

Subalpine Willow/Birch/Altai Fescue

Description

Subalpine shrublands dominated by birch and/or willow with moderate to strong components of Altai fescue are found in northern British Columbia. They typically occur below 1500m elevation, but can be found up to 1850m, in the NE and NW parts of the province.

Shrub development is thought to be driven by edaphic factors and groundwater flowing to the surface, resulting in a mosaic of shrubs interspersed with fescue and associated vegetation. Literature suggests that birch is more apt to dominate nutrient-medium to nutrient-poor sites with willows on more nutrient rich sites.

Location

This range type occurs in northern British Columbia, including the Spatzizi, Stikine and in portions of the Muskwa-Ketchika areas. In these areas, these plant communities typically occur in cold air drainages that exist in the valleys between the mountains. Valleys tend to be wider in the NW, leading to the development of more extensive plant communities. In contrast, the valleys in the NE are more constricted resulting in narrower bands of this plant community.

Representative Reference Area

Halfway Meadow, Mount Bertha, Nevis Creek.

BEC Correlation

BWBmk

Site Characteristics

Soil

Typically found on moderately to well-drained soils. Soils are typically either brunisols or podzols.

Elevation range



1200 – 1850 m

Seral Stages

PNC Climax

Subalpine
Willow/Birch/Altai
fescue community.
PNC.

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Subalpine
Willow/Birch/Altai
fescue community
in NE British
Columbia. PNC.



Plant Community PNC & Late Seral	
Species	Canopy cover (%)
Willow	5-25
Bog Birch	10-25
Shrubby Cinquefoil	0-10
Altai Fescue	15-50
Sedge	5-20
Hairy wildrye	0-20
Mountain Monkshood	2-15
Wiry Fern Moss	5-35
Alpine milk-vetch	2-7
Kinnikinnick	0-8

Productivity

Production is variable.

Range Management consideration

Subalpine Altai fescue communities are poorly adapted to grazing. On some plant communities, horse grazing in association with guide outfitter activity may be a factor.

Overgrazing is a concern, because of the short growing season and cold winters. Severe use can drive down carbohydrate reserves during the growing season, and the brevity of the growing season results in reduced time for plants to recover.

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As well, because Altai fescue is a bunchgrass, with its growing point at the base of the plant, sufficient litter carryover is needed to protect the growing point and moderate it from temperature extremes. Without sufficient litter, Altai fescue is at risk for winter-kill.

Community expression is variable. Observations suggest that birch is more dominant on poorer nutrient sites. Conversely, willows prefer more nutrient rich regimes. The mosaic of pockets of willow/birch/fescue subalpine scrub are thought to be associated with groundwater moving to the surface.

Properly Functioning Condition

Sites in PNC or late seral will score as properly functioning

Early-Seral



Subalpine
willow/birch/Altai
fescue community.
Early-Seral.

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Bog Birch	10-25
Shrubby Cinquefoil	5-20
Altai Fescue	2-30
Sedge	15-30
Hairy Wildrye	0-15
Mountain Monkshood	2-10
Wiry Fern Moss	0-6
Milk Vetch	0-8
Kinnikinnick	0-40
Yarrow	2-12
Strawberry	5-20
Kentucky Bluegrass	2-15

Productivity

Variable.

Range Management consideration

Over-grazing leads to reduction in Altai fescue and an increased cover of shrub, as well as an alteration in shrub form class. Shrubs become more cropped/hedged, but increase in overall dominance relative to grasses and forbs.

If shrubby cinquefoil is present, it can increase as use increases. Shrubby cinquefoil is largely considered to increase in composition with grazing due, in part, to its relative unpalatability.

With continued grazing, lower statured forbs , such as strawberry, and less desirable grasses, such as Kentucky bluegrass, may become apparent. Loss of the moss layer and the presence of bare ground may also be apparent, along with compaction.

Properly Functioning Condition

Early-seral condition will score non-functioning or high risk.