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The Vascular Flora of Navigation Pool 8 of the Upper Mississippi River¹

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As a result of comprehensive field work performed during 1975 and 1976 followed by herbarium activities, a complete picture of the composition of the vascular flora of Navigation Pool 8 of the Upper Mississippi River has been obtained. The area includes a 47.5 km (23.3 mile) section of the Mississippi River between Dresbach, Minnesota and Genoa, Wisconsin. A total of 482 species in 88 families were collected. The Gramineae was the largest family with 33 genera and 63 species, while *Carex* (Cyperaceae) was the largest genus with 26 species. The flora comprises communities here defined as alluvial forest, willow forest, shrub, sedge meadow, *Phalaris* meadow, emergent, floating-leaved, submergent, spit and shore, levee, old field, and dredge spoil.

INDEX DESCRIPTORS: Upper Mississippi River; Navigation Pool 8; vascular flora; Southwestern Wisconsin vascular plants; La Crosse Co., Wisconsin; Vernon Co., Wisconsin; Upper Mississippi Wildlife Refuge; dredge material flora.

The Mississippi River drains much of southcentral Canada and all of the central United States, and has served as an important highway for commercial transportation. The river was permanently changed by the construction of a lock and dam system by the U.S. Army Corps of Engineers in the 1930's. The system provides a relatively constant water level in each navigation pool which resulted from the impoundment of the water behind a dam and levee. There are 28 locks and dams on the Upper Mississippi River from St. Paul, Minnesota to Alton, Illinois. They are numbered consecutively from north to south.

The navigation channel is maintained at a depth of at least nine feet (2.75 m) and wing dams, constructed on each side, channelize the water flow. Dredging is performed when this depth can not be maintained by river scouring. These activities have disrupted the natural river ecosystem and have, due to increasing public and private concern about the environment, stimulated a variety of research activities. This study was designed to document the vascular flora and the plant communities present in Navigation Pool 8, so that future modifications can be monitored from a base of information not previously available elsewhere on the River, as well as to extend our understanding of riverine floras in general, and of the Mississippi River in particular.

DESCRIPTION OF THE STUDY AREA

Navigation Pool 8, is 23.3 river miles long (47.5 km) and extends from Dresbach, Minnesota to Genoa, Wisconsin (fig. 1). A river mile indicates the linear distance along the main channel. On the Upper Mississippi, the river miles are numbered starting at the confluence of the Ohio River. The mean elevation of the bedrock of the pool descends approximately 7 feet (2.3 m) from north to south (Martin 1965). Impoundment increased the water level of the southern end of the pool to equal that at the northern end. Consequently the vegetation of the southern end was completely flooded. Fig. 1 indicates the presence of stump fields which were previously alluvial forests. Here lie the largest formations of submerged and floating-leaved vegetation, with small and relatively undiverse emergent aquatic vegetation.

From river mile 695.0 to 690.0, approximately the middle of the Navigation Pool, the floodplain vegetation was not as thoroughly affected. To the east of the main channel many small sloughs and islands were formed from larger ones. To the west of the channel, the

open water of Lawrence Lake was increased but the general vegetation pattern was not altered.

The northern end of the Pool resembles the pre-construction river in many ways. The backwaters here contain several large and a few small sloughs. Many of the islands adjacent of the main channel have high natural banks, essentially the condition that prevailed throughout the area before lock and dam construction. This northern area of the Pool also contains large backwater lakes.

Pool 8 has been included in several vascular plant investigations in recent years. Hartley (1962) collected and documented the vascular flora of the "Driftless Area" which includes the entirety of Pool 8. Nontelle (1972) documented the vascular plants within La Crosse County, which includes the northeastern one-fourth of the pool. Sohmer (1975) reported on the vascular plants in transects across Pools 7 and 8. Sefton (1976) studied the aquatic plant biomass, and the interrelationships of the plants with the physical environment in Pool 8, and Ziegler (1976) reported on the vascular flora of dredge spoil sites in the pool.

The northern boundary of the study area was Lock and Dam No. 7 and its adjacent levee, while the impounding Lock and Dam No. 8 and its adjacent levee, was the southern limit. The western boundary was defined as the railroad levee which skirts the floodplain along the entire pool while the northeastern 15.32 km (9.5 miles) was bounded by the city of La Crosse and the southeastern 22.26 km (13.8 miles) was limited by the railroad levee on the Wisconsin side of the river. The Mississippi River floodplain extends beyond these limits, but due to the construction of levees the floodplain areas on the outer sides of these levees is not now under the same hydrological influences as the areas within these levees and therefore were not included in this study.

METHODS

Vascular plant collections were made by the senior author during the 1975 and 1976 growing seasons. Aerial photos, obtained from the Army Corps of Engineers, were used to locate collection sites, which were visited two or three times during the growing season to obtain vegetative, flowering and fruiting specimens. Up to five duplicates were collected for each of 2200 collection numbers, the first set of which is deposited in the Herbarium of the University of Wisconsin-La Crosse (UWL). The herbaria at the University of Wisconsin-La Crosse, Missouri Botanical Garden, and the University of Minnesota were searched for historical collections from Pool 8.

The nomenclature utilized follows Hartley (1962), except in groups where recent revisions were available and where the specialists consulted indicated recent changes. Duplicates of specimens from difficult groups were sent to experts to obtain identifications. Curtis (1959) and Mohlenbrock (1975) provided the basis for the distinction of plant communities in the study area.

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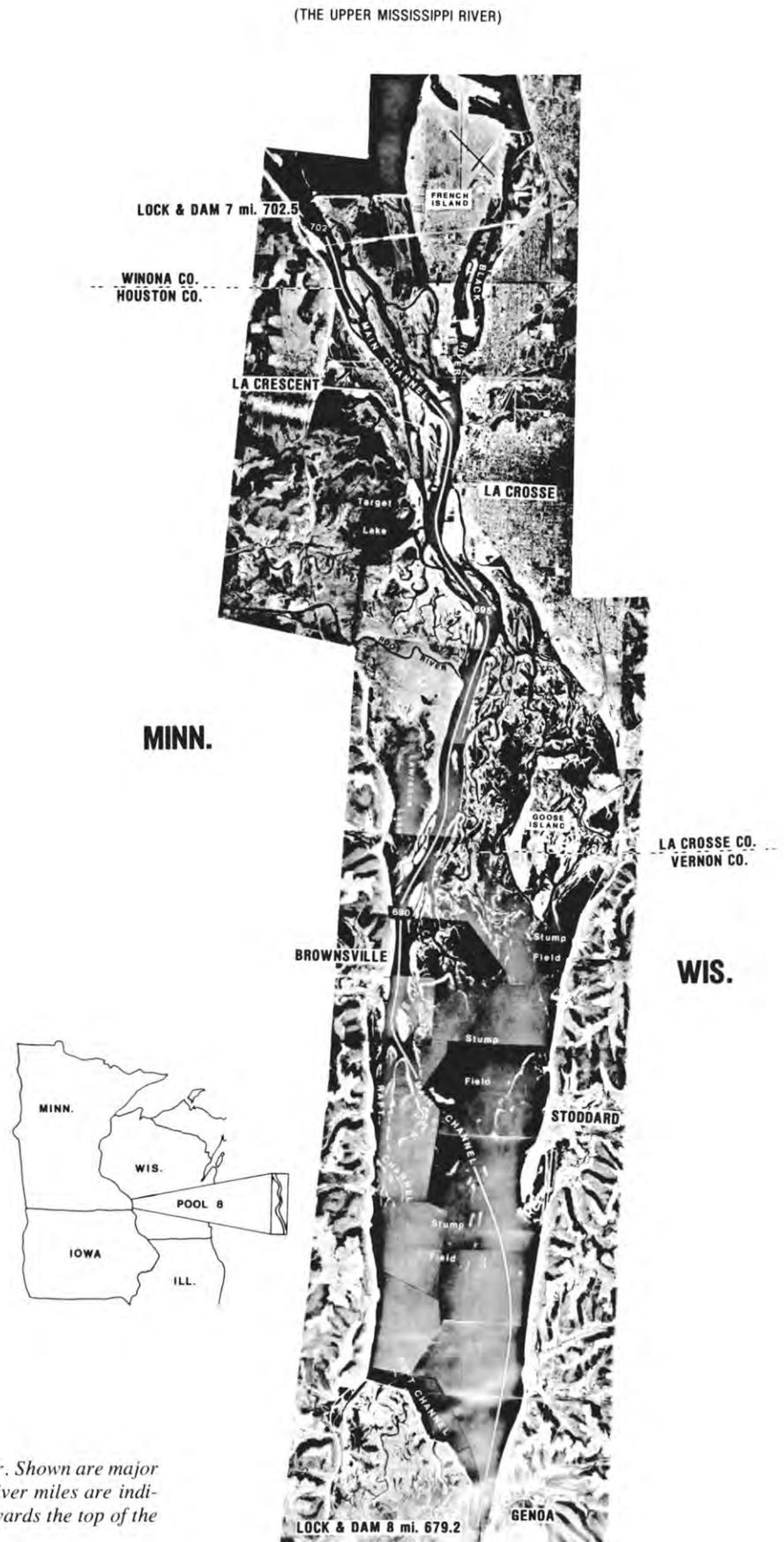


Fig. 1. Navigation Pool 8, Upper Mississippi River. Shown are major political and geographical features. The river miles are indicated along the main channel. North is towards the top of the figure.

PLANT COMMUNITIES OF POOL 8

Following are descriptions of the plant communities and their dominant species which were recognized in this study.

Alluvial forest. Alluvial forests are found throughout the study area except for the extreme southern end. Most forests in the area are flooded during spring high water and occasionally during midsummer. Forest formations on the eastern and western extremes of the floodplain are typically less liable to inundation, and when they are flooded it is for a shorter period. These areas, therefore, approach a more mesic condition and support a somewhat different flora from the typical floodplain forest.

Acer saccharinum, *Ulmus americana*, and *Betula nigra* dominate the canopy of the alluvial forests, while *Quercus bicolor*, *Fraxinus pennsylvanica*, *Ulmus rubra*, and *Celtis occidentalis* contribute to a lesser extent. Herbaceous layers range from practically non-existent to luxurious growths of *Toxicodendron radicans* ssp. *negundo* and *Laportea canadensis*. *Oncoclea sensibilis*, *Viola missouriensis*, *Carex grayii*, and *Pilea pumila* are other common herbaceous species.

Willow forest. Several species of *Salix* form stands which often represent the successional stage usually coming after emergent aquatic communities, or sedge or *Phalaris* meadows. Willow forests are found throughout the area but usually occupy lower sites than those occupied by alluvial forests. *Salix nigra*, *S. amygdaloides*, and *S. interior* are the most frequently encountered willow species. *Populus deltoides* may also grow with the willows, forming what Mohlenbrock (1975) termed the "willow-cottonwood community." Many forests in Pool 8 contain a mixture of hardwoods, willows, and cottonwood which probably represents the intermediate stages leading to alluvial forest. The herbaceous species that may be found here include *Sagittaria latifolia*, *Polygonum amphibium*, *Eupatorium maculatum*, *Impatiens biflora*, *Phalaris arundinacea*, which are usually found in emergent, sedge or *Phalaris* meadow communities. Some species which are normally found under a hardwood canopy, such as *Pilea pumila* and *Laportea canadensis*, may also be found here.

Sedge meadow. Curtis' (1959) term, "southern sedge meadow," describes a broader vegetational unit than can be utilized in Pool 8. The largest sedge meadows here are found along the protected floodplain, i.e. those portions of the floodplain at the extremities of the area, and on the drier edges of the emergent communities that surround the backwater lakes. Smaller sedge meadows may be found along the backwater sloughs in the northern half of the pool.

Sedge meadows are inundated during high water but are usually dry during the majority of the growing season. In depressions of sedge meadows, emergent aquatic species like *Scirpus fluviatilis*, *Spartanium eurycarpum*, *Sagittaria latifolia* and *Polygonum amphibium* form small, isolated emergent communities.

Carex emoryi, *Carex laeviconica*, and *Phalaris arundinacea* are the typical dominant species, while *Polygonum lapathifolium*, *Polygonum amphibium*, *Calamagrostis canadensis*, *Urtica dioica*, *Spartina pectinata*, *Phragmites communis*, *Eupatorium maculatum*, and *Amorpha fruticosa*, may also be present.

Phalaris meadow. *Phalaris arundinacea* is an extremely vigorous species within the study area. This plant tends to dominate areas to the point of nearly eliminating all other species. Most *Phalaris* meadows appear to possess much the same conditions as sedge meadows, and, as a result, the ecological line between a sedge and *Phalaris* meadow is obscure.

Curtis (1959) found that *Phalaris* had a presence value of 41% in "southern sedge meadows." In this study, *P. arundinacea* was present in all sedge meadows sampled. However, the species here was too distinct in its occurrence to place areas where it dominated into the sedge meadow category.

Shrub communities. Shrub dominated areas in Pool 8 are for the most part small ecotones on the borders of alluvial and willow forests, and emergent communities, as well as "shrub-carrs." The difficulty in distinguishing sedge meadows and wet prairies from shrub-carrs is discussed by Curtis (1959), and this problem appears to require quantitative work in order to be better understood.

Cephalanthus occidentalis, *Amorpha fruticosa*, *Cornus stolonifera*, *C. obliqua*, and *Cornus racemosa* are the predominant shrubs. *Rhus glabra*, *R. typhina*, *Toxicodendron*, and *Lonicera bella* form other shrub associations in drier, sandier areas.

Emergent communities. The habitats wherein emergent communities become established are highly dissected in the study area. Water levels of emergent communities may fluctuate during the growing season from a meter or so to completely dry. *Sagittaria latifolia* forms pure stands, commonly referred to as *Sagittaria* beds, along sloughs. On the deep water margins of these *Sagittaria latifolia* beds, *Sagittaria rigida* forms smaller, but also pure stands. Within a *Sagittaria* bed or on the drier portions of it, current flow is blocked. In that case *Scirpus fluviatilis*, *Scirpus validus*, *Spartanium eurycarpum*, and *Typha latifolia* may become established, and come to dominate the area.

Most emergent species associations are found in protected bays or in the protected floodplain. Protected bays are areas that are not influenced by a direct flow of water from a slough. They are usually surrounded, at least on the upstream side, by *Phalaris* meadows or forested islands. The following associations of species are often found in emergent communities: *Sagittaria latifolia* — *Scirpus fluviatilis*, *Scirpus fluviatilis* — *Polygonum amphibium*, *Polygonum amphibium* — *Sagittaria latifolia*, *Scirpus fluviatilis* — *Polygonum amphibium* — *Sagittaria latifolia*. *Salix interior* may combine with all three of the above species or with any one of them. *Typha latifolia*, *Scirpus validus*, *Phragmites communis* and *Zizania aquatica* may also be found with any of the above associations.

Spits and Shores. Spits and shores are found throughout the study area wherever islands occur. Typically there is a gradation from a submergent community to an alluvial forest within 20 m on a spit or shore. River current action causes changes from year to year in relation to the size, elevation, and amount of inundation in these areas, and, therefore, the species present tend to be those that can tolerate a relatively large range of environmental conditions, or those that are specifically adapted to the rigorous shore environment. Seedlings of some hardwood species (*Acer saccharinum* and *Betula nigra*) may pioneer these areas but rarely become established.

Eleocharis calva, *Leersia oryzoides*, *Salix interior* and some emergent species, are typical representatives of the so-called "dwarf shore flora" (Clark, 1917) found on spits and shores. This flora includes the truly diminutive species such as *Eragrostis hypnoides*, *Hemicarpha micrantha*, *Cyperus aristatus* and *Lindernia dubia*, as well as plants that are dwarfed because of the poor growing conditions, such as *Amaranthus tuberculatus*, *Bidens frondosa*, *Bidens cernua* forma *minima*, *Helenium autumnale*, and *Polygonum pennsylvanicum*.

Floating-leaved Community. This term is used to describe a community dominated by floating-leaved species. In the study area, *Nymphaea tuberosa*, *Potamogeton nodosus*, and *Nelumbo pentapetala* are the dominant floating-leaved species. The transient floating species of the family Lemnaceae are provided with a refuge from current flow by both the submergent and floating-leaved species. The species of Lemnaceae usually appear in great quantity later in the summer and are found in emergent communities also.

Submergent Communities. The Mississippi River provides a variety of aquatic situations from backwater pools devoid of current, to land-locked fluvial ponds within forested islands, small shallow sloughs, and larger turbulent sloughs, as well as the large turbulent main channel. Typically, larger sloughs and the main channel do not support submergent species because of depth and high current velocity. Smaller

sloughs and bays are usually bordered by growths of submergent species. Fluvial ponds provide suitable habitats until water depth decreases during the growing season to a point which prohibits the establishment and maintenance of submergent aquatic vegetation.

Potamogeton crispus and *Vallisneria americana* tend to dominate deeper, faster waters, while *Ceratophyllum demersum*, *Elodea canadensis*, and *Potamogeton pectinatus* dominate slower, but not necessarily shallower, waters. Sefton (1976) distinguishes various associations of submergent and floating-leaved species which are dependent on depth and current velocity.

Artificial Communities. The following three communities include areas that have been subject to the direct influence of man: old fields (cultivation), levees (highway, railroad, flood protection, and impoundment), and dredge spoil sites (deposited during main channel maintenance dredging). A total of 197 taxa, or 41% of the 482 found, were only found in one or more of these disturbed habitats. The other 285 taxa were found principally in the "natural" communities. The disturbed communities support many more non-native taxa than the natural communities do.

Old Fields. The grazing of cattle, harvesting of *Phalaris*, and cultivating of crops have occurred in portions of the protected floodplain. In low areas, old fields tend to resemble sedge or *Phalaris* meadows and possibly, if disturbance has not taken place recently, willow forests become established. Grazing has taken place in the alluvial forests of the protected floodplain. In drier areas that do not receive as much flood waters, the plants are composed of a variety of "weedy" or pioneer species.

Levees. Levees are the sand and rock foundations of highways, railroad beds, and dikes. The flora of these areas differs from that of the rest of the floodplain because of the substrate and the higher elevation which prevents inundation. Gramineae, Compositae and Cyperaceae contribute to the flora here, as well as plants found in the mesic forests of the surrounding bluffs.

Dredge Spoil. Dredge spoil sites are located on islands along the main channel. The elevation of dredge deposition varies, and thus damage to the existing vegetation on any particular spoil site is unique. Typically only a portion of a site will have had sufficient deposition to kill large trees. However, the understorey is damaged to a greater extent. Shrubs like *Toxicodendron*, *Rhus*, and *Celestrus* tend to remain where small amounts of spoil have been deposited (Ziegler 1976). A dredge spoil site may contain many of the naturally occurring species that would normally occur on xeric, sterile sites in other areas of the floodplain.

The study indicates that levees and dredge spoil sites share 27% of the same species. The difference in floral composition between levees and dredge spoil sites is probably due to the relative isolation of these sites from surrounding higher areas which are the source areas for many of the pioneering species on levees and spoil sites. The pioneering flora of dredge spoil would depend on seed transportation to the area by birds, air currents, water currents via flooding, or human transport, and is a matter of chance.

It is interesting to note that Ziegler (1976) found 304 taxa on the dredge spoil sites in this area, a high number. The large number of taxa indicate that these areas have not been totally changed from their previous condition or cannot succeed to more stable communities due to frequent disturbance. Treating the flora of dredge spoil sites as a separate community, therefore, presents many problems. Since deposition has been taking place for some time, a variety of successional stages are present, as Ziegler (1976) found.

LIST OF THE SPECIES OF VASCULAR PLANTS IN NAVIGATION POOL 8

The families to which the taxa collected belong are presented in order

of the classification system of Cronquist (1968). Genera are arranged alphabetically within each family and the species are arranged alphabetically within each genus. The treatment for each species includes providing the latest accepted binomial for it, with the final authority for the name being Hartley (1962), or the specialist to which a particular group was sent for annotation. Common names are provided for each species and the source of these names is Hartley (1962) or Fernald (1950). Hartley is followed if differences exist between both sources. Gleason (1952) was also used for reference. A statement concerning the presence of a particular taxon in the study area is also provided. The statement utilizes the following criteria:

Abundant — present in more than 85% of the relative sites

Common — present in 56%-84% of the relative sites

Frequent — present in 25%-55% of the relative sites

Infrequent — present in 10%-24% of the relative sites

Rare — present in less than 10% of the relative sites

The term, relative sites, refers to a numbered collection site which contains the given habitat wherein that particular taxon could have been found, such as submergent, floating-leaved, emergent, alluvial forest, shrub communities, willow forest, sedge meadows, *Phalaris* meadows, shores and spits. This makes the categorization of the frequency of each taxon a little less subjective than it could otherwise be, due to the highly diverse and dissected habitats, and the many ecotones found between communities in the study area. In other words the figure for relative abundance of a species is obtained by looking at the total number of sites within the pool that contain the habitat in which that species could occur.

In the list, an asterisk indicates that the taxon is not indigenous. Specialists who have annotated specimens for this study are acknowledged at the end of the species list.

EQUISETOPHYTA

EQUISETACEAE (Horsetail Family)

Equisetum arvense L. Common or Field Horsetail.

Common on borders of alluvial forests; infrequent in disturbed sandy areas.

Equisetum × *ferrissii* Clute.

(*E. hymale* var. *affine* (Engelm.) Eaton × *E. laevigatum* A. Br.)

Rare in dry marshes.

Equisetum fluviatile L. Water-horsetail.

Infrequent in dry marshes and *Phalaris* meadows.

Equisetum hyemale var. *affine* (Engelm.) A. A. Eaton. Scouring-rush.

Infrequent along weedy borders of alluvial forests, around dredge spoil.

Equisetum laevigatum A. Br. Smooth Scouring-rush.

Infrequent along moist levees.

POLYPODIOPHYTA

OSMUNDACEAE (Flowering Fern Family)

Osmunda claytoniana L. Interrupted Fern.

Infrequent in wet-mesic forests of the protected floodplain.

POLYPODIACEAE

Matteucia struthiopteris (L.) Todaro. Ostrich Fern.

Rare in wet-mesic forests of the protected floodplain.

Onoclea sensibilis L. Sensitive Fern.

Common in alluvial forests.

AZOLLACEAE

Azolla mexicana Presl. Mosquito Fern.

Frequent, replacing Lemnaceae in fall; stagnant bays and along sloughs.

PINOPHYTA

CUPRESSACEAE (Cypress Family)

Juniperus communis L. Common Juniper.

Infrequent on open dredge spoil.

MAGNOLIOPHYTA: MAGNOLIATAE (DICOTS)

ARISTOLOCHIACEAE (Birthwort Family)

Asarum canadense L. (incl. *A. acuminatum* (Ashe) Bickn. and *A. reflexum* (Bickn.) Robins.) Wild Ginger.

Rare in mesic forests along the protected floodplain.

NYMPHAEACEAE (Waterlily Family)

Nuphar luteum (L.) Sibth & Sm. subsp. *variegatum* (Engelm.) Beal (*N. advena* (Ait.) Ait f. & *N. variegatum* Engelm.) Spatter-dock.

Infrequent in bays, along quiet sloughs, and in fluvial ponds.

Nymphaea tuberosa Paine. White Water-lily.

Common along sloughs, in bays, and in fluvial ponds.

NELUMBONACEAE (Lotus Family)

Nelumbo pentapetala (Walt.) Fernald (*N. lutea* (Willd.) Pers.) American lotus.

Abundant along sloughs, in bays, and backwater lakes.

CERATOPHYLLACEAE (Hornwort Family)

Ceratophyllum demersum L. Coontail, Hornwort.

Abundant along sloughs, in bays, and in fluvial ponds.

RANUNCULACEAE (Crowfoot Family)

Anemone canadensis L. Anemone, Meadow-anemone.

Common in old fields; infrequent in dry, open alluvial forests.

Anemone quinquefolia L. Wood Anemone.

Rare in mesic forests of the protected floodplain.

Aquilegia canadensis L. Wild Columbine, Meetinghouses, Hon-
eysuckle.

Infrequent along levees.

Caltha palustris L. Marsh-marigold, Cowslip.

Rare in wet-mesic forests along the protected floodplain.

Clematis virginiana L. Virgin's-Bower.

Rare on levees.

Ranunculus abortivus L. Kidneyleaf Buttercup.

Infrequent in alluvial forests and on levees.

Ranunculus circinatus Sibth. (*R. longirostris* Godron.) Stiff- or
Water-crowfoot.

Rare in quiet bays of the protected floodplain.

Ranunculus flabellaris Raf. Yellow Water-crowfoot.

Rare in protected backwater lakes.

Ranunculus septentrionalis Poir. Swamp Buttercup.

Infrequent in wet-mesic forests of the protected floodplain.

Thalictrum dasycarpum Fisch. & Lall. Purple Meadow-rue.

Common along levees.

BERBERIDACEAE (Barberry Family)

Podophyllum peltatum L. May-apple.

Infrequent along moist levees and wet-mesic forests of the protected floodplain.

MENISPERMACEAE (Moonseed Family)

Menispermum canadense L. Moonseed.

Infrequent in alluvial forests and shrub communities.

PAPAVERACEAE (Poppy Family)

Sanguinaria canadensis L. Bloodroot, Red Puccoon.

Rare on moist levees and wet-mesic forests of the protected floodplain.

FUMARIACEAE (Fumatory Family)

Corydalis aurea Willd. Golden Corydalis.

Infrequent on dry levees.

ULMACEAE (Elm Family)

Celtis occidentalis L. Hackberry.

Infrequent in alluvial forests.

Ulmus americana L. American Elm.

Abundant in alluvial forests.

**Ulmus pumila* L. Siberian or Dwarf Elm.

Rare escaping from cultivation in disturbed areas.

Ulmus rubra Muhl. Slippery or Red Elm.

Infrequent in alluvial forests.

MORACEAE (Mulberry Family)

**Morus alba* L. White Mulberry.

Frequent in alluvial forests around dredge spoil.

Morus rubra L. Red Mulberry.

Infrequent in alluvial forests.

URTICACEAE (Nettle Family)

Boehmeria cylindrica (L.) Sw. Bog-hemp.

Common in open, moist, alluvial forests, and *Phalaris* meadows; infrequent in willow forests and dry sedge meadows.

Laportea canadensis (L.) Wedd. Wood Nettle.

Frequent in dry portions of alluvial forests; rare in willow forests.

Parietaria pennsylvanica Muhl. Pellitory.

Common on dry levees; infrequent on dredge spoil.

Pilea pumila (L.) Gray. Clearweed.

Common in moist areas of alluvial forests.

**Urtica dioica* L. (and var. *procera* (Muhl.) Wedd.) Stinging Nettle.

Common in *Phalaris* meadows; frequent in old fields and on levees.

JUGLANDACEAE (Walnut Family)

Carya ovata (Mill.) K. Koch. Shagbark or Shellbark Hickory.

Infrequent in wet-mesic forests of the protected floodplain.

Juglans nigra L. Black Walnut.

Infrequent in dry alluvial forests.

FAGACEAE (Oak Family)

Quercus bicolor Willd. Swamp White Oak.

Frequent in alluvial forests.

Quercus macrocarpa Michx. Bur Oak, Mossy-cup Oak.

Rare along levees.

Quercus velutina Lam. Black Oak.

Frequent in dry alluvial forests, mostly around dredge spoil; infrequent in wet-mesic forests of the protected floodplain.

BETULACEAE (Birch Family)

Betula nigra L. River or Red Birch

Common in alluvial forests.

NYCTAGINACEAE (Four-o'clock Family)

Mirabilis nyctaginea (Michx.) MacM. Wild four-o'clock.

Common in dry, disturbed areas (levees, dredge spoil)

AIZOACEAE (Carpetweed Family)

**Mollugo verticillata* L. Carpetweed.

Common on open dredge spoil and levees, moist or dry.

CARYOPHYLLACEAE (Pink Family)

Cerastium nutans Raf. Chickweed.

Rare on levees.

**Cerastium vulgatum* L. Common Mouse-ear Chickweed.

Infrequent along willow forests.

**Lychnis alba* Mill. White Cockle, White Campion.

Common in dry, sandy, disturbed areas (dredge spoil, levees).

**Myosoton aquaticum* (L.) Moench. (*Stellaria aquatica* (L.) Scop.) Giant Chickweed.

Frequent in moist, sandy areas; alluvial forests & borders.

**Saponaria officinalis* L. Bouncing-bet, Soapwort.

Frequent in dry, open, disturbed areas (levees, dredge spoil.)

Silene antirrhina L. Sleepy Catchfly.

Frequent on dry, open, dredge spoil.

**Silene cserei* Baumg. Catchfly, Smooth Campion.

Infrequent on dry, open, disturbed areas (levees, dredge spoil.)

**Stellaria media* (L.) Cyrillo. Common Chickweed.

Rare in alluvial forests.

CHENOPODIACEAE (Goosefoot Family)

**Chenopodium album* L. (and var. *lanceolatum*) Lamb's-quarters, Pigweed.

Common on weedy dredge spoil.

Cycloloma atriplicifolium (Spreng.) Coult. Winged Pigweed.

Common on dry, open, dredge spoil.

**Salsola kali* L. var. *tenuifolia* G. F. W. Meyer. Russian-thistle.

Infrequent on dry, open, dredge spoil.

AMARANTHACEAE (Amaranth Family)

**Amaranthus retroflexus* L. Green Amaranth, Pigweed, Wild Beet.

Rare on open dredge spoil.

Amaranthus tamariscinus Nutt. (*Acnida tamariscina* (Nutt.) Wood) Water-hemp.

Common on moist sand of shorelines.

Amaranthus tuberculatus (Moq.) Sauer (*Acnida altissima* Riddell) Water-hemp.

Abundant on moist, sandy spits & shores; rare in *Phalaris* meadows.

Froelichia floridana (Nutt.) Moq. (incl. *F. gracilis* (Hook.) Moq.) Cottonweed.

Rare on dry, weedy, dredge spoil.

POLYGONACEAE (Buckwheat Family)

Polygonum amphibium L. var. *amphibium*. Water Smartweed.

Common in marshes and wet areas of *Phalaris* meadows.

Polygonum amphibium L. var. *emersum* Michx. (*P. coccineum* Muhl.) (Mitchell 1976). Water Smartweed.

Common bordering alluvial forests along sloughs, damp open potholes of alluvial forests, *Phalaris* meadows, and dry marsh margins.

**Polygonum aviculare* L. Knotweed.

Rare on open, dry, dredge spoil.

**Polygonum convolvulus* L. Black Bindweed.

Rare along high levees.

Polygonum erectum L. Knotweed.

Infrequent on dry, open, dredge spoil.

**Polygonum hydropiper* L. Common Smartweed.

Infrequent on moist sand along willow forests.

Polygonum hydropiperoides Michx. Mild Water-pepper.

Infrequent on moist, sandy shores and along dry marsh margins.

Polygonum lapathifolium. Heart's Ease, Smartweed.

Common on spits, sandy shores, and dry ecotones of marshes.

Polygonum opelousanum Riddell. Smartweed,

Infrequent in dry, open areas of alluvial forests.

Polygonum pennsylvanicum L. Pinkweed.

Frequent along sandy, moist shores.

**Polygonum persicaria* L. Lady's-thumb, Heart's-ease.

Infrequent in openings of alluvial forests.

Polygonum punctatum Ell. Water Smartweed.

Infrequent on moist, sandy shores and alluvial forest borders.

Polygonum sagittatum L. Arrowleaved Tearthumb, Arrow-vine.

Rare in old fields.

Polygonum scandens L. (incl. *P. cristatum* Engelm. & Fray) Climbing False Buckwheat.

Common on dry, open, dredge spoil; infrequently on shrubs.

Polygonum virginianum L. (*Tovara virginiana* (L.) Raf.) Jumpseed.

Rare in alluvial forests.

**Rumex acetosella* L. Sheep-sorrel, Common Sorrel.

Common on dry, open, sand of all types of disturbed areas.

Rumex altissimus Wood. Pale Dock.

Frequent in dry depressions of alluvial forests and marshes.

**Rumex crispus* L. Yellow or Curly Dock.

Frequent in moist depressions of marshes and on shores.

Rumex mexicanus Meisn. (incl. *R. triangulivalvis* (Danser) Rech. f.) Dock.

Rare on moist shores.

Rumex orbiculatus Gray. (*R. brittanica* L.) Water Dock.

Rare on moist shores.

**Rumex patientia* L. Patience Dock.

Common on railroad levees; rare on dredge spoil.

Rumex verticillatus L. Swamp Dock.

Common in dry depressions of alluvial forests and marshes.

TILIACEAE (Linden Family)

Tilia americana L. Basswood, Linden.

Infrequent in alluvial forests.

MALVACEAE (Mallow Family)

**Abutilon theophrasti* Medic. Velvet-leaf, Butter-print, Piemaker.
Infrequent in old fields and weedy borders of dredge spoil.

VIOLACEAE (Violet Family)

Viola missouriensis Green. Missouri Violet.
Common in low alluvial forests.

CUCURBITACEAE (Gourd Family)

Echinocystis lobata (Michx.) T. & G. Wild or Prickly Cucumber.
Frequent in *Phalaris* meadows, and shrubby alluvial forest borders.

Sicyos angulatus L. Bur-cucumber.
Infrequent in *Phalaris* meadows and shrubby alluvial forest borders.

SALICACEAE (Willow Family)

Populus deltoides Marsh. Cottonwood.
Common in alluvial forests and willow forests.

**Salix alba* L. White Willow.
Rare; escaping from frequent planting.

Salix amygdaloides Anderss. Peach-leaved Willow.
Frequent in willow forests; infrequent in alluvial forests and marshes.

**Salix babylonica* L. Weeping Willow.
Cultivated and spreading along levees.

Salix interior Rowlee. Sandbar Willow.
Abundant along shores, spits, within marshes, willow forests, and in dried sloughs of alluvial forests.

Salix nigra Marsh. Black Willow.
Common in willow forests; infrequently associated with *Salix interior* on shores and within marshes.

Salix rigida Muhl. (*S. cordata* Muhl.) Heart-leaved Willow.
Frequent on shores and alluvial forest borders.

CAPPARIDACEAE (Caper Family)

Polanisia dodecandra (L.) DC. (*P. graveolans* Raf.) Clammyweed.
Common on high, dry dredge spoil; infrequent on levees.

CRUCIFERAE (Mustard Family)

**Barbarea vulgaris* R. Br. Yellow Rocket, Wintercress.
Frequent on spits and sandy shores.

**Berteroa incana* (L.) DC. Hoary Alyssum.
Infrequent in disturbed, dry areas (dredge spoil, levees, old fields.)

**Brassica nigra* (L.) Koch. Black Mustard.
Infrequent on levees and moist dredge spoil.

**Capsella bursa-pastoris* (L.) Medic. Shepard's-purse.
Infrequent in disturbed sandy areas.

**Cardamine hirsuta* L.
Rare on spits.

Cardamine parviflora var. *arenicola* (Brih.) O. E. Schultz. Bitter Cress.
Rare in old fields.

Cardamine pennsylvanica Muhl. Bitter Cress.
Common on moist sand shores, spits, marshes and alluvial forests.

Descurainia pinnata (Walt.) Britt. var. *brachycarpa* (Richards.) Fernald. Tansy-mustard.
Common on levees.

**Erysimum cheiranthoides* L. Wormseed Mustard.
Frequent in disturbed areas (levees, old fields, dredge spoil.)

**Lepidium densiflorum* Schrader. Small Peppergrass.
Common on levees and dry, open dredge spoil.

Lepidium virginicum L. Poor-man's Pepper.
Frequent on dry, open dredge spoil.

Rorippa palustris (L.) Bess. subsp. *glabra* var. *fernaldiana* (Butt. & Abbe) Stuckey. Marsh or yellow cress.
Common on spits and moist slough borders.

**Sisymbrium altissimum* L. Tumble-mustard.
Common on levees; rare on dry, open dredge spoil.

**Thlaspi arvense* L. Penny-cress.
Infrequent on levees.

PRIMULACEAE (Primrose Family)

Lysimachia ciliata L. Loosestrife.
Frequent in alluvial forests; infrequent in old fields.

Lysimachia hybrida Michx. Loosestrife.
Infrequent in marshes or alluvial forest borders.

**Lysimachia nummularia* L. Moneywort.
Frequent on moist forest floors, in old fields, and *Phalaris* meadows; rare in marshes.

Lysimachia terrestris (L.) BSP. Swamp Loosestrife, Swamp Candles.
Rare in moist sand of willow forests.

Lysimachia thyrsiflora L. Tufted Loosestrife.
Frequent in dry marshes; infrequent in low alluvial forests.

CRASSULACEAE (Orpine Family)

**Sedum sarmentosum* Bunge. Stonecrop.
Rare on open dredge spoil.

SAXIFRAGACEAE (Saxifrage Family)

Penthorum sedoides L. Ditch-stonecrop.
Infrequent in low depressions of old fields, alluvial forests and marsh borders.

Ribes americanum Mill. Wild Black Currant.
Frequent in alluvial forests and weedy borders of dredge spoil.

Ribes hirtellum Michx. Currant, Gooseberry.
Rare in alluvial forests.

Ribes missouriense Nutt. Wild or Missouri Gooseberry.
Rare in wet-mesic forests along the protected floodplain.

ROSACEAE (Rose Family)

Geum canadense Jacq. White Avens.
Infrequent in backwater alluvial forests.

Geum laciniatum Murr. Avens.
Infrequent on moist sand of alluvial or willow forests on dredge spoil.

Physocarpus opulifolius (L.) Maxim. Ninebark.
Rare along levees.

**Potentilla argentea* L. Silvery Cinquefoil.
Rare on dry, open dredge spoil.

Potentilla arguta Pursh. Tall Cinquefoil.
Rare in old fields.

Potentilla norvegica L. (incl. *P. monspeliensis* L.) Rough Cinquefoil, Five-finger.

Infrequent on open dredge spoil; rare in old fields.

Prunus americana Marsh. Wild Plum.

Rare in disturbed forests or shrubby areas.

Prunus pumila L. Sand Cherry.

Common only along the back roads of Goose Island (old field community).

Prunus serotina Ehrh. Wild or Black Cherry.

Infrequent in dredge spoil disturbed alluvial forests.

Prunus virginiana. Choke-cherry.

Common on the borders of the back roads of Goose Island; rare in dredge spoil disturbed alluvial forests.

Rosa acicularis Lindl. Prickly Wild rose.

Infrequent in disturbed areas (open dredge spoil, old fields.)

Rosa blanda Ait. Early Wild Rose.

Frequent along alluvial forests and *Phalaris* meadows; infrequent in dredge-spoil disturbed forests; rare on levees.

Rosa blanda ait. X *Rosa acicularis* Lindl. (according to Gleason 1952).

Rare on levees.

Rosa suffulta Green (*R. arkansana* var. *suffulta* according to Fernald, 1950).

Rare on levees.

Rubus allegheniensis Porter. Common Bramble or Blackberry.

Infrequent on alluvium of alluvial forests.

Rubus flagellaris L. Northern Dewberry.

Frequent on high areas of alluvial forests; rare on open dredge spoil.

Rubus occidentalis L. Black Raspberry.

Common on disturbed borders of alluvial forests (dredge spoil & levees); infrequent on alluvium in alluvial forests.

Rubus strigosus Michx. (*R. idaeus* L.) Red Raspberry.

Rare on open, sandy alluvium.

LEGUMINOSAE (Pulse Family)

Amorpha canescens Pursh. Leadplant.

Rare in dry, sandy old fields; terraces.

Amorpha fruticosa L. False or Bastard Indigo.

Common in *Phalaris* meadows, sedge meadows, and moist borders of alluvial forests.

Amphicarpa bracteata (L.) Fern. (incl. *A. pitcheri* T. & G.) Hog Peanut.

Infrequent in shady disturbed areas (old fields & levees).

Apios americana Medic. Groundnut, Wild Bean.

Infrequent in *Phalaris* meadows, old fields, and alluvial forest borders.

Astragalus canadensis L. Milk-vetch.

Rare on dredge spoil bordering alluvial forests.

Baptisia leucantha T. & G. White or Prairie False Indigo.

Infrequent in dry, sandy old fields; terraces.

Baptisia leucophaea Nutt. False Indigo.

Rare in old fields; terraces.

Chamaecrista fasciculata (Michx.) Green (*Cassia fasciculata* Michx.) Partridge Pea.

Common only along roadsides of Goose Island (old field community).

Desmodium canadense (L.) DC. Tick-trefoil, Tick-dover, Beggar's-tick.

Infrequent in drier alluvial forests and old fields in the protected floodplain.

Desmodium glutinosum (Muhl.) Wood. (*D. acuminatum* Michx.) Pointed Tick Trefoil.

Rare in alluvial forests.

Gleditsia triacanthos L. Honey Locust.

Rare in old fields.

Lathyrus palustris L. (and var. *myrtifolius* (Muhl.) Gray). Vetchling.

Infrequent in old fields, *Phalaris* meadows, and moist willow forests.

Lathyrus venosus Muhl. var. *intonsus* Butters & St. John. Veiny Wild Pea.

Rare in *Phalaris* meadows.

Lespedeza capitata Michx. Bush-clover.

Common along roadsides and old fields of Goose Island (old field community).

**Medicago lupulina* L. Black Medic.

Frequent on levees and weedy areas of dredge spoil.

**Melilotus alba* Desr. White Sweet Clover.

Common on levees and dry, open dredge spoil.

**Melilotus officinalis* (L.) Lam. Yellow Sweet Clover, Yellow Melilot.

Common on levees and in old fields; frequent on dry open dredge spoil.

Petalostemum purpureum (Vent.) Rydb. Purple Prairie-clover.

Infrequent in old fields; terraces.

Phaseolus polystachios (L.) BSP. Wild Bean.

Infrequent in old fields.

**Robinia pseudo-acacia* L. Black Locust.

Infrequent in dry or moist sand bordering alluvial forests.

Strophostyles helvola (L.) Ell. Wild Bean.

Infrequent on dry, open dredge spoil.

Tephrosia virginiana (L.) Pers. Goat's rue, Catgut, Rabbit's-pea.

Rare in dry old fields; terraces.

**Trifolium hybridum* L. Alsike Clover.

Infrequent in old fields.

**Trifolium pratense* L. Red Clover.

Infrequent in old fields.

**Trifolium repens* L. White Clover.

Infrequent in old fields and open dredge spoil.

**Vicia villosa* Roth. Hairy or Winter-vetch.

Rare along dry, sandy roadsides; terraces.

HALORAGACEAE (Water Milfoil Family)

Myriophyllum spicatum L. var. *exalbescens* (Fern.) Jepson (*M. exalbescens* Fern.) Water milfoil.

Frequent in bays and along slow sloughs; rarely within emergent communities.

ONAGRACEAE (Evening-Primrose Family)

Circaea quadrifida (Maxim.) Franch. & Sav. var. *canadensis* (L.) Hara. (*C. latifolia* Hill). Enchanter's Nightshade.

Rare in alluvial forests.

Epilobium coloratum Biehler. Cinnamon Willow-herb.
Infrequent on moist dredge spoil and moist willow forests.

Ludwigia polycarpa Short & Peter
Rare in alluvial forests.

Oenothera biennis L. subsp. *caeciarum* Muuz. Evening-primrose.
Common on open, dry dredge spoil and dry, sandy borders of alluvial forests; infrequent on alluvium of forests and levees.

Oenothera rhombipetala Nutt. Evening-primrose.
Rare on dry, open dredge spoil.

CORNACEAE (Dogwood Family)

Cornus obliqua Raf. Silky Dogwood.
Frequent along shores and shrubby borders of alluvial forests.

Cornus racemosa Lam. Gray Dogwood.
Infrequent on shores and shrubby borders of alluvial forests.

Cornus rugosa Lam. Round-leaved Dogwood.
Rare in alluvial forests disturbed by dredge spoil.

Cornus stolonifera Michx. Red Osier.
Frequent on shores, borders of alluvial forests, and dry marshes.

CELASTRACEAE (Staff-Tree Family)

Celastrus scandens L. Bittersweet.
Infrequent in dry forests disturbed by dredge spoil.

Euonymus atropurpureus Jacquin. Burning Bush, Wahoo.
Infrequent along levees.

EUPHORBIACEAE (Spurge Family)

Acalypha rhomboidea Raf. Three-seeded Mercury.
Frequent in old fields and weedy portions of dredge spoil; infrequent on alluvium in alluvial forests.

Euphorbia corollata L. Flowering Spurge.
Infrequent in old fields.

Euphorbia maculata L. Eyebane.
Infrequent along dry levees and on dry, open dredge spoil.

Euphorbia supina Raf. Milk-purslane.
Frequent on open, moist or dry dredge spoil.

Euphorbia vermiculata Raf.
Rare on moist dredge spoil.

RHAMNACEAE (Buckthorn Family)

**Rhamnus cathartica* L. Common Buckthorn.
Infrequent in dry alluvial forests damaged by dredge spoil.

**Rhamnus frangula* L. Alder Buckthorn.
Rare, escaping from cultivation in alluvial forests.

VITACEAE (Vine Family)

Parthenocissus inserta (Kerner) K. Fritsch (= *P. vitacea*). Virginia Creeper, Woodbine.
Common in and around alluvial forests, on high main channel banks, and around dredge spoil.

Vitis riparia Michx. Riverbank or Frost Grape.
Common in openings of alluvial forests and around dredge spoil.

ACERACEAE (Maple Family)

Acer negundo L. Box-elder
Frequent in alluvial forests.

Acer saccharinum L. Silver Maple.
Abundant and at times dominating alluvial forests.

ANACARDIACEAE (Cashew Family)

Rhus glabra L. Smooth Sumac.
Infrequent bordering open dredge spoil, on levees, or in old fields.

Rhus typhina L. Staghorn Sumac.
Infrequent bordering open dredge spoil, on levees, or in old fields.

Toxicodendron radicans subsp. *negundo* (Greene) Gillis. Poison Ivy. (Gillis 1971).
Abundant in alluvial forests and creeping onto dredge spoil from dredge-spoil damaged forests.

Toxicodendron rydbergii (Small ex Rydb.) Greene. Poison Ivy.
Infrequent in mesic forests of the protected floodplain.

RUTACEAE (Rue Family)

Xanthoxylum americanum Mill. Prickly-ash.
Infrequent in drier portions of alluvial forests.

OXALIDACEAE (Wood-sorrel Family)

Oxalis europaea Jord. Wood-sorrel, Lady's-sorrel.
Common on dry or moist sand, bordering or in openings, of alluvial forests; infrequent on levees.

Oxalis stricta L. Wood-sorrel, Lady's-sorrel.
Infrequent on dry or moist sand, bordering or in openings of alluvial forests.

GERANIACEAE (Geranium Family)

Geranium carolinianum L. Cranesbill.
Rare on dry, open dredge spoil.

BALSAMINIACEAE (Touch-me-not Family)

Impatiens biflora Willd. (*I. capensis* Meerb.) Spotted Touch-me-not or Snapweed, Lady's earrings, Jewelweed.
Common in alluvial forests and marsh margins.

Impatiens pallida Nutt. Pale Touch-me-not or Snapweed, Jewelweed.
Rare in alluvial forests and marsh margins.

UMBELLIFERAE (Parsley Family)

Cicuta bulbifera L. Water-hemlock.
Infrequent in dry portions of marshes and on moist sand in marshes bordering dredge spoil.

Cicuta maculata L. Spotted Cowbane.
Infrequent in moist willow forests and marshes bordering alluvial forests.

Cryptotaenia canadensis (L.) DC. Honewort.
Infrequent in dry alluvial forests.

**Daucus carota* L. Queen Anne's Lace.
Rare on open, weedy dredge spoil.

Sium suave Walt. Water-parsnip.
Frequent in dry marshes and wet forests (willow and alluvial).

Zizia aurea (L.) W. D. J. Koch. Golden Alexanders.
Rare along roadside levees.

APOCYNACEAE (Dogbane Family)

Apocynum androsaemifolium L. Spreading Dogbane.
Infrequent in dry old fields.

Apocynum cannabinum L. Indian Hemp.
Infrequent in *Phalaris* meadows and borders of forests.

Apocynum sibiricum Jacq. Dogbane, Indian Hemp.
Infrequent in dry, sandy, waste places and *Phalaris* meadows.

ASCLEPIADACEAE (Milkweed Family)

Asclepias hirtella (Pennell) Woodson (*Acerates* Pennell).
Rare in dry, open old fields.

Asclepias incarnata L. Swamp Milkweed.
Common along marsh margins, in *Phalaris* meadows, and on moist sandy shores.

Asclepias syriaca L. Common Milkweed.
Frequent in dry areas (levees, open dredge spoil); infrequent on open, moist alluvium in alluvial forests.

Asclepias verticillata L. Whorled Milkweed.
Rare in old fields; infrequent on dry, weedy dredge spoil.

SOLANACEAE (Nightshade Family)

Physalis heterophylla Nees. var. *ambigua* (Gray) Rydb. Clammy Ground-cherry.
Rare in shrubby, dry old fields.

**Solanum americanum* Mill. Black Nightshade.
Frequent in moist waste places and dredge spoil damaged alluvial forests.

**Solanum carolinense* L. forma *albiflorum* Benke. Horse-nettle, Ball-nettle.
Rare in old fields; infrequent on dry, open dredge spoil.

**Solanum dulcamara* L. Bittersweet, Nightshade.
Common in alluvial forests, willow forests, open dredge spoil, *Phalaris* meadows, and sedge meadows.

CONVOLVULACEAE (Morning Glory Family)

Convolvulus sepium L. Hedge Bindweed, Wild Morning-glory.
Common in *Phalaris* meadows, sedge meadows, and open dredge spoil.

CUSCUTACEAE (Dodder Family)

Cuscuta cephalanthi Engelm. Dodder.
Infrequent in sedge meadows.

Cuscuta glomerata Choisy. Dodder.
Infrequent in alluvial forests and willow forests.

Cuscuta gronovii Willd. Dodder.
Infrequent on *Laportea canadensis* and other herbs in alluvial forests.

HYDROPHYLLACEAE (Waterleaf Family)

Hydrophyllum virginianum L. John's-cabbage. Virginia water-leaf.
Infrequent along moist, shady levees and forests of the protected floodplain.

BORAGINACEAE (Borage Family)

Hackelia virginiana (L.) Johnston. Stickseed. Beggar's-lice.
Infrequent in alluvial forests or thickets around dredge spoil.

VERBENACEAE (Vervain Family)

Phyla lanceolata (Michx.) Green (= *Lippia lanceolata* Michx.) Frog-fruit.
Infrequent on moist shores; rare in moist old fields.

Verbena X Engelmanni Moldenke (*V. urticifolia* L. X *V. hastata* L.)
A rare hybrid found along sloughs and in old fields.

Verbena hastata L. Blue Vervain.
Frequent on open dredge spoil and in *Phalaris* meadows; infrequent

along shaded slough banks.

Verbena stricta Vent. Hoary Vervain.
Infrequent in dry, sunny, disturbed areas (dredge spoil, old fields).

Verbena urticifolia L. White Vervain.
Rare in moist willow forests.

LABIATAE (Mint Family)

Agastache scrophulariaefolia (Willd.) Kuntze. Purple Giant Hyssop.
Rare in mesic forests of the protected floodplain.

**Glechoma hederacea* L. var. *parviflora* Druce (*G. heterophylla* Waldst. & Kit.) Ground-ivy.

Infrequent in moist, shady, disturbed areas (dredge spoil in alluvial forests), on levees.

Hedeoma hispida Pursh. Mock Pennyroyal.
Infrequent in dry, sunny, disturbed areas (open dredge spoil, levees.)

**Leonurus cardiaca* L. Motherwort.
Rare in sandy, disturbed areas.

Lycopus americanum Muhl. Water-horehound.
Infrequent in moist, shady old fields; frequent in willow forests and shorelines around dredge spoil or undisturbed areas.

Lycopus virginicus L. Water horehound, Bugleweed.
Infrequent in moist old fields, and shorelines and willow forests around dredge spoil or undisturbed areas.

Mentha arvensis L. (incl. *M. canadensis* L.) Wild Mint.
Frequent in moist, open areas of alluvial forests, and willow forests or shorelines around dredge spoil; infrequent in sedge meadows.

Monarda fistulosa L. Wild Bergamot.
Infrequent on levees.

Monarda punctata L. Dotted Monarda, Horsemint.
Infrequent on dry, open dredge spoil.

**Nepeta cataria* L. Catnip.
Frequent on levees; infrequent on dry, open dredge spoil.

Physostegia formosior Lunnell. (incl. *P. parviflora* Nutt. and *P. speciosa* Sweet). False Dragonhead.

Common in old fields; frequent in open high areas of alluvial forests, and willow forests or shorelines around dredge spoil; infrequent in sedge meadows.

Prunella vulgaris L. var. *lanceolata* (Bart.) Fern. Heal-all.
Infrequent in old fields.

Scutellaria galericulata L. (*S. epilobiifolia* A. Hamilton) Common Skullcap.

Infrequent in *Phalaris* meadows, and willow forests or shorelines around dredge spoil.

Scutellaria laterifolia L. Mad-dog Skullcap.
Frequent along alluvial forests, and willow forests or shorelines around dredge spoil.

Stachys hispida Pursh. Hedge Nettle.
Frequent along alluvial forests, and willow forests or shorelines around dredge spoil.

Stachys tenuifolia Willd. Hedge Nettle.
Infrequent along alluvial forests.

Teucrium canadense L. (incl. *T. occidentale* Gray). American Germander, Wood-sage.

Common in alluvial forests damaged by dredge spoil and alluvial forests of the backwaters.

PLANTANGINACEAE (Plantain Family)

**Plantago major* L. Common Plantain.

Infrequent in moist sand of disturbed areas (dredge spoil, levees, old fields.)

Plantago purshii R. & S. Plantain, Ribwort.

Infrequent along dry, disturbed roadsides and dry old fields; terraces.

Plantago rugelii Dcne. Red-stemmed Plantain.

Infrequent in sandy old fields, shorelines or willow forests around dredge spoil.

OLEACEAE (Olive Family)

Fraxinus pennsylvanica Marsh. (incl. *F. lanceolata* Borkh.) Red or Green Ash.

Abundant in alluvial forests (around dredge spoil and in the backwaters).

**Syringa vulgaris* L. Lilac.

Rare in old fields.

SCROPHULARIACEAE (Figwort Family)

Gerardia tenuifolia Vahl. Gerardia.

Infrequent in moist sand around dredge spoil.

Gratiola neglecta Torr. Hedge-hyssop.

Rare in alluvial forests.

Linaria canadensis (L.) Dumont. Old-field-toadflax.

Infrequent on dry, open dredge spoil.

**Linaria vulgaris* Hill. Butter-and-eggs.

Frequent in weedy areas bordering willow forests and alluvial forests on dredge spoil.

Lindernia dubia (L.) Pennell. (incl. *L. anagallidea* (Michx.) Pennell) False Pimpernel.

Common on moist, sandy shorelines; infrequent in dry marshes.

Mimulus ringens L. Monkey Flower.

Frequent on moist sand of dredge spoil, on edges of marshes and in shrubby areas.

Scrophularia lanceolata Pursh. Figwort.

Rare on levees.

Scrophularia marilandica L. Figwort.

Infrequent in alluvial forests around dredge spoil; rare on levees.

**Verbascum thapsus* L. Common Mullein, Flannel-plant.

Frequent on levees and dry, open dredge spoil.

Veronica peregrina L. var. *peregrina*. Purslane-speedwell.

Infrequent on moist, sandy shorelines of dredge spoil.

Veronica peregrina L. var. *xalapensis* (HBK.) Pennell. Purslane-speedwell.

Frequent on moist, sandy shorelines of dredge spoil.

BIGNONIACEAE (Trumpet-Creeper Family)

**Catalpa speciosa* Warder. Northern Catalpa.

Infrequent in moist or dry alluvial forests or weedy borders on dredge spoil.

LENTIBULARIACEAE (Bladderwort Family)

Utricularia vulgaris L. Bladderwort.

Rare in protected, stagnant bays of the backwaters.

CAMPANULACEAE (Harebell Family)

Campanula americana L. Tall Bellflower.

Rare in alluvial forests around dredge spoil.

Lobelia cardinalis L. Cardinal-flower.

Frequent on moist alluvium in alluvial forests; infrequent in moist sand of willow forests or *Phalaris* meadows on dredge spoil, or undisturbed habitat.

Lobelia siphilitica L. Blue Cardinal-Flower, Great Lobelia.

Infrequent in moist sand along dredge spoil.

RUBIACEAE (Madder Family)

Cephalanthus occidentalis L. Buttonbush.

Frequent on dry marsh margins, alluvial forest borders, and shorelines or alluvial forest borders on dredge spoil.

Galium aparine L. Spring-cleavers.

Common along railroad levees, and on moist, shady, dredge spoil.

Galium boreale L. Northern Bedstraw.

Rare on levees.

Galium obtusum Bigel. Bedstraw, Cleavers, Wild Madder.

Frequent on levees and on moist, shady, sand of dredge spoil; infrequent in undisturbed alluvial forests.

Galium tinctorium L. Bedstraw, Cleavers.

Infrequent in dry old fields and moist sand of dredge spoil.

CAPRIFOLIACEAE (Honeysuckle Family)

**Lonicera X bella* Zabel (*L. morrowi* Gray X *L. tatarica* L.) Honeysuckle.

Frequent in dry, disturbed alluvial forests (dredge spoil, old fields).

**Lonicera tatarica* L. Tartarian Honeysuckle.

Infrequent in dredge spoil damaged, dry alluvial forests (dredge spoil, old fields).

Sambucus canadensis L. Common Elder.

Common in moist, shrubby ecotones of alluvial forests.

Sambucus pubens Michx. Red-berried Elder.

Rare on dry levees.

Viburnum acerifolium L. Dockmackie, Arrow-wood, Maple-leaved Viburnum.

Rare in dredge spoil damaged, dry alluvial forests.

Viburnum lentago L. Sweet Viburnum, Sheepberry, Nannyberry, Wild-raisin.

Rare in backwater alluvial forests.

COMPOSITAE (Composite Family)

**Achillea millefolium* L. (incl. *A. lanulosa* Nutt.) Yarrow.

Frequent on dry, open dredge spoil.

Ambrosia artemisiifolia L. Common Ragweed.

Frequent on open dredge spoil, in old fields, and on levees; rare on sandy alluvium of alluvial forests.

Ambrosia trifida L. Great Ragweed.

Infrequent on moist dredge spoil.

Antennaria plantaginifolia (L.) Hook. (incl. *A. fallax* Greene, *A. parlinii* Fern. and *A. munda* Fern.) Pussy-toes.

Rare along roadsides (old fields).

**Artemisia biennis* Willd. Biennial Wormwood.

Frequent in old fields; infrequent on moist, weedy dredge spoil.

Artemisia ludoviciana Nutt. (*A. gnaphalodes* Nutt.) White Sage, Western Mugwort.

Rare on dry, open dredge spoil and in sandy old fields.

Artemisia serrata Nutt. Wormwood.

Rare on dry, open dredge spoil.

- Aster drummondii* Lindl. Drummond's Aster.
Rare in wet-mesic forests along the edge of the protected floodplain.
- Aster ericoides* L. (*A. multiflorus* Ait.) Heath Aster.
Rare on weedy dredge spoil and in old fields.
- Aster lateriflorus* (L.) Britt. Side-flowering Aster.
Rare in backwater alluvial forests.
- Aster novae-angliae* L. New England Aster.
Rare on dry dredge spoil.
- Aster ontarionis* Wieg. Ontario Aster.
Common on moist or dry dredge spoil; frequent in old fields; infrequent in low, sandy, alluvial forests.
- Aster simplex* Willd. var. *interior* (Wies.) Cron. (*A. paniculatus* Lam.) Panicked Aster.
Common in old fields; infrequent on moist shorelines of dredge spoil.
- Bidens cernua* L. Stick-tight, Nodding Bur-marigold. (Incl. *B. cernua* L. *F. minima* (Huds.) Larss.)
Common on moist, sandy shorelines.
- Bidens comosa* (Gray) Wiegand. Beggar-ticks.
Rare in sandy willow forests.
- Bidens connata* Muhl. var. *connata*.
Rare in wet willow forests.
- Bidens connata* Muhl. var. *petiolata* (Nutt.) Gray. Stick-tight, Beggar-ticks.
Infrequent on moist, sandy shorelines and spits.
- Bidens frondosa* L. Beggar-ticks, Common Bur-marigold.
Common on shorelines and spits.
- Bidens vulgata* Greene f. *puberula* (Wieg.) Fernald. Beggar-ticks, Stick-tight, Tall Stick-tight.
Rare on dredge spoil and in old fields.
- **Cirsium arvense* (L.) Scop. Canada Thistle.
Infrequent on sandy borders or *Phalaris* meadows around dredge spoil.
- Cirsium discolor* (Muhl.) Spreng. Prairie Thistle.
Frequent on railroad levees.
- **Cirsium vulgare* (Savi) Tenore. Bull Thistle.
Infrequent in open areas, weedy borders, or alluvial forests around dredge spoil.
- Erechtites hieracifolia* (L.) Raf. Pilewort.
Infrequent in alluvial woods around dredge spoil.
- Erigeron annuus* (L.) Pers. Daisy-fleabane.
Common on moist or dry weedy borders of open dredge spoil.
- Erigeron canadensis* L. (*Conyza canadensis* (L.) Cronquist).
Horse-weed, Hog-weed, Butter-weed.
Common on weedy borders or dry, open areas of dredge spoil.
- Erigeron philadelphicus* L. Fleabane.
Infrequent in alluvial forests on dredge spoil and on spits and shores of the backwaters.
- Erigeron strigosus* Muhl. Daisy-fleabane, White-top.
Infrequent on weedy borders or dry, open areas of dredge spoil.
- Eupatorium maculatum* L. Joe-pye-weed.
Frequent in moist, old fields that resemble sedge meadows; infrequent in moist alluvial forests or their borders on dredge spoil.
- Eupatorium perfoliatum* L. Thoroughwort Boneset.
Frequent in old fields; infrequent in moist sand or marshy areas around dredge spoil.
- Eupatorium purpureum* L. Purple Joe-pye-weed.
Rare in wet-mesic forests of the extreme protected floodplain.
- Eupatorium rugosum* Houtt. var. *tomentellum* (Robinson) Blake. White Snakeroot.
Frequent in alluvial forests around dredge spoil; infrequent on railroad levees.
- **Galinsoga ciliata* (Raf.) Blake.
Rare in moist sand of willow forests or *Phalaris* meadows around dredge spoil.
- Gnaphalium obtusifolium* L. (incl. *G. saxicola* Fassett). Catfoot.
Rare on dry, open dredge spoil.
- Helenium autumnale* L. Sneezeweed.
Common on spits and sandy shores in the backwaters; frequent on alluvial forest and willow forest borders around dredge spoil.
- Helianthus strumosus* L. Sunflower.
Infrequent on roadside levees.
- **Helianthus tuberosus* L. var. *subcanescens* Gray. Jerusalem-artichoke.
Infrequent in old fields. Spread from cultivation.
- Heliopsis helianthoides* (L.) Sweet. (and var. *scabra* (Dunal.) Fern.)
Rare on dry sand of willow forests on dredge spoil; frequent on moist portions of levees.
- Hieracium longipilum* Torr. Hawkweed.
Rare in dry old fields.
- Lactuca biennis* (Moench) Fern. Wild Lettuce.
Rare in alluvial forests on dredge spoil.
- Lactuca canadensis* L. Wild Lettuce.
Common on dry, weedy borders or open areas of dredge spoil.
- **Lactuca scariola* L. Prickly Lettuce.
Common on dry, weedy borders or open areas of dredge spoil.
- Liatris aspera* Michx. Button-snakeroot, Blazing Star.
Rare in dry old fields; terraces.
- **Matricaria matricarioides* (Less.) Porter. (incl. *M. suaveolens* (Pursh) Buchenan. Pineapple-weed.
Common along the disturbed roadsides of Goose Island (old fields.)
- Rudbeckia laciniata* L. Coneflower.
Rare in alluvial forests on dredge spoil.
- Rudbeckia triloba* L. Coneflower.
Rare in alluvial forests.
- Senecio pauperculus* Michx. (Incl. *S. balsamitae* Muhl.) Ragwort.
Rare on open, weedy dredge spoil.
- Senecio plattensis* Nutt. Groundsel, Ragwort, Squaw-weed.
Infrequent along dry roadside levees.
- Solidago altissima* L. (*S. canadensis* L. var. *scabra* (Muhl.) T. & G.) Goldenrod.
Infrequent in old fields, on levees, and dry, open, or weedy, dredge spoil.
- Solidago canadensis* L. var. *hargerii* Fern. Goldenrod.
Rare on open dredge spoil.
- Solidago gigantea* Ait. var. *gigantea*. Late Goldenrod.

Frequent on levees, in old fields, and open areas or weedy borders of dredge spoil.

Solidago gigantea Ait. var. *serotina* Ait. Goldenrod.

Frequent in open areas or weedy borders on dredge spoil.

Solidago graminifolia (L.) Salisb. (*S. media* (Greene) Bush ex Friesner in Jones & Fuller, 1955.) Grass-leaved Goldenrod.

Infrequent in old fields.

Solidago missouriensis Nutt. (*S. glaberrima* Martens in Jones & Fuller, 1955.)

Rare in old fields; terraces.

Solidago nemoralis Ait.

Rare in old fields; terraces.

**Tanacetum vulgare* L. Tansy.

Rare on weedy borders of dredge spoil.

**Taraxacum officinale* Weber. Common Dandelion.

Frequent on moist or dry shorelines or open dredge spoil.

**Tragopogon dubius* Scop. Goat's-beard.

Frequent on dry, open dredge spoil and levees.

Vernonia fasciculata Michx. Ironweed.

Frequent on sandy shores of small backwater sloughs and in old fields; rare in dry portions of marshes.

**Xanthium strumarium* L. Cocklebur.

Common on dry, open dredge spoil, shady margins of alluvial forests, spits, and dry marshes.

MAGNOLIOPHYTA: LILIATAE (Monocots)

ALISMATACEAE (Water-Plantain Family)

Alisma subcordatum Raf. (*A. plantago-aquatica* var. *parviflorum* (Pursh) Farwell.) Water-plantain.

Infrequent in marshes and moist alluvial forests, both on dredge spoil and in the backwaters.

Sagittaria latifolia Willd. Arrowhead, Wapato, Duck-potato.

Abundant along sloughs, in bays and marshes; infrequent in wet willow forests, spits, and sandy shorelines.

Sagittaria latifolia Willd. f. *gracilis* (Pursh) Robinson.

Common with typical form.

Sagittaria rigida Pursh. Stiff Wapato, Narrow-leaved Arrowhead.

Common along sloughs, in bays, wet marsh margins, spits and sandy shorelines.

Sagittaria rigida Pursh f. *fluitans* (Engelm) Fernald.

Unflowering and completely submerged form; common in deeper water of slow sloughs and bays.

HYDROCHARITACEAE (Frog's-bit Family)

Elodea canadensis Michx. Waterweed.

Abundant along sloughs, in bays, and lakes.

Vallisneria americana Michx. Wild-celery, Tapegrass.

Frequent along fast slough margins and in lakes.

NAJADACEAE (Naiad Family)

Najas flexilis (Willd.) Rostk. & Schmidt. Naiad.

Infrequent in shallow, stagnant bays.

Najas guadelupensis (Sprong.) Magnus.

Rare in shallow, stagnant bays.

POTAMOGETONACEAE (Pondweed Family)

**Potamogeton crispus* L. Curly-leaved Pondweed.

Abundant along sloughs, in bays, and lakes.

Potamogeton pusillus L. Small-pondweed.

Common in quiet bays and along slow sloughs.

Potamogeton nodosus Poir. Long-leaved Pondweed.

Abundant along, and in the middle of, fast and slow sloughs and in bays.

Potamogeton pectinatus L. Comb-pondweed. "Sago."

Common along slow sloughs and in bays.

Potamogeton richardsonii (Ar. Benn.) Rydb. Red-head Pondweed.

Common in the Stoddard stump fields; infrequent along sloughs.

Potamogeton zosteriformis Fernald. Flat-stem Pondweed.

Common along quiet sloughs and bays.

COMMELINACEAE (Spiderwort Family)

Tradescantia ohiensis Raf. Spiderwort.

Frequent on levees; infrequent on dry, open dredge spoil.

JUNCACEAE (Rush Family)

Juncus dudleyi Wieg. Rush.

Infrequent on moist sand bordering marshy areas around dredge spoil.

Juncus effusus L. Soft Rush.

Infrequent on moist sand bordering marshy areas around dredge spoil.

Juncus nodosus L. Joint Rush.

Infrequent on moist sand bordering marshy areas around dredge spoil.

Juncus tenuis Willd. Path Rush.

Infrequent in old fields and on spits.

CYPERACEAE (Sedge Family)

Carex alopecoidea Tuckerm. Foxtail Sedge.

Infrequent in moist old fields.

Carex amphibola Steud. var. *turgida* Fern. (= *C. grisea*). Gray Sedge.

Infrequent in high, sandy areas of alluvial forest along the main channel.

Carex angustior Mack.

Rare in marshes of the protected floodplain.

Carex brevior (Dew.) Mackenz. Sedge.

Infrequent on dry, open dredge spoil and in sedge meadows in the protected floodplain.

Carex brunnescens (Pers.) Poir. Sedge.

Rare in sedge meadows of the protected floodplain.

Carex convoluta Mackenz. Sedge.

Rare in moist alluvial forests of the protected floodplain.

Carex crinita Lam. Sedge.

Rare in backwater alluvial forests.

Craex cristatella Britt. Sedge.

Common in moist old fields; frequent on moist sand of willow forests on dredge spoil; rare on sandy alluvium in alluvial forests.

Carex emoryi Dew. Emory's Sedge.

Common in sedge meadows, *Phalaris* meadows, dry marsh margins, and alluvial forests margins; infrequent in moist sand bordering dredge spoil.

- Carex grayii* Carey. Gray's Sedge.
Infrequent in low, mature alluvial forests.
- Carex haydenii* Dew. Hayden's Sedge.
Rare on spits and in low marshy areas of forests in the protected floodplain.
- Carex hystericina* Muhl. Bottlebrush Sedge.
Rare on moist or dry borders of dredge spoil.
- Carex lacustris* Willd. Lake Sedge.
Infrequent in sedge meadows of the protected floodplain.
- Carex laeviconica* Dewey. Sedge.
Common in sedge meadows, *Phalaris* meadows, and marsh margins; infrequent in moist disturbed areas (dredge spoil, moist old fields.)
- Carex lanuginosa* Michx. Woolly Sedge.
Infrequent on marsh margins and dry, open dredge spoil.
- Carex lupulina* Muhl. Hop's Sedge.
Infrequent in low, mature alluvial forests; rare in moist *Phalaris* meadows.
- Carex muhlenbergii* Schk. Sedge.
Rare on dry, open dredge spoil.
- Carex muskingumensis* Schwein. Sedge.
Infrequent in low, mature alluvial forests or moist sand bordering sloughs on dredge spoil.
- Carex normalis* Mackenz. Sedge.
Rare in alluvial forests.
- Carex normalis* Dewey X *Carex tenera* Dewey. Sedge.
Infrequent in moist, shady areas around dredge spoil and on shores of backwater areas.
- Carex rosea* Schk. Sedge.
Rare on dry, sandy alluvium of alluvial forests.
- Carex stipata* Muhl. Sedge.
Infrequent on moist sand around dredge spoil.
- Carex tenera* Dewey. Sedge.
Infrequent in low alluvial forests.
- Carex tribuloides* Wahl. Blunt Broomsedge.
Frequent in alluvial forests; infrequent on moist sand of disturbed areas (dredge spoil, old fields, levees).
- Carex trichocarpa* Muhl. Sedge.
Rare in moist old fields.
- Carex typhina* Michx. Sedge.
Rare in dry, alluvial forest in the protected floodplain and on dredge spoil.
- Carex vulpinoidea* Michx. Fox sedge.
Common in moist old fields; infrequent on moist, sand borders of dredge spoil and alluvial forests.
- Cyperus aristatus* Rottb. (*C. inflexus* Muhl.) Awned cyperus.
Common on moist sand, around dredge spoil, on spits, and slough shores.
- Cyperus engelmanni* Steudel. Engelmann's Umbrella Sedge.
Rare on quiet sloughs.
- Cyperus erythrorhizos* Muhl. Red-rooted Cyperus.
Infrequent on moist sand bordering dredge spoil and dry depressions of marshes.
- Cyperus esculentus* L. Yellow Nut-grass, Chufa.
Common moist sand bordering dredge spoil, on spits, and backwater shores; infrequent in dry depressions of marshes.
- Cyperus lupulinus* ssp. *lupulinus* (Spreng.) Marcks. Slender-stemmed cyperus.
Infrequent on dry, open dredge spoil and railroad levees.
- Cyperus lupulinus* ssp. *macilentus* (Fern.) Marcks.
Infrequent on railroad levees.
- Cyperus lupulinus* ssp. *lupulinus* X *Cyperus schweinitzii* Torr. Umbrella sedge.
Infrequent on dry, open dredge spoil and levees.
- Cyperus odoratus* L. Coarse Cyperus.
Frequent on moist sand bordering dredge spoil and on spits or sandy shorelines of the backwaters.
- Cyperus rivularis* Kunth. Shining or Brook Cyperus.
Rare in moist sand of willow forests on dredge spoil.
- Cyperus schweinitzii* Torr. Schweinitz's Cyperus.
Common on dry, open dredge spoil and levees.
- Cyperus strigosus* L. Straw-colored Cyperus.
Frequent on moist sand of dredge spoils, spits and shores of backwater sloughs.
- Eleocharis acicularis* (L.) R. & S. Spike-rush
Infrequent on moist, sandy dredge spoil bordering sloughs, low, moist alluvial forests shorelines; rare in dry depressions of marshes.
- Eleocharis calva* Torr. Spike-rush.
Common on moist dredge spoil bordering sloughs, and spits or sandy shorelines of backwater sloughs.
- Eleocharis obtusa* (Willd.) Schult. Spike-rush.
Infrequent on moist dredge spoil bordering sloughs and spits or shorelines of backwater sloughs.
- Eleocharis ovata* (Roth) R. & S. Spike-rush.
Infrequent on spits and shorelines of backwater sloughs.
- Eleocharis palustris* (L.) R. & S. var. *major* Sonder. (Incl. *E. macrostachya* Britt.)
Rare in sedge meadows.
- Hemicarpha micrantha* (Vahl) Pax (*Scirpus micranthus* Vahl.)
Frequent on spits and sandy shorelines.
- Scirpus atrovirens* Willd. Bulrush.
Infrequent on moist sand or mud bordering dredge spoil.
- Scirpus cyperinus* (L.) Kunth. Bulrush.
Infrequent in moist, sandy, marshy areas bordering dredge spoil.
- Scirpus fluviatilis* (Torr.) Gray. River-bulrush.
Abundant in marshes and sedge meadows along the protected flood-plain; infrequent along fast slough margins.
- Scirpus pedicellatus* Fernald. Wool Grass.
Infrequent in marshes along sloughs.
- Scirpus validus* Vahl. Great or Soft-stemmed Bulrush.
Frequent in marshes and on sandy slough margins of dredge spoil; infrequent on fast backwater slough margins and spits.
- Scirpus validus* forma *megastachyus* Fern. Great or Soft-stemmed Bulrush.
Infrequent in marshes and slough margins.

GRAMINEAE (Grass Family)

**Agropyron repens* (L.) Beauv. Witch-, Couch-, Quitch-, or Quick-grass.

- Common along levees and dry, open dredge spoil.
- Agropyron trachycaulum* (Link). Steud. (incl. *A. pauciflorum* (Schw.) Hitchc. and *A. subsecundum* (Link) Hitchc.)
Rare on levees.
- **Agrostis gigantea* Roth. (*A. alba* L. of other authors). Redtop.
Infrequent on open dredge spoil.
- Agrostis hyemalis* (Walt.) BSP. Ticklegrass, Hairgrass.
Infrequent on dry, open dredge spoil and levees.
- Agrostis perennans* (Walt.) Tuckerm. var. *aestivalis* Vasey. Upland Bent.
Infrequent in low, sandy willow or alluvial forests on dredge spoil.
- Agrostis scabra* Willd. Hairgrass, Fly-away Grass, Ticklegrass.
Infrequent on open dredge spoil.
- **Agrostis stolonifera* L. (*A. alba* L.). Redtop.
Common in old fields.
- Andropogon gerardi* Vitman. Tall Blue-stem.
Rare on railroad levees.
- Beckmannia syzigachne* (Steud.) Fernald. Sloughgrass.
Rare in old fields.
- **Bromus inermis* Leyss. Hungarian Brome Grass.
Common on levees.
- **Bromus japonicus* Thunb. Japanese Brome.
Common on railroad levees.
- Bromus kalmii* Gray. Brome Grass.
Rare on open dredge spoil.
- **Bromus tectorum* L. Downey Brome.
Abundant on dry, open dredge spoil and levees.
- Calamagrostis canadensis* (Michx.) Nutt. Blue-joint.
Common in sedge and *Phalaris* meadows.
- Cenchrus longispinus* (Hack.) Fernald. Sandbur.
Frequent on open dredge spoil; infrequent in old fields.
- Cinna arundinacea* L. Wood Reedgrass.
Rare in shrubby ecotones of alluvial forests.
- **Digitaria ischaemum* (Schreb.) Muhl. Crab Grass.
Rare on moist dredge spoil and in sandy old fields.
- **Digitaria sanguinalis* (L.) Scop. Crab Grass.
Rare on moist shorelines of dredge spoil and levees.
- **Echinochloa crusgalli* (L.) Beauv. var. *crusgalli*. Barnyard Grass.
Infrequent on moist, sandy shorelines.
- Echinochloa muricata* (Beauv.) Fernald var. *muricata* (= *E. pungens*)
Barnyard Grass.
Common on sandy shores, spits and in old fields.
- Echinochloa muricata* (Beauv.) Fernald var. *microstachya* Wiegand
(= *E. pungens*).
Frequent on sandy shores, spits, and in old fields.
- Echinochloa walteri* (Pursh.) Nash. Barnyard Grass.
Infrequent on sandy shores, spits, and in old fields.
- Elymus canadensis* L. Wild Rye.
Infrequent on dry, open dredge spoil and in old fields.
- Elymus virginicus* L. var. *jejunus* (Ramaley) Bush. Virginia Rye,
Terrell Grass.
Common in open areas and alluvial forests on dredge spoil; frequent on high portions of back water alluvial forests.
- Eragrostis frankii* C. A. Mey. Sandbar Love Grass.
Rare on moist, sandy shores of sloughs.
- Eragrostis hypnoides* (Lam.) BSP. (*E. reptans*). Creeping Love Grass.
Common on shores and spits in the backwaters; frequent on moist shorelines of dredge spoil.
- Eragrostis pectinacea* (Michx.) Ness. Small Love Grass.
Common on dry or moist shores around dredge spoil; infrequent on spits and shorelines of the backwaters.
- Eragrostis spectabilis* (Pursh) Seud. (*E. pectinacea* var. *spectabilis* (Pursh) Gray). Purple Love Grass, Tumble-Grass, Petticoat Climber.
Frequent on moist, shady shores and in old fields; infrequent on dry, open dredge spoil, and sandy alluvium in alluvial forests.
- Festuca octoflora* (Walt.) (= *Vulpia octoflora* (Walt.) Rydb. var. *tenella* (Willd.) Fern.) Fescue.
Infrequent on dry, open dredge spoil.
- Glyceria grandis* S. Wats. Reed Meadow Grass.
Infrequent on moist sand bordering marshy areas around dredge spoil.
- Hordeum jubatum* L. Squirreltail Grass.
Infrequent in old fields and on levees.
- Koeleria cristata* (L.) Pers.
Rare in dry, sandy old fields; terraces.
- Leersia lenticularis* Michx. Catchfly.
Infrequent in dry portions of alluvial forests around dredge spoil and in the backwaters.
- Leersia oryzoides* (L.) Sw. Rice-cutgrass.
Common in moist sand bordering marshy areas on dredge spoil, on spits, along alluvial forests shores, and in dry portions of marshes.
- Leersia virginica* Willd. Whitegrass.
Common in alluvial forests; around dredge spoil and in the backwaters.
- Leptoloma cognatum* (Schultes) Chase. Fall Witch Grass.
Infrequent on dry, open dredge spoil.
- Muhlenbergia frondosa* (Poir.) Fernald. Muhly.
Common on weedy margins and in alluvial forests on dredge spoil; infrequent in shady, sandy areas of backwater alluvial forests.
- Muhlenbergia mexicana* (L.) Trin.
Rare in moist old fields.
- Muhlenbergia racemosa* (Michx.) BSP. Muhly.
Infrequent on weedy margins and in alluvial forests of dredge spoils and in moist old fields.
- Muhlenbergia sylvatica* Torr.
Rare in moist old fields.
- Panicum capillare* L. Old Witch Grass.
Common on moist or dry, open dredge spoil, and on spits and shores in the backwaters.
- Panicum dichotomiflorum* Michx. Fall Panic Grass.
Infrequent on open dredge spoil and sandy banks in the backwaters.
- Panicum implicatum* Scribn. (= *P. lanuginosum* Ell. var. *implicatum* (Scribn.) Fernald.)
Rare on open dredge spoil and spits.
- Panicum lanuginosum* Ell. var. *septentrionale* Fernald. Panic Grass.
Rare on open dredge spoil.
- Panicum lindheimeri* Nash. (= *P. lanuginosum* Ell. var. *linderheimeri*

(Nash) Fernald). Panic Grass.
Rare on spits.

Panicum oligosanthes Schultes var. *scribnerianum* (Nash) Fernald.
Panic Grass.
Infrequent on railroad levees and open dredge spoil.

Panicum virgatum L. Switchgrass.
Frequent on open dredge spoil and in old fields.

Paspalum ciliatifolium Michx. var. *stramineum* (Nash) Fern.
Rare on open dredge spoil.

Phalaris arundinacea L. Reed-canary-grass.
Abundant along sloughs and shores on dredge spoil, on spits, marsh margins, sedge meadows and forms homogenous groups in low areas of the backwaters; infrequent in low openings of alluvial forests.

**Phleum pratense* L. Common Timothy.
Frequent on levees and in old fields; infrequent on dry, open dredge spoil.

Phragmites communis Trin. Reed Grass.
Common in marshes and sedge meadows in the backwaters; infrequent in moist sand bordering marshy areas on dredge spoil.

**Poa compressa* L. Canada Bluegrass.
Frequent in old fields and on high, sandy banks along the main channel; infrequent on dry, open dredge spoil.

Poa palustris L. Fowl Meadow Grass.
Rare on dry, open dredge spoil.

**Poa pratensis* L. Kentucky Bluegrass.
Common on dry, open dredge spoil, high sandy banks along the main channel, old fields, and sandy alluvium in backwater alluvial forests.

**Secale cereale* L. Rye.
Infrequently escaping from cultivation on levees along the protected floodplain.

**Setaria lutescens* (Wiegel) F. T. Hubb. (*S. glauca* (L.) Beauv.) Foxtail.
Infrequent on dry, open dredge spoil, levees, and in old fields.

**Setaria viridis* (L.) Beauv. Green Foxtail.
Frequent on dry, open dredge spoil and in old fields.

Spartina pectinata Link. Slough Grass, Fresh-water Cord Grass.
Infrequent on moist shores around dredge spoil, in moist, old fields, and sedge meadows.

Sphenopholis intermedia Rydb. Wedge Grass.
Frequent on open dredge spoil and sandy banks along the main channel.

Sporobolus cryptandrus (Torr.) Gray. Sand Drop-seed.
common on dry, open dredge spoil.

**Triplasis purpurea* (Walt.) Chapm. Sand Grass.
Common on dry, open dredge spoil.

**Triticum aestivum* L. Wheat.
Infrequently escaping from cultivation along railroad levees.

Zizania aquatica L. var. *interior* Fassett. Wild Rice.
Abundant around the open water of Lawrence Lake; infrequent around the open water of Target Lake.

SPARAGANIACEAE (Bur-Reed Family)

Sparganium chlorocarpum. Rydb. (and var. *acaule* (Beeby) Fern.) Bur-reed.
Infrequent in backwater marshes.

Sparganium eurycarpum Engelm. Common Bur-reed.
Frequent in marshes around lakes and along sloughs; infrequent on spits.

TYPHACEAE (Cattail Family)

Typha latifolia L. Common Cattail.
Common in marshes along sloughs; infrequently in *Phalaris* and sedge meadows, and around lakes.

ARACEAE (Arum Family)

Acorus calamus L. Sweetflag.
Infrequent in dry ecotones of marshes and sedge meadows in the protected floodplain.

Arisaema dracontium (L.) Schott. Green Dragon.
Frequent in alluvial forests in the backwaters; infrequent in *Phalaris* meadows and alluvial forests on dredge spoil.

Arisaema triphyllum (L.) Schott. (incl. *A. atrorubens* (Ait.) Blume.) Jack-in-the-pulpit.
Rare along moist railroad levees along the protected floodplain.

Symplocarpus foetidus (L.) Nutt. Skunk-cabbage.
Rare in springy wet-mesic forests in the protected floodplain.

LEMNACEAE (Duckweed Family)

Lemna minor L. Lesser Duckweed.
Abundant along backwater sloughs and bays.

Lemna trisulca L. Star-duckweed.
Infrequent in shallow, stagnant backwater bays.

Spirodela polyrhiza (L.) Schleid. Water-flaxseed, Greater Duckweed.
Abundant along backwater sloughs and bays.

Wolffia columbiana Karst. Water-meal.
Abundant along backwater sloughs and bays.

Wolffia punctata Griseb. Water-meal.
Common along quiet sloughs and bays.

PONTERIACEAE (Pickerelweed Family)

Heteranthera dubia (Jacq.) MacM. Water-stargrass.
Common along fast sloughs; infrequent in stagnant backwater areas.

Pontederia cordata L. Pickerelweed.
Infrequent in Lawrence Lake and other quiet backwater areas.

LILIACEAE (Lily Family)

Allium tricoccum Ait. Wild Leek, Ramp.
Rare in wet-mesic forests of the extreme protected floodplain.

**Asparagus officinalis* L. Garden Asparagus.
Frequent on high open areas of all alluvial forests; infrequent in alluvial forests and weedy borders on dredge spoil.

**Lilium tigrinum* L. Tiger Lily.
Rare on disturbed roadsides (spread from cultivation).

Maianthemum canadense Desf. False or Wild Lily-of-the-valley, Two-leaved Solomon's-seal.
Rare in alluvial forests of the protected floodplain.

Polygonatum canaliculatum (Muhl.) Pursh. (incl. *P. biflorum* (Walt.) Ell.) Solomon's Seal.
Frequent in high shady, steep areas of railroad levees; rare in alluvial forests on dredge spoil.

Smilacina racemosa (L.) Desf. False Solomon's Seal, False Spikenard.
Rare in alluvial forests on dredge spoil; frequent along railroad levees.

Smilacina stellata (L.) Desf. False Solomon's Seal.

Rare in willow forests on dredge spoil, and moist alluvial forest margins.

IRIDACEAE (Iris Family)

Iris virginica L. var. *shrevei* (Small) E. Anders. Blue Flag.

Rare along moist dredge spoil shores and in moist old fields; common in sedge meadows, marshes, and shady margins of backwater forests.

Sisyrinchium campestre Bicknell. Blue-eyed Grass.

Infrequent along roadside levees.

SMILACACEAE (Greenbrier Family)

Smilax ecirrhata (Engelm.) S. Wats. Upright Carrion Flower.

Infrequent in alluvial forests.

Smilax herbacea L. (incl. *S. lasioneura* Hook.) Carrion-flower.

Infrequent in low alluvial forests.

Smilax hispida Muhl. (*S. tamnoides* L. var. *hispida* (Muhl.) Fern.) Greenbrier, Catbrier.

Frequent in low backwater alluvial forests; infrequent in alluvial forests on dredge spoil.

STATISTICAL SUMMARY

1. The major groups contributing to the flora of Pool #8

Division	Number of Families	Number of Species
EQUISETOPHYTA	1	5
POLYPODIOPHYTA	3	4
PINOPHYTA	1	1
MAGNOLIOPHYTA	83	472
subclass Magnoliatae	67	319
subclass Liliatae	16	153

Total **88** **482**

2. The largest families and the number of species in each

Gramineae	63
Compositae	58
Cyperaceae	50
Leguminosae	25
Polygonaceae	22

3. The largest genera and the number of species in each

<i>Carex</i>	26
<i>Polygonum</i>	15
<i>Cyperus</i>	11
<i>Salix</i>	7
<i>Rumex</i>	7

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