# Iowa Riverside Plant Selection Tool

The purpose of this tool is to provide guidance about native plant species selections for river restoration and stability projects, based on what has been observed as surviving at various elevations along the bank profiles of Iowa rivers. A matrix of native plants with varieties of root depths, and structural characteristics such as matted versus highly fibrous, is a key component in long term stability and success, after a project has been properly designed to consider channel and floodplain characteristics. Many plant communities could be established with this list. When the goal is holding soils in place for initial stability, generally a well-established mix of grasses, forbs, and sedges that are submergence tolerant will usually be the most successful.

Main headings are organized for various design situations such as full sun, shade, and trail edges (low growers). Below each “Main” heading, the planting tool is organized by elevation along the cross section of a typical bank restoration because many restoration projects in Iowa involve shaping banks and low floodplains to more stable conditions. As such, many species names are repeated throughout the list because some thrive under multiple conditions. If it is repeated, the record has an entry in the “Elevation Along Bank” column so the user knows where else it appears in the same design situation headings. Maps are included to show county-level presence based on botanical records, published by the Biota of North America Program at bonap.org, and it is recommended to roughly adhere to the distributions shown. The various other columns provide information specific to the success of each species, such as soil type, germination requirements, root descriptions, and establish.

Like all resources involving rivers, this tool is a work in progress. More research based on monitoring reports of germination success, length of survivability, and advise on planting is welcome. If you are monitoring planting projects, please share what you have learned and send information to Nate.Hoogeveen@dnr.iowa.gov.

<table>
<thead>
<tr>
<th>Main Heading</th>
<th>Elevation Along Bank</th>
<th>County-Level Presence</th>
<th>Other Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warm-Season Cover Crop</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cool-Season Cover Crop</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Top of Bank, PART-SHADE (Ecologically an alluvial open forest or woodland)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grasses, Sedges, &amp; Rushes (Top of bank PART-SHADE)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shrubs &amp; Vines (Top of bank PART-SHADE)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trees (Top of bank PART-SHADE)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Top of Bank, FULL SUN (Ecologically a wet-mesic prairie)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grasses, Sedges, &amp; Rushes (Top of bank FULL SUN)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shrubs &amp; Vines (If the area is to be managed as a prairie, minimal amounts of woody species should be planted) (Top of bank FULL SUN)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trees (If the area is to be managed as a prairie, minimal amounts of woody species should be planted) (Top of bank FULL SUN)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Side Slope (Ecologically a transitional ecotone between top of bank and bankfull zones)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grasses, Sedges, &amp; Rushes (Side Slope)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bankfull Zone (Ecologically a temporarily flooded wetland, either a wet prairie, sedge meadow, or wet forest/woodland)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grasses, Sedges, &amp; Rushes (bankfull)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shrubs &amp; Vines (bankfull)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trees (bankfull)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water’s Edge (Ecologically a wet disturbance habitat)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grasses, Sedges, &amp; Rushes (Water’s Edge)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shrubs &amp; Vines (Water’s Edge)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trees (Water’s Edge)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stream-edge planting menu for heavy shade canopy in 1-2 year flood zone (Bankfull and Water’s Edge Zones)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The purpose of this list is to provide guidance about which native species are advisable to plant in river restoration projects, based on what has been observed as surviving at various elevations along the bank profiles of Iowa rivers. More research and monitoring is needed. If you are monitoring survivability in projects, please share what you have learned and send information to Nate.Hoogeveen@dnr.iowa.gov.

**Riverside Plant Species for seed mix, plugs, or transplant**
*Found at multiple elevations along the bank*

**Wetland Indicator Descriptions:**
- **OBL** - Obligate Wetland (Almost always occurs in wetlands)
- **FACW** - Faculative Wetland (Usually occurs in wetlands)
- **FAC** - Faculative (Equally likely to occur in wetland or non-wetland areas)
- **FACU** - Faculative Upland (Usually occurs in non-wetlands)
- **UPL** - Upland Obligate (Almost always occurs in non-wetlands)
### Erosion Control Mix (used for quick cover of soils after disturbance on all bank elevations to mitigate erosion)

**Virginia Wild Rye**  
*Elymus virginicus*  
- All elevations  
- No seed pretreatment necessary  
- **Weight/acre** (bulk seed): 12lbs/acre  
- **Seeds/oz**: 4,200  
- **Region of Iowa (BONAP)**: N/A  
- **This is a non-native species**  
- **Comments**: Full sun to shade. Fertile soil; loam, clay loam, sandy, can survive in a variety of soil types. Bottomland woodlands, riparian areas, riverbanks, streambanks, moist prairies, roadsides, bluffs, moist savannas, disturbed areas.  

### Warm-Season Cover Crop (For early spring to late fall plantings)

**Virginia Wild Rye**  
*Elymus virginicus*  
- All elevations  
- No seed pretreatment necessary  
- **Weight/acre** (bulk seed): 12lbs/acre  
- **Seeds/oz**: 4,200  
- **Region of Iowa (BONAP)**: N/A  
- **Comments**: Full sun to shade. Fertile soil; loam, clay loam, sandy, can survive in a variety of soil types. Bottomland woodlands, riparian areas, riverbanks, streambanks, moist prairies, roadsides, bluffs, moist savannas, disturbed areas.  

### Cool-Season Cover Crop (For late fall to late winter plantings)

**Oats**  
*Avena sativa*  
- All elevations  
- No seed pretreatment necessary  
- **Weight/acre** (bulk seed): 30-40lbs/acre  
- **Region of Iowa (BONAP)**: N/A  
- **Comments**: Full to partial sunlight. Can survive in a variety of soil types. Roadsides, waste areas, disturbed soils.  

**Winter Rye; Cereal Rye**  
*Secale cereale*  
- All elevations  
- No seed pretreatment necessary  
- **Weight/acre** (bulk seed): 50-60 lbs/acre  
- **Region of Iowa (BONAP)**: N/A  
- **Comments**: Full to partial sunlight. Can survive in a variety of soil types. Roadsides, waste areas, disturbed soils.  

### Top of Bank, PART-SHADE (Ecologically an alluvial open forest or woodland)

**Forbs**

**Yellow giant hyssop**  
*Agastache nepetoides*  
- Cold, moist stratification for a minimum of 60 days or fall planting. Needs light to germinate, surface sow seeds.  
- **Weight/acre** (bulk seed): 0.5oz/acre  
- **Seeds/oz**: 90,000  
- **Region of Iowa (BONAP)**: N/A  
- **Comments**: Partial sunlight. Fertile, loamy soils. Woodland edges, open woodlands, thickets, shady meadows.
<table>
<thead>
<tr>
<th>Scientific Name</th>
<th>English Name</th>
<th>Light Needs</th>
<th>Soil Needs</th>
<th>Planting Method</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>purple giant hyssop</em>&lt;br&gt; Agastache scrophulariifolia</td>
<td>Giant hyssop</td>
<td>Full to partial sunlight</td>
<td>Well-drained, disturbed, moist; sand</td>
<td>Disturbed areas, meadows, thickets, upper floodplain woodlands</td>
</tr>
<tr>
<td><em>white snakeroot</em>&lt;br&gt; Ageratina altissima (Eupatorium rugosum)</td>
<td>N/A</td>
<td>Partial sunlight</td>
<td>Loam, clay loam</td>
<td>Deciduous woodlands, thickets, woodland edges, bluffs, meadows, disturbed areas</td>
</tr>
<tr>
<td>Swamp agrimony&lt;br&gt; Agrimonia parviflora</td>
<td>N/A</td>
<td>Full to partial sunlight</td>
<td>Well-drained soils; gravelly, sandy, loamy, silty</td>
<td>Open floodplain woodlands, swamps, moist thickets, ditches, moist prairies</td>
</tr>
<tr>
<td><em>wild leek</em>&lt;br&gt; Allium tricoccum</td>
<td>FACU</td>
<td>Light shade</td>
<td>Fertile, loamy soils</td>
<td>Upland woodlands, floodplain woodlands, wooded slopes</td>
</tr>
<tr>
<td>Green dragon&lt;br&gt; Arisaema dracontium</td>
<td>FACW</td>
<td>Light to partial shade</td>
<td>Well-drained moist soils; loam</td>
<td>Moist deciduous woodlands, shady springs, seeps, floodplain woodlands</td>
</tr>
<tr>
<td>Jack in the pulpit&lt;br&gt; Arisaema triphyllum</td>
<td>FACW</td>
<td>Partial sunlight</td>
<td>Fertile, rich soils</td>
<td>Moist woodlands, swamps, marshes</td>
</tr>
</tbody>
</table>

Notes:

- Moist conditions; excellent pollinator; rhizomatous, often forms colonies.
- N/A
- A synonymous scientific name is *Eupatorium rugosum*, which is used by many nurseries. Slightly dry to moist conditions; rhizomatous and fibrous root system; can be considered weedy; easily grown from seed.
- Slightly dry to moist conditions; ovoid bulb with fibrous roots; transplants are generally the most successful propagation type.
- Wet to moist conditions; root system consists of a corm; propagation through corms most successful.
<table>
<thead>
<tr>
<th><strong>Great Indian plantain</strong> (Arnoglossum reniforme)</th>
<th><strong>Cold, moist stratification for a minimum of 60 days, or fall planting.</strong></th>
<th>3oz/acre</th>
<th>N/A</th>
<th>Full to partial sunlight</th>
<th>Moist soils</th>
<th>Floodplain woodlands, roadsides, prairies, woodland edges</th>
</tr>
</thead>
<tbody>
<tr>
<td>A synonymous older scientific name is <strong>Cacalia muhlenbergii</strong>; Slightly dry to moist conditions; rhizomatous root system</td>
<td><strong>N/A</strong></td>
<td><strong>Full to partial sunlight</strong></td>
<td><strong>Moist soils</strong></td>
<td><strong>3oz/acre</strong></td>
<td><strong>4,000</strong></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Wild ginger</strong> (Asarum canadense)</th>
<th><strong>top shade, wooded trail, side slope</strong></th>
<th>Sow seeds immediately after collection. May need to allow one full year for germination.</th>
<th><strong>1oz/acre</strong></th>
<th><strong>4,400</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Slightly dry to moist conditions; shallow rhizomatous root system, often forms colonies; most successful propagation through plugs or root division</td>
<td><strong>FACU</strong></td>
<td><strong>Full to partial shade</strong></td>
<td><strong>Moist soil; Loam, slightly rocky soil</strong></td>
<td>Floodplain and upland woodlands, bluffs, wooded slopes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Hairy wood mint</strong> (Blephilia hirsuta)</th>
<th><strong>top shade, side slope</strong></th>
<th><strong>Cold, moist stratification for a minimum of 60 days or fall planting. Needs light to germinate, surface sow seeds.</strong></th>
<th><strong>0.5oz/acre</strong></th>
<th><strong>240,000</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Moist conditions; fibrous and rhizomatous root system, often forms colonies</td>
<td><strong>FACU</strong></td>
<td><strong>Full to partial sunlight</strong></td>
<td><strong>Loamy, rocky soils</strong></td>
<td>Woodland edges, thickets, limestone glades, woody slopes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>American bellflower; Tall Bellflower</strong> (Campanulastrum americanum (Campanula americana, old scientific name))</th>
<th><strong>top shade, wooded trail</strong></th>
<th><strong>Cold, moist stratification for a minimum of 30 days or fall planting. Needs light to germinate, surface sow seeds.</strong></th>
<th><strong>0.25oz/acre</strong></th>
<th><strong>170,000</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Moist conditions; low drought tolerance; readily germinates; excellent pollinator; taproot; annual</td>
<td><strong>FAC</strong></td>
<td><strong>Partial shade</strong></td>
<td><strong>Fertile, moist soil; loam</strong></td>
<td>Moist woodlands, disturbed woodland areas, thickets, streambanks</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Cutleaf toothwort</strong> (Cardamine concatenata (Dentaria laciniata))</th>
<th><strong>top shade, side slope</strong></th>
<th><strong>Cold, moist stratification for a minimum of 60 days or fall planting.</strong></th>
<th><strong>1oz/acre</strong></th>
<th><strong>22,000</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>A synonymous scientific name is <strong>Dentaria laciniata</strong>; moist conditions; rhizomatous root system, often form colonies; propagation through transplant/root division most successful</td>
<td><strong>FACU</strong></td>
<td><strong>Partial shade</strong></td>
<td><strong>Well-drained soils</strong></td>
<td>Floodplain woodlands, woody slopes, bluffs</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Blue cohosh</strong> (Caulophyllum thalictroides)</th>
<th><strong>top shade, side slope</strong></th>
<th>Sow seeds outdoors in the fall. May take up to 3-4 years to establish.</th>
<th><strong>70</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Moderately moist conditions; rhizomatous and fibrous; long-lived; difficult to germinate through seeds</td>
<td><strong>N/A</strong></td>
<td><strong>Light shade</strong></td>
<td><strong>Well-drained, fertile soils; loam</strong></td>
</tr>
<tr>
<td>Common Name</td>
<td>Scientific Name</td>
<td>Light, Slope, Soil</td>
<td>Planting Instructions</td>
</tr>
<tr>
<td>-------------------------</td>
<td>-----------------------</td>
<td>-------------------------------------------</td>
<td>---------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>*Canadian Honewort</td>
<td><em>Cryptotaenia canadensis</em></td>
<td><em>top shade, wooded trail</em></td>
<td>Cold, moist stratification for a minimum of 60 days or fall planting.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FAC</td>
<td>Partial shade</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Moist conditions; taproot; self-seeding</td>
</tr>
<tr>
<td>*Squirrel corn</td>
<td><em>Dicentra canadensis</em></td>
<td><em>top shade, side slope</em></td>
<td>Sow seeds immediately after collection.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>N/A</td>
<td>Partial shade</td>
</tr>
<tr>
<td>*Dutchman’s breeches</td>
<td><em>Dicentra cucullaria</em></td>
<td><em>top shade, side slope</em></td>
<td>Sow seeds immediately after collection, or requires cold, moist stratification for a minimum of 60 days.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>N/A</td>
<td>Partial shade</td>
</tr>
<tr>
<td>Wild yam</td>
<td><em>Dioscorea villosa</em></td>
<td></td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planning.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FAC</td>
<td>Full to partial sunlight</td>
</tr>
<tr>
<td>*False rue anemone</td>
<td><em>Enemion bibernatum</em></td>
<td><em>top shade, side slope</em></td>
<td>Likely needs cold, moist stratification for a minimum of 60 days or fall planting.</td>
</tr>
<tr>
<td></td>
<td>(Isopyrum bibernatum)</td>
<td>FAC</td>
<td>Partial shade</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Moist conditions, herbaceous vine with a rhizomatous root system; easily grown from seed</td>
</tr>
<tr>
<td>Late boneset</td>
<td><em>Eupatorium serotinum</em></td>
<td></td>
<td>Likely needs cold, moist stratification for a minimum of 30 days or fall planting.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FAC</td>
<td>Full to partial sunlight</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Moist conditions; fibrous and rhizomatous root system; excellent pollinator</td>
</tr>
<tr>
<td>Common Name</td>
<td>Scientific Name</td>
<td>Light Requirements</td>
<td>Stratification Method</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>-------------------------------</td>
<td>--------------------</td>
<td>--------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Yellow avens</td>
<td>Geum aleppicum</td>
<td>*top shade, bankfull</td>
<td>Cold, moist stratification for a minimum of 60 days or fall planting.</td>
</tr>
<tr>
<td>White avens</td>
<td>Geum canadense</td>
<td></td>
<td>Likely needs cold, moist stratification for a minimum of 30 days or fall/early spring planting.</td>
</tr>
<tr>
<td>*Giant St. Johnswort</td>
<td>Hypericum ascyron (Hypericum pyramidatum)</td>
<td>*top shade, top sun, bankfull, side slope</td>
<td>Cold, moist stratification for a minimum of 60 days or fall planting. Needs light to germinate, surface sow seeds.</td>
</tr>
<tr>
<td>*Spotted touch-me-not; Orange jewelweed</td>
<td>Impatiens capensis</td>
<td>*top shade, shady stream edge, wooded trail, bankfull</td>
<td>Sow seeds immediately after collection.</td>
</tr>
<tr>
<td>*Pale touch-me-not; Yellow jewelweed</td>
<td>Impatiens pallida</td>
<td>*top shade, shady stream edge, wooded trail, bankfull</td>
<td>Sow seeds immediately after collection.</td>
</tr>
<tr>
<td>*Purple rocket</td>
<td>Iodanthus pinnatifidus</td>
<td>*top shade, side slope, wooded trails</td>
<td>N/A</td>
</tr>
</tbody>
</table>

*Yellow avens

- *top shade, bankfull
- Cold, moist stratification for a minimum of 60 days or fall planting.
- 1oz/acre
- 20,000
- Moist to wet conditions
- FACW
- Partial shade
- Moist soils
- Low woodlands, fens, shady seeps, thickets, marshes, swamps, bogs

White avens

- *top shade, top sun, bankfull
- Likely needs cold, moist stratification for a minimum of 30 days or fall/early spring planting.
- N/A
- N/A
- Slightly dry to moist conditions; rhizomatous root system with taproot; can become aggressive and be considered weedy
- FAC
- Partial sunlight
- clay loam, loam, sandy loam
- Floodplain woodlands, thickets, disturbed areas, woodland edges

*Giant St. Johnswort (Hypericum pyramidatum)

- *top shade, top sun, bankfull, side slope
- Cold, moist stratification for a minimum of 60 days or fall planting. Needs light to germinate, surface sow seeds.
- 1oz/acre
- 190,000
- A synonymous scientific name is Hypericum pyramidatum; moist conditions; rhizomatous root system; excellent pollinator; propagation through seeds or plugs are successful
- FAC
- Full to partial sunlight
- Can survive in a variety of soil types
- Open woodlands, riverbanks, moist thickets, wooded slopes, meadows, marshes

*Spotted touch-me-not; Orange jewelweed

- *top shade, shady stream edge, wooded trail, bankfull
- Sow seeds immediately after collection.
- 0.25oz/acre
- 4,000
- Wet to moist conditions; annual; taproot; self-seeding; readily germinates from seed; excellent pollinator; shade tolerant; can become aggressive
- FAC
- Full to partial sunlight
- Moist, fertile, clay, loam, sand
- Shady bogs, floodplain woodlands, swamps, shady streambanks, wet ditches, seeps

*Pale touch-me-not; Yellow jewelweed

- *top shade, shady stream edge, wooded trail, bankfull
- Sow seeds immediately after collection.
- 1oz/acre
- 1,600
- Wet to moist conditions; taproot; annual; readily germinates from seeds; excellent pollinator; can become aggressive
- FACW
- Partial shade
- Moist soils; loamy, mucky
- Swamps, open floodplain woodlands, muddy streambanks, woody edges of marshes

*Purple rocket

- *top shade, side slope, wooded trails
- N/A
- N/A
- Moist to wet conditions; taproot; self-seeding; easily grown from seed; excellent pollinator; tolerates seasonal flooding
- FAC
- Partial sunlight
- Fertile, loamy soils
- Floodplain woodlands, floodplain slopes, meadows
<table>
<thead>
<tr>
<th>Plant Name</th>
<th>Scientific Name</th>
<th>Light Requirements</th>
<th>Soil Conditions</th>
<th>Notes</th>
<th>Seed Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardinal Flower</td>
<td>Lobelia cardinalis</td>
<td>*top shade, bankfull, shaded stream edge</td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds.</td>
<td>*Transplants/plugs most successful</td>
<td>400,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>OBL</td>
<td>Full sun to light shade</td>
<td>Sandy, loamy, gravelly, clay soils</td>
</tr>
<tr>
<td></td>
<td>*Great Blue Lobelia; Blue Cardinal Flower</td>
<td>*top shade, bankfull, shaded stream edge, wooded trail</td>
<td>Cold, moist stratification for a minimum of 60 days or fall planting. Needs light to germinate, surface sow seeds.</td>
<td>0.125oz/acre</td>
<td>500,000</td>
</tr>
<tr>
<td></td>
<td>Lobelia siphilitica</td>
<td></td>
<td>OBL</td>
<td>Full sun to partial sunlight</td>
<td>Fertile soil; loam, sandy loam, clay</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>*Fringed loosestrife</td>
<td>Lysimachia ciliata</td>
<td>*top shade, top sun</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>FACW</td>
<td>Full to partial sunlight</td>
<td>Fertile soil; loam</td>
</tr>
<tr>
<td>Lanceleaf loosestrife</td>
<td>Lysimachia lanceolata</td>
<td>N/A</td>
<td>FAC</td>
<td>Full to partial sunlight</td>
<td>Can survive in a variety of soil types</td>
</tr>
<tr>
<td></td>
<td></td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>*Virginia bluebell</td>
<td>Mertensia virginica</td>
<td>*top shade, woodland trails</td>
<td>Best if sown in the fall or immediately after collection. Otherwise requires cold, moist stratification for a minimum of 60 days.</td>
<td>0.5oz/acre</td>
<td>9,700</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>FACW</td>
<td>Partial to full shade</td>
<td>Fertile, moist soil; loam, rock</td>
</tr>
<tr>
<td>*Wild Bergamot; Beebalm</td>
<td>Monarda fistulosa</td>
<td>*top shade and top sun, sunny and woodland trails</td>
<td>No seed pretreatment necessary</td>
<td>0.25oz/acre</td>
<td>70,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>FACU</td>
<td>Full to partial sunlight</td>
<td>Can survive in a variety of soil types</td>
</tr>
<tr>
<td>Species</td>
<td>Scientific Name</td>
<td>Light Requirement</td>
<td>Soil Type</td>
<td>Stratification Requirements</td>
<td>Seed Rate</td>
</tr>
<tr>
<td>------------------------</td>
<td>--------------------------</td>
<td>-------------------</td>
<td>-----------</td>
<td>------------------------------------------------------------------------------------------------</td>
<td>-----------</td>
</tr>
<tr>
<td>Sweet cicely</td>
<td>Osmorhiza claytonii</td>
<td>*top shade, side slope</td>
<td>Moderately moist conditions; fibrous root system</td>
<td>Early fall planting or requires a warm, moist stratification for a minimum of 30 days, followed by a period of cold, moist stratification for a minimum of 60 days.</td>
<td>1oz/acre</td>
</tr>
<tr>
<td>Anise root</td>
<td>Osmorhiza longistyris</td>
<td>*top shade, side slope</td>
<td>Moderately moist conditions; rhizomatous root system</td>
<td>Not fully known, likely needs cold, moist stratification for a minimum of 60 days, or fall planting.</td>
<td>N/A</td>
</tr>
<tr>
<td>Dotted smartweed</td>
<td>Persicaria punctata</td>
<td>Cold, moist stratification for a minimum of 60 days or fall planting</td>
<td>Slightly dry to moderately moist conditions; rhizomatous root system; propagation through seeds or root division most successful</td>
<td>Cold, moist stratification for a minimum of 60 days or fall planting.</td>
<td>1oz/acre</td>
</tr>
<tr>
<td>Woodland phlox</td>
<td>Phlox divaricata</td>
<td>*top shade, wooded trail</td>
<td>Slightly dry to moderately moist conditions; rhizomatous root system; propagation through seeds or root division most successful</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Clearweed</td>
<td>Pilea pumila</td>
<td>*top shade, wooded trails</td>
<td>Wet to moist conditions; self-seeding; easily grown from seed; annual</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Jacob’s ladder; Greek valerian</td>
<td>Polemonium reptans</td>
<td>*tops shade, wooded trail</td>
<td>Moderately moist to slightly dry conditions; fibrous root system; self-seeding; excellent pollinator</td>
<td>Cold, moist stratification for a minimum of 60 days or fall planting.</td>
<td>1oz/acre</td>
</tr>
</tbody>
</table>

**Notes:**
- FACU: Partial shade, can survive in a variety of soil types.
- FAC: Partial sunlight, fertile, loamy soils.
- OBL: Full to partial sunlight, mucky, loamy soils.
<table>
<thead>
<tr>
<th>Species</th>
<th>Scientific Name</th>
<th>Planting Requirements</th>
<th>Seed Rate/acre</th>
<th>Seed Rate/Seed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jumpseed</td>
<td>Polygonum virginianum (Persicaria virginiana)</td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planting.</td>
<td>0.5oz/acre</td>
<td>3,500</td>
</tr>
<tr>
<td>*Leafcup; whiteflower</td>
<td>Polymnia canadensis</td>
<td>*top shade, side slope</td>
<td>1oz/acre</td>
<td>6,200</td>
</tr>
<tr>
<td>*Kidney leaf buttercup</td>
<td>Ranunculus abortivus</td>
<td>*top shade, wooded trail</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Swamp buttercup</td>
<td>Ranunculus septentrionalis (Ranunculus hispidus)</td>
<td>Cold, moist stratification for a minimum of 60 days or fall planting.</td>
<td>0.5oz/acre</td>
<td>12,000 (Ranunculus hispidus)</td>
</tr>
<tr>
<td>*Black-eyed Susan</td>
<td>Rudbeckia hirta</td>
<td>*Top shade &amp;sun, side slope, sunny trail</td>
<td>0.5oz/acre</td>
<td>92,000</td>
</tr>
<tr>
<td>*Tall coneflower; Greenhead coneflower; Cutleaf coneflower</td>
<td>Rudbeckia laciniata</td>
<td>*shady stream edge, bankfull, top shade, side slope</td>
<td>1.5oz/acre</td>
<td>14,000</td>
</tr>
</tbody>
</table>

**Additional Information:**
- A synonymous scientific name is *Persicaria virginiana*; moist conditions; rhizomatous root system; self-seeding; can become aggressive
- Slightly dry to moderately moist conditions; fibrous root system;
- Moist conditions; fibrous root system; self-seeding; can be considered weedy; easily grown from seed
- Variable species, some authorities consider swamp buttercup to be a sub-species of *Ranunculus hispidus*. Fibrous root system; can spread rapidly, propagate through seeds or division
- Opportunistic species, does well in disturbed areas; fast maturation; slightly moist to dry conditions; can tolerate above-average rainfall in well-drained conditions; central taproot; biennial
- Moist to wet conditions; easily grown from seed; rapid growth rate through rhizomes; flood tolerant; excellent pollinator; can be considered weedy
- Wooded slopes, ravines, floodplain woodlands
- Limestone bluffs, floodplain woodlands, wooded slopes, algific talus slopes, shady ravines, shaded streambanks
- Woodlands, riversbanks, wooded paths, railroads, ditches, woodland edges, fields, disturbed areas
- Swamps, shady seeps, moist deciduous woodlands, ditches, meadows, riverbanks, pond edges
- Slightly wet to dry prairies, meadows, roadside ditches, savannas, rocky areas, and disturbed sites
- Floodplain woodlands, shady riverbanks, moist meadows, sloughs, lowland thickets andfields
<table>
<thead>
<tr>
<th><strong>Brown-eyed Susan</strong></th>
<th><em>Rudbeckia triloba</em></th>
<th>Cold, moist stratification for a minimum of 30 days or fall planting.</th>
<th>1oz/acre</th>
<th>34,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moist conditions; fibrous root system; self-seeding; drought tolerant; biennial</td>
<td>FAC</td>
<td>Full to partial sunlight</td>
<td>Fertile soil; loamy, gravelly, clay, sandy</td>
<td>Prairies, savannas, open forests, riverbanks, streambanks, tickets, roadsides, disturbed areas</td>
</tr>
<tr>
<td>Smooth ruellia; Smooth Wild Petunia</td>
<td><em>Ruellia strepens</em></td>
<td>Cold, moist stratification for a minimum of 60 days or fall planting.</td>
<td>1oz/acre</td>
<td>6,800</td>
</tr>
<tr>
<td>Moist conditions; seed propagation most successful</td>
<td>FAC</td>
<td>Partial sunlight</td>
<td>Loamy, rocky soil</td>
<td>Wooded slopes, rocky streambanks, thickets, open woodlands</td>
</tr>
<tr>
<td>Bloodroot</td>
<td><em>Sanguinaria canadensis</em></td>
<td>Sow seeds immediately after collection, do not allow seeds to dry out.</td>
<td>1oz/acre</td>
<td>1,700</td>
</tr>
<tr>
<td>Slightly dry to moderately moist conditions; rhizomatous root system; excellent pollinator; easily grown from seed</td>
<td>FAC</td>
<td>Partial shade</td>
<td>Fertile, loamy, humusy soil</td>
<td>Deciduous upland woods, ravines, floodplain woodlands, bluff edges, shaded riverbanks,</td>
</tr>
<tr>
<td>Common black snakeroot</td>
<td><em>Sanicula odorata</em> (<em>Sanicula gregaria</em>)</td>
<td></td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Moderately moist conditions; fibrous root system; propagation through seeds most successful; limited commercial availability</td>
<td>FAC</td>
<td>Partial sunlight</td>
<td>Loamy</td>
<td>Floodplain woodlands, thickets, shady seeps, degraded woodland habitats</td>
</tr>
<tr>
<td>False Solomon’s Seal</td>
<td><em>Smilacina racemosa</em> (<em>Maianthemum racemosum</em>)</td>
<td>Cold, moist stratification for a minimum of 90 days, or fall planting.</td>
<td>1.5oz/acre</td>
<td>400</td>
</tr>
<tr>
<td>A synonymous scientific name is <em>Maianthemum racemosum</em>; moderately moist conditions; rhizomatous root system; propagation through seeds or root division most successful</td>
<td>FAC</td>
<td>Partial shade</td>
<td>Loam, sandy loam, rocky-loam</td>
<td>Woodlands, bluffs</td>
</tr>
<tr>
<td>Upright carrion flower</td>
<td><em>Smilax ecirrhata</em></td>
<td>Likely needs a period of warm, moist stratification for a minimum of 60 days followed by a period of cold, moist stratification for a minimum of 90 days.</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Moist conditions; self-seeding; easily grown from seed</td>
<td>N/A</td>
<td>Partial sunlight</td>
<td>Loam, clay loam, sandy loam</td>
<td>Upland woodlands, ravines wooded streambanks, thickets, open woodlands</td>
</tr>
<tr>
<td>Species</td>
<td>Scientific Name</td>
<td>Conditions</td>
<td>Propagation</td>
<td>Notes</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>-----------------------------------------------</td>
<td>----------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------</td>
</tr>
<tr>
<td>Smooth Hedgenettle; Hedge nettle</td>
<td><em>Stachys tenuifolia</em></td>
<td>*top shade, water’s edge, shaded stream edge</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wet conditions; rhizomatous root system with taproot, forms colonies</td>
<td>OBL</td>
<td>Partial sun; Wet soil; clay, loam, sand</td>
</tr>
<tr>
<td>Panicled aster; Lance leaf aster</td>
<td><em>Symphyotrichum lanceolatum</em> (Aster lanceolatus)</td>
<td>*top shade, top sun</td>
<td>No seed pretreatment necessary</td>
<td>0.5oz/acre; 156,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>An older synonymous scientific name is <em>Aster lanceolatus</em>, which is used by many nurseries; moist conditions; fibrous and rhizomatous root system; excellent pollinator; can be propagated through seeds or division;</td>
<td>FAC</td>
<td>Full to partial sunlight; Can survive in a variety of soil types</td>
</tr>
<tr>
<td>Calico aster; Side-flowering aster</td>
<td><em>Symphyotrichum lateriflorum</em> (Aster lateriflorus)</td>
<td></td>
<td>No seed pretreatment necessary.</td>
<td>0.5oz/acre; 250,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>A synonymous scientific name is <em>Aster lateriflorus</em> Wet to moist conditions; fibrous and rhizomatous root system; excellent pollinator.</td>
<td>FACW</td>
<td>Partial sunlight; Can survive in a variety of soil types; clay loam</td>
</tr>
<tr>
<td>Ontario aster</td>
<td><em>Symphyotrichum ontariensis</em> (Aster ontariensis)</td>
<td>*top shade, wooded trails</td>
<td>Likely requires cold, moist stratification for a minimum of 60 days or fall planting.</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>An older synonymous scientific name is <em>Aster ontariensis</em>, which is used by many nurseries. Moist conditions; rhizomatous and fibrous root system</td>
<td>FAC</td>
<td>Partial sunlight; Rich, loamy soils</td>
</tr>
<tr>
<td>Crooked stem aster</td>
<td><em>Symphyotrichum prenanthoides</em> (Aster prenanthoides)</td>
<td>Cold, moist stratification for a minimum of 60 days or fall planting. Needs light to germinate, surface sow seeds.</td>
<td>FACW</td>
<td>Partial sunlight; Can survive in a variety of soil types; loam</td>
</tr>
<tr>
<td></td>
<td></td>
<td>A synonymous scientific name is <em>Aster prenanthoides</em>; excellent pollinator</td>
<td></td>
<td></td>
</tr>
<tr>
<td>American germander</td>
<td><em>Teucrium canadense</em></td>
<td>*top shade, top sun</td>
<td>Cold, moist stratification for a minimum of 60 days or fall planting.</td>
<td>0.125oz/acre; 20,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Moist conditions; fibrous and rhizomatous root system, forms colonies; can become aggressive; considered weedy; readily germinates from seeds</td>
<td>FACW</td>
<td>Partial sunlight; Well-drained soils; loamy, sandy, loam clay</td>
</tr>
<tr>
<td>Plant Name</td>
<td>Common Name</td>
<td>USDA Plant Symbol</td>
<td>Shade</td>
<td>Sunlight</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>------------------------------</td>
<td>-------------------</td>
<td>-------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>Thaspium barbinode</td>
<td>Meadow parsnip</td>
<td>Thaspium barbinode</td>
<td>Top shade,</td>
<td>Full to partial</td>
</tr>
<tr>
<td>Verbena hastata</td>
<td>Wingstem</td>
<td>Verbena hastata</td>
<td>Top shade,</td>
<td>Full to partial</td>
</tr>
<tr>
<td>Viola pubescens</td>
<td>*Blue Vervain; Swamp Verbenas</td>
<td></td>
<td>Top shade,</td>
<td>Full to partial</td>
</tr>
<tr>
<td>Viola sororia</td>
<td>*Common blue violet</td>
<td></td>
<td>Top shade,</td>
<td>Full to partial</td>
</tr>
</tbody>
</table>

*Wingstem used to be classified in the *Actinomeris* genus, which is still used by many nurseries; moist conditions; rhizomatous, forms colonies; excellent pollinator; readily germinates from seed.
<table>
<thead>
<tr>
<th><em>Earlyleaf brome</em></th>
<th><em>Bromus latiglumis</em></th>
<th><em>Top shade, side slope</em></th>
<th>Cold, moist stratification for a minimum of 30 days or fall planting.</th>
<th>1oz/acre</th>
<th>7,600</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Moist conditions; fibrous root system; propagation through seeds most successful</strong></td>
<td>FACW</td>
<td>Partial shade</td>
<td>Clay, loam, sand</td>
<td>Floodplain woodlands, meadows, fields, wooded slopes, low-land prairies, streambanks,</td>
<td></td>
</tr>
<tr>
<td>Common wood sedge</td>
<td><em>Carex blanda</em></td>
<td><em>Top shade,</em></td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planting.</td>
<td>1oz/acre</td>
<td>12,500</td>
</tr>
<tr>
<td><strong>Moderately moist conditions; fibrous and rhizomatous root system; can become aggressive in recently disturbed areas</strong></td>
<td>FAC</td>
<td>Partial sunlight</td>
<td>Can survive in a variety of soil types</td>
<td>Moist woodlands, riverbanks, thickets, meadows, savannas, vacant lots, waste areas, disturbed areas</td>
<td></td>
</tr>
<tr>
<td><em>Soft fox sedge</em></td>
<td><em>Carex conjuncta</em></td>
<td><em>Top shade, bankfull</em></td>
<td>Likely needs cold, moist stratification for a minimum of 60 days, or fall planting.</td>
<td>1oz/acre</td>
<td>22,000</td>
</tr>
<tr>
<td><strong>Moist conditions; fibrous and rhizomatous root system</strong></td>
<td>FACW</td>
<td>Partial sunlight</td>
<td>Fertile, loamy soils</td>
<td>Floodplain woodlands, thickets, shady meadows, moist prairies, streambanks</td>
<td></td>
</tr>
<tr>
<td><em>Awned Graceful Sedge; Davis' Sedge</em></td>
<td><em>Carex davisii</em></td>
<td><em>Top of bank shade, side slope,</em></td>
<td>Not fully known, but cold, moist stratification for a minimum of 60 days or fall planting likely needed. May need light to germinate, surface sow seeds.</td>
<td>1oz/acre</td>
<td>9,000</td>
</tr>
<tr>
<td><strong>Moist to wet conditions; flood tolerant; fibrous and rhizomatous root system</strong></td>
<td>FAC</td>
<td>Partial sun</td>
<td>Moist soil; loam</td>
<td>Upland and floodplain woodlands, field edges, wooded slopes, riverbanks, moist meadows, slightly disturbed areas</td>
<td></td>
</tr>
<tr>
<td><em>Gray's sedge; Bur sedge</em></td>
<td><em>Carex grayi</em></td>
<td><em>Stream edge shade,</em></td>
<td>Fall planting is recommended.</td>
<td>2oz/acre</td>
<td>1,200</td>
</tr>
<tr>
<td><strong>Wet to moist conditions; tolerant to seasonal flooding; full sun tolerable in wet conditions; fibrous and rhizomatous root system</strong></td>
<td>FACW</td>
<td>Partial shade</td>
<td>Fertile soil; loam, sand, silt</td>
<td>Moist, deciduous woodlands, sandy swamps, shady streambanks, marshes</td>
<td></td>
</tr>
<tr>
<td>Wood gray sedge; inflated narrow-leaf sedge</td>
<td><em>Carex grisea</em></td>
<td><strong>Cold, moist stratification for a minimum of 60 days, or fall planning.</strong></td>
<td>1.5oz/acre</td>
<td>9,000</td>
<td></td>
</tr>
<tr>
<td><strong>Moist conditions; fibrous and rhizomatous root system;</strong></td>
<td>FAC</td>
<td>Full to partial sunlight</td>
<td>Fertile, loamy soils</td>
<td>Moist deciduous woodlands, floodplain woodlands, ditches, woodland edges</td>
<td></td>
</tr>
<tr>
<td>Species</td>
<td>Seed Treatment</td>
<td>Sunlight Preference</td>
<td>Root System Type</td>
<td>Soils or Conditions</td>
<td>Planting Rate</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>----------------</td>
<td>---------------------</td>
<td>------------------</td>
<td>---------------------------------------------------</td>
<td>--------------</td>
</tr>
<tr>
<td><strong>Greater Straw Sedge; Spreading Oval Sedge</strong></td>
<td><em>top shade, side slope, bankfull, shaded stream edge</em></td>
<td>Full sun to partial shade</td>
<td>Fertile soils</td>
<td>Open woodlands, pond edges, ditches, streambanks, prairies, meadows, fields, disturbed areas</td>
<td>0.25oz/acre</td>
</tr>
<tr>
<td>Carex normalis</td>
<td><em>top shade, side slope, bankfull, shaded stream edge</em></td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planting.</td>
<td>FACW</td>
<td>Moist to wet conditions; fibrous and rhizomatous root system; self-seeding</td>
<td>0.5oz/acre</td>
</tr>
<tr>
<td><strong>Woodreed; sweet woodreed</strong></td>
<td><em>top shade, side slope</em></td>
<td>Cold, moist stratification for a minimum of 60 days or fall planting.</td>
<td>FACW</td>
<td>Partial sunlight</td>
<td>Sow seeds outdoors in the late fall. Otherwise, requires cold, moist stratification for a minimum of 60 days.</td>
</tr>
<tr>
<td>Cinna arundinacea</td>
<td><em>top shade, side slope</em></td>
<td>Sow seeds outdoors in the late fall. Otherwise, requires cold, moist stratification for a minimum of 60 days.</td>
<td>FACW</td>
<td>Partial sunlight</td>
<td>Sow seeds outdoors in the late fall. Otherwise, requires cold, moist stratification for a minimum of 60 days.</td>
</tr>
<tr>
<td><em>Beak grass</em></td>
<td><em>top shade, side slope</em></td>
<td>Cold, moist stratification for a minimum of 60 days or fall planting.</td>
<td>FACW</td>
<td>Partial sunlight</td>
<td>Sow seeds outdoors in the late fall. Otherwise, requires cold, moist stratification for a minimum of 60 days.</td>
</tr>
<tr>
<td>Diarrhena obovata</td>
<td><em>top shade, side slope</em></td>
<td>Cold, moist stratification for a minimum of 60 days or fall planting.</td>
<td>FACW</td>
<td>Partial sunlight</td>
<td>Sow seeds outdoors in the late fall. Otherwise, requires cold, moist stratification for a minimum of 60 days.</td>
</tr>
<tr>
<td><strong>Bottlebrush Grass; Eastern Bottlebrush grass</strong> (Elymus hystrix (Hystrix patula))</td>
<td><em>woodland trails, top shade</em></td>
<td>No seed pretreatment necessary</td>
<td>FACU</td>
<td>Filtered sunlight to partial shade</td>
<td>Loamy, rocky soil, clay, can survive in a variety of soil types</td>
</tr>
<tr>
<td>Elymus hystrix (Hystrix patula)</td>
<td><em>side slope, top shade, bankfull, shaded stream edge</em></td>
<td>No seed pretreatment necessary</td>
<td>FACW</td>
<td>Partial shade to shade</td>
<td>Loam, sand, clay</td>
</tr>
<tr>
<td><strong>Riverbank Wild Rye</strong></td>
<td><em>woodland trails, top shade</em></td>
<td>No seed pretreatment necessary</td>
<td>FACW</td>
<td>Partial shade to shade</td>
<td>Loam, sand, clay</td>
</tr>
<tr>
<td><em>Silky Wild Rye; Downy Wild-Rye; Hairy Wildrye</em> (Elymus villosus)</td>
<td><em>woodland trails, top shade, side slope</em></td>
<td>No seed pretreatment necessary</td>
<td>FACU</td>
<td>Partial Sun</td>
<td>Fertile soil, loam</td>
</tr>
</tbody>
</table>

Notes: FACW = Full Sun to Partial Shade, FAC = Full Shade, Filtered Sunlight to Partial Shade, 0.5lb/acre = 0.5 pounds per acre, 0.25oz/acre = 0.25 ounces per acre, 0.5oz/acre = 0.5 ounces per acre, 2oz/acre = 2 ounces per acre, 3oz/acre = 3 ounces per acre.
<table>
<thead>
<tr>
<th><strong>Virginia Wild Rye</strong></th>
<th><em>Elymus virginicus</em></th>
<th><em>top shade, top sun, shaded stream edge, sunny trails, wooded trails</em></th>
<th>No seed pretreatment necessary</th>
<th>1lb/acre</th>
<th>4,200</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moist conditions; fibrous root system; great cover crop for erosion control; easily grown from seed; tends to give way to other species over five years</td>
<td>FACW</td>
<td>Full sun to shade</td>
<td>Fertile soil; loam, clay loam, sandy, can survive in a variety of soil types</td>
<td>Bottomland woodlands, riparian areas, riverbanks, streambanks, moist prairies, roadsides, bluffs, moist savannas, disturbed areas</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Fowl Manna Grass</strong></th>
<th><em>Glyceria striata</em></th>
<th><em>top shade, bankfull, water’s edge, shady stream</em></th>
<th>No seed pretreatment necessary. Needs light to germinate, surface sow seeds.</th>
<th>0.5oz/acre</th>
<th>90,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet to moist conditions; fibrous root system; self-seeding; can tolerate more sun exposure in wetter conditions</td>
<td>OBL</td>
<td>Partial sunlight to shade</td>
<td>Fertile soil, loam</td>
<td>Swamps, marshes, streambanks, pond edges, bogs, seeps, ditches</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>White Grass</strong></th>
<th><em>Leersia virginica</em></th>
<th><em>top shade, bankfull, water’s edge, shaded stream edge, side slope</em></th>
<th>No seed pretreatment necessary</th>
<th>N/A</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moist conditions; fibrous and rhizomatous root system; limited local commercial availability</td>
<td>FACW</td>
<td>Partial shade</td>
<td>Fertile soil, loam</td>
<td>Swamps, floodplain woodlands, shady pond edges, streambanks, marshes, moist wooded areas, shaded slopes, disturbed areas</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Woodland bluegrass</strong></th>
<th><em>Poa sylvestris</em></th>
<th><em>top shade, wooded trails, side slope</em></th>
<th>N/A</th>
<th>N/A</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moist conditions; fibrous root system; propagation through seeds only</td>
<td>FAC</td>
<td>Partial sunlight</td>
<td>Fertile, loamy soils</td>
<td>Floodplain woodlands, wooded slopes, wooded ravines</td>
<td></td>
</tr>
</tbody>
</table>

**Shrubs & Vines (Top of bank PART-SHADE)**

<table>
<thead>
<tr>
<th>Eastern Redbud; Judas-tree</th>
<th><em>Cercis canadensis</em></th>
<th>Acid bath scarification followed by cold, moist stratification for a minimum of 30 days and sown in spring.</th>
<th>N/A</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slightly dry to somewhat moist conditions; deep taproot with wide lateral roots; seed and transplant propagation most successful; excellent pollinator</td>
<td>FACU</td>
<td>Full sun to partial shade</td>
<td>Alkaline soils; loam, clay loam, limestone</td>
<td>Wooded slopes, savannas, limestone glades, limestone bluffs, moist woodlands, riverbanks</td>
</tr>
<tr>
<td>Common Name</td>
<td>Scientific Name</td>
<td>Germination Requirements</td>
<td>Coverage</td>
<td></td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>-----------------------------</td>
<td>----------------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Virgin's bower; Devil's darning needles</td>
<td><em>Clematis virginiana</em></td>
<td>Cold, moist stratification for a minimum of 30 days, or fall planting.</td>
<td>.125oz/acre 16,000</td>
<td></td>
</tr>
<tr>
<td><em>Rough-leaved Dogwood</em></td>
<td><em>Cornus drummondii</em></td>
<td>Sow seeds immediately after collection. Otherwise scarification and cold, moist stratification for a minimum of 30 days is necessary.</td>
<td>N/A N/A</td>
<td></td>
</tr>
<tr>
<td>Gray Dogwood</td>
<td><em>Cornus racemosa</em></td>
<td>Sow seeds immediately after collection. Otherwise scarification and cold, moist stratification for a minimum of 30 days is necessary.</td>
<td>N/A N/A</td>
<td></td>
</tr>
<tr>
<td><em>Wahoo; Eastern Wahoo; Burningbush</em></td>
<td><em>Euonymus atropurpureus</em></td>
<td>Not fully known, best propagation may be through plugs or cuttings. Seeds may need both a warm followed by a cold stratification period of 60-90 days.</td>
<td>N/A N/A</td>
<td></td>
</tr>
<tr>
<td><em>Chokecherry</em></td>
<td><em>Prunus virginiana</em></td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planting.</td>
<td>N/A N/A</td>
<td></td>
</tr>
<tr>
<td><em>Wild Black Currant</em></td>
<td><em>Ribes americanum</em></td>
<td>Scarification and cold, moist stratification for a minimum of 60 days, or fall planting.</td>
<td>N/A N/A</td>
<td></td>
</tr>
</tbody>
</table>

- **Moderately moist to moist conditions; self-seeding; can become aggressive; excellent pollinator; easily grown from seed; vine**
- **Partial sunlight**
- **Fertile, moist soils; silt-loam, loam**
- **Moist floodplain meadows, streambanks, thickets, woodland edges, moist railroads, drainage ditches, fence rows, open floodplain woodlands**

- **Slightly dry to moist conditions; woody taproot; adaptable; excellent pollinator; invasive to prairies**
- **FAC**
- **Partial sun**
- **Can survive in a variety of soil types**
- **Marshes, lake edges, streambanks, swamps, open floodplain woodlands**

- **Moist conditions; rhizomatous root system, forms colonies; slow growth rate; propagation by seeds or cuttings**
- **FAC**
- **Full to partial sunlight**
- **Can survive in a variety of soil types**
- **Thickets, riverbanks, open woodlands, savannas, limestone glades, prairies, roadsides**

- **Moist conditions; taproot; self-seeding; best propagation may be through plugs or cuttings**
- **FAC**
- **Partial shade**
- **Fertile soil; loam, can survive in a variety of soil types**
- **Floodplain woodlands, streambanks, moist meadows, woodland edges**

- **Slightly dry to somewhat moist conditions; deep, spreading, rhizomatous root system; seed or root cutting propagation; excellent pollinator**
- **FACU**
- **Full sun to partial shade**
- **Can survive in a variety of soil types, including acidic soils**
- **Streambanks, bluffs, roadsides, woodlands, thickets, fields, disturbed areas**

- **Moist to wet conditions; self-seeding; excellent pollinator, propagate through seeds**
- **FACW**
- **Partial sunlight**
- **Can survive in a variety of soil types**
- **Swamps, meadows, fens, seeps, ravines, shaded streambanks, open floodplain woodlands**
<table>
<thead>
<tr>
<th><strong>Elderberry; American Elder</strong></th>
<th>Sambucus nigra canadensis (formerly: Sambucus canadensis)</th>
<th>*top shade, bankfull</th>
<th>Acid bath scarification for 20 minutes followed by cold, moist stratification for a minimum of 60 days.</th>
<th>N/A</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moist conditions; shallow, rhizomatous root system; fast growth rate; Sambucus nigra canadensis was formerly considered a separate species: Sambucus canadensis, this name is still often used; propagate through cuttings or seeds (cuttings may be fastest and easiest way)</td>
<td>N/A</td>
<td>Full to partial sunlight</td>
<td>Fertile soils, slightly acidic soils</td>
<td>Bogs, ditches, wet prairies, open woodlands, thickets, wet meadows, streambanks, railroads, fields</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Western Snowberry; Wolfberry</strong></th>
<th>Symphoricarpos occidentalis</th>
<th>*top sun, sunny trails</th>
<th>Warm stratification for a minimum of 90 days followed by cold stratification for a minimum of 120 days.</th>
<th>N/A</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moist to slightly dry conditions; rhizomatous root system; stem and root cutting propagation; seed propagation is difficult; excellent pollinator</td>
<td>UPL</td>
<td>Full to partial sun</td>
<td>Can survive in a variety of soil types</td>
<td>Ditches, streambanks, floodplains, open swales, open woodlands, prairies, bluffs; disturbed areas</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Buckbrush; Coralberry</strong></th>
<th>Symphoricarpos orbiculatus</th>
<th>top shade</th>
<th>Can sow outdoors with no pretreatment but plant will not germinate for 2 or more years. Otherwise scarification and three phases of stratification; cold, warm, cold for 60 days are necessary.</th>
<th>1oz/acre</th>
<th>5,600</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slightly dry to somewhat moist conditions; branching taproot; seed or cutting propagation; excellent pollinator</td>
<td>FACU</td>
<td>Full sun to partial shade</td>
<td>Sandy, loamy, clay soils</td>
<td>Open woodlands, thickets, limestone glades, streambanks, riverbanks</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Nannyberry; Sheepberry</strong></th>
<th>Viburnum lentago</th>
<th>*top shade, side slope</th>
<th>Not fully known, fall planting or cold, moist stratification for a minimum of 60 days likely needed.</th>
<th>N/A</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moist conditions; shallow, woody and fibrous root system; seed or cutting propagation (cuttings may be the more successful technique)</td>
<td>FAC</td>
<td>Full sun to partial shade</td>
<td>Can survive in a variety of soil types</td>
<td>Woodlands, roadsides, streambanks, thickets, swamp edges, wooded slopes</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Prickly-ash</strong></th>
<th>Zanthoxylum americanum</th>
<th>*top shade, side slope</th>
<th>Sow seeds immediately after collection or scarification with an acid bath for 2 hours followed by cold, moist stratification for a minimum of 90 days.</th>
<th>N/A</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slightly dry to somewhat moist conditions; roots have long underground runners, forms colonies; thorny; seed or cutting propagation; painful to walk through, not suitable for trails, parks, or high-use areas</td>
<td>FACU</td>
<td>Full sun to partial shade</td>
<td>Can survive in a variety of soil types</td>
<td>Riverbanks, thickets, woodlands, bluffs, savannas, roadsides streambanks, rocky hillsides</td>
<td></td>
</tr>
<tr>
<td>Tree Name</td>
<td>Common Name</td>
<td>Top Shade, Bankfull</td>
<td>Growing Requirements</td>
<td>Zone</td>
<td>Notes</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>----------------------</td>
<td>---------------------------</td>
<td>--------------------------------------------------------------------------------------</td>
<td>------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>Boxelder</td>
<td><em>Boxelder</em></td>
<td>*top shade, bankfull</td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planting.</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><em>Boxelder</em></td>
<td><em>Boxelder</em></td>
<td>*top shade, bankfull</td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planting.</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Silver Maple</td>
<td><em>Silver Maple</em></td>
<td>*top shade, bankfull</td>
<td>Do not allow seeds to dry out. Immediate planting after seed collection is recommended.</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Ohio buckeye; American Buckeye; Stinking Buckeye</td>
<td><em>Ohio buckeye; American Buckeye; Stinking Buckeye</em></td>
<td>*top shade, bankfull</td>
<td>Moist conditions; shallow, fibrous root system; fast growth rate; short-lived; flood tolerant; easily grown from seed</td>
<td>FACW</td>
<td>Cold, moist stratification for a minimum of 90 days or fall planting.</td>
</tr>
<tr>
<td><em>Silver Maple</em></td>
<td><em>Silver Maple</em></td>
<td>*top shade, bankfull</td>
<td>Cold, moist stratification for a minimum of 90 days or fall planting.</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Shell-bark Hickory; Kingnut Hickory</td>
<td><em>Shell-bark Hickory; Kingnut Hickory</em></td>
<td>*top shade, bankfull</td>
<td>Moist conditions; lateral roots and taproot; self-seeding; difficult to transplant; leaves, bark, and fruit are highly toxic when ingested; not suitable for grazing area</td>
<td>FACW</td>
<td>Cold, moist stratification for a minimum of 90 days or fall planting.</td>
</tr>
<tr>
<td>Hackberry</td>
<td><em>Hackberry</em></td>
<td>*top shade, side slope</td>
<td>Moist to slightly dry conditions; deep, spreading lateral roots; self-seeding; fast growth rate; seed and cutting propagation are successful</td>
<td>FACW</td>
<td>Cold, moist stratification for a minimum of 90 days or fall planting.</td>
</tr>
<tr>
<td><em>Hackberry</em></td>
<td><em>Hackberry</em></td>
<td>*top shade, side slope</td>
<td>Moist to slightly dry conditions; deep, spreading lateral roots; self-seeding; fast growth rate; seed and cutting propagation are successful</td>
<td>FACW</td>
<td>Cold, moist stratification for a minimum of 90 days or fall planting.</td>
</tr>
<tr>
<td>Downy Hawthorn</td>
<td><em>Downy Hawthorn</em></td>
<td>*top shade, top sun</td>
<td>Moist conditions; woody, branching root system; excellent pollinator; self-seeding</td>
<td>FACW</td>
<td>Cold, moist stratification for a minimum of 90 days or fall planting.</td>
</tr>
</tbody>
</table>

**Notes:**
- FAC: Full sun to partial shade
- FACW: Full to partial sunlight
- N/A: Not applicable

**Zone:**
- N/A: Not applicable

**Growing Conditions:**
- Moist conditions; shallow, fibrous root system; fast growth rate; short-lived; flood tolerant; easily grown from seed
- Moist conditions; fibrous, shallow, spreading root system; extremely rapid growth rate; seed and cutting propagation are successful; susceptible to high winds and ice; shade intolerant
- Moist conditions; lateral roots and taproot; self-seeding; difficult to transplant; leaves, bark, and fruit are highly toxic when ingested; not suitable for grazing area
- Moist conditions; deep taproot with smaller lateral roots; self-seeding; difficult to transplant; slow growth rate; fire tolerant
- Moist to slightly dry conditions; deep, spreading lateral roots; self-seeding; fast growth rate; seed and cutting propagation are successful
- Moist conditions; woody, branching root system; excellent pollinator; self-seeding

**Notes:**
- Can survive in a variety of soil types
- Floodplain woodlands, thickets, streambanks, ditches, roadsides, disturbed areas
- Floodplain woodlands, riverbanks, lake shores, swamps
- Floodplain woodlands, riverbanks, streams, wooded rocky slopes
- Floodplain woodlands, valleys, swamps, savannas
- Floodplain woodlands, savannas, moist upland woods
- Forest edges, fields, roadways, moist savannas, thickets, riverbanks, open floodplain woodlands

**Root Systems:**
- Shallow, fibrous
- Deep, spreading lateral
- Lateral roots and taproot
- Difficult to transplant
- Self-seeding
- Slow growth rate
- Fire tolerant

**Propagation:**
- Seed and cutting propagation are successful

**Pollinator:**
- Excellent pollinator

**Use:**
- Floodplain woodlands, thickets, streambanks, ditches, roadsides, disturbed areas
- Floodplain woodlands, riverbanks, lake shores, swamps
- Floodplain woodlands, streams, wooded rocky slopes
- Floodplain woodlands, valleys, swamps, savannas
- Floodplain woodlands, savannas, moist upland woods
- Forest edges, fields, roadways, moist savannas, thickets, riverbanks, open floodplain woodlands
<table>
<thead>
<tr>
<th>Species</th>
<th>Common Name</th>
<th>Seed Treatment</th>
<th>Optimum Conditions</th>
<th>Suitable Habitats</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black ash</td>
<td>Fraxinus nigra</td>
<td>Room temperature, moist stratification for a minimum of 60 days followed by cold, moist stratification for a minimum of 90 days, or fall planting. Make take 2 years for germination.</td>
<td>Wet conditions; shallow, widespread root system; self-seeding; tolerant of seasonal flooding</td>
<td>Swamps, streambanks, seeps, springs, woody bogs, floodplain woodlands, ravines, terraces</td>
</tr>
<tr>
<td>Kentucky Coffeetree</td>
<td>Gymnocladus dioicus</td>
<td>Scatify seeds in an acid bath for 4-6 hours.</td>
<td>Moist, well-drained conditions; seed or root cutting propagation are successful; sometimes colonies can form from root suckers; many parts of the tree are poisonous</td>
<td>Floodplain woodlands, riverbanks, woodlands, lowland slopes</td>
</tr>
<tr>
<td>Butternut</td>
<td>Juglans cinerea</td>
<td>Cold, moist stratification for a minimum of 90 day, or fall planting.</td>
<td>Moderately moist to slightly dry conditions; deep and widespread roots, with deep taproot; rapid growth rate; short-lived; mature trees are shade intolerant</td>
<td>Streambanks, coves, slopes, talus rock ledges, floodplain woodlands</td>
</tr>
<tr>
<td>Black walnut</td>
<td>Juglans nigra</td>
<td>Cold, moist stratification for a minimum of 90 days, or fall planting.</td>
<td>Moist conditions; wide spreading roots with a deep taproot; self-seeding; propagation through seeds most successful;</td>
<td>Floodplain woodlands, valleys, streambanks, bluff or slope bases</td>
</tr>
<tr>
<td>*Swamp White Oak</td>
<td>Quercus bicolor</td>
<td>*top shade, top sun, bankfull</td>
<td>Wet to moist conditions; wide, woody root system with taproot; fast growth rate; best propagation through seeds</td>
<td>Floodplain woodlands, riverbanks, streambanks, pond edges, swamp and lake edges, lowland areas</td>
</tr>
<tr>
<td>*Bur oak</td>
<td>Quercus macrocarpa</td>
<td>* top sun, top shade</td>
<td>Moist conditions; deep taproot with wide horizontal roots; drought tolerant; slow growth rate; seed and cutting (of smaller pole-sized trees) propagation are successful; fire tolerant; older trees are susceptible to bur oak blight (BOB), a fungal disease</td>
<td>Savannas, streambanks, floodplain woodlands, upland woodlands</td>
</tr>
<tr>
<td>Plant Name</td>
<td>Scientific Name</td>
<td>Water and Soil Requirements</td>
<td>Sun Requirement</td>
<td>Planting Method</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>----------------------------------------</td>
<td>---------------------------------------------------------------------------------------------</td>
<td>-------------------------</td>
<td>-------------------------------------------------</td>
</tr>
<tr>
<td>American basswood; American Linden</td>
<td><em>Tilia americana</em></td>
<td>Acid bath scarification followed by cold, moist stratification for a minimum of 90 days, or plant immediately after collection. Seeds can remain dormant for up to 3 years.</td>
<td>FACU</td>
<td>Full sun to partial shade</td>
</tr>
<tr>
<td>Slightly dry to somewhat moist conditions; spreading, woody, lateral root system; excellent pollinator; fast growth rate; sprouts abundantly from stumps</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Top of Bank, FULL SUN (Ecologically a wet-mesic prairie)**

**Forbs**

<p>| *Canada Anemone; Meadow Anemone                 | <em>Anemone canadensis</em>                   | Moist to wet conditions; rhizomatous root system, often forms colonies; can become aggressive | FACW                    | Full sun to partial shade                       | Loamy, gravelly, sandy soils                      | 1oz/acre         | Meadows, prairies, open floodplain woodlands, streambanks, swamps, ditches |
| <em>Prairie Indian Plantain; tuberous indian plantain</em> | <em>Arnoglossum plantagineum (Cacalia plantaginea)</em> |                                                                                             | FAC                     | Full sun to partial shade                       | Fertile soils                                     | 1.5oz/acre       | Remnant prairies, fens, marshes, loess bluffs, meadows along rivers, savannas, thickets, fens, remnant bogs, high quality habitat |
| <em>Swamp Milkweed; Pink Milkweed; Rose Milkweed</em>  | <em>Asclepias incarnata</em>                  | Wet to moist conditions; rhizomatous root system, can form colonies; excellent pollinator   | OBL                     | Full sun to partial shade                       | Wet soils; clay                                   | 1.5oz/acre       | Moist meadows, floodplain woodlands, swamps, riverbanks, prairies, marshes, roadsides, riparian areas |
| <em>Sullivant’s Milkweed; Prairie Milkweed</em>        | <em>Asclepias sullivantii</em>                | Mesic to wet conditions; rhizomatous root system; excellent pollinator                     | N/A                     | Full sun                                        | Can survive in a variety of moist soil types; loamy soils | 1oz/acre         | Prairies, moist meadows, ditches, river bottomlands                                                  |</p>
<table>
<thead>
<tr>
<th><strong>Common Milkweed; Silkweed</strong></th>
<th>Asclepias syriaca</th>
<th>*top sun, side slope, sunny trail</th>
<th>Cold, moist stratification for a minimum of 30 days, or fall planting.</th>
<th>0.5oz/acre</th>
<th>4,000</th>
<th>Slightly dry to somewhat moist conditions; rhizomatous root system; seed and rhizome cutting propagation; can spread aggressively; excellent pollinator; can be considered weedy; drought tolerant</th>
<th>FACU</th>
<th>Full sun</th>
<th>Sandy, rocky, clay</th>
<th>Prairies, riverbanks, streambanks, forest edges, roadsides, thickets, railroads, open woodlands, disturbed areas</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Grass-leaved goldenrod; Flat-top goldentop</strong></td>
<td>Euthamia graminifolia (Solidago graminifolia)</td>
<td>Cold, moist stratification for a minimum of 60 days or fall planting. Needs light to germinate, surface sow seeds.</td>
<td>0.25oz/acre</td>
<td>350,000</td>
<td>A synonymous scientific name is Solidago graminifolia; fibrous and rhizomatous root system; moist conditions; easily grown from seed or root division; can become aggressive; excellent pollinator</td>
<td>FACW</td>
<td>Full sun</td>
<td>Can survive in a variety of soil types</td>
<td>Moist prairies, fens, marsh edges, seeps, lake edges, fields, ditches</td>
<td></td>
</tr>
<tr>
<td><strong>Blunt leaf bedstraw; Wild madder</strong></td>
<td>Galium obtusum</td>
<td>Do not allow seeds to dry out. Immediate planting after seed collection is recommended.</td>
<td>N/A</td>
<td>N/A</td>
<td>Moist to wet conditions; fibrous root system</td>
<td>FACW</td>
<td>Full to partial sunlight</td>
<td>Wet, moisture-retaining soils.</td>
<td>Moist prairies, floodplain woodlands, moist thickets, prairie swales, fens, seeps, swamps, wet ditches</td>
<td></td>
</tr>
<tr>
<td><strong>Bottle gentian; Closed Bottle Gentian</strong></td>
<td>Gentiana andrewsii</td>
<td>*top sun, bankfull, water’s edge</td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds.</td>
<td>0.25oz/acre</td>
<td>280,000</td>
<td>Moist to wet conditions; central taproot; using plugs/transplanting may be most successful propagation technique; germination from seed can be difficult</td>
<td>FACW</td>
<td>Full to partial sunlight</td>
<td>Fertile soil; clay, sandy loam</td>
<td>Riverbanks, open floodplain woodlands, meadows, moist prairies, swamps, thickets</td>
</tr>
<tr>
<td><strong>Giant St. Johnswort</strong></td>
<td>Hypericum ascyron (Hypericum pyramidatum)</td>
<td>*top shade, top sun, bankfull, side slope</td>
<td>Cold, moist stratification for a minimum of 60 days or fall planting. Needs light to germinate, surface sow seeds.</td>
<td>1oz/acre</td>
<td>190,000</td>
<td>A synonymous scientific name is Hypericum pyramidatum; moist conditions; rhizomatous root system; excellent pollinator; propagation through seeds or plugs are successful</td>
<td>FAC</td>
<td>Full to partial sunlight</td>
<td>Can survive in a variety of soil types</td>
<td>Open woodlands, riverbanks, moist thickets, wooded slopes, meadows, marshes</td>
</tr>
<tr>
<td><strong>Marsh Vetchling; Marsh Pea</strong></td>
<td>Lathyrus palustris</td>
<td>Not fully known, likely needs scarification</td>
<td>2oz/acre</td>
<td>1,800</td>
<td>Moist to wet conditions; fibrous and rhizomatous, often forms colonies; vine</td>
<td>FACW</td>
<td>Full to partial sunlight</td>
<td>Loam, sand</td>
<td>Prairie remnants, interdunal swales, marsh edges, streambanks, swamps, moist meadows, fens, wet thickets</td>
<td></td>
</tr>
<tr>
<td>Common Name</td>
<td>Scientific Name</td>
<td>Seed Treatment</td>
<td>Sunlight</td>
<td>Soil Preference</td>
<td>Habitat</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------</td>
<td>-----------------</td>
<td>----------------</td>
<td>---------</td>
<td>----------------</td>
<td>---------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prairie Blazingstar; Cat-tail gay feather</td>
<td>Liatris pycnostachya</td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planting.</td>
<td>FAC</td>
<td>Full sun</td>
<td>Moist soils; sandy, rocky</td>
<td>Prairies, meadows, railroads, bluffs, limestone glades, streambanks</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Fringed loosestrife</td>
<td>Lysimachia ciliata</td>
<td>*top shade, top sun</td>
<td>FACW</td>
<td>Full to partial sunlight</td>
<td>Fertile soils; loam</td>
<td>Floodplain woodlands, swamps, wet thickets, marshes, streambanks, wet prairies, seeps</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prairie Loosestrife; Four-flower Yellow-loosestrife</td>
<td>Lysimachia quadriflora</td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds.</td>
<td>0.125oz/acre</td>
<td>Full sun</td>
<td>Wet soil; clay, loam, sand</td>
<td>Floodplains, marsh edges, wet meadows, wet prairies, swamps, fens, bogs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Field mint; Marsh mint; Wild mint</td>
<td>Mentha arvensis</td>
<td>*top sun, bankfull, water’s edge</td>
<td>OBL</td>
<td>Full sun</td>
<td>Wet soil; clay, loam, sand</td>
<td>Lake shores, moist prairies, marshes, fens, landfills, disturbed areas, streambanks</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Swamp saxifrage; Eastern swamp pseudosaxifrage (Saxifraga pensylvanica)</td>
<td>Micranthes pensylvanica</td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds.</td>
<td>0.5oz/acre</td>
<td>Full to partial sunlight</td>
<td>Rocky, sandstone</td>
<td>Wet meadows, sandstone ravines, sandstone canyons, swamps, bogs, wet thickets, wet prairies, moist woodlands, seeps, high quality areas</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Wild Bergamot; Beebalm</td>
<td>Monarda fistulosa</td>
<td>*top shade and top sun, sunny and woodland trails</td>
<td>FACU</td>
<td>Full to partial sunlight</td>
<td>Can survive in a variety of soil types</td>
<td>Open woodlands, fields, moist meadows, ditches, edges of forests, prairies, savannas, thickets, disturbed areas</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Species</td>
<td>Scientific Name</td>
<td>Germination Requirements</td>
<td>Sunlight要求</td>
<td>Soil Requirements</td>
<td>Habitat Notes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------------------------</td>
<td>----------------------------------------</td>
<td>------------------------------------------------------------------------------------------</td>
<td>--------------</td>
<td>------------------------------------------------------</td>
<td>------------------------------------------------------------------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Balsam Ragwort; Balsam Groundsel</td>
<td>Senecio pauperculus</td>
<td>N/A</td>
<td>FAC</td>
<td>Loam, sandy loam, rocky material</td>
<td>Moist prairies, remnant prairies, sandy savannas, fields, wet meadows, open woodlands, streambanks</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marsh Phlox; Wild SweetWilliam</td>
<td>Phlox maculata</td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planting.</td>
<td>FACW</td>
<td>Can survive in a variety of soil types</td>
<td>Floodplain woodlands, open woodlands, riverbanks, fens, fields, moist meadows, prairie swales, moist ditches</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Obedient Plant; False Dragonhead; Virginia Lions-heart</td>
<td>Physostegia virginiana</td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planting.</td>
<td>FACW</td>
<td>Moist soils, hummus, loam</td>
<td>Prairies, open woodlands, meadows, riverbanks, swamps, thickets, limestone glades, railroads, seeps, lake shores</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Glaucous white lettuce; Purple Rattlesnake-root</td>
<td>Prenanthes racemosa (Nabalus racemosus)</td>
<td>Best if sown in the fall, or immediately after collection. Otherwise requires cold, moist stratification for a minimum of 120 days.</td>
<td>FACW</td>
<td>Sandy, calcareous, rocky</td>
<td>Wet meadows, lakeside wetlands, moist prairies, streambanks, thickets, fens, seeps</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Mountain Mint; Virginia Mountain Mint</td>
<td>Pycnanthemum virginianum</td>
<td>No pretreatment necessary. Needs light to germinate, surface sow seeds.</td>
<td>FACW</td>
<td>Can survive in a variety of soil types</td>
<td>Prairies, meadows, fens, streambanks, thickets, swamps, bluffs, pond edges</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Yellow Coneflower; Gray-Head Coneflower; Pinnate Prairie Coneflower</td>
<td>Ratibida pinnata</td>
<td>Cold, moist stratification for a minimum of 30 days, or fall planting.</td>
<td>FACW</td>
<td>Can survive in a variety of soil types</td>
<td>Dry woodlands, prairies, thickets, railroads, roadsides, forest edges, remnant prairies, disturbed areas</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Variety</td>
<td>Scientific Name</td>
<td>Gymnology</td>
<td>North American Distribution Area</td>
<td>Seed Rate</td>
<td>Seed Count</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------------------------</td>
<td>---------------------------------</td>
<td>----------------------------------------</td>
<td>------------------------------------------------------------------------------------------------------</td>
<td>-----------</td>
<td>------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Black-eyed Susan</em></td>
<td><em>Rudbeckia hirta</em></td>
<td>*Top shade &amp; sun, side slope, sunny trail</td>
<td>Cold, moist stratification for a minimum of 30 days or fall planting. Slightly wet to dry prairies, meadows, roadside ditches, savannas, rocky areas, and disturbed sites.</td>
<td>0.5oz/acre</td>
<td>92,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Sweet coneflower</em></td>
<td><em>Rudbeckia subtomentosa</em></td>
<td>*Side slope, top sun, sunny trail</td>
<td>Cold, moist stratification for a minimum of 30 days, or fall planting. Moist prairies, open woods, savannas, thickets, riverbanks, streambanks, roadsides, ditch slopes, disturbed areas.</td>
<td>0.5oz/acre</td>
<td>43,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Brown-eyed Susan</em></td>
<td><em>Rudbeckia triloba</em></td>
<td>*Top sun, top shade, woodland trails</td>
<td>Cold, moist stratification for a minimum of 30 days, or fall planting. Prairies, savannas, open forests, riverbanks, streambanks, tickets, roadsides, disturbed areas.</td>
<td>1oz/acre</td>
<td>34,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Panicled aster; Lance leaf aster</em></td>
<td><em>Symphyotrichum lanceolatum (Aster lanceolatus)</em></td>
<td><em>Top shade, top sun</em></td>
<td>No seed pretreatment necessary. Can survive in a variety of soil types. Low prairies; open floodplain woodlands; thickets; seeps; marsh edges; ditches; moist shorelines; disturbed areas.</td>
<td>0.5oz/acre</td>
<td>156,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>New England aster; New England American-Aster</em></td>
<td><em>Symphyotrichum novae-angliae (Aster novae-angliae)</em></td>
<td>*Top sun, bankfull, side slope, woodland trail</td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planting. Prairie, meadows, riverbanks, thickets, railroads, roadsides, open woodlands, disturbed areas.</td>
<td>1oz/acre</td>
<td>66,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plant Name</td>
<td>Scientific Name</td>
<td>Sunlight Requirements</td>
<td>Soil Requirements</td>
<td>Propagation Notes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------------------</td>
<td>------------------------------------------</td>
<td>-----------------------</td>
<td>-------------------</td>
<td>-------------------------------------------------------------------------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Willow Aster</td>
<td><em>Symphyotrichum praealtum (Aster praealtus)</em></td>
<td>Full to partial sunlight</td>
<td>Fertile, loamy soils</td>
<td>Moist prairies, fields, ditches, thickets, lakeside and riverside meadows</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*American germander</td>
<td><em>Teucrium canadense</em></td>
<td>Full sun</td>
<td>Well-drained soils; loamy, sandy, loam clay</td>
<td>Wet prairies, meadows, marshes, ditches, moist woods</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Purple meadow-rue; Tall meadow-rue</td>
<td><em>Thalictrum dasycarpum</em></td>
<td>Full sun to partial sunlight</td>
<td>Loamy, sandy, rocky, clay loam soils</td>
<td>Prairies, moist meadows, streambanks, savannas, open woodlands, open floodplain woodlands, swamps</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Blue Vervain; Swamp Verbena</td>
<td><em>Verbena hastata</em></td>
<td>Full sun</td>
<td>Fertile loam or wet muck</td>
<td>River-bottom prairies, meadows, roadside ditches, pastures, marshes, and riverbanks</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Ironweed; Smooth Ironweed; Prairie Ironweed</td>
<td><em>Vernonia fasciculata</em></td>
<td>Full sun</td>
<td>Fertile, moist soil</td>
<td>Moist prairies, marshes, field edges, wetlands</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Golden Alexanders</td>
<td><em>Zizia aurea</em></td>
<td>Full sun</td>
<td>Moist soils; loamy, sandy</td>
<td>Moist prairies, open woods, meadows, edges of woodland trails, savannas, thickets, fields, bluffs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* indicates a synonymous scientific name.
<table>
<thead>
<tr>
<th><strong>Grasses, Sedges, &amp; Rushes (Top of bank FULL SUN)</strong></th>
<th><strong>Andropogon gerardii</strong></th>
<th><strong>Carex cristatella</strong></th>
<th><strong>Carex haydenii</strong></th>
<th><strong>Carex laeviconica</strong></th>
<th><strong>Carex pellita (Carex lanuginosa)</strong></th>
<th><strong>Carex praegracilis</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Moist conditions; easily grown from seed; great for erosion control; drought tolerant; rhizomatous with deep main roots; fire tolerant</strong></td>
<td><strong>Firm soil for seeding is recommended.</strong></td>
<td><strong>Cold, moist stratification for a minimum of 60 days, or fall planting.</strong></td>
<td><strong>Cold, moist stratification for a minimum of 60 days, or fall planting.</strong></td>
<td><strong>Cold, moist stratification for a minimum of 60 days, or fall planting.</strong></td>
<td><strong>Cold, moist stratification for a minimum of 60 days, or fall planting.</strong></td>
<td><strong>Cold, moist stratification for a minimum of 60 days, or fall planting.</strong></td>
</tr>
<tr>
<td><strong>1lb/acre</strong></td>
<td><strong>1oz/acre</strong></td>
<td><strong>1.5oz/acre</strong></td>
<td><strong>1oz/acre</strong></td>
<td><strong>2oz/acre</strong></td>
<td><strong>1.5oz/acre</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Prairies, savannas, roadsides, limestone glades, meadows</strong></td>
<td><strong>Wet prairies, open floodplain woodlands, swamps, wet marshes, sloughs, wet meadows, streambanks, ditches</strong></td>
<td><strong>Wet prairies, sandy river floodplains, swamps, marshes, sedge meadows, fens, bogs, sandy ditches</strong></td>
<td><strong>Sedge swales, marsh edges, prairies, sloughs, open floodplain woodlands, sedge meadows, swamps, riverbanks, ditches</strong></td>
<td><strong>Moist prairies, sedge meadows, marshes, bogs, swamps, open floodplain woodlands, ditches</strong></td>
<td><strong>Moist prairies, ditches, roadway medians, meadows, swales, open woodlands, shorelines, ditches</strong></td>
<td></td>
</tr>
<tr>
<td><strong>FAC</strong></td>
<td><strong>FACW</strong></td>
<td><strong>OBL</strong></td>
<td><strong>OBL</strong></td>
<td><strong>OBL</strong></td>
<td><strong>FACW</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Full sun</strong></td>
<td><strong>Full to partial sunlight</strong></td>
<td><strong>Full sun</strong></td>
<td><strong>Full to partial sunlight</strong></td>
<td><strong>Full sun</strong></td>
<td><strong>Full sun</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Fertile soils; clay loam, loamy, sandy</strong></td>
<td><strong>Loam, silt-loam</strong></td>
<td><strong>Moist, sandy soils</strong></td>
<td><strong>Can survive in a variety of moist loamy based soils</strong></td>
<td><strong>Can survive in a variety of soil types</strong></td>
<td><strong>Moist alkaline soils</strong></td>
<td></td>
</tr>
<tr>
<td>Plant Name</td>
<td>Scientific Name</td>
<td>Seed Treatment</td>
<td>Sunlight</td>
<td>Soil Conditions</td>
<td>Application Rate</td>
<td>Planting Requirements</td>
</tr>
<tr>
<td>-------------------------</td>
<td>-----------------</td>
<td>----------------</td>
<td>----------</td>
<td>---------------------------------------------------------------------------------------------------</td>
<td>------------------</td>
<td>--------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Running marsh sedge</td>
<td>Carex sartwellii</td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planting</td>
<td>FACW</td>
<td>Full sun, Moist, fertile soils</td>
<td>1oz/acre</td>
<td>Moist prairies, fens, marshes</td>
</tr>
<tr>
<td>Sartwell's sedge</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Pointed Broom Sedge</td>
<td>Carex scoparia</td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planting</td>
<td>FACW</td>
<td>Full sun, Can survive in a variety of soil types</td>
<td>2oz/acre</td>
<td>Wet prairies, marshes, streambanks, ditches, seeps, fens, pond edges, open floodplain woodlands, sedge meadows</td>
</tr>
<tr>
<td>Prairie straw sedge</td>
<td>Carex suberecta</td>
<td>N/A</td>
<td></td>
<td></td>
<td>N/A</td>
<td>Moist prairies, fens, meadows, seeps, prairie swales, mudflats</td>
</tr>
<tr>
<td>*Canada Wild Rye</td>
<td>Elymus canadensis</td>
<td>No seed pretreatment necessary</td>
<td>FACU</td>
<td>Full to partial sun, Can survive in a variety of soil types</td>
<td>0.5 lb/acre</td>
<td>Prairies, savannas, bluffs, river streambanks, railroads, open woodlands, sandy shores and dunes, disturbed areas</td>
</tr>
<tr>
<td>*Virginia Wild Rye</td>
<td>Elymus virginicus</td>
<td>No seed pretreatment necessary</td>
<td>FACW</td>
<td>Full sun to shade, Fertile soil, loam, clay loam, sandy, can survive in a variety of soil types</td>
<td>1lb/acre</td>
<td>Bottomland woodlands, riparian areas, riverbanks, streambanks, moist prairies, roadsides, bluffs, moist savannas, disturbed areas</td>
</tr>
<tr>
<td>*Dudley's Rush</td>
<td>Juncus dudleyi</td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planting</td>
<td>FACW</td>
<td>Full sun, Loam, clay loam, gravel</td>
<td>0.125oz/acre</td>
<td>Streambanks, wet meadows, pond edges, moist prairies, swales, ditches, fens</td>
</tr>
<tr>
<td><strong>Switchgrass</strong></td>
<td><em>Panicum virgatum</em></td>
<td><strong>Top sun, bankfull</strong></td>
<td>No seed pretreatment necessary</td>
<td>1oz/acre</td>
<td>14,000</td>
<td></td>
</tr>
<tr>
<td>-----------------</td>
<td>--------------------</td>
<td>-----------------------</td>
<td>--------------------------------</td>
<td>---------</td>
<td>--------</td>
<td></td>
</tr>
<tr>
<td>Moist conditions; fibrous and rhizomatous root system; can become aggressive, do not over-plant; fire tolerant</td>
<td>FAC</td>
<td>Full to partial sunlight</td>
<td>Can survive in a variety of soil types</td>
<td>Prairies, fields, savannas, open woodlands, dunes, marsh edges, riverbanks, bluffs, ditches, railroads</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Indiangrass; Yellow Indian grass</strong></th>
<th><em>Sorghastrum nutans</em></th>
<th><strong>Top sun, side slope</strong></th>
<th>No seed pretreatment necessary</th>
<th>1lb/acre</th>
<th>12,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moist to slightly dry conditions; fibrous and rhizomatous root system, can become aggressive; high drought tolerance; fire tolerant; self-seeding</td>
<td>FACU</td>
<td>Full to partial sunlight</td>
<td>Can survive in a variety of soil types</td>
<td>Prairies, savannas, roadsides, railroads, glades, remnant prairies, open woodlands, ditches</td>
<td></td>
</tr>
</tbody>
</table>

**Shrubs & Vines (If the area is to be managed as a prairie, minimal amounts of woody species should be planted) (Top of bank FULL SUN)**

<table>
<thead>
<tr>
<th><strong>Downy Hawthorn</strong></th>
<th><em>Crataegus mollis</em></th>
<th><strong>Top shade, top sun</strong></th>
<th>Not fully known, but warm stratification followed by cold stratification likely needed. Plants may not germinate until second spring.</th>
<th>N/A</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moist conditions; woody, branching root system; excellent pollinator; self-seeding</td>
<td>FAC</td>
<td>Full to partial sunlight</td>
<td>Fertile soil, loamy</td>
<td>Forest edges, fields, roadsides, moist savannas, thickets, riverbanks, open floodplain woodlands</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Wild Black Currant</strong></th>
<th><em>Ribes americanum</em></th>
<th><strong>Top shade, top sun, bankfull</strong></th>
<th>Scarification and cold, moist stratification for a minimum of 60 days, or fall planting.</th>
<th>N/A</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moist to wet conditions; self-seeding; excellent pollinator, propagate through seeds</td>
<td>FACW</td>
<td>Partial sunlight</td>
<td>Can survive in a variety of soil types</td>
<td>Swamps, meadows, fens, seeps, ravines, shaded streambanks, open floodplain woodlands</td>
<td></td>
</tr>
</tbody>
</table>

**Trees (If the area is to be managed as a prairie, minimal amounts of woody species should be planted) (Top of bank FULL SUN)**

<table>
<thead>
<tr>
<th><strong>Swamp White Oak</strong></th>
<th><em>Quercus bicolor</em></th>
<th><strong>Top shade, top sun, bankfull</strong></th>
<th>No seed pretreatment necessary. Best results if planted immediately after collection.</th>
<th>N/A</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet to moist conditions; wide, woody root system with taproot; fast growth rate; best propagation through seeds</td>
<td>FACW</td>
<td>Full sun</td>
<td>Moist acidic soils, can survive in a variety of soil types</td>
<td>Floodplain woodlands, riverbanks, streambanks, pond edges, swamp and lake edges, lowland areas</td>
<td></td>
</tr>
</tbody>
</table>
**Bur oak**  
*Quercus macrocarpa*

- **Top sun, top shade**
- No seed pretreatment necessary. Best results if planted immediately after collection.
- FAC
- Full to partial sunlight
- Can survive in a variety of soil types, prefers alluvial soils
- Savannas, streambanks, floodplain woodlands, upland woodlands

Moist conditions; deep taproot with wide horizontal roots; drought tolerant; slow growth rate; seed and cutting (of smaller pole-sized trees) propagation are successful; fire tolerant; older trees are susceptible to bur oak blight (BOB), a fungal disease

**Side Slope (Ecologically a transitional ecotone between top of bank and bankfull zones)**

*Only forbs and grasses are listed in this section because herbaceous species will hold the soil more effectively than shrubs and trees on a sloped surface.*

### Forbs

**Wild leek**  
*Allium tricoccum*

- **Top shade, side slope**
- Cold, moist stratification for a minimum of 60 days, or fall planning.
- 1oz/acre
- 1,400

Slightly dry to moist conditions; ovoid bulb with fibrous roots; transplants are generally the most successful propagation type

**Wild ginger**  
*Asarum canadense*

- **Top shade, wooded trail, side slope**
- Sow seeds immediately after collection. May need to allow one full year for germination.
- 1oz/acre
- 4,400

Slightly dry to moist conditions; shallow rhizomatous root system, often forms colonies; most successful propagation through plugs or root division

**Common Milkweed; Silkweed**  
*Asclepias syriaca*

- **Top sun, side slope, sunny trail**
- Cold, moist stratification for a minimum of 30 days, or fall planting.
- 0.5oz/acre
- 4,000

Slightly dry to somewhat moist conditions; rhizomatous root system; seed and rhizome cutting propagation; can spread aggressively; excellent pollinator; can be considered weedy; drought tolerant

**Hairy wood mint**  
*Blephilia hirsuta*

- **Top shade, side slope**
- Cold, moist stratification for a minimum of 60 days or fall planting. Needs light to germinate, surface sow seeds.
- 0.5oz/acre
- 240,000

Moist conditions; fibrous and rhizomatous root system, often forms colonies
<table>
<thead>
<tr>
<th><strong>Spring Cress</strong></th>
<th><em>Cardamine bulbosa</em></th>
<th><em>bankfull, side slope</em></th>
<th>Not fully known, sow outdoors immediately after collection</th>
<th>N/A</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet to moist conditions; tuberous and fibrous rootstock; can be propagated through seeds or tubers;</td>
<td>OBL</td>
<td>Partial sunlight</td>
<td>Moist fertile soil, loam, sandy loam</td>
<td>Floodplain woodlands, seeps, springs, moist meadows, damp low spots in rocky bluffs, marshes, fens</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Cutleaf toothwort</strong></th>
<th><em>Cardamine concatenata</em> (Dentaria laciniata)</th>
<th><em>top shade, side slope</em></th>
<th>Cold, moist stratification for a minimum of 60 days or fall planting.</th>
<th>1oz/acre</th>
<th>22,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>A synonymous scientific name is <em>Dentaria laciniata</em>; moist conditions; rhizomatous root system, often form colonies; propagation through transplant/root division most successful</td>
<td>FACU</td>
<td>Partial shade</td>
<td>Well-drained soils</td>
<td>Floodplain woodlands, woody slopes, bluffs</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Blue cohosh</strong></th>
<th><em>Caulophyllum thalictroides</em></th>
<th><em>top shade, side slope</em></th>
<th>Sow seeds outdoors in the fall. May take up to 3-4 years to establish.</th>
<th><em>Transplants/plugs most successful</em></th>
<th>70</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moderately moist conditions; rhizomatous and fibrous; long-lived; difficult to germinate through seeds</td>
<td>N/A</td>
<td>Light shade</td>
<td>Well-drained, fertile soils; loam</td>
<td>Moist woodlands, bluffs, woody slopes, undisturbed habitats</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Squirrel corn</strong></th>
<th><em>Dicentra canadensis</em></th>
<th><em>top shade, side slope</em></th>
<th>Sow seeds immediately after collection.</th>
<th><em>Transplants/plugs most successful</em></th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moderately moist conditions; root system consists of corms; propagation through transplants/plugs most successful</td>
<td>N/A</td>
<td>Partial shade</td>
<td>Loamy, sandy soils</td>
<td>Deciduous woodlands, woody slopes, shady streambanks, ravines</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Dutchman’s breeches</strong></th>
<th><em>Dicentra cucullaria</em></th>
<th><em>top shade, side slope</em></th>
<th>Sow seeds immediately after collection, or requires cold, moist stratification for a minimum of 60 days.</th>
<th>0.5oz/acre</th>
<th>17,500</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moist conditions; root system consists of tubers; excellent pollinator; propagate through seeds or division</td>
<td>N/A</td>
<td>Partial shade</td>
<td>Fertile soils</td>
<td>Deciduous woodlands, ravines, slopes, valleys, streambanks, undisturbed areas</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>False rue anemone</strong></th>
<th><em>Enemion biternaum</em> (Isopyrum biternatum)</th>
<th><em>top shade, side slope</em></th>
<th>Likely needs cold, moist stratification for a minimum of 60 days or fall planting.</th>
<th>1oz/acre</th>
<th>11,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Another scientific name for False Rue Anemone is <em>Isopyrum biternatum</em>. Fibrous root system, often forms colonies; can be propagated through seeds or root division</td>
<td>FAC</td>
<td>Partial shade</td>
<td>Fertile loamy soil</td>
<td>Floodplain woodlands, floodplains, wooded slopes</td>
<td></td>
</tr>
<tr>
<td>Common Name</td>
<td>Scientific Name</td>
<td>Light Requirements</td>
<td>Seed Treatment</td>
<td>Planting Method</td>
<td>Planting Density</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>--------------------------</td>
<td>--------------------</td>
<td>--------------------------------------------------------------------------------</td>
<td>-----------------------------------</td>
<td>------------------</td>
</tr>
<tr>
<td>Cream Gentian</td>
<td><em>Gentiana alba</em> (or <em>G. flavida</em>)</td>
<td>*side slope, sunny trails</td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds.</td>
<td>FACU</td>
<td>1oz/acre 140,000</td>
</tr>
<tr>
<td><em>Giant St. Johnswort</em></td>
<td><em>Hypericum ascyron</em> (or <em>H. pyramidatum</em>)</td>
<td>*top shade, top sun, bankfull, side slope</td>
<td>Cold, moist stratification for a minimum of 60 days or fall planting. Needs light to germinate, surface sow seeds.</td>
<td>FAC</td>
<td>1oz/acre 190,000</td>
</tr>
<tr>
<td><em>Purple rocket</em></td>
<td><em>Iodanthus pinnatifidus</em></td>
<td>*top shade, side slope, wooded trails</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><em>Sweet cicely</em></td>
<td><em>Osmorhiza claytonii</em></td>
<td>*top shade, side slope</td>
<td>Early fall planting or requires a warm, moist stratification for a minimum of 30 days, followed by a period of cold, moist stratification for a minimum of 60 days.</td>
<td>FACU</td>
<td>1oz/acre 2,500</td>
</tr>
<tr>
<td><em>Anise root</em></td>
<td><em>Osmorhiza longistylis</em></td>
<td>*top shade, side slope</td>
<td>Not fully known, likely needs cold, moist stratification for a minimum of 60 days, or fall planting.</td>
<td>*Transplants/plugs most successful</td>
<td>N/A</td>
</tr>
<tr>
<td><em>Leafcup; whiteflower leafcup</em></td>
<td><em>Polymnia canadensis</em></td>
<td>*top shade, side slope</td>
<td>Cold, moist stratification for a minimum of 60 days or fall planting.</td>
<td>FACU</td>
<td>1oz/acre 6,200</td>
</tr>
</tbody>
</table>

**Notes:**
- Slightly dry to somewhat moist conditions; long taproot; a synonymous scientific name is *Gentiana flavida*; excellent pollinator; propagation through transplants is most successful.
- Prairies, oak savannas, rocky bluffs, woodland edges, limestone glades, rocky or wooded slopes.
- Moist to wet conditions; taproot; self-seeding; easily grown from seed; excellent pollinator; tolerates seasonal flooding.
- Floodplain woodlands, floodplain slopes, meadows.
- Moderately moist conditions; fibrous root system; limited local commercial availability.
- Limestone bluffs, floodplain woodlands, wooded slopes, algific talus slopes, shady ravines, shaded streambanks.
<table>
<thead>
<tr>
<th>Species</th>
<th>Sunlight Requirement</th>
<th>Soil Condition</th>
<th>Growing Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Glaucous white lettuce</em> (<em>Prenanthes racemosa</em>)</td>
<td>*top sun, side slope, bankfull</td>
<td>Best if sown in the fall, or immediately after collection. Otherwise requires cold, moist stratification for a minimum of 120 days.</td>
<td>1.5oz/acre 20,000 Wet meadows, lakeside wetlands, moist prairies, streambanks, thickets, fens, seeps</td>
</tr>
<tr>
<td><em>Purple Rattlesnake-root</em></td>
<td></td>
<td>A synonymous scientific name is <em>Nabalus racemosus</em>; wet conditions; taproot; flood tolerant</td>
<td>FACW Full sun Sandy, calcareous, rocky Wet woodlands, prairies, thickets, roadsides, forest edges, remnant prairies, disturbed areas</td>
</tr>
<tr>
<td><em>Yellow coneflower</em>; <em>Gray-head coneflower</em>; <em>Pinnate prairie coneflower</em></td>
<td>*side slope, top sun, sunny trail</td>
<td>Cold, moist stratification for a minimum of 30 days, or fall planting.</td>
<td>1oz/acre 30,000 Dry woodlands, prairies, thickets, roadsides, forest edges, remnant prairies, disturbed areas</td>
</tr>
<tr>
<td><em>Yellow coneflower</em>; <em>Gray-head coneflower</em>; <em>Pinnate prairie coneflower</em></td>
<td>*side slope, top sun, sunny trail</td>
<td>Cold, moist stratification for a minimum of 30 days, or fall planting.</td>
<td>1oz/acre 30,000 Dry woodlands, prairies, thickets, roadsides, forest edges, remnant prairies, disturbed areas</td>
</tr>
<tr>
<td><em>Black-eyed Susan</em></td>
<td>*Top shade &amp; sun, side slope, sunny trail</td>
<td>Cold, moist stratification for a minimum of 30 days or fall planting.</td>
<td>0.5oz/acre 92,000 Slightly wet to dry prairies, meadows, roadside ditches, savannas, rocky areas, and disturbed sites</td>
</tr>
<tr>
<td><em>Tall coneflower</em>; <em>Green-head coneflower</em>; <em>Cutleaf coneflower</em></td>
<td>*shady stream edge, bankfull, top shade, side slope</td>
<td>Cold, moist stratification for a minimum of 30 days or fall planting. Needs light to germinate, surface sow seeds.</td>
<td>1.5oz/acre 14,000 Floodplain woodlands, shady riverbanks, moist meadows, sloughs, lowland thickets and fields</td>
</tr>
<tr>
<td><em>Sweet coneflower</em>; <em>Sweet black-eyed susan</em></td>
<td>*side slope, top sun, sunny trail</td>
<td>Cold, moist stratification for a minimum of 30 days, or fall planting.</td>
<td>0.5oz/acre 43,000 Moist prairies, open woods, savannas, thickets, riverbanks, streambanks, roadsides, ditch slopes, disturbed areas</td>
</tr>
<tr>
<td><em>Giant Goldenrod</em>; <em>Tall Goldenrod</em>; <em>Early Goldenrod</em></td>
<td>*side slope, bankfull, sunny trails, wooded trails</td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds.</td>
<td>0.05oz/acre 250,000 Floodplain woodlands, riverbanks, pond edges, wet prairies, fens, ditches</td>
</tr>
<tr>
<td><strong>New England aster; New England American-Aster</strong></td>
<td>Symphyotrichum novae-angliae (Aster novae-angliae)</td>
<td>*top sun, bankfull, side slope, woodland trail</td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planting.</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>A synonymous scientific name is Aster novae-angliae which is used by many nurseries; moist conditions; fibrous and rhizomatous root system; can become aggressive; excellent pollinator</td>
<td>FACW</td>
<td>Full or partial sunlight</td>
<td>Fertile, moist soil; clay, loam</td>
</tr>
<tr>
<td><strong>Purple meadow-rue; Tall meadow-rue</strong></td>
<td>Thalictrum dasycarpum</td>
<td>* top sun, bankfull, side slope</td>
<td>Late fall planting is recommended. Otherwise cold, moist stratification for a minimum of 60 days is required.</td>
</tr>
<tr>
<td>Moist to wet conditions; fibrous and rhizomatous root system</td>
<td>FACW</td>
<td>Full sun to partial sunlight</td>
<td>Loamy, sandy, rocky, clay loam soils</td>
</tr>
<tr>
<td><strong>Meadow parsnip; Hairy jointed meadow parsnip</strong></td>
<td>Thaspium barbinode</td>
<td>*top shade, side slope</td>
<td>Likely does well with fall planting</td>
</tr>
<tr>
<td>Moderately moist conditions; taproot</td>
<td>FACU</td>
<td>Full to partial sunlight</td>
<td>Can survive in a variety of soil types</td>
</tr>
<tr>
<td><strong>Blue Vervain; Swamp Verbena</strong></td>
<td>Verbena hastata</td>
<td>*top shade, top sun, side slope, bankfull, water’s edge</td>
<td>Cold, moist stratification for a minimum of 30 days or fall planting. Needs light to germinate, surface sow seeds.</td>
</tr>
<tr>
<td>Collect seeds in late summer to early fall; moist planting conditions; tolerates temporary standing water; most successful propagation by seeds; excellent pollinator; fibrous and rhizomatous root system</td>
<td>FACW</td>
<td>Full to partial sunlight</td>
<td>Fertile loam or wet muck</td>
</tr>
<tr>
<td><strong>Ironweed; Smooth Ironweed; Prairie Ironweed</strong></td>
<td>Vernonia fasciculata</td>
<td>*top sun, side slope</td>
<td>Cold, moist stratification for a minimum of 60 days or fall planting.</td>
</tr>
<tr>
<td>Moist conditions; fibrous root system; excellent pollinator</td>
<td>FACW</td>
<td>Full to partial sunlight</td>
<td>Fertile, moist soil</td>
</tr>
<tr>
<td><strong>Yellow violet</strong></td>
<td>Viola pubescens</td>
<td>*top shade, side slope</td>
<td>Best if sown in the fall. Otherwise, requires cold, moist stratification for a minimum of 60 days or fall planting. Needs light to germinate, surface sow seeds.</td>
</tr>
<tr>
<td>Moderately moist conditions; rhizomatous root system; propagation through seeds most successful</td>
<td>FACU</td>
<td>Partial sunlight</td>
<td>Fertile soil, loam, sandy loam</td>
</tr>
</tbody>
</table>
Common blue violet *Viola sororia*  
*top shade, wooded trails, sunny trails, side slope*  
Best if sown in the fall. Otherwise, requires cold, moist stratification for a minimum of 60 days or fall planting. Needs light to germinate, surface sow seeds.  
0.5oz/acre  
23,000  
Moderately moist conditions; rhizomatous root system; self-seeding; easily grown from seed; can become aggressive in optimum conditions  
FAC  
Partial sunlight  
Fertile soil; loam, clay loam  
Moist black prairies, savannas, wooded slopes along streams, woodland edges, open floodplain woodlands

Golden Alexanders *Zizia aurea*  
*side slope, top sun*  
Late fall planting is recommended.  
0.5oz/acre  
11,000  
Moist conditions; 1.5-3' tall; fibrous root system; excellent pollinator  
FAC  
Full to partial sunlight  
Moist soils; loamy, sandy  
Moist prairies, open woods, meadows, edges of woodland trails, savannas, thickets, fields, bluffs

Grasses, Sedges, & Rushes (Side Slope)

Shortawn foxtail; Short-Awn Meadow Foxtail *Alopecurus aequalis*  
*bankfull, water's edge, side slope*  
N/A  
N/A  
Cool wet conditions; fibrous root systems, often forms colonies; limited local commercial availability  
OBL  
Full to partial sunlight  
Wet soil; muck  
Wet meadows, pond edges, ditches, swamps, bog edges, prairie swales, riverbanks, disturbed areas

Big bluestem *Andropogon gerardii*  
*top sun, side slope*  
Firm soil for seeding is recommended.  
1lb/acre  
10,000  
Moist conditions; easily grown from seed; great for erosion control; drought tolerant; rhizomatous with deep main roots; fire tolerant  
FAC  
Full sun  
Fertile soils; clay loam, loamy, sandy  
Prairies, savannas, roadsides, limestone glades, meadows

Earlyleaf brome *Bromus latiglumis*  
*top shade, side slope*  
Cold, moist stratification for a minimum of 30 days or fall planting.  
1oz/acre  
7,600  
Moist conditions; fibrous root system; propagation through seeds most successful  
FACW  
Partial shade  
Clay, loam, sand  
Floodplain woodlands, meadows, fields, wooded slopes, low-land prairies, streambanks,

Bluejoint Grass *Calamagrostis canadensis*  
*bankfull, water’s edge, side slope*  
Needs light to germinate, surface sow seeds. No other pretreatment necessary.  
0.125oz/acre  
280,000  
*transplants/plugs more successful  
Wet to moist conditions; fibrous and rhizomatous root system, can form colonies; can become aggressive; plugs/transplants generally more successful than seed propagation, seeds can be fragile; fire tolerant  
OBL  
Full to partial sunlight  
Can survive in a variety of soil types  
Swamps, marshes, ditches, meadows, streambanks, lake shores, wet prairies, prairie swales, bogs
<table>
<thead>
<tr>
<th><strong>Species</strong></th>
<th><strong>Carex species</strong></th>
<th><strong>Light</strong></th>
<th><strong>Soil</strong></th>
<th><strong>Habitat</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Awned Graceful Sedge; Davis’ Sedge</strong></td>
<td><em>Carex davisii</em></td>
<td>FAC</td>
<td>Partial sun</td>
<td>Moist soil; loam</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Upland and floodplain woodlands, field edges, wooded slopes, riverbanks, moist meadows, slightly disturbed areas</td>
</tr>
<tr>
<td><strong>Emory’s Sedge</strong></td>
<td><em>Carex emoryi</em></td>
<td>OBL</td>
<td>Full to partial sunlight</td>
<td>Wet soil; muck, clay, sand</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Riverbanks and streambanks</td>
</tr>
<tr>
<td><strong>Gray’s sedge; Bur sedge</strong></td>
<td><em>Carex grayi</em></td>
<td>FACW</td>
<td>Partial shade</td>
<td>Fertile soil; loam, sand</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Moist, deciduous woodlands, sandy swamps, shady streambanks, marshes</td>
</tr>
<tr>
<td><strong>Plains Slough Sedge; smoot cone sedge; long-toothed lake sedge</strong></td>
<td><em>Carex laeviconica</em></td>
<td>OBL</td>
<td>Full to partial sunlight</td>
<td>Can survive in a variety of moist loamy based soils</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Sedge swales, marsh edges, Prairies, sloughs, open floodplain woodlands, sedge meadows, swamps, riverbanks, ditches</td>
</tr>
<tr>
<td><strong>Greater Straw Sedge; Spreading Oval Sedge</strong></td>
<td><em>Carex normalis</em></td>
<td>FACW</td>
<td>Full sun to partial shade</td>
<td>Fertile soils</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Open woodlands, pond edges, ditches, streambanks, Prairies, Meadows, fields, disturbed areas</td>
</tr>
</tbody>
</table>

**Note:**
- Not fully known, but cold, moist stratification for a minimum of 60 days or fall planting likely needed.
- May need light to germinate, surface sow seeds.
- 1 oz/acre
- 9,000
- 2 oz/acre
- 1,200
- 1 oz/acre
- 7,500
- 0.25 oz/acre
- 25,000
- Partial shade
- Moist to wet conditions; flood tolerant; fibrous and rhizomatous root system
- Upland and floodplain woodlands, field edges, wooded slopes, riverbanks, moist meadows, slightly disturbed areas
- Full to partial sunlight
- Wet to moist conditions; tolerant to seasonal flooding; full sun tolerable in wet conditions; fibrous and rhizomatous root system
- Moist, deciduous woodlands, sandy swamps, shady streambanks, marshes
- Can survive in a variety of moist loamy based soils
- Open woodlands, pond edges, ditches, streambanks, Prairies, Meadows, fields, disturbed areas
<table>
<thead>
<tr>
<th>Plant Name</th>
<th>Scientific Name</th>
<th>Ecological Conditions</th>
<th>Seed Rate</th>
<th>Planting Method</th>
<th>Natural Habitat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hairy-fruited sedge; Hairy-fruited lake sedge</td>
<td>Carex trichocarpa</td>
<td>Wet to moist conditions, fibrous and rhizomatous root system, forms large colonies; can spread aggressively</td>
<td>OBL 0.5oz/acre</td>
<td>Full to partial sunlight; Fertile soil; silt, loam</td>
<td>Wet prairies, wet thickets, meadows, streambanks, riverbanks, wet ditches, marshes</td>
</tr>
<tr>
<td>Beak grass</td>
<td>Diarrhena obovata</td>
<td>Slightly dry to moderately moist conditions; fibrous and rhizomatous root system; often forms colonies; propagate through seeds or root division</td>
<td>FAC 2oz/acre</td>
<td>Partial sunlight; Silt-loam, loam</td>
<td>Wooded slopes, upland woodlands, ravines, shaded limestone bluffs, floodplain woodlands</td>
</tr>
<tr>
<td>Canada Wild Rye</td>
<td>Elymus canadensis</td>
<td>Moist to dry conditions; great for erosion control; rapid establishment; easily grown from seed; moderately drought tolerant; fibrous root system</td>
<td>FACU 0.5 lb/acre</td>
<td>Full to partial sun; Can survive in a variety of soil types</td>
<td>Prairies, savannas, bluffs, river streambanks, railroads, open woodlands, sandy shores and dunes, disturbed areas</td>
</tr>
<tr>
<td>Riverbank Wild Rye</td>
<td>Elymus riparius</td>
<td>Moist to wet conditions; low drought tolerance; high fire tolerance; self-seeding; great for erosion control; rhizomatous root system</td>
<td>FACW 0.5lb/acre</td>
<td>Partial shade to shade; Loam, sand, clay</td>
<td>Meadows, streambanks, riverbanks, moist prairies, fields</td>
</tr>
<tr>
<td>Silky Wild Rye; Downy Wild-Rye; Hairy Wildrye</td>
<td>Elymus villosus</td>
<td>Moist to slightly dry conditions; fibrous roots</td>
<td>FACU 0.5lb/acre</td>
<td>Partial Sun; Fertile soil; loam</td>
<td>Woodlands, edges of forests, rocky wooded slopes, savannas, floodplains of rivers and streams</td>
</tr>
<tr>
<td>Dudley's Rush</td>
<td>Juncus dudleyi</td>
<td>Moist to wet conditions; fibrous and rhizomatous root system; can spread aggressively</td>
<td>FACW 0.125oz/acre</td>
<td>Full sun; Loam, clay loam, gravel</td>
<td>Streambanks, wet meadows, pond edges, moist prairies, swales, ditches, fens</td>
</tr>
<tr>
<td>*Torrey’s Rush</td>
<td>Juncus torreyi</td>
<td>*side slope, bankfull, water’s edge</td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds.</td>
<td>0.125oz/acre</td>
<td>1,600,000</td>
</tr>
<tr>
<td>---------------</td>
<td>---------------</td>
<td>-----------------------------------</td>
<td>-----------------------------------------------------------------</td>
<td>---------------</td>
<td>-----------</td>
</tr>
<tr>
<td>Moist to fairly wet conditions; fibrous and rhizomatous root system; can spread aggressively in ideal conditions</td>
<td>FACW</td>
<td>Full sun</td>
<td>Acidic soils; mucky, sandy, clay soils</td>
<td>Prairies, pond edges, streambanks, ditches, swamps, meadows, marshes</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>*White Grass</th>
<th>Leersia virginica</th>
<th>*top shade, bankfull, water’s edge, shaded stream edge, side slope</th>
<th>No seed pretreatment necessary</th>
<th>N/A</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moist conditions; fibrous and rhizomatous root system</td>
<td>FAC</td>
<td>Partial shade</td>
<td>Fertile soil, loam</td>
<td>Swamps, floodplain woodlands, shady pond edges, streambanks, marshes, moist wooded areas, shaded slopes, disturbed areas</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>*Wirestem muhly; Common satin grass</th>
<th>Muhlenbergia frondosa</th>
<th>*side slope, sunny trails, wooded trails</th>
<th>N/A</th>
<th>N/A</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moist conditions; fibrous and rhizomatous root system, often forms colonies; can become aggressive</td>
<td>FACW</td>
<td>Full to partial sunlight</td>
<td>Can survive in a variety of soil types</td>
<td>Moist woodlands, prairies, prairie swales, bases of bluffs and wooded slopes, marsh edges, riverbanks, ditches, fields, railroads, disturbed areas</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>*Woodland bluegrass</th>
<th>Poa sylvestris</th>
<th>*top shade, bankfull, side slope</th>
<th>N/A</th>
<th>N/A</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moist conditions; fibrous root system; propagation through seeds only</td>
<td>FAC</td>
<td>Partial sunlight</td>
<td>Fertile, loamy soils</td>
<td>Floodplain woodlands, wooded slopes, wooded ravines</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>*Indiangrass; Yellow Indian grass</th>
<th>Sorghastrum nutans</th>
<th>*top sun, side slope</th>
<th>No seed pretreatment necessary</th>
<th>1lb/acre</th>
<th>12,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moist to slightly dry conditions; fibrous and rhizomatous root system, can become aggressive; high drought tolerance; fire tolerant; self-seeding</td>
<td>FACU</td>
<td>Full to partial sunlight</td>
<td>Can survive in a variety of soil types</td>
<td>Prairies, savannas, roadsides, railroads, glades, remnant prairies, open woodlands, ditches</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>*Prairie Cordgrass; Freshwater Cordgrass; Sloughgrass</th>
<th>Spartina pectinata</th>
<th>*side slope, bankfull, water’s edge</th>
<th>No seed pretreatment necessary</th>
<th>*Transplants/plugs most successful</th>
<th>6,600</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moist to wet conditions; great for erosion control; can help reduce high energy of flowing waters; fibrous and rhizomatous, often forms colonies; can become aggressive; propagation through plugs or dividing the rhizomes is most successful</td>
<td>FACW</td>
<td>Full to partial sunlight</td>
<td>Fertile soil, loamy, sandy</td>
<td>Marshes, swamps, sloughs, pond edges, riverbanks, moist roadsides and railroads, prairies</td>
<td></td>
</tr>
</tbody>
</table>
## Bankfull Zone (Ecologically a temporarily flooded wetland, either a wet prairie, sedge meadow, or wet forest/woodland)

### Forbs

<table>
<thead>
<tr>
<th>Species/Genus</th>
<th>Ecological Requirements</th>
<th>Propagation Requirements</th>
<th>Stratification</th>
<th>Planting Method</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>*Swamp Milkweed; Pink Milkweed; Rose Milkweed</td>
<td>Wet to moist conditions; rhizomatous root system, can form colonies; excellent pollinator</td>
<td>OBL</td>
<td>Full sun to partial shade</td>
<td>Wet soils; clay</td>
<td>Moist meadows, floodplain woodlands, swamps, riverbanks, prairies, marshes, roadsides, riparian areas</td>
</tr>
<tr>
<td>Asclepias incarnata</td>
<td></td>
<td></td>
<td>Cold, moist stratification for a minimum of 30 days, or fall planting.</td>
<td>1.5oz/acre</td>
<td>4,800</td>
</tr>
<tr>
<td>*Top sun, water’s edge, bankfull</td>
<td></td>
<td></td>
<td>Wet soils; clay</td>
<td>Moist meadows, floodplain woodlands, swamps, riverbanks, prairies, marshes, roadsides, riparian areas</td>
<td></td>
</tr>
<tr>
<td>*Swamp Milkweed; Pink Milkweed; Rose Milkweed</td>
<td>Wet to moist conditions; rhizomatous root system, can form colonies; excellent pollinator</td>
<td>OBL</td>
<td>Full sun to partial shade</td>
<td>Wet soils; clay</td>
<td>Moist meadows, floodplain woodlands, swamps, riverbanks, prairies, marshes, roadsides, riparian areas</td>
</tr>
<tr>
<td>*Top sun, water’s edge, bankfull</td>
<td></td>
<td></td>
<td>Cold, moist stratification for a minimum of 30 days, or fall planting.</td>
<td>1.5oz/acre</td>
<td>4,800</td>
</tr>
<tr>
<td>*Canada Anemone; Meadow Anemone</td>
<td>Moist to wet conditions; rhizomatous root system, often forms colonies; can become aggressive</td>
<td>FACW</td>
<td>Full sun to partial shade</td>
<td>Loamy, gravelly, sandy soils</td>
<td>Meadows, prairies, open floodplain woodlands, streambanks, swamps, ditches</td>
</tr>
<tr>
<td>Anemone canadensis</td>
<td></td>
<td></td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planting.</td>
<td>1oz/acre</td>
<td>8,000</td>
</tr>
<tr>
<td>*top sun, bankfull, sunny trail</td>
<td>Can sow outdoors with no pretreatment but plant will not germinate for 2 or more years. Otherwise three phases of stratification; cold, warm, cold for 60 days are necessary.</td>
<td>OBL</td>
<td>Full sun</td>
<td>Moist to wet conditions; rhizomatous root system, often forms colonies; can become aggressive</td>
<td></td>
</tr>
<tr>
<td>*False nettle</td>
<td>Moist conditions; dioecius</td>
<td>OBL</td>
<td>Partial sunlight</td>
<td>Fertile, loamy soil</td>
<td>Floodplain woodlands, streambanks, riverbanks, swamps, marshes, fens</td>
</tr>
<tr>
<td>Boehmeria cylindrica</td>
<td></td>
<td></td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planting.</td>
<td>1oz/acre</td>
<td>208,000</td>
</tr>
<tr>
<td>*bankfull, shaded stream edge, wooded trails</td>
<td>No seed pretreatment necessary</td>
<td>FACW</td>
<td>Full sun</td>
<td>Moist to wet conditions; rhizomatous root system, often forms colonies; can become aggressive</td>
<td></td>
</tr>
<tr>
<td>*False Aster; White Doll’s Daisy; Thousand-flowered aster</td>
<td>Wet conditions; rhizomatous root system</td>
<td>OBL</td>
<td>Full sun</td>
<td>Fertile soils; loam, clay</td>
<td>Floodplain woodlands, thickets, prairies, meadows, streambanks, ditches, marshes</td>
</tr>
<tr>
<td>Boltonia asteroides</td>
<td></td>
<td></td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planting.</td>
<td>3oz/acre</td>
<td>2,000</td>
</tr>
<tr>
<td>*bankfull, water’s edge</td>
<td>Needs light to germinate, surface sow seeds.</td>
<td>OBL</td>
<td>Full sun</td>
<td>Wet conditions; rhizomatous root system</td>
<td></td>
</tr>
<tr>
<td>*Marsh Marigold</td>
<td>Wet conditions; fibrous root system; self-seeding</td>
<td>OBL</td>
<td>Full to partial sunlight</td>
<td>Wet soils, muck, mud</td>
<td>Swamps, open floodplain woodlands, streambanks, marshes, ditches, wet meadows</td>
</tr>
<tr>
<td>Caltha palustris</td>
<td></td>
<td></td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planting.</td>
<td>1oz/acre</td>
<td>26,000</td>
</tr>
<tr>
<td>*bankfull, water’s edge</td>
<td></td>
<td>OBL</td>
<td>Full to partial sunlight</td>
<td>Wet soils, muck, mud</td>
<td>Swamps, open floodplain woodlands, streambanks, marshes, ditches, wet meadows</td>
</tr>
<tr>
<td>*Spring Cress</td>
<td>Wet to moist conditions; tuberous and fibrous rootstock; can be propagated through seeds or tubers;</td>
<td>OBL</td>
<td>Partial sunlight</td>
<td>Moist fertile soil, loam, sandy loam</td>
<td>Floodplain woodlands, seeps, springs, moist meadows, damp low spots in rocky bluffs, marshes, fens</td>
</tr>
<tr>
<td>Cardamine bulbosa</td>
<td></td>
<td></td>
<td>Not fully known, sow outdoors immediately after collection</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>White Turtlehead</strong></td>
<td><em>Chelone glabra</em></td>
<td><em>bankfull, water’s edge</em></td>
<td>Fall planting is recommended. Otherwise cold, moist stratification for a minimum of 60 days is required.</td>
<td>0.5oz/acre</td>
<td>92,000</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Wet conditions; rhizomatous root system with taproot, can form colonies</td>
<td>OBL</td>
<td>Full to partial sunlight</td>
<td>Fertile moist, organic soils</td>
<td>Floodplain woodlands, prairies, meadows, marshes, seeps, streambanks, wet ditches, pond edges, fens</td>
<td></td>
</tr>
<tr>
<td><strong>Water hemlock</strong></td>
<td><em>Cicuta maculata</em></td>
<td></td>
<td>Best if sown in the fall, or immediately after collection. Otherwise requires cold, moist stratification for a minimum of 120 days.</td>
<td>1oz/acre</td>
<td>12,000</td>
</tr>
<tr>
<td>Wet to moist conditions; fleshy root system; self-seeding; TOXIC, all parts of this plant are extremely poisonous</td>
<td>OBL</td>
<td>Full to partial sunlight</td>
<td>Loamy, sandy soils</td>
<td>Swamps, wet prairies, seeps, ditches, marshes, prairie swales, thickets</td>
<td></td>
</tr>
<tr>
<td><strong>Cinnamon Willow-Herb; Purpleleaf willowherb</strong></td>
<td>Epilobium coloratum</td>
<td><em>bankfull, water’s edge, stream edge shady</em></td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds.</td>
<td>0.125oz/acre</td>
<td>250,000</td>
</tr>
<tr>
<td>Wet to moist conditions; fibrous root system that produces rhizomes; pioneer species</td>
<td>OBL</td>
<td>Full to partial sunlight</td>
<td>Soil that can retain moisture</td>
<td>Wet prairies, marshes, riverbanks, lake shores, swamps, bogs, disturbed areas</td>
<td></td>
</tr>
<tr>
<td><strong>Spotted Joe-pye weed; Joe Pye weed; Spotted Trumpetweed</strong></td>
<td>Eutrochium maculatum (Eupatorium maculatum)</td>
<td></td>
<td>Cold, moist stratification for a minimum of 30 days or fall planting. Needs light to germinate, surface sow seeds.</td>
<td>0.25oz/acre</td>
<td>95,000</td>
</tr>
<tr>
<td>A synonymous scientific name is <em>Eupatorium maculatum</em> which is used by many nurseries; fibrous rhizomatous root system, often forms colonies</td>
<td>OBL</td>
<td>Full to partial sunlight</td>
<td>Fertile soil; silt, sandy loam</td>
<td>Marshes, swamps, moist prairies, sandy wetlands, wet thickets</td>
<td></td>
</tr>
<tr>
<td><strong>Common boneset</strong></td>
<td>Eupatorium perfoliatum</td>
<td><em>Water’s edge, bankfull</em></td>
<td>Cold, moist stratification for a minimum of 30 days, or fall planting. Needs light to germinate, surface sow seeds.</td>
<td>0.25oz/acre</td>
<td>160,000</td>
</tr>
<tr>
<td>Wet to moist conditions; seed propagation; fibrous, rhizomatous root system, forms colonies; excellent pollinator;</td>
<td>OBL</td>
<td>Full to partial sunlight</td>
<td>Soil that can retain moisture</td>
<td>Wetland habitats, wet prairies, bogs, marshes, seeps, riverbanks, open floodplain woodlands</td>
<td></td>
</tr>
<tr>
<td><strong>Bottle gentian; Closed Bottle Gentian</strong></td>
<td>Gentiana andrewsii</td>
<td><em>top sun, bankfull, water’s edge</em></td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds.</td>
<td>0.25oz/acre</td>
<td>280,000</td>
</tr>
<tr>
<td>Moist to wet conditions; central taproot; using plugs/transplanting may be most successful propagation technique; germination from seed can be difficult</td>
<td>FACW</td>
<td>Full to partial sunlight</td>
<td>Fertile soil; clay, sandy loam</td>
<td>Riverbanks, open floodplain woodlands, meadows, moist prairies, swamps, thickets</td>
<td></td>
</tr>
<tr>
<td>Common Name</td>
<td>Scientific Name</td>
<td>Ecological Preferences</td>
<td>Planting Method</td>
<td>Seed Rate</td>
<td>Seed Count</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>-----------------</td>
<td>----------------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------</td>
<td>-----------</td>
<td>------------</td>
</tr>
<tr>
<td>*Fringed gentian; Greater fringed gentian</td>
<td><em>Gentianopsis crinita</em></td>
<td>Wet to moist conditions; shallow taproot; self-seeding; rare; biennial</td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds.</td>
<td>0.25oz/acre</td>
<td>200,000</td>
</tr>
<tr>
<td><em>Yellow avens</em>)</td>
<td><em>Geum aleppicum</em></td>
<td>Moist to wet conditions</td>
<td>Cold, moist stratification for a minimum of 60 days or fall planting.</td>
<td>1oz/acre</td>
<td>20,000</td>
</tr>
<tr>
<td><em>Rough Avens</em>)</td>
<td><em>Geum laciniatum</em></td>
<td>Moist to wet conditions; taproot with rhizomes</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Common Sneezeweed; Autumn sneezeweed</td>
<td><em>Helenium autumnale</em></td>
<td>Wet to moist conditions; fibrous root system; excellent pollinator; grows readily and can become dominant</td>
<td>Needs light to germinate, surface sow seeds. No other pretreatment necessary.</td>
<td>0.5oz/acre</td>
<td>130,000</td>
</tr>
<tr>
<td>*Halberd-Leaved Rose Mallow; Scarlet Rose Mallow; Rose Mallow</td>
<td><em>Hibiscus laevis</em></td>
<td>Wet conditions; central taproot; self-seeding</td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planting.</td>
<td>3oz/acre</td>
<td>2,800</td>
</tr>
<tr>
<td><em>Giant St. Johnswort</em>)</td>
<td><em>Hypericum ascyron (Hypericum pyramidatum)</em></td>
<td>*top shade, top sun, bankfull, side slope</td>
<td>Cold, moist stratification for a minimum of 60 days or fall planting. Needs light to germinate, surface sow seeds.</td>
<td>1oz/acre</td>
<td>190,000</td>
</tr>
<tr>
<td>A synonymous scientific name is <em>Hypericum pyramidatum</em>; moist conditions; rhizomatous root system; excellent pollinator; propagation through seeds or plugs are successful</td>
<td>FAC</td>
<td>Full to partial sunlight</td>
<td>Can survive in a variety of soil types</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Species</td>
<td>Shade</td>
<td>Stratification</td>
<td>Germination</td>
<td>Seed Rate</td>
<td>Planting Area</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>----------------</td>
<td>------------------------------</td>
<td>----------------------</td>
<td>----------------</td>
<td>----------------</td>
</tr>
<tr>
<td>*Spotted touch-me-not; Orange jewelweed</td>
<td>*top shade, shady stream edge, wooded trail, bankfull</td>
<td>Sow seeds immediately after collection.</td>
<td>0.25oz/acre</td>
<td>4,000</td>
<td></td>
</tr>
<tr>
<td>*Pale touch-me-not; Yellow jewelweed</td>
<td>*top shade, shady stream edge, wooded trail, bankfull</td>
<td>Sow seeds immediately after collection.</td>
<td>1oz/acre</td>
<td>1,600</td>
<td></td>
</tr>
<tr>
<td>*Cardinal Flower</td>
<td>*top shade, bankfull, shaded stream edge</td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds.</td>
<td>*Transplants/plugs most successful</td>
<td>400,000</td>
<td></td>
</tr>
<tr>
<td>*Great Blue Lobelia; Blue Cardinal Flower</td>
<td>*top shade, bankfull, shaded stream edge, wooded trail</td>
<td>Cold, moist stratification for a minimum of 60 days or fall planting. Needs light to germinate, surface sow seeds.</td>
<td>0.125oz/acre</td>
<td>500,000</td>
<td></td>
</tr>
<tr>
<td>*Seedbox</td>
<td>*Water’s edge, bankfull</td>
<td>Cold, moist stratification for a minimum of 60 days or fall planting.</td>
<td>0.125oz/acre</td>
<td>1,300,000</td>
<td></td>
</tr>
<tr>
<td>*Water horehound; American Bugleweed; American water horehound</td>
<td>*bankfull, water’s edge, wooded trails</td>
<td>Needs light to germinate, surface sow seeds. No other pretreatment necessary.</td>
<td>0.25oz/acre</td>
<td>130,000</td>
<td></td>
</tr>
</tbody>
</table>

- *Spotted touch-me-not; Orange jewelweed
- *Pale touch-me-not; Yellow jewelweed
- *Cardinal Flower
- *Great Blue Lobelia; Blue Cardinal Flower
- *Seedbox
- *Water horehound; American Bugleweed; American water horehound

Shady conditions
- Impatiens capensis: Shady bogs, floodplain woodlands, swamps, shady streambanks, wet ditches, seeps
- Impatiens pallida: Swamps, open floodplain woodlands, muddy streambanks, woody edges of marshes
- Lobelia cardinalis: Wet prairies, marsh edges, open floodplain woodlands, ditches, wet meadows, streambanks, swamps
- Lobelia siphilitica: Wet prairies, open floodplain woodlands, wet meadows, ditches, swamps
- Ludwigia alternifolia: Swamps, riverbanks, wet prairies, ditches, floodplain woodlands, wetlands
- Lycopus americanus: Wetlands, shorelines, riverbanks, marshes, ditches, wet prairies, open floodplain woodlands, wet thickets
- Lycopus americanus: Wetlands, shorelines, riverbanks, marshes, ditches, wet prairies, open floodplain woodlands, wet thickets
<table>
<thead>
<tr>
<th>*Northern bugleweed</th>
<th>Lycopus uniflorus</th>
<th>*bankfull, water’s edge, wooded trails, sunny trails</th>
<th>N/A</th>
<th>N/A</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet to moist conditions; tuberous roots with stolons; propagation through tubers is most successful</td>
<td>OBL</td>
<td>Full to partial sunlight</td>
<td>Sandy, loamy, mucky soil</td>
<td>Streambanks, fens, marshes, swamps, lake edges, moist meadows</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Swamp Loosestrife; Swamp Candles</th>
<th>Lysimachia terrestris</th>
<th>N/A</th>
<th>1.5oz/acre *transplants/plugs most successful</th>
<th>60,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet to moist conditions; rhizomatous root system; propagation through root division/plugs most successful; excellent pollinator</td>
<td>OBL</td>
<td>Full to partial sunlight</td>
<td>Can survive in a variety of soil types</td>
<td>Swamps, marshes, streambanks, moist prairies, bogs, fens</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tufted loosestrife</th>
<th>Lysimachia thyrsiflora</th>
<th>Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds.</th>
<th>1oz/acre</th>
<th>82,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet to consistently moist conditions; rhizomatous root system; excellent pollinator</td>
<td>OBL</td>
<td>Full to partial sunlight</td>
<td>Peaty, sandy soils</td>
<td>Swamps, ditches, marshes, lake shores, open floodplain woodlands, bogs, wet meadows</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Winged Loosestrife</th>
<th>Lythrum alatum</th>
<th>Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds.</th>
<th>*Transplants/plugs most successful</th>
<th>3,000,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet conditions; rhizomatous root system; excellent pollinator</td>
<td>OBL</td>
<td>Full sun</td>
<td>Moist fertile soils, clay, loam</td>
<td>Wet prairies, fens, marshes, pond edges, streambanks, ditches</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>*Field mint; Marsh mint; Wild mint</th>
<th>Mentha arvensis</th>
<th>*top sun, bankfull, water’s edge</th>
<th>Needs light to germinate, surface sow seeds. No other pretreatment necessary.</th>
<th>0.25oz/acre</th>
<th>300,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moist conditions; rhizomatous root system, forms colonies; can become aggressive; excellent pollinator; very hardy and thrives in disturbed areas</td>
<td>FACW</td>
<td>Full sun to partial sunlight</td>
<td>Fertile soil</td>
<td>Lake shores, moist prairies, marshes, fens, landfills, disturbed areas, streambanks</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>*Monkey Flower; Allegheny Monkeyflower; Square-stemmed Monkeyflower</th>
<th>Mimulus ringens</th>
<th>*bankfull, water’s edge, shaded stream edge</th>
<th>Cold, moist stratification for a minimum of 30 days, or fall planting. Needs light to germinate, surface sow seeds.</th>
<th>0.125oz/acre</th>
<th>2,300,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet conditions; rhizomatous root system; self-seeding</td>
<td>OBL</td>
<td>Partial sun</td>
<td>Moist, fertile soils; loam, sand, clay</td>
<td>Open floodplain woodlands, swamps, meadows, pond edges, streambanks, wet ditches, seeps</td>
<td></td>
</tr>
<tr>
<td>Plant Name</td>
<td>Scientific Name</td>
<td>Optimum Conditions</td>
<td>Pre-treatment Needed</td>
<td>Surface Sow Seeds Required</td>
<td>Rainfall Requirement</td>
</tr>
<tr>
<td>-------------------------</td>
<td>----------------------------------------</td>
<td>--------------------------------------------------------------------------------------</td>
<td>----------------------</td>
<td>---------------------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>Cowbane</td>
<td>Oxypolis rigidior</td>
<td>Wet to moist conditions; fleshy roots</td>
<td>OBL</td>
<td>Full sun</td>
<td>Loam, silt, sand</td>
</tr>
<tr>
<td>Swamp Lousewort</td>
<td>Pedicularis lanceolata</td>
<td>Best if sown in the fall, or immediately after collection. Otherwise requires cold, moist stratification for a minimum of 30 days.</td>
<td>OBL</td>
<td>Full to partial sunlight</td>
<td>Moist sand</td>
</tr>
<tr>
<td>*Ditch Stonecrop</td>
<td>Penthorum sedoides</td>
<td>Wet to consistently moist conditions, rhizomatous root system, forms colonies</td>
<td>OBL</td>
<td>Full to partial sunlight</td>
<td>Wet soils, muck</td>
</tr>
<tr>
<td>*Obedient Plant; False dragonhead; Virginia lions-heart</td>
<td>Physostegia virginiana</td>
<td>Moist conditions; rhizomatous root system and taproot; can become aggressive in ideal situations</td>
<td>FACW</td>
<td>Full to partial sunlight</td>
<td>Moist soils, hummus, loam</td>
</tr>
<tr>
<td>*Glaucous white lettuce; Purple Rattlesnake-root</td>
<td>Prenanthus racemosa (Nabalus racemosus)</td>
<td>*top sun, side slope, bankfull Best if sown in the fall, or immediately after collection. Otherwise requires cold, moist stratification for a minimum of 120 days.</td>
<td>FACW</td>
<td>Full sun</td>
<td>Sandy, calcareous, rocky</td>
</tr>
<tr>
<td>*Mountain mint; Virginia mountain mint</td>
<td>Pycnanthemum virginianum</td>
<td>Moist to wet conditions; rhizomatous root system, forms colonies; excellent pollinator</td>
<td>FACW</td>
<td>Full to partial sunlight</td>
<td>Can survive in a variety of soil types</td>
</tr>
<tr>
<td>Marsh Cress</td>
<td><em>Rorippa palustris</em></td>
<td><em>bankfull, water’s edge</em></td>
<td>Not fully known, sow seeds immediately after collection.</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>-------------</td>
<td>----------------------</td>
<td>--------------------------</td>
<td>--------------------------------------------------</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>Wet to moist conditions; taproot; self-seeding; can be considered weedy</td>
<td>OBL</td>
<td>Full to partial sunlight</td>
<td>Loam, clay, silt, mud</td>
<td>Shorelines, muddy pond edges, riverbanks, open floodplain woodlands, wet fields, prairie swales, meadows, ditches</td>
<td></td>
</tr>
</tbody>
</table>

| *Tall coneflower; Greenhead coneflower; Cutleaf coneflower R. laciniata | *shady stream edge, bankfull, top shade, side slope* | Cold, moist stratification for a minimum of 30 days or fall planting. Needs light to germinate, surface sow seeds. | 1.5oz/acre | 14,000 |
| Moist to wet conditions; easily grown from seed; rapid growth rate through rhizomes; flood tolerant; excellent pollinator; can be considered weedy | FACW | Full to partial sunlight, shade | Moist soil; loam | Floodplain woodlands, shady riverbanks, moist meadows, sloughs, lowland thickets and fields |

**Greater water dock Rumex britannica (Rumex orbiculatus)**

- Cold, moist stratification for a minimum of 60 days or fall planting.
- Moist soil; loam
- Floodplain woodlands, shady riverbanks, moist meadows, sloughs, lowland thickets and fields

**Swamp Dock Rumex verticillatus**

- Wet conditions; taproot
- Full sun to partial shade
- Wet soils, muck
- Lake edges, marshes, ephemeral streams, swamps, ditches

***Mad-dog Skullcap Scutellaria lateriflora***

- Cold, moist stratification for a minimum of 60 days or fall planting.
- Moist soils
- Marshes, moist meadows, swamps, open floodplain woodlands, wet thickets, seeps, bogs

**Water Parsnip Sium suave**

- Wet, fully saturated conditions; fibrous fleshy root system; grows well in shallow standing water
- Full to partial sunlight
- Wet soils, muck, sand
- Wet prairies, marshes, swamps, pond edges, ditches, seeps, wet thickets, muddy shores
<table>
<thead>
<tr>
<th>Botanical Name</th>
<th>Scientific Name</th>
<th>Restrictions</th>
<th>Seed Rate</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Giant Goldenrod; Tall Goldenrod</td>
<td>Solidago gigantea</td>
<td>*side slope, bankfull, sunny trails, wooded trails</td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sown seeds.</td>
<td>0.05oz/acre</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FACW Full sun to light shade</td>
<td>Moist soils; loam, clay loam, sand-loam</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Floodplain woodlands, riverbanks, pond edges, wet prairies, fens, ditches</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Moist to wet conditions; fibrous and rhizomatous root system; excellent pollinator; can become aggressive</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>OBL Full sun</td>
<td>Calcareous soils</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pond edges, streambanks, meadows, wet prairies, seeps, marshes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Riddell's Goldenrod</td>
<td>Solidago riddellii (Oligoneuron riddellii)</td>
<td>*water's edge, bankfull</td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sown seeds.</td>
<td>0.25oz/acre</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OBL Full sun</td>
<td>Calcareous soils</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pond edges, streambanks, meadows, wet prairies, seeps, marshes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>New England aster; New</td>
<td>Symphyotrichum novae-angliae (Aster novae-angliae)</td>
<td>*top sun, bankfull, side slope, woodland trail</td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planting.</td>
<td>1oz/acre</td>
</tr>
<tr>
<td>American-Aster</td>
<td></td>
<td>FACW Full or partial sunlight</td>
<td>Fertile, moist soil; clay, loam</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Prairie, meadows, riverbanks, thickets, railroads, roadsides, open woodlands, disturbed areas</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Swamp aster; puplestem aster</td>
<td>Symphyotrichum puniceum (Aster puniceus)</td>
<td>*bankfull, water’s edge, shady stream edge</td>
<td>Seeds should not be allowed to dry out before sowing.</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OBL Full to partial sunlight</td>
<td>Fertile, moist soils</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Streambanks, sedge meadows, moist thickets, marshes, bog edges, seeps, fens</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skunk cabbage</td>
<td>Symplocarpus foetidus</td>
<td>*bankfull, water’s edge, shady stream edge</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OBL Partial sun to shade</td>
<td>Wet, rich soil, muck</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Marshes, streambanks, riverbanks, pond edges, muddy wet areas, wet woodlands, seeps, swamps</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Purple meadow-rue; Tall</td>
<td>Thalictrum dasycarpum</td>
<td>* top sun, bankfull, side slope</td>
<td>Late fall planting is recommended. Otherwise cold, moist stratification for a minimum of 60 days is required.</td>
<td>1.5oz/acre</td>
</tr>
<tr>
<td>meadow-rue</td>
<td></td>
<td>FACW Full sun to partial sunlight</td>
<td>Loamy, sandy, rocky, clay loam soils</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Prairie, meadows, streambanks, savannas, open woodlands, open floodplain woodlands, swamps</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Blue Vervain; Swamp Verbena**  
*Verbena hastata*  
*top shade, top sun, side slope, bankfull, water’s edge*  
Cold, moist stratification for a minimum of 30 days or fall planting. Needs light to germinate, surface sow seeds.  
0.25oz/acre  
93,000

Collect seeds in late summer to early fall; moist planting conditions; tolerates temporary standing water; most successful propagation by seeds; excellent pollinator; fibrous and rhizomatous root system  
FACW  
Full to partial sunlight  
Fertile loam or wet muck  
River-bottom prairies, meadows, roadside ditches, pastures, marshes, and riverbanks

---

**Grasses, Sedges, & Rushes (bankfull)**

**Sweetflag**  
*Acorus americanus*  
*bankfull, water’s edge*  
Cold, moist stratification for a minimum of 60 days, or fall planting.  
3oz/acre  
6,600

Wet conditions, standing water; rhizomatous; great for erosion control  
OBL  
Full to partial sunlight  
Wet, silty soils  
Bogs, pond and lake shallows, marshes, streambanks

**Shortawn foxtail; Short-Awn Meadow Foxtail**  
*Alopecurus aequalis*  
*bankfull, water’s edge, side slope*  
N/A  
N/A  
N/A

Cool wet conditions; fibrous root systems, often forms colonies; limited local commercial availability  
OBL  
Full to partial sunlight  
Wet soil; muck  
Wet meadows, pond edges, ditches, swamps, bog edges, prairie swales, riverbanks, disturbed areas

**American slough grass**  
*Beckmannia syzigachne*  
No seed pretreatment necessary  
3oz/acre  
50,000

Wet conditions; shallow root system; propagation through seed most successful  
OBL  
Full to partial sunlight  
Wet soils  
Streambanks, marshes, ditches, wet meadows, swamps

**Fringed Brome**  
*Bromus ciliatus*  
No seed pretreatment necessary  
8oz/acre  
10,000

Moist to wet conditions; fibrous root system; propagation through seeds most successful  
FACW  
Partial shade  
Loam, silt-loam, sand  
Prairie, meadow, marsh, field, swamp, thickets, streambanks, open woodlands
<table>
<thead>
<tr>
<th>Species</th>
<th>Scientific Name</th>
<th>Preferred Habitat</th>
<th>Seed Rate</th>
<th>Growth Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bluejoint Grass</td>
<td><em>Calamagrostis canadensis</em></td>
<td>Needs light to germinate, surface sow seeds. No other pretreatment necessary.</td>
<td>0.125 oz/acre</td>
<td>*transplants/plugs more successful 280,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wet to moist conditions; fibrous and rhizomatous root system, can form colonies; can become aggressive; Plugs/transplants generally more successful than seed propagation, seeds can be fragile; fire tolerant</td>
<td></td>
<td>Swamps, marshes, ditches, meadows, streambanks, lake shores, wet prairies, prairie swales, bogs</td>
</tr>
<tr>
<td>Yellow headed fox sedge</td>
<td><em>Carex annectens</em></td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planting.</td>
<td>0.25 oz/acre</td>
<td>90,000</td>
</tr>
<tr>
<td>effect; Yellow Fox Sedge;</td>
<td></td>
<td>Full sun to partial shade</td>
<td></td>
<td>Pond edges, fens, ditches, marshes, wet prairies, swamps, seeps, moist disturbed areas</td>
</tr>
<tr>
<td>Yellowfruit Sedge; Small</td>
<td></td>
<td>Can survive in a variety of soil types</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yellow Fox Sedge</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bebb’s sedge; Bebb’s oval</td>
<td><em>Carex bebbii</em></td>
<td>Cold, moist stratification for a minimum of 30 days, or fall planting.</td>
<td>0.5 oz/acre</td>
<td>34,000</td>
</tr>
<tr>
<td>oval sedge</td>
<td></td>
<td>Full to partial sunlight</td>
<td></td>
<td>Wetlands, swamps, marshes, meadows, fields, riverbanks, lake shores</td>
</tr>
<tr>
<td>Bottlebrush sedge;</td>
<td><em>Carex comosa</em></td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planting.</td>
<td>0.5 oz/acre</td>
<td>30,000</td>
</tr>
<tr>
<td>Bearded sedge; Bristly</td>
<td></td>
<td>Full to partial sunlight</td>
<td></td>
<td>Swamps, bogs, pond edges, ditches, meadows, seeps, marshes</td>
</tr>
<tr>
<td>sedge; Long-haired sedge</td>
<td></td>
<td>Moist soil</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emory’s Sedge</td>
<td><em>Carex conjuncta</em></td>
<td>Likely needs cold, moist stratification for a minimum of 60 days, or fall planning.</td>
<td>1 oz/acre</td>
<td>22,000</td>
</tr>
<tr>
<td>effect</td>
<td></td>
<td>Partial sunlight</td>
<td></td>
<td>Floodplain woodlands, thickets, shady meadows, moist prairies, streambanks</td>
</tr>
<tr>
<td>Emory’s Sedge</td>
<td><em>Carex emory</em></td>
<td>Not fully known, but likely needs cold, moist stratification for a minimum of 60 days or fall planting.</td>
<td></td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Full to partial sunlight</td>
<td></td>
<td>Riverbanks and streambanks</td>
</tr>
<tr>
<td>*Gray’s sedge; Bur sedge</td>
<td>Carex grayi</td>
<td>*stream edge shade, top slope, side slope, woodland trails, bankfull</td>
<td>Fall planting is recommended.</td>
<td>2oz/acre</td>
</tr>
<tr>
<td>-------------------------</td>
<td>------------</td>
<td>-------------------------------------------------</td>
<td>-------------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>Wet to moist conditions; tolerant to seasonal flooding; full sun tolerable in wet conditions; fibrous and rhizomatous root system</td>
<td>FACW</td>
<td>Partial shade</td>
<td>Fertile soil; loam, sand, silt</td>
<td>Moist, deciduous woodlands, sandy swamps, shady streambanks, marshes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>*Hayden’s sedge; Cloud sedge</th>
<th>Carex haydenii</th>
<th>*top sun, bankfull</th>
<th>Cold, moist stratification for a minimum of 60 days, or fall planting.</th>
<th>1.5oz/acre</th>
<th>38,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet conditions; fibrous and rhizomatous root system; tolerates seasonal flooding</td>
<td>OBL</td>
<td>Full sun</td>
<td>Moist, sandy soils</td>
<td>Wet prairies, sandy river floodplains, swamps, marshes, sedge meadows, fens, bogs, sandy ditches</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>*Porcupine sedge; Bottlebrush Sedge</th>
<th>Carex hysterica</th>
<th>*bankfull, water’s edge, shaded stream edge</th>
<th>Cold, moist stratification for a minimum of 60 days, or fall planting.</th>
<th>0.25oz/acre</th>
<th>30,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet to moist conditions; fibrous and rhizomatous root system; part of “bottlebrush” sedge group</td>
<td>OBL</td>
<td>Full sun to partial shade</td>
<td>Wet calcareous soil; loam, sand</td>
<td>Swamps, pond edges, wet prairies, marshes, ditches, seeps, meadows</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Lake Sedge</th>
<th>Carex lacustris</th>
<th>*top sun, side slope, bankfull</th>
<th>Cold, moist stratification for a minimum of 60 days, or fall planting.</th>
<th>1oz/acre</th>
<th>11,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet conditions; fibrous and rhizomatous root system; can spread aggressively</td>
<td>OBL</td>
<td>Full to partial sunlight</td>
<td>Mud, silt, sand</td>
<td>Wet thickets, wet prairies, marshes, swamps, fens, seeps, pond and lake edges</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>*Plains Slough Sedge; smooth cone Sedge; long-toothed lake sedge</th>
<th>Carex laeviconica</th>
<th>*top sun, side slope, bankfull</th>
<th>Cold, moist stratification for a minimum of 60 days, or fall planting.</th>
<th>1oz/acre</th>
<th>7,500</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet to moist conditions; fibrous and rhizomatous root system, often forms colonies; can become aggressive</td>
<td>OBL</td>
<td>Full to partial sunlight</td>
<td>Can survive in a variety of moist loamy based soils</td>
<td>Sedge swales, marsh edges, prairies, sloughs, open floodplain woodlands, sedge meadows, swamps, riverbanks, ditches</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>False hop sedge</th>
<th>Carex lupuliformis</th>
<th>N/A</th>
<th>N/A</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet to consistently moist conditions; fibrous and rhizomatous root system</td>
<td>OBL</td>
<td>Full sun to partial shade</td>
<td>Muck, sandy-muck</td>
<td>Floodplain woodlands, streambanks, swamps, wet meadows, marshes, ditches</td>
</tr>
<tr>
<td>*Muskingum Sedge; Palm Sedge</td>
<td>*Carex muskingumensis</td>
<td>*bankfull, water’s edge, shaded stream edge</td>
<td>No pretreatment necessary.</td>
<td>1oz/acre</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>----------------------</td>
<td>------------------------------------------</td>
<td>--------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>Wet to moist conditions; fibrous and rhizomatous root system</td>
<td>OBL</td>
<td>Full sun to partial shade</td>
<td>Fertile soils; loam</td>
<td>Swamps, riverbanks, meadows, floodplain woodlands</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>*Greater Straw Sedge; Spreading Oval Sedge</th>
<th>*Carex normalis</th>
<th>*top shade, side slope, bankfull, shaded stream edge</th>
<th>Cold, moist stratification for a minimum of 60 days, or fall planting.</th>
<th>0.25oz/acre</th>
<th>25,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moist to wet conditions; fibrous and rhizomatous root system; self-seeding</td>
<td>FACW</td>
<td>Full sun to partial shade</td>
<td>Fertile soils</td>
<td>Open woodlands, pond edges, ditches, streambanks, prairies, meadows, fields, disturbed areas</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>*Pointed Broom Sedge</th>
<th>*Carex scoparia</th>
<th>*top sun, bankfull</th>
<th>Cold, moist stratification for a minimum of 60 days, or fall planting.</th>
<th>2oz/acre</th>
<th>84,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moist to wet conditions; fibrous and rhizomatous root system;</td>
<td>FACW</td>
<td>Full sun</td>
<td>Can survive in a variety of soil types</td>
<td>Wet prairies, marshes, streambanks, ditches, seeps, fens, pond edges, open floodplain woodlands, sedge meadows</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>*Awl-fruited sedge; Prickly Sedge; Stalk-Grain Sedge</th>
<th>*Carex stipata</th>
<th>*bankfull, water’s edge</th>
<th>Cold, moist stratification for a minimum of 60 days, or fall planting.</th>
<th>0.25oz/acre</th>
<th>34,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet to moist conditions; fibrous and rhizomatous root system</td>
<td>OBL</td>
<td>Full to partial sunlight</td>
<td>Can survive in a variety of soil types</td>
<td>Wet floodplain woodlands, swamps, wet prairies, seeps, ditches, pond edges</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>*Blunt Broom Sedge</th>
<th>*Carex tribuloides</th>
<th>*bankfull, water’s edge</th>
<th>Cold, moist stratification for a minimum of 60 days, or fall planting.</th>
<th>1oz/acre</th>
<th>120,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet to moist conditions; fibrous and rhizomatous root system</td>
<td>OBL</td>
<td>Full sun to partial shade</td>
<td>Can survive in a variety of soil types</td>
<td>Marshes, fens, floodplain woodlands, swamps, moist meadows, wet prairies, seeps, ditches, bogs</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hairy-fruited sedge; Hairy-fruited lake sedge</th>
<th>*Carex trichocarpa</th>
<th>*side slope, bankfull, water’s edge</th>
<th>Cold, moist stratification for a minimum of 60 days, or fall planting.</th>
<th>0.5oz/acre</th>
<th>18,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet to moist conditions, fibrous and rhizomatous root system, forms large colonies; can spread aggressively</td>
<td>OBL</td>
<td>Full to partial sunlight</td>
<td>Fertile soil; silt, loam</td>
<td>Wet prairies, wet thickets, meadows, streambanks, riverbanks, wet ditches, marshes</td>
<td></td>
</tr>
<tr>
<td><strong>Blunt Spikerush</strong></td>
<td><em>Eleocharis obtusa</em></td>
<td><em>bankfull, water’s edge</em></td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds.</td>
<td>1oz/acre</td>
<td>100,000</td>
</tr>
<tr>
<td>---------------------</td>
<td>---------------------</td>
<td>--------------------------</td>
<td>-----------------------------------------------------------------</td>
<td>----------</td>
<td>----------</td>
</tr>
<tr>
<td>Wet conditions; fibrous root system; self-seeding; annual</td>
<td>OBL</td>
<td>Full sun</td>
<td>Can survive in a variety of wet soil types</td>
<td>Marshes, seeps, fens, pond and lake shores, streambanks, ditches</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Common Spikerush; Creeping spikerush</strong></th>
<th><em>Eleocharis palustris</em></th>
<th><em>bankfull, water’s edge</em></th>
<th>Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds.</th>
<th>1oz/acre</th>
<th>70,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet conditions; strongly rhizomatous; flood tolerant; propagation through plugs or transplants is most successful</td>
<td>OBL</td>
<td>Full sun to partial shade</td>
<td>Silty, sandy, clay soils</td>
<td>Wet meadows, springs, marshes, streambanks, lakeshores, mud flats, bogs, swamps</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Riverbank Wild Rye</strong></th>
<th><em>Elymus riparius</em></th>
<th><em>side slope, top shade, bankfull, shaded stream edge</em></th>
<th>No seed pretreatment necessary</th>
<th>0.5lb/acre</th>
<th>2,900</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moist to wet conditions; low drought tolerance; high fire tolerance; self-seeding; great for erosion control; rhizomatous root system</td>
<td>FACW</td>
<td>Partial shade to shade</td>
<td>Loam, sand, clay</td>
<td>Meadows, streambanks, riverbanks, moist prairies, fields</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Fowl Manna Grass</strong></th>
<th><em>Glyceria striata</em></th>
<th><em>top shade, bankfull, water’s edge, shady stream</em></th>
<th>No seed pretreatment necessary. Needs light to germinate, surface sow seeds.</th>
<th>0.5oz/acre</th>
<th>90,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet to moist conditions; fibrous root system; self-seeding; can tolerate more sun exposure in wetter conditions</td>
<td>OBL</td>
<td>Partial sunlight to shade</td>
<td>Fertile soil, loam</td>
<td>Swamps, marshes, streambanks, pond edges, bogs, seeps, ditches</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Dudley’s Rush</strong></th>
<th><em>Juncus dudleyi</em></th>
<th><em>top sun, side slope, bankfull, water’s edge, sunny trails</em></th>
<th>Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds.</th>
<th>0.125oz/acre</th>
<th>3,200,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moist to wet conditions; fibrous and rhizomatous root system; can spread aggressively</td>
<td>FACW</td>
<td>Full sun</td>
<td>Loam, clay loam, gravel</td>
<td>Streambanks, wet meadows, pond edges, moist prairies, swales, ditches, fens</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Torrey’s Rush</strong></th>
<th><em>Juncus torreyi</em></th>
<th><em>side slope, bankfull, water’s edge</em></th>
<th>Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds.</th>
<th>0.125oz/acre</th>
<th>1,600,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moist to fairly wet conditions; fibrous and rhizomatous root system; can spread aggressively in ideal conditions</td>
<td>FACW</td>
<td>Full sun</td>
<td>Acidic soils; mucky, sandy, clay soils</td>
<td>Prairies, pond edges, streambanks, ditches, swamps, meadows, marshes</td>
<td></td>
</tr>
<tr>
<td>Grass Name</td>
<td>Scientific Name</td>
<td>Seed Treatment Needed</td>
<td>Seed Rate</td>
<td>Germination Range</td>
<td></td>
</tr>
<tr>
<td>------------------------------------</td>
<td>----------------------------------------</td>
<td>-----------------------</td>
<td>-------------</td>
<td>--------------------</td>
<td></td>
</tr>
<tr>
<td>Catchfly grass</td>
<td>Leersia lenticularis</td>
<td>No seed pretreatment necessary</td>
<td>6oz/acre</td>
<td>5,300</td>
<td></td>
</tr>
<tr>
<td><em>White Grass</em></td>
<td>Leersia virginica</td>
<td>No seed pretreatment necessary</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td><em>Switchgrass</em></td>
<td>Panicum virgatum</td>
<td>No seed pretreatment necessary</td>
<td>1oz/acre</td>
<td>14,000</td>
<td></td>
</tr>
<tr>
<td><em>Slender Bulrush</em></td>
<td>Schoenoplectus heterochaetus (Scirpus heterochaetus)</td>
<td>No seed pretreatment necessary</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td><em>Dark Green Bulrush; Green Bulrush</em></td>
<td>Scirpus atrovirens</td>
<td>Best if sown in the fall, otherwise requires cold, moist stratification for a minimum of 60 days. Need light to germinate, surface sow seeds.</td>
<td>0.5oz/acre</td>
<td>460,000</td>
<td></td>
</tr>
<tr>
<td><em>Wool grass</em></td>
<td>Scirpus cyperinus</td>
<td>Best if sown in the fall, otherwise requires cold, moist stratification for a minimum of 60 days. Needs light to germinate, surface sow seeds.</td>
<td>0.125oz/acre</td>
<td>1,700,000</td>
<td></td>
</tr>
</tbody>
</table>

- **Catchfly grass**
  - *Leersia lenticularis*
  - No seed pretreatment necessary.
  - 6oz/acre
  - 5,300
  - Wet conditions; rhizomatous root system
  - OBL
  - Partial sunlight
  - Fertile soils with mud
  - Floodplain woodlands, marshes, swamps, lakeshore

- ***White Grass***
  - *Leersia virginica*
  - No seed pretreatment necessary
  - N/A
  - N/A
  - Moist conditions; fibrous and rhizomatous root system; limited local commercial availability
  - FACW
  - Partial shade
  - Fertile soil, loam
  - Swamps, floodplain woodlands, shady pond edges, streambanks, marshes, moist wooded areas, shaded slopes, disturbed areas

- ***Switchgrass***
  - *Panicum virgatum*
  - No seed pretreatment necessary
  - 1oz/acre
  - 14,000
  - Moist conditions; fibrous and rhizomatous root system; can become aggressive, do not over-plant; fire tolerant
  - FAC
  - Full to partial sunlight
  - Can survive in a variety of soil types
  - Prairies, fields, savannas, open woodlands, dunes, marsh edges, riverbanks, bluffs, ditches, railroads

- ***Slender Bulrush***
  - *Schoenoplectus heterochaetus (Scirpus heterochaetus)*
  - No seed pretreatment necessary
  - N/A
  - N/A
  - Wet to moist conditions; rhizomatous; a scientific synonymous name is *Scirpus heterochaetus*; limited commercial availability
  - OBL
  - Full to partial sunlight
  - Wet soils
  - Marshes, lakeshores, streambanks

- ***Dark Green Bulrush; Green Bulrush***
  - *Scirpus atrovirens*
  - Best if sown in the fall, otherwise requires cold, moist stratification for a minimum of 60 days. Need light to germinate, surface sow seeds.
  - 0.5oz/acre
  - 460,000
  - Wet conditions; fibrous and rhizomatous root system, forms colonies; great for erosion control; self-seeding
  - OBL
  - Full to partial sunlight
  - Can survive in a variety of soil types
  - Wet prairies, open floodplain woodlands, wet meadows, riverbanks, ditches, swamps, seeps, marshes, pond edges, streambanks, bogs

- ***Wool grass***
  - *Scirpus cyperinus*
  - Best if sown in the fall, otherwise requires cold, moist stratification for a minimum of 60 days. Needs light to germinate, surface sow seeds.
  - 0.125oz/acre
  - 1,700,000
  - Wet conditions; fibrous and rhizomatous root system, often forms colonies; best results may be through transplant; great for erosion control; can become aggressive in ideal conditions
  - OBL
  - Full to partial sunlight
  - Sandy, muddy, gravelly, peaty soils
  - Wet meadows, swamps, marshes, sloughs, ditches, seeps, prairie swales, disturbed sites
<table>
<thead>
<tr>
<th>Species</th>
<th>Conditions</th>
<th>Root System</th>
<th>Sunlight</th>
<th>Soil Type</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Whitetop grass; Common river grass</em></td>
<td>Wet conditions; rhizomatous root system</td>
<td>OBL</td>
<td>Full sun</td>
<td>Wet soils, clay</td>
<td>Sedge meadows, marshes, lakeshores, mudflats along streams, streambanks, prairie potholes</td>
</tr>
<tr>
<td><em>Scolochloa festucacea</em> (bankfull, water’s edge)</td>
<td>No seed pretreatment necessary</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Prairie Cordgrass; Freshwater Cordgrass; Sloughgrass</em></td>
<td>Moist to wet conditions; great for erosion control; can help reduce high energy of flowing waters; fibrous and rhizomatous, often forms colonies; can become aggressive; propagation through plugs or dividing the rhizomes is most successful</td>
<td>FACW</td>
<td>Full to partial sunlight</td>
<td>Fertile soil; loamy, sandy</td>
<td>Marshes, swamps, sloughs, pond edges, riverbanks, moist roadides and railroads, prairies</td>
</tr>
<tr>
<td><em>Prairie Cordgrass</em> (side slope, bankfull, water’s edge)</td>
<td>No seed pretreatment necessary</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Spartina pectinata</em> <em>Transplants/plugs most successful</em></td>
<td>6,600</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Prairie Cordgrass</em> (side slope, bankfull, water’s edge)</td>
<td>No seed pretreatment necessary</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>False Indigo; Indigo Bush</em> (bankfull)</td>
<td>Wet to moist conditions; branching and woody root system; excellent pollinator</td>
<td>FACW</td>
<td>Full or partial sunlight</td>
<td>Fertile soil; can survive in a variety of soil types</td>
<td>Riverbanks, streambanks, pond edges, open floodplain forests, ditches, wet prairies, swamp edges</td>
</tr>
<tr>
<td><em>Amorpha fruticosa</em> *side slope, bankfull, water’s edge)</td>
<td>Scarify the seeds and soak in warm water for up to 12 hours before spring planting</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>False Indigo; Indigo Bush</em> (side slope, bankfull, water’s edge)</td>
<td>No seed pretreatment necessary</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Common Buttonbush</em> (bankfull, water’s edge)</td>
<td>Wet to moist conditions; branching and woody root system; seed or cutting propagation are successful; excellent pollinator; readily establishes from cuttings in the spring before leaves form</td>
<td>OBL</td>
<td>Full to partial sunlight</td>
<td>Fertile soil; humusy soil</td>
<td>Swamps, bogs, marshes, ditches, floodplain woodlands, wet prairies, seeps, riverbanks</td>
</tr>
<tr>
<td><em>Cephalanthus occidentalis</em> (bankfull, water’s edge)</td>
<td>No seed pretreatment necessary</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Red-osier Dogwood</em> (bankfull, water’s edge)</td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planting</td>
<td>FACW</td>
<td>Full to partial sunlight</td>
<td>Can survive in a variety of soil types; sandy soils</td>
<td>Meadows, marshes, bogs, swamps, thicketes, floodplain woodlands, streambanks</td>
</tr>
<tr>
<td><em>Cornus stolonifera (Cornus sericea)</em> (bankfull, water’s edge)</td>
<td>Cold, moist stratification for a minimum of 90 days, or fall planting</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Red-osier Dogwood</em> (bankfull, water’s edge)</td>
<td>No seed pretreatment necessary</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Cornus stolonifera (Cornus sericea)</em> (bankfull, water’s edge)</td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planting</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Shrubs & Vines (bankfull)

<table>
<thead>
<tr>
<th>Species</th>
<th>Conditions</th>
<th>Root System</th>
<th>Sunlight</th>
<th>Soil Type</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Speckled alder; Grey Alder; Thin-leaved Alder</em> (side slope, bankfull, water’s edge)</td>
<td>Moist to wet conditions; flood tolerant; fast growth rate; shallow, rhizomatous, wide root system; seed propagation over cuttings is recommended</td>
<td>FACW</td>
<td>Full to partial sunlight</td>
<td>Can survive in a variety of soil types</td>
<td>Wetlands, swamps, streambanks, floodplain woodlands, lakeshores, roadsides, bogs</td>
</tr>
<tr>
<td><em>Alnus incana</em> (side slope, bankfull, water’s edge)</td>
<td>Cold, moist stratification for a minimum of 90 days, or fall planting.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Speckled alder; Grey Alder; Thin-leaved Alder</em> (side slope, bankfull, water’s edge)</td>
<td>Moist to wet conditions; flood tolerant; fast growth rate; shallow, rhizomatous, wide root system; seed propagation over cuttings is recommended</td>
<td>FACW</td>
<td>Full to partial sunlight</td>
<td>Can survive in a variety of soil types</td>
<td>Wetlands, swamps, streambanks, floodplain woodlands, lakeshores, roadsides, bogs</td>
</tr>
<tr>
<td><em>Cephalanthus occidentalis</em> (bankfull, water’s edge)</td>
<td>No seed pretreatment necessary</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Cornus stolonifera (Cornus sericea)</em> (bankfull, water’s edge)</td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planting</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Red-osier Dogwood</em> (bankfull, water’s edge)</td>
<td>Moist to slightly wet conditions; wide, shallow and woody root system with underground runners; great for erosion control; propagation by seeds or cuttings; may also be referred to as <em>Cornus sericea</em></td>
<td>FACW</td>
<td>Full to partial sunlight</td>
<td>Can survive in a variety of soil types; sandy soils</td>
<td>Meadows, marshes, bogs, swamps, thicketes, floodplain woodlands, streambanks</td>
</tr>
<tr>
<td><em>Red-osier Dogwood</em> (bankfull, water’s edge)</td>
<td>No seed pretreatment necessary</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: OBL = Osmotically bound liquid; FACW = Full to partial sunlight; N/A = Not applicable; Rhiz = Rhizomatous root system.
<table>
<thead>
<tr>
<th>Species</th>
<th>Common Name</th>
<th>Propagation</th>
<th>Stratification/Seed Treatment</th>
<th>Pollinator</th>
<th>Habitat/Edaphic Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Swamp Dogwood; Silky Dogwood; Pale Dogwood; Cornus obliqua</td>
<td>*bankfull, water’s edge, stream edge shade</td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planting.</td>
<td>N/A</td>
<td>N/A</td>
<td>Floodplain woodlands, wet meadows, wet prairies, streambanks, pond edges, swamp edges</td>
</tr>
<tr>
<td>*Common Ninebark; Atlantic Ninebark; Physocarpus opulifolius</td>
<td>*side slope, bankfull</td>
<td>No seed pretreatment necessary.</td>
<td>0.5oz/acre</td>
<td>34,000</td>
<td>Streambanks, forest edges, bluffs, thickets, cliffs, gravel bars</td>
</tr>
<tr>
<td>*Wild Black Currant; Ribes americanum</td>
<td>*top shade, top sun, bankfull</td>
<td>Scarification and cold, moist stratification for a minimum of 60 days, or fall planting.</td>
<td>N/A</td>
<td>N/A</td>
<td>Swamps, meadows, fens, seeps, ravines, shaded streambanks, open floodplain woodlands</td>
</tr>
<tr>
<td>Peach-leaf Willow; Wright Willow, Almond Willow Salix amygdaloides</td>
<td>*water’s edge, bankfull</td>
<td>Sow seeds immediately after collection. Needs moist soils to germinate.</td>
<td>N/A</td>
<td>N/A</td>
<td>Streambanks, pond edges, sloughs, floodplain woodlands, swamps</td>
</tr>
<tr>
<td>*Pussy willow Salix discolor</td>
<td>*water’s edge, bankfull</td>
<td>Sow seeds immediately after collection.</td>
<td>N/A</td>
<td>*Cuttings most successful form of propagation</td>
<td>Open floodplain woodlands, marshes, swamps, riverbanks, streambanks, wet prairies, ditches</td>
</tr>
<tr>
<td>*Sandbar Willow Salix interior</td>
<td>*water’s edge, bankfull, stream edge shade</td>
<td>Sow seeds immediately after collection.</td>
<td>*Cuttings most successful form of propagation</td>
<td>N/A</td>
<td>Wet meadows, streambanks, riverbanks, lake shores, ditches, sloughs, swamps, sandbars, gravel bars, marshes</td>
</tr>
<tr>
<td>*Elderberry; American Elder</td>
<td>Sambucus nigra canadensis (formerly: Sambucus canadensis)</td>
<td>*top shade, bankful</td>
<td>Acid bath scarification for 20 minutes followed by cold, moist stratification for a minimum of 60 days.</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>----------------------------</td>
<td>--------------------------------------------------------</td>
<td>-----------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td></td>
<td>Moist conditions; shallow, rhizomatous root system; fast growth rate; <em>Sambucus nigra canadensis</em> was formerly considered a separate species: <em>Sambucus canadensis</em>, this name is still often used; propagate through cuttings or seeds (cuttings may be fastest and easiest way)</td>
<td>N/A</td>
<td>Full to partial sunlight</td>
<td>Fertile soils, slightly acidic soils</td>
<td>Bogs, ditches, wet prairies, open woodlands, thickets, wet meadows, streambanks, railroads, fields</td>
</tr>
<tr>
<td>Meadowsweet</td>
<td>Spiraea alba</td>
<td>FACW</td>
<td>Full sun</td>
<td>Moist soils</td>
<td>Wet prairies, streambanks, marsh edges, fens, bogs, ditches</td>
</tr>
<tr>
<td></td>
<td>Moist to wet conditions; woody root system; excellent pollinator</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trees (bankfull)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Boxelder</td>
<td>Acer negundo</td>
<td>*top shade, bankful</td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planting.</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>Moist conditions; shallow, fibrous root system; fast growth rate; short-lived; flood tolerant; easily grown from seed</td>
<td>FAC</td>
<td>Partial shade</td>
<td>Can survive in a variety of soil types</td>
<td>Floodplain woodlands, thickets, streambanks, ditches, roadsides, disturbed areas</td>
</tr>
<tr>
<td>*Silver Maple</td>
<td>Acer saccharinum</td>
<td>*top shade, bankful</td>
<td>Do not allow seeds to dry out. Immediate planting after seed collection is recommended.</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>Moist conditions; fibrous, shallow, spreading root system; extremely rapid growth rate; seed and cutting propagation are successful; susceptible to high winds and ice; shade intolerant</td>
<td>FACW</td>
<td>Full to partial sunlight</td>
<td>Moist, slightly acidic soils, alluvial soils</td>
<td>Floodplain woodlands, riverbanks, lake shores, swamps</td>
</tr>
<tr>
<td>River Birch; Water Birch; Red Birch, Black Birch</td>
<td>Betula nigra</td>
<td>No seed pretreatment necessary. Best results if seeds are sown while still fresh from collection.</td>
<td>N/A</td>
<td>N/A</td>
<td>Floodplain woodlands, former strip mines, streambanks, swamps, ditches, ravines</td>
</tr>
<tr>
<td>*Shell-bark Hickory; Kingnut Hickory</td>
<td>Carya laciniosa</td>
<td>*top shade, bankfull</td>
<td>Cold, moist stratification for a minimum of 90 days or fall planting</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>---------------</td>
<td>---------------------</td>
<td>---------------------------------------------------------------</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>Moist conditions; deep taproot with smaller lateral roots; self-seeding; difficult to transplant; slow growth rate; fire tolerant</td>
<td>FACW</td>
<td>Full to partial sunlight</td>
<td>Fertile moist soils; loam, silt</td>
<td>Floodplain woodlands, valleys, swamps, savannas</td>
<td></td>
</tr>
<tr>
<td>*Sycamore; American Sycamore; Eastern Sycamore, Plane tree; Buttonwood</td>
<td>Platanus occidentalis</td>
<td>*side slope, bankfull</td>
<td>No seed pretreatment necessary. Needs light to germinate, surface sow seeds.</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Moist to wet conditions; wide, spreading and woody root system; rapid growth rate; flood tolerant; cuttings form young trees and seed propagation are successful</td>
<td>FACW</td>
<td>Full sun</td>
<td>Can survive in a variety of soil types alluvial soils</td>
<td>Streambanks, lowland slopes, sloughs, floodplain woodlands, shallow swamps</td>
<td></td>
</tr>
<tr>
<td>*Swamp White Oak</td>
<td>Quercus bicolor</td>
<td>*top shade, top sun, bankfull</td>
<td>No seed pretreatment necessary. Best results if planted immediately after collection.</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Wet to moist conditions; wide, woody root system with taproot; fast growth rate; best propagation through seeds</td>
<td>FACW</td>
<td>Full sun</td>
<td>Moist acidic soils, can survive in a variety of soil types</td>
<td>Floodplain woodlands, riverbanks, streambanks, pond edges, swamp and lake edges, lowland areas</td>
<td></td>
</tr>
<tr>
<td>*Black Willow; Swamp Willow</td>
<td>Salix nigra</td>
<td>*side slope, bankfull, water’s edge, shaded stream edge, sunny and wooded trails</td>
<td>Not fully known, best results if planted immediately after collection.</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Wet to moist conditions; shallow, wide, lateral root system; most common propagation through cuttings, though seed propagation can be successful as well; fast growth rate; excellent pollinator;</td>
<td>OBL</td>
<td>Full to partial sunlight</td>
<td>Can survive in a variety of soil types</td>
<td>Floodplain woodlands, swamps, riverbanks, lake edges, ditches, sloughs, pond edges, wet disturbed areas</td>
<td></td>
</tr>
</tbody>
</table>

**Water’s Edge (Ecologically a wet disturbance habitat)**

**Forbs**

<table>
<thead>
<tr>
<th>Scarlet Toothcup; Valley redstem</th>
<th>Ammannia coccinea</th>
<th>No seed pretreatment necessary.</th>
<th>0.5oz/acre</th>
<th>1,400,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet conditions; shallow root system; self-seeding; easily grown from seed</td>
<td>OBL</td>
<td>Full sun</td>
<td>Mud</td>
<td>Mud flats, streambanks, muddy pond edges, ditches, marsh edges</td>
</tr>
<tr>
<td><strong>Swamp Milkweed; Pink Milkweed; Rose Milkweed</strong></td>
<td><em>Asclepias incarnata</em></td>
<td><em>Top sun, water’s edge, bankfull</em></td>
<td>Cold, moist stratification for a minimum of 30 days, or fall planting.</td>
<td>1.5oz/acre</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Wet to moist conditions; rhizomatous root system, can form colonies; excellent pollinator</td>
<td>OBL</td>
<td>Full sun to partial shade</td>
<td>Wet soils; clay</td>
<td>Moist meadows, floodplain woodlands, swamps, riverbanks, prairies, marshes, roadsides, riparian areas</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Nodding Beggartick; Nodding Bur-Marigold; Bur Marigold</strong></th>
<th><em>Bidens cernua</em></th>
<th><em>bankfull, water’s edge</em></th>
<th>Cold, moist stratification for a minimum of 60 days, or fall planting.</th>
<th>0.25oz/acre *pervasive, usually not necessary to seed</th>
<th>21,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet conditions; pervasive plant, usually not necessary to seed; excellent pollinator; annual</td>
<td>OBL</td>
<td>Full or partial sunlight</td>
<td>Moist soil; loam, sand, clay, muck</td>
<td>Marshes, swamps, bogs, streambanks, wet ditches, wet meadows</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>False Aster; White Doll’s Daisy; Thousand-flowered aster</strong></th>
<th><em>Boltonia asteroides</em></th>
<th><em>bankfull, water’s edge</em></th>
<th>Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds.</th>
<th>3oz/acre</th>
<th>2,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet conditions; rhizomatous root system</td>
<td>OBL</td>
<td>Full sun</td>
<td>Fertile soils; loam, clay</td>
<td>Floodplain woodlands, thickets, prairies, meadows, streambanks, ditches, marshes</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Marsh Marigold</strong></th>
<th><em>Caltha palustris</em></th>
<th><em>bankfull, water’s edge</em></th>
<th>Cold, moist stratification for a minimum of 60 days, or fall planting.</th>
<th>1oz/acre</th>
<th>26,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet conditions; fibrous root system; self-seeding</td>
<td>OBL</td>
<td>Full to partial sunlight</td>
<td>Wet soils, muck, mud</td>
<td>Swamps, open floodplain woodlands, streambanks, marshes, ditches, wet meadows</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>White Turtlehead</strong></th>
<th><em>Chelone glabra</em></th>
<th><em>bankfull, water’s edge</em></th>
<th>Fall planting is recommended. Otherwise cold, moist stratification for a minimum of 60 days is required.</th>
<th>0.5oz/acre</th>
<th>92,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet conditions; rhizomatous root system with taproot, can form colonies</td>
<td>OBL</td>
<td>Full to partial sunlight</td>
<td>Fertile moist, organic soils</td>
<td>Floodplain woodlands, prairies, meadows, marshes, seeps, streambanks, wet ditches, pond edges, fens</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Cinnamon Willow-Herb; Purpleleaf willowherb</strong></th>
<th><em>Epilobium coloratum</em></th>
<th><em>bankfull, water’s edge, stream edge shady</em></th>
<th>Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds.</th>
<th>0.125oz/acre</th>
<th>250,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet to moist conditions; fibrous root system that produces rhizomes; pioneer species</td>
<td>OBL</td>
<td>Full to partial sunlight</td>
<td>Soil that can retain moisture</td>
<td>Wet prairies, marshes, riverbanks, lake shores, swamps, bogs, disturbed areas</td>
<td></td>
</tr>
<tr>
<td>Common Boneset</td>
<td>Eupatorium perfoliatum</td>
<td>Water's edge, bankfull</td>
<td>Cold, moist stratification for a minimum of 30 days, or fall planting. Needs light to germinate, surface sow seeds.</td>
<td>0.25oz/acre</td>
<td>160,000</td>
</tr>
<tr>
<td>----------------</td>
<td>------------------------</td>
<td>-------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------</td>
<td>-------------</td>
<td>---------</td>
</tr>
<tr>
<td>Wet to moist conditions; seed propagation; fibrous, rhizomatous root system, forms colonies; excellent pollinator;</td>
<td>OBL</td>
<td>Full to partial sunlight</td>
<td>Soil that can retain moisture</td>
<td>Wetland habitats, wet prairies, bogs, marshes, seeps, riverbanks, open floodplain woodlands</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Bottle Gentian; Closed Bottle Gentian</th>
<th>Gentiana andrewsii</th>
<th>*top sun, bankfull, water's edge</th>
<th>Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds.</th>
<th>0.25oz/acre</th>
<th>280,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>*top sun, bankfull, water's edge</td>
<td>FACW</td>
<td>Full to partial sunlight</td>
<td>Fertile soil; clay, sandy loam</td>
<td>Riverbanks, open floodplain woodlands, meadows, moist prairies, swamps, thickets</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fringed Gentian; Greater fringed gentian</th>
<th>Gentianopsis crinita</th>
<th>*water’s edge, bankfull</th>
<th>Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds.</th>
<th>0.25oz/acre</th>
<th>200,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet to moist conditions; shallow taproot; self-seeding; rare; biennial</td>
<td>OBL</td>
<td>Full to partial sunlight</td>
<td>Moist soils; sandy, calcareous soils</td>
<td>Wetlands, wet prairies, sandy sloughs, fens, open floodplain woodlands, ditches, meadows, streambanks</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Rough Avens</th>
<th>Geum laciniatum</th>
<th>*bankfull, water’s edge</th>
<th>N/A</th>
<th>N/A</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moist to wet conditions; taproot with rhizomes</td>
<td>FACW</td>
<td>Partial sunlight</td>
<td>Loam, sandy loam</td>
<td>Marshes, lakeshores, savannas, thickets, moist meadows, woodland edges</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hedge Hyssop</th>
<th>Gratiola neglecta</th>
<th>N/A</th>
<th>N/A</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet to moist conditions; taproot; self-seeding; easily grown from seed</td>
<td>OBL</td>
<td>Full to partial sunlight</td>
<td>Mud, sand</td>
<td>Floodplain woodlands, wet meadows, streambanks, muddy disturbed areas</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Halberd-Leaved Rose Mallow; Scarlet Rose Mallow; Rose Mallow</th>
<th>Hibiscus laevis</th>
<th>*bankfull, water’s edge</th>
<th>Cold, moist stratification for a minimum of 60 days, or fall planting.</th>
<th>3oz/acre</th>
<th>2,800</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet conditions; central taproot; self-seeding</td>
<td>OBL</td>
<td>Full to partial sunlight</td>
<td>Fertile soil</td>
<td>Marshes, swamps, riverbanks</td>
<td></td>
</tr>
<tr>
<td>False Pimpernel</td>
<td>Lindernia dubia</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>Streambanks, shallow pools, pond edges, seeps, river sandbars, open floodplain woodlands, ditches</td>
</tr>
<tr>
<td>-----------------------</td>
<td>-----------------------</td>
<td>-------------------</td>
<td>-------------------------</td>
<td>------------------------------</td>
<td>----------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Wet to moist conditions; taproot; self-seeding</td>
<td>OBL</td>
<td>Full to partial sunlight</td>
<td>Muddy, gravelly, sandy soils</td>
<td>N/A</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>*Seedbox</th>
<th><em>Ludwigia alternifolia</em></th>
<th>Cold, moist stratification for a minimum of 60 days, or fall planting.</th>
<th>0.125oz/acre</th>
<th>1,300,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet to moist conditions; fibrous root system</td>
<td>OBL</td>
<td>Full to partial sunlight</td>
<td>Acidic soil; sandy</td>
<td>Swamps, riverbanks, wet prairies, ditches, floodplain woodlands, wetlands</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>False Loosestrife</th>
<th><em>Ludwigia polycarpa</em></th>
<th>N/A</th>
<th>N/A</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet conditions; stoloniferous root system</td>
<td>OBL</td>
<td>Full sun</td>
<td>Wet soils, sand, loam</td>
<td>Marshes, wet prairies, fens, shallow water, pond edges, streambanks, sloughs, wet meadows, open swamp woodlands</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>*Water horehound; American Bugleweed; American water horehound</th>
<th><em>Lycopus americanus</em></th>
<th><em>bankfull, water’s edge, wooded trails</em></th>
<th>Needs light to germinate, surface sow seeds. No other pretreatment necessary.</th>
<th>0.25oz/acre</th>
<th>130,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet to moist conditions; rhizomatous root system, often forms colonies</td>
<td>OBL</td>
<td>Full to partial sunlight</td>
<td>Moist soils; clay, silt, loam</td>
<td>Wetlands, shorelines, riverbanks, marshes, ditches, wet prairies, open floodplain woodlands, wet thickets</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>*Northern bugleweed</th>
<th><em>Lycopus uniflorus</em></th>
<th><em>bankfull, water’s edge, wooded trails, sunny trails</em></th>
<th>N/A</th>
<th>N/A</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet to moist conditions; tuberous roots with stolons; propagation through tubers is most successful</td>
<td>OBL</td>
<td>Full to partial sunlight</td>
<td>Sandy, loamy, mucky soil</td>
<td>Streambanks, fens, marshes, swamps, lake edges, moist meadows</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>*Field mint; Marsh mint; Wild mint</th>
<th><em>Mentha arvensis</em></th>
<th><em>top sun, bankfull, water’s edge</em></th>
<th>Needs light to germinate, surface sow seeds. No other pretreatment necessary.</th>
<th>0.25oz/acre</th>
<th>300,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moist conditions; rhizomatous root system, forms colonies; can become aggressive; excellent pollinator; very hardy and thrives in disturbed areas</td>
<td>FACW</td>
<td>Full sun to partial sunlight</td>
<td>Fertile soil</td>
<td>Lake shores, moist prairies, marshes, fens, landfills, disturbed areas, streambanks</td>
<td></td>
</tr>
<tr>
<td>Common Name</td>
<td>Scientific Name</td>
<td>Sunlight Requirement</td>
<td>Soils</td>
<td>Ideal Habitat</td>
<td></td>
</tr>
<tr>
<td>------------------------------</td>
<td>------------------------------</td>
<td>------------------------------------------</td>
<td>------------------------------------</td>
<td>-------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td><em>Monkey Flower; Allegheny Monkeyflower; Square-stemmed Monkeyflower</em></td>
<td><em>Mimulus ringens</em></td>
<td>Cold, moist stratification for a minimum of 30 days, or fall planting. Needs light to germinate, surface sow seeds.</td>
<td>0.125oz/acre</td>
<td>Open floodplain woodlands, swamps, meadows, pond edges, streambanks, wet ditches, seeps</td>
<td></td>
</tr>
<tr>
<td><em>Mousetail; Tiny mousetail</em></td>
<td><em>Myosurus minimus</em></td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td><em>Ditch Stonecrop</em></td>
<td><em>Penthorum sedoides</em></td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds.</td>
<td>1.5oz/acre</td>
<td>Marshes, wet prairies, open floodplain woodlands, swamps, streambanks, pond edges, swales, ditches</td>
<td></td>
</tr>
<tr>
<td>Fogfruit</td>
<td><em>Phyla lanceolata</em></td>
<td>Sow outdoors immediately after collection</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td><em>Obedient Plant; False dragonhead; Virginia lions-heart</em></td>
<td><em>Physostegia virginiana</em></td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planting.</td>
<td>1oz/acre</td>
<td>Prairies, open woodlands, meadows, riverbanks, swamps, thickets, limestone glades, railroads, seeps, lake shores</td>
<td></td>
</tr>
<tr>
<td><em>Pickerel weed</em></td>
<td><em>Pontederia cordata</em></td>
<td>Likely needs cold, wet stratification for a minimum of 30 days followed by spring planting. Do not let seeds dry out.</td>
<td>N/A</td>
<td>Marshes, pond edges, swamps, slow-moving streams</td>
<td></td>
</tr>
<tr>
<td>Species</td>
<td>Scientific Name</td>
<td>Suitable Conditions for Growth</td>
<td>Stratification or Germination Requirements</td>
<td>Expected Yield</td>
<td></td>
</tr>
<tr>
<td>-------------------------------</td>
<td>----------------------------------------</td>
<td>------------------------------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------</td>
<td>----------------</td>
<td></td>
</tr>
<tr>
<td>Brook cinquefoil</td>
<td><em>Potentilla rivalis</em></td>
<td>Moist to wet conditions; fibrous root system</td>
<td>Likely needs cold, moist stratification for a minimum of 60-90 days, or fall planting.</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>*Mountain mint; Virginia</td>
<td><em>Pycnanthemum virginianum</em></td>
<td>Moist to wet conditions; rhizomatous root system, forms colonies; excellent pollinator</td>
<td>No pretreatment necessary. Needs light to germinate, surface sow seeds.</td>
<td>0.125oz/acre</td>
<td>220,000</td>
</tr>
<tr>
<td>*Cursed Crowfoot; Annual</td>
<td><em>Ranunculus sceleratus</em></td>
<td>Wet to moist conditions; fibrous root system, self-seeding; annual</td>
<td>Cold, moist stratification for a minimum of 30 days, or fall planting.</td>
<td>1oz/acre</td>
<td>145,000</td>
</tr>
<tr>
<td>*Marsh Cress</td>
<td><em>Rorippa palustris</em></td>
<td>Wet to moist conditions; taproot; self-seeding; can be considered weedy</td>
<td>Not fully known, sow seeds immediately after collection.</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>*Mad-dog Skullcap</td>
<td><em>Scutellaria lateriflora</em></td>
<td>Wet to consistently moist conditions; taproot with rhizomes;</td>
<td>Cold, moist stratification for a minimum of 60 days or fall planting.</td>
<td>1oz/acre</td>
<td>65,000</td>
</tr>
<tr>
<td>*Riddell's Goldenrod</td>
<td><em>Solidago riddellii</em></td>
<td>Wet conditions; fibrous root system; excellent pollinator, an alternate scientific name is <em>Oligoneuron riddellii</em></td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds.</td>
<td>0.25oz/acre</td>
<td>93,000</td>
</tr>
<tr>
<td>Plant Name</td>
<td>Scientific Name</td>
<td>Light Requirement</td>
<td>Seed Sowing Requirements</td>
<td>Growth Conditions</td>
<td>Propagation</td>
</tr>
<tr>
<td>------------</td>
<td>-----------------</td>
<td>-------------------</td>
<td>--------------------------</td>
<td>-------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Smooth Hedgenettle; Hedge nettle</td>
<td><em>Stachys tenuifolia</em></td>
<td>*top shade, water's edge, shaded stream edge</td>
<td>N/A</td>
<td>Wet conditions; rhizomatous root system with taproot, forms colonies</td>
<td>OBL</td>
</tr>
<tr>
<td>Skunk cabbage</td>
<td><em>Symplocarpus foetidus</em></td>
<td>*bankfull, water's edge, shady stream edge</td>
<td>Seeds should not be allowed to dry out before sowing.</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Blue Vervain; Swamp Verbena</td>
<td><em>Verbena hastata</em></td>
<td>*top shade, top sun, side slope, bankfull, water's edge</td>
<td>Cold, moist stratification for a minimum of 30 days or fall planting. Needs light to germinate, surface sow seeds.</td>
<td>0.25oz/acre</td>
<td>93,000</td>
</tr>
<tr>
<td>White Vervain</td>
<td><em>Verbena urticifolia</em></td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds.</td>
<td>2oz/acre</td>
<td>Moderately dry to moist conditions; self-seeding; annual; easily grown from seed</td>
<td>FAC</td>
</tr>
<tr>
<td>Grasses, Sedges, &amp; Rushes (Water’s Edge)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sweetflag</td>
<td><em>Acorus americanus</em></td>
<td>*bankfull, water's edge</td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planting.</td>
<td>3oz/acre</td>
<td>6,600</td>
</tr>
<tr>
<td>Species</td>
<td>Habitat</td>
<td>Seed Treatment</td>
<td>Seed Rate</td>
<td>Germination Rate</td>
<td></td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>--------------------------------------</td>
<td>-----------------------------------------------------</td>
<td>---------------</td>
<td>------------------</td>
<td></td>
</tr>
<tr>
<td><em>Shortawn foxtail; Short-awn Meadow Foxtail</em></td>
<td>Cool wet conditions; fibrous root systems, often forms colonies; limited local commercial availability</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Alopecurus aequalis</td>
<td>OBL</td>
<td>Full to partial sunlight</td>
<td>Wet soil; muck</td>
<td>Wet meadows, pond edges, ditches, swamps, bog edges, prairie swales, riverbanks, disturbed areas</td>
<td></td>
</tr>
<tr>
<td><em>Bluejoint Grass</em></td>
<td>Wet to moist conditions; fibrous and rhizomatous root system, can form colonies; can become aggressive; Plugs/transplants generally more successful than seed propagation, seeds can be fragile; fire tolerant</td>
<td>OBL</td>
<td>Full to partial sunlight</td>
<td>Can survive in a variety of soil types</td>
<td>Swamps, marshes, ditches, meadows, streambanks, lake shores, wet prairies, prairie swales, bogs</td>
</tr>
<tr>
<td>Calamagrostis canadensis</td>
<td><em>transplants/plugs more successful</em></td>
<td>0.125oz/acre</td>
<td>280,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Yellow headed foxtail; Yellow Fox Sedge; Yellowfruit Sedge; Small Yellow Fox Sedge</em></td>
<td>Moist to wet conditions; fibrous and rhizomatous root system; sometimes referred to with the scientific name Carex brachyglossa</td>
<td>FACW</td>
<td>Full sun to partial shade</td>
<td>Can survive in a variety of soil types</td>
<td>Pond edges, fens, ditches, marshes, wet prairies, swamps, seeps, moist disturbed areas</td>
</tr>
<tr>
<td>Carex annectens</td>
<td><em>water’s edge, bankfull, shaded stream edge</em></td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planting.</td>
<td>0.25oz/acre</td>
<td>90,000</td>
<td></td>
</tr>
<tr>
<td><em>Wheat Sedge; Hairy-leaved Lake Sedge; Awned Sedge</em></td>
<td>Wet conditions; rhizomatous root system, forms colonies; sometimes referred to with the scientific name Carex brachyglossa</td>
<td>OBL</td>
<td>Full sun to partial shade</td>
<td>Can survive in a variety of soil types</td>
<td>Marshes, wet meadows, wet ditches, streambanks, riverbanks, swamps, open floodplain woodlands</td>
</tr>
<tr>
<td>Carex atherodes</td>
<td><em>water’s edge, shaded stream edge</em></td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planting.</td>
<td>0.5oz/acre</td>
<td>29,000</td>
<td></td>
</tr>
<tr>
<td><em>Bebb’s sedge; Bebb’s oval sedge</em></td>
<td>Wet conditions; fibrous root system</td>
<td>OBL</td>
<td>Full sun to partial shade</td>
<td>Moist soil; clay</td>
<td>Wetlands, swamps, marshes, meadows, fields, riverbanks, lake shores</td>
</tr>
<tr>
<td>Carex bebbii</td>
<td><em>bankfull, water’s edge</em></td>
<td>Cold, moist stratification for a minimum of 30 days, or fall planting.</td>
<td>0.5oz/acre</td>
<td>34,000</td>
<td></td>
</tr>
<tr>
<td><em>Bottlebrush sedge; Bearded sedge; Bristly sedge; Long-haired sedge</em></td>
<td>Wet conditions; fibrous and rhizomatous root system</td>
<td>OBL</td>
<td>Full sun to partial shade</td>
<td>Moist soil, muck, sand</td>
<td>Swamps, bogs, pond edges, ditches, meadows, seeps, marshes</td>
</tr>
<tr>
<td>Carex comosa</td>
<td><em>bankfull, water’s edge</em></td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planting.</td>
<td>0.5oz/acre</td>
<td>30,000</td>
<td></td>
</tr>
<tr>
<td>Sedge Name</td>
<td>Scientific Name</td>
<td>Habitat</td>
<td>Growth Requirements</td>
<td>Seed Rate</td>
<td>Commercial Availability</td>
</tr>
<tr>
<td>-------------------------</td>
<td>-----------------------</td>
<td>--------------------------</td>
<td>----------------------------------------------</td>
<td>-----------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td><em>Crested Sedge</em></td>
<td>Carex cristatella</td>
<td>*top sun, water’s edge</td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planting.</td>
<td>1oz/acre</td>
<td>58,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FACW</td>
<td>Full to partial sunlight</td>
<td>Loam, silt-loam</td>
<td>Wet prairies, open floodplain woodlands, swamps, wet marshes, sloughs, wet meadows, streambanks, ditches</td>
</tr>
<tr>
<td><em>Emory’s Sedge</em></td>
<td>Carex emoryi</td>
<td>*side slope, bankfull, water’s edge</td>
<td>Not fully known, but likely needs cold, moist stratification for a minimum of 60 days or fall planting.</td>
<td>Usually must transplant due to limited commercial availability.</td>
<td>N/A</td>
</tr>
<tr>
<td><em>Porcupine sedge; Bottlebrush Sedge</em></td>
<td>Carex hystericina</td>
<td>*bankfull, water’s edge, shaded stream edge</td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planting.</td>
<td>0.25oz/acre</td>
<td>Swamps, pond edges, wet prairies, marshes, ditches, seeps, meadows</td>
</tr>
<tr>
<td><em>Muskingum Sedge; Palm Sedge</em></td>
<td>Carex muskingumensis</td>
<td>*bankfull, water’s edge, shaded stream edge</td>
<td>No pretreatment necessary.</td>
<td>1oz/acre</td>
<td>Swamps, riverbanks, meadows, floodplain woodlands</td>
</tr>
<tr>
<td><em>Awl-fruited sedge; Prickly Sedge; Stalk-Grain Sedge</em></td>
<td>Carex stipata</td>
<td>*bankfull, water’s edge</td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planting.</td>
<td>0.25oz/acre</td>
<td>Wet floodplain woodlands, swamps, wet prairies, seeps, ditches, pond edges</td>
</tr>
<tr>
<td><em>Hairy-fruited sedge; Hairy-fruited lake sedge</em></td>
<td>Carex trichocarpa</td>
<td>*side slope, bankfull, water’s edge</td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planting.</td>
<td>0.5oz/acre</td>
<td>Wet prairies, wet thickets, meadows, streambanks, riverbanks, wet ditches, marshes</td>
</tr>
<tr>
<td>Name</td>
<td>Scientific Name</td>
<td>_seed type</td>
<td>Light</td>
<td>Soil Type</td>
<td>Habitat</td>
</tr>
<tr>
<td>---------------------------</td>
<td>-----------------</td>
<td>----------</td>
<td>-------</td>
<td>-------------------------------</td>
<td>----------------------------------------------</td>
</tr>
<tr>
<td>Yellow Nut Sedge</td>
<td><em>Cyperus esculentus</em></td>
<td>N/A</td>
<td>FACW</td>
<td>Full to partial sunlight</td>
<td>Fertile loam, sand, silt, mud</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Marshes, shorelines, prairie swales, meadows, ditches, disturbed areas</td>
</tr>
<tr>
<td>Rusty Flat Sedge; Fragrant flatsedge</td>
<td><em>Cyperus odoratus</em></td>
<td>N/A</td>
<td>FACW</td>
<td>Full sun</td>
<td>Moist, muddy, sandy soils</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Streambanks, marshy shores, wet clearings, mudflats, ditches</td>
</tr>
<tr>
<td>*Blunt Broom Sedge</td>
<td><em>Carex tribuloides</em></td>
<td>bankfull, water's edge</td>
<td>OBL</td>
<td>Full sun to partial shade</td>
<td>Can survive in a variety of soil types</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Marshes, fens, floodplain woodlands, swamps, moist meadows, wet prairies, seeps, ditches, bogs</td>
</tr>
<tr>
<td>Straw-colored flatsedge</td>
<td><em>Cyperus strigosus</em></td>
<td>N/A</td>
<td>FACW</td>
<td>Full sun</td>
<td>Sandy, muddy, gravelly soils</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Marshes, wet prairies, streambanks, prairie swales, seeps, meadows, pond edges, ditches</td>
</tr>
<tr>
<td>Flat-stemmed spike rush</td>
<td><em>Eleocharis compressa</em></td>
<td>N/A</td>
<td>FACW</td>
<td>Full sun</td>
<td>Can survive in a variety of soil types</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Wet prairies, meadows, pond edges, streambanks, ditches, lakeshores, wetlands</td>
</tr>
<tr>
<td>*Blunt Spikerush</td>
<td><em>Eleocharis obtusa</em></td>
<td>bankfull, water's edge</td>
<td>OBL</td>
<td>Full sun to partial shade</td>
<td>Can survive in a variety of wet soil types</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Marshes, seeps, fens, pond and lake shores, streambanks, ditches</td>
</tr>
<tr>
<td>Common Spikerush; Creeping spikerush</td>
<td>Eleocharis palustris</td>
<td>*bankfull, water’s edge</td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds.</td>
<td>1oz/acre</td>
<td>70,000</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Wet conditions; strongly rhizomatous; flood tolerant; propagation through plugs or transplants is most successful</td>
<td>OBL</td>
<td>Full sun to partial shade</td>
<td>Silty, sandy, clay soils</td>
<td>Wet meadows, springs, marshes, streambanks, lakeshores, mud flats, bogs, swamps</td>
<td></td>
</tr>
</tbody>
</table>

**Frank’s Lovegrass; Sandbar love grass**

*Eragrostis frankii*

Likely does not require any seed pretreatment. Needs light to germinate, surface sow seeds.

<table>
<thead>
<tr>
<th>N/A</th>
<th>N/A</th>
</tr>
</thead>
</table>

Moist to wet conditions; fibrous root system; limited commercial availability;

<table>
<thead>
<tr>
<th>FACW</th>
<th>Full sun</th>
<th>Moist soils, sand, mud</th>
</tr>
</thead>
</table>

Streambanks, riverbanks, ditches, sandbars, mud flats in streams

**Pony grass; Creeping love grass**

*Eragrostis hypnoides*

Do not allow seeds to dry out.

<table>
<thead>
<tr>
<th>N/A</th>
<th>N/A</th>
</tr>
</thead>
</table>

Wet to moist conditions; fibrous root system; self-seeding; can spread aggressively; easily grown from seed; limited commercial availability

<table>
<thead>
<tr>
<th>OBL</th>
<th>Full to partial sunlight</th>
<th>Can survive in a variety of soil types</th>
</tr>
</thead>
</table>

Streambanks, mudflats, sloughs, pond edges

**American manna grass; Tall manna grass, Reed meadowgrass**

*Glyceria grandis*

Needs light to germinate, surface sow seeds. No other pretreatment necessary.

<table>
<thead>
<tr>
<th>0.5oz/acre</th>
<th>70,000</th>
</tr>
</thead>
</table>

Wet conditions; fibrous, rhizomatous root system, can form colonies

<table>
<thead>
<tr>
<th>OBL</th>
<th>Full sun</th>
<th>Wet soil</th>
</tr>
</thead>
</table>

Marshes, ditches, lakeshores, riverbanks, streambanks

**Fowl Manna Grass**

*Glyceria striata*

*top shade, bankfull, water’s edge, shady stream* No seed pretreatment necessary. Needs light to germinate, surface sow seeds.

<table>
<thead>
<tr>
<th>0.5oz/acre</th>
<th>90,000</th>
</tr>
</thead>
</table>

Wet to moist conditions; fibrous root system; self-seeding; can tolerate more sun exposure in wetter conditions

<table>
<thead>
<tr>
<th>OBL</th>
<th>Partial sunlight to shade</th>
<th>Fertile soil, loam</th>
</tr>
</thead>
</table>

Swamps, marshes, streambanks, pond edges, bogs, seeps, ditches

**Dudley’s Rush**

*Juncus dudleyi*

*top sun, side slope, bankfull, water’s edge, sunny trails* Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds.

<table>
<thead>
<tr>
<th>0.125oz/acre</th>
<th>3,200,000</th>
</tr>
</thead>
</table>

Moist to wet conditions; fibrous and rhizomatous root system; can spread aggressively

<table>
<thead>
<tr>
<th>FACW</th>
<th>Full sun</th>
<th>Loam, clay loam, gravel</th>
</tr>
</thead>
</table>

Streambanks, wet meadows, pond edges, moist prairies, swales, ditches, fens
<table>
<thead>
<tr>
<th>Common Rush; Lamp Rush; Soft Rush</th>
<th>Juncus effusus</th>
<th>Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds.</th>
<th>0.125oz/acre</th>
<th>1,000,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet conditions; deep fibrous and rhizomatous root systems, forms colonies; great for erosion control; self-seeding</td>
<td>OBL</td>
<td>Full sun</td>
<td>Mucky, sandy, gravelly, silty soil</td>
<td>Marshes, ditches, swamps, seeps, sloughs, pond edges, riverbanks</td>
</tr>
</tbody>
</table>

*Torrey's Rush

<table>
<thead>
<tr>
<th>Juncus torreyi</th>
<th>*side slope, bankfull, water's edge</th>
<th>Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds.</th>
<th>0.125oz/acre</th>
<th>1,600,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moist to fairly wet conditions; fibrous and rhizomatous root system; can spread aggressively in ideal conditions</td>
<td>FACW</td>
<td>Full sun</td>
<td>Acidic soils; mucky, sandy, clay soils</td>
<td>Prairies, pond edges, streambanks, ditches, swamps, meadows, marshes</td>
</tr>
</tbody>
</table>

*Rice Cut Grass; Cut Grass

<table>
<thead>
<tr>
<th>Leersia oryzoides</th>
<th>*water's edge, shaded stream edge</th>
<th>Best if sown in the fall, otherwise requires cold, moist stratification for a minimum of 90 days</th>
<th>0.25oz/acre</th>
<th>34,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet to moist conditions; leaves have sharp edges that can cut skin and should not be planted in public use areas; fibrous and rhizomatous root system, forms dense colonies</td>
<td>OBL</td>
<td>Full to partial sunlight</td>
<td>Wet fertile soil, muck, acidic soil</td>
<td>Swamps, marshes, riverbanks, pond edges, ditches, disturbed wetland areas, streambanks</td>
</tr>
</tbody>
</table>

*White Grass

<table>
<thead>
<tr>
<th>Leersia virginica</th>
<th>*top shade, bankfull, water's edge, shaded stream edge</th>
<th>No seed pretreatment necessary</th>
<th>N/A</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moist conditions; fibrous and rhizomatous root system; limited local commercial availability</td>
<td>FACW</td>
<td>Partial shade</td>
<td>Fertile soil, loam</td>
<td>Swamps, floodplain woodlands, shady pond edges, streambanks, marshes, moist wooded areas, shaded slopes, disturbed areas</td>
</tr>
</tbody>
</table>

River Bulrush; River Club-Rush

<table>
<thead>
<tr>
<th>Schoenoplectus fluviatilis (Scirpus fluviatilis)</th>
<th>Best if sown in the fall, otherwise requires cold, moist stratification for a minimum of 90 days. Need light to germinate, surface sow seeds.</th>
<th>1oz/acre</th>
<th>4,300</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet conditions; a synonymous scientific name is Scirpus fluviatilis which is used by many nurseries; rhizomatous root system, forms dense colonies; can become aggressive</td>
<td>OBL</td>
<td>Full sun</td>
<td>Wet soils, clay, loam, sand</td>
</tr>
</tbody>
</table>

*Slender Bulrush

<table>
<thead>
<tr>
<th>Schoenoplectus heterochaetus (Scirpus heterochaetus)</th>
<th>*bankfull, water's edge</th>
<th>N/A</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet to moist conditions; rhizomatous; a scientific synonymous name is Scirpus heterochaetus; limited commercial availability</td>
<td>OBL</td>
<td>Full to partial sunlight</td>
<td>Wet soils</td>
</tr>
</tbody>
</table>
### Water Plants

<table>
<thead>
<tr>
<th><strong>Dark Green Bulrush; Green Bulrush</strong></th>
<th><em>Scirpus atrovirens</em></th>
<th><em>bankfull, water’s edge</em></th>
<th>Best if sown in the fall, otherwise requires cold, moist stratification for a minimum of 60 days. Need light to germinate, surface sow seeds.</th>
<th>0.5oz/acre</th>
<th>460,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet conditions; fibrous and rhizomatous root system, forms colonies; great for erosion control; self-seeding</td>
<td>OBL</td>
<td>Full to partial sunlight</td>
<td>Can survive in a variety of soil types</td>
<td>Wet prairies, open floodplain woodlands, wet meadows, riverbanks, ditches, swamps, seeps, marshes, pond edges, streambanks, bogs</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Wool grass</strong></th>
<th><em>Scirpus cyperinus</em></th>
<th><em>bankfull, water’s edge</em></th>
<th>Best if sown in the fall, otherwise requires cold, moist stratification for a minimum of 60 days. Needs light to germinate, surface sow seeds.</th>
<th>0.125oz/acre</th>
<th>1,700,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet conditions; fibrous and rhizomatous root system, often forms colonies; best results may be through transplant; great for erosion control; can become aggressive in ideal conditions</td>
<td>OBL</td>
<td>Full to partial sunlight</td>
<td>Sandy, muddy, gravelly, peaty soils</td>
<td>Wet meadows, swamps, marshes, sloughs, ditches, seeps, prairie swales, disturbed sites</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Whitetop grass; Common river grass</strong></th>
<th><em>Scolochloa festucacea</em></th>
<th><em>bankfull, water’s edge</em></th>
<th>No seed pretreatment necessary.</th>
<th>2oz/acre</th>
<th>19,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet conditions; rhizomatous root system</td>
<td>OBL</td>
<td>Full sun</td>
<td>Wet soils, clay</td>
<td>Sedge meadows, marshes, lakeshores, mudflats along streams, streambanks, prairie potholes</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Prairie Cordgrass; Freshwater Cordgrass; Sloughgrass</strong></th>
<th><em>Spartina pectinata</em></th>
<th><em>side slope, bankfull, water’s edge</em></th>
<th>No seed pretreatment necessary</th>
<th>*Transplants/plugs most successful</th>
<th>6,600</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moist to wet conditions; great for erosion control; can help reduce high energy of flowing waters; fibrous and rhizomatous, often forms colonies; can become aggressive; propagation through plugs or dividing the rhizomes is most successful</td>
<td>FACW</td>
<td>Full to partial sunlight</td>
<td>Fertile soil; loamy, sandy</td>
<td>Marshes, swamps, sloughs, pond edges, riverbanks, moist roadides and railroads, prairies</td>
<td></td>
</tr>
</tbody>
</table>

### Shrubs & Vines (Water’s Edge)

<table>
<thead>
<tr>
<th><strong>Speckled alder; Grey Alder; Thin-leafed Alder</strong></th>
<th><em>Alnus incana</em></th>
<th><em>side slope, bankfull, water’s edge</em></th>
<th>Cold, moist stratification for a minimum of 90 days, or fall planting.</th>
<th>0.25oz/acre</th>
<th>33,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moist to wet conditions; flood tolerant; fast growth rate; shallow, rhizomatous, wide root system; seed propagation over cuttings is recommended</td>
<td>FACW</td>
<td>Full to partial sunlight</td>
<td>Can survive in a variety of soil types</td>
<td>Wetlands, swamps, streambanks, floodplain woodlands, lakeshores, roadsides, bogs</td>
<td></td>
</tr>
<tr>
<td>Species</td>
<td>Common Name</td>
<td>Preferences</td>
<td>Propagation</td>
<td>Notes</td>
<td></td>
</tr>
<tr>
<td>-------------------------------</td>
<td>------------------------------------</td>
<td>-------------</td>
<td>-----------------------</td>
<td>----------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Common Buttonbush Cephalanthus occidentalis</td>
<td>Common Buttonbush</td>
<td>Wet to moist conditions; branching and woody root system; seed or cutting propagation are successful; excellent pollinator; readily establishes from cuttings in the spring before leaves form</td>
<td>OBL</td>
<td>Full to partial sunlight</td>
<td>Fertile soil; humusy soil</td>
</tr>
<tr>
<td>Red-osier Dogwood Cornus stolonifera (Cornus sericea)</td>
<td>Red-osier Dogwood</td>
<td>Moist to slightly wet conditions; wide, shallow and woody root system with underground runners; great for erosion control; propagation by seeds or cuttings; may also be referred to as <em>Cornus sericea</em></td>
<td>FACW</td>
<td>Full to partial sunlight</td>
<td>Can survive in a variety of moist soil types; sandy soils</td>
</tr>
<tr>
<td>Swamp Dogwood; Silky Dogwood; Pale Dogwood Cornus obliqua</td>
<td>Swamp Dogwood; Silky Dogwood; Pale Dogwood</td>
<td>Moist to wet conditions; wide, shallow, woody roots; propagation by seeds or cuttings; excellent pollinator</td>
<td>FACW</td>
<td>Full sun to partial shade</td>
<td>Moist soils; sandy</td>
</tr>
<tr>
<td>Peach-leaf Willow; Wright Willow, Almond Willow Salix amygdaloides</td>
<td>Peach-leaf Willow; Wright Willow, Almond Willow</td>
<td>Moist to wet conditions; woody, shallow root system; self-seeding; fast growth rate; seed and cutting propagation (cuttings may be more successful); excellent pollinator</td>
<td>FACW</td>
<td>Full to partial sunlight</td>
<td>Clay loam, loam, sandy, silt soils</td>
</tr>
<tr>
<td>Pussy willow Salix discolor</td>
<td>Pussy willow</td>
<td>Moist to wet conditions; woody, shallow and extensive root system; fast growth rate; cuttings most successful form of propagation; excellent pollinator; shade intolerant</td>
<td>FACW</td>
<td>Full sun</td>
<td>Moist soils, sandy, alluvial soils</td>
</tr>
<tr>
<td>Sandbar Willow Salix interior</td>
<td>Sandbar Willow</td>
<td>Moist to wet conditions; woody root system with long runners; can spread aggressively through underground runners; propagate through cuttings; excellent pollinator</td>
<td>FACW</td>
<td>Full to partial sunlight</td>
<td>Sandy, gravelly soils, alluvial soils</td>
</tr>
</tbody>
</table>
### Trees (Water’s Edge)

<table>
<thead>
<tr>
<th><strong>Black Willow; Swamp Willow</strong></th>
<th><em>Salix nigra</em></th>
<th><em>side slope, bankfull, water’s edge, shaded stream edge, sunny and wooded trails</em></th>
<th>Not fully known, best results if planted immediately after collection.</th>
<th>N/A</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet to moist conditions; shallow, wide, lateral root system; most common propagation through cuttings, though seed propagation can be successful as well; fast growth rate; excellent pollinator;</td>
<td>OBL</td>
<td>Full to partial sunlight</td>
<td>Can survive in a variety of soil types</td>
<td>Floodplain woodlands, swamps, riverbanks, lake edges, ditches, sloughs, pond edges, wet disturbed areas</td>
<td></td>
</tr>
</tbody>
</table>

### Stream-edge planting menu for heavy shade canopy in 1-2 year flood zone (Bankfull and Water’s Edge Zones)

#### Forbs

<table>
<thead>
<tr>
<th><strong>False nettle</strong></th>
<th><em>Boehmeria cylindrica</em></th>
<th><em>bankfull, shaded stream edge, wooded trails</em></th>
<th>No seed pretreatment necessary</th>
<th>1oz/acre</th>
<th>208,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moist conditions; dioecious</td>
<td>OBL</td>
<td>Partial sunlight</td>
<td>Fertile, loamy soil</td>
<td>Floodplain woodlands, streambanks, riverbanks, swamps, marshes, fens</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Cinnamon Willow-Herb; Purpleleaf willowherb</strong></th>
<th><em>Epilobium coloratum</em></th>
<th><em>bankfull, water’s edge, stream edge shady</em></th>
<th>Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds.</th>
<th>0.125oz/acre</th>
<th>250,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet to moist conditions; fibrous root system that produces rhizomes; pioneer species</td>
<td>OBL</td>
<td>Full to partial sunlight</td>
<td>Soil that can retain moisture</td>
<td>Wet prairies, marshes, riverbanks, lake shores, swamps, bogs, disturbed areas</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Spotted touch-me-not; Orange jewelweed</strong></th>
<th><em>Impatiens capensis</em></th>
<th><em>top shade, shady stream edge, wooded trail, bankfull</em></th>
<th>Sow seeds immediately after collection.</th>
<th>0.25oz/acre</th>
<th>4,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet to moist conditions; annual; taproot; self-seeding; readily germinates from seed; excellent pollinator; shade tolerant; can become aggressive</td>
<td>FACW</td>
<td>Full to partial shade</td>
<td>Moist, fertile, clay, loam, sand</td>
<td>Shady bogs, floodplain woodlands, swamps, shady streambanks, wet ditches, seeps</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Pale touch-me-not; Yellow jewelweed</strong></th>
<th><em>Impatiens pallida</em></th>
<th><em>top shade, shady stream edge, wooded trail, bankfull</em></th>
<th>Sow seeds immediately after collection.</th>
<th>1oz/acre</th>
<th>1,600</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet to moist conditions; taproot; annual; readily germinates from seeds; excellent pollinator; can become aggressive</td>
<td>FACW</td>
<td>Partial shade</td>
<td>Moist soils; loamy, mucky</td>
<td>Swamps, open floodplain woodlands, muddy streambanks, woody edges of marshes</td>
<td></td>
</tr>
<tr>
<td><em>Cardinal Flower</em></td>
<td><em>Lobelia cardinalis</em></td>
<td><em>bankfull, shaded stream edge</em></td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds.</td>
<td><em>Transplants/plugs most successful</em></td>
<td>400,000</td>
</tr>
<tr>
<td>-------------------</td>
<td>---------------------</td>
<td>-------------------------------</td>
<td>-----------------------------------------------------------------</td>
<td>-----------------------------------</td>
<td>--------</td>
</tr>
<tr>
<td>Wet to moist conditions; propagation through transplants or plugs are usually most successful; longevity sometimes limited; central taproot</td>
<td>OBL</td>
<td>Full sun to light shade</td>
<td>Sandy, loamy, gravelly, clay soils</td>
<td>Wet prairies, marsh edges, open floodplain woodlands, ditches, wet meadows, streambanks, swamps</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><em>Great Blue Lobelia; Blue Cardinal Flower</em></th>
<th><em>Lobelia siphilitica</em></th>
<th><em>top shade, bankfull, shaded stream edge, wooded trail</em></th>
<th>Cold, moist stratification for a minimum of 60 days or fall planting. Needs light to germinate, surface sow seeds.</th>
<th>0.125oz/acre</th>
<th>500,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet to moist conditions; can be established without stratification; central taproot</td>
<td>OBL</td>
<td>Full sun to partial sunlight</td>
<td>Fertile soil; loam, sandy loam, clay</td>
<td>Wet prairies, open floodplain woodlands, wet meadows, riverbanks, ditches, swamps</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><em>Monkey Flower; Allegheny Monkeyflower; Square-stemmed Monkeyflower</em></th>
<th><em>Mimulus ringens</em></th>
<th><em>bankfull, water’s edge, shaded stream edge</em></th>
<th>Cold, moist stratification for a minimum of 30 days, or fall planting. Needs light to germinate, surface sow seeds.</th>
<th>0.125oz/acre</th>
<th>2,300,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet conditions; rhizomatous root system; self-seeding</td>
<td>OBL</td>
<td>Partial sun</td>
<td>Moist, fertile soils; loam, sand, clay</td>
<td>Open floodplain woodlands, swamps, meadows, pond edges, streambanks, wet ditches, seeps</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><em>Pickerel weed</em></th>
<th><em>Pontederia cordata</em></th>
<th><em>water’s edge, heavy shade</em></th>
<th>Likely needs cold, wet stratification for a minimum of 30 days followed by spring planting. Do not let seeds dry out.</th>
<th>N/A</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet conditions; fibrous and rhizomatous root system; propagation through seeds or rhizomes is most successful</td>
<td>OBL</td>
<td>Full to partial sunlight</td>
<td>Wet soils, muck, mud</td>
<td>Marshes, pond edges, swamps, slow-moving streams</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><em>Tall coneflower; Greenhead coneflower; Cutleaf coneflower</em></th>
<th><em>Rudbeckia laciniata</em></th>
<th><em>shady stream edge, bankfull, top shade, side slope</em></th>
<th>Cold, moist stratification for a minimum of 30 days or fall planting. Needs light to germinate, surface sow seeds.</th>
<th>1.5oz/acre</th>
<th>14,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moist to wet conditions; easily grown from seed; rapid growth rate through rhizomes; flood tolerant; excellent pollinator; can be considered weedy</td>
<td>FACW</td>
<td>Full to partial sunlight, shade</td>
<td>Moist soil; loam</td>
<td>Floodplain woodlands, shady riverbanks, moist meadows, sloughs, lowland thickets and fields</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><em>Mad-dog Skullcap</em></th>
<th><em>Scutellaria lateriflora</em></th>
<th><em>bankfull, water’s edge, shaded stream edge</em></th>
<th>Cold, moist stratification for a minimum of 60 days or fall planting.</th>
<th>1oz/acre</th>
<th>65,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet to consistently moist conditions; taproot with rhizomes;</td>
<td>OBL</td>
<td>Full sun to partial shade</td>
<td>Can survive in a variety of soils if there is consistent moisture available</td>
<td>Marshes, moist meadows, swamps, open floodplain woodlands, wet thickets, seeps, bogs</td>
<td></td>
</tr>
<tr>
<td><strong>Smooth Hedgenettle; Hedge nettle</strong></td>
<td><em>Stachys tenuifolia</em></td>
<td><em>top shade, water’s edge, shaded stream edge</em></td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Wet conditions; rhizomatous root system with taproot, forms colonies</td>
<td>OBL</td>
<td>Partial sun</td>
<td>Wet soil; clay, loam, sand</td>
<td>Floodplain woodlands, streambanks, thickets, swamps, seeps, ditches, meadows, wet fields, marshes, moist prairies</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Skunk cabbage</strong></th>
<th><em>Symlocarpus foetidus</em></th>
<th><em>bankfull, water’s edge, shady stream edge</em></th>
<th>Seeds should not be allowed to dry out before sowing.</th>
<th>N/A</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet conditions; self-seeding; limited commercial availability</td>
<td>OBL</td>
<td>Partial sun to shade</td>
<td>Wet, rich soil, muck</td>
<td>Marshes, streambanks, riverbanks, pond edges, muddy wet areas, wet woodlands, seeps, swamps</td>
<td></td>
</tr>
</tbody>
</table>

**Grasses, Sedges, & Rushes (Shaded stream edge)**

<table>
<thead>
<tr>
<th><strong>Yellow headed fox sedge; Yellow Fox Sedge; Yellowfruit Sedge; Small Yellow Fox Sedge</strong></th>
<th><em>Carex annectens</em></th>
<th><em>water’s edge, bankfull, shaded stream edge</em></th>
<th>Cold, moist stratification for a minimum of 60 days, or fall planting.</th>
<th>0.25oz/acre</th>
<th>90,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moist to wet conditions; fibrous and rhizomatous root system; sometimes referred to with the scientific name <em>Carex brachyglossa</em></td>
<td>FACW</td>
<td>Full sun to partial shade</td>
<td>Can survive in a variety of soil types</td>
<td>Pond edges, fens, ditches, marshes, wet prairies, swamps, seeps, moist disturbed areas</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Wheat Sedge; Hairy-leaved Lake Sedge; Awned Sedge</strong></th>
<th><em>Carex atherodes</em></th>
<th><em>water’s edge, shaded stream edge</em></th>
<th>Cold, moist stratification for a minimum of 60 days, or fall planting.</th>
<th>0.5oz/acre</th>
<th>29,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet conditions; rhizomatous root system, forms colonies</td>
<td>OBL</td>
<td>Full sun to partial shade</td>
<td>Moist soil; clay</td>
<td>Marshes, wet meadows, wet ditches, streambanks, riverbanks, swamps, open floodplain woodlands</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Gray’s sedge; Bur sedge</strong></th>
<th><em>Carex grayi</em></th>
<th><em>stream edge shade, top shade, side slope, woodland trails, bankfull</em></th>
<th>Fall planting is recommended.</th>
<th>2oz/acre</th>
<th>1,200</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet to moist conditions; tolerant to seasonal flooding; full sun tolerable in wet conditions; fibrous and rhizomatous root system</td>
<td>FACW</td>
<td>Partial shade</td>
<td>Fertile soil; loam, sand, silt</td>
<td>Moist, deciduous woodlands, sandy swamps, shady streambanks, marshes</td>
<td></td>
</tr>
<tr>
<td>Species</td>
<td>Carex species</td>
<td>Planting Conditions</td>
<td>Soil Conditions</td>
<td>Planting Density</td>
<td>Seed Rate</td>
</tr>
<tr>
<td>----------------------------------------------</td>
<td>-------------------</td>
<td>----------------------------------------------</td>
<td>----------------------------------</td>
<td>------------------</td>
<td>------------</td>
</tr>
<tr>
<td><em>Muskingum Sedge</em></td>
<td>Carex muskingumensis</td>
<td><em>Bankfull, water’s edge, shaded stream edge</em></td>
<td>No pretreatment necessary.</td>
<td>1oz/acre</td>
<td>7,500</td>
</tr>
<tr>
<td>Wet to moist conditions; fibrous and rhizomatous root system</td>
<td>OBL</td>
<td>Full sun to partial shade</td>
<td>Fertile soils; loam</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Porcupine Sedge; Bottlebrush Sedge</em></td>
<td>Carex hystericina</td>
<td>*Bankfull, water’s edge, shaded stream edge *</td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planting.</td>
<td>0.25oz/acre</td>
<td>30,000</td>
</tr>
<tr>
<td>Wet to moist conditions; fibrous and rhizomatous root system; part of “bottlebrush” sedge group</td>
<td>OBL</td>
<td>Full sun to partial shade</td>
<td>Wet calcareous soil; loam, sand</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Greater Straw Sedge; Spreading Oval Sedge</em></td>
<td>Carex normalis</td>
<td>*Top shade, side slope, bankfull, shaded stream edge</td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planting.</td>
<td>0.25oz/acre</td>
<td>25,000</td>
</tr>
<tr>
<td>Moist to wet conditions; fibrous and rhizomatous root system; self-seeding</td>
<td>FACW</td>
<td>Full sun to partial shade</td>
<td>Fertile soils</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Riverbank Wild Rye</em></td>
<td>Elymus riparius</td>
<td>*Side slope, top shade, bankfull, shaded stream edge</td>
<td>No seed pretreatment necessary</td>
<td>0.5lb/acre</td>
<td>2,900</td>
</tr>
<tr>
<td>Moist to wet conditions; low drought tolerance; high fire tolerance; self-seeding; great for erosion control; rhizomatous root system</td>
<td>FACW</td>
<td>Partial shade to shade</td>
<td>Loam, sand, clay</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Virginia Wild Rye</em></td>
<td>Elymus virginicus</td>
<td>*Top shade, top sun, shaded stream edge, sunny trails, wooded trails</td>
<td>No seed pretreatment necessary</td>
<td>1lb/acre</td>
<td>4,200</td>
</tr>
<tr>
<td>Moist conditions; fibrous root system; great cover crop for erosion control; easily grown from seed; tends to give way to other species over five years</td>
<td>FACW</td>
<td>Full sun to shade</td>
<td>Fertile soil; loam, clay loam, sandy, can survive in a variety of soil types</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Fowl Manna Grass</em></td>
<td>Glyceria striata</td>
<td><em>Water’s edge, shady stream</em></td>
<td>No seed pretreatment necessary. Needs light to germinate, surface sow seeds.</td>
<td>0.5oz/acre</td>
<td>90,000</td>
</tr>
<tr>
<td>Wet to moist conditions; fibrous root system; self-seeding; can tolerate more sun exposure in wetter conditions</td>
<td>OBL</td>
<td>Partial sunlight to shade</td>
<td>Fertile soil, loam</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Rice Cut Grass; Cut Grass

- **Name**: Leersia oryzoides
- **Water's edge, shaded stream edge**
- **Best if sown in the fall, otherwise requires cold, moist stratification for a minimum of 90 days**
- **Rate**: 0.25oz/acre
- **Uniformity**: 34,000

- **Wet to moist conditions; leaves have sharp edges that can cut skin and should not be planted in public use areas; fibrous and rhizomatous root system, forms dense colonies**
- **Light Requirement**: OBL
- **Soil**: Full to partial sunlight, Wet fertile soil, muck, acidic soil
- **Uses**: Swamps, marshes, riverbanks, pond edges, ditches, disturbed wetland areas, streambanks

**Notes**
- *Cold, moist stratification for a minimum of 90 days, or fall planting.*

### White Grass

- **Name**: Leersia virginica
- **Bankfull, water's edge, shaded stream edge, side slope**
- **No seed pretreatment necessary**
- **Rate**: N/A
- **Uniformity**: N/A

- **Moist conditions; fibrous and rhizomatous root system; limited local commercial availability**
- **Light Requirement**: FACW
- **Soil**: Partial shade, Fertile soil, loam
- **Uses**: Swamps, floodplain woodlands, shady pond edges, streambanks, marshes, moist wooded areas, shaded slopes, disturbed areas

**Notes**
- *Not fully known, best propagation may be through plugs or cuttings. Seeds may need both a warm followed by a cold stratification period of 60-90 days.*

### Shrubs & Vines (Shaded stream edge)

#### Swamp Dogwood; Silky Dogwood; Pale Dogwood; Cornus obliqua

- **Bankfull, water's edge, stream edge shade**
- **Cold, moist stratification for a minimum of 60 days, or fall planting.**
- **Rate**: N/A
- **Uniformity**: N/A

- **Moist to wet conditions; wide, shallow, woody roots; propagation by seeds or cuttings; excellent pollinator**
- **Light Requirement**: FACW
- **Soil**: Full sun to partial shade, Moist soils; sandy
- **Uses**: Floodplain woodlands, wet meadows, wet prairies, streambanks, pond edges, swamp edges, fens

**Notes**
- *Cuttings most successful form of propagation*

#### Wahoo; Eastern Wahoo; Burningbush Euonymus atropurpureus

- **Stream edge shade, top shade, side shade**
- **Not fully known, best propagation may be through plugs or cuttings. Seeds may need both a warm followed by a cold stratification period of 60-90 days.**
- **Rate**: N/A
- **Uniformity**: N/A

- **Moist conditions; taproot; self-seeding; best propagation may be through plugs or cuttings**
- **Light Requirement**: FAC
- **Soil**: Partial shade, Fertile soil; loam, can survive in a variety of soil types
- **Uses**: Floodplain woodlands, streambanks, moist meadows, woodland edges

**Notes**
- *Cuttings most successful form of propagation*

#### Sandbar Willow Salix interior

- **Water's edge, bankfull, stream edge shade**
- **Sow seeds immediately after collection.**
- **Rate**: N/A
- **Uniformity**: N/A

- **Moist to wet conditions; woody root system with long runners; can spread aggressively through underground runners; propagate through cuttings; excellent pollinator**
- **Light Requirement**: FACW
- **Soil**: Full to partial sunlight, Sandy, gravelly soils, alluvial soils
- **Uses**: Wet meadows, streambanks, riverbanks, lake shores, ditches, sloughs, swamps, sandbars, gravel bars, marshes
### Trees (Shaded stream edge)

<table>
<thead>
<tr>
<th>Species</th>
<th>Site Conditions</th>
<th>Propagation</th>
<th>Sunlight</th>
<th>Growth Rate</th>
<th>Pollinator</th>
<th>Disturbance Tolerant Areas</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Black Willow; Swamp Willow</strong></td>
<td>Wet to moist conditions; shallow, wide, lateral root system; most common propagation through cuttings, though seed propagation can be successful as well; fast growth rate; excellent pollinator; Not fully known, best results if planted immediately after collection.</td>
<td>OBL</td>
<td>Full to partial sunlight</td>
<td>Fast growth</td>
<td>Excellent</td>
<td>Floodplain woodlands, swamps, riverbanks, lake edges, ditches, sloughs, pond edges, wet disturbed areas</td>
</tr>
</tbody>
</table>

### Along trail edges (Sunny Uplands)

#### Forbs

<table>
<thead>
<tr>
<th>Species</th>
<th>Site Conditions</th>
<th>Propagation</th>
<th>Sunlight</th>
<th>Growth Rate</th>
<th>Pollinator</th>
<th>Disturbance Tolerant Areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prairie sage; white sagebrush</td>
<td>Dry to slightly moist conditions; the scientific name <em>Artemisia ludoviciana</em> is used by many nurseries; rhizomatous root system, forms dense colonies; can become aggressive</td>
<td>UPL</td>
<td>Full sun</td>
<td>Fast growth</td>
<td>Excellent</td>
<td>Prairies, roadsides, pastures, open woodlands</td>
</tr>
<tr>
<td><em>Common Milkweed; Silkwheat</em></td>
<td>Slightly dry to somewhat moist conditions; rhizomatous root system; seed and rhizome cutting propagation; can spread aggressively; excellent pollinator; can be considered weedy; drought tolerant</td>
<td>FACU</td>
<td>Full sun</td>
<td>Fast growth</td>
<td>Excellent</td>
<td>Prairies, riverbanks, streambanks, forest edges, roadsides, thickets, railroads, open woodlands, disturbed areas</td>
</tr>
<tr>
<td>Cream Gentian</td>
<td>Slightly dry to somewhat moist conditions; long taproot; a synonymous scientific name is <em>Gentiana flavida</em>; excellent pollinator; propagation through transplants is most successful</td>
<td>FACU</td>
<td>Full sun to partial shade</td>
<td>Fast growth</td>
<td>Excellent</td>
<td>Prairies, oak savannas, rocky bluffs, woodland edges, limestone glades, rocky or wooded slopes</td>
</tr>
<tr>
<td>Ox-eye</td>
<td>Moist to moderately moist conditions; fibrous root system; easily grown from seed; excellent pollinator</td>
<td>FACU</td>
<td>Full to partial sunlight</td>
<td>Fast growth</td>
<td>Excellent</td>
<td>Prairies, open woodlands, thickets, limestone glades, savannas, streambanks, prairie remnants, woodland edges</td>
</tr>
</tbody>
</table>

*Note: OBL = semi-shade, side slope, shaded stream edge, sunny and wooded trails; N/A = Not applicable*
<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific Name</th>
<th>Ecological Requirements</th>
<th>Propagation Details</th>
<th>Seed Rate</th>
<th>Germination Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northern bugleweed</td>
<td>Lycopus uniflorus</td>
<td>Wet to moist conditions; tuberous roots with stolons; propagation through tubers is most successful</td>
<td>OBL, Full to partial sunlight; Sandy, loamy, mucky soil</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Wild Bergamot; Beebalm</td>
<td>Monarda fistulosa</td>
<td>Moist, well-drained to partially dry conditions; rhizomatous with deep roots; excellent pollinator; easily grown from seed; can become aggressive; very hardy and thrives in disturbed areas; drought tolerant</td>
<td>FACU, Full to partial sunlight; Can survive in a variety of soil types</td>
<td>0.25oz/acre</td>
<td>70,000</td>
</tr>
<tr>
<td>Mouseetail; Tiny mousetail</td>
<td>Myosurus minimus</td>
<td>Moist to slightly dry conditions; fibrous root system; self-seeding; found in exposed soil with little vegetation</td>
<td>FACW, Full to partial sunlight; Loam, sandy loam, gravelly loam, clay loam</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Norwegian cinquefoil</td>
<td>Potentilla norvegica</td>
<td>Moist to slightly dry conditions; taproot; self-seeding; excellent pollinator; easily grown from seed; drought tolerant</td>
<td>FAC, Full to partial sunlight; Loamy soils</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Yellow coneflower; Gray-head coneflower; Pinnate prairie coneflower</td>
<td>Ratibida pinnata</td>
<td>Moist to slightly dry conditions, easily grown from seed; drought tolerant; rhizomatous, often forms colonies; excellent pollinator</td>
<td>Cold, moist stratification for a minimum of 30 days or fall planting.</td>
<td>1oz/acre</td>
<td>30,000</td>
</tr>
<tr>
<td>Black-eyed Susan</td>
<td>Rudbeckia hirta</td>
<td>Opportunistic species, does well in disturbed areas; fast maturation; slightly moist to dry conditions; can tolerate above-average rainfall in well-drained conditions; central taproot; biennial</td>
<td>FACU, Full to partial sunlight; Fertile soil; clay loam, sandy loam</td>
<td>0.5oz/acre</td>
<td>92,000</td>
</tr>
<tr>
<td>Species</td>
<td>Conditions</td>
<td>Pretreatment Required</td>
<td>Seed Rate (oz/acre)</td>
<td>Planting Time</td>
<td>Notes</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>-----------------------------------</td>
<td>-----------------------</td>
<td>---------------------</td>
<td>---------------</td>
<td>--------------------------------------------</td>
</tr>
<tr>
<td>Sweet coneflower; Sweet black-eyed susan&lt;br&gt; <em>Rudbeckia subtomentosa</em></td>
<td>Moist, well-drained conditions; germinates readily; moderately drought tolerant; rhizomatous&lt;br&gt; <em>side slope, top sun, sunny trail</em></td>
<td>FACU</td>
<td>Full sun to partial sunlight</td>
<td>Loam, sandy loam, clay</td>
<td>Cold, moist stratification for a minimum of 30 days, or fall planting. Moist prairies, open woods, savannas, thickets, riverbanks, streambanks, roadsides, ditch slopes, disturbed areas</td>
</tr>
<tr>
<td>Giant Goldenrod; Tall Goldenrod; Early Goldenrod&lt;br&gt; <em>Solidago gigantea</em></td>
<td>Moist to wet conditions; fibrous and rhizomatous root system; excellent pollinator; can become aggressive</td>
<td>FACW</td>
<td>Full sun to light shade</td>
<td>Moist soils; loam, clay loam, sand-loam</td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds. Floodplain woodlands, riverbanks, pond edges, wet prairies, fens, ditches</td>
</tr>
<tr>
<td>Heath aster&lt;br&gt; <em>Symphyotrichum ericoides (Aster ericoides)</em></td>
<td>Normal to dry conditions; rhizomatous root system; excellent pollinator; a synonymous scientific name is Aster ericoides, often used by nurseries</td>
<td>FACU</td>
<td>Full sun</td>
<td>Gravelly, loamy, clay soils</td>
<td>Moist soils; loam, clay loam, sand-loam; excellent pollinator; can become aggressive</td>
</tr>
<tr>
<td>Willow Aster&lt;br&gt; <em>Symphyotrichum praecaulis (Aster praecaulis)</em></td>
<td>A synonymous scientific name is Aster praecaulis, often used by nurseries; moist conditions; fibrous and rhizomatous root system, often forms colonies; can become aggressive; excellent pollinator</td>
<td>FACW</td>
<td>Full to partial sunlight</td>
<td>Fertile, loamy soils</td>
<td>Cold, moist stratification for a minimum of 30 days, or fall planting. Needs light to germinate, surface sow seeds. Moist prairies, fields, ditches, thickets, lakeside and riverside meadows</td>
</tr>
<tr>
<td>Smooth speedwell; Neckweed&lt;br&gt; <em>Veronica peregrina</em></td>
<td>Moist to wet conditions; fibrous root system with taproot; easily grown from seed</td>
<td>FACW</td>
<td>Full sun to partial shade</td>
<td>Moist soils</td>
<td>Moist prairies, fields, ditches, thickets, lakeside and riverside meadows</td>
</tr>
<tr>
<td>Common blue violet&lt;br&gt; <em>Viola sororia</em></td>
<td>Moderately moist conditions; rhizomatous root system; self-seeding; easily grown from seed; can become aggressive in optimum conditions</td>
<td>FAC</td>
<td>Partial sunlight</td>
<td>Fertile soil; loam, clay loam</td>
<td>Moist black prairies, savannas, wooded slopes along streams, woodland edges, open floodplain woodlands</td>
</tr>
<tr>
<td>Grasses, Sedges &amp; Rushes (Sunny Trails)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------------------------------</td>
<td>--------------</td>
<td>----------------</td>
<td>-----------------</td>
<td>-----------------</td>
<td>-----------------</td>
</tr>
<tr>
<td><strong>Canada Wild Rye</strong></td>
<td><em>Elymus canadensis</em></td>
<td><em>top sun, sunny trail, side slope</em></td>
<td>No seed pretreatment necessary</td>
<td>0.5 lb/acre</td>
<td>5,200</td>
</tr>
<tr>
<td><strong>Virginia Wild Rye</strong></td>
<td><em>Elymus virginicus</em></td>
<td><em>top shade, top sun, shaded stream edge, sunny trails, wooded trails</em></td>
<td>No seed pretreatment necessary</td>
<td>1 lb/acre</td>
<td>4,200</td>
</tr>
<tr>
<td><strong>Dudley’s Rush</strong></td>
<td><em>Juncus dudleyi</em></td>
<td><em>top sun, side slope, bankfull, water’s edge, sunny trails</em></td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds.</td>
<td>0.125 oz/acre</td>
<td>3,200,000</td>
</tr>
<tr>
<td><strong>Wirestem muhly; Common satin grass</strong></td>
<td><em>Muhlenbergia frondosa</em></td>
<td><em>side slope, sunny trails, wooded trails</em></td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Western Snowberry; Wolfberry</strong></td>
<td><em>Symphoricarpos occidentalis</em></td>
<td></td>
<td>Warm stratification for a minimum of 90 days followed by cold stratification for a minimum of 120 days.</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>
### Trees (Sunny Trails)

<table>
<thead>
<tr>
<th>Species</th>
<th>Scientific Name</th>
<th>Sunlight</th>
<th>Propagation</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black Cherry; Wild Black Cherry; Rum Cherry</td>
<td>Prunus serotina</td>
<td>sunny trails</td>
<td>Cold, moist stratification for a minimum of 90 days or fall planting.</td>
<td>Woodlands, savannas, powerline clearances, limestone glades, roadsides, tickets, disturbed areas</td>
</tr>
<tr>
<td><em>Black Willow; Swamp Willow</em></td>
<td><em>Salix nigra</em></td>
<td>Full sun</td>
<td>Can survive in a variety of soil types, loam</td>
<td></td>
</tr>
<tr>
<td>Black Cherry; Wild Black Cherry; Rum Cherry</td>
<td>Prunus serotina</td>
<td>sunny trails</td>
<td>Cold, moist stratification for a minimum of 90 days or fall planting.</td>
<td>Woodlands, savannas, powerline clearances, limestone glades, roadsides, tickets, disturbed areas</td>
</tr>
</tbody>
</table>

### Along trail edges (Woodlands)

#### Forbs

<table>
<thead>
<tr>
<th>Species</th>
<th>Scientific Name</th>
<th>Sunlight</th>
<th>Propagation</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>White snakeroot</em></td>
<td><em>Ageratina altissima</em> (Eupatorium rugosum)</td>
<td>Partial sunlight</td>
<td>Can sow outdoors with no pretreatment but plant will not germinate for 2 or more years. Otherwise three phases of stratification; cold, warm, cold for 60 days are necessary.</td>
<td>Deciduous woodlands, thickets, woodland edges, bluffs, meadows, disturbed areas</td>
</tr>
<tr>
<td><em>Canada Anemone; Meadow Anemone</em></td>
<td><em>Anemone canadensis</em></td>
<td>Full sun to partial shade</td>
<td>Loamy, gravelly, sandy soils</td>
<td>Meadows, prairies, open floodplain woodlands, streambanks, swamps, ditches</td>
</tr>
<tr>
<td><em>Wild ginger</em></td>
<td><em>Asarum canadense</em></td>
<td>Partial sunlight</td>
<td>Moist soil; Loam, slightly rocky soil</td>
<td>Floodplain and upland woodlands, bluffs, wooded slopes</td>
</tr>
</tbody>
</table>

---

*Note: FACU = Full sun; Partial shade*
<table>
<thead>
<tr>
<th><strong>False nettle</strong></th>
<th><em>Boehmeria cylindrica</em></th>
<th><em>bankfull, shaded stream edge, wooded trails</em></th>
<th>No seed pretreatment necessary</th>
<th>1oz/acre</th>
<th>208,000</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Moist conditions; dioecious</strong></td>
<td>OBL</td>
<td>Partial sunlight</td>
<td>Fertile, loamy soil</td>
<td>Floodplain woodlands, streambanks, riverbanks, swamps, marshes, fens</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>American bellflower; Tall Bellflower</strong></th>
<th><em>Campanulastrum americanum (Campanula americana, old scientific name)</em></th>
<th><em>top shade, wooded trail</em></th>
<th>Cold, moist stratification for a minimum of 30 days or fall planting. Needs light to germinate, surface sow seeds.</th>
<th>0.125oz/acre</th>
<th>170,000</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Moist conditions; low drought tolerance; readily germinates; excellent pollinator; taproot; annual</strong></td>
<td>FAC</td>
<td>Partial shade</td>
<td>Fertile, moist soil; loam</td>
<td>Moist woodlands, disturbed woodland areas, thickets, streambanks</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Chevril</strong></th>
<th><em>Chaerophyllum procumbens</em></th>
<th>N/A</th>
<th>N/A</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Moist conditions; taproot; self-seeding; can be considered weedy; annual</strong></td>
<td>FACW</td>
<td>Partial sunlight</td>
<td>Fertile loam</td>
<td>Open lowland woodlands, woodland edges, railroads, roadsides, thickets, glades</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Canadian Honewort</strong></th>
<th><em>Cryptotaenia canadensis</em></th>
<th><em>top shade, wooded trail</em></th>
<th>Cold, moist stratification for a minimum of 60 days or fall planting.</th>
<th>0.5oz/acre</th>
<th>7,000</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Moist conditions; taproot; self-seeding</strong></td>
<td>FAC</td>
<td>Partial shade</td>
<td>Well-drained, loamy, fertile</td>
<td>Floodplain woodlands, shady bluffs, slightly disturbed areas, woodland edges</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Waterpod; Aunt Lucy</strong></th>
<th><em>Ellisia nyctelea</em></th>
<th>N/A</th>
<th>N/A</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Moist to moderately moist conditions; taproot</strong></td>
<td>FAC</td>
<td>Partial shade</td>
<td>Fertile loam</td>
<td>Deciduous woodlands, thickets, streambanks, fields, waste places, disturbed areas</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Fleabane</strong></th>
<th><em>Erigeron philadelphicus</em></th>
<th>Sow seeds immediately after collection</th>
<th>N/A</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Moist conditions; fibrous root system; self-seeding; can be considered weedy; excellent pollinator</strong></td>
<td>FACW</td>
<td>Full to partial sunlight</td>
<td>Can survive in a variety of moist, well-drained soil types</td>
<td>Prairies, streambanks, marsh edges, ditches, fields, pond and lake margins, moist meadows, floodplain woodlands, moist disturbed areas</td>
</tr>
<tr>
<td>Species</td>
<td>Habitat Description</td>
<td>Sowing Instruction</td>
<td>Seed Rate</td>
<td>Plant Density</td>
</tr>
<tr>
<td>------------------------------</td>
<td>----------------------------------------------------------</td>
<td>-----------------------------------------</td>
<td>-----------</td>
<td>---------------</td>
</tr>
<tr>
<td>*Spotted touch-me-not; Orange jewelweed (Impatiens capensis)</td>
<td>*top shade, shady stream edge, wooded trail, bankfull</td>
<td>Sow seeds immediately after collection.</td>
<td>0.25oz/acre</td>
<td>4,000</td>
</tr>
<tr>
<td>*Pale touch-me-not; Yellow jewelweed (Impatiens pallida)</td>
<td>*top shade, shady stream edge, wooded trail, bankfull</td>
<td>Sow seeds immediately after collection.</td>
<td>1oz/acre</td>
<td>1,600</td>
</tr>
<tr>
<td>*Purple rocket (Iodanthus pinnatifidus)</td>
<td>*top shade, side slope, wooded trails</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>*Great Blue Lobelia; Blue Cardinal Flower (Lobelia siphilitica)</td>
<td>*top shade, bankfull, shaded stream edge, wooded trail</td>
<td>Cold, moist stratification for a minimum of 60 days or fall planting. Needs light to germinate, surface sow seeds.</td>
<td>0.125oz/acre</td>
<td>500,000</td>
</tr>
<tr>
<td>*Water horehound; American Bugleweed; American water horehound (Lycopus americanus)</td>
<td>*bankfull, water’s edge, wooded trails</td>
<td>Needs light to germinate, surface sow seeds. No other pretreatment necessary.</td>
<td>0.25oz/acre</td>
<td>130,000</td>
</tr>
<tr>
<td>*Northern bugleweed (Lycopus uniflorus)</td>
<td>*bankfull, water’s edge, wooded trails, sunny trails</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Virginia bluebell</strong></td>
<td><em>Mertensia virginica</em></td>
<td><em>top shade, woodland trails</em></td>
<td>Best if sown in the fall or immediately after collection. Otherwise requires cold, moist stratification for a minimum of 60 days.</td>
<td>0.5oz/acre</td>
</tr>
<tr>
<td>-----------------------</td>
<td>-----------------------</td>
<td>-----------------------------</td>
<td>-------------------------------------------------------------------------------------------------</td>
<td>------------</td>
</tr>
<tr>
<td>Prefers moist, well-drained conditions; often forms colonies; taproot</td>
<td>FACW</td>
<td>Partial to full shade</td>
<td>Fertile, moist soil; loam, rock</td>
<td>Floodplain woodlands, shady bluffs, riverbanks and streambanks</td>
</tr>
<tr>
<td><strong>Wild Bergamot; Beebalm</strong></td>
<td><em>Monarda fistulosa</em></td>
<td><em>top shade and top sun, sunny and woodland trails</em></td>
<td>No seed pretreatment necessary</td>
<td>0.25oz/acre</td>
</tr>
<tr>
<td>Moist, well-drained to partially dry conditions; rhizomatous with deep roots; excellent pollinator; easily grown from seed; can become aggressive; very hardy and thrives in disturbed areas; drought tolerant</td>
<td>FACU</td>
<td>Full to partial sunlight</td>
<td>Can survive in a variety of soil types</td>
<td>Open woodlands, fields, moist meadows, ditches, edges of forests, prairies, savannas, thickets, disturbed areas</td>
</tr>
<tr>
<td><strong>Mousetail; Tiny mousetail</strong></td>
<td><em>Myosurus minimus</em></td>
<td><em>water’s edge, sunny trails, wooded trails</em></td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Moist to slightly dry conditions; fibrous root system; self-seeding; found in exposed soil with little vegetation</td>
<td>FACW</td>
<td>Full to partial sunlight</td>
<td>Loam, sandy loam, gravelly loam, clay loam</td>
<td>Eroded streambanks, pond and lake shores, pastures, barren woodland areas, disturbed areas</td>
</tr>
<tr>
<td><strong>Woodland phlox; Wild blue phlox</strong></td>
<td><em>Phlox divaricata</em></td>
<td><em>top shade, wooded trail</em></td>
<td>Cold, moist stratification for a minimum of 60 days or fall planting.</td>
<td>1oz/acre</td>
</tr>
<tr>
<td>Slightly dry to moderately moist conditions; rhizomatous root system; propagation through seeds or root division most successful</td>
<td>FACU</td>
<td>Partial shade</td>
<td>Can survive in a variety of soil types</td>
<td>Deciduous woodlands, bluffs, seasonal floodplains, streambanks, wooded paths</td>
</tr>
<tr>
<td><strong>Clearweed</strong></td>
<td><em>Pilea pumila</em></td>
<td><em>top shade, wooded trails</em></td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Wet to moist conditions; self-seeding; easily grown from seed; annual</td>
<td>FACW</td>
<td>Partial sunlight</td>
<td>Fertile, loamy soils</td>
<td>Floodplain woodlands, streambanks, seeps, woodland edges</td>
</tr>
<tr>
<td><strong>Jacob’s ladder; greek valerian</strong></td>
<td><em>Polemonium reptans</em></td>
<td><em>tops shade, wooded trail</em></td>
<td>Cold, moist stratification for a minimum of 60 days or fall planting.</td>
<td>1oz/acre</td>
</tr>
<tr>
<td>Moderately moist to slightly dry conditions; fibrous root system; self-seeding; excellent pollinator</td>
<td>FAC</td>
<td>Partial sunlight</td>
<td>Fertile, loamy soils</td>
<td>Deciduous woodlands, streambanks, fens, moist prairies, woodland edges, wooded paths</td>
</tr>
<tr>
<td><strong>Species</strong></td>
<td><strong>Scientific Name</strong></td>
<td><strong>Preferred Conditions</strong></td>
<td><strong>Soil Requirements</strong></td>
<td><strong>Common Areas</strong></td>
</tr>
<tr>
<td>------------</td>
<td>---------------------</td>
<td>--------------------------</td>
<td>----------------------</td>
<td>------------------</td>
</tr>
<tr>
<td>Norwegian cinquefoil</td>
<td><em>Potentilla norvegica</em></td>
<td>Sunny trails, wooded trails</td>
<td>Loamy soils</td>
<td>Weedy meadows, pastures, parking lot edges, streambanks, sloughs, marshes, disturbed/waste areas</td>
</tr>
<tr>
<td>Kidney leaf buttercup</td>
<td><em>Ranunculus abortivus</em></td>
<td>Top shade, wooded trail</td>
<td>Partial sunlight</td>
<td>Woodlands, riverbanks, wooded paths, railroads, ditches, woodland edges, fields, disturbed areas</td>
</tr>
<tr>
<td>Cursed Crowfoot; Annual buttercup</td>
<td><em>Ranunculus sceleratus</em></td>
<td>Water’s edge, wooded trails</td>
<td>Full to partial sunlight</td>
<td>Marshes, seeps, streambanks, river sandbars, pond edges, wet meadows, ditches</td>
</tr>
<tr>
<td>Brown-eyed Susan</td>
<td><em>Rudbeckia triloba</em></td>
<td>Top sun, top shade, woodland trails</td>
<td>Full to partial sunlight</td>
<td>Prairies, savannas, open forests, riverbanks, streambanks, tickets, roadsides, disturbed areas</td>
</tr>
<tr>
<td>Giant Goldenrod; Tall Goldenrod; Early Goldenrod</td>
<td><em>Solidago gigantea</em></td>
<td>Side slope, bankfull, sunny trails, wooded trails</td>
<td>Full sun to light shade</td>
<td>Floodplain woodlands, riverbanks, pond edges, wet prairies, fens, ditches</td>
</tr>
<tr>
<td>New England aster; New England American-Aster</td>
<td><em>Symphyotrichum novae-angliae</em> (Aster novae-angliae)</td>
<td>Top sun, bankfull, side slope, woodland trail</td>
<td>Full or partial sunlight</td>
<td>Prairies, meadows, riverbanks, thickets, railroads, roadsides, open woodlands, disturbed areas</td>
</tr>
</tbody>
</table>

A synonymous scientific name is *Aster novae-angliae* which is used by many nurseries; moist conditions; fibrous and rhizomatous root system; can become aggressive; excellent pollinator.
<table>
<thead>
<tr>
<th>Plant Name</th>
<th>Scientific Name</th>
<th>Light Requirements</th>
<th>Soils</th>
<th>Habitat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ontario aster</td>
<td>Symphyotrichum ontarionis (Aster ontarionis)</td>
<td>*top shade, wooded trails</td>
<td>Likely requires cold, moist stratification for a minimum of 60 days or fall planting.</td>
<td>N/A N/A Floodplain woodlands, open woodlands, wooded streambanks, savannas, meadows</td>
</tr>
<tr>
<td>An older synonymous scientific name is Aster ontarionis, which is used by many nurseries. Moist conditions; rhizomatous and fibrous root system.</td>
<td>FAC Partial sunlight Rich, loamy soils</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Willow Aster</td>
<td>Symphyotrichum praetum (Aster praetum)</td>
<td>*top sun, sunny trails, wooded trail</td>
<td>Cold, moist stratification for a minimum of 30 days, or fall planting. Needs light to germinate, surface sow seeds.</td>
<td>0.125oz/acre 130,000 Moist prairies, fields, ditches, thickets, lakeside and riverside meadows</td>
</tr>
<tr>
<td>A synonymous scientific name is Aster praetum, often used by nurseries; moist conditions; fibrous and rhizomatous root system, often forms colonies; can become aggressive; excellent pollinator.</td>
<td>FACW Full to partial sunlight Fertile, loamy soils</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Smooth speedwell; Neckweed</td>
<td>Veronica peregrina</td>
<td>*sunny trails, wooded trails</td>
<td>N/A N/A N/A</td>
<td>Roadsides, lawns, fens, meadows, waste areas</td>
</tr>
<tr>
<td>Moist to wet conditions; fibrous root system with taproot; easily grown from seed.</td>
<td>FACW Full sun to partial shade Moist soils</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Common blue violet</td>
<td>Viola sororia</td>
<td>*top shade, wooded trails, sunny trails, side slope</td>
<td>Best if sown in the fall. Otherwise, requires cold, moist stratification for a minimum of 60 days or fall planting. Needs light to germinate, surface sow seeds.</td>
<td>0.5oz/acre 23,000 Moist black prairies, savannas, wooded slopes along streams, woodland edges, open floodplain woodlands</td>
</tr>
<tr>
<td>Moderately moist conditions; rhizomatous root system; self-seeding; easily grown from seed; can become aggressive in optimum conditions.</td>
<td>FAC Partial sunlight Fertile soil; loam, clay loam</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Grasses, Sedges, &amp; Rushes (Wooded Trails)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Awned Graceful Sedge; Davis' Sedge</td>
<td>Carex davisii</td>
<td>*top of bank shade, side slope, woodland edge</td>
<td>Not fully known, but cold, moist stratification for a minimum of 60 days or fall planting likely needed. May need light to germinate, surface sow seeds.</td>
<td>1oz/acre 9,000 Upland and floodplain woodlands, field edges, wooded slopes, riverbanks, moist meadows, slightly disturbed areas</td>
</tr>
<tr>
<td>Moist to wet conditions; flood tolerant; fibrous and rhizomatous root system.</td>
<td>FAC Partial sun Moist soil; loam</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Species</td>
<td>Carex grayi</td>
<td>*Stream edge shade, top shade, side slope, woodland trails, bankfull</td>
<td>Fall planting is recommended.</td>
<td>2oz/acre</td>
</tr>
<tr>
<td>---------</td>
<td>-------------</td>
<td>-----------------------------------------------------------------</td>
<td>-------------------------------</td>
<td>----------</td>
</tr>
<tr>
<td></td>
<td><strong>Wet to moist conditions; tolerant to seasonal flooding; full sun tolerable in wet conditions; fibrous and rhizomatous root system</strong></td>
<td>FACW</td>
<td>Partial shade</td>
<td>Fertile soil; loam, sand, silt</td>
</tr>
<tr>
<td><em>Gray’s sedge; Bur sedge</em></td>
<td><em>Carex grayi</em></td>
<td><em>Stream edge shade, top shade, side slope, woodland trails, bankfull</em></td>
<td>Fall planting is recommended.</td>
<td>2oz/acre</td>
</tr>
<tr>
<td></td>
<td><strong>Wet to moist conditions; tolerant to seasonal flooding; full sun tolerable in wet conditions; fibrous and rhizomatous root system</strong></td>
<td>FACW</td>
<td>Partial shade</td>
<td>Fertile soil; loam, sand, silt</td>
</tr>
<tr>
<td><em>Bottlebrush Grass; Eastern Bottlebrush grass</em></td>
<td><em>Elymus hystrix (Hystrix patula)</em></td>
<td><em>Woodland trails, top shade</em></td>
<td>No seed pretreatment necessary</td>
<td>3oz/acre</td>
</tr>
<tr>
<td></td>
<td><strong>Highly shade tolerant; moist to slightly dry conditions; a synonymous scientific name is Hystrix patula; drought tolerant; self-seeding; fibrous root system; forms small colonies</strong></td>
<td>FACU</td>
<td>Filtered sunlight to partial shade</td>
<td>Loamy, rocky soil, clay, can survive in a variety of soil types</td>
</tr>
<tr>
<td>James’ Sedge</td>
<td><em>Carex jamesii</em></td>
<td>N/A</td>
<td>Partial shade</td>
<td>Fertile loam</td>
</tr>
<tr>
<td></td>
<td><strong>Moderately moist conditions; fibrous and rhizomatous root system; self-seeding</strong></td>
<td>N/A</td>
<td>Partial shade</td>
<td>Fertile loam</td>
</tr>
<tr>
<td><em>Silky Wild Rye; Downy Wild-Rye; Hairy Wildrye;</em></td>
<td><em>Elymus villosus</em></td>
<td><em>Woodland trails, top shade, side slope</em></td>
<td>No seed pretreatment necessary</td>
<td>0.5lb/acre</td>
</tr>
<tr>
<td></td>
<td><strong>Moist to slightly dry conditions; fibrous roots</strong></td>
<td>FACU</td>
<td>Partial Sun</td>
<td>Fertile soil; loam</td>
</tr>
<tr>
<td><em>Virginia Wild Rye</em></td>
<td><em>Elymus virginicus</em></td>
<td><em>Top shade, top sun, shaded stream edge, sunny trails, wooded trails</em></td>
<td>No seed pretreatment necessary</td>
<td>1lb/acre</td>
</tr>
<tr>
<td></td>
<td><strong>Moist conditions; fibrous root system; great cover crop for erosion control; easily grown from seed; tends to give way to other species over five years</strong></td>
<td>FACW</td>
<td>Full sun to shade</td>
<td>Fertile soil; loam, clay loam, sandy, can survive in a variety of soil types</td>
</tr>
</tbody>
</table>

*Note: All species require full sun to shade except where noted.*
<table>
<thead>
<tr>
<th><strong>Wirestem muhly; Common satin grass</strong></th>
<th><em>Muhlenbergia frondosa</em></th>
<th><strong>side slope, sunny trails, wooded trails</strong></th>
<th>N/A</th>
<th>N/A</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moist conditions; fibrous and rhizomatous root system, often forms colonies; can become aggressive</td>
<td>FACW</td>
<td>Full to partial sunlight</td>
<td>Can survive in a variety of soil types</td>
<td>Moist woodlands, prairies, prairie swales, bases of bluffs and wooded slopes, marsh edges, riverbanks, ditches, fields, railroads, disturbed areas</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Woodland bluegrass</strong></th>
<th><em>Poa sylvestris</em></th>
<th><strong>top shade, wooded trails, side slope</strong></th>
<th>N/A</th>
<th>N/A</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moist conditions; fibrous root system; propagation through seeds only</td>
<td>FAC</td>
<td>Partial sunlight</td>
<td>Fertile, loamy soils</td>
<td>Floodplain woodlands, wooded slopes, wooded ravines</td>
<td></td>
</tr>
</tbody>
</table>

**Shrubs & Vines (Wooded Trails)**

<table>
<thead>
<tr>
<th><strong>Chokecherry</strong></th>
<th><em>Prunus virginiana</em></th>
<th><strong>top shade wooded trails</strong></th>
<th>Cold, moist stratification for a minimum of 60 days, or fall planting.</th>
<th>N/A</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slightly dry to somewhat moist conditions; deep, spreading, rhizomatous root system; seed or root cutting propagation; excellent pollinator</td>
<td>FACU</td>
<td>Full sun to partial shade</td>
<td>Can survive in a variety of soil types, including acidic soils</td>
<td>Streambanks, bluffs, roadsides, woodlands, thickets, fields, disturbed areas</td>
<td></td>
</tr>
</tbody>
</table>

**Trees (Wooded Trails)**

<table>
<thead>
<tr>
<th><strong>Black Willow; Swamp Willow</strong></th>
<th><em>Salix nigra</em></th>
<th><strong>side slope, bankfull, water’s edge, shaded stream edge, sunny and wooded trails</strong></th>
<th>Not fully known, best results if planted immediately after collection.</th>
<th>N/A</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet to moist conditions; shallow, wide, lateral root system; most common propagation through cuttings, though seed propagation can be successful as well; fast growth rate; excellent pollinator;</td>
<td>OBL</td>
<td>Full to partial sunlight</td>
<td>Can survive in a variety of soil types</td>
<td>Floodplain woodlands, swamps, riverbanks, lake edges, ditches, sloughs, pond edges, wet disturbed areas</td>
<td></td>
</tr>
</tbody>
</table>
### Forbs

<table>
<thead>
<tr>
<th>Plant Name</th>
<th>Scientific Name</th>
<th>Planting Information</th>
<th>Seed Rate</th>
<th>Planting Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>American water plantain</strong></td>
<td><em>Alisma subcordatum</em></td>
<td>Cold, moist stratification for a minimum of 30 days, or fall planting.</td>
<td>2oz/acre</td>
<td>60,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wet conditions; fibrous root system with corms; self-seeding; can propagate through seeds or plugs/transplant; likely not able to tolerate heavy scour</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>OBL, Full sun, Wet soils, mud</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Marshes, slow streams, ponds, lake edges, ditches, seeps</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Large-flowered water plantain</strong></td>
<td><em>Alisma triviale</em></td>
<td>Cold, moist stratification for a minimum of 30 days, or fall planting.</td>
<td>2oz/acre</td>
<td>66,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wet conditions; fibrous and rhizomatous root system; likely not able to tolerate heavy scour</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>OBL, Full sun, Wet soils, mud</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Marshes, ditches, shallow pond edges, lake edges, sloughs, slow-moving streams</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Great St. Johnswort</strong></td>
<td><em>Hypericum ascyron</em> <em>(Hypericum pyramidatum)</em></td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds.</td>
<td>0.125oz/acre</td>
<td>190,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Moist conditions; a synonymous scientific name is <em>Hypericum pyramidatum</em> which is used by many nurseries; rhizomatous root system, often forms colonies; excellent pollinator</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>FAC, Full to partial sunlight, Can survive in a variety of soil types</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Open woodlands, riverbanks, streambanks, meadows, moist prairies, thicket</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Blue Flag iris</strong></td>
<td><em>Iris virginica shrevei</em> <em>(water's edge)</em></td>
<td>Fall planting is recommended.</td>
<td>2oz/acre</td>
<td>1,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wet to moist conditions; fibrous and rhizomatous root system, often forms colonies; do not let seeds dry out; <em>Iris virginica shrevei</em> is the northern variation of <em>Iris virginica</em></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>OBL, Full to partial sunlight, Fertile soils</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Moist savannas, meadows, riverbanks, swamp edges, ditches, marshes, wet prairies, open floodplain woodlands, pond edges</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Michigan lily</strong></td>
<td><em>Lilium michiganense</em> <em>(bankfull)</em></td>
<td>Can sow outdoors with no pretreatment but plant will not germinate for a full year. Otherwise, a period of warm, moist stratification for 60 days followed by cold, moist stratification for 60 days are necessary.</td>
<td>10,000</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>FACW, Full to partial sunlight, Fertile, moist soils; loamy, sand-loam soils</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bogs, wet prairies, open woodlands, savannas, meadows, swamps, fens</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Short Beak Arrowhead</strong></td>
<td><em>Sagittaria brevirostra</em> <em>(bankfull)</em></td>
<td>Wet, soggy conditions; stolons; grows well in shallow standing water; likely cannot tolerate heavy scour</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OBL, Full sun, Wet soils, mud</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Marshes, sloughs, pond edges, muddy streambanks, swamps, shallow water</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Common arrowhead; Broadleaf arrowhead; Duck-potato</td>
<td>Sagittaria latifolia</td>
<td>(bankfull)</td>
<td>May take 2 years to germinate. Requires cold, moist stratification, followed by warm, moist stratification, again followed by cold, moist stratification.</td>
<td>1.5oz/acre</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Wet, fully saturated conditions; fibrous, tuberous roots; self-seeding; grows well in shallow standing water; can be propagated through seeds or plugs/transplant; cannot tolerate heavy scour</td>
<td>OBL</td>
<td>Full to partial sunlight</td>
<td>Wet soils, shallow water, muddy shores</td>
<td>Swamps, bogs, swales, seeps, marshes, pond edges, ditches, slow-moving streambanks</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Marsh Skullcap</th>
<th>Scutellaria galericulata</th>
<th>(bankfull, water’s edge, heavy shade)</th>
<th>Cold, moist stratification for a minimum of 60 days or fall planting.</th>
<th>N/A</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet conditions; fibrous root system with stolons, often forms colonies; may not be able to tolerate heavy scour</td>
<td>OBL</td>
<td>Full sun to partial shade</td>
<td>Wet soils, sand, muck, peaty soils</td>
<td>Marshes, thickets, meadows, lakeshores, slow-moving streams, bogs, swamps, ditches</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cup Plant</th>
<th>Silphium perfoliatum</th>
<th>(bankfull, side slope, top of bank full sun)</th>
<th>Cold, moist stratification for a minimum of 60 days, or fall planting.</th>
<th>2oz/acre</th>
<th>1,400</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moist conditions; central taproot; rhizomatous, often forms colonies; excellent pollinator; most successful propagation through seeds</td>
<td>FACW</td>
<td>Full or partial sunlight</td>
<td>Moist soil; clay, loam, sand</td>
<td>Prairies, meadows, riverbanks, streambanks, ditches, edges of wet forests, lake shores, fens, seeps</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Culver’s root</th>
<th>Veronicastrum virginicum</th>
<th>Top of bank only</th>
<th>Cold, moist stratification for a minimum of 90 days, or fall planting. Needs light to germinate, surface sow seeds.</th>
<th>0.125oz/acre</th>
<th>800,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moist to wet conditions; central taproot with some rhizomes, excellent pollinator</td>
<td>FAC</td>
<td>Full to partial sunlight</td>
<td>Fertile soil, loam, can tolerate some sand or clay</td>
<td>Moist prairies, open woods, thickets, savannas, wet meadows near rivers, riverbanks</td>
<td></td>
</tr>
</tbody>
</table>

**Grasses, Sedges, & Rushes (Scour Intolerant)**

<table>
<thead>
<tr>
<th>Hop Sedge</th>
<th>Carex lupulina</th>
<th>(bankfull, shaded stream edge)</th>
<th>Cold, moist stratification for a minimum of 60 days or fall planting.</th>
<th>3oz/acre</th>
<th>3,300</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet to moist conditions; fibrous and rhizomatous root system; may not be able to tolerate heavy scour</td>
<td>OBL</td>
<td>Full to partial sunlight</td>
<td>Loam, clay loam, silt-loam, sand-loam</td>
<td>Wet meadows, pond and lake edges, swamps, open floodplain woodlands, prairie swales, marshes</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tussock sedge: Upright Sedge; Uptight Sedge</th>
<th>Carex stricta</th>
<th>(bankfull, water’s edge)</th>
<th>Cold, moist stratification for a minimum of 60 days, or fall planting.</th>
<th>0.125oz/acre</th>
<th>53,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wet conditions; fibrous and rhizomatous root system; can spread aggressively</td>
<td>OBL</td>
<td>Full sun</td>
<td>Muck, sand</td>
<td>Wet meadows, bogs, marshes, floodplain woodlands, fens, wet prairies</td>
<td></td>
</tr>
<tr>
<td>species</td>
<td>Carex vulpinoidea</td>
<td>Carex vulpinoidea</td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds.</td>
<td>1oz/acre</td>
<td>100,000</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Wet to moist conditions; fibrous rhizomatous root system, forms colonies; can become aggressive;</td>
<td>FACW</td>
<td>Full to partial sunlight</td>
<td>Loam, silt, clay, gravel</td>
<td>Open floodplain forests, swamps, wet prairies, streambanks, ditches, pond edges, seeps, disturbed areas</td>
<td></td>
</tr>
<tr>
<td>Soft-stem bulrush; Soft-Stem Club-Rush; Great Bulrush</td>
<td>Schoenoplectus tabernaemontani (Scirpus validus)</td>
<td>(bankfull, water’s edge)</td>
<td>Cold, moist stratification for a minimum of 60 days, or fall planting. Needs light to germinate, surface sow seeds.</td>
<td>1oz/acre</td>
<td>31,000</td>
</tr>
<tr>
<td>Wet, poorly-drained conditions; fibrous and rhizomatous root system, forms dense colonies; can spread aggressively; fire tolerant; a synonymous scientific name is Scirpus validus which is used by many nurseries; can establish through root cuttings and plugs</td>
<td>OBL</td>
<td>Full to partial sunlight</td>
<td>Wet soil; sand, muck, mud</td>
<td>Wet prairies, marshes, pond and lake edges, swamps, sloughs, ditches, swales</td>
<td></td>
</tr>
<tr>
<td>*Giant bur reed</td>
<td>Sparganium eurycarpum</td>
<td>*bankfull, Water’s edge</td>
<td>Sow seeds immediately after collection, seeds should not be allowed to dry out before sowing.</td>
<td>16oz/acre (1lb)</td>
<td>500</td>
</tr>
<tr>
<td>Wet to moist conditions; fibrous and rhizomatous; likely not able to handle heavy scour</td>
<td>OBL</td>
<td>Full to partial sunlight</td>
<td>Muddy, sandy, gravelly soils</td>
<td>Marshes, swamps, gens, pond edges, slow-moving streams</td>
<td></td>
</tr>
</tbody>
</table>
References


Editor: Nikki McDermond-Spies
Contributors:
Dr. Thomas Rosburg. Professor of Ecology and Botany at Drake University
Dr. John Pearson. Botanist/Ecologist with the Iowa Department of Natural Resources
Darcy Cashatt. Fisheries Biologist with the Iowa Department of Natural Resources
Terri Abbett. Wetland Ecologist with the Iowa Department of Transportation
Tivon Feeley. Forest Health Program Leader with the Iowa Department of Natural Resources