

Pasquia-Porcupine
Representative Areas

-- Concept Management Plan --

Saskatchewan Environment
June, 2004

Pasquia/Porcupine Integrated Forest Land Use Plan

The Pasquia/Porcupine Integrated Forest Land Use Plan covers nearly 20,000 square kilometers, including the Pasquia Hills, Porcupine Hills and part of the Cumberland Delta. The plan provides for a framework and process for resource management and use involving the public through a consensus-building model and is guided by principles of integrated resource management. Decisions made about the management of the resources in the area are made based on the health of the whole ecosystem including soil, water, plants, animals and human activities. The plan has allowed for extensive consultation with groups that have an interest in the area and allows for adaptive management principles to take place. This means revisions to the plan will be made to accommodate new information.

As part of this plan, the planning committee identified the need for protected areas and sites to be include as part of the Representative Areas Network. The needs identified were not only to conserve natural resources, but also recreation values and a place for people to enjoy these natural resources. For the most part, these needs and recommendations made by the land use planning committee are documented within this Concept Management Plan.

Saskatchewan's Representative Areas Network Program

The Government of Saskatchewan, through Saskatchewan Environment (SE), is committed to the establishment of a system of ecologically important land and water areas across the province. This system is called the **Representative Areas Network**

Saskatchewan is made up of various landscapes. A representative area is a sample or piece of a particular landscape identified because of its important landforms, wetlands, soils, plants, animal resources or cultural values. Representative areas are intended to allow for natural processes to occur. They can also serve as test sites that can be studied and monitored to measure how well we are managing natural resources and ecosystems elsewhere in the province.

As its name suggests, the Representative Areas Network must include lands and waters that represent a broad range of ecological diversity. Saskatchewan's landscapes have been divided into 11 distinct **Ecoregions** each characterized by its geology, soils, climate, plants and animals. The Pasquia-Porcupine Representative Areas lie within three of the province's ecoregions: the Boreal Transition, the Mid-boreal Upland and the Mid-boreal Lowland Ecoregions, all currently under-represented within the provincial Network. Designation of the Pasquia-Porcupine sites will provide adequate representation for most enduring features in the Mid-boreal Lowland Ecoregion and assist in meeting the needs for the Boreal Transition and Mid-boreal Upland Ecoregions.

Just as the reasons for choosing a particular site vary, so too, do the uses that are acceptable within new sites. In some sites, human activities and access may be limited so that the area's ecological resources and integrity can be managed or restored. In the majority of sites, however, land uses that are compatible with the program's ecological objectives can be accommodated. Suggestions and needs identified by local interest groups and users will largely determine the kinds and levels of activity that may occur within a particular site.

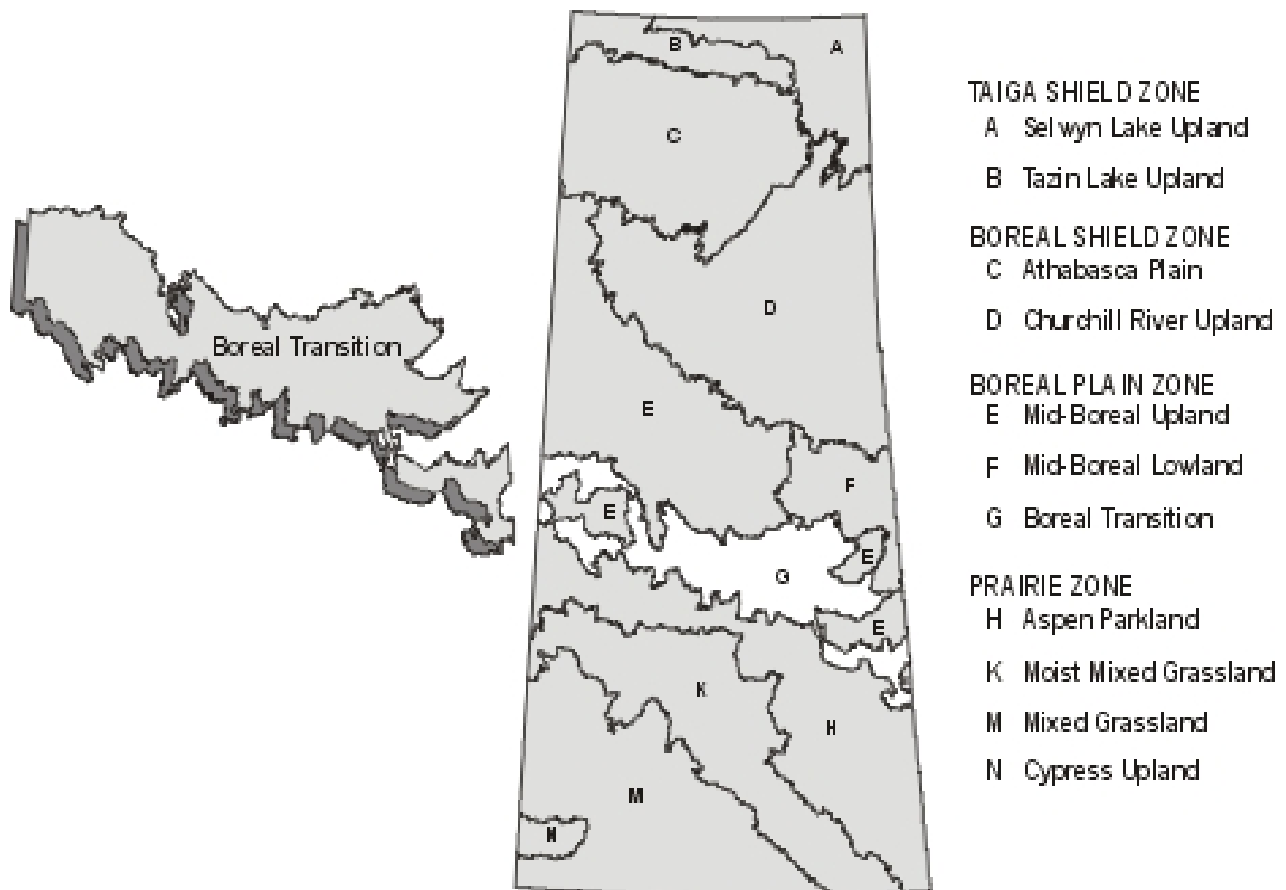
All of the sites that have been chosen in the Pasquia-Porcupine area are a result of extensive consultation as part of the Pasquia/Porcupine Integrated Forest Land Use Plan. Some of the sites were chosen because of their high ecological values while others were chosen to protect cultural values and recreation values. All of the chosen sites were designated as Parkland Reserves to allow further consultation and input from local users to help determine the best option for each site. Through these discussions, specific needs, concerns or issues can be addressed on a site-by-site basis and outlined in a management plan or strategy for the area.

Representatives from the various communities in the Pasquia-Porcupine area have met for the past number of years as part of a much broader land use plan for the area. Through these discussions, recommendations have been made to SE regarding use, future management, and designation of the Pasquia-Porcupine Representative Areas.

Description of the Ecoregions

Boreal Transition

A mix of forest and farmland marking both the southern advance of the boreal forest and the northern limit of arable farmland characterizes this ecoregion. This ecoregion occupies some 5 million hectares or eight per cent of the province. Gray soils supporting tall stands of aspen are characteristic of the hilly uplands. White spruce and jack pine are found throughout the area but to a much lesser degree and mostly in the northern stretches of the ecoregion. Most of the lowlands or plains are predominately black or dark gray soils and are mostly cultivated. These lands are some of the most fertile lands in the province and produce a wide variety of crops from feed grains to cereal and oil crops. Wildlife populations are diverse and include white-tailed deer, moose, elk, black bear and in scattered pockets and on sandy soils, mule deer. Typical birds of the area include gray jay, chickadee, black and white warbler and great-crested flycatcher.

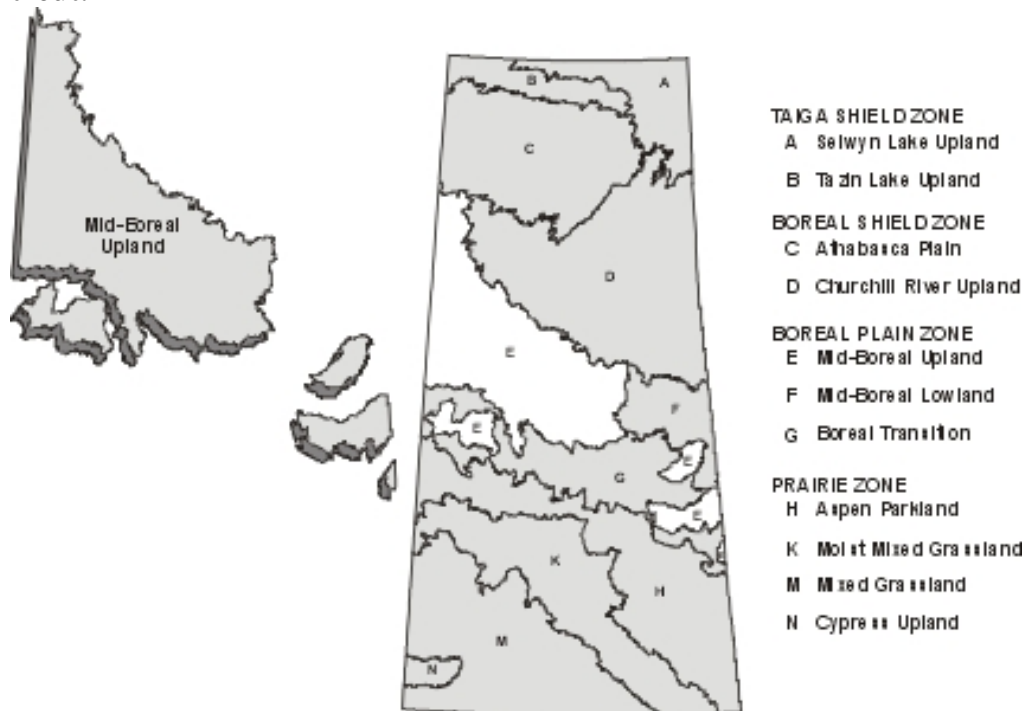


Mid-boreal Upland

The Mid-boreal Upland Ecoregion includes the area in central and western Saskatchewan immediately south of the Shield, as well as several prominent upland areas known locally as the Thickwood, Pasquia and Porcupine Hills. This ecoregion occupies over 10 million hectares or 16 per cent of the province. A mosaic of forests, open and treed fens, bogs and water characterize it. In addition, an ascending sequence of steeply sloping, eroded escarpments, hilly glacial plains and level plateau-like tops are typical of the upland. Intervening areas are comparatively level, with large, sparsely treed peat lands being common. Most of the ecoregion is characterized by loamy, gray soils, although near the Shield the soils are sandy.

Aspen occurs throughout the ecoregion and is dominant on the south-facing slopes of the major uplands. Where moisture conditions are favorable, white spruce is often mixed with aspen. Jack pine is dominant in sandy areas and black spruce is found mixed with tamarack on the plateau-like tops of the uplands. Black spruce and tamarack dominate the low-lying peat land areas.

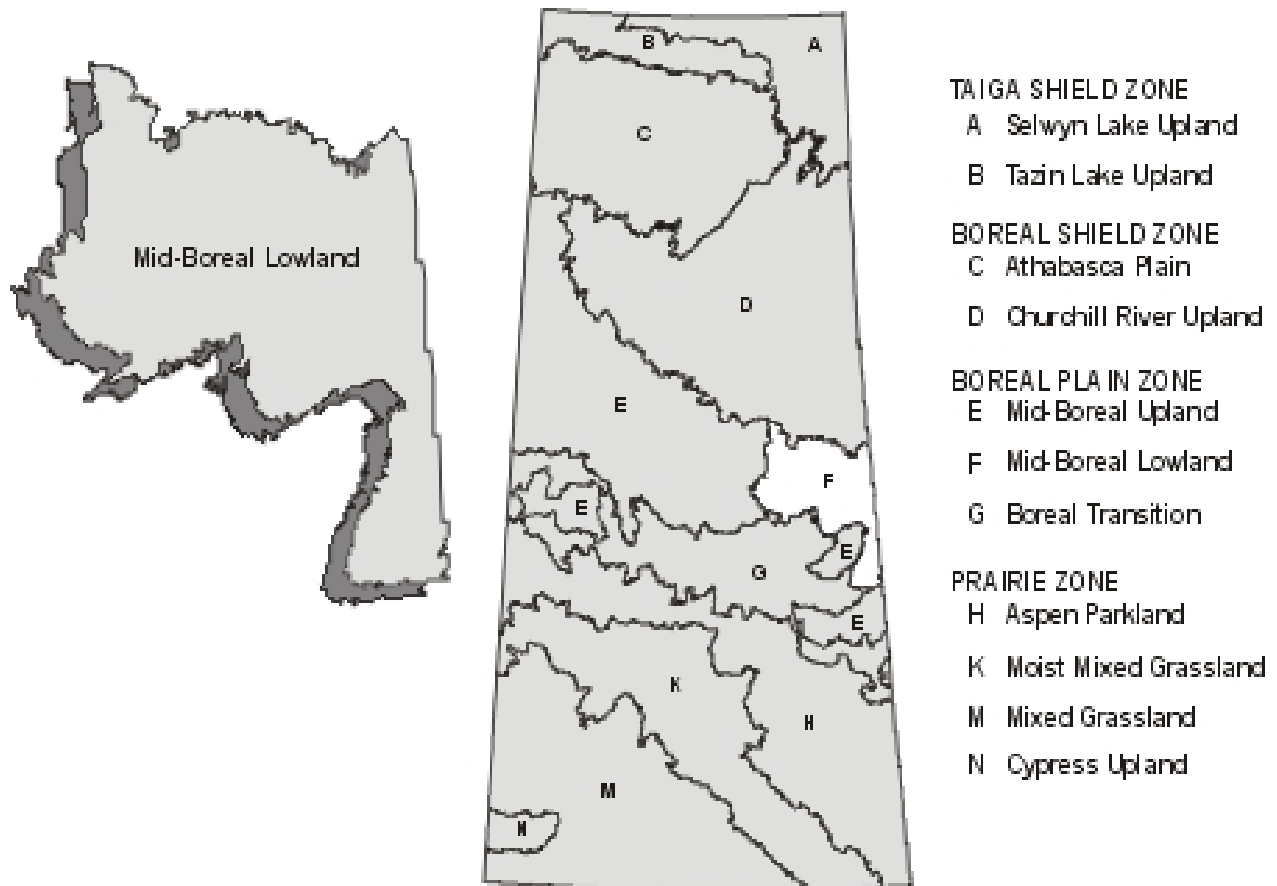
Wildlife populations are high and diverse with moose, mule deer, white-tailed deer, elk, black bear, timber wolf and beaver being most prominent, while woodland caribou occur but are less common. Great gray owl, blue jay, sharp-shinned hawk, broad-winged hawk, yellow-bellied sapsucker, common goldeneye, sandhill crane, many species of warblers, and ruby-throated hummingbird are typical birds. Fish populations include northern pike, walleye, whitefish, burbot, white sucker, some perch and scattered populations of lake trout.



Mid-boreal Lowland

The Mid-boreal Lowland Ecoregion contains 2,164,000 hectares (about 3% of the province), and is predominantly Crown land administered by SE.

At an average elevation of less than 400 meters, this relatively flat, low-lying ecoregion is dominated by wetlands. Peat lands supporting open stands of tamarack and black spruce are prevalent in the northern part, although sandy glacial deposits and limestone outcrops also occur there. To the south lies the flood plain of the Saskatchewan River featuring both active and abandoned river channels and their associated levees. The levees, which are built up by the periodic deposition of river sediments, rise abruptly from the river channel and then slope gently back from the river into an area of marshes, fens and poorly drained meadows. Most of the levees are well drained and represent some of the most productive forestlands in the province. Large white spruce, balsam poplar, white birch, and aspen are found here along with an assortment of less common hardwoods such as American elm, green ash and Manitoba maple. The forest productivity in this area has resulted in forestry being the most important land use in the Ecoregion although fishing, hunting and trapping are also important resource uses.



Pasquia-Porcupine Protected Areas

Important Features and Topography

The Pasquia-Porcupine sites are representative of the unique landscapes found in each of the three ecoregions. These sites represent some of the most intact ecosystems found on the east side of the province, an area that has seen a lot of past forestry and other land use activity. Many different soil associations (enduring features) are present within the 23 Pasquia-Porcupine sites. The sites, which total just over 73,000 hectares, include bogs and fens as well as upland forest types of mixed woods and pure stands. Enduring features are used to guide site selections in the Representative Areas Network program. Enduring features are specific rock, soil and landform types that are very stable over long periods of time, and are likely to support characteristic plant and animal communities. Enduring features are defined based on four specific factors:

- < the origin of the parent material: this relates to the method by which material such as soil, gravel or rocks was deposited (i.e. wind, water, glacial melt water)
- < soil development: how soils were formed through various factors like climate, soil organisms, the nature of the parent material, the topography of an area, and time
- < surface form: physical landscape features such as undulating or knob and kettle
- < slope: refers to the steepness or grade of the surface terrain

Although all of the sites chosen for conservation in the Pasquia-Porcupine area were selected based on enduring features, in some cases consideration was given to the recreational and cultural values that an area contained. These sites with higher recreation values often included existing recreation sites and management of these sites must take into account their recreational potential as well as the conservation of the biological resources contained within them. Areas of high cultural significance, particularly to the province's First Nations peoples, will require careful co-management to preserve their special features.

Not all areas chosen are in pristine condition. In some cases past human disturbance has eroded the ecological integrity of the site, but because the enduring features of these sites does not change in the short term, with special management efforts these sites will eventually produce the flora and fauna that is typical of the enduring features.

Site Descriptions

The following pages provide more information about each of the sites. Maps for the areas can be found in Appendix 1.

Assiniboine Meadows

The Assiniboine meadows site at 324 hectares captures the headwaters of the Assiniboine River. This site, although relatively small is important from an aquatic standpoint as aquatic species found here would differ greatly from species found further down stream.

Bainbridge River

The Bainbridge River site is located on the north slopes of the Pasquia Hills and is 1051 hectares in size. The area is predominately covered by white spruce and white birch. As the name suggest, the Bainbridge River Representative Area protects a portion the Bainbridge River on the lower slopes of the Pasquia hills. The area contains one enduring feature type that supports the spruce and birch forest. Some 23 rare and semi-rare plant species can be found here as well as provincially rare birds. Some of the rare plants that can be found here are the large white-flowered ground cherry and the musk root.

Big Valley Lake

The Big Valley Representative Area, 2,448 hectares in size is found in the Porcupine Hills. The area is comprised of Big Valley Lake and the riparian habitats of Ravina Creek and part of the Piwei River valley. The area supports a mixed wood forest of trembling aspen and white spruce, with some open brush land and meadows. Black spruce and the associated plants can be found in the lower wet areas of the site. Three soil associations are found within this site and support the mixed wood forest and associated plant communities.

Carragana Swamp

The Carragana Swamp Representative Area consists of 1,473 hectares of trembling aspen and white spruce mixed forest. The area also contains muskeg predominately covered by black spruce tree growth. The site contains two enduring features or soil associations and straddles the Mid-boreal Upland and Boreal Transition Ecoregions. As the name suggests, this site protects a swamp/muskeg complex and associated upland forest south of the community of Carragana.

Carrot River

The Carrot River site is 9,516 hectares in size and is located in the Boreal Transition Ecoregion. The site is typically bog in nature predominated by black spruce growth. White spruce and aspen, as well as pine aspen mixed forests can be found on the drier

upland sites of the area. Three enduring features are represented here that support the black spruce and mixed wood forests. Approximately 2000 hectares of this site burned in the spring of 2001. The majority of this was open and treed muskeg with few upland forest sites being consumed by fire. This will allow for studying the effects of large fires on bog complexes as well as limited opportunity for monitoring forest regeneration following a major forest fire.

Connell Creek

The Connell Creek site lies on the northwestern edge of the Pasquia Hills straddling the Boreal Transition and Mid-boreal Upland Ecoregions. The site, which is 5,050 hectares in size, is comprised of the headwaters of Connell Creek, the associated riparian valley and steep slope areas. The site is predominately covered by trembling aspen with larger white spruce growing closer to valley bottom. The area contains four enduring features that support the plants and animals consistent with mixed wood forests. The area is very important to the local people at Arborfield as a recreation area.

Fir River

The Fir River site (4,405 hectares) protects a portion of the Fir River and serves to connect Wildcat Hills Provincial Park with the Greenbush River Representative Area. The area is an important riparian corridor with high species diversity. The forest in the site is predominately mixed wood of white spruce and trembling aspen growth. Lesser amounts of black spruce, tamarack and jack pine can also be found within the site. The area is noteworthy for provincially rare plants including one species, the Neat Spike-rush that is found nowhere else in the province. Other rare plants found in this important site include Lady Fern, Fairy Slipper and Red Alpine Bearberry. The site also serves to protect the water supply for the town of Hudson Bay.

Greenbush River

The Greenbush River Representative Area is an important riparian corridor that connects to the Fir River and eventually to Wildcat Hill Provincial Wilderness Park. The site, which is 2,555 hectares in size, contains four soil associations that supports forest growth typical of a riparian area. Dominant forest types are spruce-aspen mixed wood and black spruce closer to the river's edge. Jack pine can be found on drier sandy sites. The southern end of the site contains rare plant species like short-stemmed thistle, white lettuce and swamp-pink or dragon's mouth orchid. This site is important to the First Nations as a traditional resource use area and for burial sites.

Little Armit River

Rare plants are the main feature of the 475 hectare Little Armit River Representative Area. The riparian corridor of this site contains three enduring features and connects to Brockelbank Hill protected area. Along with the dominant mixed wood forest of white spruce and trembling aspen and stands of Manitoba maple, many rare plants like musk root, lady fern, Tyrell's willow and pleasing sedge can be found here.

Lower Armit River

The Lower Armit River site is small in size at 60 hectares but protects the mixed wood forest along the Lower Armit River as it leaves the province and flows into Manitoba. One enduring feature is represented in this site. White spruce and trembling aspen are the predominate trees contained within the site, but are interspersed with small stands of Manitoba maple and white elm.

McBride Lake

The McBride Lake site includes part of the Piwei Hills, Swan River Valley and Porcupine escarpment, hence is very diverse in the plant and animal communities. The site is a consolidation of four existing Recreation Sites and the adjacent land. The 17,541 hectare site is an important recreation area and represents four soil associations and the predominately hardwood mixed forest. Black spruce communities, extensive tracts of treed muskeg, and bogs are also found within this very diverse site. The site may also contain remnant populations of prairie fescue. The northeast portion of the site is important to First Nations as a traditional resource use area and burial sites. Saginas Lake was named after a Chief of the Kinistin Saulteaux nation.

Nakuchi Lake

The Nakuchi Lake site is representative of the small inland delta system of the Cul-de-Sac River. The area is virtually treeless, but white birch, white spruce and trembling aspen are found on the higher levees of the Cul-de-Sac River. The 4,608-hectare site is located in the Mid-boreal Lowland Ecoregion adjacent to the proposed Lobstick Representative Area and contains one enduring feature. The site may be important as a waterfowl/shorebird staging area due to its close proximity to the Saskatchewan River and Cumberland Delta.

Nitenai Salt Marsh

The Nitenai Salt Marsh Representative Area is 580 hectares in size located within the both the Mid-boreal Upland and Mid-boreal Lowland ecoregions. This site represents one enduring feature from each of the ecoregions. The site was selected for its extensive saline marshes with raised sodium chloride springs and ponds. Mackenzie sedge, red club rush or bulrush, seaside plantain and Western Canada sand spurry that are provincially rare plants, can be found here. The rest of the site includes a regenerating burn from a 1989 fire, as well as mixed woods comprised primarily of aspen, black spruce and shrub lands of willow.

North Armit River

The North Armit River site captures two enduring features in the Mid-boreal Lowland Ecoregion along the North Armit River as it flows into Manitoba. Although there are no records for rare plants, the site likely contains some in the under story of the predominately white spruce and trembling aspen mixed wood forest. Although the site is only 95 hectares in size, 75 hectares of the site is productive forest. Black spruce and its associated plant communities can be found in the lower wet areas closer to the river along with pockets of Manitoba maple and white elm with ostrich fern undergrowth.

Overflowing River

The Overflowing River Representative Area site is 550 hectares in size and captures two enduring feature types in the Mid-boreal Lowland Ecoregion; a low bog complex and an upland forest type. The area lies to the east of and captures part of the Overflowing River supporting mostly black spruce and tamarack forest. Where drainage is better, mixed wood forests of white spruce and trembling aspen occur. One of the most important features of this site is the rock outcrops that can be found here. This is rare in an ecoregion that is mostly lowland bogs and fens.

Pasquia River

This large bog complex in the Mid-boreal Lowland Ecoregion is 5,100 hectares in size and captures well-developed ancient peat bogs. The site is important as a benchmark for the peat extraction that is occurring just to the west of the site. The site may contain provincially rare plants given the ancient bog complex. To date, no rare plants have been reported in the area. The predominant forest cover for the site is black spruce.

Pickle Lake

This 1,587-hectare site located in the Mid-boreal Upland Ecoregion contains two enduring feature types. The site contains a number of small lakes associated with the headwaters of the Red Deer River. During high water years the lake complex will also feed the Assiniboine River through a poorly developed channel. The area supports a mixed wood forest of trembling aspen and white spruce. The area has high biological diversity due to the association of the aquatic habitats with the upland forests. Black spruce is found on wetter sites within the representative area.

Piwei Lakes

Located within the Mid-boreal Upland Ecoregion, the Piwei Lakes site captures two enduring features and is 348 hectares in size. The area was originally set aside for recreation and contains a mixed wood forest of trembling aspen and white spruce. The association of upland forest and aquatic habitat gives this site high ecological diversity. The site, which includes a native grassland area, may contain the provincially rare Canada Mountain Ricegrass.

Red Deer River

The Red Deer River site is 300 hectares in size and captures a bog system and upland forest in the Mid-boreal Lowland Ecoregion. The riparian area supports primarily trembling aspen mixed with some white spruce. Numerous stands of Manitoba maple and white elm are also interspersed with aspen, generally containing an under-growth of ostrich fern and may also include rare orchid, sedge or fern species. The site will provide a good benchmark of a riparian corridor downstream from the headwaters of the Red Deer River prior to flowing into Manitoba and after leaving the farmland north east of the community of Hudson Bay.

Rice River

The Rice River canyon has long been identified as being an important ecological area. The site chosen as a representative area is 7,412 hectares in size and includes the unique watershed of the Rice River, as well as an area to the east known as the Twin Lakes area. Steep slopes and large trees characterize the site. The valley walls contain white spruce, while in the wetter areas, balsam poplar and white birch are common. The Pasquia Hills plateau, dominated by imperfectly drained black spruce stands, forms much of the higher, southern portion of the site. Three soil associations are contained within the site that supports 14 rare and 16 endangered plant species, including four orchid species and four sedge species.

Smoking Tent Creek

Two enduring features, one from each of the Mid-boreal Upland and Boreal Transition

Ecoregions are represented in this 1, 565 hectare site. The site is predominately covered by black spruce bog and its associated under story plant communities, but contains areas with unique combination of tamarack and white spruce. Although the site is traversed by winter roads and designated snowmobile trails, the site should have fairly high ecological integrity.

Upper Armit River

The Upper Armit River Representative Area is 950 hectares in site and captures two enduring features in the Mid-boreal Upland Ecoregion and one in the Mid-boreal Lowland Ecoregion. The site mostly consists of riparian habitat along the Upper Armit River along with the associated upland forest area. The forest in the area is predominately white spruce with some pockets of trembling aspen. The rare northern bush honeysuckle is known to occur in the site.

Woody River

The Woody River site is a consolidation of several recreation sites with the surrounding forestlands. The site is dominated by one enduring feature and contains several occurrences of provincially rare plants. A number of lakes and riparian corridors are contained within the site. The dominant forest is a mixture of trembling aspen, white spruce and jack pine on the upland areas and black spruce and bog on the lower wet areas. The association of upland and lowland forests along with the aquatic habitats gives this area a high level of biological diversity.

Site Use and Management

Site use and management will be guided by the principles laid out in the Pasquia-Porcupine Integrated Forest Land Use Plan and include, but not limited to the following:

Allowable Activities and Developments:

- U** exercise of treaty rights (hunting, trapping {including building and maintaining associated trappers=cabins}, fishing, gathering, including the harvest of medicinal plants)
- U** trapping
- U** hunting
- U** fishing
- U** outfitting
- U** mushroom picking
- U** berry picking
- U** walking, hiking, backpacking and nature observation and appreciation
- U** research and educational activities;
- U** use and maintenance of existing roads and trails

Carrying out of these activities is subject to normal licensing or permitting requirements, as may be applicable.

Activities and Developments Not Allowed:

- Y** commercial timber harvesting
- Y** new trails that could be used for recreational purposes by motorized vehicles
- Y** disruptive mineral development and/or mineral exploration
- Y** recreational cottage subdivisions
- Y** residential and/or recreational cabin leases (Little Wolf cabin)
- Y** new hydroelectric projects
- Y** gravel pits
- Y** new or expanded outfitting base camps
- Y** new wild rice growing and harvesting
- Y** fire salvage logging
- Y** new weirs, dams or control structures on or in streams
- Y** fish introductions of exotic or non-native species
- Y** new utility corridors

Advisory Board

The Pasquia/Porcupine Forest Management Advisory Committee will act as the advisory body to SE on the future management of these sites.

The Advisory Board shall act in an advisory capacity to review and recommend specific activities, management tools, research and educational activities that may be considered for application within the representative areas.

Site Designation

Formal designations of the surface area of the sites are as Representative Areas, created by regulations established pursuant to *The Ecological Reserves Act*. The Woody Lake and McBride Lake sites are the exception, as they will be designated as Recreation Sites, created by regulations established pursuant to *The Parks Act*.

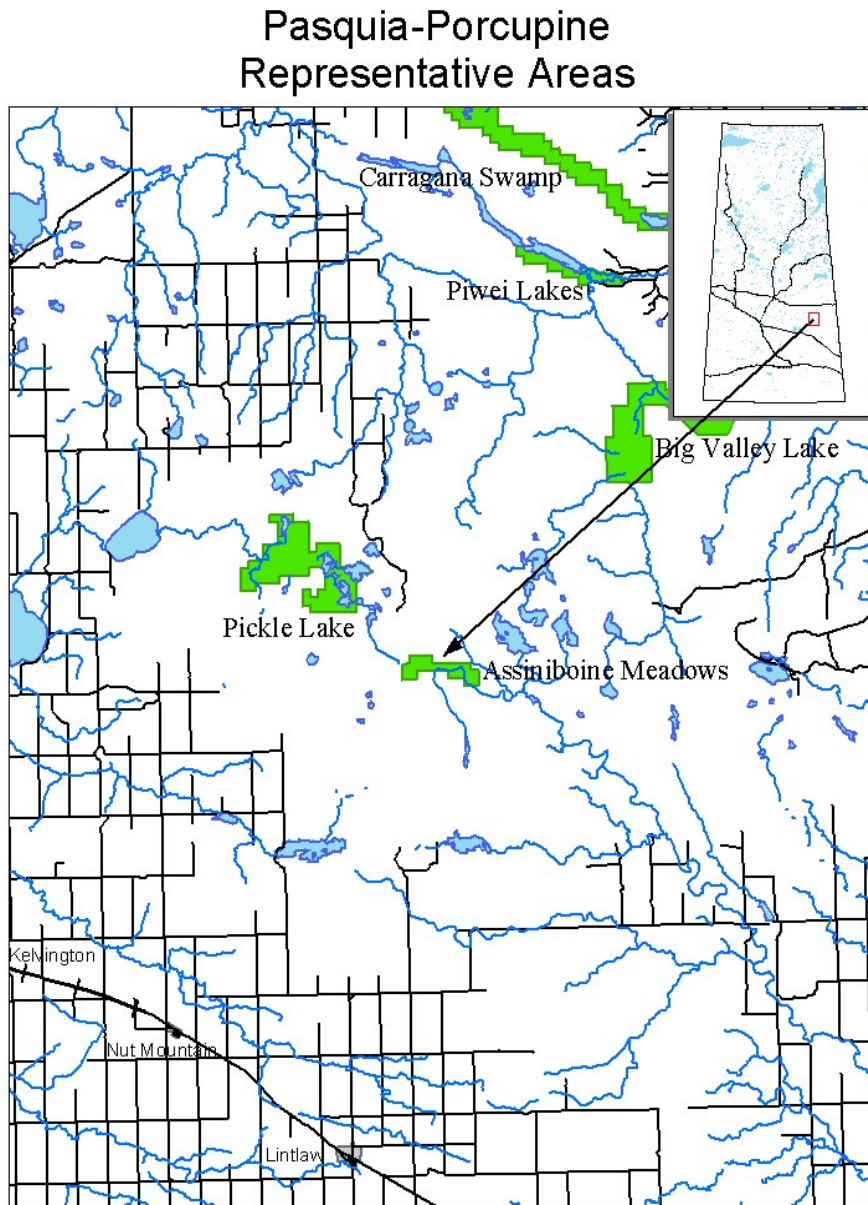
A representative area is a legally protected natural area that may serve as a benchmark for measuring environmental changes and the ecological health of this and other areas in Saskatchewan. Representative Areas can also be used to preserve ecological and geological features and provide opportunities for scientific research and study related to ecological health. The sites in the Pasquia-Porcupine area contain features and resources that fit each of these ecological purposes, as well as supporting a variety of plant and animal communities.

There is a need for detailed management plans for the two sites to be designated as recreation sites taking into account the recreation values and existing infrastructure within these sites. This work will be undertaken by SERM and recommendation for development of the recreational values presented to the FMAC and other affected stakeholders.

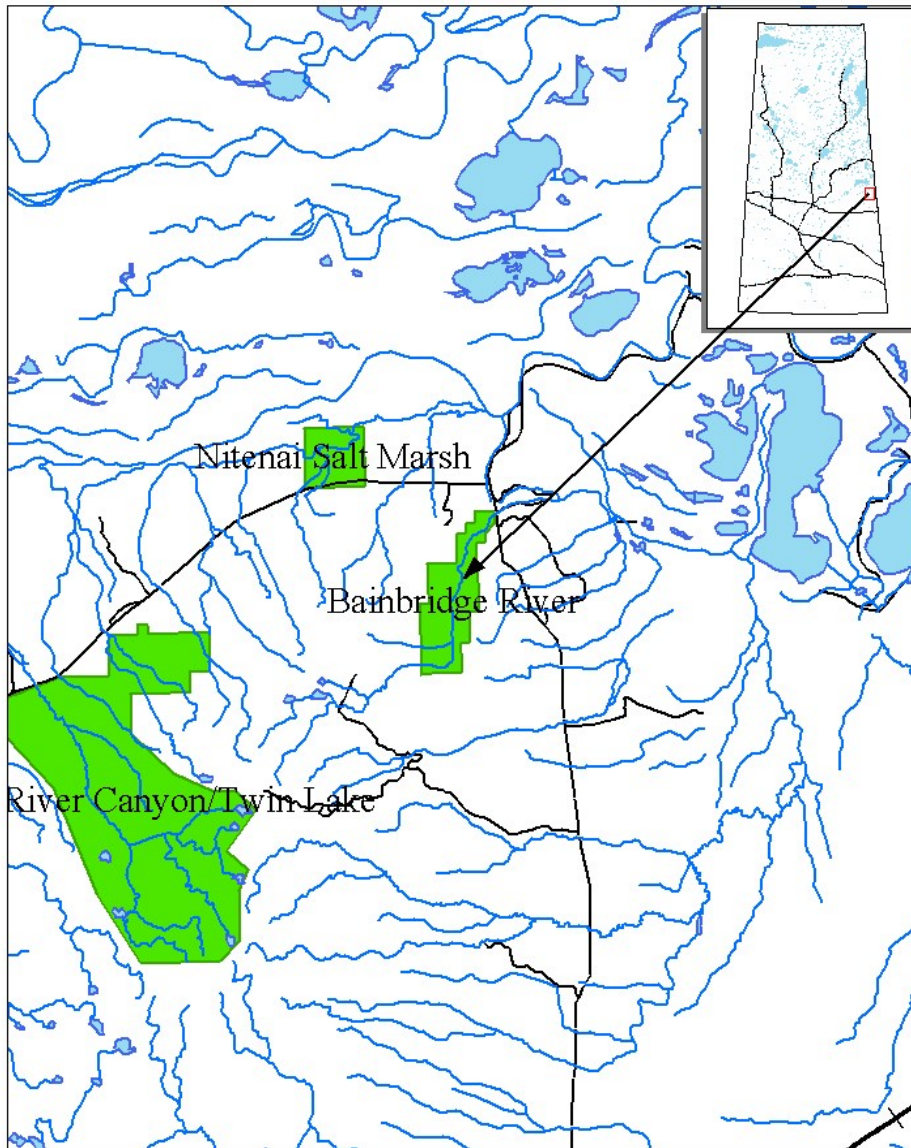
Crown Reserves established by Saskatchewan Industry and Resources pursuant to *The Crown Minerals Act* will protect the Crown minerals underlying the surface of the sites. A Crown Reserve withdraws the minerals from disposition for exploration or development purposes, thereby affording maximum protection for a site's full range of resources.

Appendix 1: Maps of Pasquia-Porcupine Representative Area Sites

Assinibione Meadows

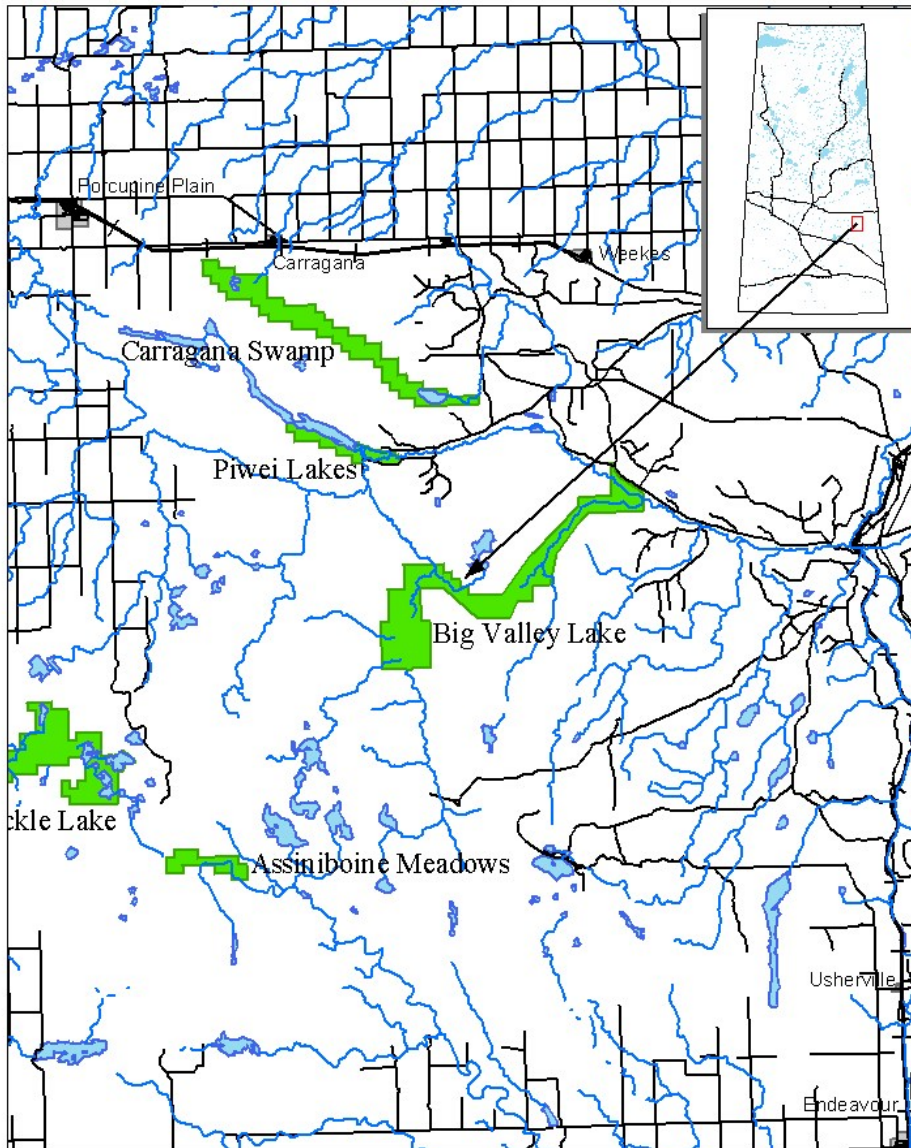


Pasquia-Porcupine Representative Areas

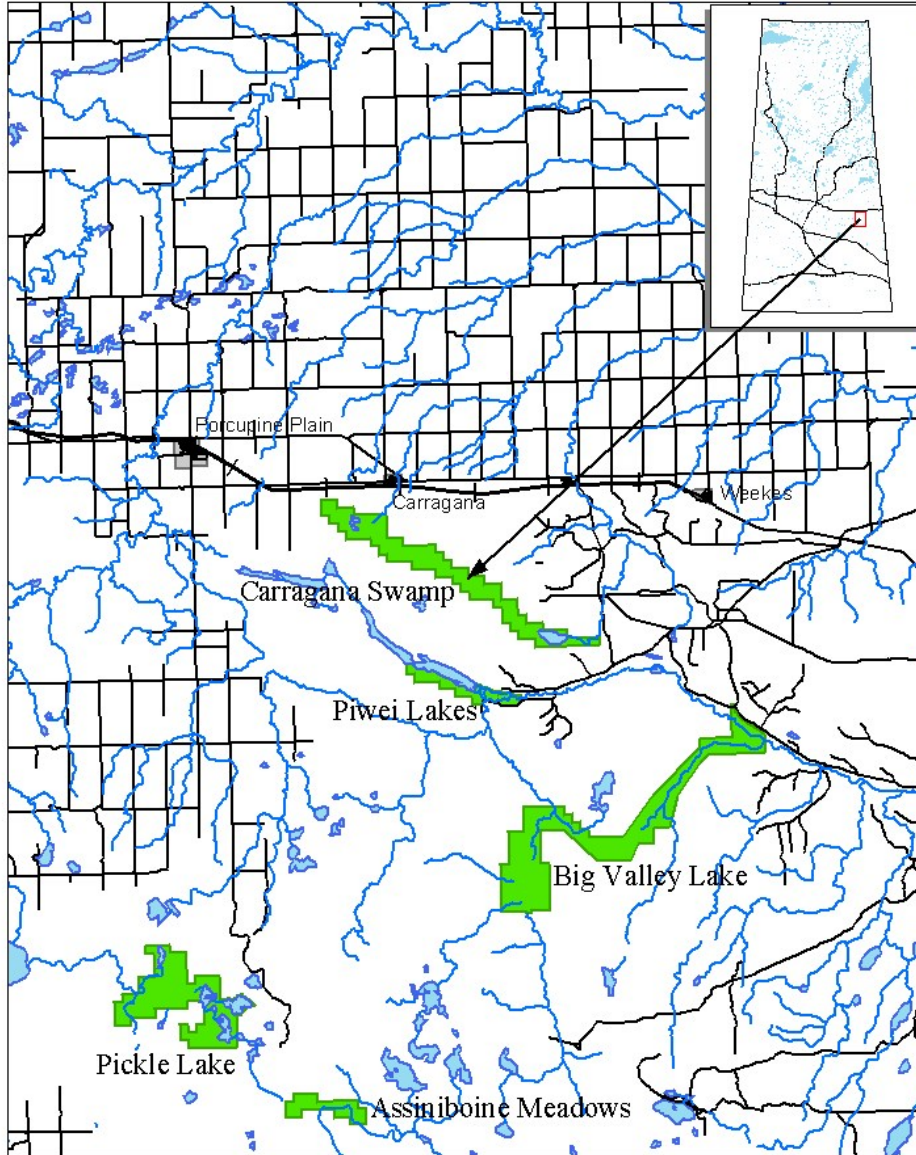


Big Valley Lake

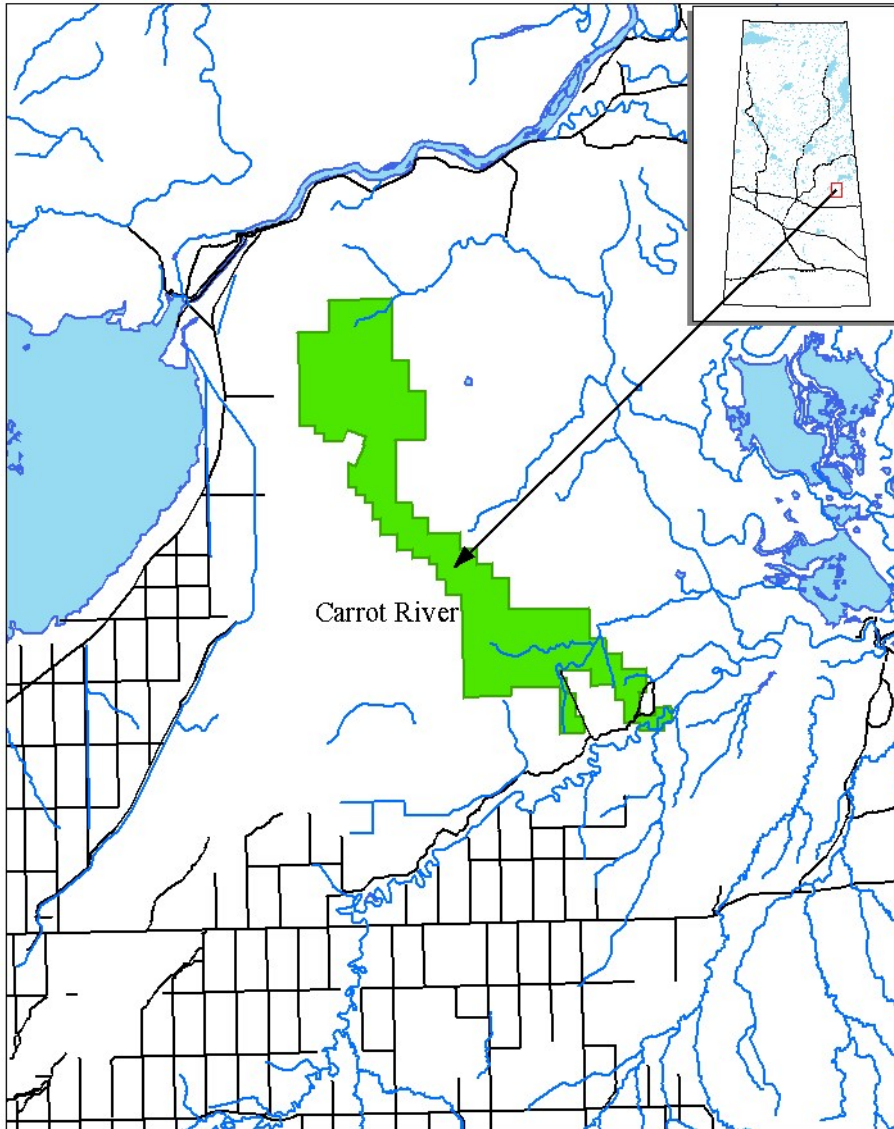
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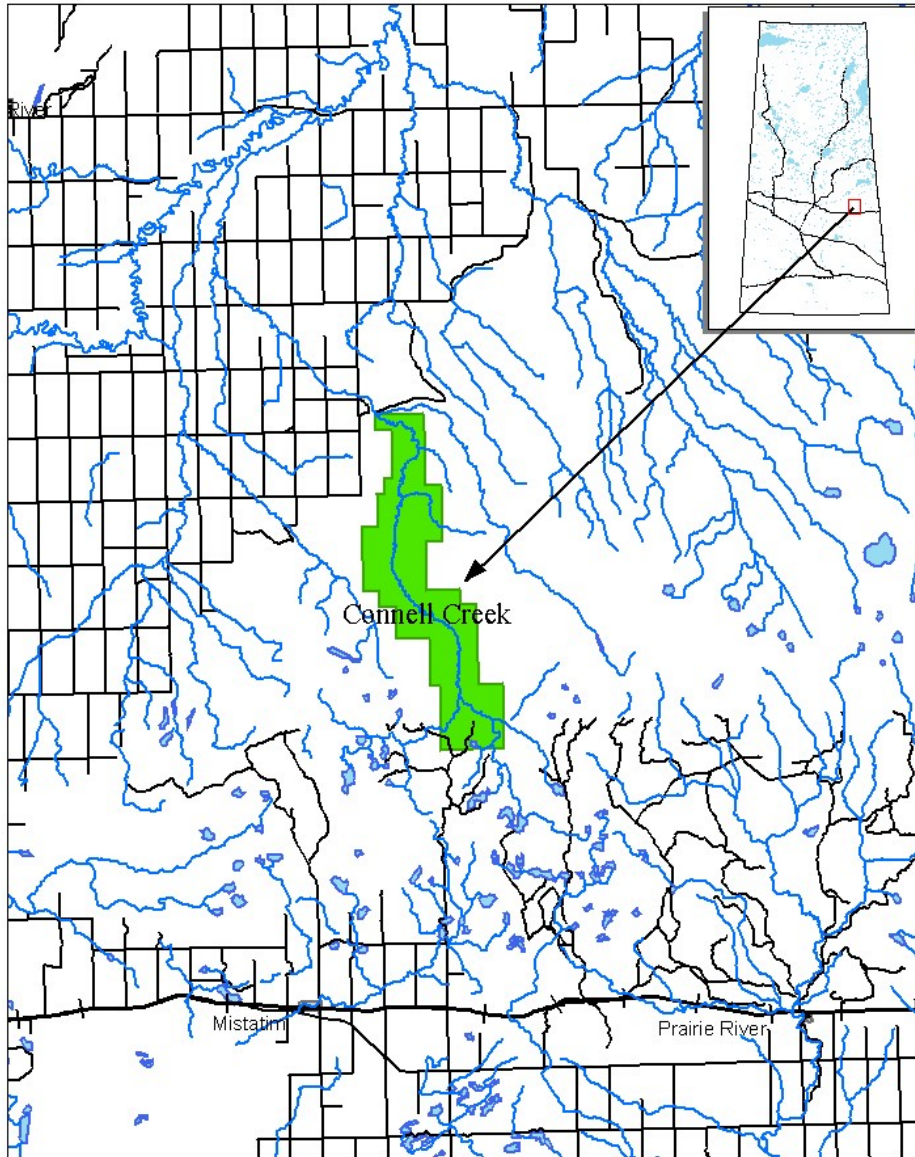
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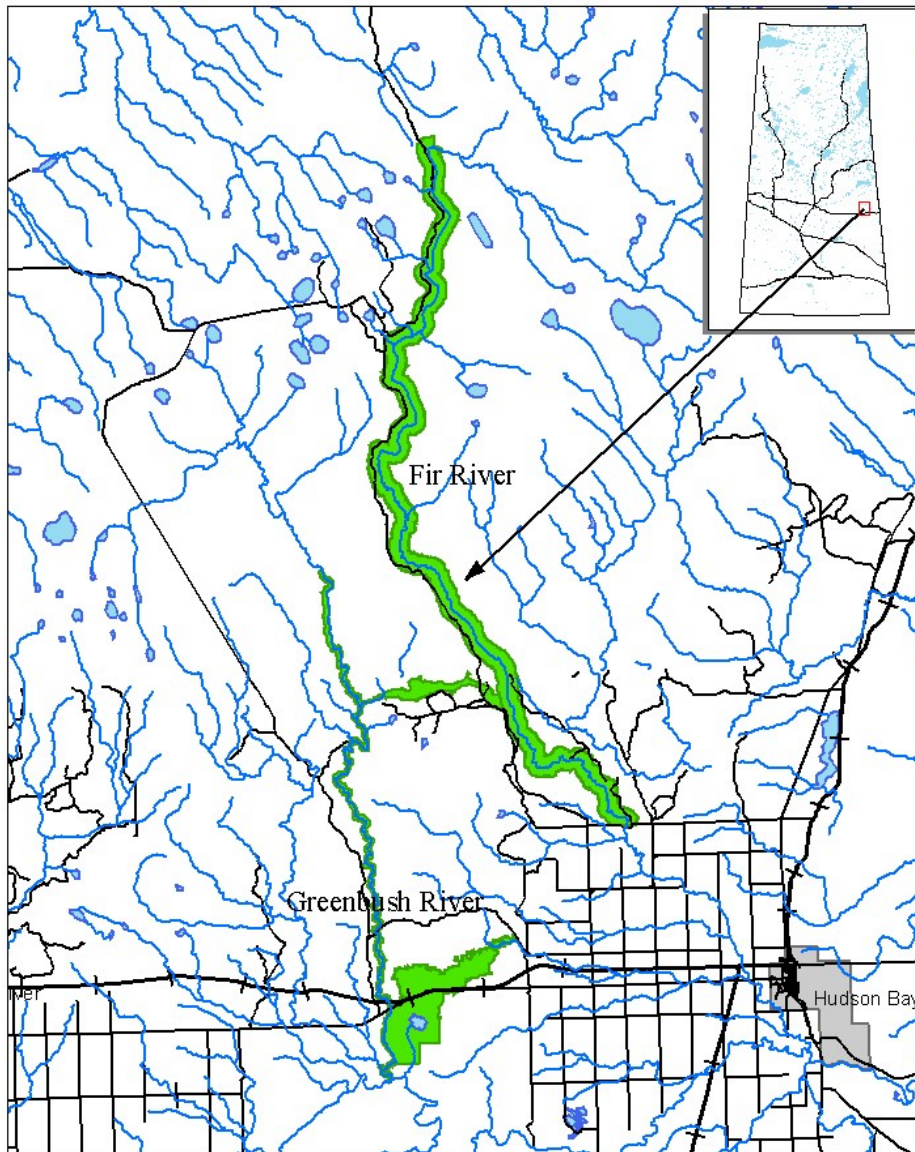


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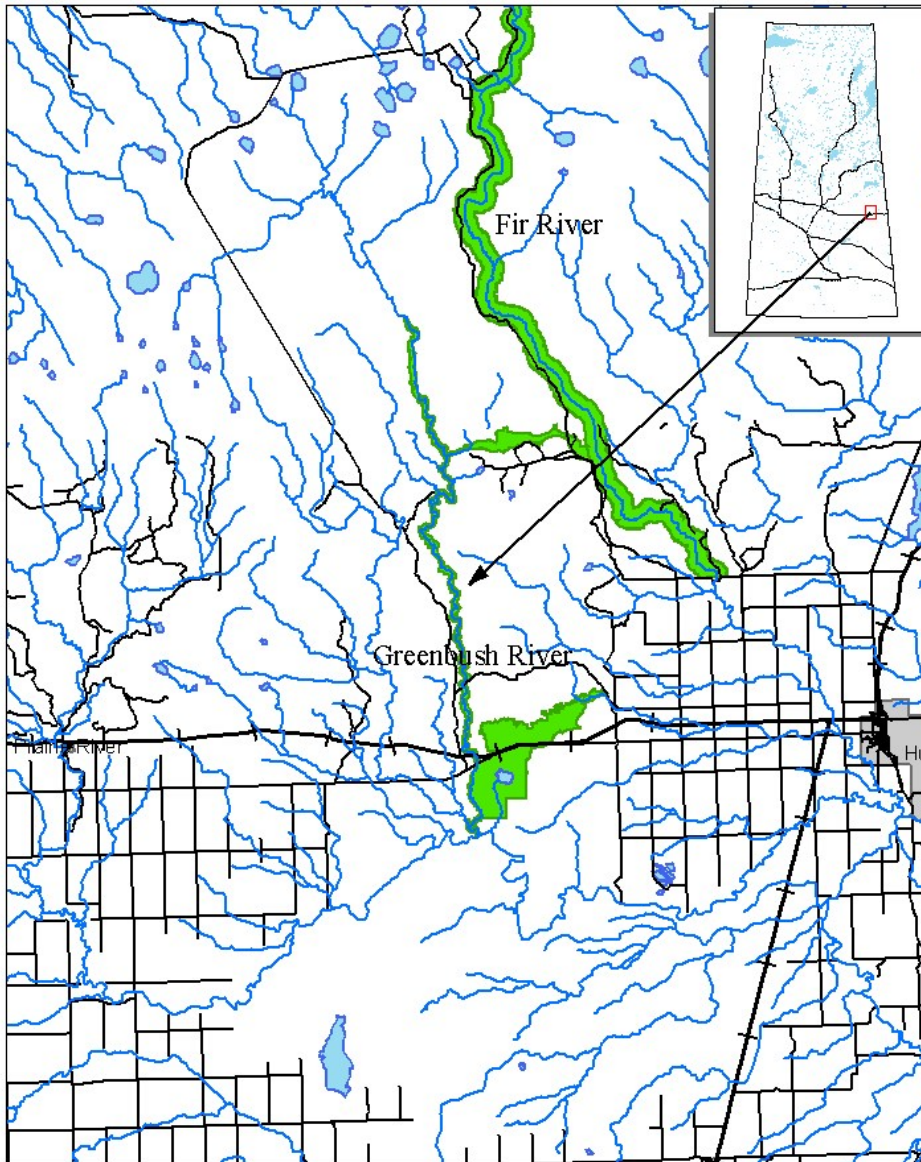
Fir River

Pasquia-Porcupine Representative Areas



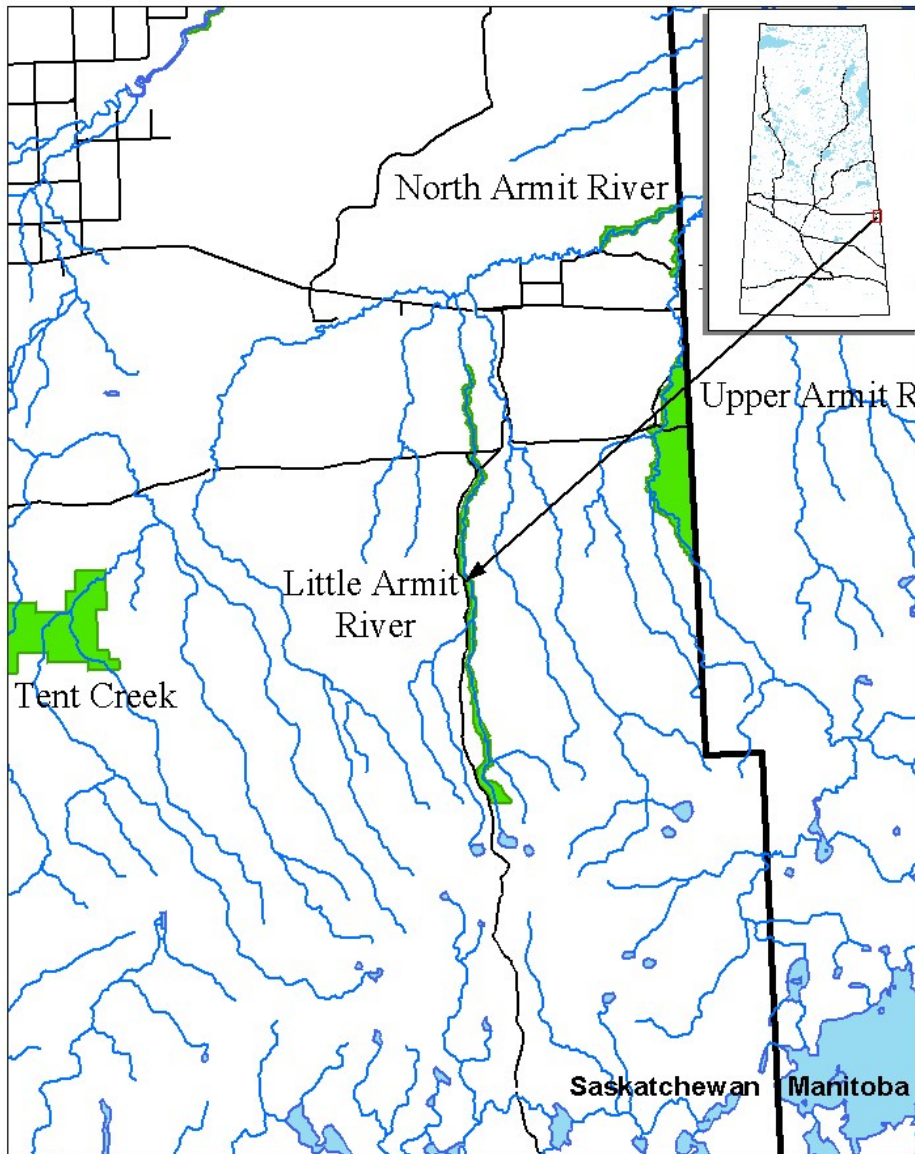
Greenbush River

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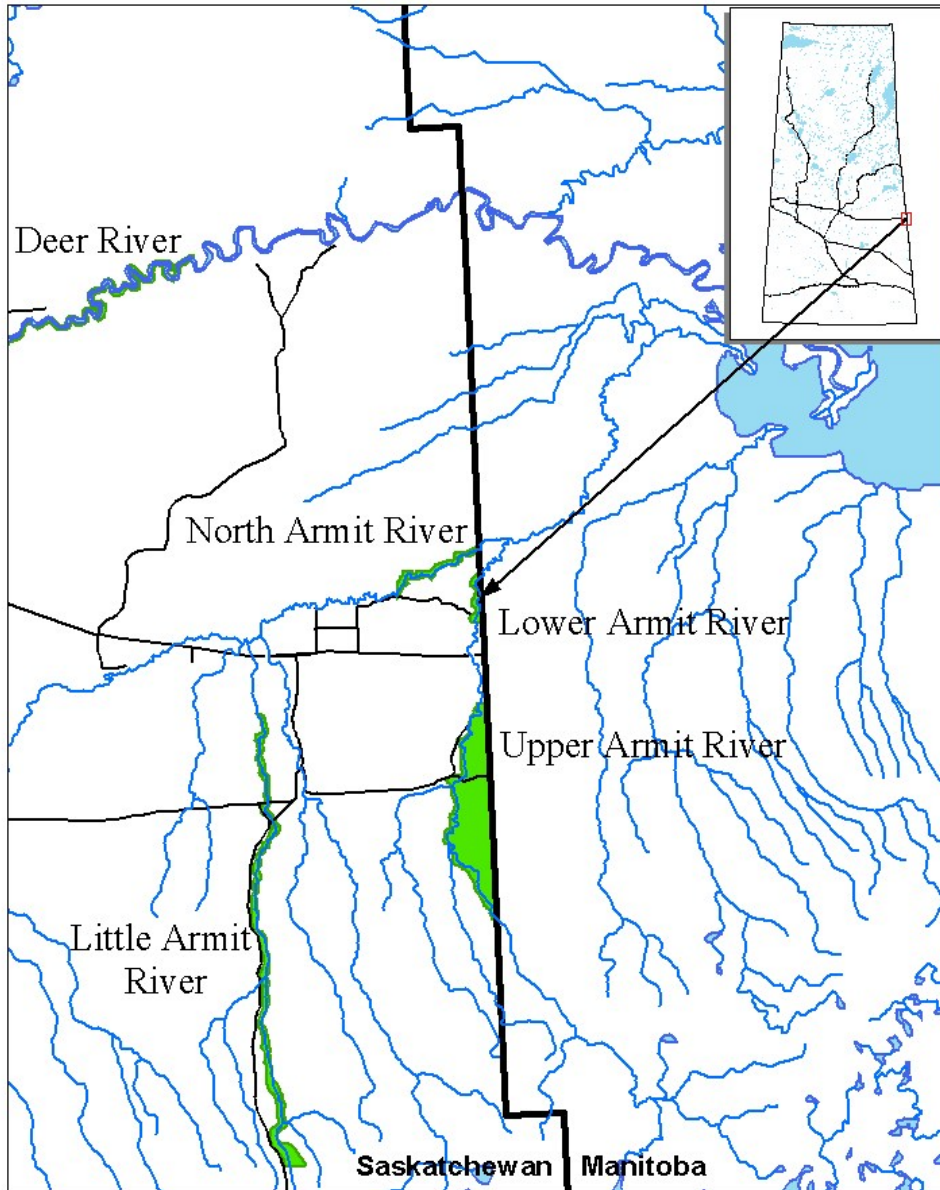


Little Armit River

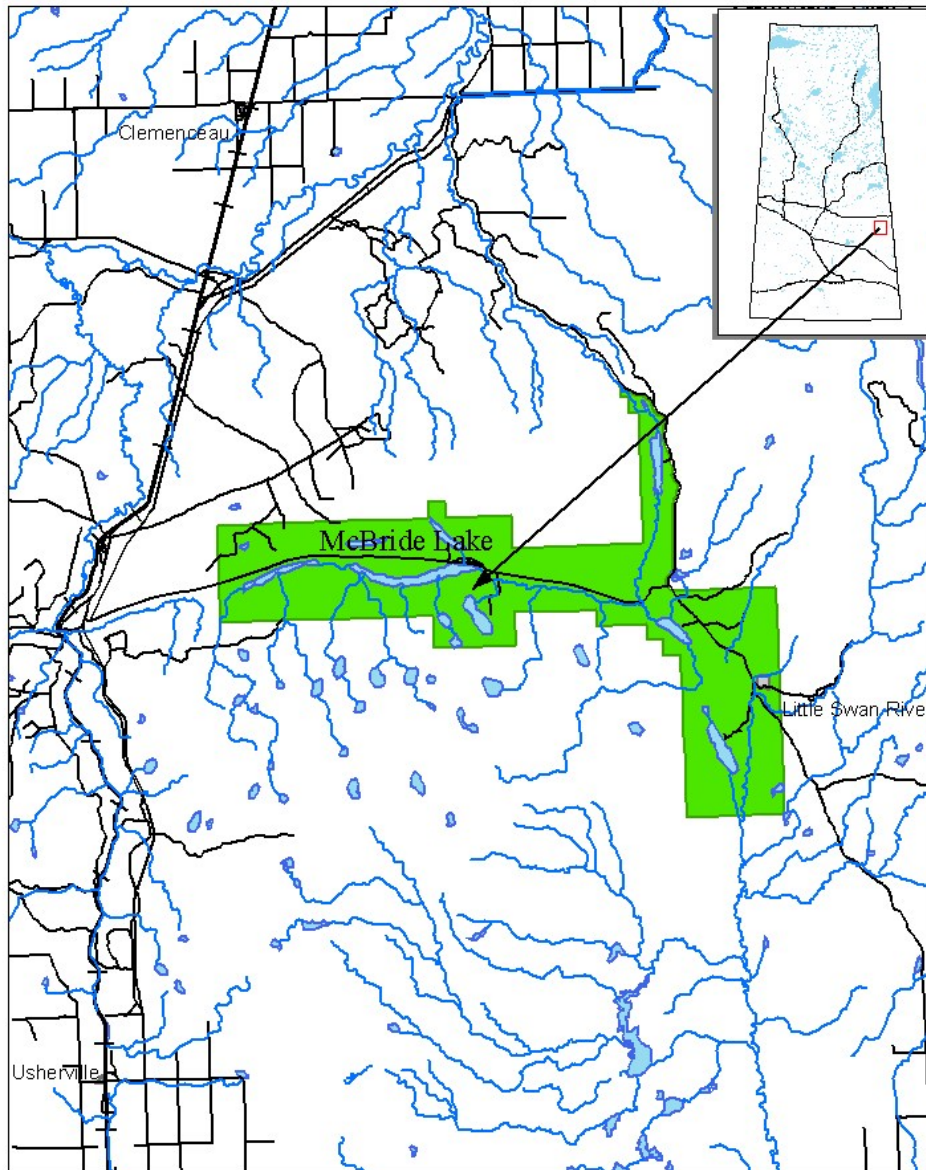
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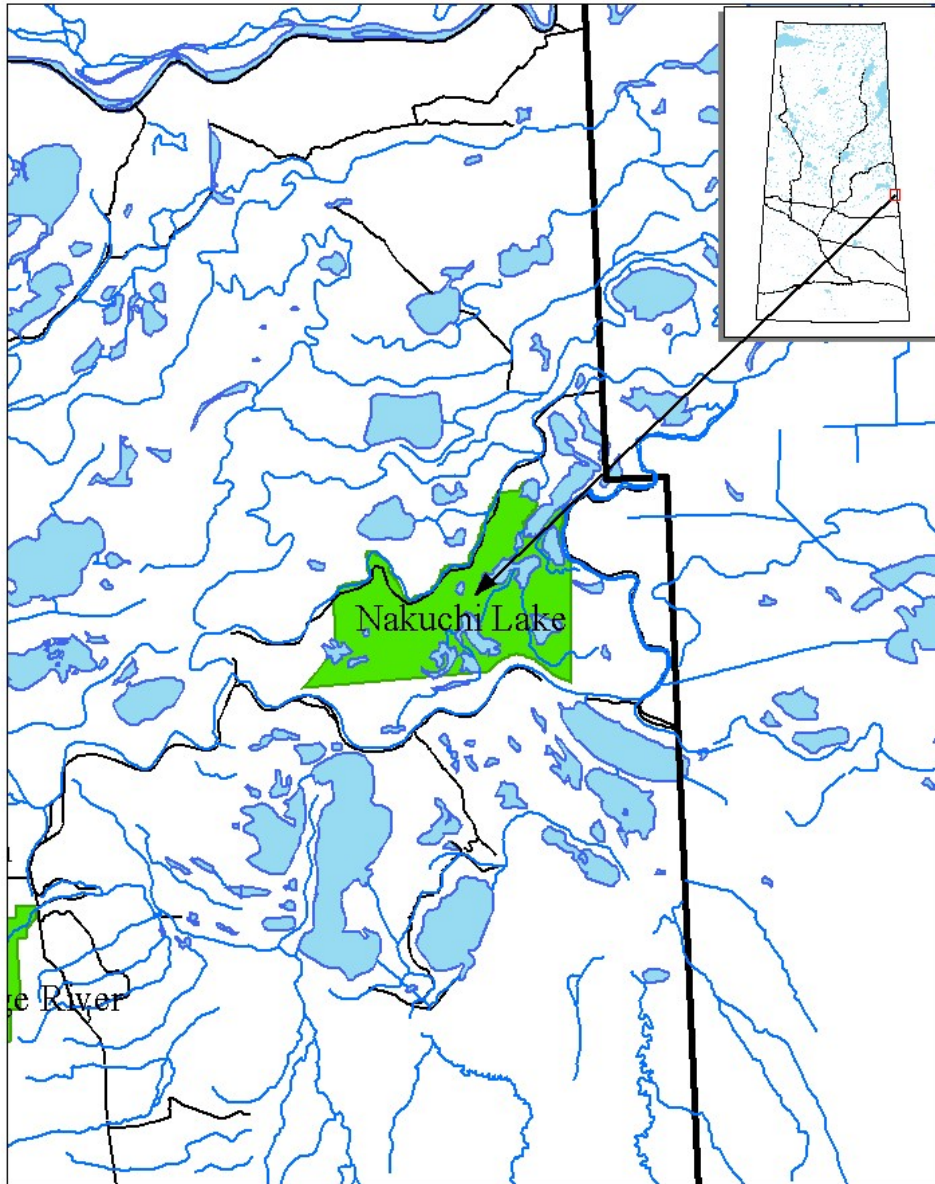
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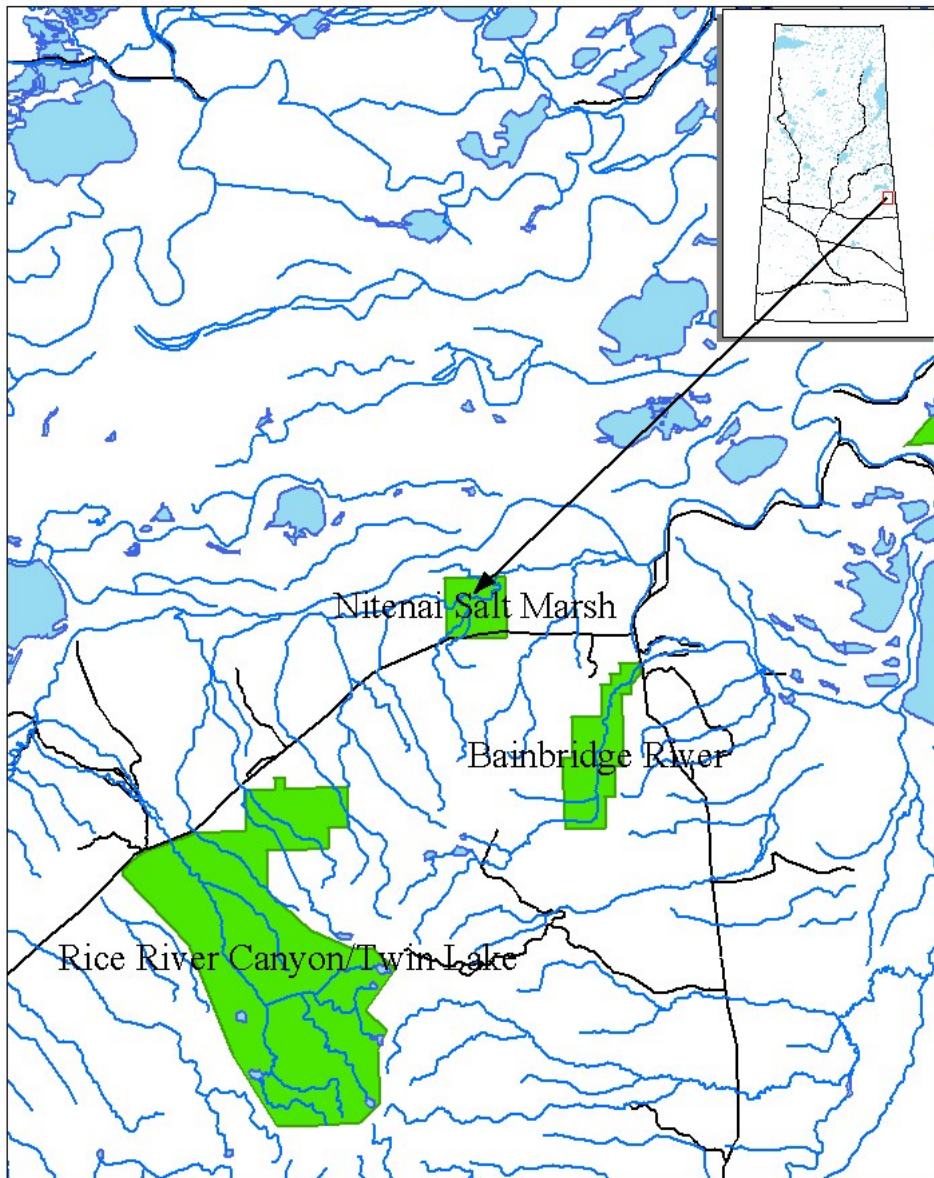
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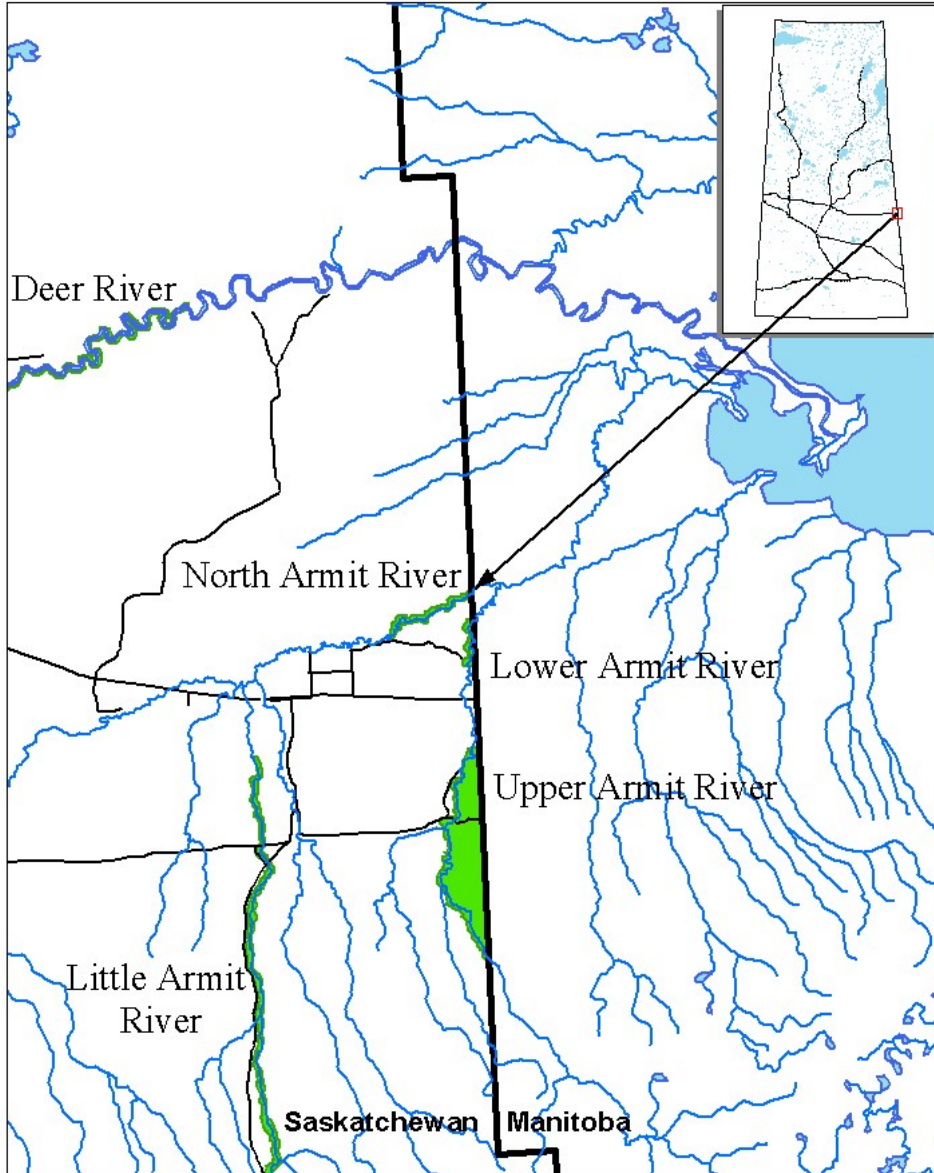
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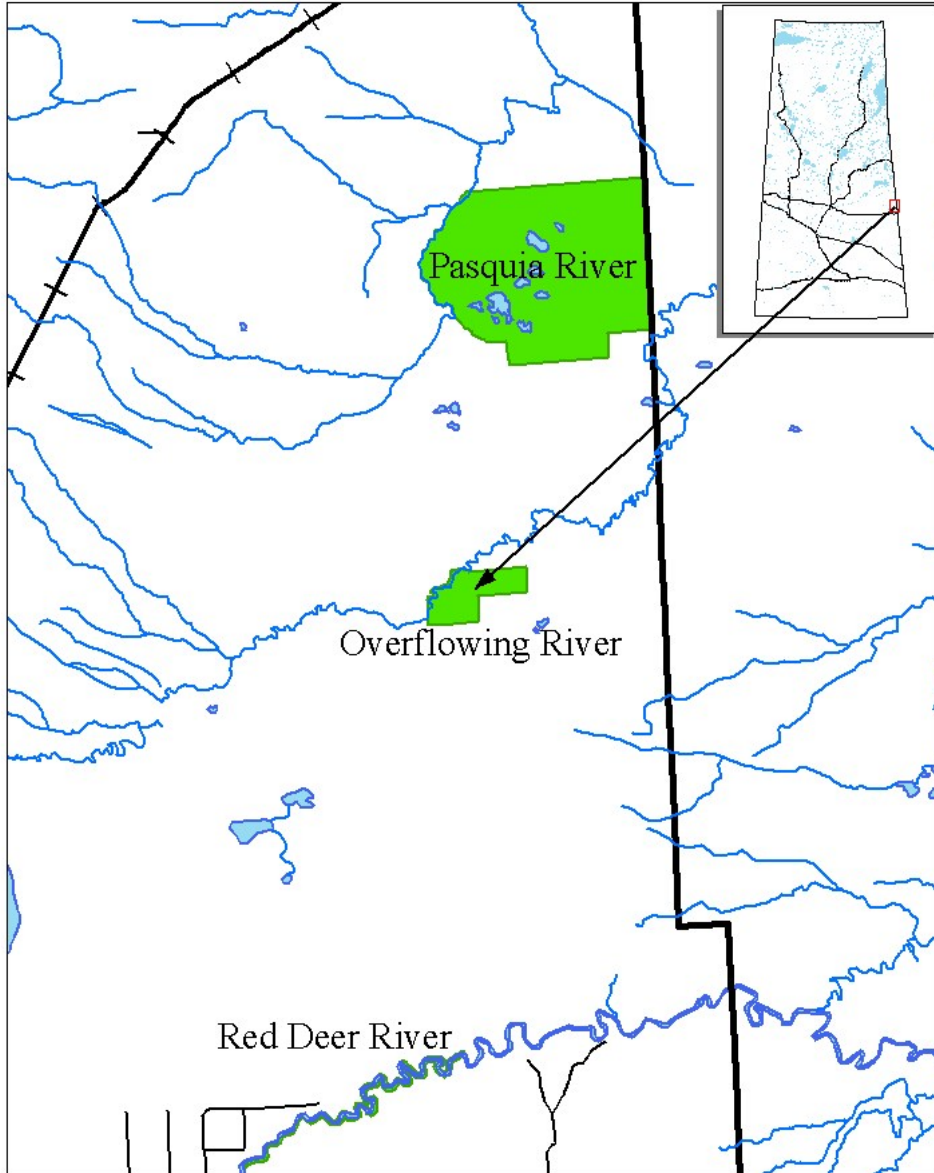


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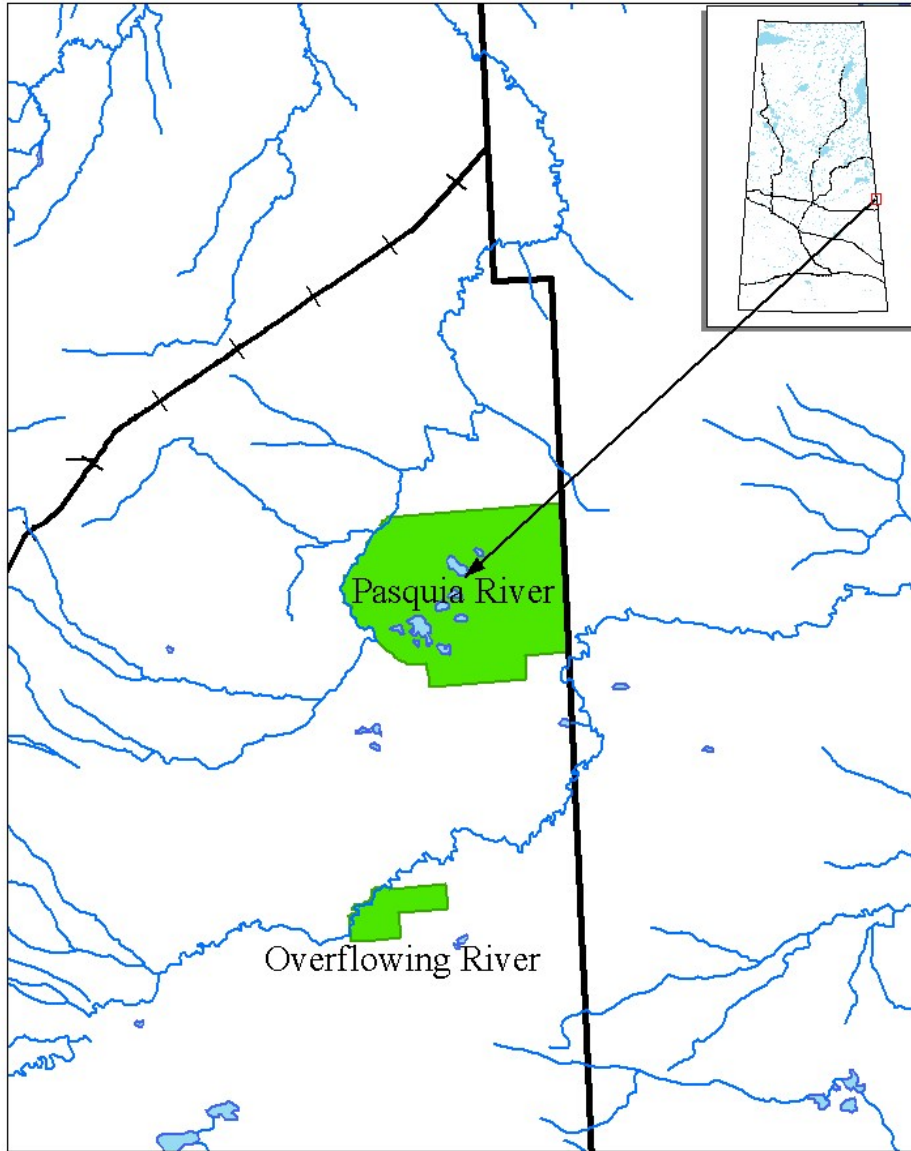
Overflowing River

Pasquia-Porcupine Representative Areas



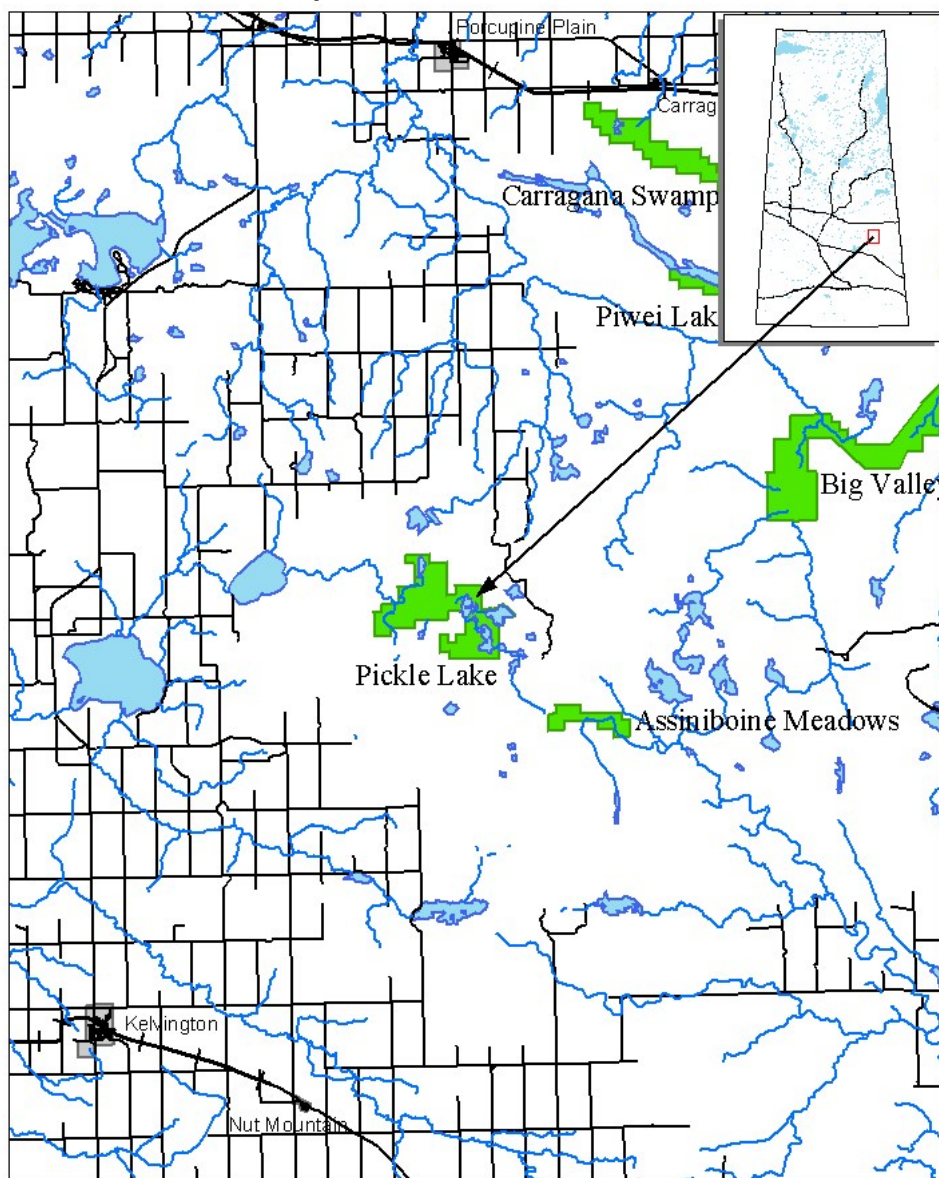
Pasquia River

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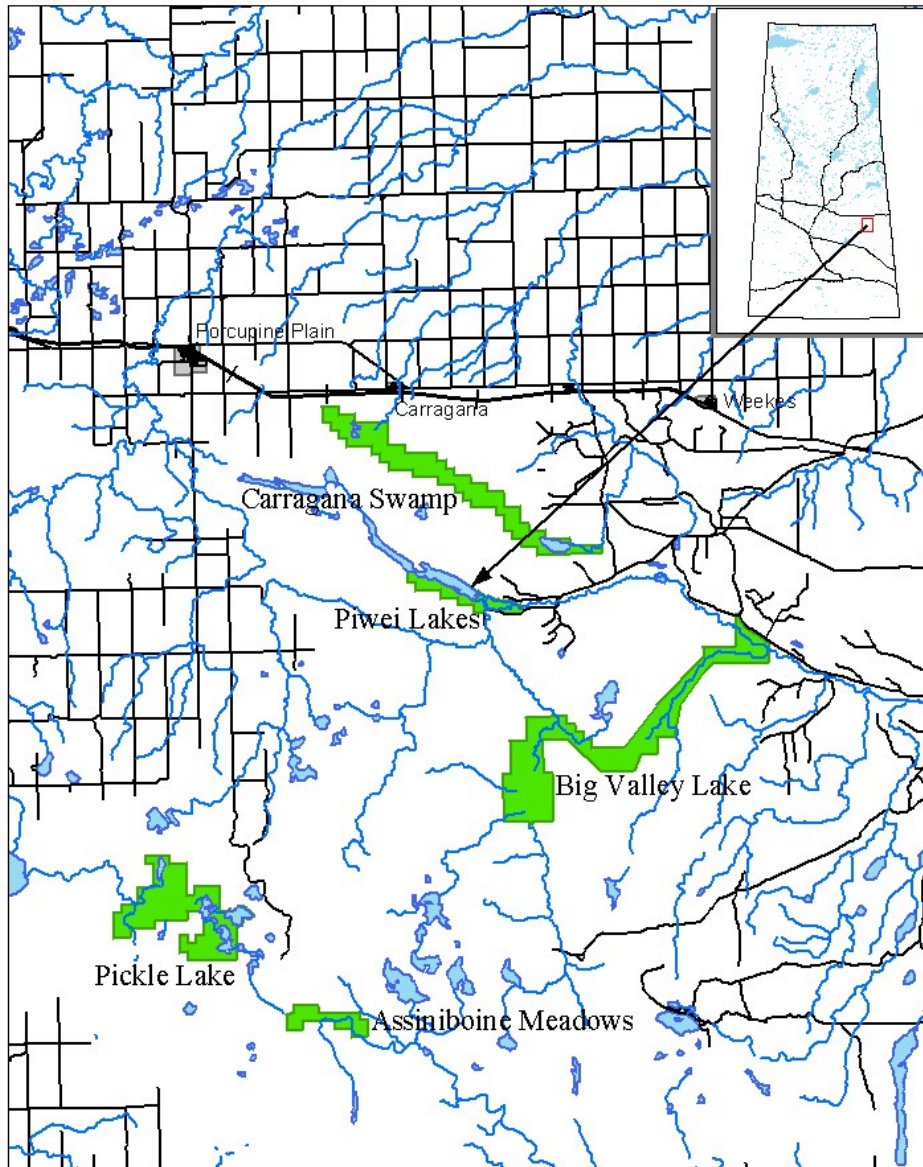
Pickle Lake

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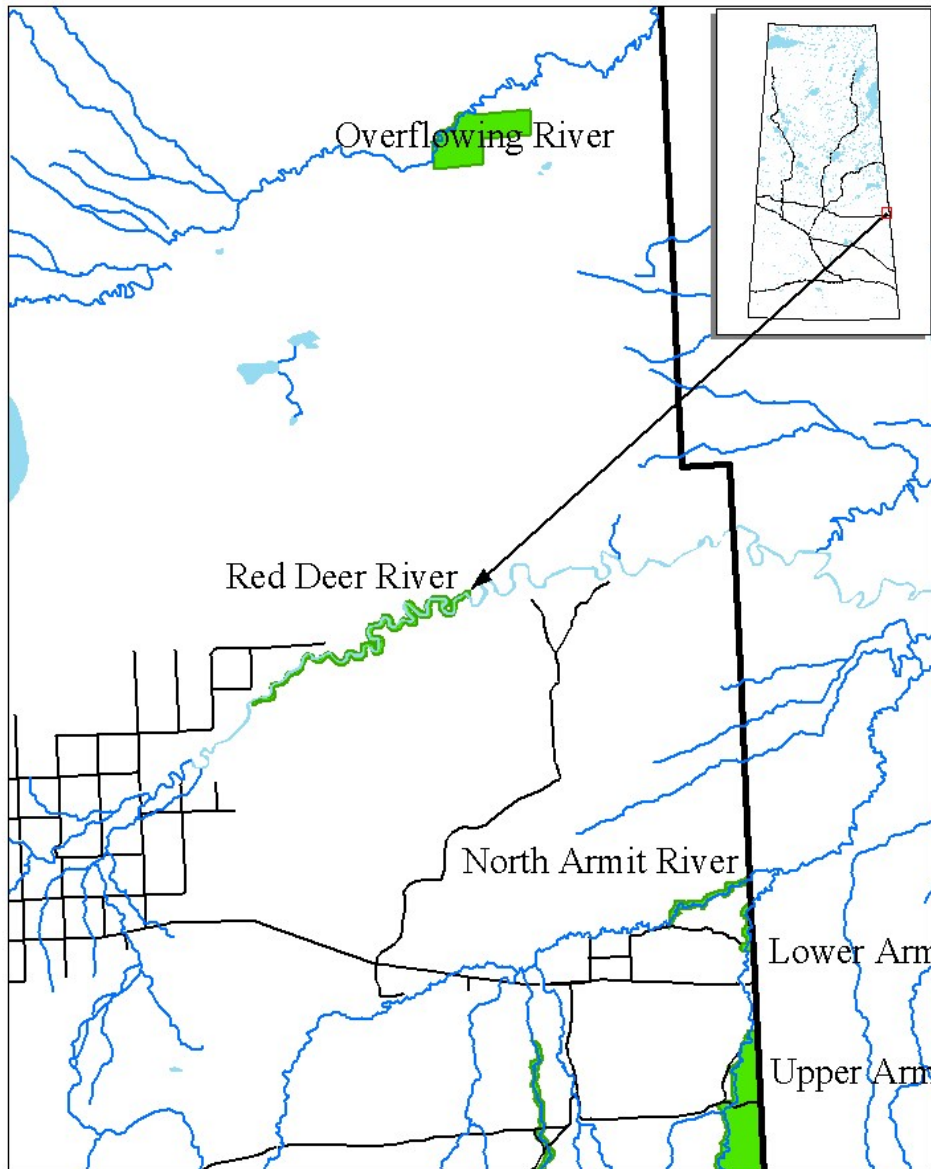
Piwei Lakes

Pasquia-Porcupine Representative Areas



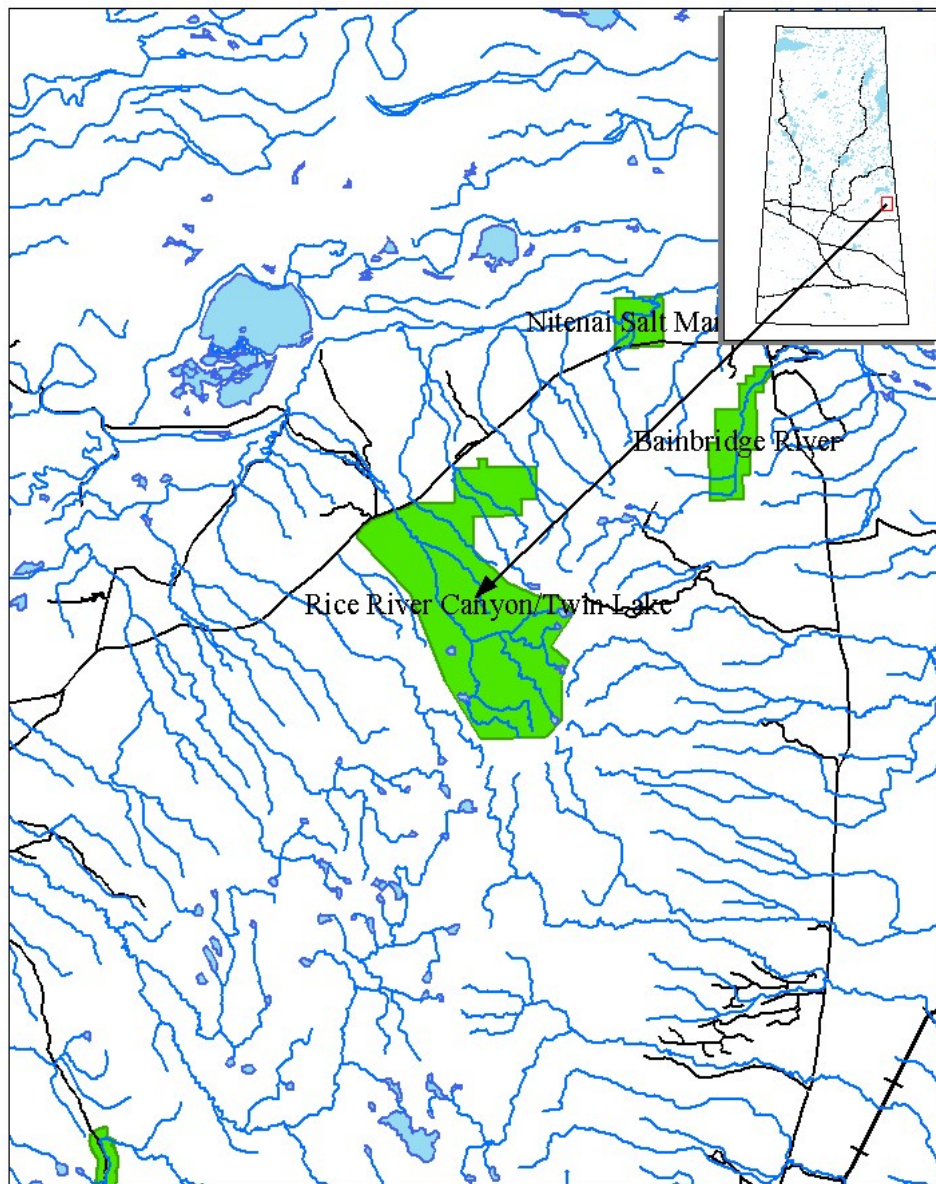
Red Deer River

Pasquia-Porcupine Representative Areas



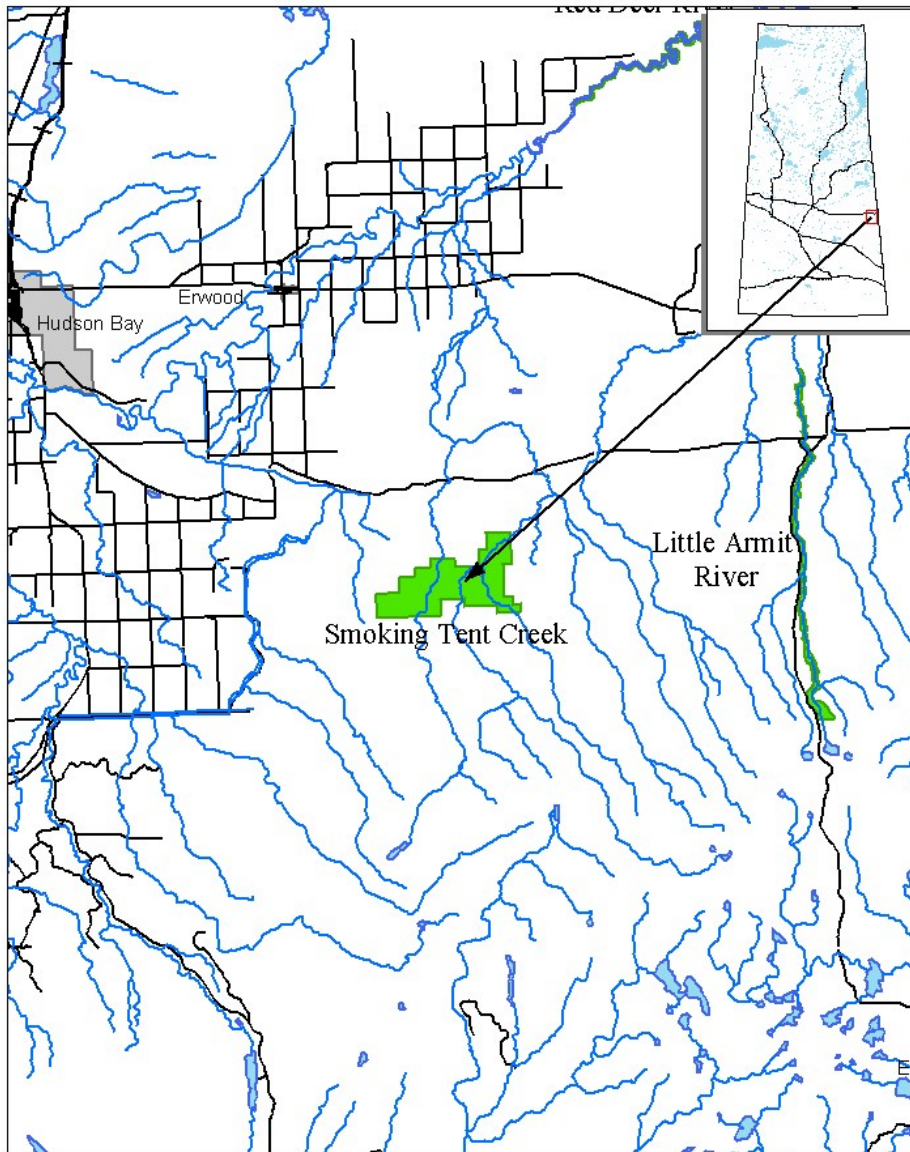
Rice River

Pasquia-Porcupine Representative Areas



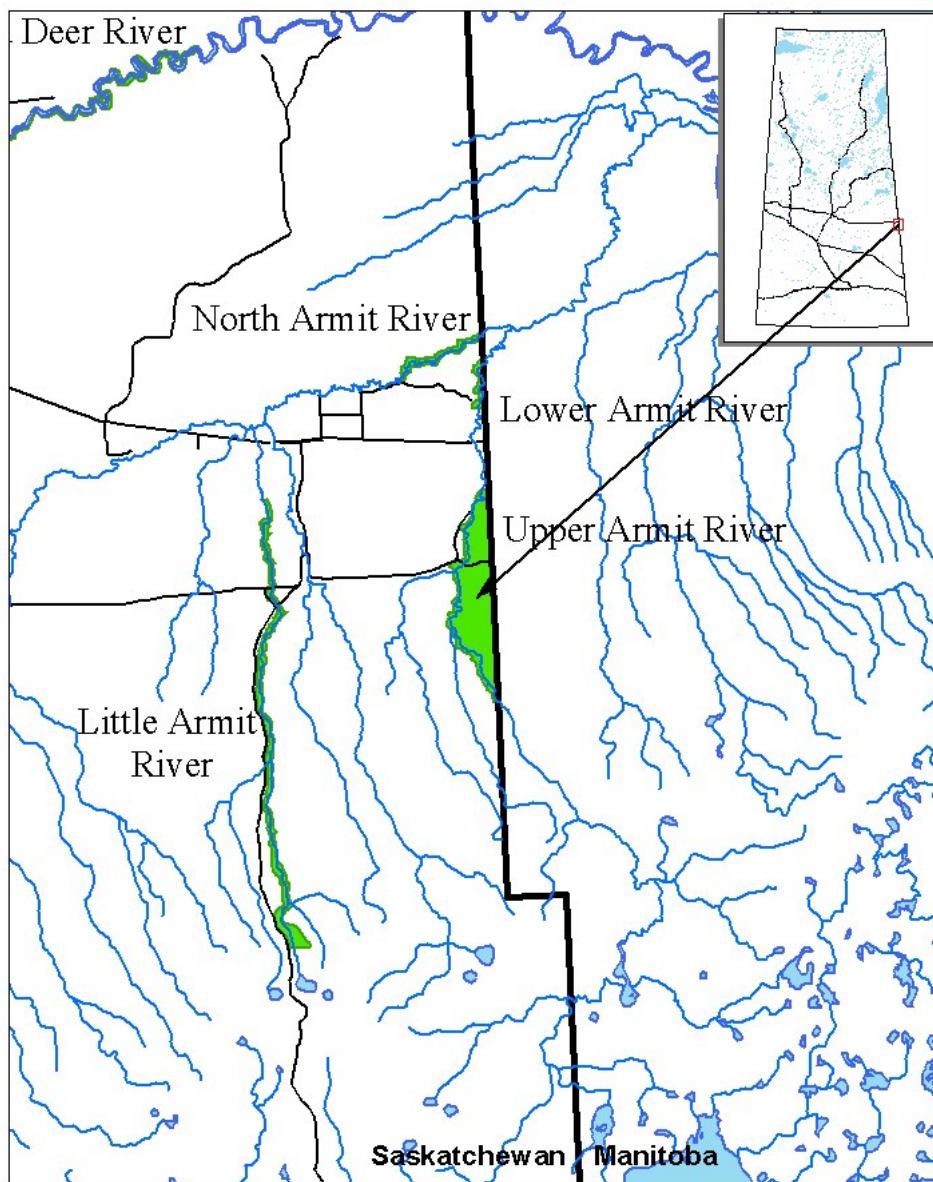
Smoking Tent Creek

Pasquia-Porcupine Representative Areas



Upper Armit River

Pasquia-Porcupine Representative Areas



Woody River

Pasquia-Porcupine Representative Areas

