-	-	n	f	-	-	UPL	'
Oleaceae	Fraxinus	americana	-	-	white ash	el	ORRH	-	-	n	f	-	-	FACU	'
Oleaceae	Fraxinus	pennsylvanica	-	-	green ash	el	ORRH, US, DU	-	-	n	f	-	-	FACW	'
Oleaceae	Fraxinus	quadrangulata	-	-	blue ash	el	ORRH	-	-	n	o	-	-	UPL	'
Fabaceae	Galactia	volubilis	-	-	milk pea	el	ORRH	-	-	n	?	-	-	UPL	'
Diapensiaceae	Galax	urceolata	-	G. aphylla	galax	el	r	-	-	n	vr	-	-	UPL	'
Orchidaceae	Galearis	spectabilis	-	Orchis	showy orchis	el	ORRH	-	-	n	i	-	-	UPL	'
Rubiaceae	Galium	aparine	-	-	cleavers	el	ORRH, US	-	-	n	o	-	-	FACU	'
Rubiaceae	Galium	circaezans	-	-	wild licorice	el	ORRH, US	-	-	n	o	-	-	FACU-	'
Rubiaceae	Galium	obtusum	-	-	blunt-leaved bedstraw	el	ORRH	-	-	n	r	-	-	FACW-	'
Rubiaceae	Galium	parisiense	-	-		el	ORRH	-	-	?	s	-	-	FACU	'

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FAMILY	GENUS	SPECIES	VARIETY	SYNONYM	COMMON NAME	ORR FLORA ELIGIBILITY	PROOF	CONTAMINATED SPECIMEN	COMMENTS	TN NATIVE VS. EXOTIC	FREQUENCY (ORR)	TN STATUS	US STATUS	R2IND (WETLAND INDICATOR STATUS)	ORRIND
Rubiaceae	Galium	pedemontanum	-	-	narrow bedstraw	el	ORRH	-	-	?	s	-	-	UPL	'
Rubiaceae	Galium	pilosum	-	-	hairy bedstraw	el	ORRH, US	-	-	n	o	-	-	UPL	'
Rubiaceae	Galium	tinctorium	-	-	marsh bedstraw	el	ORRH,ORRHv	c	-	n	i	-	-	FACW	'
Rubiaceae	Galium	triflorum	-	-	fragrant bedstraw	el	ORRH	-	-	n	o	-	-	FACU	'
Ericaceae	Gaultheria	procumbens	-	-	wintergreen	el	ORRH	-	-	n	vr	-	-	FACU	'
Onagraceae	Gaura	biennis	-	-	biennial gaura	el	ORRH, US,ORRHv	c	-	n	o	-	-	FACU	'
Onagraceae	Gaura	filipes	-	-	threadstalk gaura	el	ORRH	-	-	n	i	-	-	UPL	'
Ericaceae	Gaylussacia	baccata	-	-	black huckleberry	el	ORRH	-	-	n	c	-	-	FACU	'
Gentianaceae	Gentiana	saponaria	-	-	soap gentian	el	TENN, ORRH	-	-	n	s	-	-	FACW-	'
Gentianaceae	Gentiana	villosa	-	-	hairy gentain	el	ORRH, US	-	-	n	i	-	-	UPL	'
Gentianaceae	Gentianella	quinquefolia	-	-	stiff gentian	el	ORRH	-	-	n	s	-	-	FACW-	'
Geraniaceae	Geranium	carolinianum	-	-	Carolina cranesbill	el	ORRH, US, DU	-	-	n	?	-	-	UPL	'

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Geraniaceae	Geranium	columbinum	-	-	longstalk crane's-bill	el	ORRH	-	-	p	i?	-	-	?	-
Geraniaceae	Geranium	maculatum	-	-	wild geranium	el	ORRHs, US, DU	-	-	n	f	-	-	FACU	-
Rosaceae	Geum	canadense	-	-	white avens	el	ORRH, US	-	-	n	o	-	-	FAC	-
Rosaceae	Geum	vernum	-	-	early avens	el	ORRH	-	-	n	i	-	-	FAC	-
Rosaceae	Geum	virginianum	-	-	small-flowered avens	el	TENN	-	-	n	o	-	-	FACW-	-
Lamiaceae	Glechoma	hederacea	-	-	ground-ivy	el	ORRH	-	-	a	o	-	-	FACU	-
Fabaceae	Gleditsia	triacanthos	-	-	honey locust	el	ORRH	-	-	n	i	-	-	FAC-	-
Poaceae	Glyceria	striata	-	-	striate mannagrass	el	ORRH, US, DU	-	-	n	c	-	-	OBL	-
Asteraceae	Gnaphalium	helleri*	-	-	everlasting	ot	TENN	-	-	n	?	s	-	UPL	-

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FAMILY	GENUS	SPECIES	VARIETY	SYNONYM	COMMON NAME	ORR FLORA ELIGIBILITY	PROOF	CONTAMINATED SPECIMEN	COMMENTS	TN NATIVE VS. EXOTIC	FREQUENCY (ORR)	TN STATUS	US STATUS	R2IND (WETLAND INDICATOR STATUS)	ORRIND
Asteraceae	Gnaphalium	obtusifolium	-	-	catfoot	el	ORRH ,US, DU	-	-	n	o	-	-	UPL	-
Asteraceae	Gnaphalium	purpureum	-	-	purple cudweed	el	ORRH	-	-	n	s	-	-	UPL	-
Scrophulariaceae	Gratiola	neglecta	-	-	hedge-hyssop	el	ORRH	-	-	n	s	-	-	OBL	-
Scrophulariaceae	Gratiola	virginiana	-	-	Virginia hedge-hyssop	el	ORRH	-	-	n	s	-	-	OBL	-
Boraginaceae	Hackelia	virginiana	-	-	beggar's lice	el	ORRH	-	-	n	r	-	-	FAC	-
Hamamelidaceae	Hamamelis	virginiana	-	-	witch-hazel	el	TENN, US, DU	-	-	n	i	-	-	FACU	-
Lamiaceae	Hedeoma	pulegioides	-	-	American pennyroyal	el	ORRH, US,ORRHv	c	-	n	s	-	-	UPL	-
Araliaceae	Hedera	helix*	-	-	English ivy	pl	-	-	-	p	?	'	'	?	-
Rubiaceae	Hedyotis	caerulea	-	Houstonia	bluets	el	ORRH	-	-	n	f	-	-	FAC	-
Rubiaceae	Hedyotis	crassifolia	-	Houstonia		el	ORRH	-	-	n	r	-	-	UPL	-
Rubiaceae	Hedyotis	longifolia	-	Houstonia	long-leaved bluets	el	ORRH	-	including H. canadensis	n	o	-	-	UPL	-
Rubiaceae	Hedyotis	nigricans	-	Houstonia		el	ORRH	-	-	n	r	-	-	UPL	-

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Rubiaceae	Hedyotis	nutalliana	-	Houstonia		el	ORRH	-	-	n	?	-	-	UPL	'
Rubiaceae	Hedyotis	purpurea	-	Houstonia	woodland bluets	el	ORRH, US, DU	-	-	n	o	-	-	UPL	'
Asteraceae	Helenium	amarum*	-	-	narrow-leaved sneezeweeed	ot	TENN	-	-	n	?	'	'	FACU-	'
Asteraceae	Helenium	autumnale	-	-	autumn sneezeweed	el	ORRHv, US, DU,ORRHv	c	-	n	o	-	-	FACW	'
Asteraceae	Helenium	flexuosum	-	H. nudiflorum	dark-eyed sneezeweed	el	ORRH	-	-	n	o	-	-	FACW	'
Asteraceae	Helianthus	angustifolius	-	-	narrow-leaved sunflower	el	ORRH	-	-	n	f	-	-	FAC+	FAC
Asteraceae	Helianthus	atrorubens	-	-	sunflower	el	ORRH	-	-	n	r	-	-	UPL	'
Asteraceae	Helianthus	decapetalus	-	-	wide-leaved sunflower	el	ORRH	-	-	n	o	-	-	NI	'
Asteraceae	Helianthus	hirsutus	-	-	hairy sunflower	el	ORRH, US, DU	-	-	n	f	-	-	UPL	'
Asteraceae	Helianthus	maximiliani	-	-	sunflower	el	ORRH	-	-	n	vr?	-	-	UPL	'

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Asteraceae	Helianthus	microcephalus	-	-	small wood sunflower	el	TENN, ORRH, US, DU	-	-	n	c	-	-	NI	'
Asteraceae	Helianthus	occidentalis	-	-	naked stemmed sunflower	el	ORRH	-	-	n	r	-	-	FACU	'
Asteraceae	Helianthus	strumosus	-	-	rough-leaved sunflower	el	ORRH	-	-	n	f	-	-	UPL	'
Asteraceae	Helianthus	tuberosus	-	-	Jerusalem-artichoke	el	TENN	-	-	n	o	-	-	FAC	'
Asteraceae	Helianthus	x laetiflorus*	-	-		pl	-	-	-	n	?	'	'	?	'
Asteraceae	Heliopsis	helianthoides	-	-	ox-eye	el	ORRH	-	-	n	r?	-	-	UPL	'
Liliaceae	Hemerocallis	fulva	-	-	day-lily	el	ORRH, US	-	-	p	f	-	-	UPL	'
Ranunculaceae	Hepatica	acutiloba	-	H. nobilis var. acuta	sharp-lobed hepatica	el	ORRH	-	-	n	o	-	-	UPL	'
Ranunculaceae	Hepatica	americana	-	H. nobilis var. obtusa	round-lobed hepatica	el	ORRH, US	-	-	n	o	-	-	UPL	'

FAMILY	GENUS	SPECIES	VARIETY	SYNONYM	COMMON NAME	ORR FLORA ELIGIBILITY	PROOF	CONTAMINATED SPECIMEN	COMMENTS	TN NATIVE VS. EXOTIC	FREQUENCY (ORR)	TN STATUS	US STATUS	R2IND (WETLAND INDICATOR STATUS)	ORRIND
Asteraceae	Heterotheca	camporum	-	Chrysopsis	prairie golden aster	el	ORRH	-	perhaps not native to E. TN	n	f	-	-	UPL	'
Asteraceae	Heterotheca	graminifolia	-	Pityopsis	grass-leaved golden aster	el	ORRH	-	-	n	o	-	-	UPL	'
Asteraceae	Heterotheca	mariana	-	Chrysopsis	shaggy golden aster	el	ORRH	-	-	n	o	-	-	UPL	'
Saxifragaceae	Heuchera	americana	-	-	alumroot	el	ORRH	-	-	n	o	-	-	FACU	'
Saxifragaceae	Heuchera	villosa	-	-	hairy alumroot	el	ORRH	-	-	n	o	-	-	UPL	'
Orchidaceae	Hexalectris	spicata	-	-	crested coralroot	el	ORRH	-	-	n	s	-	-	FACU	'
Aristolochiaceae	Hexastylis	arifolia	-	-	little brown jugs	el	ORRH	-	-	n	c	-	-	UPL	'
Malvaceae	Hibiscus	laevis	-	-	smooth rose-mallow	el	ORRH	-	-	n	o	-	-	OBL	'
Malvaceae	Hibiscus	moscheutos	-	-	swamp rose-mallow	el	ORRH	-	-	n	o	-	-	OBL	'
Malvaceae	Hibiscus	trionum	-	-	flower of an hour	el	ORRH	-	-	p	r?	-	-	?	'

FAMILY	GENUS	SPECIES	VARIETY	SYNONYM	COMMON NAME	ORR FLORA ELIGIBILITY	PROOF	CONTAMINATED SPECIMEN	COMMENTS	TN NATIVE VS. EXOTIC	FREQUENCY (ORR)	TN STATUS	US STATUS	R2ND (WETLAND INDICATOR STATUS)	ORRIND
Asteraceae	Hieracium	gronovii	-	-	hairy hawkweed	el	ORRH, US, DU	-	-	n	o	-	-	UPL	'
Asteraceae	Hieracium	venosum	-	-	rattlesnake hawkweed	el	ORRH, US	-	-	n	o	-	-	UPL	'
Poaceae	Holcus	lanatus	-	-	velvet grass	el	ORRH	-	-	p	o	-	-	FACU-	'
Caryophyllaceae	Holosteum	umbellatum	-	-	jagged chickweed	el	-	-	-	p	f	'	'	?	'
Poaceae	Hordeum	pusillum	-	-	little barley	el	ORRH	-	-	n	r?	-	-	FACU	'
Lycopodiaceae	Huperzia	lucidula	-	Lycopodium lucidulum	shining clubmoss	el	ORRH	-	-	n	i	-	-	UPL	'
Violaceae	Hybanthus	concolor	-	-	green violet	el	ORRH	-	-	n	s	-	-	FACU	'

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FAMILY	GENUS	SPECIES	VARIETY	SYNONYM	COMMON NAME	ORR FLORA ELIGIBILITY	PROOF	CONTAMINATED SPECIMEN	COMMENTS	TN NATIVE VS. EXOTIC	FREQUENCY (ORR)	TN STATUS	US STATUS	R2IND (WETLAND INDICATOR STATUS)	ORRIND
Saxifragaceae	Hydrangea	arborescens	-	-	hydrangea	el	ORRH	-	Wofford and Kral (1993) split into 3 species; nomenclature Gleason and Cronquist (1991)	n	o	-	-	FACU	'
Ranunculaceae	Hydrastis	canadensis	-	-	golden seal	el	ORRH	-	-	n	s	T	3C	UPL	'
Hydrophyllaceae	Hydrophyllum	canadense	-	-	maple-leaved waterleaf	el	ORRH	-	-	n	vr	'	'	FACW	'
Hydrophyllaceae	Hydrophyllum	macrophyllum	-	-	hairy waterleaf	el	ORRH	-	-	n	s	-	-	?	'
Amaryllidaceae	Hymenocallis	occidentalis	-	H. caroliniana	spider lily	el	ORRH	-	-	n	i	-	-	OBL	FACW

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FAMILY	GENUS	SPECIES	VARIETY	SYNONYM	COMMON NAME	ORR FLORA ELIGIBILITY	PROOF	CONTAMINATED SPECIMEN	COMMENTS	TN NATIVE VS. EXOTIC	FREQUENCY (ORR)	TN STATUS	US STATUS	R2IND (WETLAND INDICATOR STATUS)	ORRIND
Clusiaceae	Hypericum	densiflorum	-	-	shrubby St.John's-wort	el	ORRH, US, DU,ORRHv	c	-	n	o	-	-	FACW-	-
Clusiaceae	Hypericum	denticulatum	-	-	coppery St.John's-wort	el	ORRH	-	-	n	?	-	-	FACW	-
Clusiaceae	Hypericum	dolabriforme	-	-		el	ORRH	-	-	n	i	-	3C	UPL	-
Clusiaceae	Hypericum	drummondii	-	-	nits-and-lice	el	ORRH	-	-	n	i	-	-	FACU	-
Clusiaceae	Hypericum	gentianoides	-	-	pineweed	el	ORRH	-	-	n	o	-	-	FACU	-
Clusiaceae	Hypericum	gymnanthum	-	-		el	ORRH	-	-	n	vr	-	-	FACW	-
Clusiaceae	Hypericum	mutilum	-	-	dwarf St.John's-wort	el	ORRH	-	-	n	o?	-	-	FACW	-
Clusiaceae	Hypericum	perforatum	-	-	common St.John's-wort	el	ORRH	-	-	p	f?	-	-	UPL	-
Clusiaceae	Hypericum	prolificum	-	-		el	ORRH	-	-	n	r	-	-	FACU	-
Clusiaceae	Hypericum	punctatum	-	-	dotted St.John's-wort	el	ORRH, US, DU	-	-	n	f	-	-	FAC	-
Clusiaceae	Hypericum	sphaerocarpum	-	-		el	ORRH	-	-	n	vr?	-	-	FACU	-
Clusiaceae	Hypericum	stragalum	-	Ascyrum hypercoides		el	ORRH	-	-	n	o	-	-	FAC	-

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FAMILY	GENUS	SPECIES	VARIETY	SYNONYM	COMMON NAME	ORR FLORA ELIGIBILITY	PROOF	CONTAMINATED SPECIMEN	COMMENTS	TN NATIVE VS. EXOTIC	FREQUENCY (ORR)	TN STATUS	US STATUS	R2IND (WETLAND INDICATOR STATUS)	ORRIND
Amaryllidaceae	Hypoxis	hirsuta	-	-	yellow star grass	el	ORRH, US	-	-	n	f	-	-	FAC	-
Aquifoliaceae	Ilex	ambigua	var.ambigua	I. beadlei	Beadle's holly	el	ORRH	-	-	n	i	-	-	UPL	-
Aquifoliaceae	Ilex	opaca	-	-	American holly	el	ORRH	-	-	n	o	-	-	FAC-	-
Aquifoliaceae	Ilex	verticillata	-	-	winterberry	el	ORRH	-	-	n	vr	-	-	FACW	-
Balsaminaceae	Impatiens	capensis	-	-	orange jewelweed	el	ORRH, US, DU	-	-	n	f	-	-	FACW	-
Balsaminaceae	Impatiens	pallida	-	-	pale jewelweed	el	ORRH,ORRHv	c	-	n	o	-	-	FACW	-
Convolvulaceae	Ipomoea	coccinea	-	-	scarlet morning-glory	el	ORRH, US, DU	-	-	p	s	-	-	FAC	-
Convolvulaceae	Ipomoea	hederacea	-	-	ivy-leaved morning glory	el	ORRH	-	-	p	i	-	-	FAC-	-
Convolvulaceae	Ipomoea	lacunosa	-	-	small white morning-glory	el	ORRH	-	-	n	i	-	-	FAC+	-
Convolvulaceae	Ipomoea	pandurata	-	-	wild potato vine	el	ORRH, US, DU	-	-	n	f	-	-	FACU	-

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FAMILY	GENUS	SPECIES	VARIETY	SYNONYM	COMMON NAME	ORR FLORA ELIGIBILITY	PROOF	CONTAMINATED SPECIMEN	COMMENTS	TN NATIVE VS. EXOTIC	FREQUENCY (ORR)	TN STATUS	US STATUS	R2IND (WETLAND INDICATOR STATUS)	ORRIND
Convolvulaceae	Ipomoea	purpurea	-	-	purple morning-glory	el	ORRH	-	-	p	i	-	-	FACU	-
Iridaceae	Iris	cristata	-	-	crested dwarf iris	el	ORRH	-	-	n	f	-	-	UPL	-
Iridaceae	Iris	germanica*	-	-	German iris	ne	r	-	-	p	r	-	-	UPL	-
Iridaceae	Iris	pseudacorus	-	-	yellow European iris	el	ORRH	-	-	p	i	-	-	OBL	-
Iridaceae	Iris	virginica	-	-	blue flag	el	ORRH	-	-	n	r	-	-	OBL	-
Isoetaceae	Isoetes	caroliniana	-	-	Carolina quillwort	el	ORRH	-	-	n	s	-	-	?	OBL
Isoetaceae	Isoetes	engelmannii*	-	-	Engelmann's quillwort	id	ORRH	-	-	n	?	-	-	OBL	-
Orchidaceae	Isotria	verticillata	-	-	whorled pogonia	el	r	-	first record for the TN Ridge and Valley Province	n	r	-	-	FACU	-
Saxifragaceae	Itea	virginica	-	-	sweet-spire	el	ORRH	-	-	n	r	-	-	FACW+	-

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FAMILY	GENUS	SPECIES	VARIETY	SYNONYM	COMMON NAME	ORR FLORA ELIGIBILITY	PROOF	CONTAMINATED SPECIMEN	COMMENTS	TN NATIVE VS. EXOTIC	FREQUENCY (ORR)	TN STATUS	US STATUS	R2IND (WETLAND INDICATOR STATUS)	ORRIND
Asteraceae	Iva	annua	-	-	rough marsh-elder	el	ORRH	-	-	n	vr	-	-	FAC	-
Berberidaceae	Jeffersonia	diphylla	-	-	twin leaf	el	ORRH	-	-	n	i	-	-	UPL	-
Juglandaceae	Juglans	cinerea*	-	-	buttemut	id	ORRH	-	-	n	r	T	SpC	FACU-	-
Juglandaceae	Juglans	nigra	-	-	black walnut	el	ORRH, US	-	-	n	c	-	-	FACU	-
Juncaceae	Juncus	biflorus	-	-	rush	el	ORRH	-	-	n	o	-	-	FACW	-
Juncaceae	Juncus	brachycarpus	-	-	rush	el	ORRH	-	-	n	r	-	-	FACW	-
Juncaceae	Juncus	brachycephalus	-	-	rush	el	ORRH	-	-	n	r	S	-	OBL	-
Junaceae	Juncus	bufonius*	-	-	toad-rush	pl	-	-	-	n	?	'	'	FACW	-
Juncaceae	Juncus	coriaceus	-	-	rush	el	ORRH, US, DU	-	-	n	c	-	-	FACW	-
Juncaceae	Juncus	debilis	-	-	rush	el	TENN, ORRH, US	-	-	n	o	-	-	OBL	-
Juncaceae	Juncus	dudleyi	-	J. tenuis var. dudleyi	rush	el	ORRH	-	-	n	?	-	-	UPL	-
Juncaceae	Juncus	effusus	var. solutus	-	soft rush	el	ORRH, US, DU	-	-	n	f	-	-	FACW+	-

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FAMILY	GENUS	SPECIES	VARIETY	SYNONYM	COMMON NAME	ORR FLORA ELIGIBILITY	PROOF	CONTAMINATED SPECIMEN	COMMENTS	TN NATIVE VS. EXOTIC	FREQUENCY (ORR)	TN STATUS	US STATUS	R2IND (WETLAND INDICATOR STATUS)	ORRIND
Juncaceae	Juncus	interior	-	-	rush	el	ORRH	-	-	n	?	-	-	FACU	'
Juncaceae	Juncus	marginatus	-	-	rush	el	ORRH, US, DU	-	-	n	o	-	-	FACW	'
Juncaceae	Juncus	scirpoides	-	-	rush	el	ORRH	-	rare in E. TN	n	r	-	-	FACW+	'
Juncaceae	Juncus	secundus	-	-	rush	el	ORRH	-	rare in E. TN	n	i	-	-	FAC	'
Juncaceae	Juncus	tenuis	-	-	path rush	el	ORRH, US, DU	-	-	n	c	-	-	FAC	'
Cupressaceae	Juniperus	virginiana	-	-	red cedar	el	ORRH, US, DU	-	-	n	c	-	-	FACU-	'
Acanthaceae	Justicia	americana	-	-	water-willow	el	ORRH	-	-	n	s	-	-	OBL	'
Ericaceae	Kalmia	latifolia	-	-	moutain laurel	el	ORRH	-	-	n	c	-	-	FACU	'
Asteraceae	Krigia	biflora	-	-	dwarf dandelion	el	ORRH	-	-	n	o	-	-	FACU	'
Asteraceae	Krigia	virginica	-	-	Virginia dwarf dandelion	el	ORRHs, US	-	-	n	s	-	-	FACU-	'
Asteraceae	Kuhnia	eupatoriodes	-	Brickellia	false boneset	el	ORRH	-	-	n	o	-	-	UPL	'
Fabaceae	Kummerowia	stipulacea	-	Lespedeza	Korean bush-clover	el	ORRH,ORRHv	c	-	a	c	-	-	FACU-	'

FAMILY	GENUS	SPECIES	VARIETY	SYNONYM	COMMON NAME	ORR FLORA ELIGIBILITY	PROOF	CONTAMINATED SPECIMEN	COMMENTS	TN NATIVE VS. EXOTIC	FREQUENCY (ORR)	TN STATUS	US STATUS	R2IND (WETLAND INDICATOR STATUS)	ORRIND
Fabaceae	Kummerowia	striata	-	Lespedeza	Japanese clover	el	ORRH,ORRHv	c	-	a	c	-	-	FACU	'
Cyperaceae	Kyllinga	brevifoliodes	-	Cyperus		el	ORRH	-	* native according to Wofford and Kral (1993) (apparently in error)	p*	s	-	-	FACU	FACW
Cyperaceae	Kyllinga	pumila	-	C. tenuifolius		el	ORRH, US, DU	-	-	n	s	-	-	FACW	'
Asteraceae	Lactuca	canadensis	-	-	wild lettuce	el	ORRH, US	-	-	n	f?	-	-	FACU-	'
Asteraceae	Lactuca	floridana	-	-	woodland blue lettuce	el	TENN	-	-	n	f?	-	-	FACU	'
Asteraceae	Lactuca	saligna	-	-	willow-leaved lettuce	el	ORRH	-	-	?	f?	-	-	FACU	'
Asteraceae	Lactuca	serriola	-	-	prickly lettuce	el	ORRH	-	-	?	f?	-	-	FAC	'
Lamiaceae	Lamium	amplexicaule	-	-	henbit	el	ORRH	-	-	p	o	-	-	UPL	'
Lamiaceae	Lamium	purpureum	-	-	purple dead-nettle	el	ORRH	-	-	p	o	-	-	UPL	'

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FAMILY	GENUS	SPECIES	VARIETY	SYNONYM	COMMON NAME	ORR FLORA ELIGIBILITY	PROOF	CONTAMINATED SPECIMEN	COMMENTS	TN NATIVE VS. EXOTIC	FREQUENCY (ORR)	TN STATUS	US STATUS	R2IND (WETLAND INDICATOR STATUS)	ORRIND
Fabaceae	Lathyrus	latifolia	-	-	everlasting pea	el	ORRH	-	-	?	o	-	-	UPL	-
Cistaceae	Lechea	racemulosa	-	-	pinweed	el	ORRH	-	-	n	r	-	-	UPL	-
Poaceae	Leersia	oryzoides	-	-	rice cutgrass	el	ORRH, US, DU	-	-	n	o	-	-	OBL	-
Poaceae	Leersia	virginica	-	-	Virginia cutgrass	el	ORRH, US, DU,ORRHv	c	-	n	f	-	-	FACW	-
Lemnaceae	Lemna	minor	-	-	duckweed	el	ORRH	-	-	n	r	-	-	OBL	-
Lamiaceae	Leonurus	cardiaca	-	-	motherwort	el	ORRH	-	-	p	o	-	-	UPL	-
Brassicaceae	Lepidium	campestre	-	-	cow-cress	el	ORRH	-	-	p	o	-	-	UPL	-
Brassicaceae	Lepidium	virginicum	-	-	poor man's pepper	el	ORRH	-	-	n	o	-	-	FACU	-
Fabaceae	Lespedeza	bicolor	-	-	shrubby bushclover	el	ORRH	-	-	a	s	-	-	?	-
Fabaceae	Lespedeza	capitata	-	-	round-headed bush clover	el	ORRH	-	-	n	o	-	-	FACU	-
Fabaceae	Lespedeza	cuneata	-	-	cuneate bus-clover	el	ORRH, US, DU,ORRHv	c	-	a	f	-	-	NI	-

FAMILY	GENUS	SPECIES	VARIETY	SYNONYM	COMMON NAME	ORR FLORA ELIGIBILITY	PROOF	CONTAMINATED SPECIMEN	COMMENTS	TN NATIVE VS. EXOTIC	FREQUENCY (ORR)	TN STATUS	US STATUS	R2IND (WETLAND INDICATOR STATUS)	ORRIND
Fabaceae	Lespedeza	hirta	-	-	hairy bush-clover	el	ORRH	-	-	n	c	-	-	UPL	'
Fabaceae	Lespedeza	intermedia	-	-		el	US	-	-	n	s?	-	-	UPL	'
Fabaceae	Lespedeza	procumbens	-	-	low bush-clover	el	ORRH, US	-	-	n	f	-	-	UPL	'
Fabaceae	Lespedeza	repens	-	-	trailing bush-clover	el	ORRHv	c	-	n	f	-	-	UPL	'
Fabaceae	Lespedeza	violacea	-	-	bush-clover	el	ORRH, US	-	-	n	f	-	-	UPL	'
Fabaceae	Lespedeza	virginica	-	-	slender bush-clover	el	ORRH	-	-	n	o	-	-	UPL	'
Scrophulariaceae	Leucospora	multifida	-	-		el	ORRH	-	-	n	vr	-	-	OBL	'
Ericaceae	Leucothoe	fontanesiana	-	L. editorum	dog-hobble	el	ORRH	-	-	n	vr	-	-	FACW	upl
Asteraceae	Liatris	aspera	-	-	lacerate blazing star	el	ORRH	-	-	n	vr	-	-	UPL	'
Asteraceae	Liatris	cylindracea*	-	-	slender blazing-star	ot	TENN	-	-	n	?	E	'	UPL	'
Asteraceae	Liatris	spicata	-	-	sessile blazing star	el	ORRH	-	-	n	r	-	-	FACU	'

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FAMILY	GENUS	SPECIES	VARIETY	SYNONYM	COMMON NAME	ORR FLORA ELIGIBILITY	PROOF	CONTAMINATED SPECIMEN	COMMENTS	TN NATIVE VS. EXOTIC	FREQUENCY (ORR)	TN STATUS	US STATUS	R2IND (WETLAND INDICATOR STATUS)	ORRIND
Asteraceae	Liatris	squarrosa*	-	-	plains blazing star	ot	TENN	-	-	n	?	-	-	UPL	-
Oleaceae	Ligustrum	sinense	-	-	privet	el	ORRH	-	-	a	c	-	-	FAC	-
Oleaceae	Ligustrum	vulgare*	-	-	privet	id	TENN	-	-	a?	?	-	-	NI	-
Liliaceae	Lilium	canadense	-	-	Canada lily	el	P,ORRH	-	-	n	i	T	-	FAC	FAC+
Liliaceae	Lilium	michiganese*	-	-	Michigan lily	id	TENN	-	-	n	?	T	-	UPL	-
Scrophulariaceae	Linaria	canadensis			toadflax	OK	ORRH	-	-	n	vr	-	-	UPL	-
Scrophulariaceae	Linaria	vulgaris	-	-	butter-and-eggs	el	ORRH	-	-	p	?	-	-	UPL	-
Lauraceae	Lindera	benzoin	-	-	spicebush	el	ORRH,US,DU	-	-	n	c	-	-	FACW	-
Scrophulariaceae	Lindernia	dubia	-	-	false pimpernell	el	ORRH, US, DU,ORRHv	c	includes L. anagallidea	n	i	-	-	OBL	-
Linaceae	Linum	medium	var. texanum	-	common yellow fax	el	ORRH	-	-	n	o	-	-	FAC	-
Linaceae	Linum	striatum	-	-	ridgestem yellow flax	el	ORRH, US, DU	-	-	n	o	-	-	FACW-	-

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Linaceae	Linum	sulcatum	-	-	grooved yellow flax	el	ORRH	-	-	n	vr	-	-	UPL	'
Linaceae	Linum	virginianum	-	-	Virginia flax	el	ORRH	-	-	n	o	-	-	FAC+	'
Orchidaceae	Liparis	liliifolia	-	-	lily-leaved twayblade	el	ORRH	-	-	n	i	-	-	FACU	'
Orchidaceae	Liparis	loeselii	-	-	fen orchid	el	P	-	-	n	vr	E	-	FACW-	OBL
Magnoliaceae	Liriodendron	tulipifera	-	-	tulliptree	el	ORRH, US	-	-	n	c	-	-	FAC	'
Boraginaceae	Lithospermum	canescens	-	-	orange puccoon	el	TENN, ORRH, US, DU	-	-	n	o	-	-	UPL	'
Campanulaceae	Lobelia	cardinalis	-	-	cardinal flower	el	ORRH, US, DU	-	-	n	f	-	-	FACW+	OBL
Campanulaceae	Lobelia	inflata	-	-	Indian tobacco	el	ORRH, US, DU	-	-	n	c	-	-	FAC	'
Campanulaceae	Lobelia	puberula	-	-	downy lobelia	el	ORRH	-	-	n	f	-	-	FACW-	'
Campanulaceae	Lobelia	siphilitica	-	-	great lobelia	el	TENN, US, DU, ORRHv	c	-	n	o	-	-	OBL	'

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FAMILY	GENUS	SPECIES	VARIETY	SYNONYM	COMMON NAME	ORR FLORA ELIGIBILITY	PROOF	CONTAMINATED SPECIMEN	COMMENTS	TN NATIVE VS. EXOTIC	FREQUENCY (ORR)	TN STATUS	US STATUS	R2IND (WETLAND INDICATOR STATUS)	ORRIND
Campanulaceae	Lobelia	spicata	-	-	lobelia	el	ORRH, US, DU	-	-	n	o	-	-	FAC	-
Poaceae	Lolium	multiflorum	-	-	Italian ryegrass	el	ORRH	-	-	p	o	-	-	UPL	-
Poaceae	Lolium	perenne	-	-	perennial ryegrass	el	ORRH	-	-	p	o	-	-	FACU	-
Caprifoliaceae	Lonicera	japonica	-	-	Japanese honeysuckle	el	ORRH	-	-	a	c	-	-	FAC-	-
Caprifoliaceae	Lonicera	maackii	-	-		el	ORRH	-	-	p	s	-	-	UPL	-
Fabaceae	Lotus	corniculatus	-	-	birdfoot trefoil	el	ORRH	-	-	p	r	-	-	FACU	-
Onagraceae	Ludwigia	alternifolia	-	-	alternate-leaved seedbox	el	ORRH, US, DU,ORRHv	c	-	n	o	-	-	OBL	-
Onagraceae	Ludwigia	decurrens	-	-	decurrent seedbox	el	ORRH, US, DU	-	-	n	o	-	-	OBL	-
Onagraceae	Ludwigia	palustris	-	-	water-purslane	el	ORRH	-	-	n	o	-	-	OBL	-
Juncaceae	Luzula	acuminata	-	-	wood-rush	el	TENN, US	-	-	n	o?	-	-	FAC-	-
Juncaceae	Luzula	bulbosa	-	-	wood-rush	el	ORRH	-	-	n	s?	-	-	FACU	-

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FAMILY	GENUS	SPECIES	VARIETY	SYNONYM	COMMON NAME	ORR FLORA ELIGIBILITY	PROOF	CONTAMINATED SPECIMEN	COMMENTS	TN NATIVE VS. EXOTIC	FREQUENCY (ORR)	TN STATUS	US STATUS	R2IND (WETLAND INDICATOR STATUS)	ORRIND
Juncaceae	Luzula	echinata	-	-	wood-rush	el	TENN, US, DU	-	-	n	o?	-	-	FAC	'
Juncaceae	Luzula	multiflora	-	-	wood-rush	el	ORRH	-	-	n	o?	-	-	FACU-	'
Lycopodiaceae	Lycopodium	obscurum	-	-	treelike clubmoss	el	ORRH	-	-	n	s	-	-	FACU-	'
Lamiaceae	Lycopus	americanus	-	-	American bugleweed	el	ORRH, US, DU,ORRHv	c	-	n	o?	-	-	OBL	'
Lamiaceae	Lycopus	rubellus*	-	-	stalked bugle-weed	pl	-	-	-	n	?	'	'	OBL	'
Lamiaceae	Lycopus	virginicus	-	-	Virginia water-horehound	el	ORRH	-	-	n	o?	-	-	OBL	'
Schizaeaceae	Lygodium	palmatum	-	-	climbing fern	el	ORRH	-	-	n	i	-	-	FACW-	'
Ericaceae	Lyonia	ligustrina	-	-	maleberry	el	ORRH	-	-	n	s	-	-	FACW	'
Primulaceae	Lysimachia	ciliata	-	-	fringed loosestrife	el	ORRH	-	-	n	?	-	-	FACW-	'
Primulaceae	Lysimachia	lanceolata	-	-	lance-leaved loosestrife	el	ORRH	-	-	n	o	-	-	FAC	'
Primulaceae	Lysimachia	nummularia	-	-	moneywort	el	ORRH	-	-	?	i	-	-	FACW+	'

ORR Vascular Flora Database

FAMILY	GENUS	SPECIES	VARIETY	SYNONYM	COMMON NAME	ORR FLORA ELIGIBILITY	PROOF	CONTAMINATED SPECIMEN	COMMENTS	TN NATIVE VS. EXOTIC	FREQUENCY (ORR)	TN STATUS	US STATUS	R2IND (WETLAND INDICATOR STATUS)	ORRIND
Primulaceae	Lysimachia	quadrifolia	-	-	smooth loosestrife	el	ORRH	-	-	n	i	-	-	FACU	-
Primulaceae	Lysimachia	tonsa	-	-	Appalachian loosestrife	el	ORRH	-	-	n	s?	-	-	UPL	-
Lythraceae	Lythrum	alatum	-	-	winged loosestrife	el	ORRH	-	-	n	vr	-	-	FACW+	-
Lythraceae	Lythrum	salicaria	-	-	purple loosestrife	el	ORRH	-	-	a	r	-	-	OBL	-
Moraceae	Maclura	pomifera	-	-	Osage-orange	el	ORRH	-	-	p	r	-	-	FACU	-
Magnoliaceae	Magnolia	acuminata	-	-	cucumber-tree	el	ORRH	-	-	n	i	-	-	UPL	-
Magnoliaceae	Magnolia	tripetala	-	-	umbrella magnolia	el	ORRH, US	-	-	n	o	-	-	FAC	-
Berberidaceae	Mahonia	bealei	-	-	Oregon grape	el	ORRH	-	not in Wofford and Kral (1993); nomenclature Radford et al 1968	a?	i	-	-	UPL	-
Orchidaceae	Malaxis	unifolia	-	-	adder's mouth	el	ORRH	-	-	n	s	-	-	FAC+	-

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FAMILY	GENUS	SPECIES	VARIETY	SYNONYM	COMMON NAME	ORR FLORA ELIGIBILITY	PROOF	CONTAMINATED SPECIMEN	COMMENTS	TN NATIVE VS. EXOTIC	FREQUENCY (ORR)	TN STATUS	US STATUS	R2IND (WETLAND INDICATOR STATUS)	ORRIND
Rosaceae	Malus	pumila*	-	-	apple	ne	TENN	-	-	p	s	'	'	UPL	'
Malvaceae	Malvastrum	hispidum*	-	Sphaeralcea angusta		id	-	-	flowers not seen	n	vr?	'	3C	UPL	'
Agavaceae	Manfreda	virginica	-	Agave	false aloe	el	ORRH	-	-	n	o	-	-	UPL	'
Asclepiadaceae	Matelea	gonocarpa	-	Gonolobus	climbing milkweed	el	ORRH	-	-	n	o	-	-	UPL	'
Scrophulariaceae	Mecardonia	acuminata	-	-		el	TENN, US, DU	-	-	n	r	-	-	FACW	'
Liliaceae	Medeola	virginiana	-	-	Indian cucumber	el	ORRH	-	-	n	s	-	-	UPL	'
Fabaceae	Medicago	lupulina	-	-	black medick	el	ORRH	-	-	p	f	-	-	FACU	'
Fabaceae	Medicago	sativa*	-	-	alfalfa	pl	-	-	-	p?	?	'	'	?	'
Poaceae	Melica	mutica	-	-	melica grass	el	ORRH, US, DU	-	-	n	o	-	-	UPL	'
Fabaceae	Melilotus	alba	-	-	white sweet-clover	el	ORRH, US	-	-	p	f	-	-	FACU-	'
Fabaceae	Melilotus	officinalis	-	-	yellow sweet-clover	el	ORRH, US	-	-	p	f	-	-	FACU-	'

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FAMILY	GENUS	SPECIES	VARIETY	SYNONYM	COMMON NAME	ORR FLORA ELIGIBILITY	PROOF	CONTAMINATED SPECIMEN	COMMENTS	TN NATIVE VS. EXOTIC	FREQUENCY (ORR)	TN STATUS	US STATUS	R2IND (WETLAND INDICATOR STATUS)	ORRIND
Menispermaceae	Menispermum	canadense	-	-	moonseed	el	ORRH	-	-	n	i	-	-	NI	-
Lamiaceae	Mentha	spicata	-	-	spearmint	el	ORRH	-	-	a	s	-	-	FACW+	-
Lamiaceae	Mentha	x piperita	-	-	peppermint	el	ORRH	-	-	a	s	-	-	FACW	-
Poaceae	Microstegium	vimineum	-	Eulalia viminea	Nepal grass	el	ORRH,ORRHv	c	-	a	c	-	-	FAC+	-
Scrophulariaceae	Mimulus	alatus	-	-	winged monkey flower	el	ORRH, US, DU,ORRHv	c	-	n	o	-	-	OBL	-
Scrophulariaceae	Mimulus	ringens	-	-	monkey flower	el	ORRH,ORRHv	c	-	n	i	-	-	OBL	-
Rubiaceae	Mitchella	repens	-	-	partridgeberry	el	ORRH	-	-	n	o	-	-	FACU+	-
Saxifragaceae	Mitella	diphylla	-	-	bishop's cap	el	ORRH	-	-	n	i	-	-	FACU-	-
Molluginaceae	Mollugo	verticillata	-	-	carpet-weed	el	ORRH	-	-	p	o	-	-	FAC	-
Lamiaceae	Monarda	didyma	-	-	bee-balm	el	ORRH	-	escape?	n	vr	-	-	FAC	-
Lamiaceae	Monarda	fistulosa	-	-	wild bergamot	el	ORRH, US, DU	-	-	n	o	-	-	FACU-	-
Ericaceae	Monotropa	hypopithys	-	-	pine-sap	el	ORRH	-	-	n	i	-	-	UPL	-
Ericaceae	Monotropa	uniflora	-	-	Indian pipe	el	TENN, US	-	-	n	f	-	-	FACU-	-
Moraceae	Morus	rubra	-	-	red mulberry	el	ORRH	-	-	n	o	-	-	FAC	-

FAMILY	GENUS	SPECIES	VARIETY	SYNONYM	COMMON NAME	ORR FLORA ELIGIBILITY	PROOF	CONTAMINATED SPECIMEN	COMMENTS	TN NATIVE VS. EXOTIC	FREQUENCY (ORR)	TN STATUS	US STATUS	R2IND (WETLAND INDICATOR STATUS)	ORRIND
Lamiaceae	Mosla	dianthera	-	-		el	ORRH	-	-	p	vr	-	-	NO	FAC
Poaceae	Muhlenbergia	frondosa	-	-	muhly	el	TENN	-	-	n	r?	-	-	FAC+	'
Poaceae	Muhlenbergia	schreberi	-	-	nimblewill	el	ORRH,ORRHv	c	-	n	o	-	-	FAC	'
Poaceae	Muhlenbergia	sylvatica	-	-	woodland muhly	el	ORRH	-	-	n	r	-	-	FACW	FACU
Poaceae	Muhlenbergia	tenuiflora	-	-	muhly	el	ORRH	-	Wofford and Kral (1993) has M. tenuifolia apparently in error; nomenclature Gleason and Cronquist (1991)	n	s?	-	-	UPL	'
Commelinaceae	Murdannia	keisak	-	Aneilema		el	ORRH	-	-	a	r	-	-	OBL	'

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FAMILY	GENUS	SPECIES	VARIETY	SYNONYM	COMMON NAME	ORR FLORA ELIGIBILITY	PROOF	CONTAMINATED SPECIMEN	COMMENTS	TN NATIVE VS. EXOTIC	FREQUENCY (ORR)	TN STATUS	US STATUS	R2IND (WETLAND INDICATOR STATUS)	ORRIND
Boraginaceae	Myosotis	macrosperma	-	-	large-seeded forget me-not	el	ORRH	-	-	n	vr?	-	-	FAC	'
Boraginaceae	Myosotis	verna	-	-	early forget-me-not	el	ORRH	-	-	n	vr?	-	-	FAC-	'
Ranunculaceae	Myosurus	minimus	-	-	mouse-tail	el	ORRH	-	-	n	r	-	-	FACW-	'
Haloragaceae	Myriophyllum	spicatum	-	-	European water-milfoil	el	ORRH	-	not in Wofford and Kral (1993); nomenclature Gleason and Kral (1991)	a	c	-	-	OBL	'
Najadaceae	Najas	gracillima*	-	-	slender water-nymph	pl	TENN	-	-	n	?	'	'	OBL	'
Najadaceae	Najas	guadalupensis	-	-	southern water-nymph	el	ORRH	-	extirpated?	n	vr	-	-	OBL	'
Liliaceae	Narcissus	pseudonarcissus*	-	-	daffodil	pl	-	-	-	p	?	'	'	?	'
Brassicaceae	Nasturtium	officinale	-	-	watercress	el	ORRH, US	-	-	a	f	-	-	OBL	'

FAMILY	GENUS	SPECIES	VARIETY	SYNONYM	COMMON NAME	ORR FLORA ELIGIBILITY	PROOF	CONTAMINATED SPECIMEN	COMMENTS	TN NATIVE VS. EXOTIC	FREQUENCY (ORR)	TN STATUS	US STATUS	R2IND (WETLAND INDICATOR STATUS)	ORR1ND
Solanaceae	Nicandra	physalodes	-	-	apple-of-Peru	el	ORRH	-	-	p	i	-	-	UPL	'
Nyssaceae	Nyssa	sylvatica	-	-	black gum	el	ORRH, US, DU	-	-	n	c	-	-	FAC	'
Gentianaceae	Obolaria	virginica	-	-	pennywort	el	ORRH, US, DU	-	-	n	f	-	-	UPL	'
Onagraceae	Oenothera	biennis	-	-	evening primrose	el	ORRHv, US, DU	c	-	n	f	-	-	FACU	'
Onagraceae	Oenothera	fruticosa	-	-	sundrops	el	ORRH	-	-	n	r?	-	-	FACU	'
Onagraceae	Oenothera	laciniata	-	-	cut-leaved primrose	el	ORRH	-	-	n	r	-	-	FACU	'
Woodsiaceae	Onoclea	sensibilis	-	-	sensitive fern	el	ORRH, US, DU	-	-	n	i	-	-	FACW	'
Ophioglossaceae	Ophioglossum	engelmannii	-	-	limestone adder's tongue fern	el	ORRH	-	-	n	r	-	-	FACU	'
Ophioglossaceae	Ophioglossum	pycnostichium	-	-	southeastern adder's tongue fern	el	ORRH	-	-	n	i	-	-	FACW	'

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FAMILY	GENUS	SPECIES	VARIETY	SYNONYM	COMMON NAME	ORR FLORA ELIGIBILITY	PROOF	CONTAMINATED SPECIMEN	COMMENTS	TN NATIVE VS. EXOTIC	FREQUENCY (ORR)	TN STATUS	US STATUS	R2IND (WETLAND INDICATOR STATUS)	ORRIND
Cactaceae	Opuntia	humifusa	-	-	prickly pear cactus	el	ORRH	-	-	n	r	-	-	UPL	-
Fabaceae	Orbexilum	onobrychis	-	Psoralea	tall psoralea	el	ORRH	-	-	n	s	-	-	UPL	-
Fabaceae	Orbexilum	pedunculatum	-	Psoralea psoraliodes	Sampson's snakeroot	el	ORRH	-	-	n	vr	-	-	FACU-	-
Liliaceae	Ornithogalum	umbellatum	-	-	star of Bethlehem	el	ORRH	-	-	p	r	-	-	FACU+	-
Orobanchaceae	Orobanche	uniflora	-	-	one-flowered cancer-root	el	r	-	-	n	vr	-	-	FACU	-
Araceae	Orontium	aquaticum	-	-	golden club	el	r	-	-	n	vr	-	-	OBL	-
Apiaceae	Osmorhiza	claytonii	-	-	bland sweet cicely	el	ORRH	-	-	n	vr	-	-	FAC-	-
Apiaceae	Osmorhiza	longistylis	-	-	long styled sweet cicely	el	ORRH	-	-	n	vr	-	-	FAC	-
Osmundaceae	Osmunda	cinnamomea	-	-	cinnamon fern	el	ORRH	-	-	n	i	-	-	FACW+	-
Osmundaceae	Osmunda	regalis	var. spectabilis	-	royal fern	el	ORRH	-	-	n	i	-	-	OBL	-
Betulaceae	Ostrya	virginiana	-	-	hop-hornbeam	el	ORRH	-	-	n	o	-	-	FACU-	-

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Oxalidaceae	Oxalis	grandis	-	-	large wood sorrel	el	ORRH	-	-	n	r	-	-	UPL	'
Oxalidaceae	Oxalis	stricta	-	O. dellenii	wood sorrel	el	ORRH, US, DU,ORRHv	c	-	n	?	-	-	UPL	'
Oxalidaceae	Oxalis	violacea	-	-	wood sorrel	el	ORRH, US	-	-	n	o	-	-	UPL	'
Ericaceae	Oxydendrum	arboreum	-	-	sourwood	el	ORRH,US,DU	-	-	n	f	-	-	NI	'
Apiaceae	Oxypolis	rigidior	-	-	cowbane	el	ORRH	-	-	n	i	-	-	OBL	'
Buxaceae	Pachysandra	procumbens	-	-	Allegheny-spurge	el	ORRH	-	-	n	r	-	-	UPL	'
Araliaceae	Panax	quinquefolius	-	-	ginseng	el	ORRH	-	-	n	i	T	3C	UPL	'
Poaceae	Panicum	acuminatum	var. lindheimeri	-	panic grass	el	ORRH	-	-	n	?	-	-	UPL	'
Poaceae	Panicum	acuminatum	var. unciphylum	-	panic grass	el	ORRH	-	-	n	?	-	-	UPL	'
Poaceae	Panicum	anceps	-	-	panic grass	el	ORRH, US	-	-	n	?	-	-	FAC-	'
Poaceae	Panicum	angustifolium	-	-	panic grass	el	ORRH	-	-	n	?	-	-	UPL	'

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Poaceae	Panicum	boscii	-	-	panic grass	el	ORRH, US, DU	-	-	n	?	-	-	UPL	-
Poaceae	Panicum	capillare	-	-	panic grass	el	ORRH,ORRHv	c	-	n	?	-	-	FAC	-
Poaceae	Panicum	clandestinium	-	-	panic grass	el	ORRH,ORRHv	c	-	n	?	-	-	UPL	-
Poaceae	Panicum	commutatum	-	-	panic grass	el	ORRH, US, DU	-	-	n	?	-	-	UPL	-
Poaceae	Panicum	depauperatum	-	-	panic grass	el	ORRH	-	-	n	?	-	-	UPL	-
Poaceae	Panicum	dichotomiflorum	-	-	panic grass	el	ORRH, US,ORRHv	c	-	n	?	-	-	FACW	-
Poaceae	Panicum	dichotomum	-	-	panic grass	el	ORRH	-	-	n	?	-	-	UPL	-
Poaceae	Panicum	flexile	-	-	panic grass	el	ORRH	-	-	n	?	-	-	FAC+	-
Poaceae	Panicum	lanuginosum*	-	-	panic grass	tax	ORRH, US	-	-	n	?	-	-	UPL	-
Poaceae	Panicum	laxiflorum	-	-	panic grass	el	ORRH	-	-	n	?	-	-	UPL	-
Poaceae	Panicum	microcarpon	-	-	panic grass	el	ORRH, US, DU	-	-	n	?	-	-	UPL	-
Poaceae	Panicum	ovale	-	-	panic grass	el	ORRH	-	-	n	?	-	-	UPL	-

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Poaceae	Panicum	philadelphicum *	-	-	panic grass	tax	ORRH, US, DU	-	-	n	?	'	'	UPL	'
Poaceae	Panicum	polyanthes	-	-	panic grass	el	ORRH, US	-	-	n	?	-	-	UPL	'
Poaceae	Panicum	rigidulum	var. elongatum	P. stipatum	panic grass	el	ORRH	-	-	n	?	-	-	FACW	'
Poaceae	Panicum	scoparium	-	-	panic grass	el	TENN	-	-	n	?	-	-	UPL	'
Poaceae	Panicum	sphaerocarpon	-	-	panic grass	el	ORRH	-	-	n	?	-	-	UPL	'
Poaceae	Panicum	virgatum	-	-	panic grass	el	ORRH	-	-	n	?	-	-	FAC+	'
Caryophyllaceae	Paronychia	fastigiata	-	-	forked chickweed	el	TENN	-	-	n	f?	-	-	UPL	'
Asteraceae	Parthenium	integrifolium	-	-	wild quinine	el	ORRH	-	-	n	o	-	-	UPL	'
Vitaceae	Parthenocissus	quinquefolia	-	-	Virginia creeper	el	ORRH	-	-	n	c	-	-	FAC	'
Poaceae	Paspalum	boscianum	-	-		el	TENN, US, DU	-	-	n	?	-	-	FACW	'
Poaceae	Paspalum	dilatatum	-	-		el	ORRH, US	-	-	p	?	-	-	FAC+	'
Poaceae	Paspalum	laeve	-	-		el	ORRH, US	-	-	n	?	-	-	FACW-	'

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Poaceae	Paspalum	pubiflorum	var. glabrum	-		el	ORRH	-	-	n	?	-	-	FACW	'
Poaceae	Paspalum	setaceum	var. ciliatifolium	-		el	ORRH	-	-	n	?	-	-	FAC	'
Poaceae	Paspalum	setaceum	var. muhlenbergii	-		el	ORRH	-	-	n	?	-	-	FAC	'
Passifloraceae	Passiflora	incamata	-	P. edulis	purple passion flower	el	ORRH	-	-	n	i	-	-	FACU	'
Passifloraceae	Passiflora	lutea	-	-	yellow passion flower	el	ORRH	-	-	n	i	-	-	UPL	'
Scrophulariaceae	Paulownia	tomentosa	-	-	princess-tree	el	ORRH	-	-	a?	o	-	-	FACU	'
Scophulariaceae	Pedicularis	canadensis*	-	-	slender lousewort	pl	-	-	-	n	?	'	'	FACU+	'
Sinopteridaceae	Pellaea	atropurpurea	-	-	purple-stemmed cliffbrake	el	ORRH, US	-	-	n	i	-	-	UPL	'

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Sinopteridaceae	Pellaea	glabella	-	-	smooth cliffbrake	el	TENN	-	-	n	r?	-	-	UPL	'
Scrophulariaceae	Penstemon	canescens	-	-	hairy beard-tongue	el	ORRH	-	-	n	?	-	-	UPL	'
Scrophulariaceae	Penstemon	digitalis	-	-	large-flowered beard-tongue	el	ORRH	-	-	n	?	-	-	FAC	'
Scrophulariaceae	Penstemon	laevigatus	-	-	smooth beard-tongue	el	ORRH, US, DU	-	-	n	o	-	-	FAC	'
Scrophulariaceae	Penstemon	pallidus	-	-	eastern white beard tongue	el	ORRH	-	-	n	?	-	-	FACU	'
Saxifragaceae	Penthorum	sedoides	-	-	ditch stone-crop	el	ORRH, US, DU,ORRHv	c	-	n	i	-	-	OBL	'
Lamiaceae	Perilla	frutescens	-	-	beefsteak plant	el	ORRH	-	-	p	o	-	-	FAC	'
Hydrophyllaceae	Phacelia	bipinnatifida	-	-	purple phacelia	el	ORRH	-	-	n	r	-	-	UPL	'
Hydrophyllaceae	Phacelia	purshii	-	-	Pursh's purple phacelia	el	ORRH	-	-	n	vr?	-	-	UPL	'

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Poaceae	Phalaris	arundinacea	-	-	reed canary grass	el	ORRH	-	could be exotic var.	n	r	-	-	OBL	-
Fabaceae	Phaseolus	polystachyus	-	-	wild bean	el	ORRH	-	-	n	r	-	-	UPL	-
Saxifragaceae	Philadelphus	hirsutus	-	-	hairy mock-orange	el	TENN	-	-	n	i?	-	-	UPL	-
Saxifragaceae	Philadelphus	inodorus	-	-	mock-orange	el	ORRH	-	-	n	I?	-	-	UPL	-
Poaceae	Phleum	pratense	-	-	common timothy	el	ORRH, US, DU	-	-	p	o	-	-	FACU	-
Polemoniaceae	Phlox	amoena	-	-	hairy phlox	el	TENN, ORRH, US, DU	-	-	n	s	-	-	UPL	-
Polemoniaceae	Phlox	amplifolia	-	-	wide-leaved phlox	el	ORRH	-	-	n	s?	-	-	UPL	-
Polemoniaceae	Phlox	divaricata	-	-	forest phlox	el	ORRH, US, DU	-	-	n	o	-	-	FACU-	-
Polemoniaceae	Phlox	glaberrima	-	P. carolina	smooth phlox	el	ORRH	-	-	n	?	-	-	FAC+	-
Polemoniaceae	Phlox	maculata	-	-	meadow phlox	el	ORRH, US, DU	-	-	n	?	-	-	FAC	-
Polemoniaceae	Phlox	paniculata	-	-	summer phlox	el	ORRH	-	-	n	?	-	-	FACU	-

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FAMILY	GENUS	SPECIES	VARIETY	SYNONYM	COMMON NAME	ORR FLORA ELIGIBILITY	PROOF	CONTAMINATED SPECIMEN	COMMENTS	TN NATIVE VS. EXOTIC	FREQUENCY (ORR)	TN STATUS	US STATUS	R2IND (WETLAND INDICATOR STATUS)	ORRIND
Polemoniaceae	Phlox	pilosa*	-	-	prairie phlox	ot	TENN	-	-	n	?	'	'	FACU+	'
Polemoniaceae	Phlox	stolonifera	-	-	crawling phlox	el	r	-	-	n	vr	-	-	?	FACW
Viscaceae	Phoradendron	leucarpum	-	-	mistletoe	el	r	-	-	n	?	-	-	UPL	'
Phrymaceae	Phryma	leptostachya	-	-	lopseed	el	ORRH, US, DU	-	-	n	f	-	-	FACU	'
Verbenaceae	Phyla	lanceolata	-	Lippia	fog-fruit	el	ORRH, US, DU	-	-	n	s	-	-	FACW+	'
Euphorbiaceae	Phyllanthus	caroliniensis	-	-	phyllanthus	el	TENN, US	-	-	n	o?	-	-	FAC+	'
Solanaceae	Physalis	longifolia	var. subglabrata	-	downy ground-cherry	el	ORRH	-	-	n	?	-	-	UPL	'
Solanaceae	Physalis	pubescens	var. integrifolia	-	hairy ground-cherry	el	ORRH	-	-	n	?	-	-	UPL	'
Solanaceae	Physalis	virginiana	-	-	Virginia ground-cherry	el	ORRH	-	-	n	?	-	-	UPL	'

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FAMILY	GENUS	SPECIES	VARIETY	SYNONYM	COMMON NAME	ORR FLORA ELIGIBILITY	PROOF	CONTAMINATED SPECIMEN	COMMENTS	TN NATIVE VS. EXOTIC	FREQUENCY (ORR)	TN STATUS	US STATUS	R2IND (WETLAND INDICATOR STATUS)	ORRIND
Lamiaceae	Physostegia	virginiana	-	-	false dragonhead	el	ORRH	-	-	n	i	-	-	FACW	'
Phytolaccaceae	Phytolacca	americana	-	-	pokeweed	el	ORRH, US, DU,ORRHv	c	-	n	o	-	-	FACU+	'
Uticaceae	Pilea	pumila	-	-	clearweed	el	ORRHv	c	-	n	i	-	-	FACW	'
Pinaceae	Pinus	echinata	-	-	short-leaf pine	el	ORRH, US, DU	-	-	n	f	-	-	UPL	'
Pinaceae	Pinus	strobus	-	-	white pine	el	ORRH, US, DU	-	-	n	o	-	-	FACU	'
Pinaceae	Pinus	taeda	-	-	loblloly pine	el	ORRH	-	commonly planted, some spreading	n	i?	-	-	FAC	'
Pinaceae	Pinus	virginiana	-	-	scrub pine	el	ORRH, US, DU	-	-	n	c	-	-	UPL	'
Plantaginaceae	Plantago	aristata	-	-	plantain	el	ORRH, US	-	-	n	o	-	-	UPL	'
Plantaginaceae	Plantago	lanceolata	-	-	plantain	el	ORRH, US, DU	-	-	a?	o	-	-	FAC	'
Plantaginaceae	Plantago	pusilla	-	-	small plantain	el	ORRH	-	-	n	o	-	-	FACU	'

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Plantaginaceae	Plantago	rugelii	-	-	plantain	el	ORRH	-	-	n	o	-	-	FAC	'
Plantaginaceae	Plantago	virginica	-	-	plantain	el	ORRH	-	-	n	o	-	-	FACU-	'
Orchidaceae	Platanthera	clavellata	-	Habenaria	green woodland orchid	el	ORRH	-	-	n	i	-	-	OBL	'
Orchidaceae	Platanthera	flava	var. herbiola	Habenaria	northern tubercled orchid	el	ORRH	-	-	n	s	T	3C	FACW	'
Orchidaceae	Platanthera	lacera	-	Habenaria	green-fringed orchid	el	ORRH	-	-	n	r	-	-	FACW	'
Orchidaceae	Platanthera	peramoena	-	Habenaria	purple-fringeless orchid	el	P	-	-	n	s	T	3C	FACW	'
Asteraceae	Pluchea	camphorata	-	-	camphorweed	el	ORRH	-	-	n	vr	-	-	FACW	'
Poaceae	Poa	alsodes	-	-		el	ORRH	-	-	n	vr	-	-	?	'
Poaceae	Poa	annua	-	-	annual bluegrass	el	ORRH	-	-	p	f	-	-	FAC	'
Poaceae	Poa	autumnalis	-	-	autumn bluegrass	el	ORRH, US, DU	-	-	n	o	-	-	FACW-	'

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FAMILY	GENUS	SPECIES	VARIETY	SYNONYM	COMMON NAME	ORR FLORA ELIGIBILITY	PROOF	CONTAMINATED SPECIMEN	COMMENTS	TN NATIVE VS. EXOTIC	FREQUENCY (ORR)	TN STATUS	US STATUS	R2IND (WETLAND INDICATOR STATUS)	ORRIND
Poaceae	Poa	compressa	-	-	bluegrass	el	ORRH	-	-	p	i	-	-	FACU-	'
Poaceae	Poa	cuspidata	-	-	woodland bluegrass	el	TENN	-	-	n	s	-	-	UPL	'
Poaceae	Poa	pratensis	-	-	Junegrass	el	ORRH	-	-	a?	f	-	-	FACU+	'
Poaceae	Poa	sylvestris	-	-	woodland bluegrass	el	ORRH	-	-	n	s	-	-	FAC+	'
Berberidaceae	Podophyllum	peltatum	-	-	may-apple	el	ORRH, US, DU	-	-	n	f	-	-	FACU	'
Polemoniaceae	Polemonium	reptans	-	-	spreading Jacob's ladder	el	ORRH	-	-	n	i	-	-	FAC	'
Polygalaceae	Polygala	curtissii	-	-	Curtiss' milkwort	el	ORRH	-	-	n	o	-	-	UPL	'
Polygalaceae	Polygala	incarnata	-	-	pink milkwort	el	ORRH	-	-	n	vr	-	-	FAC-	'
Polygalaceae	Polygala	sanguinea	-	-	blood-milkwort	el	ORRH	-	-	n	?	-	-	FAC-	'
Polygalaceae	Polygala	senega	-	-	Seneca-snakeroot	el	ORRH	-	-	n	r?	-	-	FACU	'
Polygalaceae	Polygala	verticillata	var. ambigua	-	loose milkwort	el	ORRH	-	-	n	o	-	-	UPL	'

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FAMILY	GENUS	SPECIES	VARIETY	SYNONYM	COMMON NAME	ORR FLORA ELIGIBILITY	PROOF	CONTAMINATED SPECIMEN	COMMENTS	TN NATIVE VS. EXOTIC	FREQUENCY (ORR)	TN STATUS	US STATUS	R2IND (WETLAND INDICATOR STATUS)	ORRIND
Polygalaceae	Polygala	verticillata	var. verticillata	-	whorled milkwort	el	ORRH	-	-	n	o	-	-	UPL	'
Liliaceae	Polygonatum	biflorum	-	-	smooth Solomon's seal	el	ORRH, US, DU	-	-	n	i	-	-	FAC-	'
Polygonaceae	Polygonum	cespitosum	-	-	smartweed	el	ORRH	-	-	?	?	-	-	FACW-	'
Polygonaceae	Polygonum	cuspidatum	-	-	Japanese knotweed	el	ORRH	-	-	p?	s	-	-	UPL	'
Polygonaceae	Polygonum	hydropiper	-	-	water-pepper	el	ORRH	-	-	?	?	-	-	OBL	'
Polygonaceae	Polygonum	hydropiperoides	-	-	water smartweed	el	ORRH, US, DU,ORRHv	c	-	n	?	-	-	OBL	'
Polygonaceae	Polygonum	lapathifolium	-	-	smartweed	el	ORRH, US, DU	-	-	n	?	-	-	FACW	'
Polygonaceae	Polygonum	pensylvanicum	-	-	smartweed	el	ORRH, US,ORRHv	c	-	n	?	-	-	FACW	'
Polygonaceae	Polygonum	persicaria	-	-	smartweed	el	ORRH,ORRHv	c	-	a?	?	-	-	FACW	'
Polygonaceae	Polygonum	punctatum	-	-	smartweed	el	ORRH, TENN	-	-	n	?	-	-	FACW+	'

FAMILY	GENUS	SPECIES	VARIETY	SYNONYM	COMMON NAME	ORR FLORA ELIGIBILITY	PROOF	CONTAMINATED SPECIMEN	COMMENTS	TN NATIVE VS. EXOTIC	FREQUENCY (ORR)	TN STATUS	US STATUS	R2IND (WETLAND INDICATOR STATUS)	ORRIND
Polygonaceae	Polygonum	sagittatum	-	-	teartumb	el	ORRH	-	-	n	i	-	-	OBL	'
Polygonaceae	Polygonum	scandens	-	-	climbing buckwheat	el	ORRH	-	-	n	o	-	-	FAC-	'
Polygonaceae	Polygonum	virginianum	-	-	Virginia knotweed	el	ORRH	-	-	n	o	-	-	FAC	'
Asteraceae	Polymnia	canadensis	-	-	leaf-cup	el	ORRH	-	-	n	f	-	-	UPL	'
Asteraceae	Polymnia	uvedalia	-	-	bear's foot	el	ORRH	-	-	n	f	-	-	UPL	'
Polypodiaceae	Polypodium	polypodioides	-	-	resurrection fern	el	ORRH	-	-	n	c	-	-	UPL	'
Polypodiaceae	Polypodium	virginianum	-	-	rock polypody fern	el	ORRH	-	here including P. appalachianum	n	vr	-	-	UPL	'
Loganiaceae	Polypremum	procumbens	-	-		el	ORRH	-	-	n	s?	-	-	FACU-	FAC
Dryopteridaceae	Polystichum	acrostichoides	-	-	Christmas fern	el	ORRH, US, DU	-	-	n	c	-	-	FAC	'
Rutaceae	Poncircus	trifoliata	-	-	trifoliate orange	el	ORRH	-	-	a	r	-	-	UPL	'
Salicaceae	Populus	alba	-	-	silvery poplar	el	TENN	-	-	p?	vr	-	-	UPL	'

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Salicaceae	Populus	deltoides	-	-	eastern cottonwood	el	ORRH	-	-	n	s	-	-	FAC+	-
Salicaceae	Populus	x jackii	-	-		el	ORRH	-	-	p	vr	-	-	UPL	-
Asteraceae	Porteranthus	trifoliatus	-	-	Bowman's root	el	ORRH	-	-	n	i	-	-	UPL	-
Potomogetonaceae	Potamogeton	crispus	-	-	pondweed	el	ORRH	-	-	a?	i?	-	-	OBL	-
Potomogetonaceae	Potamogeton	diversifolius	-	-	pondweed	el	ORRH	-	-	n	s	-	-	OBL	-
Potomogetonaceae	Potamogeton	foliosus	-	-	pondweed	el	ORRH	-	-	n	s	-	-	OBL	-
Potomogetonaceae	Potamogeton	pusillus	-	-	pondweed	el	ORRH	-	-	n	s	-	-	OBL	-
Rosaceae	Potentilla	canadensis	-	-	dwarf cinquefoil	el	ORRH, US, DU	-	-	n	o	-	-	UPL	-
Rosaceae	Potentilla	norvegica	-	-	rough cinquefoil	el	ORRH	-	-	n	o	-	-	FAC-	-
Rosaceae	Potentilla	recta	-	-	rough-fruited cinquefoil	el	ORRH	-	-	p	o	-	-	UPL	-

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FAMILY	GENUS	SPECIES	VARIETY	SYNONYM	COMMON NAME	ORR FLORA ELIGIBILITY	PROOF	CONTAMINATED SPECIMEN	COMMENTS	TN NATIVE VS. EXOTIC	FREQUENCY (ORR)	TN STATUS	US STATUS	R2IND (WETLAND INDICATOR STATUS)	ORRIND
Asteraceae	Prenanthes	altissima*	-	-	tall white lettuce	pl	-	-	-	n	?	-	-	UPL	-
Asteraceae	Prenanthes	serpentaria	-	-	rattlesnakeroot	el	ORRH	-	-	n	o	-	-	UPL	-
Asteraceae	Prenanthes	trifoliolata	-	-	lion's foot	el	ORRH	-	-	n	i?	-	-	UPL	-
Lamiaceae	Prunella	vulgaris	-	-	heal-all	el	ORRH, US, DU	-	-	p	c	-	-	FAC-	-
Rosaceae	Prunus	americana	-	-	wild plum	el	ORRH, US, DU	-	-	n	s	-	-	FACU-	-
Rosaceae	Prunus	munsoniana	-	-	Munson plum	el	TENN	-	-	n	s	-	-	UPL	-
Rosaceae	Prunus	serotina	-	-	black cherry	el	ORRH	-	-	n	o	-	-	FACU	-
Rutaceae	Ptelea	trifoliata	-	-	wafer ash	el	ORRH	-	-	n	o	-	-	FAC	-
Dennstaedtiaceae	Pteridium	aquilinum	-	-	bracken fern	el	ORRH	-	-	n	o	-	-	FACU	-
Fabaceae	Pueraria	lobata	-	-	kudzu	el	ORRH	-	-	a	c	-	-	UPL	-
Lamiaceae	Pycnanthemum	incanum	ssp. incanum	-	hoary mountain-mint	el	ORRH	-	-	n	o	-	-	UPL	-
Lamiaceae	Pycnanthemum	incanum	ssp. loomisii	-	hoary mountain-mint	el	ORRH	-	-	n	o	-	-	UPL	-

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Fagaceae	Quercus	muehlenbergii	-	-	chinkapin oak	el	ORRH	-	-	n	c	-	-	NI	'
Fagaceae	Quercus	palustris	-	-	pin oak	el	r	-	-	n	r?	-	-	FACW	'
Fagaceae	Quercus	rubra	-	-	northern red oak	el	ORRH	-	-	n	f	-	-	FACU	'
Fagaceae	Quercus	shumardii	-	-	Shumard oak	el	ORRH	-	-	n	i	-	-	FACW-	'
Fagaceae	Quercus	stellata	-	-	post oak	el	ORRH	-	-	n	i	-	-	FACU	'
Fagaceae	Quercus	velutina	-	-	black oak	el	ORRH	-	-	n	c	-	-	UPL	'
Ranunculaceae	Ranunculus	abortivus	-	-	small-flowered crowfoot	el	ORRH, US, DU	-	-	n	o	-	-	FAC	'
Ranunculaceae	Ranunculus	acris	-	-	common buttercup	el	ORRH	-	-	?	o	-	-	FACW	'
Ranunculaceae	Ranunculus	bulbosus	-	-	bulbous buttercup	el	ORRH	-	-	?	o	-	-	FAC+	'
Ranunculaceae	Ranunculus	carolinianus	-	-	Carolina buttercup	el	ORRH	-	-	n	o	-	-	FACW	'
Ranunculaceae	Ranunculus	fascicularis	-	-	thick-root buttercup	el	TENN	-	-	n	o	-	-	FAC-	'
Ranunculaceae	Ranunculus	hispidus	-	-	hispid buttercup	el	TENN	-	-	n	o	-	-	FAC	'

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Lamiaceae	Pycnanthemu	pilosum	-	-	mountain-mint	el	ORRH	-	-	n	o	-	-	UPL	-
Lamiaceae	Pycnanthemum	tenuifolium	-	-	narrow-leaved mountain-mint	el	ORRH, US, DU	-	-	n	f	-	-	FAC-	-
Lamiaceae	Pycnanthemu	virginianum	-	-	mountain-mint	el	ORRHv	c	-	n	r	-	-	FAC	-
Asteraceae	Pyrrhopappus	carolinianus	-	-	false dandelion	el	ORRH	-	-	n	?	-	-	UPL	-
Santalaceae	Pyrularia	pubera	-	-	buffalo-nut	el	ORRH	-	-	n	r	-	-	FACU+	-
Fagaceae	Quercus	alba	-	-	white oak	el	ORRH, US, DU	-	-	n	c	-	-	FACU	-
Fagaceae	Quercus	bicolor	-	-	swamp white oak	el	r	-	-	n	r	-	-	FACW+	-
Fagaceae	Quercus	coccinea	-	-	scarlet oak	el	ORRH	-	-	n	f?	-	-	UPL	-
Fagaceae	Quercus	falcata	-	Q. f. var. falcata	southern red oak	el	TENN, ORRH, US, DU	-	-	n	o	-	-	FAC-	-
Fagaceae	Quercus	marilandica	-	-	blackjack oak	el	ORRH	-	-	n	o	-	-	UPL	-
Fagaceae	Quercus	michauxii	-	-	swamp chestnut oak	el	ORRH	-	-	n	r	-	-	FACW-	-
Fagaceae	Quercus	montana	-	Q. prinus	chestnut oak	el	ORRH	-	-	n	c	-	-	UPL	-

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Ranunculaceae	Ranunculus	parviflorus	-	-	small-flowered buttercup	el	ORRH	-	-	p?	r	-	-	FAC	'
Ranunculaceae	Ranunculus	pusilus	-	-	-	el	ORRH	-	-	n	vr	-	-	FACW+	'
Ranunculaceae	Ranunculus	recurvatus	-	-	hooked buttercup	el	ORRH, US	-	-	n	o	-	-	FAC	'
Ranunculaceae	Ranunculus	repens	-	-	creeping buttercup	el	ORRH	-	-	?	o	-	-	FAC	'
Ranunculaceae	Ranunculus	sardos	-	-		el	ORRH	-	-	p	vr	-	-	FAC+	'
Ranunculaceae	Ranunculus	sceleratus	-	-	cursed crowfoot	el	TENN	-	-	n	o	-	-	OBL	'
Ranunculaceae	Ranunculus	septentrionalis*	-	-	northern swamp buttercup	ot	TENN	-	-	n	?	'	'	obl	'
Asteraceae	Ratibida	pinnata	-	-	gray coneflower	el	ORRH	-	-	n	r	-	-	UPL	'
Rhamnaceae	Rhamnus	caroliniana	-	-	Carolina buckthorn	el	ORRH	-	-	n	c	-	-	FACU	'
Melastromataceae	Rhexia	mariana	var.mariana	-	pale meadow beauty	el	ORRH	-	-	n	r	-	-	FACW+	'

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Melastromataceae	Rhexia	virginica	-	-	meadow beauty	el	ORRH	-	-	n	s	-	-	FACW+	'
Ericaceae	Rhododendron	maximum	-	-	rosebay rhododendron	el	ORRH	-	-	n	i	-	-	FAC-	'
Ericaceae	Rhododendron	minus	-	-	small-leaved rhododendron	el	ORRH	-	-	n	vr	-	-	UPL	'
Ericaceae	Rhododendron	periclymenoides	-	-	pinxter-bush	el	ORRH, US, DU	-	-	n	f	-	-	FAC	'
Anacardiaceae	Rhus	aromatica	-	-	fragrant sumac	el	ORRH	-	-	n	r	-	-	UPL	'
Anacardiaceae	Rhus	copallina	-	-	winged sumac	el	ORRH	-	-	n	o?	-	-	NI	'
Anacardiaceae	Rhus	glabra	-	-	smooth sumac	el	ORRH, US	-	-	n	o?	-	-	UPL	'
Fabaceae	Rhynchosia	tomentosa	-	-	hairy rhynchosia	el	TENN, ORRH	-	-	n	r	-	-	UPL	'
Cyperaceae	Rhynchospora	capitellata	-	-	beak-rush	el	ORRH	-	-	n	s	-	-	OBL	'

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Cyperaceae	Rhynchospora	colorata	-	-	white-top sedge	el	TENN, ORRH	-	state record; nomenclature Gleason and Cronquist (1991)	n	r	S	-	FACW	'
Cyperaceae	Rhynchospora	globularis	-	-	beak-rush	el	ORRH	-	-	n	s	-	-	FACW	'
Fabaceae	Robinia	hispida	-	-	bristly locust	el	ORRH	-	-	n	r	-	-	UPL	'
Fabaceae	Robinia	pseudoacacia	-	-	black locust	el	ORRH	-	-	n	o	-	-	UPL	'
Brassicaceae	Rorippa	palustris	-	-	common yellow-cress	el	ORRH	-	-	n	r?	-	-	OBL	'
Brassicaceae	Rorippa	sessiliflora	-	-	southern yellow-cress	el	ORRHv, US	c	-	n	r?	-	-	FACW+	'
Rosaceae	Rosa	carolina	-	-	Carolina rose	el	TENN	-	-	n	?	-	-	FACU	'
Rosaceae	Rosa	multiflora	-	-	multiflora rose	el	ORRH	-	-	a?	?	-	-	UPL	?
Rosaceae	Rosa	setigera	-	-	prairie rose	el	ORRH	-	-	n	?	-	-	FACU	'
Lythraceae	Rotala	ramosior	-	-	toothcup	el	ORRH	-	-	n	vr	-	-	OBL	'
Rosaceae	Rubus	argutus	-	-	highbush blackberry	el	ORRH	-	-	n	?	-	-	FACU+	'

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Rosaceae	Rubus	betulifolius*	-	-	blackberry	ot	TENN	-	-	n	?	-	-	FAC	-
Rosaceae	Rubus	flagellaris	-	-	northern dewberry	el	ORRH	-	-	n	?	-	-	UPL	-
Rosaceae	Rubus	hispidus*	-	-	bristley dewberry	ot	TENN	-	-	n	?	-	-	FACW	-
Rosaceae	Rubus	occidentalis*	-	-	blackberry	ot	TENN	-	-	n	?	-	-	?	-
Rosaceae	Rubus	phoenicolasius	-	-	wineberry	el	ORRH	-	-	a?	vr	-	-	UPL	-
Asteraceae	Rudbeckia	fulgida	var. fulgida	-	eastern conefiower	el	ORRH	-	-	n	f	-	-	FAC+	-
Asteraceae	Rudbeckia	hirta	-	-	black-eyed susan	el	ORRH, US, DU	-	-	n	f	-	-	FACU	-
Asteraceae	Rudbeckia	laciniata	-	-	golden glow	el	ORRH	-	-	n	f	-	-	FACW	-

FAMILY	GENUS	SPECIES	VARIETY	SYNONYM	COMMON NAME	ORR FLORA ELIGIBILITY	PROOF	CONTAMINATED SPECIMEN	COMMENTS	TN NATIVE VS. EXOTIC	FREQUENCY (ORR)	TN STATUS	US STATUS	R2ND (WETLAND INDICATOR STATUS)	ORRIND
Asteraceae	Rudbeckia	triloba	-	-	three-lobed coneflower	el	ORRH	-	-	n	s	-	-	FACU-	'
Acanthaceae	Ruellia	caroliniensis	-	-	Carolina ruellia	el	ORRH	-	-	n	o	-	-	UPL	'
Acanthaceae	Ruellia	purshiana	-	-	Pursh's wild petunia	el	ORRH	-	-	n	r	S	-	UPL	'
Acanthaceae	Ruellia	strepens	-	-	ruellia	el	ORRH	-	-	n	i?	-	-	FAC-	'
Polygonaceae	Rumex	conglomeratus	-	-	dock	el	ORRH	-	-	a?	o	-	-	FACW-	'
Polygonaceae	Rumex	crispus	-	-	curled dock	el	ORRH	-	-	p	o	-	-	FAC	'
Polygonaceae	Rumex	obtusifolius	-	-	bitter dock	el	ORRH, US, DU,ORRHv	c	-	p	o	-	-	FACW-	'
Gentianaceae	Sabatia	angularis	-	-	rose-pink	el	ORRH, US, DU	-	-	n	f	-	-	FAC	'
Alismataceae	Sagittaria	australis	-	S. engelmanniana ssp. longirostra	Appalachian arrow head	el	ORRH	-	-	n	s?	-	-	OBL	'

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FAMILY	GENUS	SPECIES	VARIETY	SYNONYM	COMMON NAME	ORR FLORA ELIGIBILITY	PROOF	CONTAMINATED SPECIMEN	COMMENTS	TN NATIVE VS. EXOTIC	FREQUENCY (ORR)	TN STATUS	US STATUS	R2IND (WETLAND INDICATOR STATUS)	ORRIND
Alismataceae	Sagittaria	calycina	-	S. montevidensis	Mississippi arrow-head	el	ORRH	-	-	n	r	-	-	OBL	-
Alismataceae	Sagittaria	latifolia	-	-	broad-leaved arrow head	el	ORRH	-	-	n	s?	-	-	OBL	-
Salicaceae	Salix	alba	-	-	white willow	el	ORRH	-	-	p?	r	-	-	FACW-	-
Salicaceae	Salix	babylonica	-	-	weeping willow	el	ORRH	-	-	p	i	-	-	FACW	-
Salicaceae	Salix	caroliniana	-	-	Carolinia willow	el	ORRH	-	-	n	i	-	-	OBL	-
Salicaceae	Salix	exigua	-	-	sandbar willow	el	ORRH,ORRHv	c	-	n	i	-	-	OBL	-
Salicaceae	Salix	humilis	-	-	prairie willow	el	ORRH	-	-	n	o	-	-	FACU	-
Salicaceae	Salix	nigra	-	-	black willow	el	ORRH,ORRHv	c	-	n	f	-	-	OBL	-
Lamiaceae	Salvia	lyrata	-	-	lyre-leaved mint	el	ORRH	-	-	n	o	-	-	FAC-	-
Lamiaceae	Salvia	urticifolia	-	-	nettle-leaved sage	el	ORRH	-	-	n	i	-	-	UPL	-

FAMILY	GENUS	SPECIES	VARIETY	SYNONYM	COMMON NAME	ORR FLORA ELIGIBILITY	PROOF	CONTAMINATED SPECIMEN	COMMENTS	TN NATIVE VS. EXOTIC	FREQUENCY (ORR)	TN STATUS	US STATUS	R2IND (WETLAND INDICATOR STATUS)	ORRIND
Caprifoliaceae	Sambucus	canadensis	-	-	American elder	el	ORRH, US, DU	-	-	n	f	-	-	FACW-	'
Primulaceae	Samolus	parviflorus	-	-	water-pimpernel	el	ORRH, US	-	-	n	o	-	-	OBL	'
Papaveraceae	Sanguinaria	canadensis	-	-	bloodroot	el	ORRH, US, DU	-	-	n	o	-	-	NI	'
Apiaceae	Sanicula	canadensis	-	-	Canada snakeroot	el	ORRH, US, DU	-	-	n	o?	-	-	FACU	'
Apiaceae	Sanicula	odorata	-	S. gregaria	black snakeroot	el	ORRH	-	-	n	o?	-	-	UPL	'
Apiaceae	Sanicula	smallii	-	-	southern snakeroot	el	TENN	-	-	n	o?	-	-	FAC	'
Caryophyllaceae	Saponaria	officinalis	-	-	soapwort	el	ORRH	-	-	p	s	-	-	FACU	'
Lauraceae	Sassafras	albidum	-	-	sassafras	el	ORRH, US, DU	-	-	n	c	-	-	FACU	'
Lamiaceae	Satureja	vulgaris	-	Clinopodium	basil	el	ORRH	-	-	n	o	-	-	UPL	'
Saururaceae	Saururus	cernuus	-	-	lizard's tail	el	ORRH, US, DU	-	-	n	o	-	-	OBL	'

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FAMILY	GENUS	SPECIES	VARIETY	SYNONYM	COMMON NAME	ORR FLORA ELIGIBILITY	PROOF	CONTAMINATED SPECIMEN	COMMENTS	TN NATIVE VS. EXOTIC	FREQUENCY (ORR)	TN STATUS	US STATUS	R2IND (WETLAND INDICATOR STATUS)	ORRIND
Saxifragaceae	Saxifraga	careyana	-	-	Carey's saxifrage	el	ORRH	-	-	n	s	S	3C	FAC	upl
Fabaceae	Schrankia	microphylla	-	-	sensitive-brier	el	ORRH	-	-	n	i	-	-	UPL	-
Cyperaceae	Scirpus	americanus	-	-	threesquare bulrush	el	ORRH	-	-	n	s	-	-	OBL	-
Cyperaceae	Scirpus	atrovirens	-	-	black bulrush	el	ORRH, US, DU,ORRHv	c	-	n	f	-	-	OBL	-
Cyperaceae	Scirpus	cyperinus	-	-	wool-grass	el	ORRH,ORRHv	c	-	n	o	-	-	OBL	-
Cyperaceae	Scirpus	fluviatilis	-	-	river bulrush	el	ORRH	-	-	n	vr	S	-	OBL	-
Cyperaceae	Scirpus	pendulus	-	-	bulrush	el	ORRH, US, DU	-	-	n	o	-	-	OBL	-
Cyperaceae	Scirpus	polyphyllus	-	-	many-leaved bulrush	el	ORRH	-	-	n	f	-	-	OBL	-
Cyperaceae	Scirpus	purshianus	-	-	bluntscale bulrush	el	ORRH	-	-	n	r?	-	-	OBL	-
Cyperaceae	Scirpus	tabernaemontanii	-	S. validus	great bulrush	el	ORRH,ORRHv	c	-	n	s	-	-	OBL	-
Cyperaceae	Scleria	oligantha	-	-	nut-rush	el	ORRH	-	-	n	f	-	-	FACU	-

FAMILY	GENUS	SPECIES	VARIETY	SYNONYM	COMMON NAME	ORR FLORA ELIGIBILITY	PROOF	CONTAMINATED SPECIMEN	COMMENTS	TN NATIVE VS. EXOTIC	FREQUENCY (ORR)	TN STATUS	US STATUS	R2ND (WETLAND INDICATOR STATUS)	ORRIND
Cyperaceae	Scleria	pauciflora	-	-	nut-rush	el	ORRH	-	-	n	vr	-	-	FAC+	'
Cyperaceae	Scleria	triglomerata	-	-	nut-rush	el	ORRH, US, DU	-	-	n	r?	-	-	FACU+	'
Lamiaceae	Scutellaria	australis*	-	-		pl	-	-	-	n	?	'	'	UPL	'
Lamiaceae	Scutellaria	elliptica	var. hirsuta	-	hairy skullcap	el	ORRH	-	-	n	?	-	-	UPL	'
Lamiaceae	Scutellaria	incana	var. punctata	-	downy skullcap	el	ORRH	-	-	n	r	-	-	UPL	'
Lamiaceae	Scutellaria	integrifolia	-	-	entire-leaved skullcap	el	ORRH,ORRHv	c	-	n	?	-	-	FAC	'
Lamiaceae	Scutellaria	lateriflora	-	-	maddog skullcap	el	ORRH,ORRHv	c	-	n	o	-	-	FACW+	'
Lamiaceae	Scutellaria	leonardii	-	-	skullcap	el	ORRH	-	-	n	i	-	-	UPL	'
Lamiaceae	Scutellaria	nervosa	-	-	skullcap	el	ORRH	-	-	n	o	-	-	FAC	'
Lamiaceae	Scutellaria	parvula*	-	-		pl		-	-	n	?	'	'	UPL	'
Lamiaceae	Scutellaria	pseudoserrata	-	-	skullcap	el	r	-	-	n	vr	-	-	?	FACW
Poaceae	Secale	cereale*	-	-	rye	ne	ORRH	-	-	p	r	'	'	UPL	'

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FAMILY	GENUS	SPECIES	VARIETY	SYNONYM	COMMON NAME	ORR FLORA ELIGIBILITY	PROOF	CONTAMINATED SPECIMEN	COMMENTS	TN NATIVE VS. EXOTIC	FREQUENCY (ORR)	TN STATUS	US STATUS	R2IND (WETLAND INDICATOR STATUS)	ORRIND
Crassulaceae	Sedum	pulchellum	-	-	widow's cross	el	ORRH	-	perhaps recenlly introduced	n	r	-	-	UPL	,
Crassulaceae	Sedum	tematum	-	-	wild stonecrop	el	ORRH,US,DU	-	-	n	f	-	-	UPL	,
Selaginellaceae	Selaginella	apoda	-	-	meadow spikemoss	el	ORRH,US,DU	-	-	n	i	-	-	FACW+	,
Asteraceae	Senecio	anonymus	-	S. smallii	yellow ragwort	el	ORRH,US,DU	-	-	n	f	-	-	FACU-	,
Asteraceae	Senecio	aureus	-	-		el	ORRH	-	-	n	r?	-	-	FACW	,
Asteraceae	Senecio	obovatus	-	-	golden ragwort	el	ORRH,TENN,US	-	-	n	s	-	-	FACU	,
Fabaceae	Senna	marilandica	-	Cassia	wild senna	el	ORRH,ORRHv	c	-	n	o	-	-	FAC	,
Fabaceae	Senna	obtusifolia	-	Cassia	sickle-pod	el	ORRH	-	-	p	i	-	-	UPL	,
Asteraceae	Sericocarpus	asteriodes	-	Aster paternus	white-topped aster	el	ORRH	-	-	n	o	-	-	UPL	,
Asteraceae	Sericocarpus	linifolius	-	-		el	ORRH	-	-	n	?	-	-	UPL	,
Poaceae	Setaria	faberi	-	-	foxtail	el	r	-	-	p	o	-	-	UPL	,
Poaceae	Setaria	parviflora	-	S. geniculata	foxtail	el	ORRH,US	-	-	n	o	-	-	FAC	,
Poaceae	Setaria	pumila	-	S. glauca	foxtail	el	ORRH,US,DU	-	-	?	?	-	-	FAC	,

FAMILY	GENUS	SPECIES	VARIETY	SYNONYM	COMMON NAME	ORR FLORA ELIGIBILITY	PROOF	CONTAMINATED SPECIMEN	COMMENTS	TN NATIVE VS. EXOTIC	FREQUENCY (ORR)	TN STATUS	US STATUS	R2IND (WETLAND INDICATOR STATUS)	ORRIND
Poaceae	Setaria	viridis	-	-	green foxtail	el	ORRH	-	-	p	o	-	-	UPL	'
Rubiaceae	Sherardia	arvensis	-	-	field-madder	el	ORRH	-	-	p	r	-	-	UPL	'
Brassicaceae	Sibara	virginica	-	-	sibara	el	ORRH,US,DU	-	-	n	r?	-	-	FAC	'
Malvaceae	Sida	spinosa	-	-	prickly mallow	el	ORRH,ORRHv	c	-	p	?	-	-	FACU	'
Caryophyllaceae	Silene	antirrhina	-	-	sleepy catchfly	el	ORRH	-	-	n	s	-	-	UPL	'
Caryophyllaceae	Silene	stellata	-	-	starry campion	el	ORRH	-	-	n	i	-	-	UPL	'
Caryophyllaceae	Silene	virginica	-	-	fire pink	el	ORRH, US	-	-	n	i	-	-	UPL	'
Asteraceae	Silphium	asteriscus	-	-	rosin-weed	el	ORRH	-	-	n	o	-	-	UPL	'
Asteraceae	Silphium	compositum	-	-	lesser basal-leaved rosin-weed	el	ORRH	-	-	n	r	-	-	UPL	'
Asteraceae	Silphium	terebinthinaceum	var. terebinthinaceum	-	prairie dock	el	ORRH	-	-	n	o	-	-	UPL	'

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FAMILY	GENUS	SPECIES	VARIETY	SYNONYM	COMMON NAME	ORR FLORA ELIGIBILITY	PROOF	CONTAMINATED SPECIMEN	COMMENTS	TN NATIVE VS. EXOTIC	FREQUENCY (ORR)	TN STATUS	US STATUS	R2IND (WETLAND INDICATOR STATUS)	ORRIND
Asteraceae	Silphium	trifoliatum	-	-	whorled rosin-weed	el	ORRH	-	-	n	f	-	-	UPL	-
Iridaceae	Sisyrinchium	albidum	-	-	blue-eyed grass	el	ORRH	-	-	n	i	-	-	FACU	-
Iridaceae	Sisyrinchium	angustifolium	-	-	blue-eyed grass	el	ORRH	-	-	n	o?	-	-	FAC	-
Iridaceae	Sisyrinchium	atlanticum	-	-	blue-eyed grass	el	ORRH	-	-	n	o?	-	-	FACW-	-
Iridaceae	Sisyrinchium	mucronatum	-	-	blue-eyed grass	el	ORRH	-	-	n	o?	-	-	FACW-	-
Liliaceae	Smilacina	racemosa	-	-	false Solomon's seal	el	ORRH, US, DU	-	-	n	i	-	-	FACU	-
Smilacaceae	Smilax	bona-nox	-	-	catbrier	el	ORRH	-	-	n	c	-	-	FAC	-
Smilacaceae	Smilax	ecirrata	var. hugeri	-	carrion flower	el	ORRH	-	-	n	i	-	-	UPL	-
Smilacaceae	Smilax	glauca	-	-	glaucous catbrier	el	ORRH, US	-	-	n	c	-	-	FAC	-

FAMILY	GENUS	SPECIES	VARIETY	SYNONYM	COMMON NAME	ORR FLORA ELIGIBILITY	PROOF	CONTAMINATED SPECIMEN	COMMENTS	TN NATIVE VS. EXOTIC	FREQUENCY (ORR)	TN STATUS	US STATUS	R2IND (WETLAND INDICATOR STATUS)	ORRIND
Smilacaceae	Smilax	pulverulenta	-	-	vining carrion flower	el	ORRH	-	-	n	i	-	-	FAC	'
Smilacaceae	Smilax	rotundifolia	-	-	greenbrier	el	ORRH	-	-	n	c	-	-	FAC	'
Smilacaceae	Smilax	taminoides	-	S. hispida	bristly greenbrier	el	ORRH	-	-	n	s	-	-	FAC+	'
Solanaceae	Solanum	carolinense	-	-	horse-nettle	el	ORRH, US	-	-	n	?	-	-	FACU	'
Solanaceae	Solanum	ptycanthum	-	S. americanum	nightshade	el	ORRH	-	-	n	?	-	-	FACU+	'
Asteraceae	Solidago	arguta	-	-		el	ORRH	-	-	n	r?	-	-	UPL	'
Asteraceae	Solidago	caesia	-	-		el	ORRH	-	-	n	s	-	-	UPL	'
Asteraceae	Solidago	canadensis	-	-	goldenrod	el	ORRH	-	-	n	c	-	-	FACU	'
Asteraceae	Solidago	erecta	-	-	erect goldenrod	el	ORRH	-	-	n	o	-	-	UPL	'
Asteraceae	Solidago	flexicaulis	-	-	zig-zag goldenrod	el	TENN	-	-	n	i	-	-	FACU	'
Asteraceae	Solidago	gigantea	-	-	tall goldenrod	el	TENN, ORRH, US	-	-	n	c	-	-	FACW	'
Asteraceae	Solidago	nemoralis	-	-	southern gray goldenrod	el	ORRH, US, DU	-	-	n	f	-	-	UPL	'

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FAMILY	GENUS	SPECIES	VARIETY	SYNONYM	COMMON NAME	ORR FLORA ELIGIBILITY	PROOF	CONTAMINATED SPECIMEN	COMMENTS	TN NATIVE VS. EXOTIC	FREQUENCY (ORR)	TN STATUS	US STATUS	R2IND (WETLAND INDICATOR STATUS)	ORRIND
Asteraceae	Solidago	odora	-	-	fragrant goldenrod	el	ORRH	-	-	n	o	-	-	UPL	-
Asteraceae	Solidago	patula	-	-	rough-leaved goldenrod	el	ORRH	-	-	n	r	-	-	OBL	-
Asteraceae	Solidago	ptarmicoides*	-	Aster	prairie goldenrod	ot	TENN	-	-	n	?	E	'	UPL	-
Asteraceae	Solidago	rigida	-	-	stiff goldenrod	el	r	-	-	n	vr	-	-	FACU	-
Asteraceae	Solidago	rugosa	-	-	wrinkled-leaved goldenrod	el	ORRH	-	-	n	o	-	-	FAC	-
Asteraceae	Solidago	speciosa	-	-	showy goldenrod	el	ORRH	-	-	n	c	-	-	UPL	-
Asteraceae	Solidago	sphacelata	-	-	short pappus goldenrod	el	TENN	-	-	n	o	-	-	UPL	-
Asteraceae	Solidago	ulmifolia	-	-	elm-leaved goldenrod	el	TENN	-	-	n	o	-	-	UPL	-
Asteraceae	Sonchus	asper	-	-	prickly sow-thistle	el	ORRH	-	-	?	o	-	-	FAC+	-
Poaceae	Sorghastrum	elliottii*	-	-		pl	-	-	-	n	?	'	'	UPL	-

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Poaceae	Sorghastrum	nutans	-	-	Indian grass	el	ORRH	-	-	n	i	-	-	FACU	'
Poaceae	Sorghum	bicolor*	-	-	milo	ne	r	-	-	?	vr	'	'	FACU	'
Poaceae	Sorghum	halepense	-	-	Johnson grass	el	ORRH, US	-	-	a	f	-	-	FACU	'
Sparganiaceae	Sparganium	americanum	-	-	bur-reed	el	ORRH	-	-	n	r	-	-	OBL	'
Poaceae	Sphenopholis	nitida	-	-	shining sphenopholis	el	ORRH	-	-	n	s	-	-	UPL	'
Poaceae	Sphenopholis	obtusata	var. major	-	blunt sphenopholis	el	ORRH, TENN	-	-	n	s	-	-	FAC+	'
Loganiaceae	Spigelia	marilandica	-	-	Indian pink	el	ORRH	-	-	n	o	-	-	UPL	'
Rosaceae	Spiraea	douglasii*	-	-	spiraea	ne	ORRH	-	-	p	?	'	'	UPL	'
Rosaceae	Spiraea	tomentosa	-	-	hardhack	el	ORRH	-	-	n	i	-	-	FACW	'
Orchidaceae	Spiranthes	cernua	-	-	nodding lady's tresses	el	ORRH	-	-	n	r	-	-	FACW	'
Orchidaceae	Spiranthes	lacera	var. gracilis	-	slender lady's tresses	el	ORRH	-	-	n	o	-	-	FAC	'
Orchidaceae	Spiranthes	lucida	-	-	shining lady's tresses	el	ORRH	-	-	n	vr	T	-	NI	OBL
Orchidaceae	Spiranthes	ovalis	-	-	lesser lady's tresses	el	TENN, ORRH	-	-	n	i	S	-	FAC	'

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FAMILY	GENUS	SPECIES	VARIETY	SYNONYM	COMMON NAME	ORR FLORA ELIGIBILITY	PROOF	CONTAMINATED SPECIMEN	COMMENTS	TN NATIVE VS. EXOTIC	FREQUENCY (ORR)	TN STATUS	US STATUS	R2IND (WETLAND INDICATOR STATUS)	ORRIND
Orchidaceae	Spiranthes	tuberosa	-	S. grayi	little lady's tresses	el	ORRH	-	-	n	vr	-	-	UPL	-
Orchidaceae	Spiranthes	vernalis	-	-	early lady's tresses	el	ORRH	-	-	n	o	-	-	FACW-	-
Poaceae	Sporobolus	asper*	-	-		ot	-	-	-	n	?	-	-	UPL	-
Poaceae	Sporobolus	clandestinus	-	-	rough dropseed	el	ORRH	-	-	n	s	-	-	UPL	-
Poaceae	Sporobolus	indicus	-	S. poiretii	smutgrass	el	ORRH	-	-	p	vr	-	-	FACU+	-
Poaceae	Sporobolus	neglectus	-	-		el	ORRH	-	-	n	s	-	-	UPL	-
Poaceae	Sporobolus	ozarkanus	-	-		el	ORRH	-	-	n	s?	-	3C	UPL	-
Poaceae	Sporobolus	vaginiflorus	-	-	poverty-grass	el	ORRH	-	-	n	s	-	-	UPL	-
Lamiaceae	Stachys	tenuifolia	-	-	hedge-nettle	el	ORRH	-	-	n	o	-	-	FACW-	-
Staphyleaceae	Staphylea	trifolia	-	-	bladdernut	el	ORRH	-	-	n	f	-	-	FAC	-
Caryophyllaceae	Stellaria	media	-	-	common chickweed	el	ORRHs	-	-	p	o	-	-	FACU	-
Caryophyllaceae	Stellaria	pubera	-	-	star chickweed	el	ORRH, US, DU	-	-	n	o	-	-	UPL	-

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Liliaceae	Stenanthium	gramineum	-	-	featherbells	el	ORRH	-	ORR: vars. robustum & gramineum	n	o	-	-	FAC	'
Poaceae	Stipa	avenacea	-	-	needlegrass	el	ORRH	-	-	n	vr	-	-	UPL	'
Fabaceae	Strophostyles	helvula	-	-	annual woolly bean	el	TENN	-	-	n	o	-	-	FAC	'
Fabaceae	Strophostyles	umbellata	-	-	wild bean	el	ORRH	-	-	n	i	-	-	FAC-	'
Papaveraceae	Stylophorum	diphyllum	-	-	celandine-poppy	el	ORRH	-	-	n	vr?	-	-	UPL	'
Fabaceae	Stylosanthes	biflora	-	S. riparia	pencil flower	el	ORRH	-	-	n	o	-	-	UPL	'
Caprifoliaceae	Symphoricarpos	orbiculatus	-	-	coral berry	el	ORRH	-	-	n	r?	-	-	FAC-	'
Apiaceae	Taenidia	integerrima	-	-	yellow pimpernel	el	ORRH	-	-	n	vr	-	-	UPL	'
Asteraceae	Taraxacum	officinale	-	-	common dandelion	el	ORRH, US	-	-	p	f	-	-	FACU	'
Taxodiaceae	Taxodium	distichum*	-	-	bald cypress	ne	-	-	-	n	r	'	'	OBL	'
Fabaceae	Tephrosia	spicata	-	-	goat's rue	el	ORRH	-	-	n	s	-	-	UPL	'

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FAMILY	GENUS	SPECIES	VARIETY	SYNONYM	COMMON NAME	ORR FLORA ELIGIBILITY	PROOF	CONTAMINATED SPECIMEN	COMMENTS	TN NATIVE VS. EXOTIC	FREQUENCY (ORR)	TN STATUS	US STATUS	R2IND (WETLAND INDICATOR STATUS)	ORRIND
Fabaceae	Tephrosia	virginiana	-	-	goat's rue	el	ORRH	-	-	n	s	-	-	UPL	-
Lamiaceae	Teucrium	canadense	-	-	woodsage	el	ORRH, US, DU,ORRHv	c	-	n	o	-	-	FACW-	-
Ranunculaceae	Thalictrum	dioicum	-	-	early meadow-rue	el	ORRH	-	-	n	s	-	-	FAC	-
Ranunculaceae	Thalictrum	revolutum	-	-	skunk meadow-rue	el	ORRH	-	-	n	i	-	-	FAC+	-
Ranunculaceae	Thalictrum	thalictroides	-	Anemonella	rue-anemone	el	ORRH, US, DU	-	-	n	f	-	-	UPL	-
Apiaceae	Thaspium	barbinode	-	-	bearded meadow-parsnip	el	ORRH	-	-	n	o	-	-	UPL	-
Apiaceae	Thaspium	trifoliatum	-	-	smooth meadow-parsnip	el	ORRH	-	-	n	o	-	-	UPL	-
Thelypteridaceae	Thelypteris	hexagonoptera	-	-	broad beech fern	el	ORRH, US, DU	-	-	n	o	-	-	FACU+	-
Thelypteridaceae	Thelypteris	noveboracensis	-	-	New York fern	el	ORRH	-	-	n	o	-	-	FAC+	-

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Thelypteridaceae	Thelypteris	palustris	-	T. thelypteroides	marsh fern	el	ORRH	-	-	n	vr	-	-	FACW+	'
Brassicaceae	Thlaspi	perfoliatum	-	-	thoroughwort penny-cress	el	-	-	-	p?	?	'	'	?	'
Cupressaceae	Thuja	occidentalis	-	-	white cedar	el	ORRH	-	-	n	vr	-	-	UPL	'
Saxifragaceae	Tiarella	cordifolia	-	-	foamflower	el	ORRH	-	-	n	i	-	-	FAC-	'
Tillaceae	Tilia	americana	-	-	American basswood	el	ORRH, US, DU	-	-	n	o	-	-	FACU	'
Orchidaceae	Tipularia	discolor	-	-	crane-fly orchid	el	ORRH, US, DU	-	-	n	o	-	-	FACU	'
Commelinaceae	Tradescantia	subaspera	-	-	mountain spiderwort	el	ORRH	-	-	n	o	-	-	UPL	'
Asteraceae	Tragopogon	dubius	-	-		el	ORRH	-	-	p	o?	-	-	UPL	'
Lamiaceae	Trichostema	brachiatum	-	Isanthus brachiatus	false pennyroyal	el	ORRH	-	-	n	s	-	-	UPL	'
Lamiaceae	Trichostema	dichotomum	-	-	bluecurls	el	ORRH	-	-	n	o	-	-	UPL	'
Poaceae	Tridens	flavus	-	-	purple top	el	ORRH, US	-	-	n	c	-	-	FACU	'
Fabaceae	Trifolium	campestre	-	-	low hop-clover	el	ORRH, US	-	-	p	f	-	-	UPL	'

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Fabaceae	Trifolium	hybridum	-	-	alsike clover	el	ORRH	-	-	p	f	-	-	FACU	-
Fabaceae	Trifolium	pratense	-	-	red clover	el	ORRH, US	-	-	p	c	-	-	FACU-	-
Fabaceae	Trifolium	repens	-	-	white clover	el	ORRH,ORRHv	c	-	p	c	-	-	FACU	-
Liliaceae	Trillium	cuneatum*	-	-	little sweet trillium	pl	-	-	-	n	?	-	-	?	-
Liliaceae	Trillium	flexipes*	-	-	bent trillium	pl	-	-	-	n	?	-	-	FAC-	-
Liliaceae	Trillium	luteum	-	-	yellow trillium	el	ORRH, US, DU	-	-	n	o	-	-	UPL	-
Liliaceae	Trillium	sulcatum	-	-	trillium	el	ORRH	-	-	n	r?	-	-	UPL	-
Liliaceae	Trillium	vaseyi	-	-	Vasey's trillium	el	ORRH	-	-	n	r?	-	-	UPL	-
Campanulaceae	Triodanis	perfoliata	-	Specularia	Venus' looking-glass	el	ORRH	-	-	n	s	-	-	FACU+	-
Caprifoliaceae	Triosteum	angustifolium	-	-	horse-gentian	el	ORRH	-	-	n	s	-	-	UPL	-
Poaceae	Tripsacum	dactyloides	-	-	gama grass	el	ORRH	-	-	n	i	-	-	FAC+	-

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Poaceae	Triticum	x aestivum*	-	-	wheat	ot	TENN	-	-	p	?	'	'	?	'
Pinaceae	Tsuga	canadensis	-	-	hemlock	el	ORRH	-	-	n	i	-	-	FACU	'
Asteraceae	Tussilago	farfara	-	-	coltsfoot	el	ORRH	-	-	a?	r	-	-	UPL	'
Typhaceae	Typha	latifolia	-	-	wideleaf cattail	el	ORRH, US, DU	-	-	n	o	-	-	OBL	'
Ulmaceae	Ulmus	alata	-	-	winged elm	el	ORRH, US, DU	-	-	n	o	-	-	FACU+	'
Ulmaceae	Ulmus	americana	-	-	American elm	el	ORRH, US, DU	-	-	n	o	-	-	FACW	'
Ulmaceae	Ulmus	rubra	-	-	slippery elm	el	ORRH	-	-	n	o	-	-	FAC	'
Uticaceae	Urtica	dioica	var. dioica	-	stinging nettle	el	ORRH	-	exotic variety	a	s	-	-	FAC+	'
Liliaceae	Uvularia	grandiflora	-	-	large-flowered bellwort	el	ORRH	-	-	n	o	-	-	UPL	'
Liliaceae	Uvularia	perfoliata	-	-	perfoliate bellwort	el	ORRH, US	-	-	n	o	-	-	FACU	'
Liliaceae	Uvularia	sessiliflolia	-	-	wild oats	el	TENN	-	-	n	?	-	-	FAC+	'

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Ericaceae	Vaccinium	arboreum	-	-	farkleberry	el	ORRH	-	-	n	f	-	-	FACU	-
Ericaceae	Vaccinium	corymbosum*	-	-		ot	TENN	-	-	n	?	-	-	FACW	-
Ericaceae	Vaccinium	pallidum	-	V. vacillans	pale lowbush blueberry	el	ORRH	-	-	n	c	-	-	UPL	-
Ericaceae	Vaccinium	stamineum	-	-	deerberry	el	ORRH, US, DU	-	-	n	c	-	-	FACU	-
Valerianaceae	Valerianella	radiata	-	-	corn salad	el	ORRH	-	-	n	s	-	-	FAC-	-
Valerianaceae	Valerianella	locusta	-	-	European corn salad	el	ORRH	-	-	p	s	-	-	?	-
Scrophulariaceae	Verbascum	blattaria	-	-	moth mullein	el	ORRH, US, DU	-	-	p	i	-	-	FAC	-
Scrophulariaceae	Verbascum	thapsus	-	-	mullein	el	ORRH	-	-	p	o	-	-	UPL	-
Verbenaceae	Verbena	simplex	-	-	vervain	el	ORRH, US	-	-	n	o	-	-	UPL	-
Verbenaceae	Verbena	urticifolia	-	-	white vervain	el	ORRH, US, DU,ORRHv	c	-	n	o	-	-	FAC+	-
Asteraceae	Verbesina	alternifolia	-	-	wingstem	el	ORRH, US, DU	-	-	n	f	-	-	FAC	-

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FAMILY	GENUS	SPECIES	VARIETY	SYNONYM	COMMON NAME	ORR FLORA ELIGIBILITY	PROOF	CONTAMINATED SPECIMEN	COMMENTS	TN NATIVE VS. EXOTIC	FREQUENCY (ORR)	TN STATUS	US STATUS	R2IND (WETLAND INDICATOR STATUS)	ORRIND
Asteraceae	Verbesina	occidentalis	-	-	southern flatseed-sunflower	el	ORRH, US, DU	-	-	n	f	-	-	FACU	'
Asteraceae	Verbesina	virginica	-	-	frostweed	el	ORRH	-	-	n	f	-	-	FACU	'
Asteraceae	Vernonia	gigantea	-	-	tall ironweed	el	ORRH, US, DU,ORRHv	c	-	n	f	-	-	FAC+	'
Scrophulariaceae	Veronica	agrestis	-	-	field speedwell	el	ORRH	-	-	p	o	-	-	UPL	'
Scrophulariaceae	Veronica	anagallis-aquatica	-	-	water speedwell	el	ORRH	-	-	n	s	-	-	OBL	'
Scrophulariaceae	Veronica	arvensis	-	-	corn speedwell	el	ORRH	-	-	?	i	-	-	NI	'
Scrophulariaceae	Veronica	hederaefolia	-	-	ivy-leaved speedwell	el	ORRH	-	-	p	s	-	-	?	'
Scrophulariaceae	Veronica	officinalis	-	-	common speedwell	el	ORRH	-	-	?	o	-	-	FACU	'
Scrophulariaceae	Veronica	peregrina	-	-	speedwell	el	ORRH,ORRHv	c	-	n	i	-	-	FAC+	'
Scrophulariaceae	Veronica	serpyllifolia	-	-	thyme-leaved speedwell	el	ORRH	-	-	p?	i?	-	-	FAC+	'

ORR Vascular Flora Database

FAMILY	GENUS	SPECIES	VARIETY	SYNONYM	COMMON NAME	ORR FLORA ELIGIBILITY	PROOF	CONTAMINATED SPECIMEN	COMMENTS	TN NATIVE VS. EXOTIC	FREQUENCY (ORR)	TN STATUS	US STATUS	R2IND (WETLAND INDICATOR STATUS)	ORRIND
Scrophulariaceae	Veronicastrum	virginicum	-	-	Culver's root	el	ORRH	-	-	n	i	-	-	FACW	'
Caprifoliaceae	Viburnum	acerifolium	-	-	maple-leaved viburnum	el	ORRH	-	-	n	o	-	-	FACU	'
Caprifoliaceae	Viburnum	prunifolium	-	-	smooth blackhaw	el	ORRH	-	-	n	o	-	-	FACU	'
Caprifoliaceae	Viburnum	rufidulum	-	-	rusty blackhaw	el	ORRH	-	-	n	f	-	-	FACU	'
Caprifoliaceae	Viburnum	sp.?	-	-	wild raisin?	el	r	-	V. nudum or V. cassinoides	n	vr	-	-	FACW	'
Fabaceae	Vicia	angustifolia	-	-	narrow-leaved vetch	el	ORRH	-	-	p	o	-	-	?	'
Fabaceae	Vicia	caroliniana	-	-	pale vetch	el	r	-	-	n	?	-	-	FACU	'
Fabaceae	Vicia	villosa	var. varia	V. dasycarpa	hairy vetch	el	ORRH, US	-	-	p?	o	-	-	UPL	-
Apocynaceae	Vinca	minor	-	-	periwinkle	el	ORRH	-	-	a?	s	-	-	UPL	'

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Violaceae	Viola	tripartita	var. glaberrima	-	oval-leaved violet	el	ORRH, US	-	-	n	i	-	-	UPL	'
Violaceae	Viola	tripartita	var. tripartita	-	three-parted violet	el	ORRH	-	-	n	r	S	-	UPL	'
Verbenaceae	Vitex	agnus-castus*	-	-		ne	ORRH	-	-	p	r	'	'	NO	'
Vitaceae	Vitis	aestivalis	-	-	summer grape	el	ORRH	-	-	n	?	-	-	FAC-	'
Vitaceae	Vitis	cinerea	-	-	downy grape	el	ORRH	-	-	n	?	-	-	FAC+	'
Vitaceae	Vitis	riparia	-	-	frost-grape	el	ORRHs	-	-	n	?	-	-	FACW	'
Vitaceae	Vitis	rotundifolia	-	-	muscadine	el	r	-	-	n	o	-	-	FAC	'
Vitaceae	Vitis	vulpina	-	-	frost-grape	el	ORRH,ORRHv	c	-	n	?	-	-	FAC+	'
Poaceae	Vulpia	myuros	-	-	rat-tail fescue	el	ORRH	-	-	p?	r?	-	-	FACU	'
Poaceae	Vulpia	octoflora	-	Festuca	six-weeks festcue	el	ORRH	-	-	n	r?	-	-	FACU+	'
Rosaceae	Waldsteinia	fragarioides	var. parviflora	-	barren strawberry	el	TENN	-	-	n	s	-	-	?	'
Lemnaceae	Woffia	brasiliensis	-	-	water-meal	el	ORRH	-	-	n	o	-	-	OBL	'

ORR Vascular Flora Database

FAMILY	GENUS	SPECIES	VARIETY	SYNONYM	COMMON NAME	ORR FLORA ELIGIBILITY	PROOF	CONTAMINATED SPECIMEN	COMMENTS	TN NATIVE VS. EXOTIC	FREQUENCY (ORR)	TN STATUS	US STATUS	R2IND (WETLAND INDICATOR STATUS)	ORRIND
Violaceae	Viola	canadensis	-	-	Canadian violet	el	ORRH	-	-	n	s?	-	-	UPL	-
Violaceae	Viola	conspersa	-	-	dog violet	el	ORRH	-	-	n	?	-	-	FACW-	-
Violaceae	Viola	cucullata	-	-	marsh violet	el	TENN	-	-	n	o	-	-	OBL	-
Violaceae	Viola	hastata	-	-	halbert-leaved violet	el	ORRH	-	-	n	o	-	-	FACU	-
Violaceae	Viola	hirsutula	-	-	southern wood violet	el	ORRH	-	-	n	o	-	-	UPL	-
Violaceae	Viola	palmata	-	-	wood-violet	el	ORRH, TENN	-	-	n	?	-	-	UPL	-
Violaceae	Viola	pubescens*	-	-	yellow forest violet	ot	TENN	-	-	n	?	-	-	FACU	-
Violaceae	Viola	rafinesquii	-	-	wild pansy	el	ORRH	-	-	n	o	-	-	UPL	-
Violaceae	Viola	sagittata	-	-	arrow-leaved violet	el	ORRH	-	-	n	o	-	-	FACW-	-
Violaceae	Viola	sororia	-	V. papilionacea	blue violet	el	ORRH	-	-	n	o	-	-	FAC-	-
Violaceae	Viola	striata	-	-	pale violet	el	ORRH	-	-	n	i	-	-	FACW-	-
Violaceae	Viola	triloba	-	-	three-lobed violet	el	ORRH, US, DU	-	-	n	i	-	-	UPL	-

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Woodsiaceae	Woodsia	obtusa	-	-	blunt-lobed woodsia	el	ORRH	-	-	n	i	-	-	UPL	-
Blechinaceae	Woodwardia	areolata	-	-	netted chain fern	el	ORRH	-	-	n	s	-	-	OBL	-
Asteraceae	Xanthium	strumarium	-	-	cocklebur	el	ORRH, US	-	-	n	r	-	-	FAC	-
Agavaceae	Yucca	flaccida	-	Y. filamentosa var. smalliana	yucca	el	ORRH	-	-	n	o	-	-	UPL	-
Apiaceae	Zizia	aptera	-	-	golden alexanders	el	ORRH, US	-	-	n	r?	-	-	FACU	-
Apiaceae	Zizia	aurea				el	ORRH			n	r?			FAC+	

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