

ECOLOGICAL SITE QUICK REFERENCE

MLRA 72 (North)



MLRA 72 North INDEX

<u>Ecological Site Key</u>		<u>Page 3</u>
<u>Choppy Sands</u>	(North) R072XA003KS	<u>Page 5</u>
<u>Clay Upland</u>	(North) R072XA007KS (Draft)	<u>Page 7</u>
<u>Closed Upland Depression</u>	(North) R072XA011KS (Draft)	<u>Page 9</u>
<u>Gravelly Hills</u>	(North) R072XA010KS	<u>Page 11</u>
<u>Limy Upland</u>	(North) R072XA012KS	<u>Page 14</u>
<u>Loamy Upland</u>	(North) R072XA015KS	<u>Page 16</u>
<u>Loamy Lowland</u>	(North) R072XA013KS (Draft)	<u>Page 18</u>
<u>Loess Breaks</u>	(North) R072XA016KS	<u>Page 20</u>
<u>Saline Lowland</u>	(North) R072XA019KS (Draft)	<u>Page 23</u>
<u>Saline Subirrigated</u>	(North) R072XA020KS (Draft)	<u>Page 25</u>
<u>Sands</u>	(North) R072XA021KS	<u>Page 27</u>
<u>Sandstone Breaks</u>	(North) R072XA056KS (Draft)*	<u>Page 30</u>
<u>Sandy</u>	(North) R072XA022KS (Draft)	<u>Page 33</u>
<u>Sandy Lowland</u>	(North) R072XA023KS (Draft)	<u>Page 35</u>
<u>Seasonally Wet</u>	(North) R072XA033KS (Draft)*	<u>Page 37</u>
<u>Shale Breaks</u>	(North) R072XA026KS (Draft)*	<u>Page 39</u>
<u>Shallow Limy</u>	(North) R072XA028KS	<u>Page 41</u>
<u>Shallow Siltstone</u>	(North) R072XA039KS (Draft)*	<u>Page 44</u>
<u>Shaly Plains</u>	(North) R072XA045KS*	<u>Page 47</u>
<u>Siltstone Plains</u>	(North) R072XA009KS*	<u>Page 49</u>
<u>Subirrigated</u>	(North) R072XA032KS (Draft)	<u>Page 51</u>
<u>MLRA 72 Plant List</u>		<u>Page 53</u>

* No Nebraska map units are assigned to these ecological sites. **Additional information is available at:** <https://esis.sc.egov.usda.gov> or click on the site name above to go directly to specific site information.

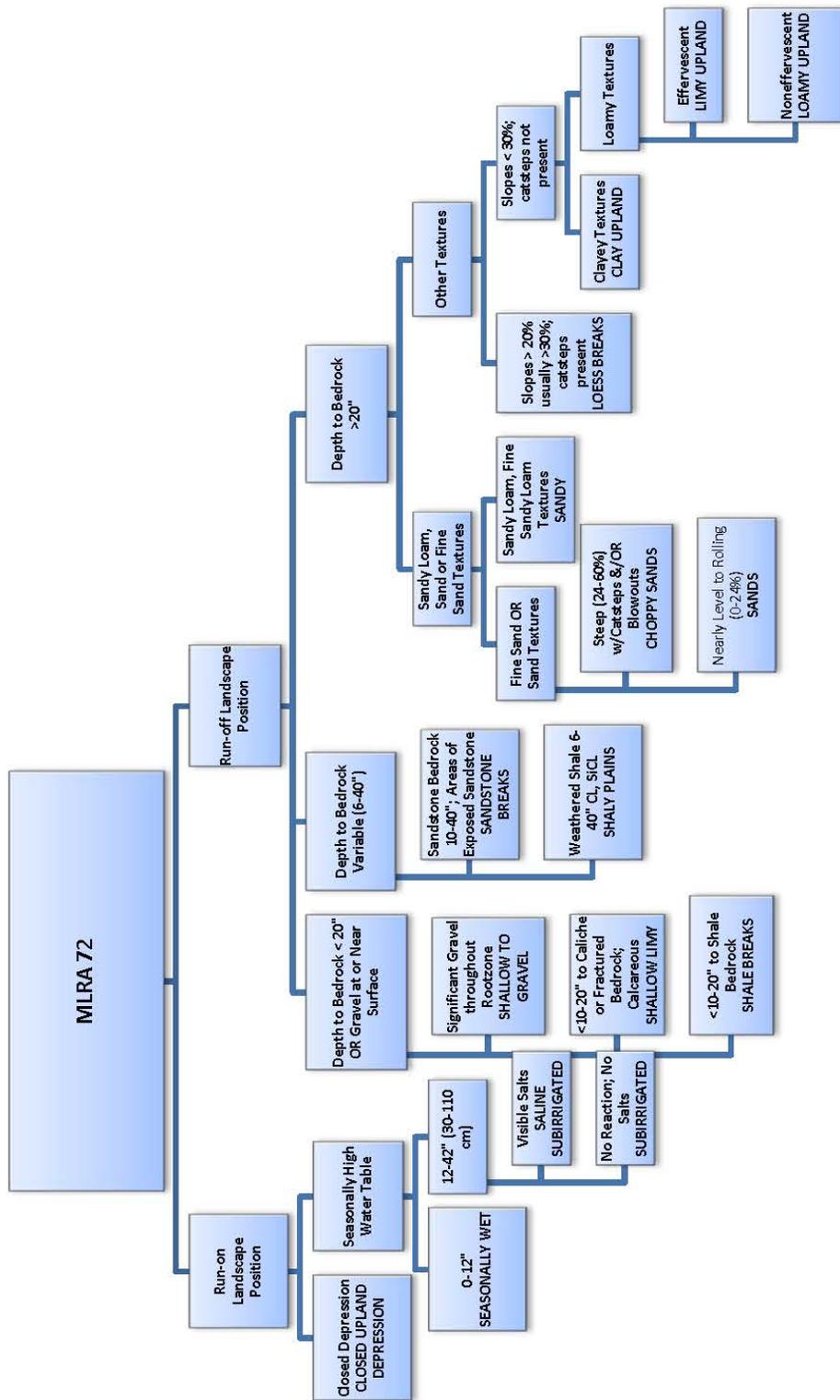
Last Update: 4/30/2014

Location Map for Major Land Resource Area (MLRA) 72 – Central High Tableland

Blue shaded area: MLRA72North



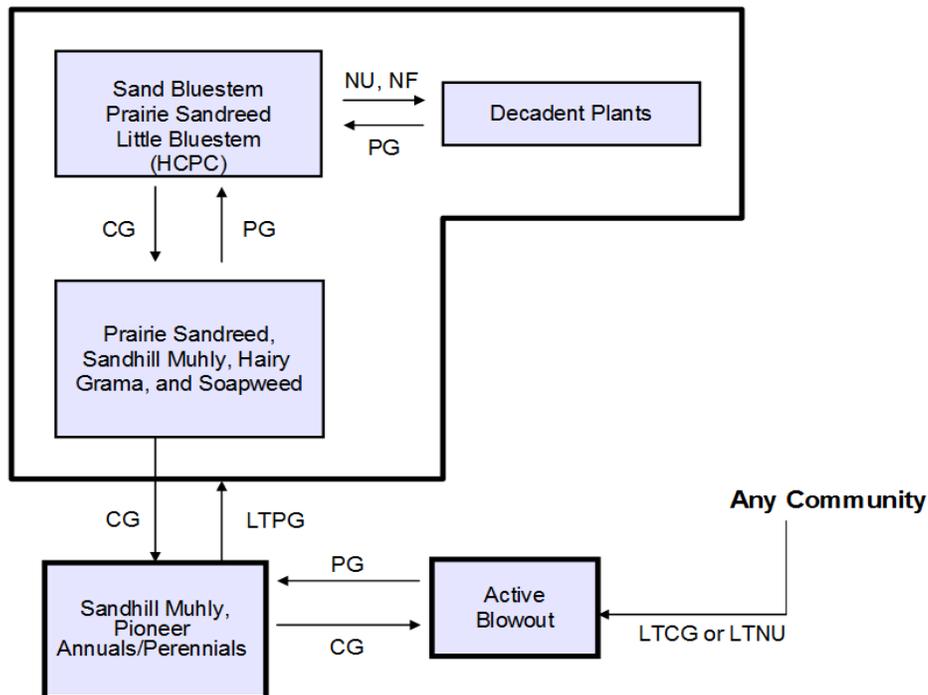
Last Update: 4/30/2014



SITE: CHOPPY SANDS – R072XA003KS

SITE DESCRIPTION: This site occurs on steep to very steep, sometimes unstable sand dunes. The sites are fragile and may have blowouts scattered throughout. Hillslopes are broken with a series of slope slips referred to as catsteps giving it the appearance of large stair steps. Soils are very deep with sandy surface layers and subsoils. Organic matter is low. Soil structure is often loose and single-grained below the surface. Soils are excessively drained and the available water capacity is low. Slopes range from 24-60%. Drought cycles have a major impact on the vegetation of this site. The species composition changes with the duration and severity of the drought.

Plant Community	Community Description	Average Production #/ac	AUM/AC	
			50% Use	60% Use
Sand Bluestem / Prairie Sandreed / Little Bluestem	Primary grasses are prairie sandreed, sand bluestem, and little bluestem. Secondary species include sandhill muhly, hairy grama, needlethread, sand sagebrush and leadplant. There is a diverse forb population.	1900	0.52	0.63
Prairie Sandreed / Sandhill Muhly / Hairy Grama / Small Soapweed	Dominant grasses are prairie sandreed and sandhill muhly. Hairy grama is prevalent; small soapweed and sand sagebrush are common.	900	0.25	0.30
Decadent Plants	Litter levels are high, bunchgrasses have dead centers and perennial grasses are decadent. Annual forbs and grasses fill in bare areas that have resulted from the death of perennial grasses.	700	0.19	0.23
Sandhill Muhly / Pioneer Annuals and Pioneer Perennials	Sandhills muhly, blowout grass, sand dropseed, lemon scurfpea and Cuman Ragweed are the primary perennial species. Annual forbs are common and present in small amounts.	375	0.10	0.12
Active Blowout	Blowouts are very dynamic and result in a soil surface that will resist revegetation. Desertification is well advanced.	100	.01	.01



CG= Continuous Grazing without Adequate Recovery Periods
 HCPC = Historic Climax Plant Community
 NU = Non Use
 NF = No Fire
 LTNU = Long Term Non-Use
 LTCG= Long Term Continuous Grazing without Adequate Recovery Periods
 LTPG = Long Term Prescribed Grazing with Adequate Recovery
 PG = Prescribed Grazing with Adequate Recovery Period

Choppy Sands --Sand Bluestem/Prairie Sandreed/Little Bluestem Plant Community (HCPC)

COMMON/GROUP NAME	SCIENTIFIC NAME	SYMBOL	Group	Lbs/acre	% Composition
GRASSES & GRASSLIKES			1	1020-1900	75-85
GRASSES					
Sand Bluestem	Andropogon halli	ANHA	1	190-570	10-30
Prairie Sandreed	Calamovilfa longifolia	CALO	1	285-475	15-25
Hairy Grama	Bouteloua hirsuta	BOHI2	1	95-190	5-10
Little Bluestem	Schizachyrium scoparium	SCSC	1	93-190	5-10
Needleandthread	Hesperostipa comata ssp. comata	HECOC8	1	93-190	5-10
Switchgrass	Panicum virgatum	PAVI2	1	93-190	5-10
Indiangrass	Sorghastrum nutans	SONU2	1	19-190	1-10
Blue Grama	Bouteloua gracilis	BOGR2	1	0-190	0-10
Prairie Junegrass	Koeleria macrantha	KOMA	1	19-93	1-5
Sand Lovegrass	Eragrostis trichodes	ERTR3	1	0-93	0-5
Blowout Grass	Refieldia flexuosa	REFL	1	19-56	1-3
Sand Dropseed	Sporobolus cryptandrus	SPCR	1	19-56	1-3
Sandhill Muhly	Muhlenbergia pungens	MUPU2	1	19-56	1-3
Thin Paspalum	Paspalum setaceum	PASE5	1	19-56	1-3
Scribner panicum	Dichanthelium oligosanthes var. scribnerianum	DIOLS	1	19-37	1-2
Indian Ricegrass	Achnatherum hymenoides	ACHY	1	0-38	0-2
Other Perennial Grasses		2GP	1	0-190	0-10
GRASS-LIKES					
Great Plains Flatsedge	Cyperus lupulinus	CYLU2	1	19-37	1-2
Sun Sedge	Carex inops ssp heliophila	CAINH2	1	19-56	1-3
Schweinitz's Flatsedge	Cyperus schweinitzii	CYSC3	1	0-19	0-1
FORBS				65-130	5-10
Cuman (Western) Ragweed	Ambrosia psilostachya	AMPS	2	19-38	1-2
Lemon Scurfpea	Psoralidium lanceolatum	PSLA3	2	19-38	1-2
Violet Prairie Clover	Dalea purpurea var. purpurea	DAPU5	2	19-38	1-2
Manystem Pea	Lathyrus polymorphus	LAPO2	2	19-38	1-2
Silky Prairie Clover	Dalea vilosa	DAVI	2	19-38	1-2
Tenpetal Blazingstar	Mentzelia decapetala	MEDE2	2	19-38	1-2
Annual Buckwheat	Eriogonum annuum	ERAN	2	0-19	0-1
Beardtounge	Penstemon spp.	PENST	2	0-19	0-1
Nineanther Prairie Clover	Dalea enneandra	DAEN	2	0-19	0-1
Longbract Spiderwort	Tradescantia bracteata	TRBR	2	0-19	0-1
Bush Morning Glory	Ipomea leptophylla	IPLA	2	0-19	0-1
Common Evening Primrose	Oenothera biennis	OEBI	2	0-19	0-1
Gilia	Gilia spp.	GILIA	2	0-19	0-1
Tarragon (Green Sagewort)	Artemesia dracunculus	ARDR4	2	0-19	0-1
Othake	Palafoxia sphacelata	PASP	2	0-19	0-1
Ragwort	Senecio spp.	SENEC	2	0-19	0-1
Snowball Sand Verbena	Abronia fragrans	ABFR2	2	0-19	0-1
Texas Croton	Croton texensis	CRTE4	2	0-19	0-1
Whorled Milkweed	Asclepias verticillata	ASVE	2	0-19	0-1
Other Perennial Forbs		2FP	2	19-93	1-5
SHRUBS				65-130	5-10
Leadplant	Amorpha canescens	AMCA6	3	38-95	2-5
Sand Sagebrush	Artemesia filifolia	ARFI2	3	19-38	1-2
Small Soapweed	Yucca glauca	YUGL	3	19-38	1-2
Skunkbush Sumac	Rhus trilobata	RHTR	3	0-38	0-2
Western Sandcherry	Prunus pumila var. besseyi	PRPUB	3	0-38	0-2
Brittle Cactus	Opuntia fragilis	OPFR	3	0-19	0-1
Prairie Sagewort	Artemesia frigida	ARFR2	3	0-19	0-1
Western Snowberry	Symphoricarpos occidentalis	SYOC	3	0-19	0-1
Other Shrubs		2SHRUB	3	38-95	2-5

*This list of plants and their relative proportions are based on near normal years. Fluctuations in species composition and relative production may change from year to year dependent upon precipitation or other climatic fluctuations. *RV = Representative Value.

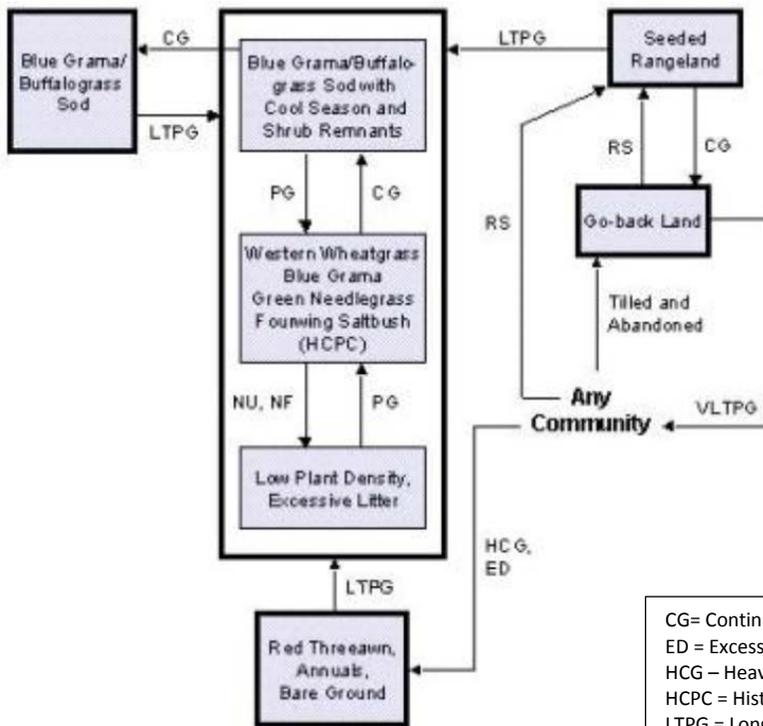
Annual Production lbs./acre	LOW	RV*	HIGH
GRASSES & GRASSLIKES	1020	1520	1900
FORBS	90	190	300
SHRUBS	90	190	300
TOTAL	1200	1900	2500

SITE: CLAY UPLAND (DRAFT) R072XA007KS

SITE DESCRIPTION: This site occurs on strongly sloping to steep hillslopes on uplands and valley sides. The soils are shallow and very shallow clayey soils over bedded shale. Depth to shale contact is 10-20" but may be areas of less than 10" scattered across the site. Slopes range from 9-40%. Soils are very slowly permeable to moderately permeable below the surface layer. Organic matter content is low to moderate.

Plant Community	Community Description	Average Production #/ac	AUM/AC	
			50% Use	60% Use
Western wheatgrass / Blue Grama / Green Needlegrass / Fourwing Saltbush	Dominant grasses include western wheatgrass, green needlegrass and blue grama. Minor amounts of buffalograss, sideoats grama and sun sedge are present. American vetch, purple prairie clover and scarlet globemallow are common as are fourwing saltbush and winterfat.	1400	0.38	0.46
Blue Grama / Buffalograss Sod/ Cool season & shrub Remnants	Blue grama and buffalograss are dominants. Green needlegrass, western wheatgrass, American vetch, fourwing saltbush and winterfat are present only as remnants. Sand dropseed, red threeawn, sixweeks fescue, squirreltail and Hairy False Goldenaster are common.	750	0.21	0.25
Excessive Litter	Above ground litter ties up much of the nutrients. Many plants especially bunchgrasses have died off or have very low vigor.	800	0.16	0.20
Blue Grama / Buffalograss Sod	Blue grama and buffalograss dominate the site. Western wheatgrass may be present as a remnant. Red threeawn, sand dropseed, sixweeks fescue and Hairy False Goldenaster are common.	550	0.15	0.18
Red Threeawn / Annuals / Bare Ground	Red threeawn, curlycup gumweed and annuals such as sixweeks fescue, annual bromegrasses and Russian thistle are present. Blue grama may be present in localized areas.	150	0.04	0.05
Go-Back / Seeded	There are a number of transitions depending upon the amount of erosion, and whether the land has been seeded.	500	0.14	0.16

Plant Communities and Transitional Pathways



CG= Continuous Grazing without Adequate Recovery Periods
 ED = Excessive Defoliation
 HCG – Heavy Continuous Grazing
 HCPC = Historic Climax Plant /Community
 LTPG = Long-term Prescribed Grazing (>40)
 NF = No Fire
 NU = Non-use
 PG = Prescribed Grazing with Adequate Recovery Periods
 RS = Range Seeding
 VLTPG = Very Long Term Prescribed Grazing (>80 years)

Clay Upland -- Western Wheatgrass/Blue Grama Plant Community (HCPC)

COMMON/GROUP NAME	SCEINTIFIC NAME	SYMBOL	Group	Lbs/acre	% Composition
GRASSES & GRASS-LIKES			1	980 - 1260	70-90
GRASSES					
Western Wheatgrass	Pascopyrum smithii	PASM	1	490-560	35-40
Blue Grama	Bouteloua gracilis	BOGR2	1	280-420	20-30
Green Needlegrass	Nassella viridula	NAVI4	1	140-280	10-20
Buffalograss	Bouteloua dactyloides	BODA2	1	28-70	2-5
Alkali Sacaton	Sporobolus airoides	SPAI	1	0-42	0-3
Sideoats Grama	Bouteloua curtipendula	BOCU	1	0-42	0-3
Squirreltail	Elymus elymoides	ELEL5	1	0-42	0-3
Composite Dropseed	Sporobolus compositus var. compositus	SPCO2	1	0-14	0-1
Fendler Threeawn	Aristida purpurea var. longiseta	ARPUL	1	0-14	0-1
Indian Ricegrass	Achnatherum hymenoides	ACHY	1	0-14	0-1
Prairie Junegrass	Koeleria macrantha	KOMA	1	0-14	0-1
Sand Dropseed	Sporobolus cryptandrus	SPCR	1	0-14	0-1
Other Perennial Grasses		2GP	1	0-42	0-3
GRASS-LIKES					
Needleleaf Sedge	Carex duriuscula	CADU6	1	0-28	0-2
Sun Sedge	Carex inops ssp. heliophila	CAINH2	1	14-56	1-4
FORBS				70-210	5-15
American Vetch	Vicia americana	VIA<	2	42-98	3-8
Scarlet Globemallow	Sphaeralcea coccinea	SPCO	2	14-42	1-3
Violet Prairie Clover	Dalea purpurea var. purpurea	DAPU5	2	14-42	1-3
Dotted Blazing Star	Liatris punctata	LIPU	2	14-28	1-2
Hairy False Goldenaster	Heterotheca villosa	HEVI4	2	0-14	0-1
Leafy False Goldenweed	Oenopsis foliosa var. foliosa	OOFOP	2	0-14	0-1
Oppositeleaf Bahia	Picradeniopsis oppositifolia	PIOP	2	0-14	0-1
Prairie Sunflower	Helianthus petiolaris	HEPE	2	0-14	0-1
Red Dome Blanketflower	Gaillardia pinnatifida	GAPI	2	0-14	0-1
Rush Skeletonplant	Lygodesmia juncea	LYJU	2	0-14	0-1
Silky Sophora	Sophora nuttalliana	SONU	2	0-14	0-1
Slimflower Scurfpea	Psoralegium tenuiflorum	PSTE5	2	0-14	0-1
Scarlet Beeblossom	Gaura coccinea	GACO5	2	0-14	0-1
Twogrooved Milkvetch	Astragalus bisulcatus	ASBI2	2	0-14	0-1
Upright Prairie Coneflower	Ratibida columnifera	RACO3	2	0-14	0-1
White Locoweed	Oxytropis sericea	OXSE	2	0-14	0-1
White Sagebrush	Artemisia ludoviciana	ARLU	2	0-14	0-1
Woolly Locoweed	Astragalus mollissimus	ASMO7	2	0-14	0-1
Woolly Plantain	Plantago patagonica	PLPA2	2	0-14	0-1
Other Perennial Forbs		2FP	2	14-70	1-5
SHRUBS				70-210	5-15
Fourwing Saltbush	Atriplex canescens	ATCA2	3	70-140	5-10
Winterfat	Krascheninnikovia lanata	KRLA2	3	28-70	2-5
Prairie (Fringed) Sagewort	Artemisia frigida	ARFR4	3	0-28	0-2
Broom Snakeweed	Gutierrezia sarothrae	GUSA2	3	0-14	0-1
Plains Prickly pear	Opuntia polyacantha	OPPO	3	0-14	0-1
Rubber Rabbitbrush	Ericameria nauseosa spp glabrata	ATCA2	3	0-14	0-1
Spinystar	Escobaria vivipara var. vivipara	ESVIV	3	0-14	0-1
Other Shrubs		2SHRUB	3	14-56	1-4

Annual Production lbs./acre	LOW	RV*	HIGH
GRASSES & GRASSLIKES	570	1120	1570
FORBS	65	140	215
SHRUBS	65	140	215
TOTAL	700	1400	2000

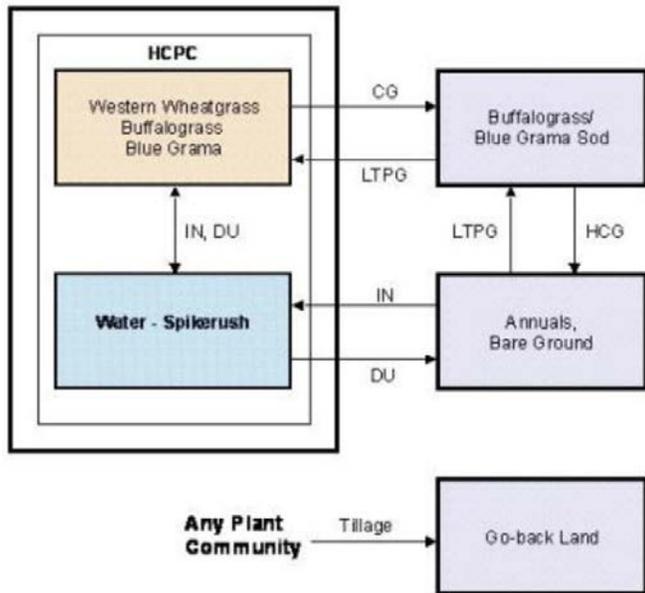
*This list of plants and their relative proportions are based on near normal years. Fluctuations in species composition and relative production may change from year to year dependent upon precipitation or other climatic fluctuations. *RV = Representative Value.

SITE: CLOSED UPLAND DEPRESSION (DRAFT) R072XA011KS

SITE DESCRIPTION: This site occurs in playas and depressions of uplands. The site receives runoff from areas higher on the landscape. The site may be ponded for brief to long periods from run-in water. The soils are very deep upland soils with loamy to clayey surfaces. The subsoil is very slowly or slowly permeable resulting in ponded conditions during some part of the growing season.

Plant Community	Community Description	Average Production #/ac	AUM/AC	
			50% Use	60% Use
Western Wheatgrass / Buffalograss / Blue Grama	Western wheatgrass, blue grama and buffalograss dominate the site. Other grasses include foxtail barley, little barley, green needlegrass and squirreltail. The forb component is very diverse.	1650	0.45	0.54
Water / Spikerush	This plant community dominates during and immediately after prolonged inundation. Spikerush, barnyard grass, rushes and sedges are the dominant species. Forbs such as smartweed, curly dock, knotweed and arrowhead are common.	1650	0.45	0.54
Buffalograss / Blue Grama Sod	Blue grama and buffalograss are the dominant plants. Burr ragweed is common. There are few forb species.	700	0.19	0.23
Annuals / Bare Ground	Annuals include annual bromegrasses, kochia, buffalobur, barnyard grass and Russian thistle. Buffalograss and blue grama may exist as remnants.	150	0.04	0.05
Go-back / Seeded	There are a number of transitions depending upon the amount of erosion, and whether the land has been seeded.	600	0.16	0.20

Plant Communities and Transitional Pathways



CG= Continuous Grazing without Adequate Recovery Periods
 DU = Dry UP
 HCG = Heavy Continuous Grazing
 HCPC = Historic Climax Plant Community
 IN = Inundation
 LTPG = Long Term Prescribed Grazing (> 40 years) with Adequate Recovery Periods

Closed Upland Depression -- Western Wheatgrass/Buffalograss / Blue Grama Plant Community (HCPC)

COMMON/GROUP NAME	SCIENTIFIC NAME	SYMBOL	Group	Lbs/acre	% Composition
GRASSES & GRASS-LIKES			1	280-1600	70-90
GRASSES					
Western Wheatgrass	Pascopyrum smithii	PASM	1	313-500	25-40
Blue Grama	Bouteloua gracilis	BOGR2	1	125-188	10-15
Buffalograss	Bouteloua dactyloides	BODA2	1	0-125	0-10
Little Barley	Hordeum p;usillum	HOPU	1	0-125	0-10
Fall Panicgrass	Panicum dichotomiflorum	PADI	1	0-63	0-5
Tumblegrass	Schedonnardus paniculatus	SCPA	1	0-63	0-5
Fendler threeawn	Aristida purpurea var.longisetata	ARPUL	1	0-13	0-1
Squirreltail	Elymus elymoides	ELEL5	1	0-13	0-1
Other Perennial Grasses		2GP	1	63-125	5-10
GRASS-LIKES					
Spikerush	Eleocharis sp.	ELEOC	1	375-625	30-50
Rush	Juncus sp.	JUNCU	1	63-125	5-10
Sedge	Carex sp	CAREX	1	63-125	5-10
FORBS				220-400	20-30
Woollyleaf Bur Ragweed	Ambrosia grayi	AMGR5	2	250-375	20-30
Pennsylvania Smartweed	Polygonum pensylvanicum	POPE2	2	125-250	10-20
Knotweed	Polygonum sp.	POLYG4	2	63-125	1-10
Buffalobur Nightshade	Solanum rostratum	SORO	2	0-63	0-5
Cuman Ragweed	Ambrosia psilostachya	AMPS	2	0-63	0-5
Curly Dock	Rumex crispus	RUCR	2	0-63	0-5
Evening Primrose	Oenothera sp.	OENOT	2	0-63	0-5
Kansas Arrowhead	Sagittaria ambigua	SAAM4	2	0-63	0-5
Lambsquarters	Chenopodium album	CHAL7	2	0-63	0-5
Waterclover	Marsilea sp.	MARSI	2	0-63	0-5
Wedgeleaf	Phyla cuneifolia	PHCU3	2	0-63	0-5
Texas Croton	Croton texensis	CRTE4	2	0-13	0-1
White Heath Aster	Symphotrichum ericoides	SYER	2	0-13	0-1
Other Perennial Forbs		2FP	2	0-63	0-5

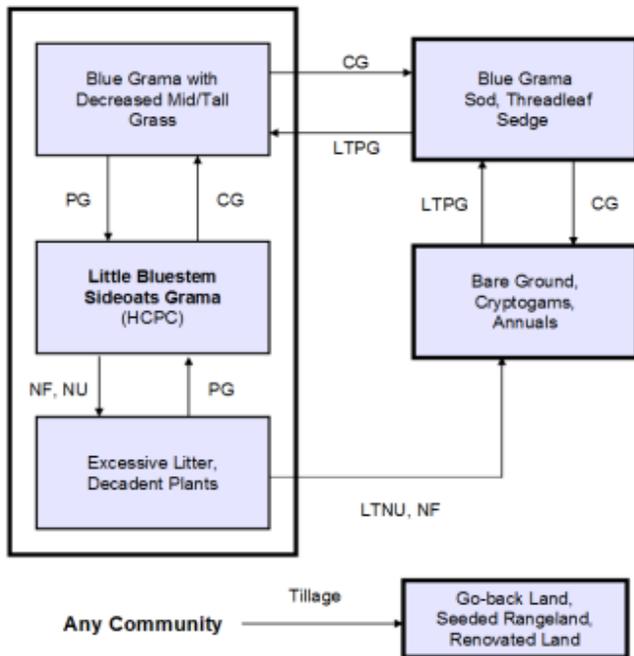
Annual Production lbs./acre	LOW	RV*	HIGH
GRASSES & GRASSLIKES	280	312	1600
FORBS	220	938	400
SHRUBS	0	0	0
TOTAL	500	1250	2000

*This list of plants and their relative proportions are based on near normal years. Fluctuations in species composition and relative production may change from year to year dependent upon precipitation or other climatic fluctuations. *RV = Representative Value.

SITE: GRAVELLY HILLS R072XA010KS

SITE DESCRIPTION: This site occurs on level to steep terrace or terrace remnants that cap ridges, crests and upper slopes of undulating or rolling uplands. The soils are shallow to moderately deep over sand and gravel and contain significant amounts of gravel throughout the root zone. Available water capacity is very low to low. Organic matter content is low to moderate in the surface layer. Exposed areas of gravel are inherent to the site.

Plant Community	Community Description	Average Production #/ac	AUM/AC	
			50% Use	60% Use
Little Bluestem / Sideoats Grama	Principle grasses are little bluestem and sideoats grama. Secondary grasses include blue grama, big bluestem, prairie sandreed, switchgrass, needleandthread, hairy grama and western wheatgrass. Threadleaf and sun sedge are common. Dominant forbs are purple prairie clover, dotted blazingstar and upright prairie coneflower. Skunkbush sumac and golden currant are some of the major shrubs.	1200	0.33	0.39
Blue Grama / Decreased Mid and Tall Grasses	The dominant grass is blue grama. Little bluestem and sideoats grama are secondary grasses. There are small amounts of big bluestem, switchgrass, prairie sandreed, needleandthread, and western wheatgrass. Hairy grama and sand dropseed are present. Hood's phlox, Hairy False Goldenaster, Cuman Ragweed, slimflower scurfpea and small soapweed are common.	600	0.16	0.20
Excessive Litter	Litter levels are high, bunchgrasses have dead centers and perennial grasses are decadent. Annual forbs and grasses fill in bare areas that have resulted from the death of perennial grasses.	500	0.14	0.16
Blue Grama / Threadleaf Sedge	Blue grama and threadleaf sedge dominate the community. Little bluestem and sideoats grama may be remnants on steeper slopes. Tarragon (Green sagewort), Cuman Ragweed, Hood's phlox, Hairy False Goldenaster, fringed sagebrush and small soapweed are common. Cushion plants such as mat loco and creeping nailwort are common.	400	0.11	0.13
Bare Ground / Cryptogams / Annual Plants	Blue grama and hairy grama remain as remnants. Other plants that may be found are Russian thistle, kochia, red threeawn, annual bromegrasses, cushion plants and small soapweed.	125	0.03	0.04
Go-back, Seeded or Renovated	Go-back evolves through several plant communities. Early species are sandhill muhly, blowout grass, lemon scurfpea and annuals. Sand dropseed, needleandthread and blue grama are common. The species present on seeded or renovated land will depend upon what was planted.	350	0.1	0.12



CG= Continuous Grazing without Adequate Recovery Periods
 HCPC = Historic Climax Plant Community
 LTPG = Long Term Prescribed Grazing (> 40 years) with Adequate Recovery Periods
 LTNU = Long Term Non-Use (>40 years)
 NU = Non Use
 NF = No Fire
 PG = Prescribed Grazing with Adequate Recovery Period

Gravelly Hills-- Little Bluestem/Sideoats Grama Plant Community (HCPC)

COMMON/GROUP NAME	SCEINTIFIC NAME	SYMBOL	Group	Lbs/acre	% Composition
GRASSES & GRASS-LIKES			1	900-1020	75-85
GRASSES					
Little Bluestem	Schizachyrium scoparium	SCSC	1	180-240	15-20
Sideoats Grama	Bouteloua curtipendula	BOCU	1	120-180	10-15
Big Bluestem	Andropogon gerardii	ANGE	1	60-180	5-15
Blue Grama	Bouteloua gracilis	BOGR2	1	60-120	5-10
Buffalograss	Bouteloua dactyloides	BODA2	1	12-60	1-5
Fendler Threeawn	Aristida purpurea var. longiseta	ARPUL	1	12-24	1-2
Hairy Grama	Bouteloua hirsuta	BOHI2	1	12-60	1-5
Needleandthread	Hesperostipa comata ssp. comata	HECOC8	1	12-60	1-5
Prairie Sandreed	Calamovilfa longifolia	CALO	1	12-60	1-5
Sand Dropseed	Sporobolus cryptandrus	SPCR	1	12-60	1-5
Switchgrass	Panicum virgatum	PAVI2	1	0-60	0-5
Prairie Junegrass	Koeleria macrantha	KOMA	1	12-24	1-2
Western Wheatgrass	Pascopyrum smithii	PASM	1	0-36	0-3
Indian Ricegrass	Achnatherum hymenoides	ACHY	1	0-24	0-2
Plains Muhly	Muhlenbergia cuspidata	MUCU3	1	0-12	0-1
Ring Muhly	Muhlenbergia torreyi	MUTO2	1	0-12	0-1
Sixweeks Fescue	Vulpia octoflora	VUOC	1	0-12	0-1
Squirreltail	Elymus elymoides ssp. elymoides	ELELE	1	0-12	0-1
Other Perennial Grasses		2GP	1	0-60	0-5
GRASS-LIKES					
Needleleaf Sedge	Carex duriuscula	CADU6	1	12-24	1-2
Sun Sedge	Carex inops ssp. Heliophila	CAINH2	1	12-24	1-2
Threadleaf Sedge	Carex filifolia	CAFI	1	12-60	1-5
FORBS				60-180	5-15
Dotted Blazing Star (Gayfeather)	Liatris punctata	LIPU	2	12-24	1-2
Lacy Tansyaster	Machaeranthera pinnatifida ssp pinnatifida	MAPIP4	2	12-24	1-2
Pentstemon	Pentstemon spp.	PENST	2	12-24	1-2
Scarlet Globemallow	Sphaeralcea coccinea	SPCO	2	12-24	0-2
Upright Prairie Coneflower	Ratibida columnifera	RACO3	2	12-24	1-2
Violet Prairie Clover	Dalea purpurea var. purpurea	DAPU5	2	12-24	1-2
Alpine Feverfew	Parthenium alpinum	PAAL6	2	0-24	0-2
Cuman (Western) Ragweed	Ambrosia psilostachya	AMPS	2	0-24	0-2
Creeping Nailwort	Paronychia sessiliflora	PASE	2	0-24	0-2
Curlycup Gumweed	Grindelia squarrosa	GRSQ	2	0-24	0-2
Greenthread	Thelesperma spp.	THELE	2	0-24	0-2
Hairy False Goldenaster	Heterotheca vilosa	HEVI4	2	0-24	0-2
Nineanther Prairie Clover	Dalea enneandra	DAEN	2	0-24	0-2
New Mexico Groundsel	Packera neomexicana var mutabilis	PANEM	2	0-24	0-2
Nuttall's Evolvulus	Evolvulus nuttallianus	EVNU	2	0-24	0-2
Spiny Milkvetch	Astragalus kentrophyta	ASKE	2	0-24	0-2
Spiny Phlox	Phlox hoodii	PHHO	2	0-24	0-2
Purple Locoweed	Oxytropis lamertii	OXLA3	2	0-24	0-2
Pussytoes	Antennaria spp.	ANTEN	2	0-24	0-2
Rush Skeletonplant	Lygodesmia juncea	LYJU	2	0-24	0-2
Slimflower Scurfpea	Psoraleidium tenuiflorum	SPT5	2	0-24	0-2
Sulfur-flower Buckwheat	Eriogonum umbellatum	ERUM	2	0-24	0-2
Tarragon	Artemisia dracunculul	ARDR4	2	0-24	0-2
Threadleaf Ragwort	Senecio flaccidus var. flaccidus	SEFLF	2	0-24	0-2
Two-grooved Milkvetch	Astragalus bisulcatus	ASBI2	2	0-24	0-2
White Locoweed	Oxytropis sericea	OXSE	2	0-24	0-2
White Heath Aster	Symphyotrichum ericoides var. ericoides	SYERE	2	0-24	0-2
White Prairie Clover	Dalea candida	DACA7	2	0-24	0-2
Woolly Plantain	Plantago patagonica	PLPA2	2	0-24	0-2
Woolly Locoweed	Astragalus mollissimus	ASMO7	2	0-24	0-2
Other Perennial Forbs		2FP	2	12-60	1-5
SHRUBS				60-120	5-10
Prairie Sagewort	Artemisia frigida	ARFR4	3	12-24	1-2
Skunkbush Sumac	Rhus trilobata	RHTR	3	12-24	1-2
Broom Snakeweed	Gutierrezia sarothrae	GUSA2	3	0-24	0-2
Chokecherry	Prunus virginiana var. virginiana	PRVIV	3	0-24	0-2
Golden Currant	Ribes aureum	RIAU	3	0-24	0-2
Plains Prickly pear	Opuntia polyacantha	OPPO	3	0-24	0-2
Small Soapweed	Yucca glauca	YUGL	3	0-24	0-2

Spinystar	Escobaria vivipara var vivipara	ESVIV	3	0-24	0-2
Rubber Rabbitbrush	Ericameria nauseosa spp nauseosa var. glabrata	ERNAG	3	0-24	0-2
Spreading Buckwheat	Eriogonum effusum	EREF	3	0-24	0-2
Winterfat	Krascheninnikovia lanata	KRLA2	3	0-24	0-2
Other Shrubs		2SHRUB	3	0-60	0-5

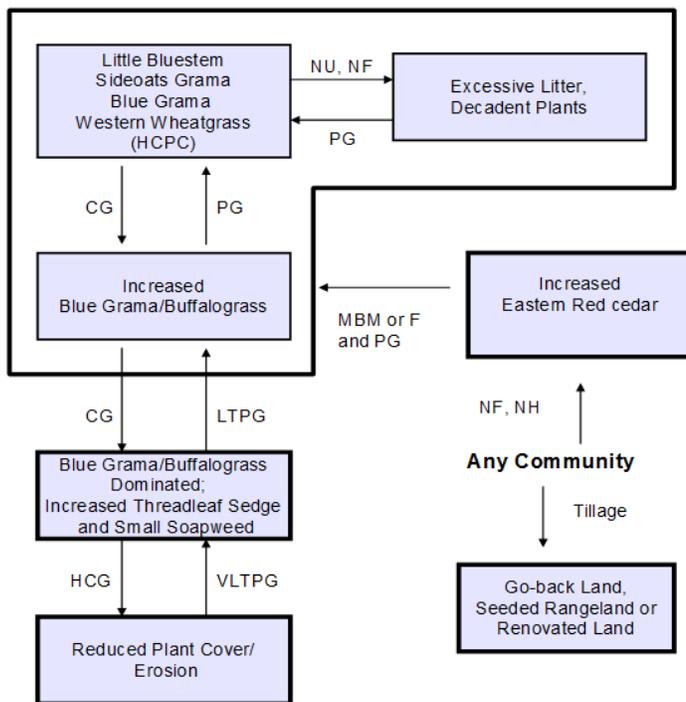
<i>Annual Production lbs./acre</i>	LOW	RV*	HIGH
GRASSES & GRASSLIKES	490	990	1290
FORBS	55	120	185
SHRUBS	55	90	125
TOTAL	600	1200	1600

*This list of plants and their relative proportions are based on near normal years. Fluctuations in species composition and relative production may change from year to year dependent upon precipitation or other climatic fluctuations. *RV = Representative Value.

SITE: LIMY UPLAND R072XA012KS

SITE DESCRIPTION: The site occurs on nearly level to moderately steep uplands or high terraces. The site consists of very deep to moderately deep upland soils with silty or loamy to clayey surface layers and subsoils. On steep slopes, the site is characterized by a series of short shallow slope slips or catsteps. A primary identifying feature for the site is the presence of calcium carbonate at or near the soil surface. Soils are moderately deep to very deep with calcareous surface layers. The carbonate may have been leached from the upper 1-4" of the soil profile. The soil texture ranges from silty to clayey. The depth to caliche or sedimentary bedrock is 20 to more than 80 inches. Organic matter content is low to moderately low.

Plant Community	Community Description	Average Production #/ac	AUM/AC	
			50% Use	60% Use
Little Bluestem / Sideoats Grama / Blue Grama / Western Wheatgrass	Primary species are little bluestem, sideoats grama, blue grama and western wheatgrass. Secondary species include big bluestem, needleandthread, buffalograss, switchgrass, green needlegrass, threadleaf sedge and sun sedge. Key shrubs are fourwing saltbush, winterfat, small soapweed and prairie rose.	1650	0.45	0.54
Increased Blue Grama / Buffalograss	Blue grama and buffalograss are abundant. Little bluestem and sideoats grama are secondary species. Threadleaf sedge, sand dropseed, red threeawn and small soapweed are common. Green needlegrass, western wheatgrass, big bluestem and switchgrass are present as remnants.	1200	0.33	0.39
Excessive Litter / Decadent Plants	Litter levels are high, bunchgrasses have dead centers and perennial grasses are decadent. Annual forbs and grasses fill in bare areas that have resulted from the death of perennial grasses.	600	0.16	0.19
Blue Grama / Buffalograss / Threadleaf Sedge / Soapweed	Blue grama and buffalograss are dominant. Threadleaf sedge, red threeawn, sand dropseed and small soapweed are common. Little bluestem, western wheatgrass, and sideoats grama are present only as remnants. Prickly pear and broom snakeweed are common.	700	0.19	0.23
Increased Eastern Red Cedar	Eastern Red Cedar and/or Rocky Mountain Juniper dominate the site. Blue grama is the predominant grass. There are remnants of the other species.	300	0.08	0.10
Reduced Cover / Erosion	Dominant plants include blue grama, buffalograss, red threeawn, ring muhly and broom snakeweed.	275	0.08	0.09
Go-back, Seeded or Renovated	Go-back evolves through several plant communities. Early species are sandhill muhly, blowout grass, lemon scurfpea and annuals. Sand dropseed, needleandthread and blue grama are common. The species present on seeded or renovated land will depend upon what was planted.	600	0.16	0.19



CG= Continuous Grazing without Adequate Recovery Periods
 E = Encroachment
 F = Fire
 HCG = Heavy Continuous Grazing
 HCPC = Historic Climax Plant Community
 LTPG = Long Term Prescribed Grazing (> 40 years) with Adequate Recovery Periods
 MBM = Mechanical Brush Management
 NU = Non Use
 NH = Non-harvest
 NF = No Fire
 PG = Prescribed Grazing with Adequate Recovery Opportunity
 VLTGP= Very Long Prescribed Grazing (>80 years)

Limy Upland -- Little Bluestem/Sideoats Grama/Blue Grama/Western Wheatgrass Plant Community (HCPC)

COMMON/GROUP NAME	SCEINTIFIC NAME	SYMBOL	Group	Lbs/acre	% Composition
GRASSES & GRASS-LIKES			1	1155-1485	70-90
GRASSES					
Little Bluestem	Schizachyrium scoparium	SCSC	1	248-495	15-30
Sideoats Grama	Bouteloua curtipendula	BOCU	1	248-413	14-25
Blue Grama	Bouteloua gracilis	BOGR2	1	165-330	10-20
Western Wheatgrass	Pascopyrum smithii	PASM	1	165-330	10-20
Big Bluestem	Andropogon gerardii	ANGE	1	83-248	5-15
Green Needlegrass	Nassella viridula	NAVI4	1	17-165	1-10
Needleandthread	Hesperostipa comata ssp. comata	HECOC8	1	0-165	0-10
Buffalograss	Bouteloua dactyloides	BODA2	1	17-83	1-5
Prairie Junegrass	Koeleria macrantha	KOMA	1	17-83	1-5
Plains Muhly	Muhlenbergia cuspidata	MUCU3	1	0-83	0-5
Switchgrass	Panicum virgatum	PAVI2	1	0-83	0-5
Fendler Threeawn	Aristida purpurea var. longiseta	ARPUL	1	0-33	0-2
Sand Dropseed	Sporobolus cryptandrus	SPCR	1	0-33	0-2
Other Perennial Grasses		2GP	1	0-83	0-5
GRASS-LIKES					
Sun Sedge	Carex inops ssp. Heliophila	CAINH2	1	17-50	1-3
Threadleaf Sedge	Carex filifolia	CAFI	1	17-33	1-2
FORBS				85-250	5-15
Coneflower	Dracopis	DRACO3	2	17-50	1-3
Dotted Blazing Star	Liatris punctata	LIPU	2	17-33	1-2
Scarlet Globemallow	Sphaeralcea coccinea	SPCO	2	17-33	1-2
Violet Prairie Clover	Dalea purpurea var. purpurea	DAPU5	2	17-33	1-2
Catclaw Sensitive Briar	Mimosa nuttallii	MINU6	2	0-33	0-2
Lacy Tansyaster	Machaeranthera pinnatifida ssp pinnatifida	MAPIP4	2	0-33	0-2
Tarragon	Artemisia dracunculul	ARDR4	2	0-33	0-2
Beardtongue	Penstemon	PENST	2	0-17	0-1
Cuman Ragweed	Ambrosia psilostachya	AMPS	2	0-17	0-1
Purple Locoweed	Oxytropis lamtertii	OXLA3	2	0-17	0-1
Rush Skeletonplant	Lygodesmia juncea	LYJU	2	0-17	0-1
Slimflower Scurfpea	Psoralidium tenuiflorum	PSTE5	2	0-17	0-1
Scarlet beeblossom	Gaura coccinea	GACO5	2	0-17	0-1
Silverleaf Indian Breadroot	Pediomelum argophyllum	PEAR6	2	0-17	0-1
Spiny Phlox	Phlox hoodii	PHHO	2	0-17	0-1
White White Heath Aster	Symphotrichum ericoides var. ericoides	SYERE	2	0-17	0-1
Other Perennial Forbs		2FP	2	0-83	0-5
SHRUBS				85-250	5-15
Fourwing Saltbush	Atriplex canescens	ATCA2	3	17-83	1-5
Winterfat	Krascheninnikovia lanata	KRLA2	3	17-83	1-5
Prairie Rose	Rosa arkansana	ROAR3	3	0-83	0-5
Western Snowberry	Symphoricarpos occidentalis	SYOC	3	0-83	0-5
Broom Snakeweed	Gutierrezia sarothrae	GUSA2	3	17-50	1-3
Plains Prickly pear	Opuntia polyantha	OPPO	3	17-33	1-2
Small Soapweed	Yucca glauca	YUGL	3	17-33	1-2
Prairie Sagewort	Artemisia frigida	ARFR4	3	0-33	0-1
Skunkbush Sumac	Rhus trilobata	RHTR	3	0-17	0-1
Other Shrubs		2SHRUB	3	0-83	0-5

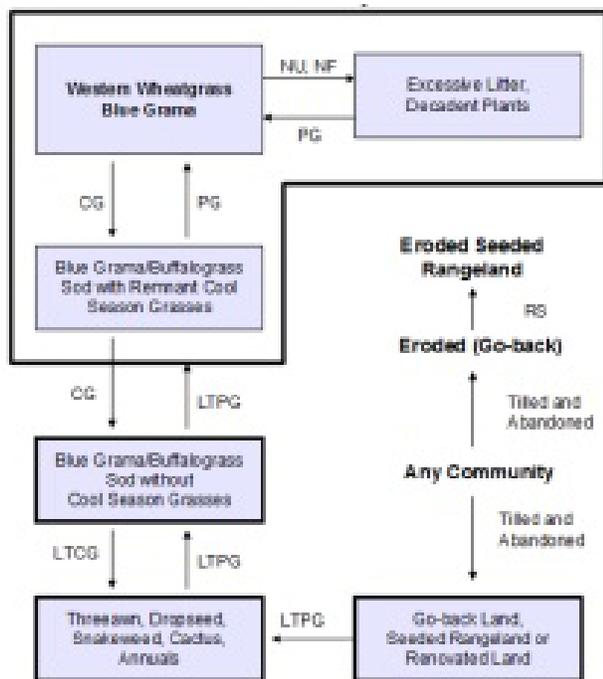
Annual Production lbs./acre	LOW	RV*	HIGH
GRASSES & GRASSLIKES	840	1320	1800
FORBS	80	165	275
SHRUBS	80	165	275
TOTAL	1000	1650	2350

*This list of plants and their relative proportions are based on near normal years. Fluctuations in species composition and relative production may change from year to year dependent upon precipitation or other climatic fluctuations. *RV = Representative Value.

SITE: LOAMY UPLAND R072XA015KS

SITE DESCRIPTION: The site occurs on nearly level to moderately steep uplands. The soils are very deep upland soils with silty or loamy surface layers. The surface layer ranges from 4-24" thick. The subsoil is similar in texture to the surface layer. Below 40" there may be contrasting sandy, gravelly, or clayey layers. The soils are well drained and are deep to very deep. Soils are generally high in fertility.

Plant Community	Community Description	Average Production #/ac	AUM/AC	
			50% Use	60% Use
Western Wheatgrass / Blue Grama	Primary forage grasses are western wheatgrass, blue grama and green needlegrass. Secondary species include buffalograss, sand dropseed, little bluestem, sideoats grama and sedges.	1800	0.49	0.59
Blue Grama / Buffalograss Sod with Remnant Cool Season Grasses	Blue Grama and buffalograss are the dominant species. Western wheatgrass, green needlegrass and needleandthread are present but in small amounts. Threadleaf sedge, red threeawn, small soapweed, prickly pear cactus and broom snakeweed are common.	1500	0.41	0.49
Excessive Litter	Litter levels are high, bunchgrasses have dead centers and perennial grasses are decadent. Annual forbs and grasses fill in bare areas that have resulted from the death of perennial grasses.	250	0.08	0.09
Blue Grama / Buffalograss Sod	Blue grama and buffalograss exist as a sod. Red threeawn, broom snakeweed, Prairie Sagewort and prickly pear cactus are common.	700	0.19	0.23
Red Threeawn / Sand Dropseed / Broom Snakeweed / Cactus / Annuals	Red threeawn is the dominant plant. Other abundant plants include sand dropseed, broom snakeweed, prickly pear cactus and a variety of annual species.	200	0.05	0.07
Go-back, Seeded or Renovated	Go-back evolves through several plant communities. Early species are sandhill muhly, blowout grass, lemon scurfpea and annuals. Sand dropseed, needleandthread and blue grama are common. The species present on seeded or renovated land will depend upon what was planted.	400	0.1	0.14



CG= Continuous Grazing without Adequate Recovery Periods
 HCPC = Historic Climax Plant /Community
 LTCG – Long-term Continuous Grazing (>40 years)
 LTPG = Long-term Prescribed Grazing (>20 years)
 (NF = No Fire)
 NF = No Fire
 NU = Non-use
 PG = Prescribed Grazing with Adequate Recovery Periods
 RS = Range Seeding

Loamy Upland -- Western Wheatgrass/Blue Grama Plant Community (HCPC)

COMMON/GROUP NAME	SCEINTIFIC NAME	SYMBOL	Group	Lbs/acre	% Composition
GRASSES & GRASS-LIKES			1	1260-1530	70-85
GRASSES					
Western Wheatgrass	Pascopyrum smithii	PASM	1	360-540	20-30
Blue Grama	Bouteloua gracilis	BOGR2	1	360-450	20-25
Green Needlegrass	Nassella viridula	NAVI4	1	90-270	5-15
Needleandthread	Hesperostipa comata ssp. comata	HECO8	1	0-270	0-15
Buffalograss	Bouteloua dactyloides	BODA2	1	90-180	5-10
Big Bluestem	Andropogon gerardii	ANGE	1	0-36	0-2
Switchgrass	Panicum virgatum	PAVI2	1	0-36	0-2
Little Bluestem	Schizachyrium scoparium	SCSC	1	0-18	0-1
Fendler Threeawn	Aristida purpurea var. longiseta	ARPUL	1	0-18	0-1
Ring Muhly	Muhlenbergia torreyi	MUTO2	1	0-18	0-1
Sand Dropseed	Sporobolus cryptandrus	SPCR	1	0-18	0-1
Sideoats Grama	Bouteloua curtipendula	BOCU	1	0-18	0-1
Sixweeks Fescue	Vulpia octoflora	VUOC	1	0-18	0-1
Squirreltail	Elymus elymoides	ELEL5	1	0-18	0-1
Tumblegrass	Schedonnardus paniculatus	SCHED	1	0-18	0-1
Other Perennial Grasses		2GP	1	18-54	1-3
GRASS-LIKES					
Needleleaf Sedge	Carex duriuscula	CADU6	1	0-18	0-1
Sun Sedge	Carex inops ssp. heliophila	CAINH2	1	18-36	1-2
				180-270	10-15
FORBS					
American Vetch	Vicia americana	VIA<	2	18-90	1-5
Scarlet Globemallow	Sphaeralcea coccinea	SPCO	2	18-54	1-3
Violet Prairie Clover	Dalea purpurea var. purpurea	DAPU5	2	18-36	1-2
Broadbeard beardtongue	Penstemon angustifolius	PEAN4	2	0-18	0-1
Cuman (Western) Ragweed	Ambrosia psilostachya	AMPS	2	0-18	0-1
Dotted Blazing Star (Gayfeather)	Liatris punctata	LIPU	2	0-18	0-1
Evening Primrose	Oenothera	OENOT	2	0-18	0-1
Lacy Tansyaster	Machaeranthera pinnatifida ssp pinnatifida	MAPI4	2	0-18	0-1
Narrowleaf Milkvetch	Astragalus pectinatus	ASPE5	2	0-18	0-1
New Mexico Groundsel	Packera neomexicana var. mutabilis	ARDR4	2	0-18	0-1
Rush Skeletonplant	Lygodesmia juncea	LYJU	2	0-18	0-1
Scarlet Beeblossom	Gaura coccinea	GACO5	2	0-18	0-1
Slimflower Scurfpea	Psoralidium tenuiflorum	PSTE5	2	0-18	0-1
Upright Prairie Coneflower	Ratibida columnifera	RACO3	2	0-18	0-1
Wavyleaf Thistle	Cirsium undulatum	CIUN	2	0-18	0-1
White Locoweed	Oxytropis sericea	OXSE	2	0-18	0-1
White Sagebursh	Artemisia ludoviciana	ARLU	2	0-18	0-1
Woolly Locoweed	Astragalus mollissimus	ASMO7	2	0-18	0-1
Woolly Plantain	Plantago patagonica	PLPA2	2	0-18	0-1
Other Perennial Forbs		2FP	2	18-90	1-5
				90-270	5-15
SHRUBS					
Fourwing Saltbush	Atriplex canescens	ATCA2	3	18-144	1-8
Winterfat	Krascheninnikovia lanata	KRLA2	3	18-54	1-3
Broom Snakeweed	Gutierrezia sarothrae	GUSA2	3	0-18	0-1
Plains Prickly pear	Opuntia polyacantha	OPPO	3	0-18	0-1
Prairie Sagewort	Artemisia frigida	ARFR4	3	0-18	0-1
Rubber Rabbitbrush	Ericameria nauseosa spp nauseosa	ATCA2	3	0-18	0-1
Spinystar	Escobaria vivipara var. vivipara	ESVIV	3	0-18	0-1
Small Soapweed	Yucca glauca	YUGL	3	0-18	0-1
Other Shrubs		2SHRUB	3	0-54	0-3

Annual Production lbs./acre	LOW	RV*	HIGH
GRASSES & GRASSLIKES	640	1395	1900
FORBS	175	225	300
SHRUBS	85	180	300
TOTAL	900	1800	2500

*This list of plants and their relative proportions are based on near normal years. Fluctuations in species composition and relative production may change from year to year dependent upon precipitation or other climatic fluctuations. *RV = Representative Value.

SITE: LOAMY LOWLAND (Draft) R072XA013KS

SITE DESCRIPTION: The site occurs on nearly level to moderately sloping floodplains, upland drainageways and alluvial fans on terraces. The site receives runoff from areas higher on the landscape. Soils are very deep and are moderately well to excessively drained. The soil surface ranges from very sandy to loamy. Organic matter content is low to moderately low and available water capacity ranges from very low to moderate.

Plant Community	Community Description	Average Production #/ac	AUM/AC	
			50% Use	60% Use
Western Wheatgrass / Big Bluestem	Primary grasses include western wheatgrass, big bluestem and switchgrass. Green needlegrass is a key species in the Western portion of the MLRA. Secondary grasses include blue grama, buffalograss, Canada wildrye and Indiangrass. There is a diverse forb population.	2400	0.66	0.79
Blue Grama / Buffalograss Sod / Remnant Cool Season Grasses	The predominant grasses are blue grama and buffalograss with remnant populations of western wheatgrass, green needlegrass, big bluestem, switchgrass, Canada wildrye and Indiangrass. Sand dropseed, red threeawn, sixweeks fescue, prickly pear and Hairy False Goldenaster are common.	1300	0.36	0.43
Western Wheatgrass Dominant	Western wheatgrass is the dominant species. Other species are present only as minor components.	1800	0.49	0.59
Excessive Litter	Litter levels are high, bunchgrasses have dead centers and perennial grasses are decadent. Annual forbs and grasses fill in bare areas that have resulted from the death of perennial grasses.	600	0.16	0.20
Blue Grama / Buffalograss Sod	Blue grama and buffalograss are present as co-dominants. There may be small amounts of western wheatgrass. Red threeawn, sand dropseed, sixweeks fescue and Hairy False Goldenaster are common.	700	0.19	0.23
Red Threeawn / Annuals / Bare Ground	Red threeawn is the dominant species with lesser amounts of sand dropseed. There may be areas of blue grama. Annual bromes, kochia, Russian thistle, cocklebur and sunflower are present.	100	0.03	0.03
Go-back, Seeded or Renovated	Go-back evolves through several plant communities. Early species are sandhill muhly, blowout grass, lemon scurfpea and annuals. Sand dropseed, needleandthread and blue grama are common. The species present on seeded or renovated land will depend upon what was planted.	1200	0.33	0.39

Loamy Lowland-- Western Wheatgrass/Big Bluestem Plant Community (HCPC)

COMMON/GROUP NAME	SCIENTIFIC NAME	SYMBOL	Group	Lbs/acre	% Composition
GRASSES & GRASS-LIKES			1	1800-2160	75-90
GRASSES					
Western Wheatgrass	Pascopyrum smithii	PASM	1	600-840	25-35
Big Bluestem	Andropogon gerardii	ANGE	1	240-600	10-25
Switchgrass	Panicum virgatum	PAVI2	1	240-480	10-20
Green Needlegrass	Nassella viridula	NAVI4	1	120-480	5-20
Blue Grama	Bouteloua gracilis	BOGR2	1	120-240	5-10
Indiangrass	Sorghastrum nutans	SONU2	1	120-240	5-10
Canada Wildrye	Elymus canadensis	ELCA4	1	48-240	2-10
Little Bluestem	Schizachyrium scoparium	SCSC	1	48-240	2-10
Buffalograss	Bouteloua dactyloides	BODA2	1	24-120	1-5
Needleandthread	Hesperostipa comata ssp. comata	HECOC8	1	0-120	0-5
Slender Wheatgrass	Elymus trachycaulus	ELTR7	1	0-120	0-5
Sideoats Grama	Bouteloua curtipendula	BOCU	1	0-120	0-5
Composite Dropseed	Sporobolus compositus var compositus	SPCR	1	0-24	0-1
Fendler Threeawn	Aristida purpurea var. longiseta	ARPUL	1	0-24	0-1
Prairie Junegrass	Koeleria macrantha	KOMA	1	0-24	0-1
Sand Dropseed	Sporobolus cryptandrus	SPCR	1	0-24	0-1
Sixweeks Fescue	Vulpia octoflora	VUOC	1	0-24	0-1
Other Perennial Grasses		2GP	1	0-120	0-5
GRASS-LIKES					
Sedge	Carex sp.	CAREX	1	24-120	1-5
FORBS				120-240	5-10
American Vetch	Vicia americana	VIA<	2	24-48	1-2
Carelessweed	Iva Xanthifolia(syn)	IVXA	2	24-48	1-2
Upright Prairie Coneflower	Ratibida columnifera	RACO3	2	24-48	1-2
Aster	Aster spp.	ASTER	2	0-24	0-1
Carolina larkspur	Delphinium carolinianum ssp. virescens	DECAV2	2	0-24	0-1
Cuman (Western) Ragweed	Ambrosia psilostachya	AMPS	2	0-24	0-1
Curlycup Gumweed	Grindelia squarrosa	GRSQ	2	0-24	0-1
False Boneset	Brickellia eupatorioides	BREU	2	0-24	0-1
Hairy False Goldenaster	Heterotheca villosa	HEVI4	2	0-24	0-1
Hoary Verbena	Verbena stricta	VEST	2	0-24	0-1
Missouri Milkvetch	Astragalus missouriensis	ASMI10	2	0-24	0-1
Missouri Goldenrod	Solidago missouriensis	SOMI2	2	0-24	0-1
Narrowleaf Milkvetch	Astragalus pectinatus	ASPE5	2	0-24	0-1
Prairie Groundsel	Packera plattensis	PAPL12	2	0-24	0-1
Scarlet Beeblossom	Gaura coccinea	GACO5	2	0-24	0-1
Scarlet Globemallow	Sphaeralcea coccinea	SPCO	2	0-24	0-1
Slimflower Scurfpea	Psoraleidium tenuiflorum	PSTE5	2	0-24	0-1
Violet Prairie Clover	Dalea purpurea var. purpurea	DAPU5	2	0-24	0-1
White Sagebrush	Artemisia ludoviciana	ARLU	2	0-24	0-1
Other Perennial Forbs		2FP	2	0-120	0-5
SHRUBS				120-360	5-15
Winterfat	Krascheninnikovia lanata	KRLA2	3	24-120	1-5
Golden Currant	Ribes aureum	RIAU	3	0-24	0-1
Prairie Sagewort	Artemisia frigida	ARFR4	3	0-24	0-1
Plains Prickly pear	Opuntia polyacantha	OPPO	3	0-24	0-1
Rubber Rabbitbrush	Ericameria nauseosa spp glabrata	ERNAG	3	0-24	0-1
Rubber Rabbitbrush	Ericameria nauseosa spp nauseosa	ERNAN5	3	0-24	0-1
Prairie Rose	Rosa arkansana	ROAR3	3	0-24	0-1
Western Snowberry	Symphoricarpos occidentalis	SYOC	3	0-24	0-1
Other Shrubs		2SHRUB	3	24-120	1-5

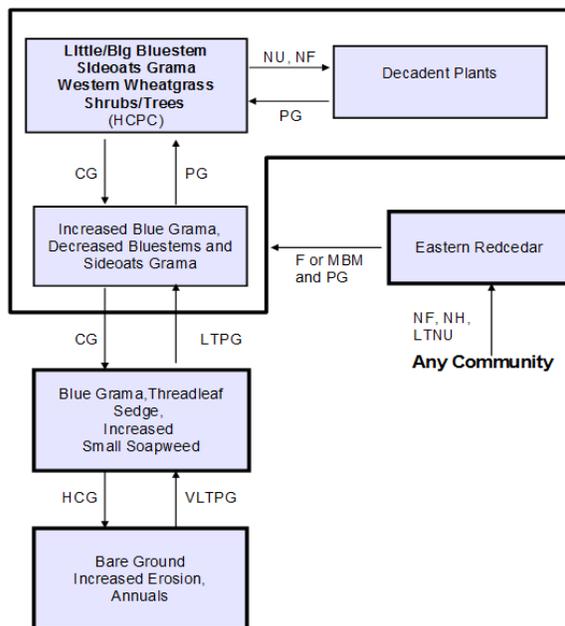
Annual Production lbs./acre	LOW	RV*	HIGH
GRASSES & GRASSLIKES	1070	1980	2875
FORBS	115	180	250
SHRUBS	115	240	375
TOTAL	1300	2400	3500

*This list of plants and their relative proportions are based on near normal years. Fluctuations in species composition and relative production may change from year to year dependent upon precipitation or other climatic fluctuations. *RV = Representative Value.

SITE: LOESS BREAKS R072XA016KS

SITE DESCRIPTION: The site occurs on steep to very steep hillslopes and canyon walls that have been dissected by geologic erosion creating narrow ridges or divides that break off steeply to narrow drainageways. The hillslopes are broken with a series of catsteps. Vertical faces of loess, areas of broken sod and deep gullies are common to the site. Slopes range from 20% to nearly vertical, with dominantly exceeding 30%.

Plant Community	Community Description	Average Production #/ac	AUM/AC	
			50% Use	60% Use
Little Bluestem / Sideoats Grama / Western Wheatgrass / Scattered Shrubs or Trees	Little bluestem, big bluestem, sideoats grama and western wheatgrass are the dominant species. Secondary species include blue grama, hairy grama, needleandthread and sedges. Forbs and shrubs include white and purple prairie clover, dotted blazingstar, skunkbush sumac, chokecherry, golden current, snowberry and winterfat.	1900	0.52	0.63
Increased Blue Grama / Decreased Bluestems and Sideoats Grama	Blue grama is the dominant species. Threadleaf sedge may also be a dominant species. Little bluestem, big bluestem and sideoats grama are present in reduced amounts. Hairy False Goldenaster, Cuman Ragweed, slimflower scurfpea, small soapweed and fringed sagebrush are common.	1300	0.36	0.43
Decadent Plants	Litter levels are high, bunchgrasses have dead centers and perennial grasses are decadent. Annual forbs and grasses fill in bare areas that have resulted from the death of perennial grasses.	650	0.18	0.21
Blue Grama / Threadleaf Sedge / increased soapweed	Blue grama and or threadleaf sedge dominate the site. Little bluestem, western wheatgrass and sideoats grama are present only as scattered remnants. Tall grasses are only present where protected. Cuman Ragweed, Hairy False Goldenaster, Prairie Sagewort and small soapweed are very common. Annual species have invaded.	750	0.21	0.25
Bare Ground / Increased Erosion / Annual Plants	Bare ground is significant. There are local areas of blue grama and little bluestem is present in protected areas. Red threeawn, sand dropseed and ring muhly are the primary perennial grasses. Cheatgrass, sixweeks fescue and kochia have invaded. Essentially all desirable grasses have been removed or extremely reduced.	400	0.11	0.13



CG= Continuous Grazing without Adequate Recovery Periods
 F = Fire
 HCG = Heavy Continuous Grazing
 HCPC = Historic Climax Plant Community
 LTNU = Long Term Non Use > 25 years
 LTPG = Long Term Prescribed Grazing (> 40 years) with Adequate Recovery Periods
 MBM = Mechanical Brush Management
 NU = Non Use
 NH = Non-harvest
 NF = No Fire
 PG = Prescribed Grazing with Adequate Recovery Opportunity
 VLTGP = Very Long Term Prescribed Grazing (>80 years)

Loess Breaks -- Little Bluestem/Sideoats Grama /Western Wheatgrass /Scattered Trees & Shrubs Community (HCPC)

COMMON/GROUP NAME	SCEINTIFIC NAME	SYMBOL	Group	Lbs/acre	% Composition
GRASSES & GRASS-LIKES			1	1330-1710	70-90
GRASSES					
Little Bluestem	Schizachyrium scoparium	SCSC	1	285-570	15-30
Sideoats Grama	Bouteloua curtipendula	BOCU	1	190-380	10-20
Big Bluestem	Andropogon gerardii	ANGE	1	95-285	5-15
Western Wheatgrass	Pascopyrum smithii	PASM	1	95-285	5-15
Blue Grama	Bouteloua gracilis	BOGR2	1	95-190	5-10
Green Needlegrass	Nassella viridula	NAVI4	1	19-190	5-10
Needleandthread	Hesperostipa comata ssp. comata	HECOC8	1	19-133	1-7
Buffalograss	Bouteloua dactyloides	BODA2	1	19-95	1-5
Hairy Grama	Bouteloua hirsuta	BOHI2	1	19-95	1-5
Plains Muhly	Muhlenbergia cuspidata	MUCU3	1	19-57	1-3
Prairie Sandreed	Calamovilfa longifolia	CAFI	1	0-57	0-3
Canada Wildrye	Elymus canadensis	ELEL4	1	19-38	1-2
Composite Dropseed	Sporobolus compositus var. compositus	SPCO2	1	19-38	1-2
Sand Dropseed	Sporobolus cryptandrus	SPCR	1	19-38	1-2
Fendler (Red) Threeawn	Aristida purpurea var. longiseta	ARPUL	1	0-38	0-2
Prairie Junegrass	Koeleria macrantha	KOMA	1	0-38	0-2
Squirreltail	Elymus elymoides	ELEL5	5	0-19	0-1
Other Perennial Grasses		2GP	1	0-95	0-5
GRASS-LIKES					
Threadleaf Sedge	Carex filifolia	CAFI	1	19-95	1-5
Sun Sedge	Carex inops ssp. Heliophila	CAINH2	1	19-57	1-3
Needleleaf Sedge	Carex duriuscula	CADU6	1	19-38	1-2
FORBS				95-190	5-10
White Prairie Clover	Dalea candida	DACA7	1	19-57	1-3
Dotted Blazing Star (Gayfeather)	Liatris punctata	LIPU	2	19-38	0-2
Nineanther prairie clover	Dalea enneandra	DAEN	2	19-38	0-2
Upright Prairie Coneflower	Ratibida columnifera	RACO3	2	19-38	0-2
Aromatic Aster	Symphotrichum oblongifolium	SYOB	2	0-19	0-1
Beardtongue	Penstemon	PENST	2	0-19	0-1
Black Samson Echinacea	Echinacea angustifolia	ECAN2	2	0-19	0-1
Catclaw Sensitive Briar	Mimosa nuttallii	MINU6	2	0-19	0-1
Cuman (Western) Ragweed	Ambrosia psilostachya	AMPS	2	0-19	0-1
Common Evening Primrose	Oenothera biennis	OEBI	2	0-19	0-1
Rush Skeletonplant	Lygodesmia juncea	LYJU	2	0-19	0-1
Scarlet beeblossom	Gaura coccinea	GACO5	2	0-19	0-1
Slimflower Scurfpea	Psoralidium tenuiflorum	PSTE5	2	0-19	0-1
Stemless Four-nerve Daisy	Tetrameuris acaulis	TEAC	2	0-19	0-1
Stiff Stem Flax	Linum rigidum	LIRI	2	0-19	0-1
Violet Prairie Clover	Dalea purpurea var. purpurea	DAPU5	2	0-19	0-1
White White Heath Aster	Symphotrichum ericoides var. ericoides	SYERE	2	0-19	0-1
Other Perennial Forbs		2FP	2	95-190	5-10
SHRUBS				95-285	5-15
Chokecherry	Prunus virginiana	PRVI	3	19-95	1-5
Skunkbush Sumac	Rhus trilobata	RHTR	3	19-95	1-5
Fourwing Saltbush	Atriplex canescens	ATCA2	3	0-95	0-5
Golden Currant	Ribes aureum	RIAU	3	19-57	1-3
Small Soapweed	Yucca glauca	YUGL	3	19-57	1-3
Winterfat	Krascheninnikovia lanata	KRLA2	3	19-57	1-3
Western Snowberry	Symphoricarpos occidentalis	SYOC	3	19-57	1-3
Prairie Rose	Rosa arkansana	ROAR3	3	19-38	1-2
Prairie Sagewort	Artemisia frigida	ARFR4	3	0-38	0-2
Broom Snakeweed	Gutierrezia sarothrae	GUSA2	3	0-19	0-1
Plains Prickly pear	Opuntia polycantha	OPPO	3	0-19	0-1
Other Shrubs		2SHRUB	3	0-95	0-5
TREES				19-95	1-5
Eastern Red Cedar	Juniperus virginiana	JUVI	4	19-95	1-5
Common Hackberry	Celtis occidentalis	CEOC	4	19-38	1-2

Annual Production lbs./acre	LOW	RV*	HIGH
GRASSES & GRASSLIKES	605	1510	1905
FORBS	90	143	195
SHRUBS	90	190	300
TREES	15	57	100
TOTAL	800	1900	2500

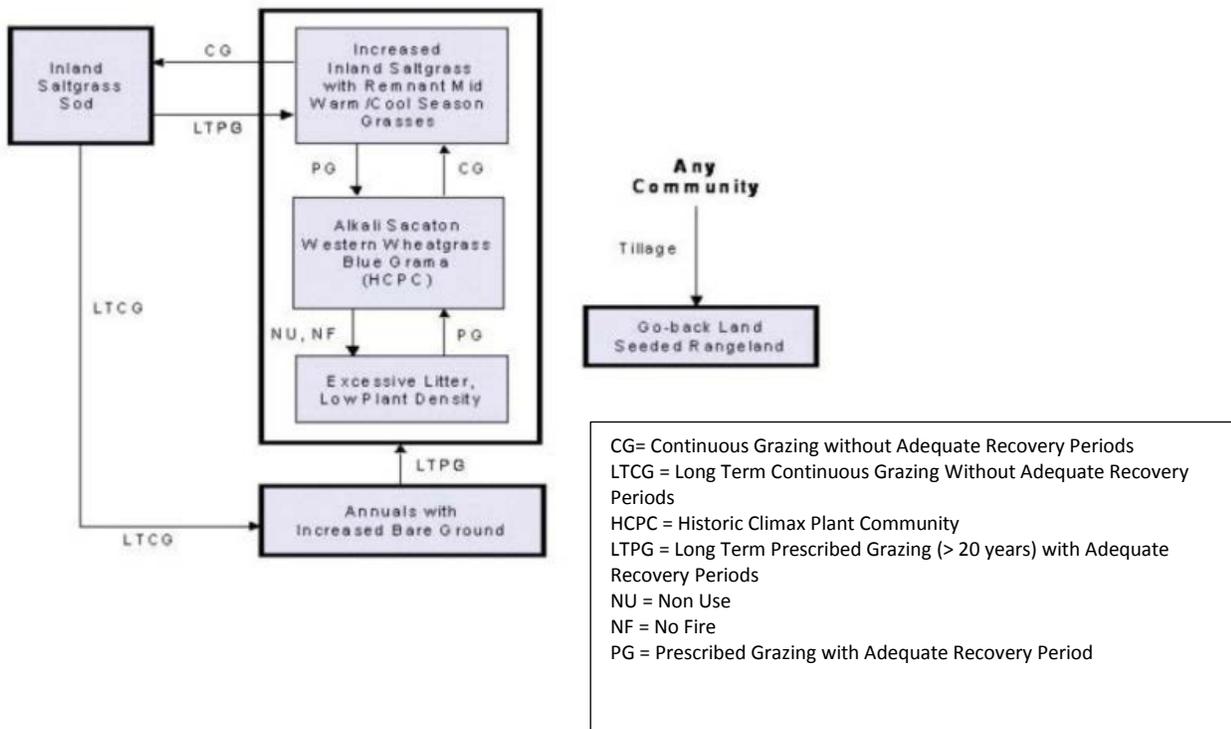
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*RV = Representative Value.

SITE: SALINE LOWLAND (DRAFT) R072XA019KS

SITE DESCRIPTION: Site occurs on nearly level to moderately sloping floodplains and low terraces adjacent to streams and rivers and may occur on sandhills interdunes. Soils are very deep saline and saline-alkali soils. The subsoil and underlying layers may have a seasonal high water table below 36". Surface soil is 3-20" thick. The surface soil texture varies from clay loam to loamy fine sand. Soils are commonly calcareous to the surface. Salinity and alkalinity impact other soil properties such as structure, infiltration, and permeability.

Plant Community	Community Description	Average Production #/ac	AUM/AC	
			50% Use	60% Use
Alkali Sacaton / Western Wheatgrass / Blue Grama	Primary plants are alkali sacaton, western wheatgrass and blue grama. Plants of secondary importance include green needlegrass, inland saltgrass and switchgrass. American vetch, fourwing saltbush and winterfat are significant.	2000	0.55	0.66
Excessive Litter	Above ground litter ties up much of the nutrients. Many plants especially bunchgrasses have died off or have very low vigor.	1000	0.18	0.21
Inland Saltgrass / Remnant Mid Grasses	Inland saltgrass is the most prominent grass. Alkali sacaton present as scattered plants. Western wheatgrass and green needlegrass are presents secondary species. Scarlet globemallow, Fremont goldenweed, green plume rabbitbush and broom snakeweed are common.	1200	0.33	0.39
Inland Saltgrass Sod	Inland saltgrass is the most prominent grass. Alkali sacaton present as scattered plants. Western wheatgrass and green needlegrass are presents secondary species. Scarlet globemallow, Fremont goldenweed, green plume rabbitbush and broom snakeweed are common.	600	0.16	0.20
Annuals with increased bare ground	Inland saltgrass is present in localized areas. Russian thistle, kochia and cocklebur are common.	100	0.03	0.03
Go-back / Seeded	There are a number of transitions depending upon the amount of erosion, and whether the land has been seeded.	400	0.11	0.13

Plant Communities and Transitional Pathways



Saline Lowland—Alkali Sacaton / Western Wheatgrass / Bluegrama Plant Community (HCPC)

COMMON/GROUP NAME	SCIENTIFIC NAME	SYMBOL	Group	Lbs/acre	% Composition
GRASSES & GRASS-LIKES			1	1500 – 1800	75-90
GRASSES					
Alkali Sacaton	Sporobolus airoides	SPAI	1	600-800	30-40
Western Wheatgrass	Pascopyrum smithii	PASM	1	400-700	20-35
Blue Grama	Bouteloua gracilis	BOGR2	1	200-400	10-20
Green Needlegrass	Nassella viridula	NAVI4	1	0-300	0-15
Sandberg Bluegrass	Poa secunda	POSE	1	100-200	5-10
Inland Saltgrass	Distichlis spicata	DISP	1	40-200	2-10
Buffalograss	Bouteloua dactyloides	BODA2	1	0-60	0-3
Nuttall's alkaligrass	Puccinellia nuttalliana	PUNU2	1	0-40	0-2
Sideoats Grama	Bouteloua curtipendula	BOCU	1	0-40	0-2
Switchgrass	Panicum virgatum	PAVI2	1	0-40	0-2
Fendler Threeawn	Aristida purpurea var. longiseta	ARPU9	1	0-20	0-1
Little Barley	Hordeum pusillum	HOPU	1	0-20	0-1
Ring Muhly	Muhlenbergia torreyi	MUTO2	1	0-20	0-1
Sand Dropseed	Sporobolus cryptandrus	SPCR	1	0-20	0-1
Scratchgrass	Muhlenbergia asperifolia	MUAS	1	0-20	0-1
Squirreltail	Elymus elmoides ssp. elmoides	ELELE	1	0-20	0-1
Other Perennial Grasses		2GP	1	20-100	1-5
GRASS-LIKES					
Sun Sedge	Carex inops ssp. heliophila	CAINH2	1	0-40	0-2
FORBS				100-200	5-10
American Vetch	Vicia americana	VIAM	2	20-40	1-2
Leafy False Goldenweed	Oenopsis filiosa var. filiosa	OOFOF	2	20-40	1-2
Scarlet Globe Mallow	Sphaeralcea coccinea	SPCO	2	20-40	1-2
Twogrooved Milkvetch	Astragalus bisulcatus	ASBI2	2	0-40	0-2
Broadleaf Milkweed	Asclepias latifolia	ASLA4	2	0-20	0-1
Cuman (Western) Ragweed	Ambrosia psilostachya	AMPS	2	0-20	0-1
Curlycup Gumweed	Grindelia squarrosa	GRSQ	2	0-20	0-1
Desert Princesplume	Stanleya pinnata var. pinnata	STPIP	2	0-20	0-1
Fetid Marigold	Dyssodia papposa	DYPA	2	0-20	0-1
Hairy False Goldenaster	Heterotheca vilosa	HEVI4	2	0-20	0-1
Lacy Tansyaster	Machaeranthera pinnatifida ssp. pinnatifida var. pinnatifida	MAPIP4	2	0-20	0-1
Scrambled Eggs	Corydalis aurea	COAU2	2	0-20	0-1
Upright Prairie Conflower	Ratibida columnifera	RACO3	2	0-20	0-1
Violet Prairie Clover	Dalea purpurea var. purpurea	DAPU5	2	0-20	0-1
Other Perennial Forbs		2FP	2	20-100	1-5
SHRUBS				100-300	5-15
Fourwing Saltbush	Atriplex canescens	ATCA2	3	0-300	0-15
Rubber Rabbitbrush	Ericameria nauseosa spp. nauseosa var. glabrata	ERNAG	3	0-60	0-3
Winterfat	Krascheninnikovia lanata	KRLA2	3	0-140	0-7
Broom Snakeweed	Gutierrezia sarothrae	GUSA2	3	0-40	0-2
Plains Prickly pear	Opuntia polyacantha	OPPO	3	0-40	0-2
Other Shrubs		2SHRUB	3	0-60	0-2

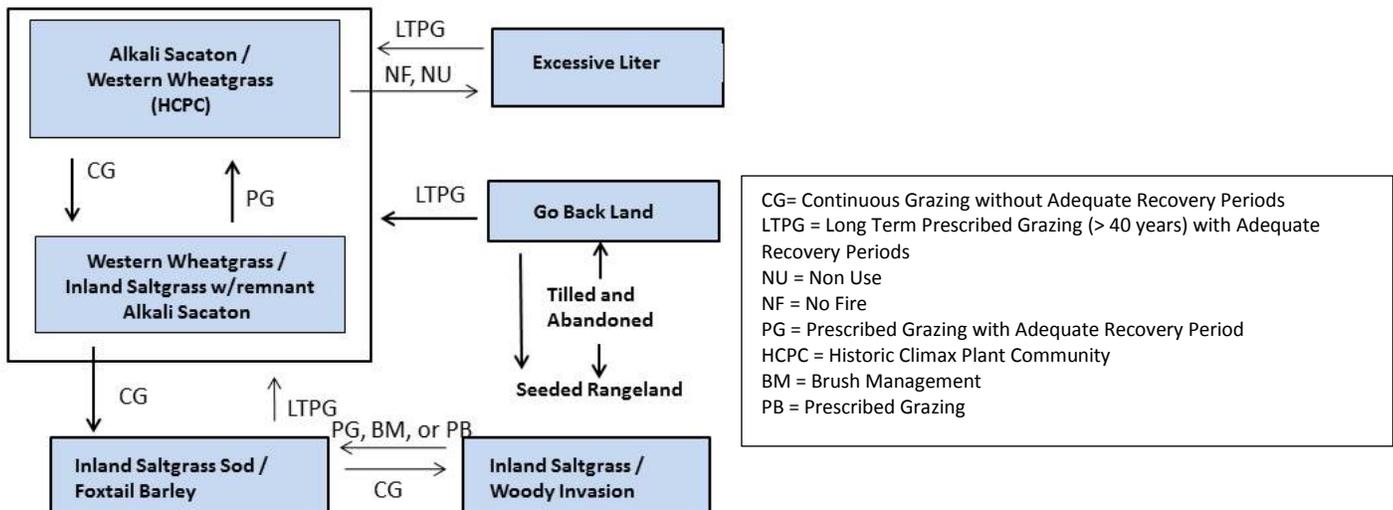
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Annual Production lbs./acre	LOW	RV*	HIGH
GRASSES & GRASSLIKES	810	1650	2470
FORBS	95	150	205
SHRUBS	95	200	325
TOTAL	1000	2000	3000

SITE: SALINE SUBIRRIGATED (DRAFT) R072XA020KS

SITE DESCRIPTION: Site occurs on nearly level floodplains adjacent to streams and rivers. Soils are seasonally wet and have an accumulation of salts within the root zone and are subject to flooding. Soils are very deep saline and saline-alkali soils. There is a seasonal high water table 12-48" below the soil surface. Soils are very deep but can be shallow over gravelly coarse sand. The surface is darker colored and ranges from 7-24" thick.

Plant Community	Community Description	Average Production #/ac	AUM/AC	
			50% Use	60% Use
Alkali Sacaton / Western Wheatgrass	The dominant species are alkali sacaton, western wheatgrass, switchgrass and inland saltgrass. Secondary species include alkali cordgrass, slender wheatgrass, little bluestem, and alkali bluegrass.	3000	0.82	0.99
Excessive Litter	Above ground litter ties up much of the nutrients. Many plants especially bunchgrasses have died off or have very low vigor.	350	0.10	0.12
Western Wheatgrass / Inland Saltgrass /	Western wheatgrass and inland saltgrass are the dominant species. Alkali sacaton, switchgrass, alkali cordgrass, slender wheatgrass, little bluestem and alkali bluegrass are only present as remnants if at all.	2200	0.60	0.72
Inland Saltgrass Sod / Foxtail Barley	Inland saltgrass dominates and becomes sod bound. Foxtail barley is very common. Western wheatgrass, alkali sacaton, sedges, rushes and other grasses and grasslikes are only remnants if present at all.	1500	0.41	0.49
Inland Saltgrass / Woody Invasion	Russian olive and/or eastern red cedar have invaded and reduced area for forage production. Open areas are dominated by inland saltgrass. Remnant populations of other grasses may be present.	1100	0.30	0.36
Go-back / Seeded	There are a number of transitions depending upon the amount of erosion, and whether the land has been seeded.	1000	0.27	0.33



Saline Subirrigated—Alkali Sacaton / Western Wheatgrass / Bluegrama Plant Community (HCPC)

COMMON/GROUP NAME	SCIENTIFIC NAME	SYMBOL	Group	Lbs/acre	% Composition
GRASSES & GRASS-LIKES			1	2700-2940	90-98
GRASSES					
Alkali Sacaton	Sporobolus airoides	SPAI	1	750-1050	25-35
Western Wheatgrass	Pascopyrum smithii	PASM	1	450-750	15-25
Inland Saltgrass	Distichlis spicata	DISP	1	150-450	5-15
Switchgrass	Panicum virgatum	PAVI2	1	150-450	5-15
Slender Wheatgrass	Elymus trachycaulus ssp. trachycaulus	ELTRT	1	150-300	5-10
Alkali Cordgrass	Spartina gracilis	SPGR	1	30-150	1-5
Blue Grama	Bouteloua gracilis	BOGR2	1	0-150	0-5
Buffalograss	Bouteloua dactyloides	BODA2	1	0-150	0-5
Canada Wildrye	Elymus canadensis	ELCA4	1	0-150	0-5
Little Bluestem	Schizachyrium scoparium	SCSC	1	0-150	0-5
Prairie Cordgrass	Spartina pectinata	SPPE	1	0-150	0-5
Sandberg Bluegrass	Poa secunda	POSE	1	0-150	0-5
Scratchgrass	Muhlenbergia asperifolia	MUAS	1	0-150	0-5
Other Perennial Grasses		2GP	1	0-300	0-10
GRASS-LIKES					
Rush	Juncus sp.	JUNCU	1	0-150	0-5
Sedge	Carex sp.	CAREX	1	150-300	5-10
FORBS				60-150	2-5
American Licorice	Glycyrriza lepidota	GLLE3	2	0-60	0-2
Cuman Ragweed	Ambrosia psilostachya	AMPS	2	0-60	0-2
Maximilian Sunflower	Helianthus maximilini	HEMA2	2	0-60	0-2
Pussytoes	Antennaria sp.	ANTEN	2	0-60	0-2
Pursh Seepweed	Suaeda calceoliformis	SUCA2	2	0-60	0-2
White White Heath Aster	Symphyotrichum ericoides	SYER	2	0-60	0-2
White Sagebrush	Artemisia ludoviciana	ARLU	2	0-60	0-2
Other Perennial Forbs		2FP	2	0-30	0-1

Annual Production lbs./acre	LOW	RV*	HIGH
GRASSES & GRASSLIKES	1445	2895	4045
FORBS	55	105	155
SHRUBS	0	0	0
TOTAL	1500	3000	4200

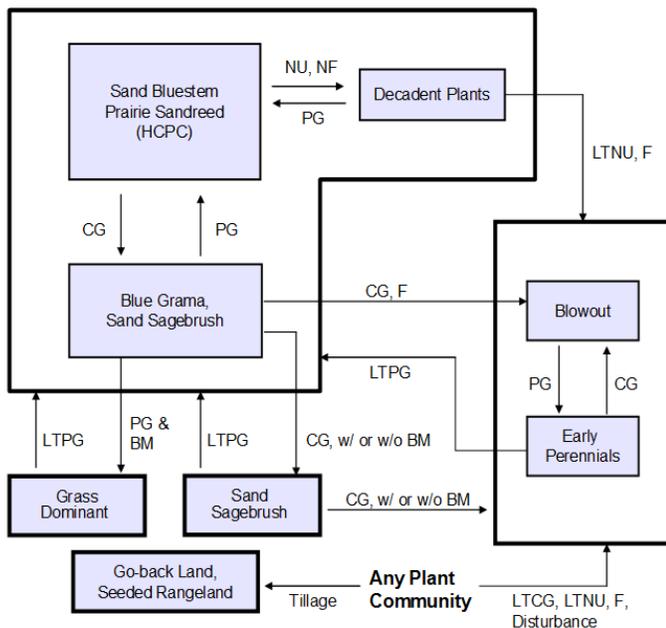
*This list of plants and their relative proportions are based on near normal years. Fluctuations in species composition and relative production may change from year to year dependent upon precipitation or other climatic fluctuations. *RV = Representative Value.

SITE: SANDS R072XA021KS

SITE DESCRIPTION: The site occurs on nearly level to rolling sand dunes. Runoff is very low. Soils are moderately deep to very deep, very sandy and have thin, light colored surface layers. Organic matter is low to moderately low in the surface layer. Sod formation is very weak or non-existent.

Plant Community	Community Description	Average Production #/ac	AUM/AC	
			50% Use	60% Use
Sand Bluestem / Prairie Sandreed	The major grasses are sand bluestem, prairie sandreed, and switchgrass. Secondary species include Indiangrass, little bluestem, needleandthread, blue grama, leadplant and sand sagebrush. There is a very diverse forb population.	2100	0.58	0.69
Blue Grama / Sand Sagebrush	The dominant species are blue grama and sand sagebrush. There are small amounts of sand bluestem, prairie sandreed, Indiangrass, switchgrass, western sand cherry and leadplant. Sand dropseed, red threeawn, slimflower scurfpea, Hairy False Goldenaster, Cuman Ragweed, stickleaf, lupine, locoweed and milkvetch are common.	1000	0.27	.33
Decadent Plants	Litter levels are high, bunchgrasses have dead centers and perennial grasses are decadent. Annual forbs and grasses fill in bare areas that have resulted from the death of perennial grasses.	700	0.19	0.23
Sand Sagebrush	Sand sagebrush dominates the site with few understory species. Favorable species that remain are minor and protected by sagebrush. The amount of forage preferred by livestock is low.	800	0.22	0.26
Grass Dominant	This plant community results after a sand sagebrush community has been sprayed to control the brush. Plant diversity is low and may be dominated by either blue grama or prairie sandreed. Secondary species include needleandthread, sand dropseed, red threeawn, six-weeks fescue and sandhill muhly. There is little diversity; most of the forbs and shrubs have been eliminated by the brush treatment.	1200	0.33	0.39
Early Perennial	Pioneer perennial species such as blowout grass, sandhill muhly, lemon scurfpea and a variety of annuals are present.	175	0.05	0.06
Go-back, Seeded or Renovated	Go-back evolves through several plant communities. Early species are sandhill muhly, blowout grass, lemon scurfpea and annuals. Sand dropseed, needleandthread and blue grama are common. The species present on seeded or renovated land will depend upon what was planted.	900	0.25	0.30
Active Blowout	Blowouts are very dynamic and result in a soil surface that will resist revegetation. Desertification is well advanced.	100	.01	.01

Plant Communities and Transitional Pathways



BM = Brush Management
 CG = Continuous Grazing without Adequate Recovery Periods
 F = Fire
 HCPC = Historic Climax Plant Community
 LPG = Long-term Prescribed Grazing with Adequate Recovery Periods (>20 yrs.)
 LTCG = Long Term Continuous Grazing without Adequate Recovery Periods
 LTNU = Long Term Non-Use (> 25 years)
 NF = No Fire
 NU = Non Use
 PG = Prescribed Grazing with Adequate Recovery Periods

Sands --Sand Bluestem/Prairie Sareed Plant Community (HCPC)

COMMON/GROUP NAME	SCEINTIFIC NAME	SYMBOL	Group	Lbs/acre	% Composition
GRASSES & GRASS-LIKES			1	1470 – 1890	70 – 90%
GRASSES					
Sand Bluestem	Andropogon halli	ANHA	1	420-630	20-30
Prairie Sareed	Calamovilfa longifolia	CALO	1	210-315	10-15
Switchgrass	Panicum virgatum	PAVI2	1	210-315	10-15
Indiangrass	Sorghastrum nutans	SONU2	1	105-315	5-15
Little Bluestem	Schizachyrium scoparium	SCSC	1	105-315	5-15
Needleandthread	Hesperostipa comata ssp. comata	HECOC8	1	105-210	5-10
Blue Grama	Bouteloua gracilis	BOGR2	1	42-210	2-10
Sand Lovegrass	Eragrostis tricides	ERTR3	1	0-105	0-5
Sand Dropseed	Sporobolus cryptandrus	SPCR	1	21-63	1-3
Hairy Grama	Bouteloua hirsuta	BOHI2	1	0-63	0-3
Prairie Junegrass	Koeleria macrantha	KOMA	1	21-42	1-2
Thin Paspalum	Paspalum setaceum	PASE5	1	21-42	1-2
Scribner panicum	Dichantherium oligosanthes var. scribnerianum	DIOLS	1	21-42	1-2
Indian Ricegrass	Achnatherum hymenoides	ACHY	1	0-42	0-2
Sandhill Muhly	Muhlenbergia pungens	MUPU2	1	0-42	0-2
Western Wheatgrass	Pascopyrum smithii	PASM	1	0-42	0-2
Composite Dropseed	Sporobolus compositus var compositus	SPCOC2	1	0-21	0-1
Fendler Threeawn	Aristida purpureavar longiseta	ARPU9	1	0-21	0-1
Other Perennial Grasses		2GP	1	0-105	0-5
GRASS-LIKES					
Sedge	Carex spp.	CAREX	1	0-105	0-5
Sun Sedge	Carex inops ssp heliophila	CAINH2	1	0-63	0-3
Great Plains Flatsedge	Cyperus lupulinus	CYLU2	1	0-21	0-1
FORBS				105-315	5-15
Cuman Ragweed	Ambrosia psilostachya	AMPS	2	21-42	1-2
Evening Primrose	Oenothera spp.	OENOT	2	0-42	0-2
Milkvetch	Astragalus spp.	ASTRA	2	0-42	0-2
Pentstemon	Penstemon spp.	PENST	2	0-42	0-2
Annual Buckwheat	Eriogonum annuum	ERAN4	2	0-21	0-1
Longbract Spiderwort	Tradescantia bracteata	TRBR	2	0-21	0-1
Bush Morning Glory	Ipomea leptophylla	IPLA	2	0-21	0-1
Carolina Larkspur	Delphinium carolinianum ssp. virescens	DECAV2	2	0-21	0-1
Chickenthiel	Mentzelia oligosperma	MEOL	2	0-21	0-1
Common Star Lily	Leucocrocinum montanum	LEMO4	2	0-21	0-1
Coneflower	Dracopis spp.	DRACO3	2	0-21	0-1
Death Camas	Zigadenus venenosus	ZIVE	2	0-21	0-1
Dotted Blazing Star (Gayfeather)	Liatris punctata	LIPU	2	0-21	0-1
Hairy False Goldenaster	Heterotheca villosa	HEVI4	2	0-21	0-1
White Heath Aster	Symphotrichum ericoides var. ericoides	SYRE	2	0-21	0-1
Lemon Scurfpea	Psoralidium lanceolatum	PSLA3	2	0-21	0-1
Manystem Peavine	Lathyrus polymorphus	LAPO2	2	0-21	0-1
Othake	Palafoxia sphacelata	PASP	2	0-21	0-1
Rush Skelaton Plant	Lygodesmia juncea	LYJU	2	0-21	0-1
Scarlet Globe Mallow	Sphaeralcea coccinea	SPCO	2	0-21	0-1
Slender Woollyheads	Psilocarphus tenellus	PSTE	2	0-21	0-1
Snowball Sand Verbena	Abronia fragrans	ABFR2	2	0-21	0-1
Stiff Sunflower	Helianthus pauciflorus	HEPA19	2	0-21	0-1
Tenpetal Blazingstar	Mentzelia decapetala	MEDE2	2	0-21	0-1
Texas Croton	Croton texensis	CRTE4	2	0-21	0-1
Violet Prairie Clover	Dalea purpurea var. purpurea	DAPU5	2	0-21	0-1
White Sagebrush	Artemisia ludoviciana	ARLU	2	0-21	0-1
Other Perennial Forbs		2FP	2	0-105	0-5
SHRUBS				105-315	5-15
Western Sandcherry	Prunus pumila var. besseyi	PRPUB	3	42-147	2-7
Sand Sagebrush	Artemesia filifolia	ARFI2	3	42-105	2-5
Leadplant	Amorpha canescens	AMCA6	3	21-105	1-5
Brittle Pricklypear	Opuntia fragilis	OPFR	3	0-21	0-1
Plains Pricklypear	Opuntia polyacantha	OPPO	3	0-21	0-1
Prairie Rose	Rosa arkansana	ROAR3	3	0-21	0-1
Skunkbush Sumac	Rhus trilobata	RHTR	3	0-21	0-1
Small Soapweed	Yucca glauca	YUGL	3	0-21	0-1
Other Shrubs		2SHRUB	3	0-105	0-5

Ecological Site Quick Reference 72

*This list of plants and their relative proportions are based on near normal years. Fluctuations in species composition and relative production may change from year to year dependent upon precipitation or other climatic fluctuations. *RV = Representative Value.

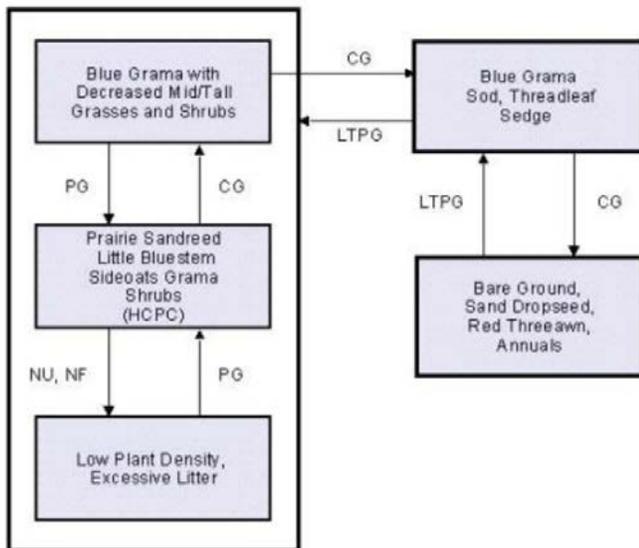
<i>Annual Production lbs./acre</i>	LOW	RV*	HIGH
GRASSES & GRASSLIKES	1300	1680	2300
FORBS	100	210	350
SHRUBS	100	210	350
TOTAL	1500	2100	3000

SITE: SANDSTONE BREAKS (Draft) R072XA056KS

SITE DESCRIPTION: The site occurs on nearly level to very steep ridges or breaks. Sandstone out-cropping is common and can include vertical sandstone cliffs. Soils range from very shallow to moderately deep, somewhat excessively drained and moderately to rapidly permeable. There may be bedrock at depths of 10-40". The soil surface layer is typically 2-9" thick. The available water capacity is very low to low.

Plant Community	Community Description	Average Production #/ac	AUM/AC	
			50% Use	60% Use
Prairie Sandreed / Little Bluestem / Sideoats Grama / Shrubs	Principal grasses are prairie sandreed, little bluestem, and sideoats grama. Secondary grasses include switchgrass, blue grama and needleandthread. Big bluestem, sand bluestem, Indiangrass, prairie sandreed, threadleaf sedge and sun sedge are common. American vetch, dotted blazingstar, purple prairie clover and upright prairie coneflower are the dominant forbs. Chokecherry, western sandcherry, golden currant, wax currant, fourwing saltbush and winterfat are key shrubs.	1300	0.36	0.43
Blue Grama / Decreased Mid and Tall grasses and Shrubs	Blue grama is the dominant grass. Little bluestem and sideoats grama are secondary species. Sand bluestem, big bluestem, switchgrass and prairie sandreed may be present in small amounts. Primary forbs include Cuman Ragweed, cudweed sagewort, Hairy False Goldenaster, slimflower scurfpea, fringed sagebrush and small soapweed.	750	0.21	0.25
Excessive Litter	Above ground litter ties up much of the nutrients. Many plants especially bunchgrasses have died off or have very low vigor.	600	0.16	0.20
Blue Grama Sod / Threadleaf sedge	Blue grama and threadleaf sedge are the dominant species. They are sodbound and occur in localized colonies exhibiting a mosaic appearance. Sideoats grama and little bluestem may be present in small amounts on steeper slopes. Prairie sandreed may be present as a remnant. Cuman Ragweed, Hairy False Goldenaster, Prairie Sagewort and small soapweed are common.	400	0.11	0.13
Bare Ground / Sand Dropseed / Red Threawn / Annuals	Remnant amounts of blue grama can be found in localized areas. Bare ground is very common. The dominant perennial plants are sand dropseed and red threawn. Annuals such as Russian thistle, kochia, sixweeks fescue and annual brome-grasses are common.	125	0.03	0.04

Plant Communities and Transitional Pathways



CG= Continuous Grazing without Adequate Recovery Periods
 HCPC = Historic Climax Plant /Community
 LTPG = Long-term Prescribed Grazing (>40 years)
 NF = No Fire
 NU= Non-Use
 PG = Prescribed Grazing with Adequate Recovery Periods

Sandstone Breaks—Prairie Sandreed, Little Bluestem, Sideoats Grama, Shrubs Plant Community

COMMON/GROUP NAME	SCEINTIFIC NAME	SYMBOL	Group	Lbs/acre	% Composition
GRASSES & GRASS-LIKES			1	910-1170	70-90
GRASSES					
Little Bluestem	Schizachyrium scoparium	SCSC	1	130-195	10-15
Prairie Sandreed	Calamovilfa longifolia	CALO	1	130-195	10-15
Sideoats Grama	Bouteloua curtipendula	BOCU	1	65-195	5-15
Blue Grama	Bouteloua gracilis	BOGR2	1	65-130	5-10
Sand Bluestem	Andropogon hallii	ANHA	1	26-130	2-10
Big Bluestem	Andropogon gerardii	ANGE	1	26-91	2-7
Needleandthread	Hesperostipa comata ssp. comata	HECOC8	1	26-91	2-7
Indiangrass	Sorghastrum nutans	SONU	1	0-65	0-5
Switchgrass	Panicum virgatum	PAV12	1	0-65	0-5
Western Wheatgrass	Pascopyrum smithii	PASM	1	13-39	1-3
Canada Wildrye	Elymus canadensis	ELCA4	1	13-39	1-2
Prairie Junegrass	Koeleria macrantha	KOMA	1	13-26	1-2
Sand Dropseed	Sporobolus cryptandrus	SPCR	1	13-26	1-2
Thickspike Wheatgrass	Elymus lanceolatus ssp. lanceolatus	ELLAL	1	13-26	1-2
Fendler Threeawn	Aristida purpurea var. longiseta	ARPUL	1	0-13	0-1
Hairy Grama	Bouteloua hirsuta	BOH12	1	0-13	0-1
Indian Ricegrass	Achnatherum hymenoides	ACHY	1	0-13	0-1
Marsh Muhly	Muhlenbergia racemosa	MURA	1	0-13	0-1
Plains Muhly	Muhlenbergia cuspidata	MUCU3	1	0-13	0-1
Ring Muhly	Muhlenbergia torrey1	MUTO2	1	0-13	0-1
Squirreltail	Elymus elymoides	ELEL5	1	0-13	0-1
Other Perennial Grasses		2GP	1	13-65	1-5
GRASS-LIKES					
Sun Sedge	Carex inops ssp. heliophila	CAINH2	1	13-39	1-3
Threadleaf Sedge	Carex filifolia	CAFI	1	13-26	1-2
FORBS				65-195	5-15
Dotted Blazing Star	Liatris punctata	LIPU	2	13-26	1-2
Violet Prairie Clover	Dalea purpurea var. purpurea	DAPU5	2	13-26	1-2
American Vetch	Vicia americana	VIAM	2	0-13	0-1
Annual Buckwheat	Eriogonum annuum	ERAN4	2	0-13	0-1
Broadbeard Beardtongue	Penstemon angustifolius	PEAN4	2	0-13	0-1
Common Starlily	Leucocrinum montanum	LEMO4	2	0-13	0-1
Crownleaf Evening Primrose	Oenothera coronopifolia	OECO2	2	0-13	0-1
Cuman Ragweed	Ambrosia psilostachya	AMPS	2	0-13	0-1
Hairy False Goldenaster	Heterotheca villosa	HEV14	2	0-13	0-1
Lacy Tansyaster	Machaeranthera pinnatifida ssp. pinnatifida var. pinnatifida	MAPIP4	2	0-13	0-1
Manystem Pea	Lathyrus polymorphus	LAPO2	2	0-13	0-1
New Mexico Groundsel	Packera neomexicana var mutabilis	PANEM	2	0-13	0-1
Nuttall's Evolvulus	Evolvulus nuttallianus	EVNU	2	0-13	0-1
Prairie Spiderwort	Tradescantia occidentalis	TROC	2	0-13	0-1
Rush Skelaton Plant	Lygodesmia juncea	LYJU	2	0-13	0-1
Scarlet Globemallow	Sphaeralcea coccinea	SPCO	2	0-13	0-1
Slimflower Scurfpea	Psoralidium tenuiflorum	PSTE5	2	0-13	0-1
Stemless Four-nerve Daisy	Tetranneuris acaulis	TEAC	2	0-13	0-1
Stiff Greenthread	Thelesperma filifolium	THFI	2	0-13	0-1
Tarragon	Artemisia dracunculul	ARDR4	2	0-13	0-1
Tenpetal Blazingstar	Mentzelia decapetala	MEDE2	2	0-13	0-1
Texas Croton	Croton texensis	CRTE4	2	0-13	0-1
Upright Prairie Coneflower	Ratibida columnifera	RACO3	2	0-13	0-1
White Heath Aster	Symphyotrichum ericoides	SYER	2	0-13	0-1
White Sagebrush	Artemisia ludoviciana	ARLU	2	0-13	0-1
Woolly Locoweed	Astragalus mollissimus	ASMO7	2	0-13	0-1
Woolly Plantain	Plantago patagonica	PLPA2	2	0-13	0-1
Other Perennial Forbs		2FP	2	13-65	1-5
SHRUBS				65-195	5-15
Chokecherry	Prunus virginiana var. virginiana	PRVIV	3	13-39	1-3
Western Sandcherry	Prunus pumila var. besseyi	PRPUB	3	13-39	1-3
Golden Currant	Ribes aureum	RIAU	3	13-26	1-2
Spreading Buckwheat	Eriogonum effusum	EREF	2	13-26	1-2
Wax Currant	Ribes cereum	RICE	3	13-26	1-2
Skunkbush Sumac	Rhus trilobata	RHTR	3	0-26	0-2
Broom Snakeweed	Gutierrezia sarothrae	GUSA2	3	0-13	0-1

Leadplant	Amorpha canescens	AMCA6	2	0-13	0-1
Plains Pricklypear	Opuntia polyacantha	OPPO	3	0-13	0-1
Small Soapweed	Yucca glauca	YUGL	3	0-13	0-1
Spiny Star	Escobaria vivipara var. vivipara	ESVIV	3	0-13	0-1
Western Poison Ivy	Toxicodendron rydbergii	TORY	3	0-13	0-1
Other Shrubs		2SHRUB	3	13-39	1-3

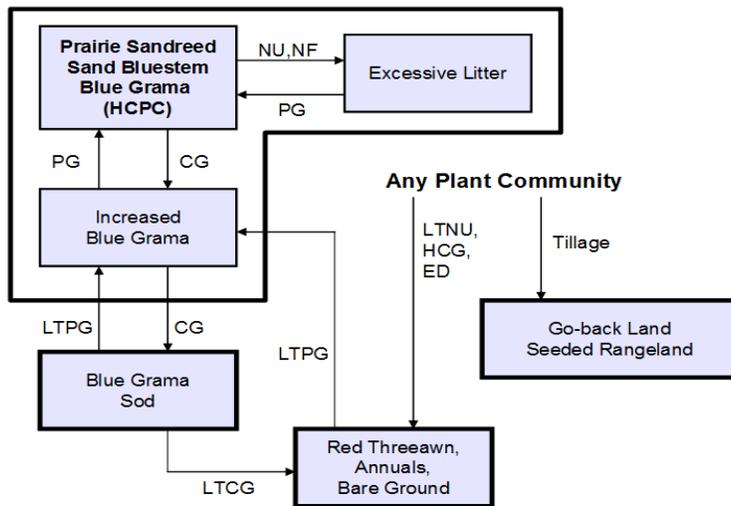
<i>Annual Production lbs./acre</i>	LOW	RV*	HIGH
GRASSES & GRASSLIKES	680	1040	1500
FORBS	60	130	200
SHRUBS	60	130	200
TOTAL	800	1300	1900

*This list of plants and their relative proportions are based on near normal years. Fluctuations in species composition and relative production may change from year to year dependent upon precipitation or other climatic fluctuations. *RV = Representative Value.

SITE: SANDY (DRAFT) R072XA022KS

SITE DESCRIPTION: The site occurs on level to hilly uplands and plains. Soils have moderately sandy to very sandy surface layers, ranging from 3-20 inches thick. Subsoil layers are heavier textured. Organic matter is moderately low or moderate.

Plant Community	Community Description	Average Production #/ac	AUM/AC	
			50% Use	60% Use
Sand Bluestem / Prairie Sandreed / Blue Grama	Primary grasses are prairie sandreed, sand bluestem and blue grama. Secondary species include little bluestem, needleandthread, Indiangrass and switchgrass. Common shrubs include western sand cherry and leadplant. There is a very diverse forb population.	1950	0.53	0.64
Increased Blue Grama	Blue grama is the predominant grass species. There are small amounts of sand bluestem, prairie sandreed, little bluestem, Indiangrass and switchgrass. Sand dropseed, red threeawn, stickleaf, locoweed, lupine, and cactus are common.	1100	0.30	0.36
Excessive Litter	Litter levels are high, bunchgrasses have dead centers and perennial grasses are decadent. Annual forbs and grasses fill in bare areas that have resulted from the death of perennial grasses.	1000	0.25	0.30
Blue Grama Sod	Sod bound blue grama dominates the site. Secondary species are sand dropseed and Fendler threeawn. The most common forbs are white sagebrush, lupine, stickleaf, croton, locoweed, tarragon, and pricklypear. Prairie sandreed and needleandthread may be present as remnants.	850	0.23	0.28
Red Threeawn / Annuals / Bare Ground	Pioneer perennial species such as blowout grass, sandhill muhly, lemon scurfpea and a variety of annuals are present.	175	0.05	0.06
Go-back, Seeded or Renovated	Go-back evolves through several plant communities. Early species are sandhill muhly, blowout grass, lemon scurfpea and annuals. Sand dropseed, needleandthread and blue grama are common. The species present on seeded or renovated land will depend upon what was planted.	1500	0.41	0.49



CG= Continuous Grazing without Adequate Recovery Periods
 ED= Excessive Defoliation
 HCG= Heavy Continuous Grazing
 HCPC = Historic Climax Plant Community
 LTCG= Long Term Continuous Grazing without Adequate Recovery Periods (>20 years)
 LTPG = Long Term Prescribed Grazing (> 20 years) with Adequate Recovery Periods
 LTNU = Long Term Non-Use (> 25 years)
 NU = Non Use
 NF = No Fire
 PG = Prescribed Grazing with Adequate Recovery Period

Sandy -- Prairie Sandreed/ Sand Bluestem/Blue Grama Plant Community (HCPC)

COMMON/GROUP NAME	SCEINTIFIC NAME	SYMBOL	Group	Lbs/acre	% Composition
GRASSES & GRASS-LIKES			1	1365-1755	70-90
Prairie Sandreed	Calamovilfa longifolia	CALO	1	390-585	20-30
Blue Grama	Bouteloua gracilis	BOGR2	1	195-390	10-20
Sand Bluestem	Andropogon halli	ANHA	1	195-390	10-20
Little Bluestem	Schizachyrium scoparium	SCSC	1	98-195	5-10
Needleandthread	Hesperostipa comata ssp. comata	HECOC8	1	98-195	5-10
Switchgrass	Panicum virgatum	PAVI2	1	98-195	5-10
Indiangrass	Sorghastrum nutans	SONU2	1	20-98	1-5
Sand Dropseed	Sporobolus cryptandrus	SPCR	1	20-98	1-5
Western Wheatgrass	Pascopyrum smithii	PASM	1	20-98	1-5
Sideoats Grama	Bouteloua curtipendula	BOCU	1	0-98	0-5
Prairie Junegrass	Koeleria macrantha	KOMA	1	0-39	0-2
Buffalograss	Bouteloua dactyloides	BODA2	1	0-20	0-1
Fendler Threeawn	Aristida purpurea var. longiseta	ARPUL	1	0-20	0-1
Hairy Grama	Bouteloua hirsuta	BOHI2	1	0-20	0-1
Indian Ricegrass	Achnatherum hymenoides	ACHY	1	0-20	0-1
Plains Muhly	Muhlenbergia cuspidata	MUCU3	1	0-20	0-1
Sedge	Carex spp.	CAREX	1	0-98	0-5
Other Perennial Grasses		2GP	1	0-98	0-5
FORBS				98-293	5-15
Dotted Blazing Star (Gayfeather)	Liatris punctata	LIPU	2	20-39	1-2
Annual Buckwheat	Eriogonum annuum	ERAN4	2	0-39	0-2
Broadbeard Pentstemon	Penstemon angustifolius	PEAN4	2	0-39	0-2
Carolina Larkspur	Delphinium carolinianum ssp. virescens	DECAV2	2	0-39	0-2
Cuman Ragweed	Ambrosia psilostachya	AMPS	2	20-39	0-2
Evening Primrose	Oenothera spp.	OENOT	2	0-39	0-2
False Boneset	Brickellia eupatoriodes	BREU	2	0-39	0-2
Hairy False Goldenaster	Heterotheca villosa	HEVI4	2	0-39	0-2
Lemon Scurfpea	Psoraleidum lanceolatum	PSLA3	2	0-39	0-2
Nuttall's Evolvulus	Evolvulus nuttallianus	EVNU	2	0-39	0-2
Prairie Spiderwort	Tradescantia occidentalis	TROC	2	0-39	0-2
Rush Skelaton Plant	Lygodesmia juncea	LYJU	2	0-39	0-2
Scarlet Beeblossom	Gaura Coccinea	GACO5		0-39	0-2
Scarlet Globe Mallow	Sphaeralcea coccinea	SPCO	2	0-39	0-2
Silky Prairie Clover	Dalea villosa	DAVI	2	0-39	0-2
Slimflower Scurfpea	Psoraleidum tenuiflorum	PSTE5	2	0-39	0-2
Tarragon (Green Sagewort)	Artemisia dracunculus	ARDR4	2	0-39	0-2
Tenpetal Blazingstar	Mentzelia decapetala	MEDE2	2	0-39	0-2
Texas Croton	Croton texensis	CRTE4	2	0-39	0-2
Upright Prairie Coneflower	Ratibida columnifera	RACO3	2	0-39	0-2
White Heath Aster	Symphyotrichum ericoides var. ericoides	SYERE	2	0-39	0-2
White Sagebrush	Artemisia ludoviciana	ARLU	2	0-39	0-2
Winged Buckwheat	Eriogonum alatum	ERAL4	2	0-39	0-2
Woolly Locoweed	Astragalus mollissimus	ASMO7	2	0-39	0-2
Other Perennial Forbs		2FP	2	0-98	0-5
SHRUBS				98-293	5-15
Western Sandcherry	Prunus pumila var. besseyi	PRPUB	3	20-98	0-5
Leadplant	Amorpha canescens	AMCA6	3	20-59	1-3
Spreading Buckwheat	Eriogonum effusum	EREF	3	20-39	1-2
Fourwing Saltbush	Atriplex canescens	ATCA2	3	0-59	0-3
Broom Snakeweed	Gutierrezia sarothrae	GUSA2	3	0-20	0-1
Plains Prickly pear	Opuntia polyacantha	OPPO	3	0-20	0-1
Prairie Rose	Rosa arkansana	ROAR3	3	0-20	0-1
Prairie Sagewort	Artemisia frigida	ARFR4	3	0-20	0-1
Sand Sagebrush	Artemisia filifolia	ARFI2	3	0-20	0-1
Small Soapweed	Yucca glauca	YUGL	3	0-20	0-1
Other Shrubs		2SHRUB	3	0-98	0-5

*This list of plants and their relative proportions are based on near normal years. Fluctuations in species composition and relative production may change from year to year dependent upon precipitation or other climatic fluctuations. *RV = Representative Value.

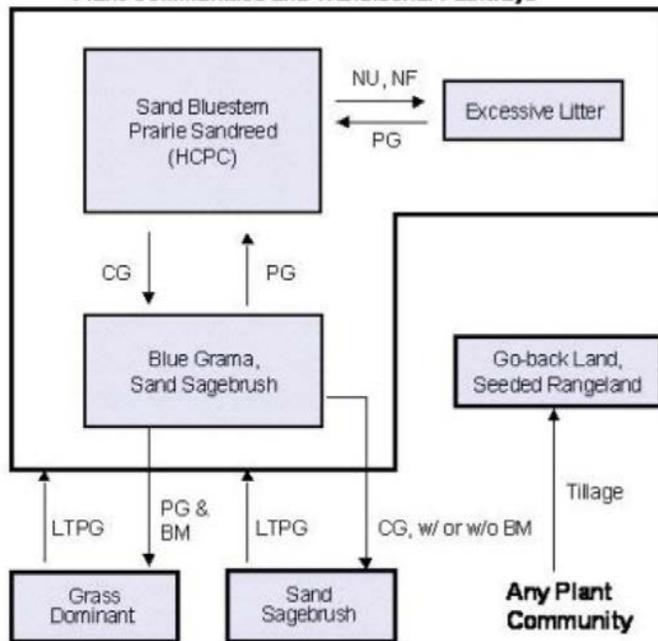
Annual Production lbs./acre	LOW	RV*	HIGH
GRASSES & GRASSLIKES	1060	1560	2150
FORBS	95	195	325
SHRUBS	95	195	325
TOTAL	1250	1950	2800

SITE: SANDY LOWLAND (Draft) R072XA023KS

SITE DESCRIPTION: The site occurs on nearly level to moderately sloping floodplains, upland drainageways and alluvial fans on terraces. The site receives runoff from areas higher on the landscape. Soils are very deep and are moderately well to excessively drained. The soil surface ranges from very sandy to loamy. Organic matter content is low to moderately low and available water capacity ranges from very low to moderate.

Plant Community	Community Description	Average Production #/ac	AUM/AC	
			50% Use	60% Use
Sand Bluemstem / Prairie Sandreed	The predominant grasses are sand bluemstem, prairie sandreed and switchgrass. Secondary species include little bluemstem, needleandthread, blue grama, leadplant and sand sagebrush. There is a diverse forb population.	2100	0.58	0.69
Blue Grama / Sagebrush	The primary grasses are blue grama and needleandthread. Sand sagebrush dominates the site. Tall grasses and palatable may be present as remnants.	1100	0.30	0.36
Excessive Litter	Litter levels are high, bunchgrasses have dead centers and perennial grasses are decadent. Annual forbs and grasses fill in bare areas that have resulted from the death of perennial grasses.	900	0.25	0.30
Grass Dominant	This plant community results after a sand sagebrush community has been sprayed to control the brush. Plant diversity is low and may be dominated by either blue grama or prairie sandreed. Secondary species include needleandthread, sand dropseed, red threeawn, six-weeks fescue and sandhill muhly. There is little diversity; most of the forbs and shrubs have been eliminated by the brush treatment.	1100	0.30	0.36
Sand Sagebrush	Pioneer perennial species such as blowout grass, sandhill muhly, lemon scurfpea and a variety of annuals are present.	800	0.22	0.26
Go-back, Seeded or Renovated	Go-back evolves through several plant communities. Early species are sandhill muhly, blowout grass, lemon scurfpea and annuals. Sand dropseed, needleandthread and blue grama are common. The species present on seeded or renovated land will depend upon what was planted.	1000	0.25	0.30

Plant Communities and Transitional Pathways



BM = Brush Management
 CG= Continuous Grazing without Adequate Recovery Periods
 HCPC = Historic Climax Plant Community
 LTPG = Long Term Prescribed Grazing (> 20 years) with Adequate Recovery Periods
 NU = Non Use
 NF = No Fire
 PG = Prescribed Grazing with Adequate Recovery Period

Sandy Lowland-- Sand Bluestem/ Prairie Sandreed Plant Community (HCPC)

COMMON/GROUP NAME	SCIENTIFIC NAME	SYMBOL	Group	Lbs/acre	% Composition
GRASSES & GRASS-LIKES			1	1470 - 1890	70-90
Sand Bluestem	Andropogon halli	ANHA	1	420-630	20-30
Little Bluestem	Schizachyrium scoparium	SCSC	1	210-315	10-15
Prairie Sandreed	Calamovilfa longifolia	CALO	1	210-315	10-15
Switchgrass	Panicum virgatum	PAVI2	1	210-315	10-15
Indiangrass	Sorghastrum nutans	SONU2	1	105-315	3-15
Needleandthread	Hesperostipa comata spp. Comata	HECOC8	1	105-210	3-10
Blue Grama	Bouteloua gracilis	BOGR2	1	0-105	0-3
Sand Dropseed	Sporobolus cryptandrus	SPCR	1	0-105	0-3
Sand Lovegrass	Eragrostis tricodes	ERTR3	1	0-105	0-3
Sideoats Grama	Bouteloua curtipendula	BOCU	1	0-105	0-3
Thin Paspalum	Paspalum setaceum	PASE5	1	0-42	0-2
Composite Dropseed	Sporobolus compositus var. compositus	KOMA	1	0-21	0-1
Hairy Grama	Bouteloua hirsuta	BOHI2	1	0-21	0-1
Hairy Threeawn	Aristida purpurea var. longiseta	ARPU9	1	0-21	0-1
Scribner's Rosette Grass (Scribner's Panicum)	Dichanthelium oligosanthes var. scribnerianum	DIOLS	1	0-21	0-1
Western Wheatgrass	Pascopyrum smithii	PASM	1	0-21	0-1
Sedge	Carex sppo.	CAREX	1	0-105	0-3
Other Perennial Grasses		2GP	1	0-105	0-3
FORBS				0-105	5-15
Cuman (Western) Ragweed	Ambrosia psilostachya	AMPS	2	21-42	1-2
Annual Buckwheat	Eriogonum annuum	ERAN4	2	0-21	0-1
Bush Morning Glory	Ipomoea leptophylla	IPLE	2	0-21	0-1
Carolina Larkspur	Delphinium carolinianum spp. Virescens	DECAV2	2	0-21	0-1
Chickenthiel	Mentzelia oligosperma	MEOL	2	0-21	0-1
Common Starlily	Leucocrinum montanum	LEMO4	2	0-21	0-1
Coneflower	Dracopis	DRACO3	2	0-21	0-1
Dotted Blazing Star (Gayfeather)	Liatris punctata	LIPU	2	0-21	0-1
Evening Primrose	Oenothera spp.	OENOT	2	0-42	0-2
Hairy False Goldenaster	Heterotheca vilosa	HEVI4	2	0-21	0-1
Lemon Scurfpea	Psoraleidum lanceolatum	PSLA3	2	0-21	0-1
Longbract Spiderwort	Tradescantia bracteata	TROC	2	0-21	0-1
Meadow Deathcamas	Zigademus venenosus	ZIVE	2	0-21	0-1
Manystem Pea	Lathyrus polymorphus	LAPO2	2	0-21	0-1
Othake	Palafoxia sphacelate	PASP	2	0-21	0-1
Rush Skelaton Plant	Lygodesmia juncea	LYJU	2	0-21	0-1
Scarlet Globe Mallow	Sphaeralcea coccinea	SPCO	2	0-21	0-1
Slender Woollyheads	Psilocarphus tenellus	PSTE	2	0-21	0-1
Stiff Sunflower	Helianthus pauciflorus	HEPA19	2	0-21	0-1
Tenpetal Blazingstar	Mentzelia decapetala	MEDE2	2	0-21	0-1
Texas Croton	Croton texensis	CRTE4	2	0-21	0-1
Snowball Sand Verbena	Abronia fragrans	ABFR2	2	0-21	0-1
Violet Prairie Clover	Dalea purpurea var. purpurea	DAPU5	2	0-21	0-1
White Heath Aster	Symphyotrichum ericoides var. ericoides	SYERE	2	0-21	0-1
White Sagebrush	Artemisia ludoviciana	ARLU	2	0-21	0-1
Other Perennial Forbs		2FP	2	0-105	0-3
SHRUBS				100-210	5-10
Sand Sagebrush	Artemesia filifolia	ARFI2	3	42-105	2-3
Western Sandcherry	Prunus pumila var. besseyi	PRPUB	3	0-105	0-3
Leadplant	Amorpha canescens	AMCA6	3	0-21	0-1
Plains Prickly pear	Opuntia polyacantha	OPPO	3	0-21	0-1
Prairie Rose	Rosa arkansana	ROAR3	3	0-21	0-1
Small Soapweed	Yucca glauca	YUGL	3	0-21	0-1
Other Shrubs		2SHRUB	3	0-105	0-3

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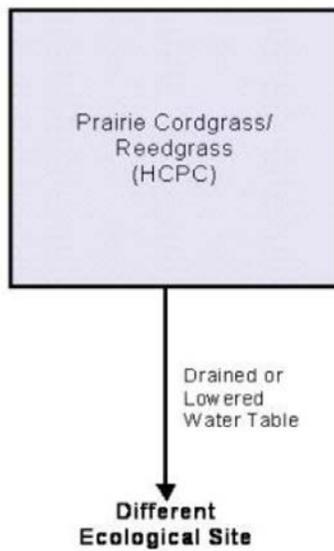
Annual Production lbs./acre	LOW	RV*	HIGH
GRASSES & GRASSLIKES	1300	1730	2435
FORBS	100	210	350
SHRUBS	100	160	215
TOTAL	1500	2100	3000

SITE: SEASONALLY WET (DRAFT) R072XA033KS

SITE DESCRIPTION: Site occurs on bottomlands, stream terraces and sandhill valleys and receives runoff from areas higher on the landscape. Is subject to frequent ponding and occasional flooding. Soils are very poorly drained or poorly drained. Soils may be very deep to shallow over gravelly coarse sand. A layer of partially decayed organic matter may cover the soil. The surface is darker colored and ranges from 3-24" thick. Redoximorphic concentrations and gleying are common in the surface layer.

Plant Community	Community Description	Average Production #/ac	AUM/AC	
			50% Use	60% Use
Prairie Cordgrass / Reedgrass	The plant community is resistant to any change that does not affect the associated water table. The dominant plants are bluejoint reedgrass, northern reedgrass, prairie cordgrass, and various sedges and rushes. Plains bluegrass and slender wheatgrass are important to the site. Forbs include Pennsylvania smartweed and Illinois bundleflower.	4500	1.23	1.48

Plant Communities and Transitional Pathways



Seasonally Wet – Prairie Cordgrass / Reedgrass (HCPC)

COMMON/GROUP NAME	SCIENTIFIC NAME	SYMBOL	Group	Lbs/acre	% Composition
GRASSES & GRASSLIKES					85-95
GRASSES					1
Prairie Cordgrass	Spartina pectinata	SPPE	1	1350-2025	30-45
Bluejoint	Calamagrostis canadensis	CACA4	1	450-675	10-15
Northern Reedgrass	Calamagrostis stricta ssp. inexpansa	CASTI3	1	450-675	10-15
Plains Bluegrass	Poa arida	POAR3	1	225-450	5-10
Slender Wheatgrass	Elymus trachycaulus ssp. trachycaulus	ELTRT	1	225-450	5-10
American sloughgrass	Beckmannia syzigachne	BESY	1	45-225	1-5
Fowl Mannagrass	Glyceria striata	GLST	1	45-225	1-5
Muhly	Muhlenbergia	MUHLE	1	0-225	0-5
Reed Canarygrass	Phalaris arundinacea	PHAR3	1	0-225	0-5
Other Perennial Grasses		2GP	1	225-450	5-10
GRASSLIKES					2
Nebraska Sedge	Carex nebrascensis	CANE2	2	225-450	5-10
Sedge	Carex sp.	CAREX	2	225-450	5-10
Spikerush	Elochris sp.	ELEOC	2	225-450	5-10
Broom Sedge	Carex scoparia	CASC11	2	45-225	1-5
Chairmaker's Bulrush	Schoenoplectus americanus	SCAM6	2	45-225	1-5
Fox Sedge	Carex vulpinoidea	CAVU2	2	45-225	1-5
Hairy Sedge	Carex lacustris	CALA16	2	45-225	1-5
Bulrush	Schoenoplectus	SCHOE6	2	0-225	0-5
Mountain Rush	Juncus balticus	JUBA	2	0-225	0-5
River Bulrush	Schoenoplectus fluviatilis	SCFL11	2	0-225	0-5
Spike Sedge	Carex nardina	CANA2	2	0-225	0-5
Other Grass-Likes		2GP	2	225-450	5-10
FORBS					225-450
False Boneset	Brickellia eupatorioides	BREU	3	0-90	0-2
Goldenrod	Solidago sp.	SOLID	3	0-90	0-2
White Heath Aster	Symphyotrichum ericoides var. ericoides	SYERE	3	0-90	0-2
Pennsylvania Smartweed	Polygonum pensylvanicum	POPE2	3	0-90	0-2
Prairie Bundleflower	Desmanthus illinoensis	DEIL	2	0-90	0-2
Swamp Milkweed	Asclepias incarnata	ASIN	3	0-90	0-2
Swamp Smartweed	Polygonum hydropiperoides	POHY2	3	0-90	0-2
Virginia Strawberry	Fragaria virginiana	FRVI	3	0-90	0-2
Other Perennial Forbs		2FP	3	45-225	1-5
SHRUBS & TREES					0-225
Willow	Salix sp.	SALIX	4	0-90	0-2
Other Trees		2SHRUB	4	0-90	0-2
Other Shrubs		2SHRUB	3	0-90	0-2

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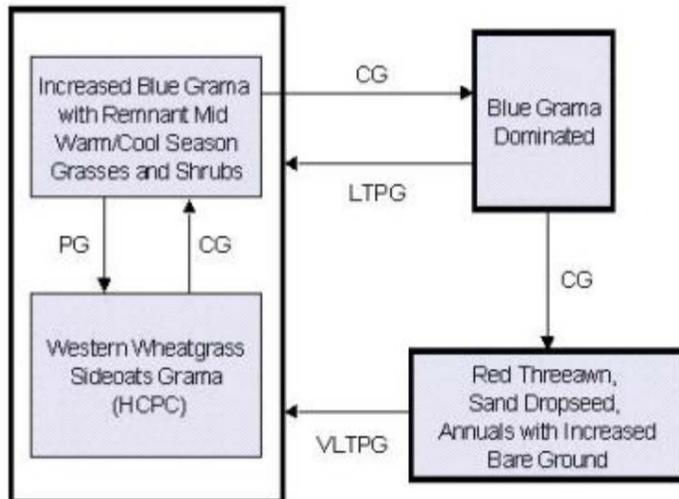
Annual Production lbs./acre	LOW	RV*	HIGH
GRASSES & GRASSLIKES	3780	4050	4270
FORBS	220	338	500
SHRUBS	0	113	230
TOTAL	4000	4500	5000

SITE: SHALE BREAKS (DRAFT) R072XA026KS

SITE DESCRIPTION: This site occurs on strongly sloping to steep hillslopes on uplands and valley sides. The soils are shallow and very shallow clayey soils over bedded shale. Depth to shale contact is 10-20" but may be areas of less than 10" scattered across the site. Slopes range from 9-40%. Soils are very slowly permeable to moderately permeable below the surface layer. Organic matter content is low to moderate.

Plant Community	Community Description	Ave. Prod. #/ac	AUM/AC	
			50% Use	60% Use
Western Wheatgrass / Sideoats Grama	The dominant grasses are western wheatgrass, sideoats grama and blue grama. Little bluestem, alkali sacaton, switchgrass and green needlegrass are also present. Purple prairie clover, American vetch, Fremont goldenweed, scarlet globemallow, fourwing saltbush and winterfat are significant.	800	0.22	0.26
Blue Grama / Remnant mid-grasses and shrubs	Blue grama is the dominant species. Western wheatgrass, sideoats grama, green needlegrass and alkali sacaton are remnant species. Switchgrass, little bluestem, American vetch, purple prairie clover, fourwing saltbush and winter fate can still be found in very small quantities.	650	0.18	0.21
Blue Grama	Blue grama dominates the site. Red threeawn and sand dropseed are common. Sideoats grama and little bluestem are present only as remnants.	350	0.10	0.12
Red Threeawn / Sand Dropseed / Annuals	Red threeawn, sand dropseed and ring muhly are the dominant plants. Little barley, plains pricklypear, broom snakeweed are common. Annuals such as kochia, Russian thistle and annual bromes are common.	150	0.04	0.05

Plant Communities and Transitional Pathways



CG= Continuous Grazing without Adequate Recovery Periods
 HCPC = Historic Climax Plant /Community
 LTPG = Long-term Prescribed Grazing (>40 years)
 PG = Prescribed Grazing with Adequate Recovery Periods
 VLTPG = Very Long Term Prescribed Grazing with Adequate Recovery Periods (>80)

Shale Breaks—Western Wheatgrass, Sideoats Grama Plant Community

COMMON/GROUP NAME	SCEINTIFIC NAME	SYMBOL	Group	Lbs/acre	% Composition
GRASSES & GRASS-LIKES			1	560-640	70-80
GRASSES					
Western Wheatgrass	Pascopyrum smithii	PASM	1	160-240	20-30
Sideoats Grama	Bouteloua curtipendula	BOCU	1	120-200	15-25
Blue Grama	Bouteloua gracilis	BOGR2	1	40-80	5-10
Green Needlegrass	Nassella viridula	NAVI4	1	0-120	0-14
Alkali sacaton	Sporobolus airoides	SPAI	1	24-56	3-7
Little Bluestem	Schizachyrium scoparium	SCSC	1	16-56	2-7
Switchgrass	Panicum virgatum	PAVI2	1	8-40	1-5
Big Bluestem	Andropogon gerardii	ANGE	1	0-40	0-5
Buffalograss	Bouteloua dactyloides	BODA2	1	0-8	0-1
Fendler Threewawn	Aristida purpurea var. longiseta	ARPUL	1	0-8	0-1
Indian Ricegrass	Achnatherum hymenoides	ACHY	1	0-8	0-1
Inland Saltgrass	Distichlis spicata	DISP	1	0-8	0-1
Needleandthread	Hesperostipa comata ssp. comata	HECOC8	1	0-8	0-1
Prairie Junegrass	Koeleria macrantha	KOMA	1	0-8	0-1
Ring Muhly	Muhlenbergia torreyi	MUTO2	1	0-8	0-1
Sand Dropseed	Sporobolus cryptandrus	SPCR	1	0-8	0-1
Squirreltail	Elymus elymoides	ELEL5	1	0-8	0-1
Other Perennial Grasses		2GP	1	8-24	2-3
GRASS-LIKES					
Sun Sedge	Carex inops ssp. heliophila	CAINH2	1	8-24	2-3
Threadleaf Sedge	Carex filifolia	CAFI	1	8-16	1-2
FORBS				80-120	10-15
Violet Prairie Clover	Dalea purpurea var purpurea	DAPUP	2	16-40	2-5
Nineanther Prairie Clover	Dalea enneandra	DAEN	2	8-16	0-1
American Vetch	Vicia americana	VIAM	2	8-24	1-3
Leafy False Goldenweed	Oonopsis foliosa var. foliosa	OFOF	2	8-16	1-2
Scarlet Globemallow	Sphaeralcea coccinea	SPCO	2	8-16	1-2
Beardtongue	Penstemon Spp.	PENST	2	0-8	0-1
Creeping Nailwort	Paronychia sessiliflora	PASE	2	0-8	0-1
Cuman Ragweed	Ambrosia psilostachya	AMPS	2	0-8	0-1
Desert Princesplume	Stanleya pinnata var. pinnata	STPIP	2	0-8	0-1
Dotted Blazing Star (Gayfeather)	Liatris punctata	LIPU	2	0-8	0-1
Groundplum Milkvetch	Astragalus crassicaarpus	ASCR2	2	0-8	0-1
Povertyweed	Iva axillaris	IVAX	2	0-8	0-1
Slimflower Scurfpea	Psoralidium tenuiflorum	PSTE5	2	0-8	0-1
Spiny Milkvetch	Astragalus kentrophyta	ASKE	2	0-8	0-1
Sulpher-flower buckwheat	Eriogonum umbellatum	ERUM	2	0-8	0-1
Twogrooved Milkvetch	Astragalus bisulcatus	ASBI2	2	0-8	0-1
Upright Prairie Coneflower	Ratibida columnifera	RACO3	2	0-8	0-1
White White Heath Aster	Symphotrichum ericoides	SYER	2	0-8	0-1
White Sagebrush	Artemisia ludoviciana	ARLU	2	0-8	0-1
Other Perennial Forbs		2FP	2	16-40	2-5
SHRUBS				80-120	10-15
Fourwing Saltbush	Atriplex canescens	ATCA2	3	0-80	0-10
Winterfat	Krascheninnikovia lanata	KRLA2	3	0-56	0-7
Broom Snakeweed	Gutierrezia sarothrae	GUSA2	3	0-8	0-1
Plains Prickly Pear	Opuntia polyacantha	OPPO	3	0-8	0-1
Prairie Sagewort	Artemisia frigida	ARFR4	3	0-8	0-1
Rubber Rabbitbrush	Ericameria nauseosa spp glabrata	ATCA2	3	0-8	0-1
Small Soapweed	Yucca glauca	YUGL	3	0-8	0-1
Other Shrubs		2SHRUB	3	8-24	1-3

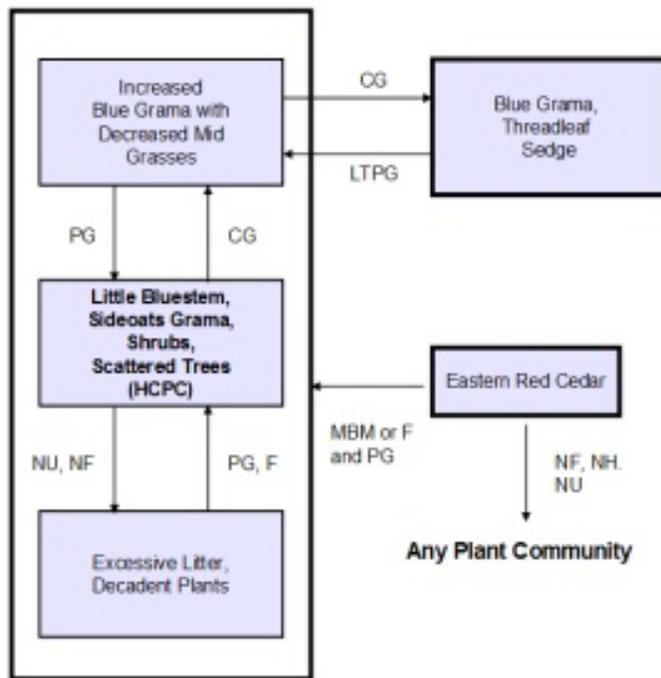
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Annual Production lbs./acre	LOW	RV*	HIGH
GRASSES & GRASSLIKES	300	600	1050
FORBS	75	100	125
SHRUBS	75	100	125
TOTAL	450	800	1300

SITE: SHALLOW LIMY R072XA028KS

SITE DESCRIPTION: The site occurs on nearly level to very steep uplands that are comprised of limestone and siltstone. The soils range from less than 10 to 20 inches deep over caliche or fractured sedimentary bedrock. The soils are loamy to sandy. The soils are calcareous throughout and have very low to low available water capacity. Vertical rock faces are common. Organic matter is moderately low. Exposed areas of limestone and bare ground are inherent to the site.

Plant Community	Community Description	Average Production #/ac	AUM/AC	
			50% Use	60% Use
Little Bluestem / Sideoats Grama	Principle grasses are little bluestem and sideoats grama. Secondary grasses are switchgrass, big bluestem, blue grama, needleandthread, and western wheatgrass. Threadleaf sedge and sun sedge are common. Dominant forbs include purple prairie clover, dotted blazingstar, mat loco, Creeping nailwort and Hood's phlox. Winterfat and four wing saltbush are found in the Western reaches of the MLRA. Skunkbush sumac, chokecherry, western snowberry and wax and golden currant are key shrubs.	1200	0.33	0.39
Increased Blue Grama / Decreased Mid and Tall Grasses	The dominant grass is blue grama. Little bluestem and sideoats grama are secondary grasses. There are small amounts of big bluestem, switchgrass, and western wheatgrass. Mat loco, Creeping nailwort, Hood's phlox, Hairy False Goldenaster, Cuman Ragweed, small soapweed and Prairie Sagewort are common.	700	0.19	0.23
Excessive Litter	Litter levels are high, bunchgrasses have dead centers and perennial grasses are decadent. Annual forbs and grasses fill in bare areas that have resulted from the death of perennial grasses.	500	0.14	0.16
Blue Grama / Threadleaf Sedge	Blue grama and threadleaf sedge dominate the community. Little bluestem and sideoats grama may be remnants on steeper slopes. Hairy grama and red threeawn are common. Mat loco, Creeping nailwort, Hood's phlox, fringed sagebrush, broom snakeweed and small soapweed are common.	350	0.10	0.12
Eastern Red Cedar	Eastern Red Cedar and/or Rocky Mountain Juniper dominate the site. Blue grama is the predominant grass. There are remnants of the other species.	250	0.08	0.10



CG= Continuous Grazing without Adequate Recovery Periods
 F = Fire
 HCPC = Historic Climax Plant Community
 LTPG = Long Term Prescribed Grazing (> 40 years) with Adequate Recovery Periods
 MBM = Mechanical Brush Management
 NU = Non Use
 NH = Non-harvest
 NF = No Fire
 PG = Prescribed Grazing with Adequate Recovery Opportunity

Shallow Limy -- Little Bluestem/Sideoats Grama Plant Community (HCPC)

COMMON/GROUP NAME	SCEINTIFIC NAME	SYMBOL	Group	Lbs/acre	% Composition
GRASSES & GRASS-LIKES			1	840-960	60-80
GRASSES					
Little Bluestem	Schizachyrium scoparium	SCSC	1	180-240	15-20
Sideoats Grama	Bouteloua curtipendula	BOCU	1	180-240	15-20
Big Bluestem	Andropogon gerardii	ANGE	1	60-180	5-15
Blue Grama	Bouteloua gracilis	BOGR2	1	60-120	5-10
Switchgrass	Panicum virgatum	PAV12	1	60-120	5-10
Western Wheatgrass	Pascopyrum smithii	PASM	1	60-120	5-10
Indiangrass	Sorghastrum nutans	SONU2	1	24-60	2-5
Green Needlegrass	Nassella viridula	NAVI4	1	12-60	1-5
Hairy Grama	Bouteloua hirsuta	BOHI2	1	12-60	1-5
Needleandthread	Hesperostipa comata ssp. comata	HECOC8	1	0-60	0-5
Plains Muhly	Muhlenbergia cuspidata	MUCU3	1	12-36	1-3
Buffalograss	Bouteloua dactyloides	BODA2	1	0-12	0-1
Fendler (Red) Threawn	Aristida purpurea var. longiseta	ARPUL	1	0-12	0-1
Indian Ricegrass	Achnatherum hymenoides	ACHY	1	0-12	0-1
Prairie Junegrass	Koeleria macrantha	KOMA	1	0-12	0-1
Ring Muhly	Muhlenbergia torreyi	MUTO2	1	0-12	0-1
Sand Dropseed	Sporobolus cryptandrus	SPCR	1	0-12	0-1
Sixweeks Fescue	Vulpia octoflora	VUOC	1	0-12	0-1
Squirreltail	Elymus elymoides ssp. elymoides	ELELE	1	0-12	0-1
Thickspike Wheatgrass	Elymus lanceolatus ssp. lanceolatus	ELLAL	1	0-12	0-1
Tumblegrass	Schedonnardus paniculatus	SCPA	1	0-12	0-1
Other Perennial Grasses		2GP	1	12-60	0-7
GRASS-LIKES					
Sun Sedge	Carex inops ssp. Heliophila	CAINH2	1	12-36	1-3
Threadleaf Sedge	Carex filifolia	CAFI	1	12-36	1-3
FORBS				120-180	10-15
Dotted Blazing Star	Liatris punctata	LIPU	2	12-24	1-2
Violet Prairie Clover	Dalea purpurea var. purpurea	DAPU5	2	12-24	1-2
Alpine Feverfew	Parthenium alpinum	PAAL6	2	0-12	0-1
American Vetch	Vicia americana	VIAM	2	0-12	0-1
Broadbeard Beardtongue	Penstemon angustifolius	PEAN4	2	0-12	0-1
Creeping Nailwort	Paronychia sessiliflora	PASE	2	0-12	0-1
Crownleaf Evening Primrose	Oenothera coronopifolia	OECO2	2	0-12	0-1
Cuman Ragweed	Ambrosia psilostachya	AMPS	2	0-12	0-1
Desert Princes Plume	Stanleya pinnata var. pinnata	STPIP	2	0-12	0-1
Hairy False Goldenaster	Heterotheca vilosa	HEVI4	2	0-12	0-1
James' Cryptantha	Cryptantha cinerea var. jamesii	CRCIJ	2	0-12	0-1
Lacy Tansyaster	Machaeranthera pinnatifida ssp pinnatifida	MAPIP4	2	0-12	0-1
Purple Locoweed	Oxytropis lamtertii	OXLA3	2	0-12	0-1
Rush Skeletonplant	Lygodesmia juncea	LYJU	2	0-12	0-1
Scarlet Globemallow	Sphaeralcea coccinea	SPCO	2	0-12	0-1
Slimflower Scurfpea	Psoralidium tenuiflorum	PSTE5	2	0-12	0-1
Spiny Milkvetch	Astragalus kentrophyta	ASKE	2	0-12	0-1
Spiny Phlox	Phlox hoodii	PHHO	2	0-12	0-1
Stemless Four-nerve Daisy	Tetranneuris acaulis	TEAC	2	0-12	0-1
Stiff Greenthread	Thelesperma filifolium	THFI	2	0-12	0-1
Sulfur-flower Eriogonum	Eriogonum umbellatum	ERUM	2	0-12	0-1
Tarragon	Artemisia dracuncululus	ARDR4	2	0-12	0-1
Upright Prairie Coneflower	Ratibida columnifera	RACO3	2	0-12	0-1
White White Heath Aster	Symphyotrichum ericoides var. ericoides	SYERE	2	0-12	0-1
White Locoweed	Oxytropis sericea	OXSE	2	0-12	0-1
White Sagebrush	Artemisia ludoviciana	ARLU	2	0-12	0-1
Woolly Locoweed	Astragalus mollissimus	ASMO7	2	0-12	0-1
Woolly Plaintain	Plantago patagonica	PLPA2	2	0-12	0-1
Other Perennial Forbs		2FP	2	0-60	0-5
SHRUBS				120-180	10-15
Winterfat	Krascheninnikovia lanata	KRLA2	3	0-60	0-5
Chokecherry	Prunus virginiana var. virginiana	PRVIV	3	12-36	1-3
Fourwing Saltbush	Atriplex canescens	ATCA2	3	0-36	0-3
Golden Currant	Ribes aureum	RIAU	3	12-24	1-2
Skunkbush Sumac	Rhus trilobata	RHTR	3	12-24	1-2
Western Snowberry	Symphoricarpos occidentalis	SYOC	3	12-24	1-2
Wax Currant	Ribes cereum	RICE	3	0-24	0-2

Broom Snakeweed	Gutierrezia sarothrae	GUSA2	3	0-12	0-1
Plains Prickly pear	Opuntia polyacantha	OPPO	3	0-12	0-1
Prairie (Fringed) Sagewort	Artemisia frigida	ARFR4	3	0-12	0-1
Rubber Rabbitbrush	Ericameria nauseosa spp nauseosa var. glabrata	ERNAG	3	0-12	0-1
Small Soapweed	Yucca glauca	YUGL	3	0-12	0-1
Other Shrubs		2SHRUB	3	12-36	1-3
Trees				12-120	0-10
Eastern Red Cedar	Juniperus virginiana	JUVI	4	12-84	1-7
Common Hackberry	Celtis occidentalis	CEOC	4	12-36	1-3
Rocky Mountain Juniper	Juniperus scopulorum	JUSC2	4	12-26	1-3

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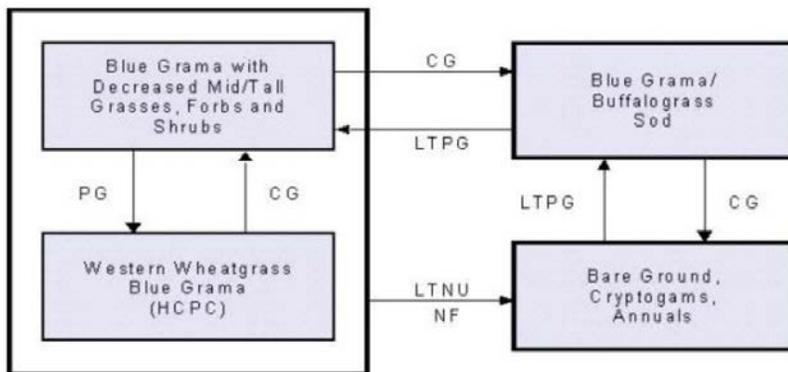
<i>Annual Production lbs./acre</i>	LOW	RV*	HIGH
GRASSES & GRASSLIKES	360	834	1205
FORBS	115	150	185
SHRUBS	115	150	185
TOTAL	600	1200	1700

SITE: SHALLOW SILTSTONE R072XA039KS

SITE DESCRIPTION: This site occurs on level to moderately sloping plains and is associated with areas of barren exposures of Brule formation. Soils are dominantly shallow to moderately deep, but include very deep, well drained and moderately permeable soils. Most soils have bedrock at depths of 20-40" but can be as deep as 60". Available water capacity is very low to moderate. Exposed areas of siltstone bedrock are inherent to the site.

Plant Community	Community Description	Average Production #/ac	AUM/AC	
			50% Use	60% Use
Western Wheatgrass / Blue Grama	Western wheatgrass and blue grama are the dominant species. Secondary grasses include little bluestem, sideoats grama, and green needlegrass. Purple prairie clover, winterfat and fourwing saltbush are common. Big bluestem, switchgrass and Indiangrass occur in small amounts. Threadleaf sedge and sun sedge are common.	900	0.25	0.30
Blue Grama / decreased Mid and Tall Grasses, forbs and shrubs	Dominant grass is blue grama. Hairy grama, sand dropseed, red threeawn, mat loco, Creeping nailwort, Hood's phlox, Hairy False Goldenaster, Cuman Ragweed, slimflower scurfpea and small soapweed are common. Western wheatgrass, little bluestem, sideoats grama and green needlegrass are present in small amounts. Tall grasses are only present as remnants.	500	0.14	0.16
Blue Grama / Buffalograss Sod	Blue grama and buffalograss dominate the community. Threadleaf sedge is common. Little bluestem and sideoats grama may be present as remnants. Hood's phlox, Hairy False Goldenaster, fringed sagebrush and small soapweed are common as are mat loco and Creeping nailwort.	300	0.08	0.10
Bare Ground / Cryptogams / Annual Plants	Remnant amounts of blue grama and buffalograss may be present. Bare ground, cushion plants and cryptogamic crusts are very common. Russian thistle, kochia, red threeawn, cheatgrass and small soapweed are common.	150	0.04	0.05

Plant Communities and Transitional Pathways



CG= Continuous Grazing without Adequate Recovery Periods
 HCPC = Historic Climax Plant /Community
 LTPG = Long-term Prescribed Grazing (>40 years)
 LTNU = Long-term Non-Use (>40 years)
 NF = No Fire
 PG = Prescribed Grazing with Adequate Recovery Periods

Shallow Siltstone -- Western Wheatgrass/Blue Grama Plant Community

COMMON/GROUP NAME	SCEINTIFIC NAME	SYMBOL	Group	Lbs/acre	% Composition
GRASSES & GRASS-LIKES			1	630-720	70-80
GRASSES					
Blue Grama	Bouteloua gracilis	BOGR2	1	225-270	25-30
Western Wheatgrass	Pascopyrum smithii	PASM	1	225-270	25-30
Sideoats Grama	Bouteloua curtipendula	BOCU	1	90-135	10-15
Little Bluestem	Schizachyrium scoparium	SCSC	1	45-135	5-15
Green Needlegrass	Nassella viridula	NAVI4	1	9-63	1-7
Buffalograss	Bouteloua dactyloides	BODA2	1	9-45	1-5
Big Bluestem	Andropogon gerardii	ANGE	1	9-27	1-3
Switchgrass	Panicum virgatum	PAVI2	1	9-27	1-3
Hairy Grama	Bouteloua hirsuta	BOHI2	1	9-18	1-2
Needleandthread	Hesperostipa comata ssp. comata	HECOC8	1	9-18	1-2
Sand Dropseed	Sporobolus cryptandrus	SPCR	1	9-18	1-2
Fendler Threeawn	Aristida purpurea var. longiseta	ARPUL	1	0-9	0-1
Indiangrass	Sorghastrum nutans	SONU	1	0-9	0-1
Indian Ricegrass	Achnatherum hymenoides	ACHY	1	0-9	0-1
Plains Muhly	Muhlenbergia cuspidata	MUCU3	1	0-9	0-1
Prairie Junegrass	Koeleria macrantha	KOMA	1	0-9	0-1
Squirreltail	Elymus elymoides	ELEL5	1	0-9	0-1
Thickspike Wheatgrass	Elymus lanceolatus ssp. lanceolatus	ELLAL	1	0-9	0-1
Other Perennial Grasses		2GP	1	9-45	1-5
GRASS-LIKES					
Threadleaf Sedge	Carex filifolia	CAFI	1	9-18	1-2
Sun Sedge	Carex inops ssp. heliophila	CAINH2	1	9-18	1-2
FORBS				90-135	10-15
Violet Prairie Clover	Dalea purpurea var. purpurea	DAPU5	2	9-18	1-2
American Vetch	Vicia americana	VIAM	2	0-9	0-1
Annual Buckwheat	Eriogonum annuum	ERAN4	2	0-9	0-1
Alpine Feverfew	Parthenium alpinum	PAAL6	2	0-9	0-1
Broadbeard Beardtongue	Penstemon angustifolius	PEAN4	2	0-9	0-1
Creeping Nailwort	Paronychia sessiliflora	PASE	2	0-9	0-1
Crownleaf Evening Primrose	Oenothera coronopifolia	OECO2	2	0-9	0-1
Cuman Ragweed	Ambrosia psilostachya	AMPS	2	0-9	0-1
Dotted Blazing Star	Liatris punctata	LIPU	2	0-9	0-1
Hairy False Goldenaster	Heterotheca villosa	HEVI4	2	0-9	0-1
Lacy Tansyaster	Machaeranthera pinnatifida ssp. pinnatifida var. pinnatifida	MAPIP4	2	0-9	0-1
Narrowleaf Milkvetch	Astragalus pectinatus	ASPE5	2	0-9	0-1
New Mexico Groundsel	Packera neomexicana var mutabilis	PANEM	2	0-9	0-1
Prairie Thermopsis	Thermopsis rhombifolia	THRH	2	0-9	0-1
Purple Locoweed	Oxytropis lambertii	OXLA3	2	0-9	0-1
Rush Skeltonplant	Lygodesmia juncea	LYJU	2	0-9	0-1
Scarlet Globemallow	Sphaeralcea coccinea	SPCO	2	0-9	0-1
Slimflower Scurfpea	Psoralidium tenuiflorum	PSTE5	2	0-9	0-1
Spiny Milkvetch	Astragalus kentrophyta	ASKE	2	0-9	0-1
Spiny Phlox	Phlox hoodii	PHHO	2	0-9	0-1
Stiff Greenthread	Thelesperma filifolium	THFI	2	0-9	0-1
Sulphur-flower buckwheat	Eriogonum umbellatum	ERUM	2	0-9	0-1
Tarragon	Artemisia dracuncululus	ARDR4	2	0-9	0-1
Threadleaf Ragwort	Senecio flaccidus var flaccidus	SEFLF	2	0-9	0-1
Twogrooved Milkvetch	Astragalus bisulcatus	ASBI2	2	0-9	0-1
Upright Prairie Coneflower	Ratibida columnifera	RACO3	2	0-9	0-1
White Locoweed	Oxytropis sericea	OXSE	2	0-9	0-1
Woolly Locoweed	Astragalus mollissimus	ASMO7	2	0-9	0-1
Woolly Plantain	Plantago patagonica	PLPA2	2	0-9	0-1
Other Perennial Forbs		2FP	2	9-45	1-5
SHRUBS				90-135	10-15
Winterfat	Krascheninnikovia lanata	KRLA2	3	27-90	3-10
Fourwing Saltbush	Atriplex canescens	ATCA2	3	18-63	2-7
Skunkbush Sumac	Rhus trilobata	RHTR	3	9-27	1-3
Broom Snakeweed	Gutierrezia sarothrae	GUSA2	3	0-9	0-1
Chokecherry	Prunus virginiana var. virginiana	PRVIV	3	0-9	0-1
Golden Currant	Ribes aureum	RIAU	3	0-9	0-1
Prairie (Fringed) Sagewort	Artemisia frigida	ARFR4	3	0-9	0-1
Rubber Rabbitbrush	Ericameria nauseosa spp glabrata	ATCA2	3	0-9	0-1

Ecological Site Quick Reference 72

Small Soapweed	Yucca glauca	YUGL	3	0-9	0-1
Wax Currant	Ribes cereum	RICE	3	0-9	0-1
Other Shrubs		2SHRUB	3	9-45	1-5

<i>Annual Production lbs./acre</i>	LOW	RV*	HIGH
GRASSES & GRASSLIKES	430	674	820
FORBS	85	113	140
SHRUBS	85	113	140
TOTAL	600	900	1100

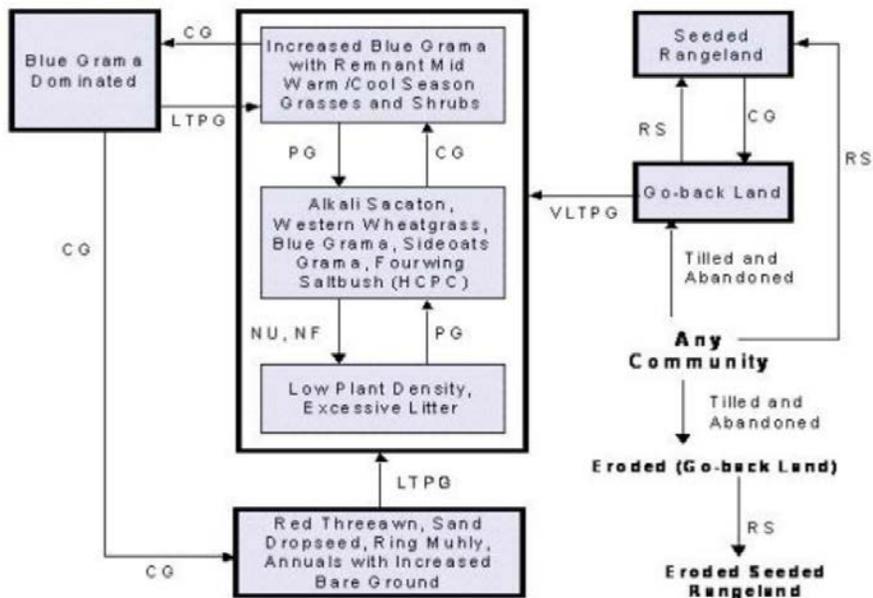
*This list of plants and their relative proportions are based on near normal years. Fluctuations in species composition and relative production may change from year to year dependent upon precipitation or other climatic fluctuations. *RV = Representative Value.

SITE: SHALY PLAINS (DRAFT) R072XA045KS

SITE DESCRIPTION: The site occurs on nearly level to gently sloping plains controlled by shale bedrock. Soils are gently sloping and moderately deep over Pierre Shale. The soils are well drained, and slowly to very slowly permeable. Most soils have weathered shale at depths of 6-40". The soil surface is clay loam or silty clay loam and is 1-8" thick. Shale fragments may occur on the surface and in the soil profile.

Plant Community	Community Description	Average Production #/ac	AUM/AC	
			50% Use	60% Use
Alkali Sacaton / Western Wheatgrass / Blue Grama / Sideoats Grama / Fourwing Saltbush	Western wheatgrass and blue grama are the dominant species. Secondary grasses include little bluestem, sideoats grama, and green needlegrass. Purple prairie clover, winterfat and fourwing saltbush are common. Big bluestem, switchgrass and Indiangrass occur in small amounts. Threadleaf sedge and sun sedge are common.	950	0.26	0.31
Low Plant Density / Excessive Litter	Above ground litter ties up much of the nutrients. Many plants especially bunchgrasses have died off or have very low vigor.	600	0.16	0.20
Increased Blue Grama / Remnant Mid Warm and Cool Season Grasses / Shrubs	Dominant grass is blue grama. Secondary grass is sideoats grama. Western wheatgrass, green needlegrass, and alkali sacaton are present as remnants. Fourwing saltbush and winter fat are present in scattered amounts.	700	0.19	0.23
Blue Grama	Blue grama dominates the site. Red threeawn, ring muhly, and sand dropseed are common. Sideoats present only as remnant.	450	0.12	0.15
Red Threeawn / Sand Dropseed / Ring Muhly / Annuals	Red threeawn, sand dropseed and ring muhly are the dominant plants. Little barley, plains pricklypear, broom snakeweed are common. Annuals such as kochia, Russian thistle and annual bromes are common.	135	0.04	0.04
Go-Back / Seeded	There are a number of transitions depending upon the amount of erosion and whether the land has been seeded or has been allowed to "go-back" to grass.	500	0.14	0.16

Plant Communities and Transitional Pathways



CG= Continuous Grazing without Adequate Recovery Periods
 HCPC = Historic Climax Plant /Community
 LTPG = Long-term Prescribed Grazing (>40 years)
 NF = No Fire
 NU = Non-Use
 RS = Range Seeding
 PG = Prescribed Grazing with Adequate Recovery Periods

Shaly Plains—Alkali Sacaton, Western Wheatgrass, Blue Grama, Sideoats Grama, Forwing Saltbush Plant Community

COMMON/GROUP NAME	SCEINTIFIC NAME	SYMBOL	Group	Lbs/acre	% Composition
GRASSES & GRASS-LIKES			1	618-760	65-80
GRASSES					
Alkali Sacaton	Sporobolus airoides	SPAI	1	190-285	20-30
Western Wheatgrass	Pascopyrum smithii	PASM	1	190-285	20-30
Blue Grama	Bouteloua gracilis	BOGR2	1	143-190	15-20
Sideoats Grama	Bouteloua curtipendula	BOCU	1	95-190	10-20
Green Needlegrass	Nassella viridula	NAVI4	1	48-143	5-15
Little Bluestem	Schizachyrium scoparium	SCSC	1	10-48	1-5
Indian Ricegrass	Achnatherum hymenoides	ACHY	1	0-19	0-2
Inland Saltgrass	Distichlis spicata	DISP	1	0-19	0-2
Needleandthread	Hesperostipa comata ssp. comata	HECOC8	1	0-19	0-2
Prairie Junegrass	Koeleria macrantha	KOMA	1	0-19	0-2
Buffalograss	Bouteloua dactyloides	BODA2	1	0-10	0-1
Fendler Threeawn	Aristida purpurea var. longiseta	ARPUL	1	0-10	0-1
Ring Muhly	Muhlenbergia torreyi	MUTO2	1	0-10	0-1
Sand Dropseed	Sporobolus cryptandrus	SPCR	1	0-10	0-1
Squirreltail	Elymus elymoides	ELEL5	1	0-10	0-1
Other Perennial Grasses		2GP	1	10-29	1-3
GRASS-LIKES					
Sun Sedge	Carex inops ssp. heliophila	CAINH2	1	0-29	0-3
Threadleaf Sedge	Carex filifolia	CAFI	1	0-10	0-1
FORBS				95-143	10-15
American Vetch	Vicia americana	VIAM	2	10-29	1-3
Leafy False Goldenweed	Oonopsis foliosa var. foliosa	OOFOF	2	10-19	1-2
Scarlet Globemallow	Sphaeralcea coccinea	SPCO	2	10-19	1-2
Beardtongue	Penstemon	PENT	2	0-10	0-1
Creeping Nailwort	Paronychia sessiliflora	PASE	2	0-10	0-1
Desert Princesplume	Stanleya pinnata var. pinnata	STPIP	2	0-10	0-1
Dotted Blazing Star	Liatris punctata	LIPU	2	0-10	0-1
Groundplum Milkvetch	Astragalus crassicaarpus	ASCR2	2	0-10	0-1
Povertyweed	Iva axillaris	IVAX	2	0-10	0-1
Slimflower Scurfpea	Psoralidium tenuiflorum	PSTE5	2	0-10	0-1
Spiny Milkvetch	Astragalus kentrophyta	ASKE	2	0-10	0-1
Sulpher-flower buckwheat	Eriogonum umbellatum	ERUM	2	0-10	0-1
Twogrooved Milkvetch	Astragalus bisulcatus	ASBI2	2	0-10	0-1
Upright Prairie Coneflower	Ratibida columnifera	RACO3	2	0-10	0-1
Violet Prairie Clover	Dalea purpurea var. purpurea	DAPU5	2	0-10	0-1
White Sagebrush	Artemisia ludoviciana	ARLU	2	0-10	0-1
Other Perennial Forbs		2FP	2	10-29	1-3
SHRUBS				95-190	10-20
Fourwing Saltbush	Atriplex canescens	ATCA2	3	48-95	5-8
Winterfat	Krascheninnikovia lanata	KRLA2	3	29-76	3-7
Broom Snakeweed	Gutierrezia sarothrae	GUSA2	3	0-10	0-1
Plains Prickly Pear	Opuntia polyacantha	OPPO	3	0-10	0-1
Prairie (Fringed) Sagewort	Artemisia frigida	ARFR4	3	0-10	0-1
Rubber Rabbitbrush	Ericameria nauseosa spp glabrata	ATCA2	3	0-10	0-1
Small Soapweed	Yucca glauca	YUGL	3	0-10	0-1
Other Shrubs		2SHRUB	3	10-29	1-3

Annual Production lbs./acre	LOW	RV*	HIGH
GRASSES & GRASSLIKES	320	688	1160
FORBS	90	119	145
SHRUBS	90	143	195
TOTAL	500	950	1500

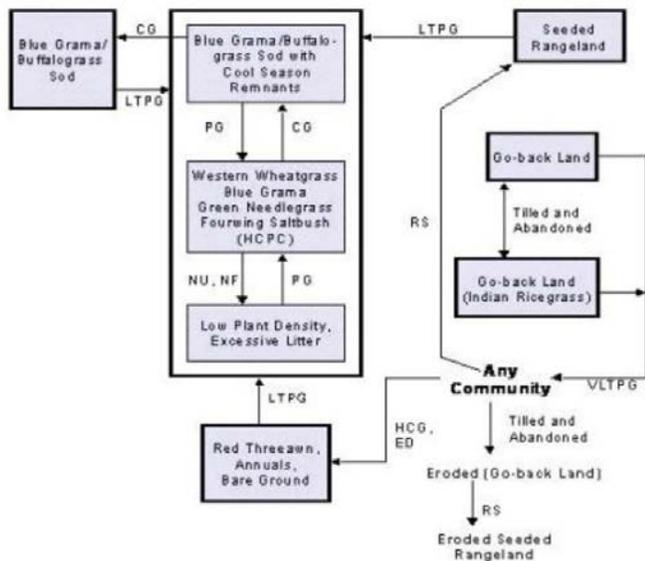
*This list of plants and their relative proportions are based on near normal years. Fluctuations in species composition and relative production may change from year to year dependent upon precipitation or other climatic fluctuations. *RV = Representative Value.

SITE: SILTSTONE PLAINS R072XA009KS

SITE DESCRIPTION: This site occurs on nearly level to moderately sloping plains on flats and ridges. Soils are moderately to very deep, well drained and moderately permeable. Bedrock is at a depth of 20-80". Soil surface layer is 3-12" thick.

Plant Community	Community Description	Average Production #/ac	AUM/AC	
			50% Use	60% Use
Western wheatgrass / Blue Grama / Green Needlegrass / Fourwing Saltbush	Major grasses include western wheatgrass, green needlegrass and blue grama. Secondary grasses include buffalograss, needleandthread, Indian ricegrass, and little bluestem. American vetch, scarlet globemallow, dotted blazingstar, upright prairie coneflower, fourwing saltbush and winterfat are dominant forbs and shrubs.	1400	0.38	0.46
Blue Grama / Buffalograss Sod / Remnant Cool Season Grasses	Blue grama and buffalograss are the dominant species. Sand dropseed, red threeawn, sixweeks fescue, squirreltail and Hairy False Goldenaster are common. Green needlegrass, western wheatgrass, American vetch, fourwing saltbush and winterfat are remnants.	900	0.25	0.30
Low Plant Density / Excessive Litter	Litter levels are high, bunchgrasses have dead centers and perennial grasses are decadent. Annual forbs and grasses fill in bare areas that have resulted from the death of perennial grasses.	900	0.25	0.30
Blue Grama / Buffalograss Sod	Blue Grama and buffalograss are dominant. There may be trace amounts of western wheatgrass. Red threeawn, sand dropseed, sixweeks fescue and Hairy False Goldenaster are common.	750	0.21	0.25
Red Threeawn / Annuals / Bare Ground	Red threeawn is the dominant species. Blue grama may persist in localized areas. Kochia, Russian thistle and field bindweed may be common.	150	0.04	0.05
Go-Back Land	There are a number of transitions depending upon the amount of erosion, and whether the land has been seeded.	400	0.11	0.13

Plant Communities and Transitional Pathways



CG= Continuous Grazing without Adequate Recovery Periods
 ED = Excessive Defoliation
 HCG – Heavy Continuous Grazing
 HCPC = Historic Climax Plant /Community
 LTPG = Long-term Prescribed Grazing (>40 years)
 NF = No Fire
 NU = Non-use
 PG = Prescribed Grazing with Adequate Recovery Periods
 RS = Range Seeding
 VLTGP = Very Long Term Prescribed Grazing (>80 years)

Siltstone Plains -- Western Wheatgrass/Blue Grama/Green Needlegrass//Fourwing Saltbush Plant Community

COMMON/GROUP NAME	SCEINTIFIC NAME	SYMBOL	Group	Lbs/acre	% Composition
GRASSES & GRASS-LIKES			1	980 - 1190	70-85
Western Wheatgrass	Pascopyrum smithii	PASM	1	350-490	15-35
Blue Grama	Bouteloua gracilis	BOGR2	1	350-420	25-30
Green Needlegrass	Nassella viridula	NAVI4	1	210-280	15-20
Buffalograss	Bouteloua dactyloides	BODA2	1	14-70	1-5
Needleandthread	Hesperostipa comata ssp. comata	HECOC8	1	14-28	1-2
Sand Dropseed	Sporobolus cryptandrus	SPCR	1	14-28	1-2
Indian Ricegrass	Achnatherum hymenoides	ACHY	1	0-14	0-1
Little Bluestem	Schizachyrium scoparium	SCSC	1	0-14	0-1
Prairie Junegrass	Koeleria macrantha	KOMA	1	0-14	0-1
Ring Muhly	Muhlenbergia torreyi	MUTO2	1	0-14	0-1
Sideoats Grama	Bouteloua curtipendula	BOCU	1	0-14	0-1
Sixweeks Fescue	Vulpia octoflora	VUOC	1	0-14	0-1
Squirreltail	Elymus elymoides	ELEL5	1	0-14	0-1
Tumblegrass	Schedonnardus paniculatus	SCPA	1	0-14	0-1
Other Perennial Grasses		2GP	1	14-70	1-5
Needleleaf Sedge	Carex duriuscula	CADU6	1	0-14	0-1
Sun Sedge	Carex inops ssp. heliophila	CAINH2	1	14-42	1-3
FORBS				70-210	5-15
American Vetch	Vicia americana	VIA<	2	14-70	1-5
Scarlet Globemallow	Sphaeralcea coccinea	SPCO	2	14-28	1-2
Lacy Tansyaster	Machaeranthera pinnatifida	MAPI4	2	14-28	1-2
Violet Prairie Clover	Dalea purpurea var. purpurea	DAPU5	2	14-28	1-2
Broadbeard Beardtongue	Penstemon angustifolius	PEAN4	2	0-14	0-1
Cuman Ragweed	Ambrosia psilostachya	AMPS	2	0-14	0-1
Crownleaf Evening Primrose	Oenothera coronopifolia	OECO2	2	0-14	0-1
Dotted Blazing Star	Liatris punctata	LIPU	2	0-14	0-1
Fernleaf Biscuitroot	Lomatium dissectum	LODI	2	0-14	0-1
Hairy False Goldenaster	Heterotheca villosa	HEVI4	2	0-14	0-1
Largeflower Townsend Daisy	Townsendia grandiflora	TOGR	2	0-14	0-1
Narrowleaf Milkvetch	Astragalus pectinatus	ASPE5	2	0-14	0-1
New Mexico Groundsel	Packera neomexicana var mutabilis	PANEM	2	0-14	0-1
Purple Locoweed	Oxytropis lambertii	OXLA3	2	0-14	0-1
Rush Skeletonplant	Lygodesmia juncea	LYJU	2	0-14	0-1
Slimflower Scurfpea	Psoralidium tenuiflorum	PSTE5	2	0-14	0-1
Tarragon	Artemisia dracunculus	ARDR4	2	0-14	0-1
Textile Onion	Allium textile	ALTE	2	0-14	0-1
Threadleaf Ragwort	Senecio flaccidus var flaccidus	SEFLF	2	0-14	0-1
Twogrooved Milkvetch	Astragalus bisulcatus	ASBI2	2	0-14	0-1
Upright Prairie Coneflower	Ratibida columnifera	RACO3	2	0-14	0-1
Wavyleaf Thistle	Cirsium undulatum	CIUN	2	0-14	0-1
White Heath Aster	Symphotrichum ericoides	SYER	3	0-14	0-1
White Locoweed	Oxytropis sericea	OXSE	2	0-14	0-1
Woolly Locoweed	Astragalus mollissimus	ASMO7	2	0-14	0-1
Woolly Plantain	Plantago patagonica	PLPA2	2	0-14	0-1
Other Perennial Forbs		2FP	2	14-70	
SHRUBS				140-210	10-15
California Spikenard	Aralia californica	ARCA	3	140-210	10-15
Winterfat	Krascheninnikovia lanata	KRLA2	3	28-98	2-7
Broom Snakeweed	Gutierrezia sarothrae	GUSA2	3	0-14	0-1
Prairie Sagewort	Artemisia frigida	ARFR4	3	0-14	0-1
Rubber Rabbitbrush	Ericameria nauseosa spp glabrata	ATCA2	3	0-14	0-1
Small Soapweed	Yucca glauca	YUGL	3	0-14	0-1
Spinystar	Escobaria vivipara var. vivipara	ESVIV	3	0-14	0-1
Spreading Buckwheat	Eriogonum effusum	EREF	3	0-14	0-1
Other Shrubs		2SHRUB	3	14-42	1-3

*This list of plants and their relative proportions are based on near normal years. Fluctuations in species composition and relative production may change from year to year dependent upon precipitation or other climatic fluctuations. *RV = Representative Value.

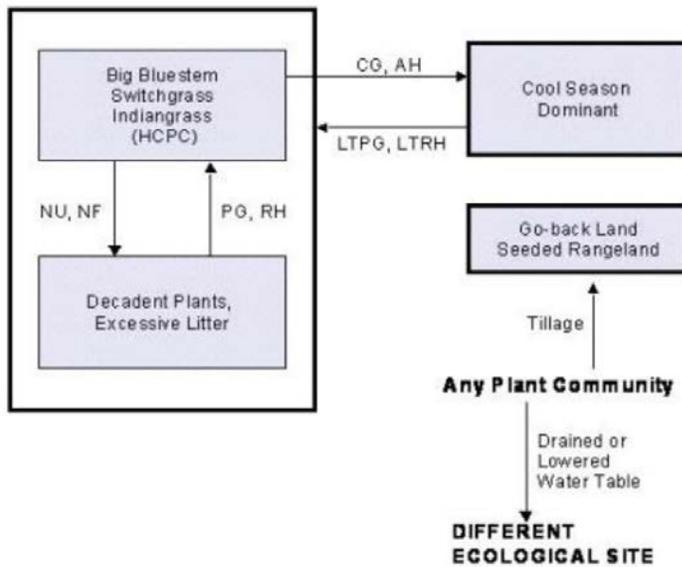
Annual Production lbs./acre	LOW	RV*	HIGH
GRASSES & GRASSLIKES	400	1085	1570
FORBS	65	140	215
SHRUBS	135	175	215
TOTAL	600	1400	2000

SITE: SUBIRRIGATED (DRAFT) R072XA032KS

SITE DESCRIPTION: Site occurs on nearly level areas along drainageways of uplands and sandhills, below permanent springs and on floodplains in valleys with a high water table. Soils are somewhat poorly drained. Most soils are deep but some may be shallow over coarse, gravelly sand. Soil surface is generally darker colored and ranges from 7-24" thick. Soil texture ranges widely. Organic matter content is moderate. Commonly has Redoximorphic in the upper part of the underlying material. Some soils are calcareous to the surface.

Plant Community	Community Description	Average Production #/ac	AUM/AC	
			50% Use	60% Use
Big Bluestem / Switchgrass / Indiangrass	Dominant species are Big bluestem, Indiangrass and switchgrass. Secondary species include little bluestem, western wheatgrass, Canada wildrye and prairie cordgrass. The forb population is diverse.	4500	1.23	1.48
Cool Season Dominant	Kentucky bluegrass and western wheatgrass are the dominant grasses. Tall warm season grasses are no longer present or present only as remnants.	1700	0.47	0.56
Decadent Plants	Above ground litter ties up much of the nutrients. Many plants especially bunchgrasses have died off or have very low vigor.	2000	.55	.66
Go-back / Seeded	There are a number of transitions depending upon the amount of erosion, and whether the land has been seeded.	1000	0.25	0.30

Plant Communities and Transitional Pathways



- AH = Annual Haying
- CG= Continuous Grazing without Adequate Recovery Periods
- HCPC = Historic Climax Plant Community
- LTPG = Long Term Prescribed Grazing (> 20 years) with Adequate Recovery Periods
- LTRH = Long Term Rotation Haying (>20 years)
- NU = Non Use
- NF = No Fire
- PG = Prescribed Grazing with Adequate Recovery Period
- RH = Rotational Haying

Subirrigated – Big Bluestem / Switchgrass / Indiangrass Plant Community (HCPC)

COMMON/GROUP NAME	SCIENTIFIC NAME	SYMBOL	Group	Lbs/acre	% Composition
GRASSES & GRASS-LIKES			1	3825-4050	85-90
GRASSES					
Big Bluestem	Andropogon gerardii	ANGE	1	675-1350	15-30
Little Bluestem	Schizachyrium scoparium	SCSC	1	450-900	10-20
Indiangrass	Sorghastrum nutans	SONU2	1	450-675	10-15
Switchgrass	Panicum virgatum	PAVI2	1	450-675	10-15
Prairie Cordgrass	Spartina pectinata	SPPE	1	225-675	5-15
Canada Wildrye	Elymus canadensis	ELCA4	1	0-450	0-10
Sand Bluestem	Andropogon hallii	ANHA	1	0-450	0-10
Sideoats Grama	Bouteloua curtipendula	BOCU	1	0-450	0-10
Western Wheatgrass	Pascopyrum smithii	PASM	1	0-450	0-10
Marsh Muhly	Muhlenbergia racemosa	MURA	1	0-225	0-5
Needleandthread	Hesperostipa comata ssp. comata	HECO8	1	0-225	0-5
Scribner's Rosette Grass	Dichanthelium oligosanthes var. scribnerianum	DIOLS	1	0-225	0-5
Slender Wheatgrass	Elymustraachycaulus ssp. trachycaulus	ELTRT	1	0-225	0-5
Other Perennial Grasses		2GP	1	0-225	0-5
GRASS-LIKES					
Nebraska Sedge	Carex nebrascensis	CANE2	1	45-450	1-10
Mountain Rush	Juncus balticus	JUBA	1	45-450	0-10
Sedge	Carex spp.	CAREX	1	0-225	0-5
FORBS				450-675	10-15
American Licorice	Glycyrrhiza lepidota	GLLE3	2	45-225	1-5
Maximilian Sunflower	Helianthus maximiliani	HEMA2	2	45-225	1-5
Prairie Bundleflower	Desmanthus illinoensis	DEIL	2	45-225	1-5
Cuman Ragweed	Ambrosia psilostachya	AMPS	2	0-90	0-2
Curlycup Gumweed	Grindelia squarrosa	GRSQ	2	0-90	0-2
Goldenrod	Solidago sp.	SOLID	2	0-90	0-2
Longbract Spiderwort	Tradescantia bracteata	TROC	2	0-90	0-2
Nineanther Prairie Clover	Dalea enneandra	DAEN	2	0-90	0-2
Scarlet Beeblossom	Gaura coccinea	GACO5	2	0-90	0-2
Textile Onion	Allium textile	ALTE	2	0-90	0-2
White Heath Aster	Symphyotrichum ericoides var. ericoides	SYERE	2	0-90	0-2
White Prairie Clover	Dalea candida	DACA7	2	0-90	0-2
White Sagebrush	Artemisia ludoviciana	ARLU	2	0-90	0-2
Other Perennial Forbs		2FP	2	45-225	1-5
SHRUBS				0-225	0-5
False Indigo	Amorpha	AMORP	3	0-225	0-5
Prairie Rose	Rosa arkansana	ROAR3	3	0-225	0-5
Western Snowberry	Symphoricarpos occidentalis	SYOC	3	0-225	0-5
Other Shrubs		2SHRUB	3	0-135	0-3

*This list of plants and their relative proportions are based on near normal years. Fluctuations in species composition and relative production may change from year to year dependent upon precipitation or other climatic fluctuations. *RV = Representative Value.

Annual Production lbs./acre	LOW	RV*	HIGH
GRASSES & GRASSLIKES	3280	3825	4120
FORBS	220	563	650
SHRUBS	0	112	230
TOTAL	3500	4500	5000

MLRA 72 (North) PLANT LIST

(The following plants are listed in the MLRA-72N plant tables. This is not a complete list of all plants that may be found in the MLRA.)

Grasses		
<i>Common Name</i>	<i>Scientific Name</i>	<i>Other Common Names</i>
Alkali Cordgrass	<i>Spartina gracilis</i>	
Alkali Sacaton	<i>Sporobolus airoides</i>	
American Sloughgrass	<i>Beckmannia syzigachne</i>	
Big Bluestem	<i>Andropogon gerardii</i>	
Blowout Grass	<i>Refieldia flexuosa</i>	
Blue Grama	<i>Bouteloua gracilis</i>	
Bluejoint	<i>Calamagrostis canadensis</i>	<i>Bluejoint Reedgrass</i>
Buffalograss	<i>Bouteloua dactyloides</i>	
Canada Wildrye	<i>Elymus canadensis</i>	
Composite Dropseed	<i>Sporobolus compositus</i> var. <i>compositus</i>	<i>Tall Dropseed</i>
Fall Panicgrass	<i>Panicum dichotomiflorum</i>	<i>Fall panicum</i>
Fendler Threeawn	<i>Aristida purpurea</i> var. <i>longiseta</i>	<i>Red Threeawn</i>
Fowl Mannagrass	<i>Glyceria striata</i>	
Green Needlegrass	<i>Nassella viridula</i>	
Hairy Grama	<i>Bouteloua hirsuta</i>	
Indiangrass	<i>Sorghastrum nutans</i>	
Indian Ricegrass	<i>Achnatherum hymenoides</i>	
Inland Saltgrass	<i>Distichlis spicata</i>	
Needleandthread	<i>Hesperostipa comata</i>	
Northern Reedgrass	<i>Calamagrostis stricta</i> ssp. <i>inexpansa</i>	
Little Bluestem	<i>Schizachyrium scoparium</i>	
Little Barley	<i>Hordeum pusillum</i>	
Marsh Muhly	<i>Muhlenbergia racemosa</i>	<i>Green Muhly</i>
Nuttall's alkaligrass	<i>Puccinellia nuttalliana</i>	
Plains Bluegrass	<i>Poa arida</i>	
Plains Muhly	<i>Muhlenbergia cuspidata</i>	
Prairie Cordgrass	<i>Spartina pectinata</i>	
Prairie Junegrass	<i>Koeleria macrantha</i>	
Prairie Sandreed	<i>Calamovilfa longifolia</i>	
Reed Canarygrass	<i>Phalaris arundinacea</i>	
Ring Muhly	<i>Muhlenbergia torreyi</i>	
Sandberg Bluegrass	<i>Poa secunda</i>	
Sand Bluestem	<i>Andropogon hallii</i>	
Sand Dropseed	<i>Sporobolus cryptandrus</i>	
Sandhill Muhly	<i>Muhlenbergia pungens</i>	
Sand Lovegrass	<i>Eragrostis tricores</i>	
Scratchgrass	<i>Muhlenbergia asperifolia</i>	
Scribner's Rosette Grass	<i>Dichanthelium oligosanthes</i> var. <i>scribnerianum</i>	<i>Scribner Panicum</i>
Sideoats Grama	<i>Bouteloua curtipendula</i>	
Six-weeks Fescue	<i>Vulpia octoflora</i>	
Slender Wheatgrass	<i>Elymus trachycaulus</i> ssp. <i>trachycaulus</i>	
Squirreltail	<i>Elymus elymoides</i>	<i>Bottlebrush Squirreltail</i>
Switchgrass	<i>Panicum virgatum</i>	
Grasses (Continued)		
<i>Common Name</i>	<i>Scientific Name</i>	<i>Other Common Names</i>

Thickspike Wheatgrass	Elymus lanceolatus var. lanceolatus ssp. lanceolatus	
Thin Paspalum	Paspalum setaceum	<i>Sand Paspalum</i>
Tumblegrass	Schedonnardus paniculatus	
Western Wheatgrass	Pascopyrum smithii	
Grass-Likes		
<i>Common Name</i>	<i>Scientific Name</i>	<i>Other Common Names</i>
Broom Sedge	Carex scoparia	
Chairmaker's Bulrush	Schoenoplectus americanus	
Fox Sedge	Carex vulpinoidea	
Great Plains Flatsedge	Cyperus lupulinus	
Hairy Sedge	Carex lacustris	
Mountain Rush	Juncus balticus	
Nebraska Sedge	Carex nebrascensis	
Needleleaf Sedge	Carex duriuscula	
River Bulrush	Schoenoplectus fluviatilis	
Schweinitz's Flatsedge	Cyperus schweinitzii	
Spikerush	Elochris spp.	
Spike Sedge	Carex nardina	
Sun Sedge	Carex inops ssp. heliophila	
Threadleaf Sedge	Carex filifolia	
FORBS		
<i>Common Name</i>	<i>Scientific Name</i>	<i>Other Common Names</i>
Alpine Feverfew	Parthenium alpinum	<i>Wyoming Feverfew</i>
Annual Buckwheat	Eriogonum annuum	<i>Annual Eriogonum</i>
American Licorice	Glycyrrhiza lepidota	<i>Wild licorice</i>
American Vetch	Vicia americana	<i>American Deer Vetch, Stiff-leaf vetch</i>
Aromatic Aster	Symphyotrichum oblongifolium	
Black Samson Echinacea	Echinacea angustifolia	<i>Purple Coneflower</i>
Broadbeard Beardtongue	Penstemon angustifolius	<i>Narrowleaf Penstemon</i>
Broadleaf Milkweed	Asclepias latifolia	
Buffalobur nightshade	Solanum rostratum	
Bush Morning Glory	Ipomea leptophylla	
Carelessweed	Iva Xanthifolia	
Carolina Larkspur	Delphinium carolinianum ssp. virescens	<i>Plains Larkspur, Prairie Larkspur</i>
Catclaw Sensitive Briar	Mimosa nuttallii	
Chickenthief	Mentzelia oligosperma	<i>Stickleaf</i>
Common Evening Primrose	Oenothera biennis	
Common Star lily	Leucocrinum montanum	<i>Sand Lily</i>
Coneflower	Dracopis sp.	
Creeping Nailwort	Paronychia sessiliflora	<i>Sessile Nailwort</i>
Crownleaf Evening Primrose	Oenothera coronopifolia	
Cuman Ragweed	Ambrosia psilostachya	<i>Western Ragweed</i>
Curlycup Gumweed	Grindelia squarrosa	
Curly Dock	Rumix crispus	
FORBS		
<i>Common Name</i>	<i>Scientific Name</i>	<i>Other Common Names</i>
Death Camas	Zigadenus venenosus	
Desert Princes Plume	Stanleya pinnata var. pinnata	
Dotted Blazing Star	Liatris punctata	<i>Dotted Gayfeather</i>

Evening Primrose	Oenothera sp.	
False Boneset	Brickellia eupatoriodes	
Fernleaf Biscuitroot	Lomatium dissectum	
Fetid Marygold	Dyssodia papposa	
Gilia	Gilia sp.	<i>White Flower Gilia</i>
Goldenrod	Solidago sp.	
Groundplum Milkvetch	Astragalus crassicaupus	
Hairy False Goldenaster	Heterotheca villosa	<i>Hairy Goldaster, Golden Aster</i>
Hoary Verbena	Verbena stricta	<i>Woolly Verbena</i>
James' Cryptantha	Cryptantha cinerea var. jamesii	
Kansas arrowhead	Sagittaria ambigua	
Knotweed	Polygonum sp.	
Lacy Tansyaster	Machaeranthera pinnatifida ssp. pinnatifida var. pinnatifida	<i>Cutleaf Ironplant</i>
Lambsquarters	Chenopodium album	
Largeflower Townsend Daisy	Townsendia grandiflora	
Leafy False Goldenweed	Oonopsis foliosa var. foliosa	
Lemon Scurfpea	Psoralidium lanceolatum	
Longbract Spiderwort	Tradescantia bracteata	<i>Bracted Spiderwort</i>
Manystem Pea	Lathyrus polymorphus	<i>Hoary Vetchling, Showy Peavine</i>
Maximilian Sunflower	Helianthus maximiliani	
Missouri Milkvetch	Astragalus missouriensis	
Narrowleaf Milkvetch	Astragalus pectinatus	
New Mexico Groundsel	Packera neomexicana var. mutabilis	
Nineanther Prairie Clover	Dalea enneandra	<i>Big Top Dalea, Nineanther Dalea</i>
Nuttall's Evolvulus	Evolvulus nuttallianus	<i>Hairy Evolvulus</i>
Oppositeleaf Bahia	Picradeniopsis oppositifolia	
Othake	Palafoxia sphacelata	
Pennsylvania Smartweed	Polygonum pensylvanicum	
Povertyweed	Iva axillaris	
Prairie Bundleflower	Desmanthus illinoensis	<i>Illinois Bundleflower</i>
Prairie Groundsel	Packera plattensis	<i>Platte Groundsel, Prairie Ragwort</i>
Prairie Spiderwort	Tradescantia occidentalis	
Prairie Sunflower	Helianthus petiolaris	
Prairie Thermopsis	Thermopsis rhombifolia	<i>Golden pea, False Lupine</i>
Purple Locoweed	Oxytropis lambertii	<i>Lambert's Crazyweed</i>
Pursh Seepweed	Suaeda calceoliformis	
Pussytoes	Antennaria sp.	
Red Dome Blanketflower	Gaillardia pinnatifida	
Rush Skeletonplant	Lygodesmia juncea	
Silverleaf Indian Breadroot	Pediomelum argophyllum	<i>Silver Leaf Scurfpea</i>
Scarlet Beeblossom	Gaura coccinea	<i>Scarlet Gaura</i>
Scarlet Globe Mallow	Sphaeralcea coccinea	
Scrambled Eggs	Corydalis aurea	
Silky Prairie Clover	Dalea vilosa	
Silky Sophora	Sophora nuttalliana	
Slender Woollyheads	Psilocarphus tenellus	
FORBS		
<i>Common Name</i>	<i>Scientific Name</i>	<i>Other Common Names</i>
Slimflower Scurfpea	Psoralidium tenuiflorum	<i>Wild Alfalfa</i>
Snowball Sand Verbena	Abronia fragrans	<i>Sweet Sand Verbena</i>
Spiny Milkvetch	Astragalus kentrophyta	<i>Mat Loco</i>
Spiny Phlox	Phlox hoodii	<i>Hood's Phlox</i>
Stemless Four-nerve Daisy	Tetraneuris acaulis	<i>Stemless Hymenoxys</i>

Stiff Greenthread	Thelesperma filifolium	<i>Slender Greenthread</i>
Stiff Stem Flax	Linum rigidum	<i>Yellow Flax</i>
Stiff Sunflower	Helianthus pauciflorus	
Sulpher-flower buckwheat	Eriogonum umbellatum	
Swamp Milkweed	Asclepias incarnata	
Swamp Smartweed	Polygonum hydropiperoides	
Tarragon	Artemisia dracunculus	<i>Green Sagewort</i>
Tenpetal Blazingstar	Mentzelia decapetala	<i>Tenpetal Mentzelia, Stickleleaf</i>
Texas Croton	Croton texensis	
Threadleaf Ragwort	Senecio flaccidus var flaccidus	
Twogrooved Milkvetch	Astragalus bisulcatus	
Textile Onion	Allium textile	
Upright Prairie Coneflower	Ratibida columnifera	
Violet Prairie Clover	Dalea purpurea var. purpurea	<i>Purple Prairie Clover</i>
Virginia Strawberry	Fragaria virginiana	
Waterclover	Marsilea sp.	
Wavyleaf Thistle	Cirsium undulatum	
Wedgeleaf	Phyla cuneifolia	
White Heath Aster	Symphyotrichum ericoides var. ericoides	
White Locoweed	Oxytropis sericea	
White Prairie Clover	Dalea candida	
White Sagebrush	Artemisia ludoviciana	<i>Cudweed Sagewort, Louisiana Sagewort</i>
Whorled Milkweed	Asclepias verticillata	
Winged Buckwheat	Eriogonum alatum	
Woollyleaf Bur Ragweed	Ambrosia grayi	<i>Woolly Bursage</i>
Woolly Locoweed	Astragalus mollissimus	
Woolly Plantain	Plantago patagonica	

SHRUBS & TREES

<i>Common Name</i>	<i>Scientific Name</i>	<i>Other Common Names</i>
Brittle Cactus	Opuntia fragilis	
Broom Snakeweed	Gutierrezia sarothrae	
California Spikenard	Aralia californica	
Chokecherry	Prunus virginiana var. virginiana	
Common Hackberry	Celtis occidentalis	
Eastern Red Cedar	Juniperus virginiana	
False Indigo	Amorpha sp.	
Golden Currant	Ribes aureum	
Fourwing Saltbush	Atriplex canescens	
Leadplant	Amorpha canescens	
Plains Prickly pear	Opuntia polycantha	
Prairie Rose	Rosa arkansana	<i>Arkansas Rose</i>
Prairie sagewort	Artemisia frigida	<i>Fringed Sagewort</i>
Rubber Rabbitbrush	Ericameria nauseosa spp. nauseosa var. glabrata	

SHRUBS & TREES - CONTINUED

<i>Common Name</i>	<i>Scientific Name</i>	<i>Other Common Names</i>
Sand Sagebrush	Artemisia filifolia	
Skunkbush Sumac	Rhus trilobata	
Soapweed Yucca	Yucca glauca	
Spiny Star	Escobaria vivipara var. vivipara	<i>Pin Cushion Cactus</i>
Spreading Buckwheat	Eriogonum effusum	
Wax Currant	Ribes cereum	
Western Poison Ivy	Toxicodendron rydbergii	

Western Sandcherry	<i>Prunus pumila</i> var. <i>besseyi</i>	
Western Snowberry	<i>Symphoricarpos occidentalis</i>	
Willow	<i>Salix</i> sp.	
Winterfat	<i>Krascheninnikovia lanata</i>	