Alkali Saltgrass Herbaceous Vegetation

Distichlis spicata var. *stricta* herbaceous vegetation

Original prepared by T. Lea

Plant Community Information

Description

This saline, graminoid wetland meadow community is dominated by alkali saltgrass (*Distichlis spicata* var. *stricta*). This community is sometimes associated with the salt-tolerant grass, Nuttall's alkaligrass (*Puccinellia nuttalliana*). These meadows occur in seasonally flooded areas often associated with saline/alkaline potholes and lakes. Brief flooding in the early season is followed by pronounced surface drying leaving a distinct salt crust (MacKenzie and Shaw, in press). Vegetation is frequently stratified into subcommunities based on gradational changes in moisture and salinity (D. Gayton, pers. comm.) (Utzig et al. 1986).

Historically this community occurred with slender wheatgrass (*Elymus trachycaulus*) in the climax condition. Most of these communities are disturbed and are often dominated by bands of foxtail barley (*Hordeum jubatum*), which increases with grazing.

This community occurs at lower elevations, on all aspects, from mid to lower slopes, on gently sloping areas. Soils consist of fine-textured glaciolacustrine materials, which are typically wet in the early spring and dry out in the summer, particularly at the soil surface. The soils are alkaline or saline and may be Solonetzic.

Distribution

Global

Due to differences in plant community classification between British Columbia and surrounding jurisdictions, the extent of this community is not known.

British Columbia

This community occupies low elevations only at the southern end of the Rocky Mountain Trench.

Forest region and district

Southern Interior: 100 Mile House, Cascades, Central Cariboo, Chilcotin, Kamloops, Okanagan Shuswap, Quesnel, Rocky Mountain

Ecoprovince and ecosection

CEI: CAB, CHP, FRB

SIM: EKT

SOI: GUU, NIB, NOB, PAR, SOB, THB

Biogeoclimatic units

BG: xw2

IDF: dk1, dk3, dk4, dm2/00, xm

PP: dh2/00, xh2

Broad ecosystem unit

ME

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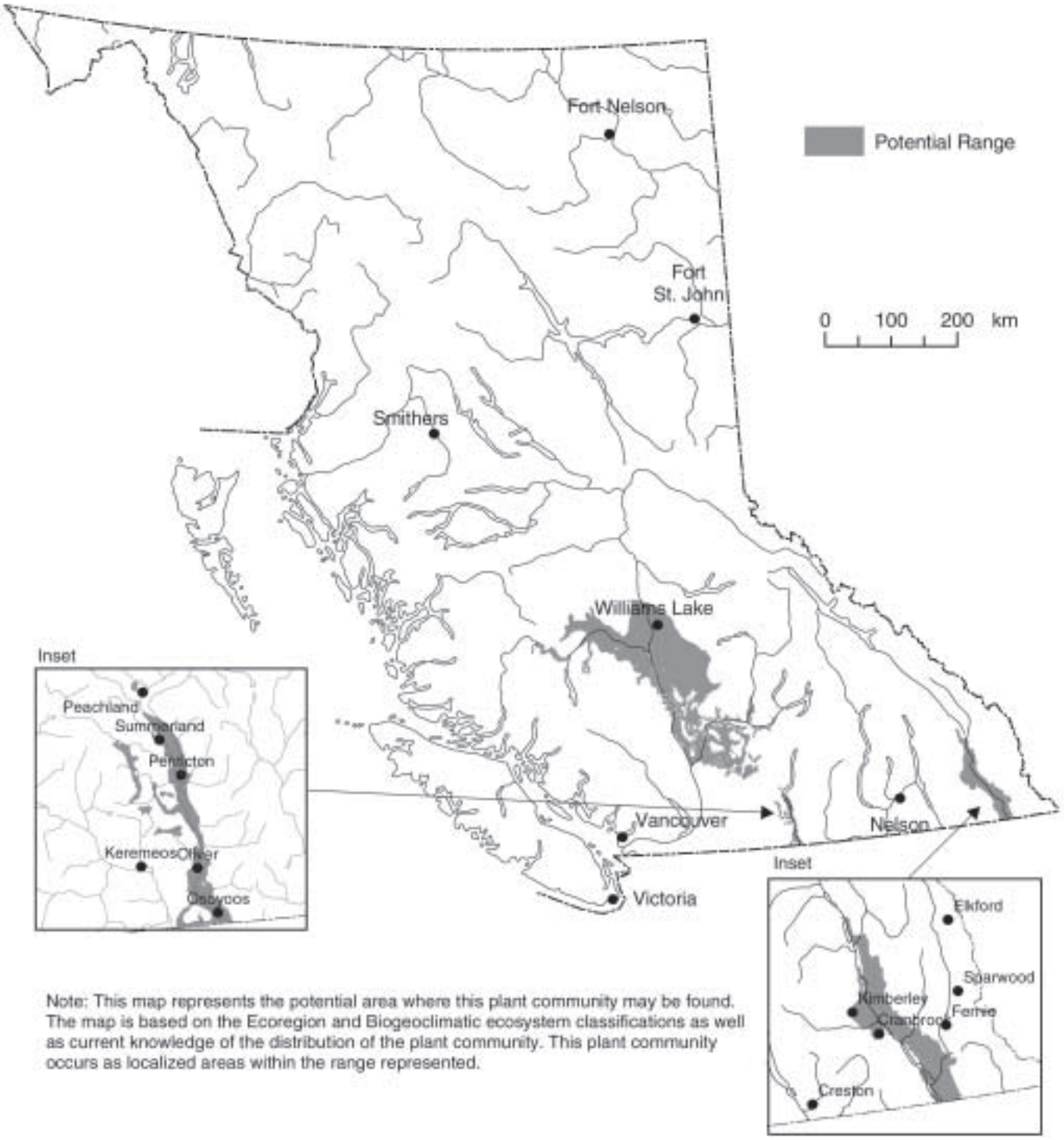
(Distichlis spicata var. stricta herbaceous vegetation)



Note: This map represents the potential area where this plant community may be found. The map is based on the Ecoregion and Biogeoclimatic ecosystem classifications as well as current knowledge of the distribution of the plant community. This plant community occurs as localized areas within the range represented.

Plant Community Characteristics

Structural stage

2: herb

Natural disturbances regime

Frequent stand-maintaining fires (NDT4) (MOF and MELP 1995). Although this plant community occurs within NDT4, the main natural disturbance to this community is flooding.

Fragility

Very high. Very slow to recover from disturbance. Typically occurs on fine-textured lacustrine materials, which have high water tables in spring and droughty conditions in the summer. These are very susceptible to trampling by livestock, and extremely susceptible to overuse by all-terrain vehicles that have a very high impact on these communities. There is a high potential for water and wind erosion after vegetative cover is removed.

Conservation and Management

Status

The alkali saltgrass herbaceous vegetation plant community is on the provincial *Red List* in British Columbia. It is ranked S1 in British Columbia. Its global status is unknown.

Trends

There are <20 known occurrences. This community has a restricted range and where it occurs, it is generally in early to mid-seral stages. It is not known if any sites are in a late seral or climax condition. It is unknown if any of this plant community occurs in natural condition. Much of the area that originally supported this community has been disturbed by intensive livestock grazing and damaged by all-terrain vehicle use that has removed the vegetative cover and created deep ruts in the soils. This community is declining rapidly, with most examples having been grazed or disturbed by human activities (T. Braumandl, pers. comm.).

Threats

The major threats to this community are livestock grazing, which removes the natural vegetation, and all-terrain vehicles, which remove almost all vegetative cover. The biggest threat is soil compaction and trampling that occurs when soils are wet (D. Fraser, pers. comm.). Areas that have this community in its natural state are not known. Climate change may also be a threat.

Legal Protection and Habitat Conservation

There is no legal protection for plant communities except for those within protected areas and parks. It is believed that no sites are present in protected areas (T. Braumandl, pers. comm.).

The riparian and the range management guidelines enabled under the *Forest and Range Practices Act* provide some protection for these communities. Range use planning may address this community through implementation of similar recommendations as outlined below in "General wildlife measures."

Identified Wildlife Recommendations

Sustainable resource management and planning recommendations

At present most of the known occurrences of this plant community are in an early seral stage and few if any are in a natural condition. It is recommended to:

- maintain at least 20 occurrences in good condition across the range of the plant community;
- maintain or restore occurrences to as close to natural condition as possible and practical; and
- manage livestock grazing to enable community to develop to a later seral stage.

Wildlife habitat area

Goal

Maintain and recover known occurrences.

Feature

Establish WHAs at occurrences that have been confirmed by a qualified registered professional in consultation with the B.C. Conservation Data Centre or Ministry of Forests regional ecologists.

Size

The size of the WHA should be based on the extent of the plant community occurrence. Typically occurrences of this plant community are <100 ha.

Design

The WHA should include the entire community occurrence and 100 m surrounding the occurrence to maintain the hydrologic regime and protect the community occurrence from edge effects and the introduction and spread of invasive species.

General wildlife measures

Goals

1. Maintain or restore plant community to a natural state (i.e., same physical structure, and ecological processes as natural examples of the plant community) and natural plant composition of this plant community (see "Description").
2. Minimize or avoid access.
3. Prevent physical disturbance, especially of the soil.
4. Maintain or restore to a late seral stage.
5. Maintain hydrological regime.
6. Minimize the introduction and spread of invasive species.
7. Minimize forest encroachment.

Measures

Access

- Do not develop roads or trails.

Pesticides

- Do not use pesticides.

Range

- Plan livestock grazing to meet the general wildlife measure objectives described above. Fencing could be required by the statutory decision maker to meet general wildlife measure objectives, to recover community, or for restoration treatments.
- Do not place livestock attractants within WHA.

Recreation

- Do not develop recreational sites, trails, or facilities.

Additional Management Considerations

Minimize impacts to vegetation, soils, and hydrology when operating adjacent to a WHA, particularly during road development and maintenance.

Restrict recreational use (i.e., dirt bikes, mountain bikes, and other off-road vehicles).

Information Needs

1. Further inventory and confirmation of classification to clarify the extent of this community.
2. Understanding of restoration techniques for alkaline/saline communities.
3. Understanding of hydrologic interactions with this community and the surrounding landscape and requirements to maintain the community and physical attributes of the sites.

References Cited

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