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| Ecological Site Description ID: | R231XY198AK |
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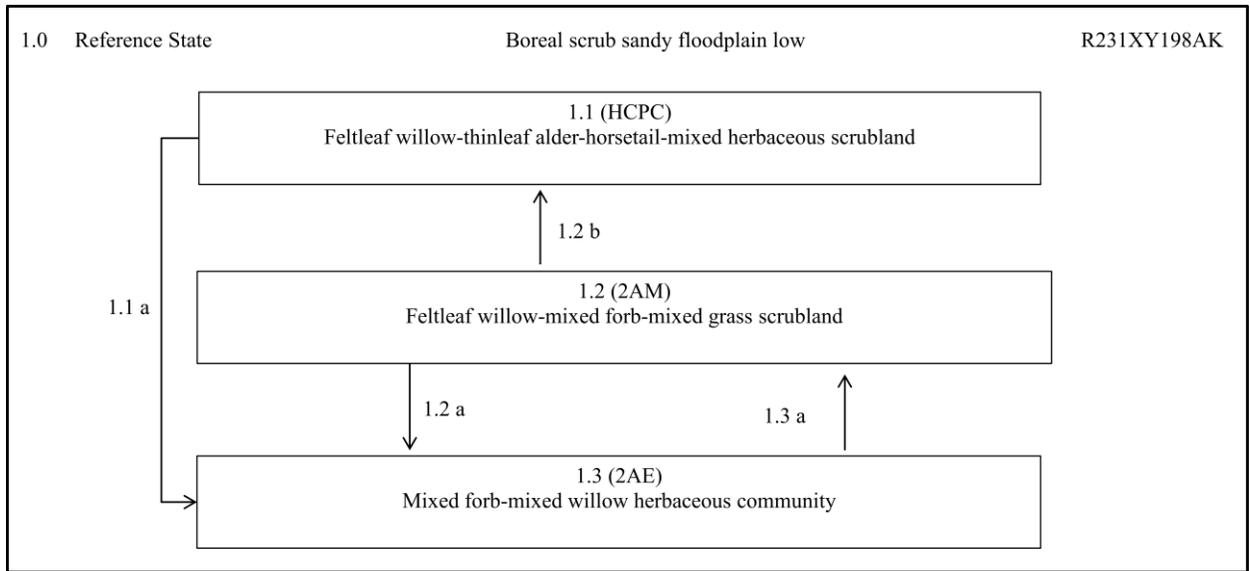
Ecological Dynamics of the Site:

This boreal ecological site occurs on areas adjacent to the Yukon River that frequently flood. For community phase 1.1, soils were classified as cryofluvents and were composed of loamy and/or sandy alluvium. While flood duration is short enough to allow vegetation to occur on bars, flood intensity hinders establishment of tree species and tends to support stands of alder and willow. As sites progress from phase 1.3 to 1.1, less bare soil is exposed and surface plant litter increases. These changes are likely due to increases in vegetative cover. Ice damming disturbance commonly occurs in this ecological site. For this ecological site, ice dam activity did not result in unique community phases.

For phase 1.3, communities with loamier soils tended to have horsetail communities while communities with sandier soils tended to have mixed forb communities. In the end, both soil types appear to result in similar vegetation for phase 1.1.

Flooding is a disturbance regime for this ecological site that results in 3 unique phases.

State and Transition Diagram:



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|------------------|---|-------------|-----------|
| State ID Number: | 1 | State Name: | Reference |
|------------------|---|-------------|-----------|

State Narrative: Phases within the reference state were grouped on the structure and dominance of forbs and shrubs, which was believed to directly relate to the duration and intensity of flooding and/or ice damming on bars adjacent to the Yukon River.

Tall trees are defined as growing >40' in height, medium trees are defined as growing 15-40' in height, while stunted and regenerative trees are defined as growing less than 15' in height. Tall shrubs are defined as growing >10' in height, medium shrubs are defined as growing 3-10' in height, low shrubs are

defined to grow 8” – 3’ in height, and dwarf shrubs are defined to grow less than 8” in height.

Photo 1.1



Community Phase Number:

1.1

Community Phase Name:

Feltleaf willow-thinleaf alder-horsetail-mixed herbaceous scrubland

Community Phase Narrative:

This phase is characterized by a closed canopy of alder and willow. While *Picea glauca* and *Populus balsamifera* were observed in sampled plots, trees are a minor vegetative component. The majority of shrub cover occurred in the tall and medium strata (total shrub cover ~140%). Commonly observed shrub species include *Salix interior*, *Alnus incana* spp. *tenuifolia* and *Salix alaxensis*. Graminoids were a minor vegetative component. Forbs were commonly observed (total forb cover ~60%). Commonly observed forbs include *Artemisia tilesii*, *Eurybia sibirica*, *Equisetum arvense* and *Equisetum pratense*. Lichen and moss were not observed in sampled plots. This phase had 4 observations.

Community Pathways

Pathway Number

Pathway Name & Description

1.1 a

Increased flood frequency, duration, flood intensity, and/or ice damming may shift community from being dominated by tall shrubs with a closed canopy to a sparsely vegetated herbaceous community.

Photo 1.2



Community Phase Number:

1.2

Community Phase Name:

Feltleaf willow-mixed forb-mixed grass scrubland

Community Phase Narrative:

This phase was characterized by open stands of willow. While seedlings of *Populus balsamifera* were often observed in sampled plots, trees are considered a minor vegetative component. The majority of shrub cover occurred in the medium stratum (total shrub cover ~60%). Commonly observed shrubs include *Salix alaxensis*, *Salix interior*, and *Salix pseudomonticola*. While graminoids were a minor vegetative component (~10% cover), *Festuca rubra* and *Calamagrostis canadensis* were commonly observed. Forbs were a dominant and diverse vegetative component (~50% cover) and commonly observed species include *Hedysarum alpinum*, *Equisetum* sp., *Argentina anserina*, *Astragalus bodinii*, *Artemisia tilesii*, *Eurybia sibirica*. Lichen and moss were not observed in sampled plots. This phase had 9 observations.

Of note, one sampled plot within this phase was dominated by regenerating *Populus balsamifera* (60% cover). This plot may be the result of ice damming that severely disturbed an intact stand of balsam poplar trees.

Community Pathways

Pathway Number

Pathway Name & Description

1.2 a

Increased flood frequency, duration, intensity, and/or ice damming may shift community from being dominated by medium and tall shrubs with an open canopy to a sparsely vegetated herbaceous community.

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| 1.2 b | Normal time and growth. Flood disturbance becomes less frequent and community shifts from an open shrub community to a closed shrub community. |
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Photo 1.3



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| Community Phase Number: | 1.3 | Community Phase Name: | Mixed forb-mixed willow herbaceous community |
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Community Phase Narrative:

This phase was characterized by sparse shrub and forb cover. *Populus balsamifera* was observed but trees are considered a minor vegetative component. Shrub cover primarily occurred in the medium and low stratum (total shrub cover ~15%). Commonly observed shrubs include *Salix interior* and *Salix alaxensis*. Forbs were the most abundant vegetative component (~45% cover) and commonly observed species include an assortment of *Equisetum sp.*, *Hedysarum alpinum*, *Argentina anserina*, *Astragalus bodinii*, and *Artemisia tilesii*. Graminoids, lichens, and moss were minor vegetative components. This phase had 6 observations.

| Community Pathways | |
|--------------------|---|
| Pathway Number | Pathway Name & Description |
| 1.3 a | Normal time and growth. Flood disturbance becomes less frequent and community shifts from a sparsely vegetated forb community to an open shrub community. |