

GENERAL DESCRIPTION OF THE NORWAY HOUSE MAP SHEET AREA, 63H

The area covered by the Norway House map sheet comprises 5703 square miles in central Manitoba between 53° and 54° north latitude and 96° and 98° west longitude. However, the designated Canada Land Inventory Project area includes only 1426 square miles west of the Principal Meridian (97° 27'). Fifty-one percent of this project area is occupied by parts of the Playgreen lakes and the northeastern section of Lake Winnipeg.

Most of the inhabitants of the area live in Norway House, which has a population of 2014. Aircraft and boats service Norway House as seasonal conditions permit, but surface transportation into the area is limited to the use of winter roads.

The area is located within the Severn Upland physiographic region and is generally flat, although there is local relief on the shores of lakes and rivers. Elevations vary from 769 feet above sea level in the northeast to about 713 feet on Lake Winnipeg.

Precambrian volcanic bedrock underlies the entire area. The surface of this bedrock was greatly modified by the movements of successive glaciers. Surficial deposits of the most recent glaciation (Wisconsin) occur in the area, including two sand esker chains lying in a northeast-southwest direction north of the Gunisao River, and two gravelly till deposits, also running northeast-southwest, south of the Gunisao River.

Although the area is dominated by an interspersion of bedrock outcrops and extensive peat deposits, Brunisolic soils occur on the eskers and as till deposits, and Luvisolic soils occur as well-drained clays along the shores of rivers and lakes. North of the Gunisao River, bedrock outcrops are prevalent, but south of the river poorly drained peats dominate. Discontinuous permafrost occurs in the area, usually in peat deposits, but to a limited extent, in the poorly drained fine textured soils north of the Gunisao River.

The area lies within the Lake Winnipeg - Nelson River drainage basin. The Belanger, Gunisao, and McLaughlin rivers drain the area into Lake Winnipeg, which drains northward through the Nelson River system.

CLIMATE

The area is in the moist fringe of the dry subhumid moisture region. Seasonal temperatures are cooler than those of southern Manitoba. The mean January and July temperatures are -10°F and 65°F respectively.

The mean annual precipitation varies from 17 to 18 inches, 60 percent of which falls during the growing season. The area is in the Mackenzie - Manitoba Snow Cover Region, which has an average maximum snow depth of 15 to 25 inches. The average annual snowfall in the area ranges from 50 to 60 inches.

ECOLOGY

The area is entirely within the northern coniferous forest zone; however, some mixed woods do occur along the rivers and lakeshores.

The main tree species of the area are black spruce (*Picea mariana*), jack pine (*Pinus banksiana*), and tamarack (*Larix laricina*). Black spruce, the most widespread of these species, is found in nearly pure stands on heavily wooded peat plateaus and palsas, in clumps within tamarack fens, in association with tamarack on the ridges of tamarack fens, and with jack pine on the edge of sand ridges and rock outcrops. The ground cover most often associated with black spruce stands consists of a dense growth of sphagnum mosses (*Sphagnum spp.*) and reindeer lichens (*Cladonia spp.*).

Jack pine stands, on rock outcrops and sand ridges, often have a dense ground cover of reindeer lichens, bearberry (*Arcostaphylos uva-ursi*), bunchberry (*Cornus canadensis*), Canada blueberry (*Vaccinium myrtilloides*), and strawberries (*Fragaria spp.*). The ridges of tamarack fens support tamarack and black spruce, dwarf birch (*Betula glandulosa*), sweet gale (*Myrica gale*), sedges (*Carex spp.*), sphagnum mosses, reindeer lichens, Labrador-tea (*Ledum groenlandicum*) and cotton-grasses (*Eriophorum spp.*), whereas buck-bean (*Menyanthes trifoliata*), water horsetail (*Equisetum fluviatile*), and sedges are found in the flarks. The ridges of ribbed fens support stunted tamarack, dwarf birch, sphagnum mosses, sedges, bog-rosemary (*Andromeda polifolia*), and rock-cranberry (*Vaccinium vitis-idaea*). The lower parts of the fens often have open water in which sedges and water horsetail are common. Other plants associated with these peat lands are leatherleaf (*Chamaedaphne calyculata*), pitcher plant (*Sarracenia purpurea*), stemless raspberry (*Rubus acaulis*), rushes (*Juncus spp.*), and round-leaved sundew (*Drosera rotundifolia*).

Trembling aspen (*Populus tremuloides*), white birch (*Betula papyrifera*), white spruce (*Picea glauca*), and balsam poplar (*Populus balsamifera*) are common elements in the mixed woods. Associated with these stands are red-osier dogwood (*Cornus stolonifera*), willows (*Salix spp.*), alders (*Alnus spp.*), bush-crabberries (*Viburnum spp.*), bunchberry, willowherbs (*Epilobium spp.*), and northern bedstraw (*Galium boreale*).

Woodland caribou (*Rangifer tarandus*) and moose (*Alces alces*) are the wild ungulate species that inhabit the area. Because woodland caribou cannot tolerate disruption of their habitat, increased human activity may jeopardize the survival of herds within the area.

LAND CLASSIFICATION FOR WILD UNGULATES

High-capability wild ungulate habitat (Class 3 or better) comprises 68 percent of the land surface of the area, and moderate-capability habitat (Class 4) comprises 32 percent. There are no Class 5, 6, or 7 lands in the area.

Woodland caribou is the main indicator species for 96 percent of the classified land and moose is the main indicator species for 4 percent. The best woodland caribou range consists of peat lands interspersed with rock outcrops, ridges, lakes, and streams. Good moose habitat occurs on clay soils along the shores of lakes and rivers.

The main limitation of the area is a poor interspersion of landforms (G). Poor drainage (M) and restriction of the rooting zone by bedrock (R) limit 96 and 4 percent of the land respectively.

Capability classification by I. J. Milliken and H. D. Goulden, Wildlife Sector, Canada Land Inventory Project for Manitoba, Department of Mines, Resources and Environmental Management, Winnipeg.

Descriptive narrative by I. J. Milliken and E. J. Searle.

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DESCRIPTION DU TERRITOIRE DE LA FEUILLE DE NORWAY HOUSE - 63H

Le territoire représenté sur la feuille de Norway House occupe une superficie de 5 703 milles carrés dans le centre du Manitoba, entre 53 et 54° de latitude nord et 96 et 98° de longitude ouest. Le territoire concerné par le Projet d'inventaire des terres du Canada n'occupe toutefois qu'une superficie de 1 426 milles carrés à l'ouest du méridien principal (97° 27'). Une partie du lac Playgreen et du secteur nord-oriental du lac Winnipeg occupe 51% de cette superficie.

La majorité des habitants du territoire vivent à Norway House qui compte 2 014 habitants. L'avion et le bateau desservent Norway House dans la mesure où les conditions le permettent mais les chemins d'hiver sont les seules voies de communication terrestres.

Le territoire appartient à la région structurale des hautes terres de Severn; il est habuellement plat sauf sur les rives des lacs et des rivières où la topographie est un peu plus accidentée. L'altitude varie de 769 pi dans le nord-est à environ 713 pi sur les bords du lac Winnipeg.

Tout le territoire repose sur des roches volcaniques précambriniennes. L'allure superficielle du bâti géologique a été modifiée sous l'action des glacières. Le territoire renferme des matériaux meubles déposés au cours de la dernière glaciation (Wisconsin); parmi ces dépôts, on remarque deux chaînes d'eskers de direction nord-est, sud-ouest, juste au nord de la rivière Gunisao, et deux dépôts de till graveleux, également de direction nord-est, sud-ouest, au sud de la rivière Gunisao.

Malgré ce que sur le territoire on trouve surtout des affleurements rocheux et de vastes dépôts de tourbe, des sols brunisoliques se sont développés sur les eskers et les dépôts de till; des sols luvisoliques en ont fait autant sur les argiles bien drainées en bordure des rivières et des lacs. Au nord de la rivière Gunisao, les affleurements rocheux prédominent mais, au sud de la rivière, on trouve surtout des tourbes mal drainées. Il y a du pergélisol discontinu sur le territoire, surtout dans les dépôts de tourbe et, dans une moindre mesure, dans les sols de texture fine mal drainés, au nord de la rivière Gunisao.

Le territoire appartient au bassin hydrographique du lac Winnipeg et du fleuve Nelson. Les rivières Belanger, Gunisao et McLaughlin drainent le territoire et se jettent dans le lac Winnipeg dont les eaux s'écoulent vers le nord, en empruntant le réseau du fleuve Nelson.

CLIMAT

Tout le territoire appartient à la zone de la forêt coniférée du Nord; des bois mélangés apparaissent toutefois sur les rives des lacs et des rivières.

Les principales essences présentes sur le territoire sont l'épinette noire (*Picea mariana*), le pin gris (*Pinus banksiana*) et le mélèze laricin (*Larix laricina*). L'épinette noire, la plus répandue de ces essences, forme des peuplements presque purs sur les palsas et les plateaux de tourbe densément boisés et des bosquets dans les tourbières ("fens") à mélèze; elle est associée au mélèze et au pin gris sur le bord des bourelles de sable et sur les affleurements rocheux. Le tapis végétal le plus souvent associé aux peuplements d'épinette noire est un couvert dense de sphagnes (*Sphagnum spp.*) et de lichens des rennes (*Cladonia spp.*).

Tous les peuplements de pin gris qui croissent sur les affleurements rocheux et les bourelles de sable couvrent souvent un tapis végétal dense composé de lichens des rennes, d'arctostaphyle raisin-d'ours (*Arctostaphylos uva-ursi*), de cornouiller du Canada (*Cornus canadensis*), d'aïreille fausse-myrtille (*Vaccinium myrtilloides*) et de fraises (*Fragaria spp.*). Sur les bordures des tourbières à mélèze croissent le mélèze laricin, l'épinette noire, le bouleau nain (*Betula glandulosa*), le myrte bâtarde (*Myrica gale*), les carex (*Carex spp.*), les sphagnes, les lichens des rennes, le thé du Labrador (*Ledum groenlandicum*) et les linaigrettes (*Eriophorum spp.*); le ményanthe trifolié (*Menyanthes trifoliata*), la prêle fluviatile (*Equisetum fluviatile*) et les carex croissent dans les ("flarks"). Sur les bordures des tourbières réticulées ou rencontrent le mélèze laricin rabougris, le bouleau nain, les sphagnes, les carex, l'andromède (*Andromeda polifolia*) et l'aïreille vigne-d'Ida (*Vaccinium vitis-idaea*). Les parties les plus basses des tourbières renferment souvent des nappes d'eau où les carex et les prêles fluviatiles sont communs. Les autres plantes associées à ces tourbières sont la cassandre calcicole (*Chamaedaphne calyculata*), la sarracénie pourpre (*Sarracenia purpurea*), la ronce aculea (*Rubus acaulis*), les joncs (*Juncus spp.*) et la droséra à feuille ronde (*Drosera rotundifolia*).

Le peuplier faux-tremble (*Populus tremuloides*), le bouleau blanc (*Betula papyrifera*), l'épinette blanche (*Picea glauca*) et le peuplier baumier (*Populus balsamifera*) sont des essences communes dans les forêts mélangées. Associés à ces peuplements, on trouve le cornouiller stolonifère (*Cornus stolonifera*), les saules (*Salix spp.*), les aulnes (*Alnus spp.*), les viorne (*Viburnum spp.*), le cornouiller du Canada (*Cornus canadensis*), la ronce pubescante (*Rubus pubescens*), les épilobes (*Epilobium spp.*) et le gaillet boréal (*Galium boreale*).

Le caribou des bois (*Rangifer tarandus*) et l'original (*Alces alces*) vivent sur le territoire. Parce que le caribou ne supporte pas le morcellement de son habitat, l'homme, en multipliant ses activités dans le secteur, peut mettre en danger la survie des herdes.

POSSIBILITÉS POUR LES ONGULÉS

Les habitats de potentiel élevé pour les Ongulés (classe 3 ou classe supérieure) occupent 68% des terres du territoire et les habitats de potentiel modéré (classe 4), 32%. Il n'y a pas d'unités de classe 5, 6 ou 7.

Le caribou des bois est le principal indicateur dans 96% des cas et l'original, dans 4% des cas. Les terrains qui offrent au caribou des bois les meilleures conditions d'habitat sont les terrains tourbeux parsemés d'affleurements rocheux, de bourrelets, de lacs et de cours d'eau. L'original trouve de bonnes conditions d'habitat sur les sols argileux, sur les rives des lacs et des rivières.

Le principal facteur qui limite les possibilités du territoire est la médiocre répartition des modèles du terrain (G). Les mauvaises conditions de drainage (M) et les obstacles à l'enracinement créés par la présence de roche en place (R) sont une limitation dans 96 et 4% des cas respectivement.

Classification des possibilités par I. J. Milliken et H. D. Goulden, Secteur de la faune, Projet de l'inventaire des terres du Canada pour le Manitoba, ministère des Mines, des Ressources et de la Gestion de l'environnement, Winnipeg.

Description par I. J. Milliken et E. J. Searle.

RÉFÉRENCES-voir texte anglais

GENERAL DESCRIPTION OF THE CROSS LAKE MAP SHEET AREA, 63I

The area covered by the Cross Lake map sheet comprises 5569 square miles in central Manitoba between 54° and 55° north latitude and 96° and 98° west longitude. The designated Canada Land Inventory Project area includes only that part of the map sheet west of the Principal Meridian (97° 27'). Nineteen percent of this 1392-square-mile classified area is covered by water bodies, the largest of which are Sipiwek, Cross, Pipestone, Playgreen, and Little Playgreen lakes and the East Channel of the Nelson River.

Most of the inhabitants of the area live in two settlements. Norway House, in the south, and Cross Lake, near the center of the area, have populations of 2014 and 1688 respectively. Aircraft and boats service these settlements as seasonal conditions permit, but surface transportation into the area is limited to the use of winter roads.

Elevations in the area vary from 780 feet above sea level east of Sea River Falls to 600 feet at Sipiwek Lake. The area is in the Severn Upland physiographic region and is underlain by Precambrian volcanic bedrock. The surface of this bedrock was greatly modified by glaciation. Surficial deposits of the most recent glaciation are found in the area. The most prominent of these are till and sand eskers and the Sipiwek and Cross Lake moraines.

Lands north of the eastern tip of Playgreen Lake and The High Rock have undulating to gently rolling topography. Here, Brunisolic soils occur as clay till and varved clay on the sand eskers and Precambrian till of the Sipiwek and Cross Lake moraines. The land in the south is generally flat. Peat deposits and bedrock outcrops dominate this landscape, but Luvisolic soils occur as well-drained clays along river and lake shores.

The area is in the Lake Winnipeg - Nelson River drainage basin and is drained through the Nelson River system, which includes Playgreen, Pipestone, Cross, and Sipiwek lakes.

CLIMATE

The area is in the Moist Subhumid moisture region. Seasonal temperatures tend to be cooler than those of southern Manitoba. The mean January and July temperatures are -12°F and 62°F respectively. The annual frost-free period ranges from 80 to 100 days.

The mean annual precipitation varies from 17 to 18 inches, 60 percent of which falls as rain from May through October. The area is in the Mackenzie - Manitoba Snow Cover Region, which has an average maximum snow depth of 15 to 25 inches. The average snowfall in the area ranges from 50 to 55 inches.

ECOLOGY

Two vegetative zones occur in the area: mixed woods and northern coniferous forest.

Mixed woods occur along the Nelson River, and between and around Cross and Sipiwek lakes. White spruce (*Picea glauca*), trembling aspen (*Populus tremuloides*), balsam poplar (*Populus balsamifera*), jack pine (*Pinus banksiana*), white birch (*Betula papyrifera*), balsam fir (*Abies balsamea*), and black spruce (*Picea mariana*) occur in mixed and pure stands. Shrubs associated with these sites are red-osier dogwood (*Cornus stolonifera*), roses (*Rosa spp.*), willows (*Salix spp.*), alders (*Alnus spp.*), high bush-cranberry (*Viburnum trilobum*), low bush-cranberry (*V. edule*), red-fruited choke cherry (*Prunus virginiana*), saskatoon (*Amelanchier alnifolia*), and currant (*Ribes spp.*). Common forbs are wild sarsaparilla (*Aralia nudicaulis*), bunchberry (*Cornus canadensis*), dewberry (*Rubus pubescens*), willowherbs (*Epilobium spp.*), and northern bedstraw (*Galium boreale*).

The northern coniferous forest is characterized by black spruce and tamarack (*Larix laricina*) peatlands interspersed with sedge fens. Jack pine covered rock outcrops and sand ridges occur frequently in some parts of this zone. Peatlands support a scattered dwarf birch (*Betula glandulosa*) and alder understory. The dense ground cover consists of reindeer lichens (*Cladonia spp.*), sphagnum mosses (*Sphagnum spp.*), Labrador-tea (*Ledum groenlandicum*), bog-rosemary (*Andromeda polifolia*), leatherleaf (*Chamaedaphne calyculata*), cloudberry (*Rubus chamaemorus*), pitcher plant (*Sarracenia purpurea*), and cranberries (*Vaccinium spp.*). Forbs associated with the sedge fens are tall cotton-grass (*Eriophorum angustifolium*), horsetail (*Equisetum spp.*), colt's-foot (*Petasites spp.*), rushes (*Juncus spp.*), bladderworts (*Utricularia spp.*), and round-leaved sundew (*Drosera rotundifolia*). Stunted tamarack and dwarf birch are found on the narrow ribs of patterned fens. Rock outcrops and sand ridges may support a dense ground cover of reindeer lichens, bearberry (*Arcostaphylos uva-ursi*), bunchberry, Canada blueberry (*Vaccinium myrtilloides*), and strawberries (*Fragaria spp.*).

Woodland caribou (*Rangifer tarandus*) and moose (*Alces alces*) are the wild ungulate species that inhabit the area. However, future hydroelectric developments may be harmful to both species. Moose habitat along the Nelson River system may be destroyed when damming is completed. Woodland caribou cannot tolerate disruption of their habitat; therefore, increased human activity may jeopardize the survival of herds within the area.

LAND CLASSIFICATION FOR WILD UNGULATES