

Seeded Lower Grasslands

Description

Poor condition grasslands have been seeded to crested wheatgrass-alfalfa mixes throughout the southern interior. The crested wheatgrass tends to be persistent unless abused, while the alfalfa falls out the plant community within 5 years on most sites. Other grasses have been seeded but there is little information on their life history.

Broadcast seeding is generally not successful so existing crested wheat grass stands occur as rows of plants created by the seed drills. The spaces between the seeded rows are either bare or have biological crusts, or low growing forbs and grasses. Sage brush is normally removed during the seeding, and may be absent for many years.

Location

This account will address seedings in the Lower Grasslands in the southern interior. Seedings in other range types may be similar, but due to the inherent differences in growing conditions extrapolation to them must be done with caution.

The machinery needed to drill seeds limits these plant communities to flat to gentle slopes.

Representative Reference Area

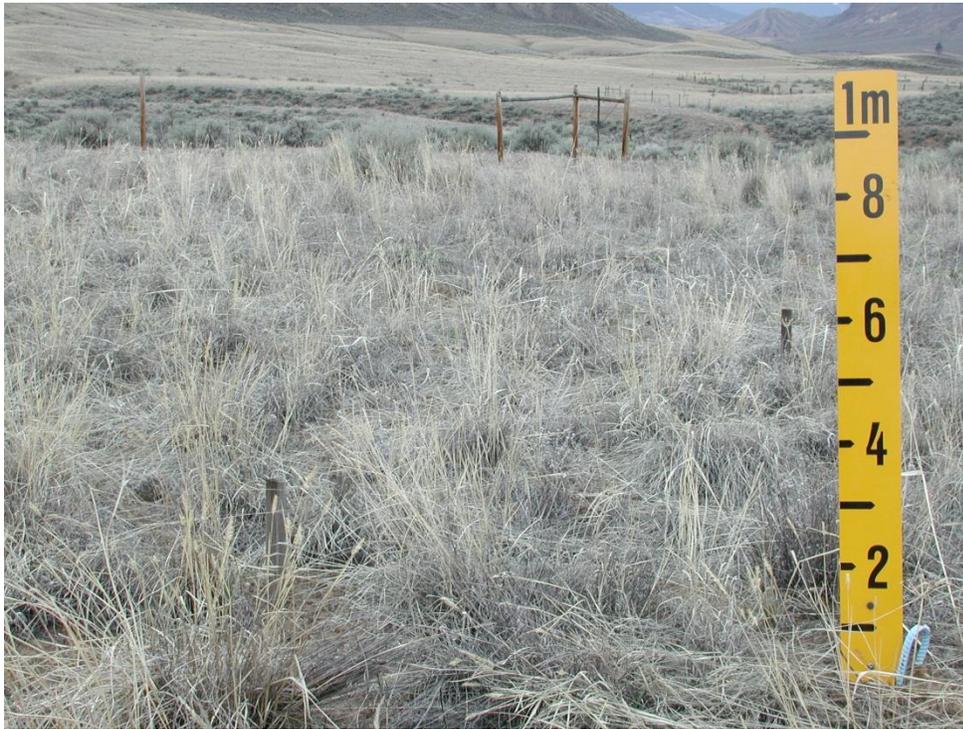
Rattlesnake Hills

Seral Stages

Since this is an artificial plant community the normal names for seral stages will not be used. Instead the terms unaltered, slightly altered, moderately altered and greatly altered will be used to reflect degrees of disturbance due to grazing.

Seeded Lower Grasslands

Unaltered



Unaltered crested wheatgrass seeding near Cache Creek.



Unaltered seeded and earl- seral unseeded Lower Grassland near Cache Creek BC

Seeded Lower Grasslands

Plant Community unaltered	
Species	Canopy cover (%)
Crested wheatgrass	70
Needle-and-thread grass	5
Pussytoes	5
Biocrusts	20-50
Litter	50

Productivity

800 kg/ha

Range Management Considerations

Light use with long rest will maintain an unaltered condition.

Properly Functioning condition

Sites will score slightly at risk due to the inherent instability of the lower grasslands. Bare ground, lack of animal habitat and risk of erosion keep scores down.

Slightly altered



Slightly altered crested wheatgrass seeding

Seeded Lower Grasslands

Plant Community Slightly altered	
Species	Canopy cover (%)
Crested wheatgrass	35
Needle-and-thread grass	10
Pussytoes	5
Pasture sage	5
Biocrusts	10-25
Litter	25

Productivity

800 kg/ha

Range Management Considerations

Crested wheatgrass is ready earlier than native species, is more palatable and growing on the flat to gentle slopes, causes it to be heavily targeted by cattle. When seedings are mixed in with native range the unseeded areas often improve in condition due to very light use, while the seeded areas are at risk of degradation from heavy use. Turn-out onto crested wheatgrass can be slightly earlier than native species, but utilization needs to be limited to no more than 40% to maintain vigor. Spring and fall grazing will lead to downward trend in condition. Crested wheatgrass uses higher levels of nitrogen than native plants, therefore sufficient nitrogen fixing plants or biological soil crusts need to be kept in place to maintain soil fertility.

Properly Functioning Condition

Sites will score slightly at risk due to the inherent instability of the lower grasslands. Bare ground, lack of animal habitat and risk of erosion keep scores down.

Seeded Lower Grasslands

Moderately altered



Moderately altered crested wheatgrass seeding

Plant Community Moderately altered	
Species	Canopy cover (%)
Crested wheatgrass	10
Needle-and-thread grass	20
Pussytoes	10
Pasture sage	10
Biocrusts	0-10
Litter	5-10

Productivity

400 kg/ha

Range Management Considerations

Seeded Lower Grasslands

Crested wheatgrass vigor is greatly reduced. Much of the advantages of crested wheatgrass (early initiation of growth and recovery from grazing) have been lost. Recover to slightly altered requires light use and long rest. Fertilization to may be needed if the soil nutrients have been depleted.

Properly Functioning Condition

Sites will score at risk due to poor root development, amount of bare soil, soil compaction, erosion, lack of litter, and poor habitat for animals.

Greatly altered



Greatly altered crested wheatgrass seeding, Sandberg's bluegrass, pussytoes and pasture sage

Plant Community Greatly altered	
Species	Canopy cover (%)
Crested wheatgrass	0-5
Needle-and-thread grass	5-30
Pussytoes	10
Pasture sage	10-20
Biocrusts	0-10
Litter	0-10

Seeded Lower Grasslands

Productivity

100 kg/ha

Range Management Considerations

The site has lost most of the benefits of investment from seeding. No use for 5 years followed by light use with long rest is needed to improve condition. If most of the crested wheatgrass has been killed the site will succeed to early seral native species, with the risk of invasive plants very great.

Properly Functioning Condition

The site scores at high risk to non- functioning because of poor root development, amount of bare soil, soil compaction, erosion, lack of litter, and poor habitat for animals.

Seeded Lower Grasslands

Seral Stage Diagram

Unaltered stage

G	Crested wheatgrass 70 Needle-and thread-grass 5
F	Pussytoes 5
S	few
T	None
BC	20-50
Yield	800kg/ha
CC	3 ha/AUM

Moderate use with rest	↓	↑	Light use Long rest
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Slightly Altered stage

G	Crested wheatgrass 35 Needle-and thread-grass 10
F	Pussytoes 5
S	Pasture sage 5
T	None
BC	20-50
Yield	800kg/ha
CC	1.5 ha/AUM

Heavy use little rest	↓	↑	Moderate use with rest
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Moderately altered stage

G	Crested wheatgrass 10 Needle-and thread-grass 20
F	Pussytoes 10
S	pasture sage 10
T	None
BC	0-10
Yield	400kg/ha
CC	4ha/AUM

Heavy to severe use	↓	↑	Light use Long rest
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Greatly altered Stage

G	Crested wheatgrass 0-5 Needle-and thread-grass 5-30
F	Pussytoes 10
S	pasture sage 10-20
T	None
BC	0-10
Yield	100kg/ha
CC	20ha/AUM

G:	Grasses
F:	Forbs
S:	Shrubs
T:	Trees
BC:	Biological Crusts