NATURAL RESOURCES CONSERVATION SERVICE
SPECIFICATION GUIDELINES

CONSERVATION COVER
(Code 327)

GENERAL SPECIFICATIONS

Plans and specifications for conservation cover shall be prepared for each site or management unit according to the NRCS-MA Conservation Practice Standard No 327, Criteria, Considerations, and Operation and Maintenance. They shall be recorded on job sheets.

The choice of seed mix used for conservation cover should be based on the intended use of the site along with the inherent site conditions such as soil type, slope, and soil drainage class. The following tables provide recommended seed mixes for a variety of situations requiring permanent cover. The mixes provided are adapted from the USDA-NRCS publication *A Guide to Conservation Plantings on Critical Areas for the Northeast* and *Plant Materials Technical Note NY-36*, both of which were prepared by the Big Flats Plant Materials Center.

Native warm season grasses and wildflower seeding rates are based on pure live seed (PLS), which is the percentage by weight of the live seed in the seed lot. It subtracts all of the non-seed material such as plant parts, non-crop seeds and non-viable seed. The basic formula to calculate PLS is:

Percent PLS = (% purity x % germination) ÷ 100

For example: % purity = 90% (from seed tag label)
% germination = 80% (from seed tag label)
Percent PLS = (90 x 80) ÷ 100 = 72%

To calibrate the drill or when making seed mixes it is also necessary to calculate the bulk seed weight using the following formula:

Bulk seed/acre = PLS weight recommendation ÷ (% PLS ÷ 100)

For example, if the recommendation for the above seed lot is 10 PLS lbs/ac it will require planting 13.9 bulk lbs/ac.
Bulk seed/acre = 10 ÷ (72 ÷ 100) = 13.9 bulk pounds

Purpose	***Seed Mix***														***Comments***
	1	***2***	***3***	***4***	***5***	***6***	***7***	***8***	***9***	***10***	***11***	***12***	***13***	***14***	
Roadsides, steep slopes	x		x												
Sand & gravel pits		x	x					x	x						Use cool season mixes only when fines >20%
Dikes, dams, ponds	x		x												Mow tolerant grasses
Berms, low embankments	x		x	x						x					
Grassed waterways, diversions, terraces, spillways, etc.			x	x											
Cover for orchards, tree farms & woody buffers	x	x							x		x				
Forest trails & landings	x		x							x			x		Short lived, shade tolerant species
Riparian areas			x		x	x	x			x					Use native mixes for areas not prone to high velocity flows
Wildlife Habitat												x			Not suitable for erosion control
Pollinator Habitat														x	

	Seed Mixture		Rate lbs/ac.	Soil Drainage Class[1]	Comments
Low maintenance turf like mix & erosion control (non-native species)					
1	Creeping red fescue	*Festuca rubra*	20	wd-mwd	
	Perennial ryegrass	*Lolium perenne*	5		
	Redtop	*Agrostis gigantea*	2		
	White clover (optional)	*Trifolium repens*	4		
2	Hard fescue	*Festuca brevipila*	15	wd-mwd	Low growing mix, use at 1/3 rate or lower with wildflowers
	Chewings fescue	*Festuca rubra* ssp. *fallax*	15		
	Creeping red fescue	*Festuca rubra*	15		
	Perennial ryegrass (turf type)	*Lolium perenne*	5		
Waterways & general erosion control (non-native species)					
3	Creeping red fescue	*Festuca rubra*	15	wd-mwd	
	Smooth bromegrass	*Bromus inermis*	15		
	Redtop **or**	*Agrostis gigantea* **or**	2		
	Perennial ryegrass	*Lolium perenne*	5		
4	Kentucky bluegrass	*Poa pratensis*	15	wd-mwd	Use in areas that are mowed frequently
	Creeping red fescue	*Festuca rubra*	15		
	Redtop	*Agrostis gigantea*	2		
	Perennial ryegrass	*Lolium perenne*	5		
	White clover	*Trifolium repens*	4		
Wet areas (native species)					
5	Virginia wildrye	*Elymus virginicus*	15	spd-pd	In areas where erosion is a concern, increase fowl bluegrass and autumn bentgrass by an additional 2 lbs each
	Riparian wildrye	*Elymus riparius*	15		
	Fringed brome	*Bromus ciliatus*	5		
	Fox sedge	*Carex vulpinoidea*	2		
	Fowl bluegrass	*Poa palustris*	2		
	Autumn bentgrass	*Agrostis perennans*	1		
	Blunt broom sedge (optional)	*Carex scoparia*	0.5		
6	Deertongue	*Dichanthelium clandestinum*	3*	wd-pd	Use 'hightide' swithgrass zone 5 and colder, and 'kanlow' zone 6 and warmer. If erosion is a concern add fowl bluegrass
	Switchgrass	*Panicum virgatum*	3*		
	Riparian wildrye	*Elymus riparius*	5		
	Prairie cordgrass	*Spartina pectinata*	1*		
	Fowl bluegrass (optional)	*Poa palustris*	1		
Warm season grass base mix (native species)					
7	Deertongue	*Dichanthelium clandestinum*	3*	mwd-spd	Use prairie cordgrass on swp sites. If erosion is a concern, increase wildrye to 10lbs/ac. Gamagrass needs to be seeded at least 1" deep.
	Switchgrass	*Panicum virgatum*	3*		
	Eastern gamagrass	*Tripsacam dactyloides*	2*		
	Virginia wildrye	*Elymus virginicus*	5		
	Prairie cordgrass (optional)	*Spartina pectinata*	1*		
Droughty areas (sand and gravel) (native species)					
8	Switchgrass	*Panicum virgatum*	2*	ewd	If dropping optional species, increase each of the other species by 1lb/ac.
	Coastal panicgrass	*Panicum amarum* var. *amarulum*	2*		
	Big bluestem	*Andropogon gerardii*	2*		
	Little bluestem	*Schizachyrium scoparium*	1*		
	Canada wildrye	*Elymus canadensis*	5		
	Sand lovegrass (optional)	*Eragrostis trichodes*	2*		
	Sand bluestem (optional)	*Andropogon hallii*	2*		
	Short native mix				
9	Little bluestem	*Schizachyrium scoparium*	4*	ewd-mwd	If wildflowers included, reduce deertongue by ½. Use purpletop zone 6 or warmer.
	Purpletop	*Tridens flavus*	2*		
	Canada wildrye	*Elymus canadensis*	5		
	Deertongue	*Dichanthelium clandestinum*	2*		
	Sideoats grama (optional)	*Bouteloua curtipendula*	3*		

[1] ewd=excessively well drained; wd=well drained; mwd=moderately well drained; spd=somewhat poorly drained; pd=poorly drained

*Rates shown are PLS/ac; the bulks seed rate needs to be determined.

	Seed Mixture		Rate lbs/ac.	Soil Drainage Class[1]	Comments
Native cool season grass mix					
10	Virginia wildrye	*Elymus virginicus*	5	wd-spd	For erosion control increase bentgrass and bluegrass to 2 lbs/ac, & increase wildryes to 10 lbs/ac. For spd sites, substitute riparian wildrye for Canada wildrye.
	Canada wildrye	*Elymus canadensis*	5		
	Fringed brome	*Bromus ciliatus*	5		
	Autumn bentgrass	*Agrostis perennans*	1		
	Fowl bluegrass	*Poa palustris*	1		
Cover for orchards, tree farms and woody buffers (non-native species)					
11	Hard fescue	*Festuca brevipila*	15	wd-mwd	
	Creeping red fescue	*Festuca rubra*	4		
	Perennial ryegrass	*Lolium perenne*	3		
	White clover	*Trifolium repens*	2		
Non-native cool season wildlife habitat mixes					
12	Orchardgrass	*Dactylis glomerata*	5	wd-mwd	
	Hard fescue	*Festuca brevipila*	6		
	White clover (upright varieties)	*Trifolium repens*	2		
	Red clover	*Trifolium pratense*	2		
12	Timothy	*Phleum pratense*	3	wd-pd	
	Orchardgrass	*Dactylis glomerata*	4		
	Red top	*Agrostis gigantea*	0.5		
	White clover (upright varieties)	*Trifolium repens*	2		
	Red clover	*Trifolium pratense*	2		
12	Timothy	*Phleum pratense*	5	wd-spd	
	Orchardgrass	*Dactylis glomerata*	5		
	White clover (upright varieties)	*Trifolium repens*	2		
	Red clover	*Trifolium pratense*	2		
Native warm season wildlife habitat mixes *					
12	Big bluestem	*Andropogon gerardii*	2	ewd-wd	
	Indiangrass	*Sorghastrum nutans*	3		
	Little bluestem	*Schizachyrium scoparium*	3		
	Deertongue	*Dichanthelium clandestinum*	2		
12	Big bluestem	*Andropogon gerardii*	4	ewd-spd	
	Indiangrass	*Sorghastrum nutans*	4		
	Switchgrass	*Panicum virgatum*	2		
12	Big bluestem	*Andropogon gerardii*	3	wd-pd	
	Indiangrass	*Sorghastrum nutans*	3		
	Deertongue	*Dichanthelium clandestinum*	3		
	Switchgrass	*Panicum virgatum*	2		
Native warm season – cool season wildlife habitat mixes					
12	Indiangrass	*Sorghastrum nutans*	2*	ewd-wd	
	Switchgrass	*Panicum virgatum*	1*		
	Little bluestem	*Schizachyrium scoparium*	3*		
	Canada wildrye	*Elymus canadensis*	5		
12	Big bluestem	*Andropogon gerardii*	4*	wd-mwd	
	Indiangrass	*Sorghastrum nutans*	2*		
	Switchgrass	*Panicum virgatum*	1*		
	Canada wildrye	*Elymus canadensis*	5		
12	Fowl bluegrass	*Poa palustris*	0.5	wd-pd	
	Fringed bromegrass	*Bromus ciliatus*	4		
	Riverbank wildrye	*Elymus riparius*	4		
	Virginia wildrye	*Elymus virginicus*	4		
	Switchgrass	*Panicum virgatum*	0.5*		

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	Seed Mixture		Rate lbs/ac.	Soil Drainage Class[1]	Comments
Non-native forest trail mix with wildlife value; no woody plant suppression					
13	Orchardgrass	*Dactylis glomerata*	5	wd-swd	Temporary cover allows for plant succession
	Timothy	*Phleum pratense*	6		
	Creeping red fescue	*Festuca rubra*	3		
	Redtop	*Agrostis gigantea*	1		
	'Ladino' white clover	*Trifolium repens*	1		
	Red clover	*Trifolium pratense*	2		
	Alsike clover	*Trifolium hybridum*	2		
Native dry site pollinator mix *					
14	Eastern columbine	*Aquilegia canadensis*	0.13	wd-mwd	^ indicates non-native in MA
	Blue false indigo ^	*Baptisia australis*	0.54		
	Horseflyweed	*Baptisia tinctoria*	0.22		
	Tall white beard tongue ^	*Penstemon digitalis*	0.16		
	Ohio spiderwort	*Tradescantia ohioensis*	0.5		
	Common milkweed	*Asclepias syriaca*	0.93		
	Butterfly milkweed	*Asclepias tuberosa*	1.87		
	Partridge pea	*Chamaecrista fasiculata*	2.0		
	Wild bergamot	*Monarda fistulosa*	0.05		
	Virginia mountain mint	*Pycanthemum virginianum*	0.01		
	Early goldenrod	*Solidago juncea*	0.01		
	Smooth aster	*Aster laeve*	0.13		
	New England aster	*Aster novae-anglae*	0.12		
	Heath aster	*Aster pilosus*	0.09		
	Gray goldenrod	*Solidago nemeralis*	0.06		
	Little bluestem	*Schizachyrium scoparium*	0.33		
Native wet site pollinator mix *					
14	Tall white beard tongue ^	*Penstemon digitalis*	0.39	swp-pd	^ indicates non-native in MA
	Ohio spiderwort	*Tradescantia ohioensis*	1.51		
	Crimson clover ^	*Trifolium incarnatum*	0.26		
	Swamp milkweed	*Asclepias incarnata*	1.74		
	Spotted joe-pye-weed	*Eupatorium maculatum*	0.09		
	Boneset	*Eupatorium perfoliatum*	0.02		
	Cardinal flower	*Lobelia cardinalis*	0.01		
	Virginia mountain mint	*Pycanthemum virginianum*	0.01		
	Blue vervain	*Verbena hastata*	0.04		
	New York aster	*Aster novi-belgii*	0.09		
	Parasol whitetop	*Aster umbellatus*	0.06		
	Common sneezeweed	*Helenium autumnale*	0.04		
	New England aster	*Aster novae-anglae*	0.12		
	Rough leaved goldenrod	*Solidago patula*	0.09		
	Switchgrass	*Panicum virgatum*	0.25		

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