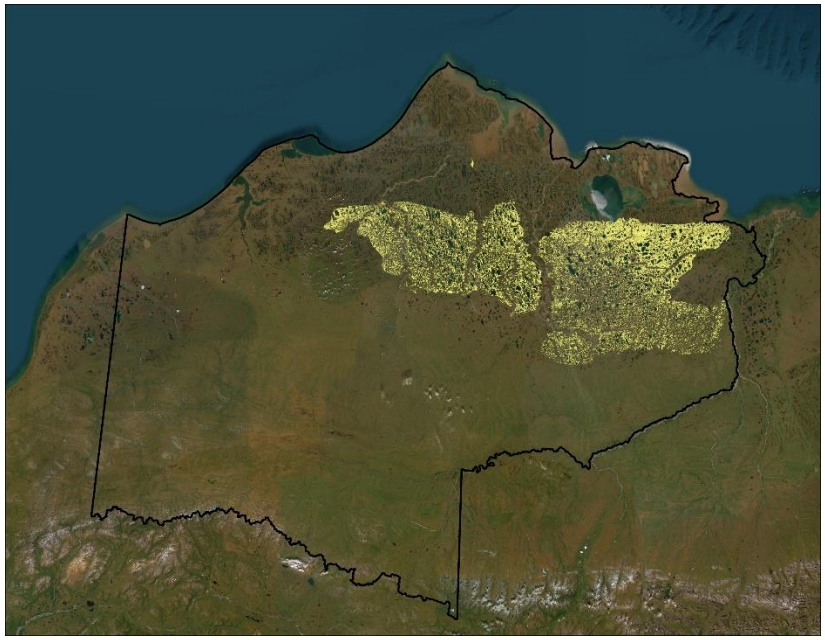
Sand Sheet Wetland



Stratum code: SSBWM

Number of plots sampled: 15

Physiography: lowland (Sand Sheet physiographic unit)

Geomorphology: coastal plain

Landforms: planoconcave slope, non-patterned drained thaw lake basin, string and flark (strangmoor fen)

Hydrology: hygric to aquatic, poorly drained to flooded

Classification: An herbaceous wetland type. Average cover of obligate wetland plants is 43.7%. Surface water is present during the growing season and averages 34.2% cover. Total cover of surface water increases at the expense of emergent sedge cover. Aquatic mosses and species in the *Sphagnum* genus contribute 9.3% and 9.1% cover, respectively. Average shrub cover is 18.7%.

Site characteristics: Occurs at low elevations over Pleistocene sands in basins or gently-sloping terrain; string and flark fens may develop where there is directional flow of surface water. Permafrost is ice-rich and depth of seasonal thaw is moderately deep, averaging 41.2 cm. Developing as a weakly patterned, heterogenous, large-patch type.

Soil characteristics: Mean cumulative moss and duff thickness is 2.9 cm. Moss and duff are underlain by an organic soil horizon that averages 28.1 cm. Underlying mineral soils are predominantly fine lacustrine deposits that are occasionally layered with sand. Average soil water pH measured at 10 cm depth is 6.2.

Vegetation: The wet sedges *Carex aquatilis*, *Carex chordorrhiza* and *Eriophorum angustifolium,* as well as aquatic mosses in the

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Scorpidium genus indicate wetlands within NPRA. The wetland sedges, *Eriophorum angustifolium, Carex rotundata,* and *Carex membranacea,* and the drier-site dwarf shrub, *Cassiopie tetragona,* together with lichens in the *Cladonia* and *Flavocertaria* genera differentiate the Sand Sheet Wetland stratum from other wetlands. The occurrence of these mesic species, along with the dwarf to low shrubs including *Betula nana, Rhododendron tomentosum* ssp. *decumbens*, and *Vaccinium vitis-idaea,* tends to be restricted to raised microsites, such as strings. Mean vascular plant richness is 23 taxa.

Dominant species (greater than 25% average cover):

- *Carex aquatilis* (only 23%)

Indicator species Taxa with significant potential ($p<0.0002$) to indicate wetlands (listed in decreasing order of indication) include:

- *Carex aquatilis*
- *Carex chordorrhiza*
- *Scorpidium*

Differential species: Taxa with significant potential to differentiate the Sand Sheet Wetland from other wetland strata include:

- *Eriophorum angustifolium*
- *Cassiopie tetragona*
- *Carex rotundata*
- *Cladonia* lichen
- *Flavocertaria* lichen
- *Carex membranacea*

Succession and disturbance: A mid-successional type where permafrost dynamics are the main disturbance process. Lake drainage, wetland drying, solifluction.

Indicators of change: Change in composition; change in hydrologic regime (more or less standing water); change in active layer; change in permafrost features. The stratum is considered relatively thaw-stable owing to the comparatively low ice content of the permafrost.

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Table 11. Cover and constancy of plant taxa occurring in the Sand Sheet Wetland stratum. Species listed by habit, in decreasing order of percent cover.

Habit	Scientific Name	Average Cover (%)	Standard Deviation (%)	Minimum Cover (%)	Maximum Cover (%)	Constancy (%)
tall shrub	*Betula nana*	6.7	7.2	1.3	22.0	60
	Salix pulchra	5.1	5.4	1.3	15.3	40
low shrub	*Rhododendron tomentosum* ssp. *decumbens*	3.3	2.1	1.3	6.7	67
	Vaccinium uliginosum	2.7	na	2.7	2.7	7
	Salix fuscescens	2.7	1.4	1.3	4.0	20
dwarf shrub	*Cassiope tetragona*	7.2	6.9	1.3	20.0	53
	Vaccinium vitis-idaea	5.1	1.6	2.0	7.3	60
	Dryas integrifolia	3.8	0.8	3.3	4.7	20
	Andromeda polifolia	3.7	3.8	1.3	9.3	27
	Salix reticulata	2.0	0.0	2.0	2.0	13
	Salix phlebophylla	1.3	na	1.3	1.3	7
graminoid	*Carex aquatilis*	23.6	14.6	3.3	52.0	87
	Carex rotundata	16.4	11.1	4.0	32.7	53
	Carex bigelowii ssp. *ensifolia*	14.9	15.3	2.7	32.0	20
	Eriophorum angustifolium	9.7	10.8	1.3	30.0	73
	Eriophorum vaginatum	9.0	10.0	1.0	34.7	67
	Carex membranacea	7.6	5.6	4.0	14.0	20
	Carex chordorrhiza	7.1	4.1	2.0	12.7	47
	Eriophorum scheuchzeri	7.0	6.8	1.3	17.4	47
	Eriophorum chamissonis	4.0	na	4.0	4.0	7
	Carex capillaris	2.0	na	2.0	2.0	7
	Carex williamsii	1.7	0.5	1.3	2.0	13
	Carex scirpoidea	1.3	na	1.3	1.3	7
	Trichophorum cespitosum	1.3	na	1.3	1.3	7
forb	*Rubus chamaemorus*	1.8	0.8	1.3	2.7	20
	Bistorta vivipara	1.3	na	1.3	1.3	7

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Habit	Scientific Name	Average Cover (%)	Standard Deviation (%)	Minimum Cover (%)	Maximum Cover (%)	Constancy (%)
	Pedicularis	1.3	na	1.3	1.3	7
	Pedicularis labradorica	1.3	na	1.3	1.3	7
moss	*Scorpidium*	9.7	7.4	1.3	27.0	87
	Sphagnum	7.5	9.7	1.0	40.7	100
	Racomitrium	4.0	na	4.0	4.0	7
	Aulacomnium	3.9	2.9	1.3	10.7	67
	Dicranum	3.3	2.5	1.3	9.3	53
	Drepanocladus	3.3	na	3.3	3.3	7
	Tomentypnum	3.1	3.1	1.3	6.7	20
	Hylocomium	2.8	1.4	1.3	4.0	33
	Oncophorus	2.7	1.8	1.3	4.7	20
	Campylium	2.7	1.9	1.3	4.0	13
	Rhytidium	2.0	na	2.0	2.0	7
	Polytrichum	1.3	0.0	1.3	1.3	27
	Hamatocaulis	1.3	na	1.3	1.3	7
	Meesia	1.3	na	1.3	1.3	7
lichen	*Peltigera*	3.3	na	3.3	3.3	7
	Thamnolia	2.2	1.3	1.3	4.0	33
	Cladonia	2.2	0.8	1.3	3.3	67
	Flavocetraria	2.0	1.5	1.3	6.0	60
	Dactylina	1.3	0.0	1.3	1.3	20
	Bryocaulon	1.3	na	1.3	1.3	7
	Cetraria	1.3	na	1.3	1.3	7
	Sphaerophorus	1.3	na	1.3	1.3	7
liverwort	liverwort	3.5	2.0	1.3	6.7	60