

Modal Rangeland Ecological Site Concepts for Oregon NRCS

January 2010

GRASSLAND STEPPE-Reference Plant Community ARTR> 5%

(D23,D24 Predominantly Loamy Surfaces)-(B11 Silty and FSL Surfaces)-(B10C Silty Clay Loams Over Clay)-(D25 Silty Surfaces Over Clay)

Temperature (warm)	59°F – 46°F Mesic	D-24 Th.Needlgr. Ind. Ricegr. Wy. Big S. (8-10 ppt) Shadscale Bud sage (6-10 ppt)	B-10A Blueb.Whtgr Wy. Big S. Bitterbrush	B-11 Blueb.Whtgr -PSSPI- Th.Needlgr. Needle&Th. (Sandy) Wy. Big S. Spiny Hops,	D-25 Blueb.Whtgr -PSSPS- Wy. Big S. Loamy 8-11 700 lbs	B-10C Blueb.Whtgr -PSSPS- Th.Needlgr. Wy. Big S. SR L. 9-12 1000 lbs SR.C.9-12 1000 lbs	B-10A Blueb.Whtgr Idaho Fesc. Th.Needlgr. Wy. Big S. Bitterbrush Loamy 10- 12 900 lbs	D-23	D-25	D-23	B-10C	D-25
	Modal Sites &Nor. Prod	Sh. L. 8-10 500 lbs Des. L. 6-10 500 lbs	Dr. Loam 8-10 900 lbs	Silty 8-11 700 lbs Sandy 8-11 700 lbs								
Temperature (cold)	46°F – 41°F Frigid				Blueb.Whtgr -PSSPS- Wy. Big S. Loamy Plateau8-11 700 lbs	Idaho Fesc. Wy. Big S. SR Mtn. Clayey 9-12 1000 lbs		Th.Needlgr. Blueb.Whtgr -PSSPS- Wy. Big S. Loamy10-12 600 lbs	Blueb.Whtgr -PSSPS- Idaho Fesc. (Ashy Plat.) Bas. Big S. Loamy11-13 900 lbs Ashy Plat. 11-13 900 lbs	Idaho Fesc. Th.Needlgr. Mtn. Big S. Loamy12-16 1000 lbs	Idaho Fesc. Mtn. Big S. SR Mtn. Clayey12-16 1500 lbs	Idaho Fesc. Blueb.Whtgr -PSSPS- Mtn.. Big S. Loamy13-16 1400 lbs
	Modal Sites &Nor. Prod.											
		(6) 8 – 10 inches	8 – 10 inches	8 – 11 inches	8 – 11 inches	9 – 12 inches	10 – 12 inches	10 – 12 inches	11– 13 inches	12 – 16 inches	12 – 16 inches	13 – 16 inches
		(dry) Precipitation (wet)										

Other Observations:

B-10 MLRA

- Oregon subdivisions
 - A = pumice zone. Idaho fescue present and/or dominant on coarse ash (pumice) soils in 10-12" ppt. mesic and 8-10" ppt. frigid zones.
 - B = Clays, John-Day & Clarno formations, mesic temperature regime (9-12 & 12-16), juniper strongly invades both ppt zones
 - C = Snake River, silt loams or silty clay loams over clays, mesic & frigid temperature regimes in 9-12"ppt., frigid only >12"ppt except some lower elev. south's, typically no Thurber's needlegrass (except on Loamy 12-16), juniper strongly invades >12"ppt only, ARRI2 present on very shallow scabland soils
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B-11 MLRA

- Beardless bluebunch wheatgrass, PSSPI, dominates the grass layer on silty soils, needle and thread dominates the grass layer on sandy soils, ARTRW8 dominates the shrub layer, spiny hopsage is present
- 8-11" ppt and mesic
- silt loam to fine sandy loam surfaces

D-23 MLRA

- Loamy soil surfaces, Thurber's needlegrass (ACTH7) is present, Thurber's increases on loamy surfaces, bluebunch (PSSPS) increases on clayey surfaces, Idaho fescue dominates grass layer 12-16" ppt, bluebunch or Thurber's in 10-12" ppt, ARAR8 present on very shallow scabland soils,
- Western juniper invades >12" ppt only
- >10" ppt & Frigid (except lower elev. south's (8-12" ppt))

D-24 MLRA

- Old Pleistocene lake beds, internally drained, may be saline or alkaline
- 6-10" ppt & Mesic only, loamy to sandy soil surfaces
- ARTRW8 not present <8" ppt, shadscale and bud sagebrush dominant on droughty sites in 6-10" ppt., ARNO in 8-14" ppt, no ARAR8

D-25 MLRA

- Silty soil surfaces, no Thurber's needlegrass, bluebunch wheatgrass (PSSPS) dominant 8-13" ppt, Idaho fescue dominant higher elevation 11-13 & 13-16" ppt
- No western juniper

Temperature Regimes

- Mesic
 - Some overlap between growing season moisture and temperature
 - e.g. Pendleton
 - Annual grass invasion more likely

- Frigid
 - Little to no overlap between growing season moisture and temperature
 - e.g. Burns
 - Annual grass invasion limited – typically Sandberg's Bluegrass increases
- Elevation breaks for changing temperature regimes
 - 3400' at WA border, 4000' central, 4500' at NV border
 - 600' lower for north slopes
 - 600' higher for south slopes

Low-growing sagebrush

- Occurs on sites with less than 10" to a restrictive layer (very shallow soils)
- Stiff sage north of John Day – Mitchell line (mesic to frigid >10"ppt)
- Low sage south of John Day – Mitchell line (frigid, >10"ppt)

Mid to Tall-growing sagebrush

- Frigid, 12 – 16" ⇒ Mountain Big Sagebrush (ARTRV)
- Frigid, <12" ⇒ Wyoming Big Sagebrush (ARTRW8)
- Mesic, 12 – 16" ⇒ Basin Big Sagebrush (ARTRT)
- Mesic, <12" ⇒ Wyoming Big Sagebrush (ARTRW8)

Moisture gradient for meadow sites

- Mesic-Loamy Bottom → Meadow → Wet Meadow
- Frigid-Mtn. Loamy Bottom → Mtn. Meadow → Mtn. Wet Meadow
Note – Mtn Meadow & Mtn Wet Meadow could be cryic in frigid zone due to wetness

Dry Pumice Meadow → Wet Pumice Meadow → Moist Meadow → Wet Meadow

Break between grass dominated sites to sedge dominated sites occurs between Wet Pumice Meadow (grass domination) and Moist Meadow (sedge domination)