PARTIALLY SHADED SITES

Woodland openings can be developed to provide crucial early successional habitat between old growth forests and adjoining grasslands.

PARTIALLY SHADED SITES ARE characterized as having a relative lack of direct sunlight, typically caused by trees and shrubs that reduce their exposure. Examples: Woodland openings and sites associated with bioengineering installations.

Aster divaricatus (White Wood Aster) is frequently found along wooded edges and provides great pollinator value in late summer and early fall.

HABITAT:
Typically in moderate shade; many native species are adapted to moderate shade and the protective habitat around trees; shade tolerant native grass species, such as *Agrostis perennans* (Autumn Bentgrass), *Chasmanthium laxum* (Slender Woodoats), *Cinna arundinacea* (Wood Reedgrass), *Elymus hystrix* (Bottlebrush Grass), *Elymus riparius* (Riverbank Wildrye), *Elymus virginicus* (Virginia Wildrye), and *Panicum clandestinum* (Deertongue), provide early protection for emerging herbaceous species. Note: For understory of longleaf pine plantings, high biomass producing species, such as switchgrass, big bluestem, and indiangrass, should be avoided. Fire can be too hot for longleaf pine seedlings or trees when these species are burned.

FERTILITY:
The addition of organic matter (compost) is most important. Check soil pH and select species adapted to that pH.

SEEDING METHOD:
Hand seed, broadcast seed, or hydroseed. Use a garden rake, drag, or roll the surface to incorporate the seed into the soil 1/4"-1/2" deep. A seed drill may be used when sufficient room exists for operation.

SITE PREPARATION

These sites generally involve working around trees and shrubs while minimizing damage to trunks and roots. Undesirable vegetation must be controlled by tilling or direct spraying with glyphosate. Invasive weeds not addressed before establishment will be difficult to remove later. The soil needs to be loosened in order to establish seed-to-soil contact and dense leaf litter should be broken up with a rototiller. Seedlings can emerge from light leaf litter if planted at the proper depth. Light mulch or hydromulch can protect the seeds and soil until germination. Seeding and mulching around bioengineering material should take place immediately after installation. If installation cannot take place immediately after grading, temporary seeding and mulching are recommended.

GROWING SEASON MAINTENANCE

FIRST GROWING SEASON

- Whenever canopy height (overall vegetation) reaches 18"-24", trim the meadow to 8" using a brush hog mower or string trimmer. Trimming reduces competition by fast-growing weeds for sunlight, water, and nutrients need-

Apocynum cannabinum **(Indianhemp) is attractive to butterflies and songbirds.**

Carex scoparia **(Blunt Broom Sedge) provides food and cover for songbirds, ruffed grouse, and ducks.**

ed by slower growing perennial natives. A lawn mower is not recommended as the mower height will be too low and native seedlings will be killed.

- If bioengineering materials were used on the site, mowing should be above the new growth of these materials. Trimming should cease by mid-September.
- Problem weeds should be hand pulled or spot sprayed with an approved herbicide, such as Roundup®, Rodeo®, Garlon®, Garlon® 3A, Stinger®, or Milestone®. Be vigilant in controlling vines or spiny plants if they were not part of the mix. These are more easily pulled early than after they have had two to three months of growth. Examples include bindweed, blackberry, multiflora rose, mile-a-minute, and Japanese hops. Be equally vigilant in the control of other invasive species, such as autumn olive, Canada thistle, and mugwort.

SECOND & SUBSEQUENT GROWING SEASONS

- Prior to new spring growth reaching 2" (e.g., shortly after forsythia or redbud blooms), trim any material standing from the previous year close to the ground (approximately 2"). This will allow the soil to warm more quickly, stimulating emergence and growth of herbaceous native plants and reducing invasion of woody undergrowth. In certain ecosystems, controlled burning by certified professionals can achieve the same results.
- If bioengineering materials were used on the site or seed of shrubs/trees were part of the mix, the site should not be trimmed after the establishment year.
- Problem weeds should be hand pulled or spot sprayed. Be vigilant in controlling vines or spiny plants if they were not part of the mix. These are more easily pulled early than after they have had two to three months of growth. Examples include bindweed, blackberry, multiflora rose, mile-a-minute, and Japanese hops. Be equally vigilant in the control of other invasive species, such as autumn olive, Canada thistle, and mugwort.

SPECIAL CIRCUMSTANCES

- If there is a heavy infestation of ragweed or foxtail in the second growing season, trim the meadow to 8". Trimming should cease by mid-September.

PARTIALLY SHADED SITES SEED MIXES

ERNMX-132	Right-of-Way Non-Native Woods Mix
ERNMX-132-1	Right-of-Way Native Woods Mix with Annual Ryegrass
ERNMX-140	Partially Shaded Area Roadside Mix

Mix formulations are subject to change without notice depending on the availability of existing and new products. While the formula may change, the guiding philosophy and function of the mix will not.

THESE MIXES PROVIDE FOOD AND/OR COVER FOR WILDLIFE AND STABILIZATION OF SOILS IN PARTIALLY SHADED AREAS.

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