

UPLAND WILDLIFE GRASS & HERBACEOUS PLANTING RECOMMENDATIONS FOR MAINE

Recommendations are adapted from Technical Note NY-36 developed by NRCS' Big Flats Plant Materials Center. The tables include species and species mixes adapted to somewhat poorly drained and poorly drained soils, which typically are not found on upland sites; however, they are included as small wetland inclusions within upland habitat may need to be considered.

Table 1. NATIVE COOL SEASON GRASS SPECIES (Seed Mixtures and Soil Suitability Recommendations)
 - Grass seeding rates are PURE LIVE SEED (PLS, see note below). These seeding rates ASSUME No-Till Seeding. If a No-Till Drill is NOT used, increase Total grass seeding rate by 2 lbs. proportional based on existing seeding ratio.

Seed Mixtures ¹	Latin Names	Drainage Class ²				
		EWD	WD	MWD	SPD	PD
Canada wild rye 5 lbs/ac and Riverbank wild rye 3 lbs/ac and and Bottlebrush 2 lbs/ac and Autumn Bentgrass 3 lbs/ac and *Native Forbs optional	<i>Elymus canadensis</i> <i>Elymus riparius</i> (Common) <i>Hystrix patula</i> <i>Agrostis perennans</i>		X	X	X	
Canada wild rye 4 lbs/ac and Virginia wild rye 4 lbs/ac and Riverbank wild rye 4 lbs/ac and Rough Bentgrass 3 lbs/ac and Fringed brome grass 4 lbs/ac and *Native Forbs optional	<i>Elymus canadensis</i> <i>Elymus virginicus</i> <i>Elymus riparius</i> (Common) <i>Agrostis scabra</i> <i>Bromus ciliatus</i>		X	X	X	
Riverbank wild rye 4 lbs/ac and Virginia wild rye 4 lbs/ac and Fringed brome grass 6 lbs/ac and *Native Forbs optional	<i>Elymus riparius</i> (Common) <i>Elymus virginicus</i> <i>Bromus ciliatus</i>				X	X

* Utilizing five species from the list. Rates based on seed size and weight and cost consideration.

² These seeding recommendations are for wildlife purposes, and not for critical area and highly erodible areas.

³ EWD = extremely well-drained; WD = well-drained; MWD = moderately well-drained; SPD = somewhat poorly-drained; PD = poorly-drained

Note:

PLS = (% purity x % Germ.) ÷ 100;
 Bulk seed = 100 ÷ %PLS

Example Calculation:

PLS = (96% Purity x 80% Germination) ÷ 100 = 76.8% PLS
 Bulk seed = 100 ÷ 76.8% = 1.3 bulk lbs of seed to seed 1 lb PLS

Prices may be based on bulk seed. Take this into consideration when ordering seed. Seeds per lb can vary by year and seed lot.

Table 2 Native Warm Season Grass¹ Species (Seed Mixtures and Soil Suitability Recommendations)

- Grass seeding rates are **PURE LIVE SEED**. These seeding rates **ASSUME** drilling seed and proper weed control. If a drill is **NOT** used, increase total grass seeding rate by 20%.

Seed Mixtures ²	Latin Names	Drainage Class ⁴				
		EWD	WD	MWD	SPD	PD
Switchgrass 2 lbs/ac and ³ Deertongue 4 lbs/ac and optional *Native Forbs	<i>Panicum virgatum</i> (Blackwell, Shelter) <i>Panicum clandestinum</i> (Tioga)		X	X	X	X
Big bluestem 2 lbs/ac and Indiangrass 3 lbs/ac and Little bluestem 3 lbs/ac and Deertongue 2 lbs/ac optional *Native Forbs	<i>Andropogon gerardii</i> (Niagra) <i>Sorghastrum nutans</i> (Rumsey) <i>Schizachrium scoparium</i> (Aldous, Blaze or CT ecotype) <i>Panicum clandestinum</i> (Tioga)	X	X			
Big bluestem 4 lbs/ac and Indiangrass 4 lbs/ac and Switchgrass 2 lbs/ac optional *Native Forbs	<i>Andropogon gerardii</i> (Niagra) <i>Sorghastrum nutans</i> (Rumsey) <i>Panicum virgatum</i> (Blackwell, Shelter)	X	X	X	X	
Big bluestem 3 lbs/ac and Indiangrass 3 lbs/ac and Deertongue 3 lbs/ac and Switchgrass 2 lbs/ac optional *Native Forbs	<i>Andropogon gerardii</i> (Niagra) <i>Sorghastrum nutans</i> (Rumsey) <i>Panicum clandestinum</i> (Tioga) <i>Panicum virgatum</i> (Blackwell, Shelter)		X	X	X	X

* Utilizing 5 species from the list. Rates based on seed size and weight and cost consideration.

¹ Although most native warm season grasses (nwsgr) are best adapted to moist, fertile soils, they may be out competed when planted on sites with established, competitive cool season grasses. For this reason, nwsgr are often recommended for sandy, sterile, acidic sites where they have a competitive advantage. Therefore, care must be exercised during site and species selection. See Poole et al. (1997) for more information.

² These seeding recommendations are for wildlife purposes, and not for critical area and highly erodible areas

³ This mix will not require the use of a native grass drill. If seeding conventionally, seed gamagrass 1-1 1/2" deep in grain box. Seed the remaining grass in legume box, pull tubes to allow surface seeding. Cultipack after drilling. The rest of the mixes will require a native grass drill.

⁴ EWD = extremely well-drained; WD = well-drained; MWD = moderately well-drained; SPD = somewhat poorly-drained; PD = poorly-drained

Table 3. NATIVE WARM¹ AND COOL SEASON GRASS SPECIES (Seed Mixtures and Soil Suitability Recommendations) Grass seeding rates are PURE LIVE SEED. These seeding rates ASSUME No-Till Seeding. If a No-Till Drill is NOT used, increase Total grass seeding rate by 2 lbs. proportional based on existing seeding ratio.

Seed Mixtures ^{2,3}	Latin Names	Drainage Class ⁴				
		EWD	WD	MWD	SPD	PD
Indiangrass 2 lbs/ac and Switchgrass 1 lb/ac and Little bluestem 3 lbs/ac and Canada wild rye 5 lbs/ac *Native Forbs optional	<i>Sorghastrum nutans</i> (Rumsey) <i>Panicum virgatum</i> (Blackwell, Shelter) <i>Schizachrium scoparium</i> (Aldous, Blaze or CT ecotype) <i>Elymus canadensis</i>	X	X			
Big bluestem 4 lbs/ac and Indiangrass 2 lbs/ac and Switchgrass 1 lb/ac and Canada wild rye 5 lbs/ac Autumn Bentgrass 3 lbs/ac; or Rough Bentgrass 3 lbs/ac and *Native Forbs optional	<i>Andropogon gerardii</i> (Niagra) <i>Sorghastrum nutans</i> (Rumsey) <i>Panicum virgatum</i> (Blackwell, Shelter) <i>Elymus canadensis</i> <i>Agrostis perennans</i> ; <i>Agrostis scabra</i>		X	X		
Big bluestem 4 lbs/ac and Switchgrass 1 lb/ac and Virginia wild rye 4 lbs/ac and Deertongue 1 lb/ac *Native Forbs optional Fringed bromegrass 4 lbs/ac and Riverbank wild rye 4 lbs/ac and Virginia wildrye 4 lbs/ac and Switchgrass 1/2 lb/ac *Native Forbs optional optional	<i>Andropogon gerardii</i> (Niagra) <i>Panicum virgatum</i> (Blackwell, Shelter) <i>Elymus virginicus</i> <i>Panicum clandestinum</i> (Tioga) <i>Bromus ciliatus</i> <i>Elymus riparius</i> (Common) <i>Elymus virginicus</i> <i>Panicum virgatum</i> (Blackwell, Shelter)			X	X	
Fringed bromegrass 4 lbs/ac and Canada wild rye 6 lbs/ac and Switchgrass 1 lbs/ac and Deertongue 2 lbs/ac *Native Forbs optional	<i>Bromus ciliatus</i> <i>Elymus canadensis</i> <i>Panicum virgatum</i> (Blackwell, Shelter) <i>Panicum clandestinum</i> (Tioga)		X	X	X	

* Utilizing five species from the list. Rates based on seed size and weight and cost consideration.

¹ Although most native warm season grasses (nwsgr) are best adapted to moist, fertile soils, they may be out competed when planted on sites with established, competitive cool season grasses. For this reason, nwsgr are often recommended for sandy, sterile, acidic sites where they have a competitive advantage. Therefore, care must be exercised during site and species selection. See Poole et al. (1997) for more information.

² These seeding recommendations are for wildlife purposes and not for critical area and highly erodible areas.

³ Low rates of switchgrass and deertongue will require monitoring of seedbox to maintain seed over seed drop opening.

⁴ EWD = extremely well-drained; WD = well-drained; MWD = moderately well-drained; SPD = somewhat poorly-drained; PD = poorly-drained

Table 4. Introduced Species (Seed Mixtures and Soil Suitability Recommendations)
 - seeding rates are based on bulk seed and not PLS; therefore, when ordering seed obtain seed lots with the highest amount of quick or initial germination rates.

Seed Mixtures ¹	Latin Names	Drainage Class ²				
		EWD	WD	MWD	SPD	PD
Orchardgrass 5 lbs/ac and Hard Fescue 6 lbs/ac plus Ladino Clover (upright improved varieties) 2 lbs/ac and Red Clover 2 lbs/ac or 3 lbs/ac (Birdsfoot trefoil Pardee, Norcen or Viking)	<i>Dactylis glomerata</i> (Biljart or Serra) <i>Trifolium repens</i> <i>Trifolium pratense</i> (Common) <i>Birdsfoot Trefoil</i> (Empire)		X	X		
Timothy 3 lbs/ac and Orchardgrass 4 lbs/ac and Bromegrass 3 lbs/ac plus Ladino Clover (upright improved varieties) 2 lbs/ac and Red Clover 2 lbs/ac or 3 lbs/ac Birdsfoot trefoil (Pardee, Norcen or Viking)	<i>Phleum pretense</i> (Common) <i>Dactylis glomerata</i> <i>Bromus ciliatus</i> <i>Trifolium repens</i> <i>Trifolium pratense</i> (Common) <i>Birdsfoot Trefoil</i> (Empire)		X	X	X	
Timothy 3 lbs/ac and Orchardgrass 4 lbs/ac and Red top .5 lb/ac plus Ladino Clover (upright improved varieties) 2 lbs/ac and Red Clover 2 lbs/ac or 3 lbs/ac Birdsfoot trefoil (Pardee, Norcen or Viking)	<i>Phleum pretense</i> (Common) <i>Dactylis glomerata</i> <i>Agrostis alba</i> (Streaker or Barracuda) <i>Trifolium repens</i> <i>Trifolium pratense</i> (Common) <i>Birdsfoot Trefoil</i> (Empire)		X	X	X	X
Timothy 5 lbs/ac and Orchardgrass 5 lbs/ac plus Ladino Clover (upright improved varieties) 2 lbs/ac and Red Clover 2 lbs/ac or 3 lbs/ac Birdsfoot trefoil (Pardee, Norcen or Viking)	<i>Phleum pretense</i> (Common) <i>Dactylis glomerata</i> <i>Trifolium repens</i> <i>Trifolium pratense</i> (Common) <i>Birdsfoot Trefoil</i> (Empire)		X	X	X	

¹ Use early varieties of the grasses when available to facilitate earlier stem elongation providing earlier cover. These seeding recommendations are for wildlife purposes and not for critical area and highly erodible areas.

² EWD = extremely well-drained; WD = well-drained; MWD = moderately well-drained; SPD = somewhat poorly-drained; PD = poorly-drained

Table 5. NATIVE FORBS (Seeding and Soil Suitability Recommendations)

- seeding rates are based on bulk seed and not PLS; therefore, when ordering seed obtain seed lots with the highest amount of quick or initial germination rates.

Common Name	Latin Name	Wetland Indicator	note: .0625 lb = 1 oz		Bulk seeds/ft ²	Soil Adaptation ⁵
			Bulk Seed lb/ac ¹	Seeds/lb		
Butterfly Milkweed	<i>Asclepias tuberosa</i>	upland	0.0625	70,000	0.10	MWD
Common Milkweed	<i>Asclepias syriaca</i>	upland	0.0625	70,000	0.10	WD-MWD
New England Aster	<i>Aster novae-angliae</i>	facw	0.0625	1,216,000	1.74	PD-WD
Long-leaved Aster	<i>Aster umbellatus</i>	facw	0.0313	1,072,000	0.77	PD-WD
White Heath Aster	<i>Aster ericoides</i>	facu	0.0156	3,200,000	1.15	MWD-ED
Sunflower Heliopsis, (Ox-Eye Sunflower)	<i>Heliopsis helianthoides</i>	upland	0.5000	126,000	1.45	MWD-ED
Joe Pyeweed ²	<i>Eupatorium maculatum</i>	facw	0.0313	2,000,000	1.43	PD-MWD
Roundhead Lespedeza	<i>Lespedeza capitata</i>	facu-	0.0625	275,000	0.39	MWD-ED
Wild Bergamot ²	<i>Monarda fistulosa</i>	upland	0.0313	1,418,000	1.02	SPD-MWD
Grey-headed Coneflower ³	<i>Ratibida pinnata</i>	upland	0.1250	410,000	1.18	MWD-ED
Blackeyed Susan	<i>Rudbeckia hirta</i> (Golden Jubilee)	facu-	0.0625	1,750,000	2.51	SPD-WD
Canada Goldenrod	<i>Solidago canadensis/altissima</i>	facu	0.0156	4,600,000	1.65	SPD-ED
Grass-leaved Goldenrod	<i>Euthamia graminifolia</i>	fac	0.0313	5,600,000	4.02	SPD-MWD
Boneset	<i>Eupatorium perfoliatum</i>	facw+	0.0313	2,880,000	2.07	PD-MWD
Blue Vervain ²	<i>Verbena hastata</i>	facw+	0.0625	1,544,000	2.22	PD-MWD
White Vervain	<i>Verbena urticifolia</i>	facu	0.0625	1,000,000	1.43	SPD-WD
Showy Tick Trefoil	<i>Desmodium canadense</i>	fac	0.2500	72,000	0.41	SPD-WD
Golden Alexanders	<i>Zizia aurea</i>	fac	0.2500	184,000	1.06	SPD-WD
Giant Sunflower	<i>Helianthus giganteus</i>	facw	0.0313	160,000	0.11	PD-MWD

¹ Due to the ability of some of these and other plants to colonize the plantings and the cost of the seed, the amount of seed planted is light. If some of these species are in adjacent areas, it would be beneficial to select other species to increase species diversity. Any species could be increased to 1 seed/ft², taking cost into consideration, which changes yearly.

² These species will benefit from stratification, or may need to go through a winter to obtain full germination.

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