

TABLE 2.2: Permanent Upland Herbaceous Cover Mixes: Low - Medium Density (Conservation Cover)

| Mix ^{1/} | Recommended Cultivar | Seeding Rate (lbs/ac) ^{2/} | Plant Hardiness Zones ^{3/} | Soil Drainage Class ^{4/} | Max. Height (feet) | All Native Species ^{5/} | Type of Grass in Mix | Remarks |
|--|----------------------|-------------------------------------|-------------------------------------|-----------------------------------|--------------------|----------------------------------|------------------------------|---|
| 1. SELECT <u>THREE</u> GRASSES: | | | | | | | | |
| Big Bluestem <i>Andropogon gerardii</i> | Niagara, Rountree | 2 - 4 | All (See Remarks) | E - MW | 6 - 8 | Y | Warm season grasses | <p>This mix is suitable for dry to mesic sites.</p> <p>All of these grasses, except Little Bluestem, are tall-statured, and can be aggressive, especially on W - MW drained sites.</p> <p>Coastal Panicgrass is primarily a coastal species.</p> <p>Big Bluestem, Indiangrass, and Little Bluestem have fluffy seeds, which require a native seed drill.</p> <p>Because the grasses tend to dominate a stand, wildflowers may not persist. Wildflowers may be more persistent on very dry sites.</p> |
| Coastal Panicgrass <i>Panicum amarum</i> | Atlantic | 2 - 4 | | | | | | |
| Indiangrass <i>Sorghastrum nutans</i> | Rumsey | 2 - 4 | | | | | | |
| Little Bluestem <i>Schizachyrium scoparium</i> | Aldous, Blaze | 3 - 5 | | | | | | |
| Switchgrass <i>Panicum virgatum</i> | Shelter | 2 - 4 | | | | | | |
| OPTIONAL, SELECT <u>ONE</u>: | | | | | | | | |
| Partridge Pea <i>Chamaecrista fasciculata</i> | | 1 | | | | | | |
| Mix 8a | | Varies | | | | | | |
| 2. SELECT <u>THREE</u> GRASSES: | | | | | | | | |
| Switchgrass <i>Panicum virgatum</i> | Kanlow | 1 ½ - 3 | All (See Remarks) | W - SP | 6 - 8 | Y | Warm and cool season grasses | <p>This mix is suitable for mesic sites.</p> <p>All of these grasses, except Little Bluestem and Red Fescue, are tall-statured grasses, and can be aggressive on sites with good moisture.</p> <p>Little Bluestem prefers drier sites. Red Fescue is a cool-season grass, and can be used on wetter sites.</p> <p>Coastal Panicgrass and Florida Paspalum are primarily coastal species.</p> <p>Can add Eastern Gamagrass 'Meadowcrest' as a 4th species at 5 - 10 lb/ac. Eastern Gamagrass has large seed that must be planted separately from the other species.</p> <p>Indiangrass and Little Bluestem have a fluffy seed that requires a native seed drill. 'Suther' Indiangrass is only suitable in PHZs 7a, 7b, 8a.</p> |
| Coastal Panicgrass <i>Panicum amarum</i> | Atlantic | 1 - 2 | | | | | | |
| Florida Paspalum <i>Paspalum floridanum</i> | Common | 1 ½ - 3 | | | | | | |
| Indiangrass <i>Sorghastrum nutans</i> | Rumsey, Suther | 2 - 4 | | | | | | |
| Little Bluestem <i>Schizachyrium scoparium</i> | Aldous, Blaze | 3 - 5 | | | | | | |
| Red Fescue <i>Festuca rubra</i> | Common | 1 - 2 | | | | | | |
| OPTIONAL, SELECT <u>ONE</u>: | | | | | | | | |
| Partridge Pea <i>Chamaecrista fasciculata</i> | | 1 | | | | | | |
| Mix 8a | | Varies | | | | | | |

TABLE 2.2: Permanent Upland Herbaceous Cover Mixes: Low - Medium Density (Conservation Cover)

| Mix ^{1/} | Recommended Cultivar | Seeding Rate (lbs/ac) ^{2/} | Plant Hardiness Zones ^{3/} | Soil Drainage Class ^{4/} | Max. Height (feet) | All Native Species ^{5/} | Type of Grass in Mix | Remarks | | | | | | |
|---|----------------------|-------------------------------------|-------------------------------------|-----------------------------------|--------------------|----------------------------------|---------------------------------------|--|--|--|--|--|--|--|
| 3. SELECT TWO WARM-SEASON GRASSES: | | | | | | | | | | | | | | |
| Little Bluestem <i>Schizachyrium scoparium</i> | Aldous, Blaze | 4 - 6 | All (See Remarks) | E - MW | 3 - 4 | Y | Warm and cool season grasses | <p>This mix is suitable for dry to mesic sites.</p> <p>Grasses in bold are typically used.</p> <p>All of these species are short-statured, native grasses.</p> <p>Canada Wildrye and Virginia Wildrye are CSGs.</p> <p>Canada Wildrye prefers dry sites; Virginia Wildrye prefers mesic sites.</p> <p>Splitbeard Bluestem is a Coastal Plain species.</p> | | | | | | |
| Purpletop <i>Tridens flavus</i> | Common | 1 ½ - 3 | | | | | | | | | | | | |
| Broomsedge <i>Andropogon virginicus</i> | Common | 1 - 2 | | | | | | | | | | | | |
| Splitbeard Bluestem <i>Andropogon ternarius</i> | Common | 3 - 4 | | | | | | | | | | | | |
| Purple Lovegrass <i>Eragrostis spectabilis</i> | Common | ½ - 1 | | | | | | | | | | | | |
| AND ONE COOL-SEASON GRASS: | | | | | | | | | | | | | | |
| Canada Wildrye <i>Elymus canadensis</i> | Common | 4 - 6 | | | | | | | | | | | | |
| Virginia Wildrye <i>Elymus virginicus</i> | Common | 5 - 8 | | | | | | | | | | | | |
| AND ONE OF THE FOLLOWING: | | | | | | | | | | | | | | |
| Partridge Pea <i>Chamaecrista fasciculata</i> | | 1 | | | | | | | | | | | | |
| Mix 8a or 8b | | Varies | | | | | | | | | | | | |
| 4. SELECT TWO WARM-SEASON GRASSES: | | | | | | | | | | | | | | |
| Broomsedge <i>Andropogon virginicus</i> | Common | ½ - 1 | All (See Remarks) | W - SP | 3 - 4 | Y | Warm and cool season grasses | <p>This mix is suitable for mesic sites.</p> <p>Grasses in bold are typically used.</p> <p>All of these species are short-statured, native grasses, except Florida Paspalum, the seedheads of which can reach 5 feet.</p> <p>Little Bluestem prefers drier sites.</p> <p>Splitbeard Bluestem is a Coastal Plain species.</p> <p>Use River Oats in the Mountains and Piedmont, and Slender Woodoats on the Coastal Plain.</p> | | | | | | |
| Little Bluestem <i>Schizachyrium scoparium</i> | Aldous, Blaze | 3 - 5 | | | | | | | | | | | | |
| Splitbeard Bluestem <i>Andropogon ternarius</i> | Common | 2 - 3 | | | | | | | | | | | | |
| Purple Lovegrass <i>Eragrostis spectabilis</i> | Common | ½ - 1 | | | | | | | | | | | | |
| Purpletop <i>Tridens flavus</i> | Common | 1 - 2 | | | | | | | | | | | | |
| Florida Paspalum <i>Paspalum floridanum</i> | Common | 1 ½ - 3 | | | | | | | | | | | | |
| AND ONE COOL-SEASON GRASS: | | | | | | | | | | | | | | |
| Virginia Wildrye <i>Elymus virginicus</i> | Common | 4 - 8 | | | | | | | | | | | | |
| River Oats <i>Chasmanthium latifolium</i> | Common | 4 - 8 | | | | | | | | | | | | |
| Riverbank Wildrye <i>Elymus riparius</i> | Common | 4 - 8 | | | | | | | | | | | | |
| Slender Woodoats <i>Chasmanthium laxum</i> | Common | 4 - 8 | | | | | | | | | | | | |
| AND ONE OF THE FOLLOWING: | | | | | | | | | | | | | | |
| Partridge Pea <i>Chamaecrista fasciculata</i> | | 1 | | | | | | | | | | | | |
| Mix 8a or 8b | | Varies | | | | | | | | | | | | |

TABLE 2.2: Permanent Upland Herbaceous Cover Mixes: Low - Medium Density (Conservation Cover)

| Mix ^{1/} | Recommended Cultivar | Seeding Rate (lbs/ac) ^{2/} | Plant Hardiness Zones ^{3/} | Soil Drainage Class ^{4/} | Max. Height (feet) | All Native Species ^{5/} | Type of Grass in Mix | Remarks | |
|---|----------------------|-------------------------------------|-------------------------------------|-----------------------------------|--------------------|----------------------------------|--|--|--|
| 5. SELECT ONE WARM-SEASON GRASS: | | | | | | | | | |
| Redtop Panicgrass <i>Panicum rigidulum</i> | Common | 0.5 - 1 | | | | | | <p>This mix is suitable for wet sites.</p> <p>Grasses/sedges in bold are typically used.</p> <p>All but Florida Paspalum and Riverbank Wildrye are short-statured grasses.</p> <p>Florida Paspalum is a Coastal Plain species.</p> <p>Use River Oats in the Mountains and Piedmont, and Slender Woodoats on the Coastal Plain.</p> <p>Rattlesnake Grass occurs in the Mountain and Piedmont regions.</p> | |
| Bushy Broomsedge <i>Andropogon glomeratus</i> | Common | 0.5 - 1 | | | | | | | |
| Beaked Panicgrass <i>Panicum anceps</i> | Common | 1 - 2 | | | | | | | |
| Florida Paspalum <i>Paspalum floridanum</i> | Common | 2 - 4 | | | | | | | |
| AND ONE COOL-SEASON GRASS: | | | | | | | | | |
| Virginia Wildrye <i>Elymus virginicus</i> | Common | 4 - 8 | | | | | | | |
| River Oats <i>Chasmanthium latifolium</i> | Common | 5 - 7 | | | | | | | |
| Riverbank Wildrye <i>Elymus riparius</i> | Common | 5 - 7 | | | | | | | |
| Slender Woodoats <i>Chasmanthium laxum</i> | Common | 5 - 7 | All (See Remarks) | P - VP | 3 - 5 | Y | Warm and cool season grasses, and sedges | | |
| AND ONE OF THE FOLLOWING: | | | | | | | | | |
| Fox Sedge <i>Carex vulpinoidea</i> | Common | 0.25 - 0.5 | | | | | | | |
| Hop Sedge <i>Carex lupulina</i> | Common | 4 - 6 | | | | | | | |
| Lurid Sedge <i>Carex lurida</i> | Common | 1 ½ - 3 | | | | | | | |
| Fowl Mannagrass <i>Glyceria striata</i> | Common | 0.25 - 0.5 | | | | | | | |
| Rattlesnake Grass <i>Glyceria canadensis</i> | Common | 0.25 - 0.5 | | | | | | | |
| AND ADD: | | | | | | | | | |
| Mix 8c | | Varies | | | | | | | |
| 6. - 7. (Reserved) | | | | | | | | | |

TABLE 2.2: Permanent Upland Herbaceous Cover Mixes: Low - Medium Density (Conservation Cover)

8. Maryland Native Wildflowers and Legumes

These mixes can be added to grass mixes as indicated elsewhere in Table 2.2. For the highest diversity grass/wildflower mixes that have a predominant wildflower component, use Mix 15, 16, or 17, as appropriate for site conditions.

| Mix ^{1/} | Seeding Rate (lbs/ac) ^{2/} | Remarks |
|---|--|---|
| <p>8a. Low Diversity Wildflowers and Legumes</p> <p>SELECT AT LEAST 4 OF THE FOLLOWING WILDFLOWERS:</p> <p><i>Asclepias syriaca</i> Common Milkweed 1</p> <p><i>Asclepias tuberosa</i> Butterfly Milkweed 1</p> <p><i>Echinacea purpurea</i> Purple Coneflower 0.6</p> <p><i>Eutrochium purpureum</i> Sweet-scented Joe-pye Weed 0.1</p> <p><i>Helenium autumnale</i> Yellow Sneezeweed 0.04</p> <p><i>Helenium flexuosum</i> Purple Sneezeweed 0.03</p> <p><i>Heliopsis helianthoides</i> Smooth Oxeye 0.6</p> <p><i>Monarda fistulosa</i> Wild Bergamot 0.05</p> <p><i>Monarda punctata</i> Spotted Bee-balm 0.05</p> <p><i>Penstemon digitalis</i> Tall White Beard-tongue 0.2</p> <p><i>Pycnanthemum incanum</i> Hoary Mountain Mint 0.02</p> <p><i>Pycnanthemum tenuifolium</i> Narrow-leaf Mountain Mint 0.02</p> <p><i>Rudbeckia hirta</i> Black-eyed Susan 0.04</p> <p><i>Rudbeckia triloba</i> Brown-eyed Susan 0.1</p> <p>SELECT AT LEAST 1 OF THE FOLLOWING LEGUMES:</p> <p><i>Chamaecrista fasciculata</i> Partridge Pea 1</p> <p><i>Desmodium paniculatum</i> Panicked Tick-Trefoil 0.3</p> <p><i>Lespedeza capitata</i> Round-head Bush-clover 0.4</p> <p><i>Senna hebecarpa</i> American Senna 0.5</p> <p><i>Senna marilandica</i> Maryland Senna 0.5</p> | | <p>Use in combination with a grass mix on dry or mesic sites, as indicated elsewhere in Table 2.2.</p> <p>Prefers dry sites</p> <p>Prefers wetter sites</p> <p>Prefers dry sites; MD Eastern Shore ecotype is available.</p> <p>Biennial</p> <p>On dry sites use <i>Senna marilandica</i>; on wetter sites use <i>Senna hebecarpa</i>.</p> |
| <p>8b. Medium Diversity Wildflowers and Legumes</p> <p>Select <u>at least 9</u> wildflowers and 1 legume from Table 2.4.</p> | <p>Use seeding rate column for Grass Mix in Table 2.4.</p> | <p>Use in combination with a grass mix on dry or mesic sites, as indicated elsewhere in Table 2.2.</p> <p>Select species based on region of occurrence (i.e., Mountains, Piedmont, Coastal Plain), soil moisture (i.e., dry, mesic, wet), <u>and bloom period, such that at least 3 species bloom in each period May-June, July-August, and September-October.</u></p> |

TABLE 2.2: Permanent Upland Herbaceous Cover Mixes: Low - Medium Density (Conservation Cover)

8. Maryland Native Wildflowers and Legumes (continued)

These mixes can be added to grass mixes as indicated elsewhere in Table 2.2. For the highest diversity grass/wildflower mixes that have a predominant wildflower component, use Mix 15, 16, or 17, as appropriate for site conditions.

| Mix ^{1/} | Seeding Rate (lbs/ac) ^{2/} | Remarks |
|---|--|--|
| <p>8c. Wet Site Wildflowers</p> <p>SELECT AT LEAST 5 OF THE FOLLOWING:</p> <p><i>Asclepias incarnata</i> Swamp Milkweed</p> <p><i>Bidens cernua</i> Nodding Bur Marigold</p> <p><i>Bidens frondosa</i> Beggar Ticks</p> <p><i>Eupatorium perfoliatum</i> Boneset</p> <p><i>Eutrochium fistulosum</i> Joe-Pye Weed</p> <p><i>Eutrochium purpureum</i> Sweet-scented Joe-Pye Weed</p> <p><i>Monarda didyma</i> Scarlet Beebalm</p> <p><i>Penstemon digitalis</i> Tall White Beard-tongue</p> <p><i>Pycnanthemum tenuifolium</i> Narrow-leaf Mountain Mint</p> <p><i>Thalictrum pubescens</i> Tall Meadow Rue</p> <p><i>Tradescantia virginiana</i> Virginia Spiderwort</p> <p><i>Verbena hastata</i> Blue (Swamp) Vervain</p> <p><i>Vernonia noveboracensis</i> New York Ironweed</p> | <p>1</p> <p>0.5</p> <p>0.8</p> <p>0.02</p> <p>0.03</p> <p>0.1</p> <p>0.05</p> <p>0.2</p> <p>0.01</p> <p>0.4</p> <p>0.04</p> <p>0.04</p> <p>0.2</p> | <p>Use in combination with a grass mix on wet sites, as indicated elsewhere in Table 2.2.</p> <p>Obligate wetland species.</p> <p>Obligate wetland annual that will readily reseed.</p> <p>Annual that will readily reseed.</p> <p>Scarlet Beebalm is primarily a Western Maryland species.</p> |

TABLE 2.2: Permanent Upland Herbaceous Cover Mixes: Low - Medium Density (Conservation Cover)

8d. High Diversity Native Wildflower and Legume Mix for Interseeding

Use for interseeding into existing grass stands on dry and mesic sites to enhance forb diversity for wildlife habitat and pollinators.

| Scientific Name | Common Name | % by Weight | % by Seed | Duration | Legume | Flowering Period and Flower Color | | | | | | | | | | | | |
|---|----------------------------|-------------|-----------|-----------|--------|-----------------------------------|---|---|---|---|---|---|---|---|--|--|--|--|
| | | | | | | M | A | M | J | J | A | S | O | N | | | | |
| <i>Asclepias syriaca</i> | Common Milkweed | 14.7% | 4.0% | Perennial | | | | | | | | | | | | | | |
| <i>Asclepias tuberosa</i> | Butterfly Milkweed | 11.0% | 3.0% | Perennial | | | | | | | | | | | | | | |
| <i>Chamaecrista fasciculata</i> | Partridge Pea | 7.9% | 2.0% | Annual | ■ | | | | | | | | | | | | | |
| <i>Conoclinium coelestinum</i> | Mistflower | 0.3% | 2.0% | Perennial | | | | | | | | | | | | | | |
| <i>Coreopsis tinctoria</i> | Golden Tickseed | 0.3% | 4.0% | Annual | | | | | | | | | | | | | | |
| <i>Desmodium paniculatum</i> | Panicled Tick-Trefoil | 10.3% | 8.0% | Perennial | ■ | | | | | | | | | | | | | |
| <i>Doellingeria umbellata</i> var. <i>umbellata</i> | Flat-topped White Aster | 0.6% | 2.0% | Perennial | | | | | | | | | | | | | | |
| <i>Eutrochium purpureum</i> | Sweet-scented Joe-Pye Weed | 0.8% | 2.0% | Perennial | | | | | | | | | | | | | | |
| <i>Helenium flexuosum</i> | Purple Sneezeweed | 1.0% | 8.0% | Perennial | | | | | | | | | | | | | | |
| <i>Heliopsis helianthoides</i> | Smooth Oxeye | 19.9% | 9.0% | Perennial | | | | | | | | | | | | | | |
| <i>Lespedeza capitata</i> | Round-head Bush-Clover | 8.9% | 6.0% | Perennial | ■ | | | | | | | | | | | | | |
| <i>Monarda fistulosa</i> | Wild Bergamot | 2.5% | 12.0% | Perennial | | | | | | | | | | | | | | |
| <i>Monarda punctata</i> | Spotted Bee-Balm | 2.1% | 12.0% | Perennial | | | | | | | | | | | | | | |
| <i>Penstemon digitalis</i> | Tall White Beard-Tongue | 4.5% | 7.0% | Perennial | | | | | | | | | | | | | | |
| <i>Pycnanthemum incanum</i> | Hoary Mountain Mint | 0.5% | 9.0% | Perennial | | | | | | | | | | | | | | |
| <i>Rudbeckia hirta</i> | Black-eyed Susan | 0.8% | 5.0% | Biennial | | | | | | | | | | | | | | |
| <i>Senna hebecarpa</i> | American Senna | 12.6% | 1.0% | Perennial | ■ | | | | | | | | | | | | | |
| <i>Solidago nemoralis</i> | Gray Goldenrod | 0.5% | 2.0% | Perennial | | | | | | | | | | | | | | |
| <i>Symphotrichum oblongifolium</i> | Aromatic Aster | 0.8% | 2.0% | Perennial | | | | | | | | | | | | | | |

| | |
|--|--|
| Seeds per Square Foot: 40 Pounds of Pure Live Seed (PLS) per Acre: 7.0* | Grasses by Seed: 0% Forbs by Seed: 100% |
|--|--|

Mix 8d Notes: Use all species listed. Substitutions: Use Table 2.4 to select substitute species, based on occurrence, adaptation, and bloom period. If appropriate substitutes are not available, increase the percentage of other species currently in the mix.

* Seeding rates are subject to change when substitute species are used, or when species are removed from the mix.

| TABLE 2.2: Permanent Upland Herbaceous Cover Mixes: Low - Medium Density (Conservation Cover) | | | | | | | | |
|--|--|---|-------------------------------------|-----------------------------------|--------------------|----------------------------------|----------------------|--|
| Mix ^{1/} | Recommended Cultivar | Seeding Rate (lbs/ac) ^{2/} | Plant Hardiness Zones ^{3/} | Soil Drainage Class ^{4/} | Max. Height (feet) | All Native Species ^{5/} | Type of Grass in Mix | Remarks |
| 9. Orchardgrass <i>Dactylis glomerata</i> Red Fescue <i>Festuca rubra</i> Alsike Clover <i>Trifolium hybridum</i> White Clover <i>Trifolium repens</i> | Any Common Common Common | 3 - 4 3 - 4 1 - 2 1 - 2 | All | W - MW | 2 - 3 | N | Cool season grasses | Once well-established, orchardgrass may tend to dominate the stand. Alsike clover can be toxic to horses. |
| 10. Orchardgrass <i>Dactylis glomerata</i> Bluegrass <i>Poa pratensis</i> AND/OR Timothy <i>Phleum pratense</i> AND ONE OF THE FOLLOWING: White Clover <i>Trifolium repens</i> Red Clover <i>Trifolium pratense</i> Common Lespedeza <i>Lespedeza striata</i> Korean Lespedeza <i>Lespedeza stipulacea</i> | Any Not a turf type Climax Common Any Kobe Climax or Rowan | 2 - 4 1 - 2 2 - 4 1 - 2 1 - 2 3 - 5 3 - 5 | All (See remarks) | W - MW | 2 - 3 | N | Cool season grasses | Timothy does not perform well in PHZs 7a, 7b and 8a. Once well-established, orchardgrass may tend to dominate the stand. |
| 11. Riverbank Wildrye <i>Elymus riparius</i> Virginia Wildrye <i>Elymus virginicus</i> River Oats <i>Chasmanthium latifolium</i> OR Slender Woodoats <i>Chasmanthium laxum</i> OPTIONAL ADDITION: Mix 8c | Common Common Common Common | 4 - 6 4 - 6 5 - 10 5 - 10 Varies | All | MW - P | 3 - 4 | Y | Cool season grasses | All native, shade-tolerant CSG grass mix for mesic to wet sites. Use River Oats in the Mountains and Piedmont, and Slender Woodoats on the Coastal Plain. Add Mix 8c to provide a grass-forb mix for wildlife habitat. |

TABLE 2.2: Permanent Upland Herbaceous Cover Mixes: Low - Medium Density (Conservation Cover)

| Mix ^{1/} | Recommended Cultivar | Seeding Rate (lbs/ac) ^{2/} | Plant Hardiness Zones ^{3/} | Soil Drainage Class ^{4/} | Max. Height (feet) | All Native Species ^{5/} | Type of Grass in Mix | Remarks |
|--|-----------------------------------|-------------------------------------|-------------------------------------|-----------------------------------|--------------------|----------------------------------|----------------------|---|
| 12. Chewings Fescue <i>Festuca rubra</i> ssp. <i>fallax</i> Hard Fescue <i>Festuca brevipila</i> Sheep fescue <i>Festuca ovina</i> AND ADD WILDFLOWER MIX: Mix 8a OR ADD CLOVER MIX: White Clover <i>Trifolium repens</i> Red Clover <i>Trifolium pratense</i> | Common | 1 - 2 | All | W - MW | 2 - 3 | N | Cool season grasses | Attractive, low-growing grass and wildflower (or clover) mix. Select the clover option when using this mix for travel lanes and companion plantings. Clover may be omitted when using this mix for paths/walkways. |
| | Beacon, Gotham, Spartan II, Sword | 1 - 2 | | | | | | |
| | Common or Bighorn | 1 - 2 | | | | | | |
| | Common | Varies | | | | | | |
| | Common | 1 - 2 | | | | | | |
| | Any | 1 - 2 | | | | | | |
| 13. Rough Bluegrass <i>Poa trivialis</i> Virginia Wildrye <i>Elymus virginicus</i> OR Riverbank Wildrye <i>Elymus riparius</i> Fowl Meadowgrass <i>Poa palustris</i> OR Red Fescue <i>Festuca rubra</i> | Common | 1 - 2 | All | SP - P | 4 - 5 | N | Cool season grasses | Use Red Fescue on drier soils and Fowl Meadowgrass on wetter soils. |
| | Common | 5 - 8 | | | | | | |
| | Common | 4 - 6 | | | | | | |
| | Common | 1 - 2 | | | | | | |
| | Common | 1 - 2 | | | | | | |
| 14. Fowl Meadowgrass <i>Poa palustris</i> Virginia Wildrye <i>Elymus virginicus</i> Red Fescue <i>Festuca rubra</i> AND ADD: Partridge Pea <i>Chamaecrista fasciculata</i> OR ADD CLOVER MIX: Alsike Clover <i>Trifolium hybridum</i> White Clover <i>Trifolium repens</i> | Common | 1 - 2 | All | SP - P | 2 - 3 | Y (See Remarks) | Cool season grasses | Low-growing mix of native grasses for wet sites. Use Partridge Pea if an all-native mix is desired. (Alsike and White Clover are not native to Maryland.) Alsike Clover can be toxic to horses. |
| | Common | 4 - 6 | | | | | | |
| | Common | 1 - 2 | | | | | | |
| | Common | 1 - 2 | | | | | | |
| | Common | 1 - 2 | | | | | | |
| | Common | 1 - 2 | | | | | | |

| TABLE 2.2: Permanent Upland Herbaceous Cover Mixes: Low - Medium Density (Conservation Cover) | | | | | | | | | | | | | | | | | | | | |
|---|---------------------------|--|-----------|-----------------------------|------------|--------|-----------------------------------|---|---|---|---|---|---|---|---|--|--|--|--|--|
| 15. High Diversity Native Grass/Forb Mix for Dry Sites | | | | | | | | | | | | | | | | | | | | |
| This mix has a predominant wildflower component for optimum wildlife and pollinator habitat. | | | | | | | | | | | | | | | | | | | | |
| Scientific Name | Common Name | % by Weight | % by Seed | Duration | Grass/Forb | Legume | Flowering Period and Flower Color | | | | | | | | | | | | | |
| | | | | | | | M | A | M | J | J | A | S | O | N | | | | | |
| <i>Asclepias syriaca</i> | Common Milkweed | 11.2% | 4.0% | Perennial | ☼ | | | | | | | | | | | | | | | |
| <i>Asclepias tuberosa</i> | Butterfly Milkweed | 16.8% | 6.0% | Perennial | ☼ | | | | | | | | | | | | | | | |
| <i>Baptisia tinctoria</i> | Yellow False Indigo | 2.6% | 4.0% | Perennial | ☼ | ■ | | | | | | | | | | | | | | |
| <i>Chamaecrista fasciculata</i> | Partridge Pea | 6.0% | 2.0% | Annual | ☼ | ■ | | | | | | | | | | | | | | |
| <i>Desmodium paniculatum</i> | Panicled Tick-Trefoil | 6.8% | 7.0% | Perennial | ☼ | ■ | | | | | | | | | | | | | | |
| <i>Elymus canadensis</i> | Canada Wildrye | 8.6% | 5.0% | Perennial | ☼ | | | | | | | | | | | | | | | |
| <i>Heliopsis helianthoides</i> | Smooth Oxeye | 11.8% | 7.0% | Perennial | ☼ | | | | | | | | | | | | | | | |
| <i>Lespedeza capitata</i> | Round-head Bush-Clover | 7.9% | 7.0% | Perennial | ☼ | ■ | | | | | | | | | | | | | | |
| <i>Monarda punctata</i> | Spotted Bee-balm | 1.1% | 8.0% | Perennial | ☼ | | | | | | | | | | | | | | | |
| <i>Penstemon digitalis</i> | Tall White Beard-Tongue | 3.4% | 7.0% | Perennial | ☼ | | | | | | | | | | | | | | | |
| <i>Pycnanthemum tenuifolium</i> | Narrow-leaf Mountain Mint | 0.3% | 7.0% | Perennial | ☼ | | | | | | | | | | | | | | | |
| <i>Rudbeckia hirta</i> | Black-eyed Susan | 0.6% | 5.0% | Biennial | ☼ | | | | | | | | | | | | | | | |
| <i>Schizachyrium scoparium</i> | Little Bluestem | 6.8% | 5.0% | Perennial | ☼ | | | | | | | | | | | | | | | |
| <i>Senna marilandica</i> | Maryland Senna | 9.6% | 1.0% | Perennial | ☼ | ■ | | | | | | | | | | | | | | |
| <i>Solidago nemoralis</i> | Gray Goldenrod | 1.2% | 6.0% | Perennial | ☼ | | | | | | | | | | | | | | | |
| <i>Symphotrichum laeve</i> var. <i>laeve</i> | Smooth Blue Aster | 1.0% | 5.0% | Perennial | ☼ | | | | | | | | | | | | | | | |
| <i>Symphotrichum pilosum</i> | White Oldfield Aster | 2.0% | 7.0% | Perennial | ☼ | | | | | | | | | | | | | | | |
| <i>Tradescantia virginiana</i> | Virginia Spiderwort | 0.2% | 2.0% | Perennial | ☼ | | | | | | | | | | | | | | | |
| <i>Tridens flavus</i> | Purpletop | 2.1% | 5.0% | Perennial | ☼ | | | | | | | | | | | | | | | |
| | | Seeds per Square Foot: 30 | | Grasses by Seed: 15% | | | | | | | | | | | | | | | | |
| | | Pounds of Pure Live Seed (PLS) per Acre: 6.5* | | Forbs by Seed: 85% | | | | | | | | | | | | | | | | |

Mix 15 Notes: Use all species listed. **Substitutions:** Use Tables 2.3 and 2.4 (Forb Mix column) to select substitute species for grasses and wildflowers, respectively. To the extent possible, select substitute species based on occurrence, adaptation, and bloom period. Recommended substitute grass species are *Andropogon virginicus* (Broomsedge), *Dicanthelium clandestinum* (Deertongue), and *Sorghastrum nutans* (Indiangrass).

* Seeding rates are subject to change when substitute species are used, or when species are removed from the mix.

| TABLE 2.2: Permanent Upland Herbaceous Cover Mixes: Low - Medium Density (Conservation Cover) | | | | | | | | | | | | | | | | | | | |
|---|---------------------------|--|-----------|-----------------------------|------------|--------|-----------------------------------|---|---|---|---|---|---|---|---|--|--|--|--|
| 16. High Diversity Native Grass/Forb Mix for Mesic Sites | | | | | | | | | | | | | | | | | | | |
| This mix has a predominant wildflower component for optimum wildlife and pollinator habitat. | | | | | | | | | | | | | | | | | | | |
| Scientific Name | Common Name | % by Weight | % by Seed | Duration | Grass/Forb | Legume | Flowering Period and Flower Color | | | | | | | | | | | | |
| | | | | | | | M | A | M | J | J | A | S | O | N | | | | |
| <i>Andropogon virginicus</i> | Broomsedge | 0.7% | 3.0% | Perennial | ☞ | | | | | | | | | | | | | | |
| <i>Asclepias syriaca</i> | Common Milkweed | 17.0% | 6.0% | Perennial | ☼ | | | | | | | | | | | | | | |
| <i>Chamaecrista fasciculata</i> | Partridge Pea | 6.0% | 2.0% | Annual | ☼ | ■ | | | | | | | | | | | | | |
| <i>Coreopsis lanceolata</i> | Lanceleaf Tickseed | 6.3% | 7.0% | Perennial | ☼ | | | | | | | | | | | | | | |
| <i>Desmodium canadense</i> | Showy Tick Trefoil | 19.1% | 7.0% | Perennial | ☼ | ■ | | | | | | | | | | | | | |
| <i>Doellingeria umbellata</i> var. <i>umbellata</i> | Flat-topped White Aster | 0.7% | 3.0% | Perennial | ☼ | | | | | | | | | | | | | | |
| <i>Elymus virginicus</i> | Virginia Wildrye | 5.9% | 3.0% | Perennial | ☞ | | | | | | | | | | | | | | |
| <i>Eutrochium purpureum</i> | Sweet-scented Joe-Pyeweed | 1.8% | 6.0% | Perennial | ☼ | | | | | | | | | | | | | | |
| <i>Helenium flexuosum</i> | Purple Sneezeweed | 0.7% | 7.0% | Perennial | ☼ | | | | | | | | | | | | | | |
| <i>Heliopsis helianthoides</i> | Smooth Oxeye | 11.9% | 7.0% | Perennial | ☼ | | | | | | | | | | | | | | |
| <i>Lespedeza capitata</i> | Round-head Bush-Clover | 8.0% | 7.0% | Perennial | ☼ | ■ | | | | | | | | | | | | | |
| <i>Monarda fistulosa</i> | Wild Bergamot | 1.1% | 7.0% | Perennial | ☼ | | | | | | | | | | | | | | |
| <i>Penstemon digitalis</i> | Tall White Beard-Tongue | 3.5% | 7.0% | Perennial | ☼ | | | | | | | | | | | | | | |
| <i>Rudbeckia triloba</i> | Brown-eyed Susan | 2.2% | 6.0% | Perennial | ☼ | | | | | | | | | | | | | | |
| <i>Senna hebecarpa</i> | American Senna | 9.7% | 1.0% | Perennial | ☼ | ■ | | | | | | | | | | | | | |
| <i>Solidago nemoralis</i> | Gray Goldenrod | 1.2% | 6.0% | Perennial | ☼ | | | | | | | | | | | | | | |
| <i>Symphotrichum oblongifolium</i> | Aromatic Aster | 2.0% | 7.0% | Perennial | ☼ | | | | | | | | | | | | | | |
| <i>Tradescantia virginiana</i> | Virginia Spiderwort | 0.5% | 4.0% | Perennial | ☼ | | | | | | | | | | | | | | |
| <i>Tridens flavus</i> | Purpletop | 1.7% | 4.0% | Perennial | ☞ | | | | | | | | | | | | | | |
| | | Seeds per Square Foot: 30 | | Grasses by Seed: 10% | | | | | | | | | | | | | | | |
| | | Pounds of Pure Live Seed (PLS) per Acre: 6.5* | | Forbs by Seed: 90% | | | | | | | | | | | | | | | |

Mix 16 Notes: Use all species listed. **Substitutions:** Use Tables 2.3 and 2.4 (Forb Mix column) to select substitute species for grasses and wildflowers, respectively. To the extent possible, select substitute species based on occurrence, adaptation, and bloom period. Recommended substitute grass species are *Eragrostis spectabilis* (Purple Lovegrass) and *Tridens flavus* (Purpletop). *Schizachyrium scoparium* (Little Bluestem) may be used as a substitute on mesic sites that are well-drained.

* Seeding rates are subject to change when substitute species are used, or when species are removed from the mix.

| TABLE 2.2: Permanent Upland Herbaceous Cover Mixes: Low - Medium Density (Conservation Cover) | | | | | | | | | | | | | | | | | | | | |
|---|---------------------------|-------------|------------------------------------|-----------|------------|--------|-----------------------------------|---|---|---|---|---|---|---|---|--|--|--|--|--|
| 17. High Diversity Native Grass/Forb Mix for Wet Sites | | | | | | | | | | | | | | | | | | | | |
| This mix has a predominant wildflower component for optimum wildlife and pollinator habitat. | | | | | | | | | | | | | | | | | | | | |
| Scientific Name | Common Name | % by Weight | % by Seed | Duration | Grass/Forb | Legume | Flowering Period and Flower Color | | | | | | | | | | | | | |
| | | | | | | | M | A | M | J | J | A | S | O | N | | | | | |
| <i>Asclepias incarnata</i> | Swamp Milkweed | 22.2% | 5.0% | Perennial | ☼ | | | | | | | | | | | | | | | |
| <i>Bidens cernua</i> | Nodding Bur Marigold | 7.2% | 3.0% | Annual | ☼ | | | | | | | | | | | | | | | |
| <i>Bidens frondosa</i> | Beggar Ticks | 7.8% | 2.0% | Annual | ☼ | | | | | | | | | | | | | | | |
| <i>Carex vulpinoidea</i> | Fox Sedge | 1.0% | 4.0% | Perennial | ☿ | | | | | | | | | | | | | | | |
| <i>Doellingeria umbellata</i> var. <i>umbellata</i> | Flat-topped White Aster | 2.7% | 7.0% | Perennial | ☼ | | | | | | | | | | | | | | | |
| <i>Elymus virginicus</i> | Virginia Wildrye | 15.5% | 5.0% | Perennial | ☿ | | | | | | | | | | | | | | | |
| <i>Eupatorium perfoliatum</i> | Boneset | 0.8% | 7.0% | Perennial | ☼ | | | | | | | | | | | | | | | |
| <i>Eutrochium fistulosum</i> | Joe-Pye Weed | 1.1% | 7.0% | Perennial | ☼ | | | | | | | | | | | | | | | |
| <i>Helenium autumnale</i> | Yellow Sneezeweed | 1.7% | 8.0% | Perennial | ☼ | | | | | | | | | | | | | | | |
| <i>Panicum rigidulum</i> | Redtop Panicgrass | 2.3% | 6.0% | Perennial | ☿ | | | | | | | | | | | | | | | |
| <i>Pycnanthemum tenuifolium</i> | Narrow-leaf Mountain Mint | 0.6% | 8.0% | Perennial | ☼ | | | | | | | | | | | | | | | |
| <i>Senna hebecarpa</i> | American Senna | 15.1% | 1.0% | Perennial | ☼ | ■ | | | | | | | | | | | | | | |
| <i>Symphotrichum lateriflorum</i> var. <i>lateriflorum</i> | Calico Aster | 2.5% | 6.0% | Perennial | ☼ | | | | | | | | | | | | | | | |
| <i>Symphotrichum novae-angliae</i> | New England Aster | 2.0% | 7.0% | Perennial | ☼ | | | | | | | | | | | | | | | |
| <i>Thalictrum pubescens</i> | Tall Meadow Rue | 8.0% | 5.0% | Perennial | ☼ | | | | | | | | | | | | | | | |
| <i>Tradescantia virginiana</i> | Virginia Spiderwort | 0.9% | 5.0% | Perennial | ☼ | | | | | | | | | | | | | | | |
| <i>Verbena hastata</i> | Blue (Swamp) Vervain | 1.4% | 7.0% | Biennial | ☼ | | | | | | | | | | | | | | | |
| <i>Vernonia noveboracensis</i> | New York Ironweed | 7.2% | 7.0% | Perennial | ☼ | | | | | | | | | | | | | | | |
| Seeds per Square Foot: 30 | | | Grasses/Sedges by Seed: 15% | | | | | | | | | | | | | | | | | |
| Pounds of Pure Live Seed (PLS) per Acre: 4.0* | | | Forbs by Seed: 85% | | | | | | | | | | | | | | | | | |

Mix 17 Notes: Use all species listed. Substitutions: Use Tables 2.3 and 2.4 (Forb Mix column) to select substitute species for grasses and wildflowers, respectively. To the extent possible, select substitute species based on occurrence, adaptation, and bloom period. Recommended substitute grass species are *Chasmanthium laxum* (Slender Woodoats), *Elymus riparius* (Riverbank Wildrye), *Panicum anceps* (Beaked Panicgrass), and *Glyceria striata* (Fowl Mannagrass). Recommended substitute sedge species are *Carex lupulina* (Hop Sedge) and *Carex lurida* (Lurid Sedge). On drier sites, substitute *Chasmanthium latifolium* (River Oats), *Chasmanthium laxum* (Slender Woodoats), or *Elymus riparius* (Riverbank Wildrye) for *Carex vulpinoidea* (Fox Sedge).

* Seeding rates are subject to change when substitute species are used, or when species are removed from the mix.

TABLE 2.2 NOTES:

1. **Mix:** Where "OR" is shown, select from one of the two species or mixes separated by "OR" based on site conditions and desirability.
2. **Seeding Rate:** Seeding rates for the native grasses, sedges, legumes, and other wildflowers are in pounds of Pure Live Seed (PLS). Order seed from the supplier based on the PLS rate; the seed supplier will adjust the bulk amount to be planted based on percent seed germination and purity, as tested.

Adjustments are not usually needed for the introduced grasses and legumes. However, be aware that some seed may be polymer-coated. This coating can double the weight of the seed, so that a bag of seed may contain only 50% seed by weight (e.g., a 10-pound bag of grass seed may contain only 5 pounds of seed, with the other 5 pounds consisting of the polymer coating). Be sure to read the seed analysis label when purchasing seed, and adjust the per acre weight to be planted accordingly.

Legume seeds shall be inoculated before planting with the appropriate *Rhizobium* bacteria. When feasible, hard-seeded legumes should be scarified to improve germination.

When a seeding rate is expressed as a range (i.e., 4 - 6), the lower rate should be used if erosion is not a concern. Where erosion is a concern, use the higher seeding rate and add one of the following nurse crops with the selected mix: 20 - 40 lbs/ac of oats or barley. This can be planted with the selected mix at the time of seeding. If using a conservation tillage method, plant the small grain as a cover crop in the fall, mow in early spring, and drill the permanent planting into the remaining stubble. Do not use cereal rye as a nurse crop. It has allelopathic properties that inhibit the germination and growth of other plants.

Oats are the recommended nurse crop for warm-season grasses.

3. The **Plant Hardiness Zones** designate where a species can be successfully planted in Maryland, while the geographic distribution describes where the species usually occurs under natural conditions.
4. **Soil Drainage Class** (refer to the county soil survey for further information):
E - Excessively Drained; W - Well Drained; MW - Moderately Well Drained; SP - Somewhat Poorly Drained; P - Poorly Drained; VP - Very Poorly Drained.
5. **Native Species:** The term "native" refers to species that occur naturally in one or more geographic regions of Maryland. Native mixes may include non-native nurse crops (which are short-lived) for site stabilization during establishment of the permanent planting.