VEGETATION OF POLAR BEAR PASS, BATHURST ISLAND NORTHWEST TERRITORIES

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SYMBOL	PLANT COMMUNITIES	SURFICIAL MATERIALS	MOISTURE REGIME
S	SEDGE-MOSS MEADOW COMMUNITIES: Upper stratum dominated by Cyperaceae (10-50%) esp. Carex stans and Eriophorum species; abundant grass associates. Lower stratum continuous dense bryophytic mat of Drepanocladus, Aulacomnium, Distichum, Tomenthypnum and Bryophyta lichens rare.	Weakly to moderately calcareous and non calcareous materials with some fines	Poorly drained;abundant moisture throughout summer; often saturated. Edges of ponds and lakes, seepage slopes; centres or troughs of polygons.
S^w	SEDGE AND WILLOW MEADOW: Cyperaceae 20-50%; abundant and diverse grasses; dwarf shrubs common on tops of moss hummocks.		
S^g	SEDGE AND GRASS MEADOW: Cyperaceae 10-25%; Alopecurus alpinus Dupontia Fisheri common grass associates. Dwarf shrubs absent.		
G	GRASS-MOSS MEADOW COMMUNITIES: Upper stratum dominated by grasses (5-25%), usually Alopecurus alpinus;monocots common associates; forbs rare. Dwarf shrubs absent. Lower stratum similar to S^*, however Drepanocladus not as abundant.		Poorly drained;abundant moisture throughout summer; often saturated. Edges of ponds and lakes, seepage slopes; centres or troughs of polygons.
G^s	GRASS AND SEDGE MEADOW: Alopecurus and Dupontia dominate upper stratum (10-20%); Carex stans common associate (2-5%).	Weakly to moderately calcareous and non calcareous materials with some fines	
G^d	ALOPECURUS AND DUPONTIA MEADOW: Similar to G^s but Cyperaceae absent.		
G^a	ALOPECURUS MEADOW: Upper stratum almost all Alopecurus alpinus (less than 10%); local Hylocomium splendens. Bryophytic mat thinner, commonly composed of Cheneophyllous mosses		
G	GRASS-PATINA TUNDRA: Upper stratum dominated by grasses, mainly Alopecurus alpinus (5-15%); a variety of dwarf shrub and herb associates may be present. Lower stratum predominantly patina (20-50%) with bryophytes in cracks and depressions; clover is rarely continuous;	Silts and clays; silty clamicton	
Gp	GRASS AND PURPLE SAXIFRAGE TUNDRA: Alopecurus alpinus (10-15%), Saxifraga oppositifolia common associate; calcphilic herbs common. (See D for list)	Weakly to moderately calcareous silty, clayey material	
Gw	GRASS AND WILLOW TUNDRA: Alopecurus (10-15%); dwarf shrubs, esp. willow common associate(5-9) Cruciffers common herbs (less than 2%).	Non calcareous silts and clays	
Gl	GRASS AND LUZULA TUNDRA: Alopecurus dominant (10% maximum) with L. arcuata, and to lesser extent L. confusa common associate (2-5%)	Non calcareous silts and clays	
Gh	GRASS AND HERB TUNDRA: Alopecurus less than 10% but dominant; a variety of herbs present with no associates present (less than 5%).	Weakly calcareous and non calcareous silts and clays	
G	GRASS BARRENS Upper stratum sparsely vegetated (less than 30%) dominated by Alopecurus alpinus and to a lesser extent by Poa;Cladonia, Poa and Festuca; a variety of herbs may be present. Lower stratum generally absent. Lower stratum generally absent; local foliose and fruticose lichens.	silts and clays, silty clamicton	
Gp	GRASS AND PURPLE SAXIFRAGE BARRENS: Saxifraga oppositifolia common associate (less than 5%); calcphilic herbs present.	Weakly to moderately calcareous silts and clays	
Gl	GRASS AND LUZULA BARRENS: Luzula confusa common herb associate (less than 5%); Papaver, Stellaria typically present; sometimes Potentilla hyparctica.	Non calcareous sandy silt	Well drained materials, briefly wet at snowmelt; rapidly draining upper layer dries; lower layer usually dry, lower layer damp in late summer.
Gc	GRASS AND CRUCIFER BARRENS: Cruciffers: Draba fladnizensis typical associate Carex, Poa, Luzula, Puccinellia and Poa present.	Silt and clay generally of marine marine origin; weakly calcareous silty clamicton	
Gh	GRASS-HERB BARRENS: Alopecurus dominates (less than 10%); herbs with no strong associates present (less than 5%); also includes Alopecurus in near monoculture.	Silt and clay, generally non calcareous	
L	LUZULA-PATINA TUNDRA: Upper stratum dominated Luzula nivalis and to a lesser extend L. confusa (5-15%). Common herb associates include Papaver, Potentilla hyparctica, Stellaria. Lower stratum predominantly patina, with bryophytes in cracks and depressions, nearly continuous (50-75%).	Non calcareous sand; some silty sand	Materials imperfectly drained; moderately well drained at depth even when surface is dry in late summer. Has protective snow cover in winter.
Lw	LUZULA AND WILLOW TUNDRA: Luzula spp(5-15%); Salix arctica common associate (2-5%)		
Lp	LUZULA AND PURPLE SAXIFRAGE TUNDRA: Luzula generally less than 10%; Saxifraga oppositifolia common associate	Non calcareous sand, usually with some Fe present	Materials imperfectly drained; moderately well drained at depth even when surface is dry in late summer. Has protective snow cover in winter.
La	LUZULA AND ALOPECURUS TUNDRA: Alopecurus common associate (less than 5%)	Non calcareous silty sand	
Lh	LUZULA AND HERB TUNDRA: Luzula dominant; no clear associate among herbs (less than 2%).	Non calcareous sand, silty	
L	LUZULA BARRENS: Upper stratum dominated by Luzula (and L. nivalis) to 10; herbs as in Lower stratum absent or scattered foliose or fruticose lichens and tufts of Polytrichum moss.	Non calcareous sand; silty sand and local lag gravel commonly present	
Lp	LUZULA AND PURPLE SAXIFRAGE BARRENS; Saxifraga oppositifolia common associate (5-15%).	Non calcareous sand, usually with noticeable Fe stain to grains	Well drained materials briefly wet at snowmelt; rapidly draining Upper layer usually dry, lower layer damp in late summer
La	LUZULA AND ALOPECURUS BARRENS: Alopecurus alpinus common associate (less than 5%)	Non calcareous silty sand	
Lh	LUZULA AND HERB BARRENS: mixture of herbs present (to 5%) with no strong associate.	Non calcareous sand and gravel	
D	DWARF SHRUB TUNDRA: Dryas integrifolia and Salix arctica dominate upper stratum (15-50%); calcfaltic herbs present and vary in importance; Poa, Armeria, Saxifraga, Draya, Parrya, Saxifraga oppositifolia. Lower stratum patina (20-50%) with mosses in cracks, depressions and associated with shrub branches	weakly to moderately calcareous sand and gravel; some silty sandy clamicton	
Dp	DWARF SHRUB AND PURPLE SAXIFRAGA TUNDRA: Saxifraga oppositifolia most common associate (5%); local Dryas crenulata, Draytonii, Ranunculus, Potentilla nivalis, P. pulchella as herb associates as well. (2-5%).	weakly to moderately calcareous sand and gravel often gravel knobs	
Da	DWARF SHRUB AND ALOPECURUS TUNDRA: Alopecurus most common associate (5%); Purple saxifrage; Carex nardina and C. misandra also present (to 5%)	weakly to moderately calcareous silty sand and silty sand clamicton	
D	DWARF SHRUB BARRENS: Dryas integrifolia and Salix arctica dominate upper stratum (15-25%); generally in hollows and depressions Calcphilic herbs (see D) present. Lower stratum absent or restricted foliose and fruticose lichens and tufts of moss (generally associated with dwarf shrub branches).	weakly to moderately calcareous sand and gravel; silty sand clamicton	well drained; briefly wet at snowmelt but drain rapidly. Surface dry in late summer. lower layer may have some moisture
Dp	DWARF SHRUB AND PURPLE SAXIFRAGE BARRENS. Saxifrage oppositifolia common associate (5%). Legumes may be present.	weakly to moderately calcareous sand and gravel; often gravel knobs	
Da	DWARF SHRUB ANJ ALOPECURUS BARRENS: Alopecurus and Dupontia extent Carex sp. present as well as calcphilic herbs.	weakly to moderately calcareous silty sand, usually silty sand clamicton	
W	WILLOW-PATINA TUNDRA: Salix arctica dominates the upper stratum (15-50%); common associates include a variety of herbs including grasses, Luzula, Caryophyllaceae, Draba, Saxifragaceae and Papaver; generally absence of calcphilic species; lower stratum is predominantly patina (50-75%) with bryophytes in cracks, depressions and around branches of willow.	non calcareous silty sand and sandy clamicton.	
Wh	WILLOW AND ALOPECURUS TUNDRA: Alopecurus is common associate (to 5%). Cruciffers typically present. Lower stratum generally broken.	non calcareous silty sand; sometimes marine silt.	Imperfectly drained material moderately well drained at depth even when surface is dry. Protective snow cover in winter
Wl	WILLOW AND LUZULA TUNDRA: Luzula is common associate (to 5%); lower stratum nearly continuous.	non calcareous sand	
Wh	WILLOW AND HERB TUNDRA: no clear important herb associate; herbs generally total 5%.	non calcareous, sand; often weathered bedrock	
W	WILLOW BARRENS: Salix arctica dominates the upper stratum (10-25%). Herbs are common associates; non calcphilic sp. present. Lower stratum typically absent; local lichens may occur	Non calcareous sand and gravel, silty sand and sandy clamicton	
Wh	WILLOW AND ALOPECURUS BARRENS: Alopecurus is most common associate (to 5%);cruciffers commonly present; lower stratum generally absent	non calcareous silty sand, silty sand clamicton	well drained materials, briefly wet at snowmelt; rapidly draining as active layer deepens. Upper layer usually dry in late summer
Wl	WILLOW AND LUZULA BARRENS: Luzula confusa is common associate (to 5%).	non calcareous sand lag gravel commonly present	
Wh	WILLOW AND HERB: no clear herb species dominant; total herbs usually 5%.	non calcareous silty sand and sand; often weathered bedrock	
P	PURPLE SAXIFRAGE-PATINA TUNDRA: Saxifraga oppositifolia dominates the upper stratum (5-15%). Dwarf shrubs and herbs, especially calcphilic species common associates. (See D) Lower stratum predominantly patina with bryophytes in cracks and depressions. (20-50%)	weakly to moderately calcareous sand and gravel and silty sand	
Pw	PURPLE SAXIFRAGE AND WILLOW TUNDRA: Dwarf willow and possibly Dryas common associate to 5%.	weakly to moderately calcareous sand and gravel	only moderately drained at depth even when surface is dry in late summer. Protective snow in winter
Pa	PURPLE SAXIFRAGE AND ALOPECURUS TUNDRA: ALOPECURUS is common associate (to 5%). Dwarf shrubs generally absent.	weakly to moderately calcareous silty sand	
Ph	PURPLE SAXIFRAGE AND HERB TUNDRA: no clear important associate: Herbs total 5%.	weakly to moderately calcareous sand and gravel, silty sand	
P	PURPLE SAXIFRAGE BARRENS: Saxifraga oppositifolia dominates the upper stratum (5-15%). Dwarf shrubs are present; herbs include many calcphilic species. Lower stratum absent or consists of sporadic lichens and tufts of mosses.	weakly to moderately calcareous sand and gravel silty sand	
Pw	PURPLE SAXIFRAGE AND WILLOW BARRENS: Dwarf shrubs, usually Salix arctica, common associate (to 5%)	weakly to moderately calcareous sand and gravel	well drained materials; briefly wet at snowmelt rapidly draining as active layer deepens. Upper layer usually dry in late summer
Pa	PURPLE SAXIFRAGE AND ALOPECURUS BARRENS: Alopecurus common associate (to 5%). Lower stratum generally absent	weakly to moderately calcareous	
Ph	PURPLE SAXIFRAGE AND LUZULA BARRENS: Luzula common associate (to 5%)	non calcareous sand and gravel with a major fe component	
Ph	PURPLE SAXIFRAGE AND HERB BARRENS: No clear dominants among herb associates, total herbs (5%)	weakly to moderately calcareous sand and gravel	
H	HERB-PATINA TUNDRA: Upper stratum shows no clear dominance among herbs though total generally exceeds 5%. Typically Cyperaceae, Gramineae Caryophyllaceae, Cruciferae, Papaver, Dryas, Saxifraga, Lagotis, Polygonum, Ranunculus. Lower stratum composed of continuous to broken patina and typically cheonophyllous mosses in depressions and cracks.	sand and gravel, silty gravel both calcareous and non calcareous	imperfectly drained materials
H	HERB BARRENS: Upper stratum shows no clear dominance as in H; lower stratum generally absent.	sand and gravel, silty gravel, silty sand	well drained materials
C	CRYPTOGAM MATS: Composed of bryophytic species; herbs less than 2%. Sometimes Lichens Aulacomnium, Distichum and cheonophyllous mosses such as Orthothecium chrysaeum, Bryum cryophillum present. Cover nearly continuous or broken. Rhacomitrium lanuginosum mats occur in the junctions of non calcareous rubble. Lichens commonly associated with this moss matrix.	rubble, sand and gravel, some silty sand.	Moderately well drained to poorly drained
C	CRUSTOSE LICHENS: Crustose lichens may adhere to pebbles, boulders and outcrop (5-75?)	weakly calcareous and non calcareous materials	Generally well drained

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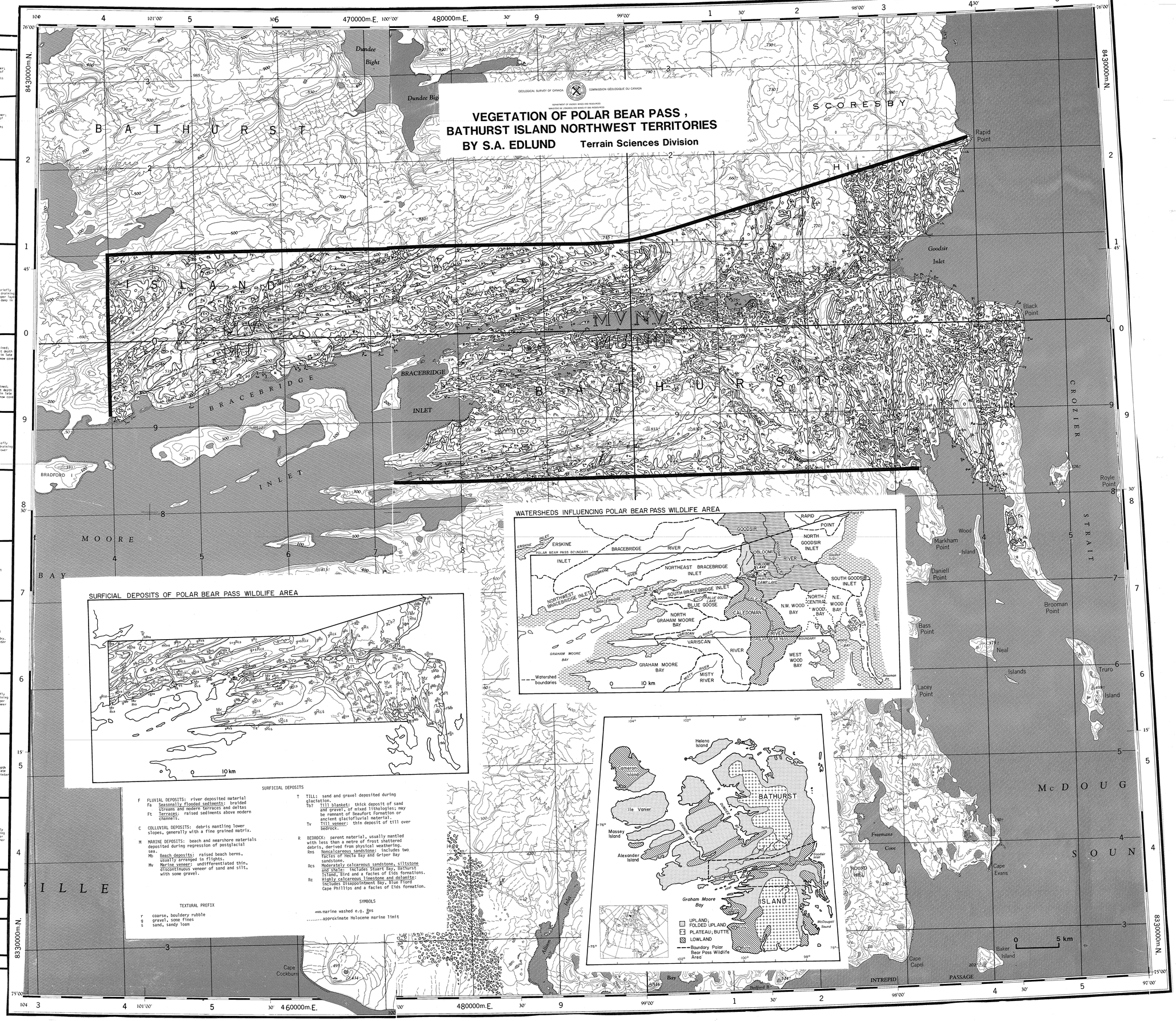

SURFICIAL DEPOSITS OF POLAR BEAR PASS WILDLIFE AREA

SURFICIAL DEPOSITS

F FLUVIAL DEPOSITS: river deposited material
- Fa Seasonally flooded sediments: braided streams and modern terraces and deltas
- Ft Terraces: raised sediments above modern channels.

C COLLUVIAL DEPOSITS: debris mantling lower slopes, generally with a fine grained matrix.

M MARINE DEPOSITS: beach and nearshore materials deposited during regression of postglacial sea.
- Mb Beach deposits: raised beach berms, usually arranged in flights.
- Mv Marine veneer: undifferentiated thin, discontinuous veneer of sand and silt, with some gravel.

T TILL: sand and gravel deposited during glaciation.
- Tb? Till blanket: thick deposit of sand and gravel, of mixed lithologies; may be remnant of Beaufort Formation or ancient glaciofluvial material.
- Tv Till veneer: thin deposit of till over bedrock.

R BEDROCK: parent material, usually mantled with less than a metre of frost shattered debris, derived from physical weathering.
- Rns Noncalcareous sandstone: includes two facies of Hecla Bay and Griper Bay sandstone.
- Rcs Moderately calcareous sandstone, siltstone and shale: includes Stuart Bay, Bathurst Island, Bird and a facies of Eids formations.
- Rc Highly calcareous limestone and dolomite: includes Disappointment Bay, Blue Fiord Cape Phillips and a facies of Eids formation.

TEXTURAL PREFIX
- r coarse, bouldery rubble
- g gravel, some fines
- s sand, sandy loam

SYMBOLS
- marine washed e.g. Rns
- .....approximate Holocene marine limit

WATERSHEDS INFLUENCING POLAR BEAR PASS WILDLIFE AREA