

Thompson Nicola Upper Grasslands

Description

At PNC this type is dominated by very high cover of rough fescue. It has a few forbs and very few shrubs except in draws and on cooler aspects. Bluebunch wheatgrass is a minor component in all areas while south of Kamloops Idaho fescue is also a minor component.

Location

This type occurs in the Thompson River valley from Lytton to Chase, in the North Thompson River valley from Kamloops to Barriere, and on the Fraser River from Lytton to Big Bar at elevations between 900m to 1200m on warm and hot aspects. This type also occurs within these areas at lower elevations on cool aspects.

Representative Reference Area

Tunkwa, Froleck, Goose, Hamilton Bluegrass, Hamilton Stipa Richardsonii, Hamilton Stipa Nelsonii, Summit North, Summit South, Hamilton TV Repeater, Deep Lake Fescue.

BEC Correlation

Old field guide

IDFdk1a	91,92 & 93
BGxh2	06
BGxw	06

New field guide

IDFdk1a	81.3, 82, 83.2
IDFxh1	85.2, 82, 83
IDF xh2a	91,92
IDFxh2	81.4, 83
BGxh2	86,87
BGxw1	83.2

Site Characteristics

Soils

Black chernozems on morainal blanket.

Elevation range

Zonal 900-1200 meters.

Cool steep slopes 300-900m

Precipitation

Annual total 30 cm

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Growing season 15 cm

Accumulated Snow depth 10-50 cm

Seral Stages

PNC Climax

*Thompson Nicola Upper
Grasslands PNC*



*Thompson Nicola Upper
Grasslands PNC*



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Plant Community PNC	
Species	Canopy cover (%)
Rough Fescue	30-60
Bluebunch wheatgrass	1-5
Mixed forbs	<5%
Litter	50-100%
Biological Crusts	1-5

Productivity

1000 kg/ha.

Range Management consideration

Very light intermittent grazing will maintain the PNC, but that is not the target seral stage for this type. Moderate spring use every second year will maintain productivity and functionality, but the site will degrade to late seral due to loss of rough fescue. Bluebunch wheatgrass is the primary increaser and should maintain production until the bottom of this seral stage. Maintaining PNC could be achieved with light fall use.

Properly Functioning condition

PNC will score as properly functioning.

Late-Seral



Thompson Nicola Upper Grasslands rough fescue bluebunch wheatgrass Late-Seral

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Plant Community Late Seral	
Species	Canopy cover (%)
Rough Fescue	15-30
Bluebunch wheatgrass	5-10
Columbia needlegrass and Richardson's needlegrass	5-10
Kentucky bluegrass	10-30
Mixed Forbs	5-10
Litter	5-30
Biological Crusts	10-30

Productivity

800-1000 kg/ha.

Range Management considerations

Light to moderate use every second year should maintain this seral stage. Repeated spring grazing will be hard on the rough fescue.

Properly Functioning condition

With bluebunch wheat grass cover at the upper end of the range and needle grasses and bluegrass at the lower end the site should score as properly functioning.

Mid-Seral



Upper Grassland Mid-Seral Kentucky bluegrass, rough fescue mixed forbs

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Plant Community Mid Seral	
Species	Canopy cover (%)
Rough Fescue	5-15
Bluebunch wheatgrass	5-40
Columbia needlegrass and Richardson's needlegrass	5-40
Kentucky bluegrass	5-85
Mixed forbs	10-15
Litter	0-100
Biological Crusts	0-30

Productivity

500-1500 kg/ha. As rough fescue and bluebunch wheatgrass drop out of the community, productivity will become more variable, dependent on spring moisture. Years with greater than 100% normal precipitation could have forage production greater than the late and PNC, while years with 50-75% normal precipitation could produce less than half.

Range Management considerations

Any regime that includes substantial spring grazing without 18 months of rest will likely cause a loss of the rough fescue component. The ranges given for each grass species are broad because the dominant species on each individual site will depend on soil moisture, disturbance history, and possible chance. Predicting the makeup of the mid-seral is difficult - expect that rough fescue and Idaho fescue will be low cover. Litter has a very broad range because it depends on the species that dominates. If Kentucky bluegrass dominates, then even with very high use and short stubble, litter cover can be very high. In a Columbia needlegrass dominated site, litter could be missing.

Properly Functioning condition

Scores could remain high sites dominated by Kentucky bluegrass because of its ability to protect the soil surface, and form litter. Scores for unoccupied root zone and compacted soil layers could be low. Sites dominated by needle grasses will score lower due to more bare ground and less litter.



Early- Seral

*Upper Grassland
Early- Seral
Kentucky blue grass
mixed forbs.*

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*Upper Grassland
Early- Seral
Bluebunch
wheatgrass and
Kentucky blue grass*



*Thompson Nicola
upper grassland
early-seral Needle
grasses, Kentucky
bluegrass and
pussy toes*

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Plant Community Early Seral	
Species	Canopy cover (%)
Bluebunch wheatgrass	5-40
Columbia needlegrass and Richardson's needlegrass	5-40
Mixed forbs	10-20
Litter	0-100
Biological Crusts	0-30

Productivity

500-1500 kg/ha. As rough fescue and bluebunch wheatgrass drop out of the community, productivity will become more variable, dependent on spring moisture. Years with greater than 100% of normal precipitation could have forage production greater than the late-seral and PNC, while years with 50-75% normal precipitation could produce less than half.

Range Management considerations

This seral stage could be dominated by any of the seral species, Kentucky bluegrass, Columbia needlegrass or Richardson's needlegrass. In each, there will be residual rough fescue and Idaho fescue plants that are very hard for us to see but livestock and wildlife will seek them out. A few plants will remain in the plant community in spite of poor vigour and extreme use. Recovery will be difficult and require substantial rest or dormant season grazing only. Resistance to weeds will be low except for sites that have a very vigorous bluegrass cover.

Properly Functioning condition

Scores will be at risk to non-functioning due to poor structure, rooting depth and lack of soil permeability (either at surface or lower compaction). On sites dominated by Kentucky bluegrass scores will be higher because of its ability to protect the soil surface, and create litter.

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Altered States

Altered State A. Kentucky bluegrass dominated Altered State.



*Upper Grassland Early
Seral or possible
Altered State*

If all rough fescue and Idaho fescue plants are grazed out, a site could be considered an altered state because it is not capable of recovery without re-seeding.

Plant Community	
Species	Canopy cover (%)
Kentucky bluegrass	100
Mixed forbs	<5%
Litter	0-100
Biological Crusts	0-30

Productivity

500-1500 kg/ha. With rough fescue and bluebunch wheatgrass gone from the community, productivity will become more variable, dependent on spring moisture. Years with greater than 100% normal precipitation could have production greater than the late and PNC while years with 50-75% normal precipitation could produce less than half.

Range Management considerations

This altered state could be quite stable and capable of absorbing substantial abuse, but is at risk of weed invasion and will become very unstable during prolonged drought.

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Re-establishing fescues would require removal of the bluegrass with herbicides, tilling and drilling in seed. Establishment would be slow and during the intervening years herbicide treatments would be needed to control broad leaved weeds. This is an expensive and long term project not to be taken on lightly.

Properly Functioning condition

Scores could remain at functioning at risk because of the ability of Kentucky bluegrass to protect the soil surface, and create litter. Scores for soil compaction, habitat for animal diversity, and unoccupied root zone could be low. If bluegrass vigour is low, increased bare ground and lack of litter would give high risk scores.

Altered State B. Douglas fir/yellow pine dominated altered state

Without occasional fires, Douglas-fir and yellow pine will establish and increase in all seral stages that occur within seed rain areas. Ultimately shade will eliminate most of the understorey vegetation. Catastrophic fires could kill any remaining fescues and leave the site susceptible to re-establishment of trees. A long term cycle of dense forest and catastrophic fire could become established. Re-establishment of the fescues would require removal of the tree canopy and grass seeding.

Plant Community	
Species	Canopy cover (%)
Douglas-fir or Yellow pine	100
Rough fescue	1-10
Forbs	1%
Litter	100
Biological Crusts	0

Productivity

Very little forage would be available. 0-200 kg/ha

Range Management considerations

Little grazing use could be made of this state. Trails may have to be cut to get livestock through the area. Cattle may use these as loafing areas.

Properly Functioning condition

Scores would remain high as the forest canopy and litter would supply most attributes for functionality. Habitat for animals may score low.

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Seral Stage Diagram

