

The University of Manitoba

HISTORIC LANDSCAPE PRESERVATION:
A PERSPECTIVE FOR
THE PRAIRIE PROVINCES

A Practicum submitted to the Faculty of Graduate Studies in partial
fulfillment of the requirements for the degree
of Masters of Landscape Architecture

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ABSTRACT

The current state of historic landscape representation in the prairie provinces was unknown. Two tasks were undertaken to gain an understanding of the existing representation. First, a thematic framework was assembled which outlined the major impacts on the western landscape. Second, an inventory was compiled listing recognized sites commemorating the historic landscape. The most significant results indicate that current representation is incomplete. A series of recommendations outline the themes in need of research in order to complete the representation. The two major areas identified are urbanization and industrial landscapes.

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CHAPTER 1

INTRODUCTION

1.1 HISTORIC LANDSCAPE PRESERVATION

The landscape seen in Canada today is composed to two distinct but related units, the natural landscape and the man-made landscape. Natural landscapes are those areas which operate or are maintained so that their natural ecosystems remain basically intact. The man-made landscape refers to those natural eco-systems which man has used and altered for his own purposes. Man-made landscapes are a result of man's cultural values, social behavior and individual responses to a specific locality over a period of time. This response is the result of many direct and indirect relationships between man and the physical environment. These relationships should not be interpreted as a geographical determinism in which the natural environment determines human activities in a cause and effect relationship. Rather they should be viewed as the environment offering man a number of possibilities or choices which he selects from within the confines of his technology, goals, and cultural values, (Ballas: 1978). Man, therefore, determines his life patterns which are reflected in the landscape.

The man-made landscape contains a record of man's relationships with the environment. It retains imprints made generation after generation from

man's first tentative steps into the wilderness to the highly urbanized regions of today. As a cumulative footprint it reflects how man responded to his environment and how this response changed through time. Natural process, through time, tends to obliterate these records: certain ones decay and disappear while others are adapted and changed by subsequent users. For the perceptive reader, the record is there in the landscape, holding the potential of revealing man's historic relationship with the land.

If we are willing to listen, it will tell a story of its makers, of the time when it was built, of the life of the people connected with it, their attitudes, values and goals, and how the people felt about (it). (Galblum: 1977, p. 1).

Given that the landscape is a historic resource, the basic issue for all preservationists is why preservation should take place. In terms of cultural heritage, during the nineteenth and early twentieth century preservation activity focused on individual buildings. Generally, buildings were preserved for their association with historical figures or for their architectural merit. Where the landscape has been preserved, it was dealt with as an adjunct to the building; rarely was it recognized for its own merit. (Hosmer: 1965).

A large part of the present concern for landscape resources stems from the increased environmental concern of the 1970's. Whereas previous activity was focused on isolated sites, the new interest broadened the scope of preservation to include total historic environments. Industrial as well as architectural and demographic development was

recognized. The result was an awareness of the broader man-made landscape, patterns of settlement, townscapes, historic areas, and rural land-use patterns. Also there was an expansion in preservation philosophy.

We are witnessing a metamorphosis of the preservation movement from a single issue concern to a multi dimensional expression of caring for the world around us. This expression of caring, in the most human sense, is a reflection of both fear and hope for our natural and national treasures. To a certain extent increased activity in all facets of preservation is a response to new threats to these resources, as well as new understandings of the ways in which both natural and cultural resources are vital to our biological and human existence. (Melnick: 1983, p.15).

This expanded view of the importance of landscape within the wider realm of environmental conservation gave the movement coherence and a philosophical base which it has needed. Turner (1978) has concisely stated the scope of both landscape and architectural preservation in the following four concepts:

1. Total Environment
2. Energy Conservation and Adaptive Use
3. Educational Implications
4. Social Responsibility.

These concepts imply a comprehensive approach to preservation of man-made and natural resources. They indicate that preservation must include conservation through a careful use of existing resources while fostering an understanding of how resources were used in the past.

Turner has also included a concept which addresses the social responsibility to maintain continuity of place through neighbourhood conservation and revitalization.

These characteristics of preservation philosophy, in addition to historic association and aesthetic motives, represent the most recent concepts in preservation. There is one more concept, however, which is fundamental to all preservation, but which is most often overlooked. Turner, Melnick, and others have examined it, but Lowenthal states it most succinctly:

Awareness of the past is essential to the maintenance of purpose in life. Without it we would lack all sense of continuity, all apprehension of casualty, all knowledge of our own identity. (Lowenthal in Meinig: 1979, p.124).

This idea is believed to be basic to human nature as continuity is maintained from past to present and projected into the future. It serves to provide stability and security in a world where change is occurring at unprecedented rates and scales.

1.2 DEFINING THE PROBLEM

During the last two decades historic landscape preservation has played a larger role in western historic resources programs. Despite this greater role, little is known of what should be included as significant to landscape development or which sites currently represent it. The focus of this study is to examine the current state of historic

landscape representation in order to determine what future research and commemoration should occur.

In defining the problem of historic landscape representation two tasks were completed: first, a framework of themes contributing to landscape development was organized, and second, an inventory was compiled of recognized sites which commemorate the historic landscape.

1.2.1 Thematic Framework

The themes are adapted from a framework compiled by R. Louis Gentilcore in a National Parks Historic Theme Study for Parks Canada in 1978. Gentilcore's work was chosen as a starting point as it is a comprehensive study on the national scale. It was originally advanced expressly for the purpose of identifying the major themes which were and still are involved in landscape development. For the purposes of this practicum, Gentilcore's classification system has been adapted to focus solely upon the landscapes of the prairie provinces. The system is assumed to be adequate for the purposes of this study as it is viewed as a comprehensive and well-thought out examination of historic themes.

The revised thematic listing consists of three levels:

1. Theme
2. Sub-theme
3. Theme Segment.

✓ The themes describe man-land relationships in terms of a set of processes which created the landscape. These are dealt with at a broad level (eg. Native Entry and Settlement). The subthemes define individual aspects of the man-land relationship covered within the major theme. Generally, several subthemes compose each theme (eg. Post Glacial Entry, Post Glacial Settlement, etc.). The third level of sub-division, the theme segment, identifies the specific agents within the subtheme which created impacts on the landscape (eg. Corridors of Migration, Paleo-Indian etc.). The framework is outlined in Figure 1.

1.2.2 Resource Inventory

The second component of the practicum identifies known sites which have been recognized as historic landscape resources. Governmental and non-governmental agencies which address the representation of historic resources have provided the list of sites to be included in the inventory.

✓ 1.3 GOALS AND OBJECTIVES

This study has two goals. The first is to assess the current representation of historic landscape in historic resources programs in western Canada. The second is to identify those areas of historic landscape resources in which future research, design emphasis, and representation are required. This information will provide a framework for future work.

THEME	SUB THEME	THEME SEGMENT
NATIVE ENTRY & SETTLEMENT	Post-Glacial Entry	Corridors of Migration
	Post-Glacial Settlement	Paleo-Indian Archaic Settlement Initial Woodland
	Arctic Entry & Settlement	Pre-Dorset Dorset Thule
	Post-Contact Native Settlement	Interior Hunter & Gatherers
EUROPEAN ENTRY	Fur Trade	French & British Trade In Interior Intensive Competition
EUROPEAN SETTLEMENT	Organizing the Land	Riverlots & Sections
	Group Settlements	Groups In the West
	Delimitation & Defence	Delimiting Boundaries Conflict in the West
RESOURCE UTILIZATION	Farming the Land	Grain Farming Livestock Ranching
	Using the Forest	Lumber
	Mining	Minerals and Metals Energy
	Hunting	Fur Trade
	Recreation and Resource Conservation	Recreation Development
TRANSPORTATION AND COMMUNICATION	Inland Transportation	Water Routes Trails Trunk Roads Trunk Railways
	High Speed Transportation	Air Transportation
	Communications	Telegraph
URBANIZATION	Commercial Centres	Urban Centres

FIGURE 1 Thematic Framework

✓ The objectives of the study are:

1. To identify the major historical themes into which the study of historic landscapes can be divided. The themes encompass an examination of the factors which shaped the current prairie landscape.
2. To identify those historic landscapes which have been presented/interpreted for the benefit of visitors.
3. To compare, using a matrix, the list of themes with the historic landscapes currently represented.
4. To analyze the matrix to identify those themes which are currently represented as historic resources and those which are not.

✓ 1.4 LIMITATIONS TO THE STUDY

First, the sources of information regarding each site are limited to those which are currently accessible through each agency dealing with historic preservation. All information for the inventory was received directly from the agencies and includes only sites commemorated before 1985.

Second, this study has not involved field examination of the recognized sites or an evaluation of them.

Third, the thematic framework has a cutoff date of 1920. This date was chosen because by 1920 substantial settlement of the West had taken place, and after 1920 massive changes occurred within the landscape

between the wars and after World War II. A separate study will be necessary to adequately cover this time period.

1.5 METHODOLOGY

In order to assess the current status of historic landscape representation in historic resources programs, data were collected in two principal areas.

First, from historical studies of western Canada, interpretations and analysis of the past were examined and applied to the classification system adapted from Gentilcore's study. This information provides the Thematic Framework. It outlines the historical thrust of each theme and indicates the impact which occurred on the landscape as a result of each stage. Discussion of each theme occurs at the level of the subtheme but indicates the impact of each theme segment.

Second, data were collected from agencies responsible for commemoration activity about their programs. This information was organized on a site-by-site basis. Each identified site was slotted in the Resource Inventory under the subtheme which it represents. Notation was also made of the commemorating agency, the type of commemoration, whether or not the landscape was the primary purpose for the commemoration and a brief description of the reason for commemoration.

The third component, Evaluation, consists of a discussion of conclusions arising from the study. Three general areas of comment are presented.

The first centres around those historic landscape subthemes which have been represented as part of the cultural heritage. The second area of discussion focuses upon those subthemes which should be examined in the future. The third area indicates when the current historical commemoration does not fully illustrate the subtheme.

Discussion under each theme includes the thematic framework, resource inventory and evaluation. In the conclusions, a general discussion of historic landscape preservation issues arising from the study is developed.

1.6 DEFINITIONS

Various approaches to historic landscape treatment mark the nature and extent of man's intervention in existing, recognized landscapes. The following definitions will be used in this practicum:

Preservation	to maintain site essentially as it is, neither upgrading, nor permitting deterioration.
Conservation	to actively intervene to prevent further deterioration of the elements.
Rehabilitation	to upgrade to modern standards while recognizing and retaining historical character.
Restoration	to put back what was once there as accurately as possible.
Reconstruction	to recreate what was there in the past but is not longer there.
Reconstitution	to put in what would be appropriate to period, scale, use, etc.

(Harvey and Bugey: in press)

For the purposes of evaluating how well the themes have been represented by commemorated sites, the following criteria and classification will be used:

- | | |
|------------------------|--|
| not represented | - if no plaquing or site development exists |
| poorly represented | - when not all of a theme segment is represented
- when less than all of several theme segments are represented |
| adequately represented | - where site development is NOT the best means of commemoration, then adequately represented if all major segments are plaqued
- where site development is appropriate for commemoration, then adequately represented signifies a site has been developed |

CHAPTER 2

NATIVE ENTRY AND SETTLEMENT

2.1 THEMATIC FRAMEWORK

Native entry into the western landscape is believed to have begun as early as 30,000 years ago. Nomadic hunters entered the region in pursuit of animals which inhabited the area. Settlement occurred in the diverse landscape created as the massive glaciers retreated from the West. Over the millenia a variety of native cultures adapted socially and economically to the different regions. Eventually these cultures evolved into the native people encountered when Europeans entered the West in the seventeenth century. This theme focuses on the impacts these various cultures created on the landscape.

2.1.1 Post Glacial Entry

Thrust

When human occupation of the North American landscape first occurred, most of Western Canada was covered by ice sheets from the last period of glaciation. It is generally agreed among archaeologists that the first inhabitants entered from Siberia across the Bering land bridge into Alaska. The migration of these people continued as they moved further inland. By some 30,000 years ago, these hunters reached the northern Yukon (McGhee: 1978). Recent evidence, although inconclusive, places

man in southern Alberta at approximately this same time. It is believed that, at this or some later period, these people migrated further south, spreading out through the entire continent to become the ancestors of all the American Indians.

Impact

The impact of this early migration upon the landscape is somewhat limited. Little evidence remains from this period as glaciation has removed most traces of it. It is probable, however, that the migration occurred along an ice free corridor of the Rocky Mountains. This corridor is thought to have existed between two major ice sheets as illustrated in Figure 2. The few tools and limited remains which have been found relating to this period give only a tentative indication of man's presence.



FIGURE 2

Ice-free corridor in western Canada. Dots enclose glaciated areas (Pettipas: 1983, p.20).

2.1.2 Post Glacial Settlement

Thrust

It is believed that during man's post glacial settlement that a large number of groups moved into and out of the western landscape (Pettipas: 1983). Distribution of these various groups changed over time, shifting within territories as food and environments changed. For the purposes of this practicum, the divisions shall be:

Paleo-Indian	12,000 - 6,500 B.P.
Archaic Settlement	7,000 - 2,000 B.P.
Woodland	3,000 - 300 B.P.

These divisions represent the categories accepted by Gentilcore (1978). They are based on the progressive adaptations each culture made to the environment and reflect the impacts each made on the landscape.

Paleo-Indian entered western Canada some 12,000 years ago as the last glacier was retreating northward. As the landscape dried and warmed, first spruce forest and then grassland invaded the southern reaches of the study area. It is likely that Paleo-Indian was following the migrating mammoths, then the giant bison, as they fed, first along the edge of the receding glacier and later in the grasslands.

The shift from Paleo-Indian to Archaic cultures coincided with the altitherm (a long dry period) and the disappearance of the giant bison. The environment of unlimited forage and water favored by the bison declined into the sparse vegetation of plain and desert. Unable to

sustain themselves, the bison disappeared and were replaced by the moose, caribou, and smaller bison. The range of these animals expanded approximately 5000 years ago as grasslands re-established after the altitherm. At this time vegetation reached its historic character in western Canada, if not its actual location. The Archaic cultures were able to adapt to these new environments and food sources. These people are thought to have resembled those cultures seen by Europeans when they first penetrated western Canada in the seventeenth century (Symington: 1978).

Archaic cultures adapted to a wide variety of ecosystems, ranging from grasslands, parklands, forest, to northern transitions and tundra. Two major lifeway cycles developed within western Canada: the Shield Archaic and the Plains Archaic. The latter consisted of a variety of cultures based in the grasslands region, while the former was a relatively uniform culture throughout the boreal forest.

In warmer months the Plains Archaic people lived in the grassland setting where large bison herds, their staple food source, provided food, shelter, and clothing. When colder months arrived, they moved into the parkland where the buffalo sought shelter. The parkland was also occupied during the colder months by the Shield Archaic people for the same reasons. The summer sources of food from the boreal forest, caribou, moose, etc., had either migrated or were scarce in winter. Game such as small mammals, birds, and fish diversified the Shield

Archaic diet throughout the year and likely created a less nomadic lifestyle than that of the Plains Archaic people.

The appearance of Woodland culture corresponds to the vegetation zones reaching their present character approximately 3000 years ago (Tabulenas: 1983). They developed from eastern Archaic cultures and represent a further adaptation of man to the environment. Archaic and Woodland people co-existed chronologically and are, therefore, difficult to distinguish; however, the latter can be identified by several innovations. These are pottery, bows and arrows, linear mounds, petroforms, petroglyphs, and pictographs. The impact upon the landscape of the innovations has persisted until today.

Impact

The impacts of Paleo-Indian, Archaic, and Woodland cultures reflect the progressive adaptations of each culture to the environment. Most of these impacts can be traced through the camp sites and kill sites each culture developed within their area of ecological specialization.

Frazer (1983) indicates that Paleo-Indian may have used features of the landscape, such as the numerous swamps, to trap large animals for easier killing. On the advancing grassland, it is also believed that early man used the terrain to hide his presence while stalking animals in communal hunting groups. Referred to as the 'surround' method of hunting, this

system relied heavily upon existing natural characteristics of the landscape.

The development of 'bison jumps' occurred by the middle of the Paleo-Indian period. On the grasslands, the Indians occasionally made use of ravines and coulees to kill animals by stampeding them over cliffs and edges. These sites played central roles in provisioning later Archaic man with large quantities of meat and hides. Head-Smashed-In Bison Jump in Alberta is an example of a site which has been in use for centuries.

Wintering camp sites of Paleo-Indians were located on the edges of the plains where geographical advantages occurred for hunting. The Indians wanted to channel animals in specific areas and reduce their speed. These conditions were often found at narrow openings of creeks and rivers, with camps located on nearby high ground.

As Plains and Shield Archaic cultures began to dominate the West approximately 7000 years ago, their impact on the landscape reflected a further adaptation to new environments. Circles of stones, or tipi rings, now found in the plains bear mute testimony to the Plains Archaic summer camps. Located in the grasslands, these camp sites are generally near bison jumps or at locations from which game movements could easily be observed. Groups of these represent the seasonal gathering sites

where communal bison hunts occurred. It is believed that in Alberta alone there are over one million of these rings (Dickason: 1980).

Bison jumps, originally used by Paleo-Indian, became more numerous and elaborate in the Archaic period. Sites within the foothills of Alberta and sections of Saskatchewan were the most popular for this activity. To increase the efficiency of the jumps, drive lanes were constructed to funnel the bison to the jump. Some of these lines radiate two miles away from the edge of the drops (Dickason: 1980).

As winter approached, bison migrated to the forest edge where food was more available. In anticipation of this movement, Plains Archaic people preceded them and established camps in the parkland. Favored locations for these camps were in the river valleys and wooded uplands where bison were expected to cross or feed. Remains of camps found at these locations in the aspen parkland confirm this interpretation.

The impact of Shield Archaic cultures on the landscape can also be seen in the remains of their seasonal camps. These people developed their cultures and activities around the lakes, rivers, and streams of the Canadian Shield. Movement of people and animals was easier through these natural transportation networks, and impacts of Shield Archaic people upon the landscape are generally restricted to these regions. Dwellings have yet to be positively identified, but evidence of camps on lakes and near stream mouths is indicated by various remains (Pettipas: 1983).

The impact of Woodland cultures on the landscape is indicated not only by camp sites and kill sites like the Archaic cultures, but also in new imprints on the land. These are the petroforms, pictographs, petroglyphs, and linear mounds found in different ecological zones of the west. Petroforms, arrangements of rocks in geometric or abstracted animal forms (Figure 3) are found throughout the study area. On the plains, they are referred to as medicine wheels at sites where men went to receive visions or spiritual guidance.



FIGURE 3 Petroforms in southeastern Manitoba (Pettipas: 1983, p.143).

Rock paintings or pictographs are generally found only in Shield areas and represent human or animal forms. Petroglyphs or carvings in rocks (Figure 4) usually portray these same forms or entire battle scenes such as those found along the Milk River in southern Alberta. While the functions of these latter two forms are not fully understood, it is generally believed that they are linked to native mythology, where they represent sources of power or wisdom (Pettipas: 1983).

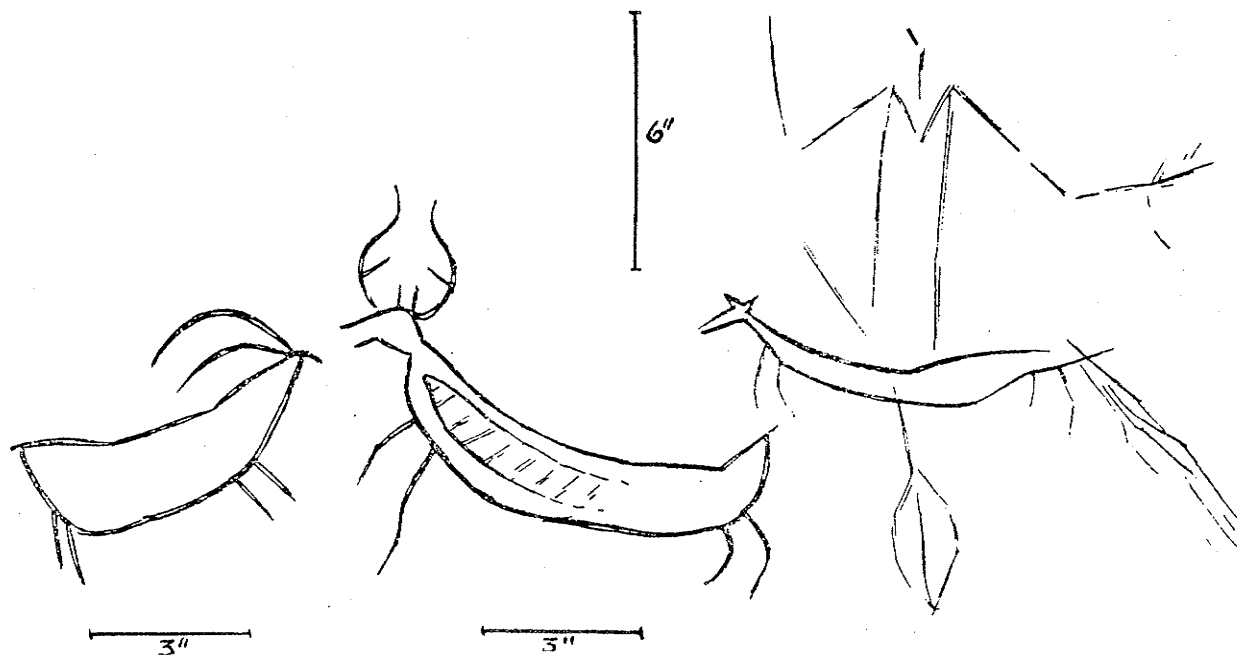


FIGURE 4 Petroglyphs in southern Alberta (Dewdney: 1964, p.25).

Linear mounds are another landform introduced into the landscape during this period. Generally found in the grasslands, these consist of long low ridges with domed mortuary tumuli at either end. While the exact purpose of the linear portions is unknown, recent investigations

indicate the alignments correspond to astronomical phenomena which occurred during the period (Pettipas: 1983).

Woodland Indians also introduced an adaptation of the bison jump called the 'pound'. Bison were driven over a drop in elevation into an enclosure constructed of brush or snow (Figure 5). This method of hunting was used until historic times.

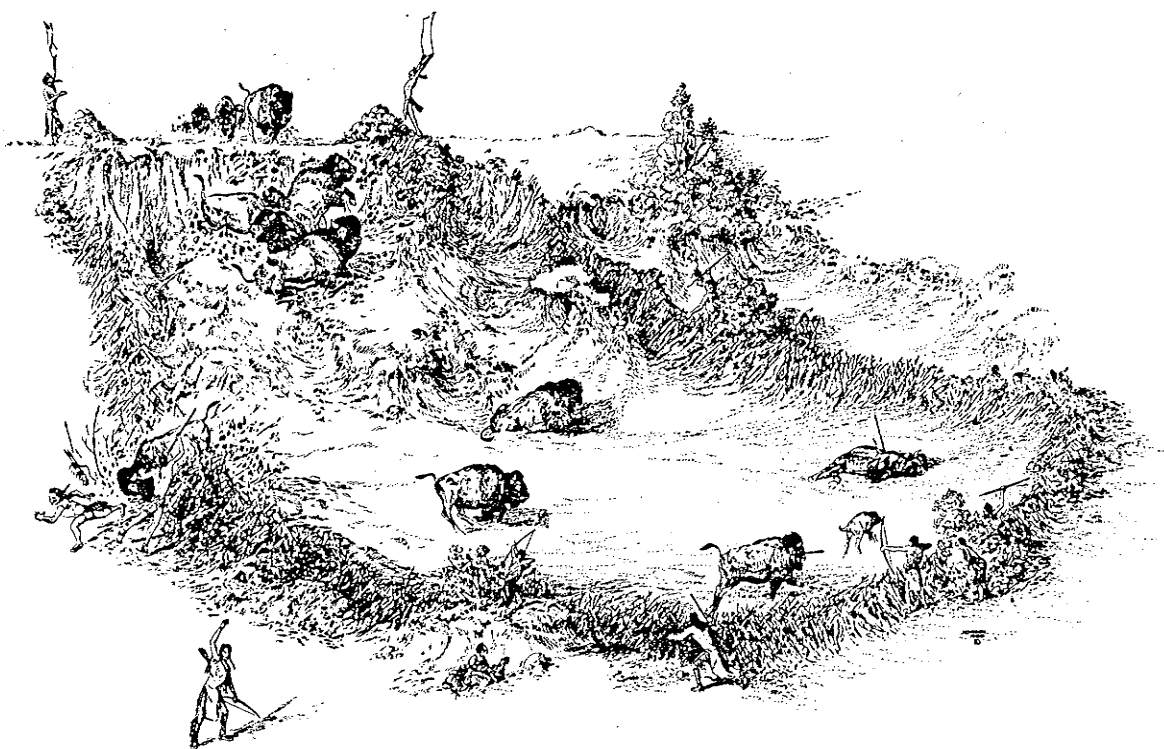


FIGURE 5 Bison pound (Pettipas: 1983, p.131).

2.1.3 Arctic Entry and Settlement

Thrust

The first arctic people to inhabit northern portions of the study area belonged to Pre-Dorset culture. Likely descendants of northern forest hunters, these people moved from Alaska into the low arctic islands and the barren grounds. After 1500 B.C. for approximately 700 years, while inhabiting the area around Colville Lakes, Bear Lake, Great Slave Lake, these people may have ventured as far south as Lake Athabasca and the northern rivers which drain to Hudson Bay (McGhee: 1978). They were nomadic hunters using such resources as caribou, birds, fish, seals and whales.

As a cooling trend covered the North, Dorset cultures superseded Pre-Dorset occupation of the northern reaches of the continent. From 800 B.C. to 1000 A.D. Dorset cultures existed along edges of the northern oceans, basing their subsistence on sea mammals. During this period, Dorset occupation extended into the north-eastern section of the study area along Hudson Bay (McGhee: 1978).

By 1000 A.D. Dorset culture had declined in population and distribution. Their eventual extinction is not fully understood. Climatic warming may have altered the environment sufficiently at this time to change sea ice conditions again. Unprepared or unable to adapt to changing animal distributions, some groups may have starved to death

while others were driven out of the best hunting areas or killed by the Thule people.

Thule culture is believed to have developed in northern Alaska in the latter part of the tenth century and spread quickly across arctic North America (McGhee: 1978). This spread was aided by a general warming trend where the tree line advanced further north and drift ice did not reach as far south. Hunting of whales created a relatively stable sedentary lifestyle for these people. Within the study area, Thule culture existed along the northern portions of the Hudson Bay coastline.

After 1200 A.D. the climate of arctic Canada began to cool again. The resulting longer winters and extensive sea ice coverage likely resulted in the starvation and death of many Thule groups. Some groups, however, were able to adapt. Between 1200 and 1600 A.D. many of the original Thule culture adapted to the regional climatic conditions and became the varied Inuit cultures seen when Europeans entered the West in the seventeenth century.

Impact

The impact of these various groups upon the landscape has depended upon the technology and knowledge which each group inherited, absorbed, or developed. While it is likely that a large population never developed, the impact that these people made still can be seen within the landscape. As McGhee noted, the evidence of man's impact upon the

arctic landscape has persisted due to the cool climate, durability of artifact material and the relative lack of human disturbance (McGhee: 1978).

The impact upon the landscape by Pre-Dorset people reflects the seasonal movements of small bands. It appears that seasonal camps were used over several generations, with the individual camps clustered together in groups of up to several dozen structures. The circular skin dwelling forms can be discerned from stones and boulders which formed tent rings or from the vegetation now growing in the hollows they created. The camps are found in the same areas of hunting and fishing as those used by later people, an example of which occurs at Sea Horse Gully along Hudson Bay. It is probable that the fish weirs and caribou drive fences found in these areas were first built by Pre-Dorset people.

Dorset occupations of arctic regions appear to have been more successful than Pre-Dorset. An increase in the size and number of middens indicates a better adaptation to a changing environment. A further impact upon the landscape was created by these people through their housing forms. In winter they lived in small groups on the coastline. The stone floor remains of their semi-subterranean houses still exist at a location north of the Pre-Dorset Sea Horse Gully site. Summer houses, located near favored fishing areas, are represented by rings of stones which anchored skin tents.

These are found in larger groups which probably represent communal gathering sites. Little trace of winter houses exists as it is believed Dorset people lived on the ice in snow houses.

The Thule culture's impact upon the landscape is strongly related to the development of a large whale-hunting technology. This resource allowed a sedentary lifestyle which can be seen in the relatively permanent stone floored houses. Groups of a few houses are gathered in camps probably representing the major social unit. In summer when these houses became unusable, skin tents were probably pitched on the nearby beach (McGhee: 1978).

Thule people created numerous rock structures for purposes of hunting and enjoyment. Because of the number and sizes of these structures throughout the landscape, these people have been referred to as a "geological event" (McGhee: 1978). They were responsible for the building of boulder dams or weirs on rivers and streams to aid fishing. They also constructed drive lanes of rocks to direct caribou to awaiting hunters and tower traps to catch fox and bears.

2.1.4 Post Contact Native Settlement

Thrust

The traditional impact of natives on the landscape changed as they came into contact with Europeans. From 1668 direct contact was established by the Hudson's Bay Company through its trading posts on Hudson Bay.

Cree and Assiniboine tribes quickly became middle men in the fur trade economy by transporting trade goods to interior tribes of Blackfoot, Beaver, and to other Cree and Assiniboine bands while returning with furs to the trading posts. By 1738 French traders began to establish inland trading posts along the Saskatchewan and Assiniboine rivers. These were followed in 1774 by the English: an action which made the natives' trip to the Bay unnecessary and the middle man function of the Cree and Assiniboine redundant. To recover their trading power, some bands of these tribes began hunting bison to provide the fur trade companies with food supplies.

This position did not last. By the mid-nineteenth century, the Metis, a mixed-blood people descended from Natives and Europeans, had gained control of the bison hunt and provisioning of the Hudson's Bay Company. By the 1870's many fur resources were depleted from over hunting, the bison migration had stopped and settlers were arriving from the East to occupy native lands. The result was that natives were displaced from their traditional lands and left with few economic opportunities.

Impact

As Indians came into contact with Europeans, the first impacts on the landscape occurred as some natives changed their seasonal movements. This alteration created camp sites in different areas at different times of the year. Cree and Assiniboine tribes quickly adjusted their traditional cycles of yearly movements to include a trip to Hudson Bay.

Often small encampments or settlements were created nearby trading posts on a seasonal or permanent basis. Not all tribes changed their seasonal movements. For the Blackfoot and Beaver Indians of the plains, parklands and woodlands in Alberta and Saskatchewan, changes of movement were unnecessary as traders brought trade goods to them. When the Cree and Assiniboine were displaced from their function as middle men in the 1770's, they abandoned the yearly trek to Hudson Bay. Many bands of the two tribes turned to provisioning the traders with pemmican. As the natives had little need to maintain ties with the forested regions, their seasonal movements shifted to the grassland and parklands where bison hunting provided them with a commodity to trade. Summer fishing camps were abandoned, but the winter movement to follow bison into the parkland was maintained (Ray: 1974).

Seasonal movements between traditional campsites were maintained by most other western tribes until the early nineteenth century. At this time the Ojibway in the southeast portion of the study area were the first to abandon the movement. They had begun limited corn production which provided an alternate food source to the bison. This allowed some Ojibway bands to become sedentary thus creating more permanent camps. Woodland-parkland and parkland-grassland tribes continued following traditional patterns of movement. It was not until the 1870's when bison stopped migrating that native seasonal movements provided few benefits and were abandoned.

At a larger scale than seasonal movements, there was a significant change in the location of tribal territories (Figure 6). When Europeans arrived at Hudson Bay, Cree and Assiniboine tribes shifted their territory to the northeast. As this movement occurred, campsites were established within the new areas. This territorial expansion continued as these Indians gained control of trading goods and more specifically firearms. Many Indian battles occurred throughout the study area as a result. As Europeans moved inland in the late eighteenth century change again occurred, displacing the Cree and Assiniboine middlemen. As

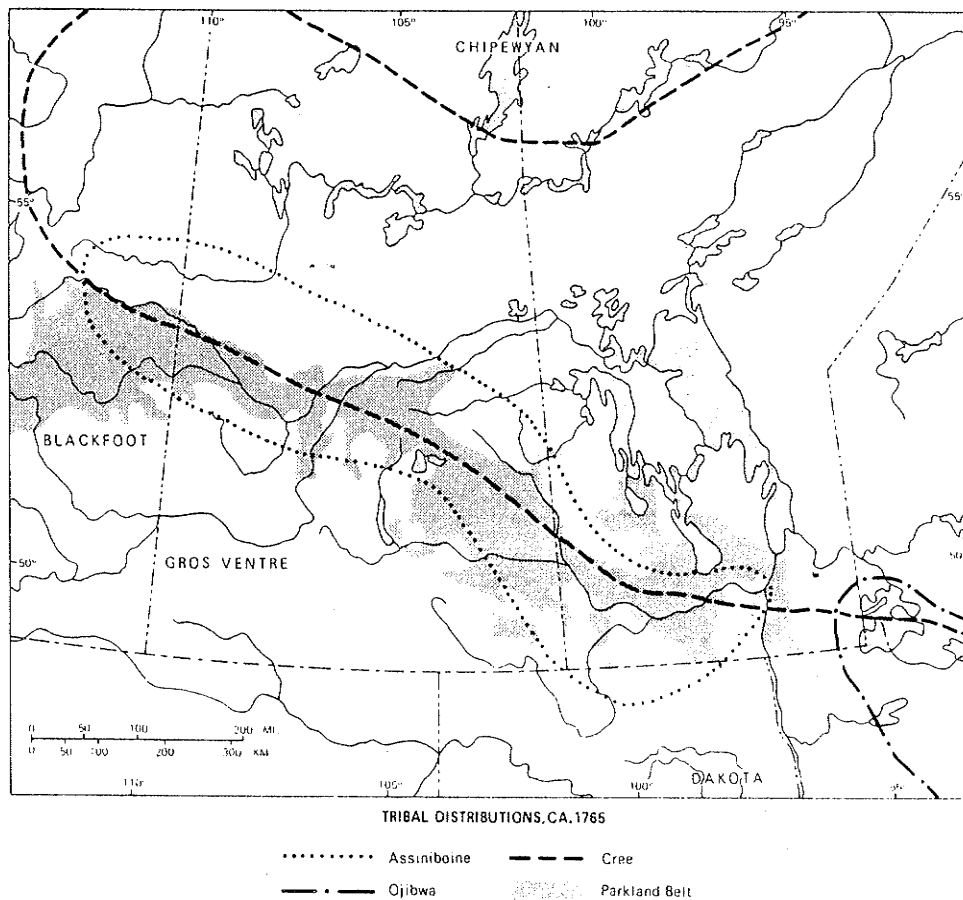


FIGURE 6 Tribal Distributions Ca. 1765 (Ray: 1974, p.22)

indicated in Figure 7 the two tribes shifted southwest, an expansion which continued in the 1800's. This movement increased the range of their impact on the landscape and decreased that of the Gros Ventre, who were pushed further southwest. The western movement of the Cree and Assiniboine also allowed the Ojibwa to expand out of the eastern shield further west into southern Manitoba and central Saskatchewan by the 1820's (Figure 8).

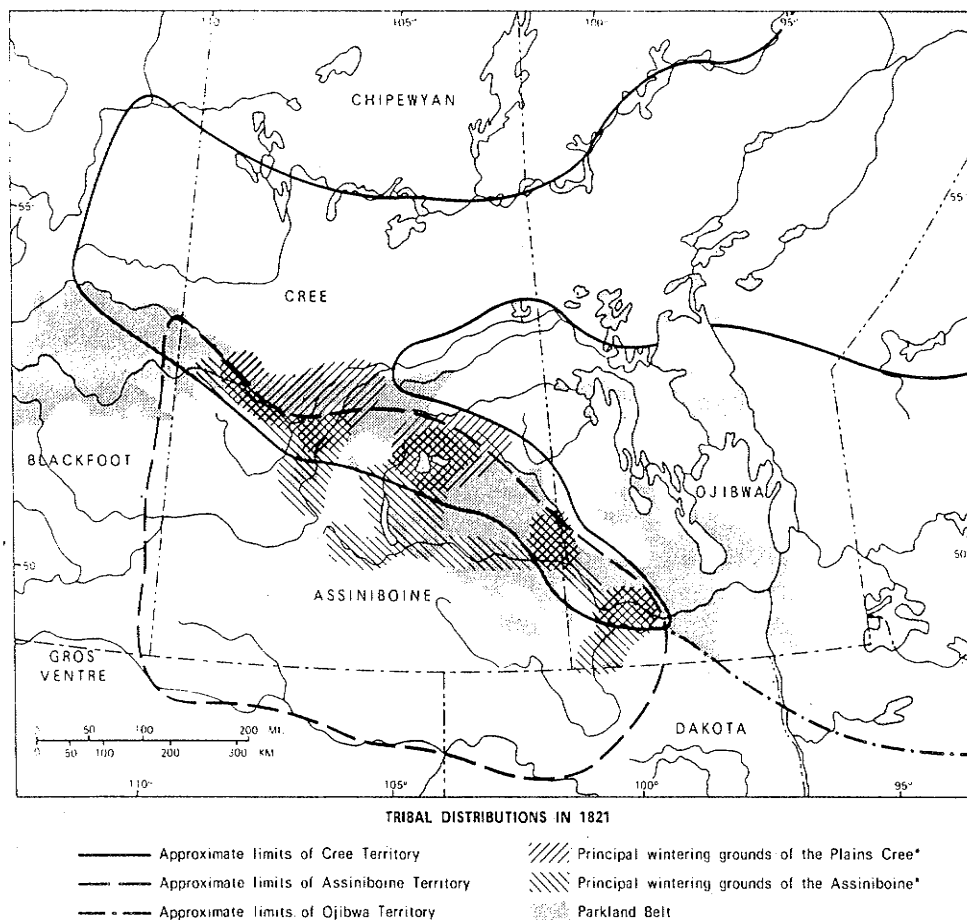


FIGURE 7 Tribal Distributions in 1821 (Ray: 1974, p. 100).

During the 1800's as Indians were being displaced from their traditional roles in the fur trade, they created a new impact on the landscape. Many Indians and Metis migrated to agricultural colonies such as Red River, where some attempted limited agriculture. Their numbers increased the size of the colony, particularly at St. Boniface, where a Metis community was growing. Here the Metis and Indian riverlot farms consisted of limited cultivated land and small farmyards, but these were

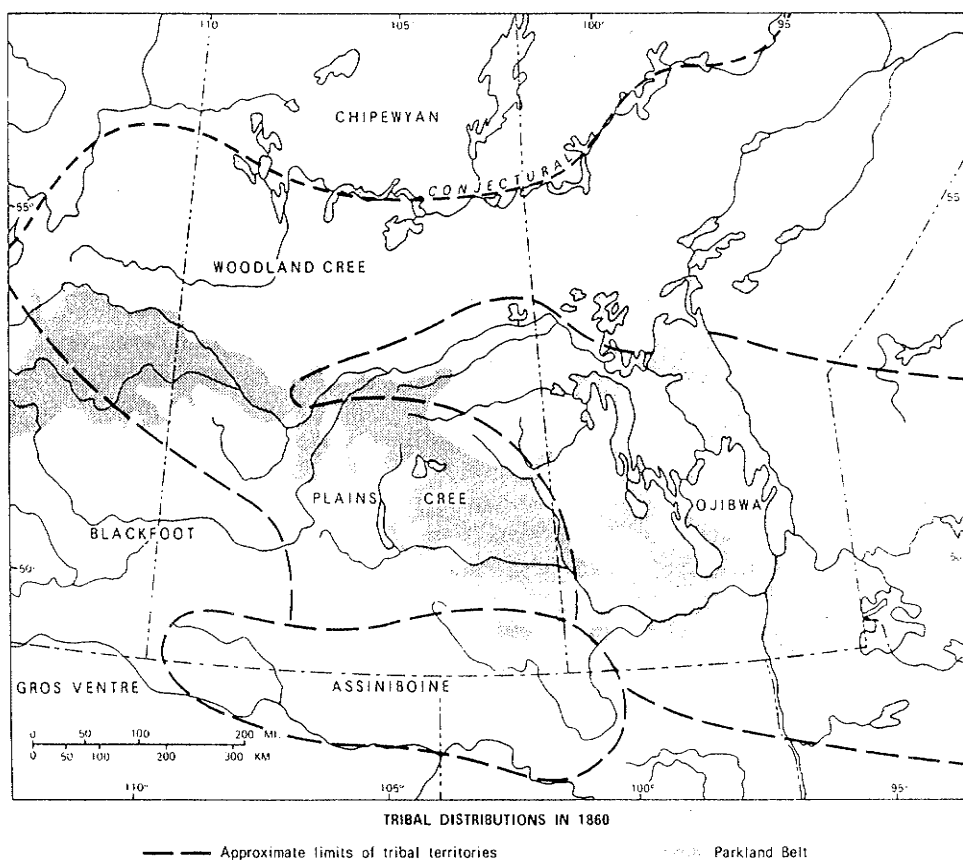


FIGURE 8 Tribal Distributions in 1860 (Ray: 1974, p. 184).

often abandoned in favor of the bison hunt (Ray: 1974). To encourage the transition from a nomadic to a more sedentary lifestyle, agricultural settlements were founded. Often these were run by religious orders such as the Church Missionary Society at Stanley Mission in Saskatchewan, established in 1850. These mission settlements met with limited success, as the natives often preferred their traditional nomadic lifestyle.

By the 1870's the natives recognized the impact of changing circumstances on their economic opportunities. Tribes began approaching the government to obtain cattle, implements, and assistance in adjusting to a new lifestyle. Out of economic necessity for the natives and political pressure of Victorian Imperialism, Western Indians were brought under treaties and settled on reserves in the 1870's and 1880's. The treaties allocated discrete parcels of land for each band. Most were located in regions where their tribes had traditionally lived. The effect on the landscape was to create numerous reserves throughout the West. Agriculture was encouraged, schools and medical facilities were constructed on most sites, and small settlements and villages were created which exist until the present day.

In the period from 1668 when Europeans first arrived in the prairie West until the 1870's, the native role within the landscape changed greatly. At the start they were integral part of it, depending upon the land for their existence. As natives came into greater contact with European

trade goods, technologies and economy, their lifeways and impact upon the landscape changed. The result was eventually to displace the natives from a landscape they had lived in for centuries.

NATIVE ENTRY AND SETTLEMENT	Theme Segments	Subtheme					LEGEND:
		1. Post Glacial Entry			2. Post Glacial Settlement		
ALBERTA	Theme Segments	Subtheme					LEGEND:
		1. Corridors of Migration			2. Post Glacial Settlement		
National Historic Site	Theme Segments	Subtheme					LEGEND:
		i. Paleo-Indian	ii. Archaic Settlement	iii. Initial Woodland	i. Pre-Dorset	i. Int. Hunters & Gatherers	
							LEGEND:
							P - plaque
							S - site
							X - direct reference to site
							O - indirect reference to site
							NOTES:
FORT DUNVEGAN	S				X		1805 - 1918 NWCo Post & Missionary.
INDIAN BATTLE OF 1870	P					X	Cree & Assiniboine vs Blackfoot.
RED CROW	P					O	Choose Site of Blood Reserve.
RUNDLE'S MISSION	P					X	1847 Agricultural mission for Indians.
TREATY NO. 7	P					X	1877 Blackfoot Sign.
Provincial Cairns							
FIRST ARCHAEOLOGICAL SITES	P			O			Early Tribes 3000 B.P.
WRITING-ON-STONE	S			X			Petroglyphs.
THE RIBSTONES	P			X			Petroglyphs 1000 yrs B.P.
BLACKFOOT - CREE BATTLE	P					X	Site of 1870 Blackfoot - Cree Battle.
LAC STE. ANNE MISSION	P					X	Catholic Mission 1845.
ST. AUGUSTINE MISSION	P					X	Boarding School For Metis 1892.
ST. CHARLES MISSION	P					X	1866 Mission built by Roman Catholics.
ST. JOSEPH'S INDUSTRIAL SCHOOL	P					X	1884 Boarding School.
VICTORIA JUBILEE HOME	P					X	1890 Church of England Boarding School - Agriculture taught.
National Historic Park							
ROCKY MOUNTAIN HOUSE	S					X	NWCo & HBCo Post 1799 - 1875.
World Heritage Site							
HEAD-SMASHED-IN BISON JUMP	S		X	X		X	
Provincial Roadside Signs							
RIBSTONES	S			X			

NATIVE ENTRY AND SETTLEMENT	Theme Segments	Subtheme					Post-Contact Native Settlement	LEGEND: P - plaque S - site X - direct reference to site O - indirect reference to site
		1. Post Glacial Entry	2. Post Glacial Settlement	3. Arctic Entry & Settlement	1. Int. Hunters & Gatherers			
ALBERTA		i. Corridors of Migration	i. Paleo-Indian	ii. Archaic Settlement	iii. Initial Woodland	i. Pre-Dorset		NOTES:
BLACKFOOT - CREE BATTLE	P					X		Site of 1870 Battle.
BLACKFOOT TREATY - NUMBER 7	P					X		Near here Treaty signed 1877.
BLOOD INDIANS	P					O		Reserve Site.
THE BUFFALO	P					O		Buffalo in Native Life.
LAC STE. ANNE MISSION	P					O		1843 Metis & Indian Mission.
MORLEY INDIAN MISSION	P					X		1873 Stony Indians Mission.
RED CROW	P					O		Signed Treaty 7 & chose Reserve site.
RUNDLE MISSION	P					X		1847 Protestant Agricultural Mission.
ST. ALBERT MISSION	P					X		1861 Missionary Centre for West.
ST. PAUL DES CRIS	P					X		1865 - 1873 Agricultural Mission.
TAIL CREEK	P					X		1870's Metis Campsite.
TREATY NUMBER SIX	P					X		Signing of Treaty in 1876.
TREATY NUMBER EIGHT	P					X		Site of Signing - 1899.
VICTORIA SETTLEMENT	P					X		Mission to serve Indians Est. 1864.
Provincial Historic Site								
STRATHCONA ARCHAEOLOGICAL CENTER	P		X	X				Interpretation of Archaeological Site.

2.2 INVENTORY

NATIVE ENTRY AND SETTLEMENT	Theme Segments	Subtheme					Post-Contact Native Settlement	LEGEND: P - plaque S - site X - direct reference to site O - indirect reference to site
		1. Post Glacial Entry						
		2. Post Glacial Settlement		3. Arctic Entry & Settlement				
		i. Corridors of Migration		i. Int. Hunters & Gatherers				
		i. Paleo-Indian		i. Pre-Dorset				
		ii. Archaic Settlement						
		iii. Initial Woodland						
SASKATCHEWAN								
Provincial Historic Site								
BIG ROCK	P			X			Rock Sacred to Plains Natives.	
LA ROCHE PERCE	P			O			Petroglyphs.	
ST. VICTOR PETROGLYPHS	P			X			Rock Carvings.	
AHTAHKAKOUP	P					O	Signed Treaty 6.	
ASSINIBOINE ELBOW	P					X	Indian meeting place 1793-1912 HBCo, NWCo Posts.	
BLACKFOOT MASSACRE	P					X	1866 Blackfoot - Cree.	
FORT WALSH - FORT QU'APPELLE TRAIL	P					O	1879 Demonstration Farm.	
ONION LAKE SETTLEMENT	P					X		
ST. JOHN THE BAPTIST MISSION	P					X	1860 - 1905 School & Convent.	
STANLEY MISSION	P					X	1850 Church of England Mission for Cree.	
National Historic Sites								
ILE-A-LA-CROSSE	P			X		X	Island used for centuries by Natives & Whites. 1775 Post.	
FORT QU'APPELLE	P					O	1874 Treaty 4 Signed here.	
FORT PITT	P					O	Site of Signing Treaty 6 1876.	
TREATY NUMBER 6	P					X	Site of Negotiation of Treaty 6.	

2.2 INVENTORY

NATIVE ENTRY AND SETTLEMENT

MANITOBA

Provincial Historic Marker

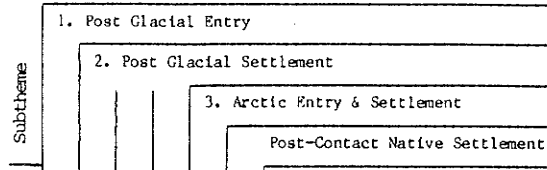
	Theme Segments	Subtheme					
		i. Corridors of Migration	i. Paleo-Indian	ii. Archaic Settlement	iii. Initial Woodland	i. Pre-Dorset	i. Int. Hunters & Gatherers
BOLDERS MOSAICS	P				X		
PILOT MOUND	P				X		
CHIEF PEGUIS	P						O
ST. PETERS CHURCH	P						O
National Historic Sites							
INDIAN TREATY NUMBER 1	P						X
TREATY NUMBER 1	P						X

LEGEND:

- P - plaque
- S - site
- X - direct reference to site
- O - indirect reference to site

NOTES:

- Late Pre-Historic Indian Burial Site.
- Helped establish St. Peter's Agricultural Settlement.
- 1834 First Indian Agricultural Community.
- 1870 Canadian Government Instituted Treaties.
- Signed 1870.



2.3 EVALUATION

The theme segment Post Glacial Entry has not been represented as part of the historic landscape resources. It is a period not yet fully understood and only a few archaeological sites have been examined. Conclusive evidence will likely be difficult to attain, as glaciation has removed large portions of the prehistoric record. For this reason, commemoration of this theme segment is not currently possible at any specific site.

The effect of post-glacial settlement on the landscape is divided into three segments: Paleo-Indian, Archaic, and Woodland settlement. From the inventory we can see that these segments have been partially identified as part of historic resources representation.

Currently no Paleo-Indian sites are commemorated with plaques or developed for interpretation. It is likely that this theme segment has received little attention as the period is not yet fully understood. Only a few artifacts have been found relating to it; further research will be necessary before the period is more fully understood.

Archaic occupation has been represented in conjunction with Woodland Indian site at two developed sites: Head-Smashed-In Bison Jump and the Strathcona Archaeological Center, both in Alberta. At these sites, artifacts have been preserved and interpreted in-situ. The Head-Smashed-In site has been declared a World Heritage Site by the

Unesco and is currently being developed for interpretation. This designation acknowledges the site as being important to world history and offers it as a unique resource of North American landscape development.

Woodland culture has received the most attention within this theme. Several plaqued sites throughout the study area represent portions of this culture's impacts upon the landscape. Examples of petroglyphs at Writing-On-Stone in Alberta and St. Victor's Petroglyphs in Saskatchewan have been commemorated. Boulder mosaics are represented in Manitoba, as well as a linear mound at Pilot Mound. All of these sites, however, only represent one aspect of these peoples' impacts on the landscape: their religious beliefs. None of the seasonal camps or bison pounds are a part of the acknowledged historic record. Many examples of these exist throughout the West, an indication of the extent can be seen in the archaeological literature. While many aspects of these cultures are not yet fully understood and may lead to a lack of commemoration, there are many potential resources which are being lost or destroyed from a lack of action to preserve them.

Three phases of Arctic entry and settlement have been identified as creating an impact in northern areas of the western landscape. These are not currently being interpreted as part of the historical record. This may be due to the lack of knowledge about the impacts created during this period. Only a few sites have been investigated in the

study area, and as a result, the history and impact of these people on the landscape are not fully understood. Although further study of the period is necessary, existing sites should be represented.

There are several aspects of post-contact native settlement which should be represented as part of western Canadian historic landscape resources. These include seasonal movement and camps, changes in territories, inter-tribal battles, church missions, agricultural settlements, and the creation of reserves. The inventory indicates that these aspects of the theme have been only partially represented.

Few of the impacts upon the landscape created by shifts in seasonal movements or changes in tribal territories have been represented. As in the previous subtheme of Post-Glacial Settlement, the camp sites of the natives have not received commemoration. The only exception to this is the representation currently being made at Head-Smashed-In Bison Jump in Alberta. This, however, portrays only one tribe's seasonal camp and hunting site in the grassland. There were other seasonal gathering sites of tribes in the grassland, parkland and forest which exhibited different impacts on the landscape. Action should be taken to represent these areas.

✓ The opportunity to interpret the impact of native encampments at fur trade posts is present at existing European forts. Little use is being made of it. Preservation activity in the past has focused on these

posts, but the European influence on the landscape has dominated the interpretation. Greater emphasis should be placed upon the native impact within this setting.

The scenes of many intertribal Indian battles have been commemorated by plaques. The landscape at these sites generally bear few traces of the activities which occurred. They are important, therefore, because of the event rather than any specific impact on the landscape.

Religious and agricultural missions are represented by plaques only in the eastern portion of the study area. These include Rundle Mission, St. Paul Des Cris, Victoria Settlement, Lac Ste. Anne, St. Albert, and Morley in Alberta, and the Stanley Mission in Saskatchewan. Only one site of a mission has been developed, and this is at Dunvegan in Alberta. More attention should be forthcoming on interpreting this aspect of the theme, as a major role of these missions was to educate the natives in agriculture. To the author's knowledge, no attempt has yet been made to represent this.

One aspect of post-contact native settlement which has been adequately represented is the signing of treaties. Most of the sites of these historic activities have been adequately represented with plaques. The lands which were assigned as reserves, however, have received no commemoration.

Knowledge of native impact on the landscape during this period is quite well documented. Many scholarly studies, papers, and books exist on the subject, but little has been written to portray the native role in western landscape development.

CHAPTER 3

EUROPEAN ENTRY

3.1 THEMATIC FRAMEWORK

The first impacts of Europeans on the western Canadian landscape occurred in the early seventeenth century. At this time, French and British vessels were exploring the coastline of Hudson Bay in an attempt to discover the Northwest Passage. Instead of the passage, however, they discovered the wealth of furs which were abundantly available from natives on the coast and further inland. Over the next two centuries, the European pursuit of this resource was to draw groups and individuals into the interior of western Canada. In the process, portions of the landscape were altered and it is these changes which are the focus for the theme, European Entry.

3.1.1 Fur Trade

Thrust

The effects of European entry upon the landscape can be divided into two segments. Each had its own distinct impacts on the landscape. The first segment, French and British conflict for control of the interior, begins with the first Europeans entering western Canada in 1670 and ends in 1760 with the changes brought about by the transfer of Canada from French to British control. The second segment deals with the subsequent

period of intensive competition in the western interior between the Hudson's Bay Company and the independent traders from Montreal. This second period ends with the amalgamation of the major fur trading companies in 1821.

The impact on the landscape of European entry began when fur trading posts were erected on the coast of Hudson Bay. In 1670, the monopolistic charter granted by the King of England to the Company of Adventurers Trading into Hudson Bay gave the company the right to trade with the Indians for furs. The system operated by having Indians from the interior bring their furs to the Bay to be traded for English goods. To accommodate and attract the trade from various sources, the company built several posts, each located at the mouth of a major river (Figure 9).

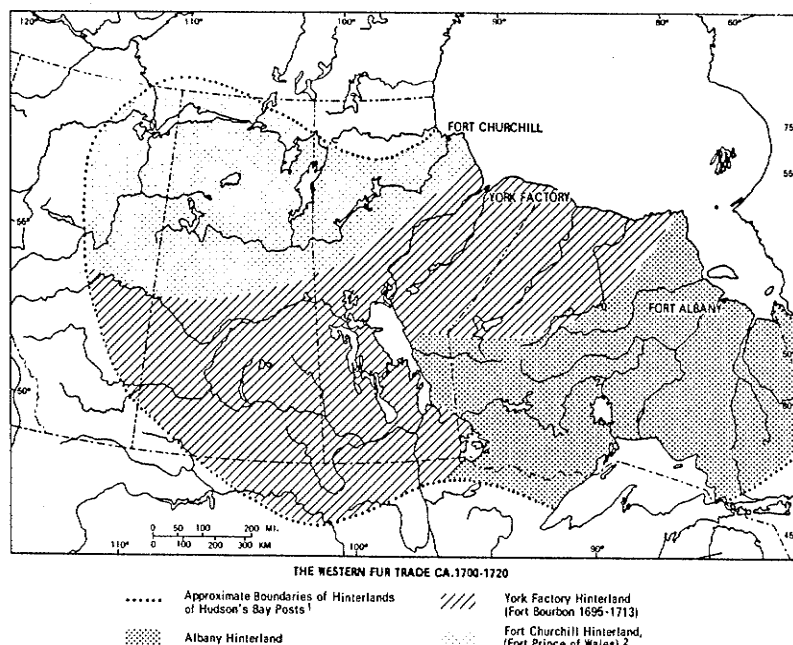


FIGURE 9 Western Fur Trade ca. 1700-1720 (Ray: 1974, p. 54).

Control of the Bay forts changed hands between the English and French several times between 1670 and 1713. The Treaty of Utrecht, signed in 1713, gave control of this region exclusively to the English. Not wishing to lose the lucrative fur trade, the French were forced to penetrate inland from the St. Lawrence - Great Lakes region.

The second segment of European entry begins with the active movement of Montreal traders into the West and their construction of trading posts to attract trade away from the Bayside posts of the Hudson's Bay Company. By the 1770's, the number of furs reaching Hudson Bay had decreased, forcing the English to move their posts inland to regain some of the market. A fierce competition developed between the Hudson's Bay Company and the North West Company, formed in 1785 by the Montreal traders. This rivalry lasted until 1821, when the two major companies amalgamated.

Impact

Initial entry of Europeans into western Canada introduced a series of changes which eventually transformed large segments of the landscape. During this period, European values, perspectives, and objectives were imposed upon the landscape through construction of fur trading posts.

The early posts constructed by the Hudson's Bay Company show a transfer of cultural ideals and their adaptation to the existing landscape. As Thomas and Clarke (1979) indicate, once a site was chosen, the layout

A TYPICAL HUDSON'S BAY CO'S FORT OR TRADING POST PRIOR TO 1821.

NOTES

OFFICER'S QUARTERS WITHIN OF WALLS & BUILT
WITH PAINTED TIN IN 1810
DURING 1810
TERRACE WALLS CONSTRUCTED DURING 1810
BY JOHN TOWN & CO
A WALL WAS BUILT UPON THE EAST SIDE OF THE
OFFICER'S QUARTERS IN 1810 STRAIGHT AT THE
FOOT OF THE BAY WALL.

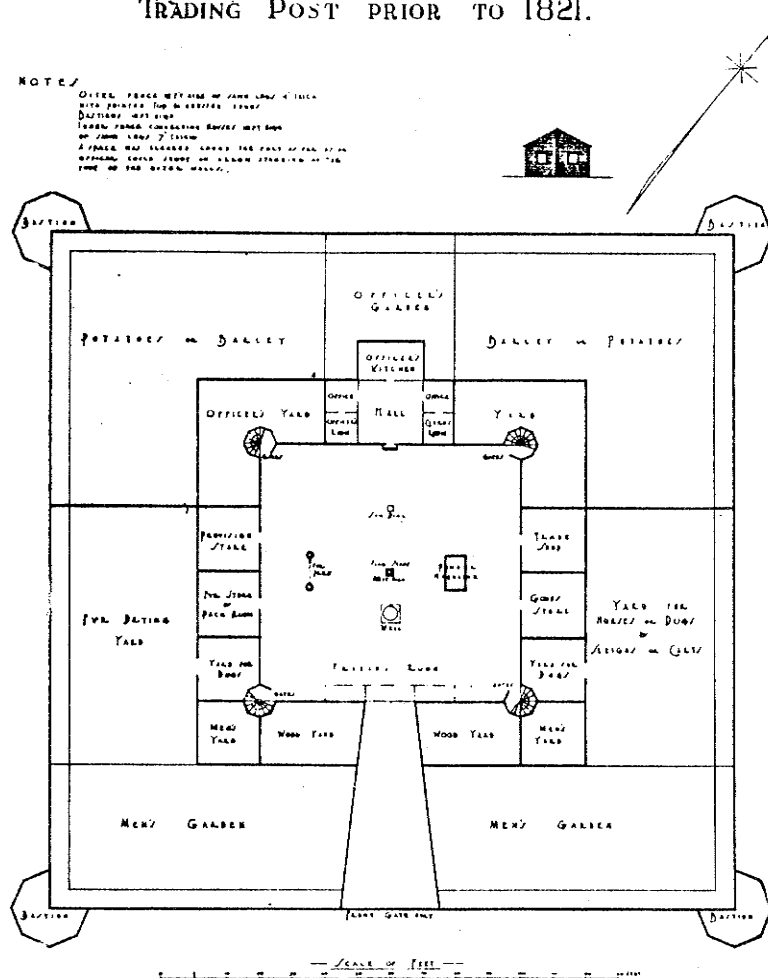


FIGURE 10 A typical Hudson's Bay Company Fort prior to 1821 (Thomas and Clarke: 1979, p. 85).

and construction followed a set pattern for the placement of buildings and paths (Figure 10). Natural vegetation in the vicinity of forts was quickly cleared as wood was needed for construction and fuel. The result was a denuded landscape in the immediate area of bayside forts and later of interior ones.

When the French moved inland after 1713 and erected a series of trading posts to intercept Baybound furs, their posts were strategically located on the major river routes leading to the Bay. Some of the French posts, placed in key positions at the nodes in river systems, became the centers of Winnipeg, Portage La Prairie, Dauphin, and The Pas. The French posts and later inland English posts were of a less durable nature than Bayside posts. Constructed hastily of logs and surrounded by wooden pallisades, these sites were not viewed as permanent structures. The Europeans were generally there to quickly exploit the fur resource and move on.

After 1775, construction of inland posts exposed Europeans to a greater diversity of landscapes and more amenable climates. Fierce competition between Baymen and Montreal traders for prime locations meant that sites were chosen, developed, and abandoned after short periods of time (Thomas and Clarke: 1979). This pattern was a result of experimentation and testing of the new environment; what appeared to be a prime site in the summer might be washed away in spring floods. The rival companies erected trading posts close to each other for increased competition, primarily related to accessibility to the native populations and transportation routes. However, some consideration was given to the availability of wood, food supply, and sometimes the aesthetic appeal of the land.

Attempts at vegetable and flower gardens were made at the English Bayside forts as well as the interior French and English posts. The more northern gardens met with limited success due to the severity of northern climates, but southern ones produced adequately. Where horticulture flourished, these attempts provided valuable information for later agricultural endeavors. As Daniel William Harmons's journal indicated, some Europeans were creating a sanctuary to serve as a spiritual retreat and source of nourishment, an oasis in an alien landscape (Thomas and Clarke: 1979).

3.2 INVENTORY

Theme Segments	Subtheme	Fur Trade		NOTES:
		i. French & Brit. Trade in Interior	ii. Intensive Competition	
EUROPEAN ENTRY				
ALBERTA				
National Historic Site				
FORT AUGUSTUS, FORT EDMONTON	P	X		NWCo 1794 - Fort Augustus HBCo 1975 - Fort Edmonton
FORT DUNVEGAN	S		X	1805 - 1918 NWCo Post & Missionary.
FORT FORK	P		X	NWCo Post.
HENRY HOUSE	P		X	NWCo Post 1811 - 1821.
JASPER HOUSE	P		X	NWCo Post 1813 - HBCo 1829.
Provincial Cairns				
BUCKINGHAM HOUSE	P		X	HBCo & NWCo Trading Post 1792.
FORT DE L'ISLE	P		X	1799 - XYCo Est. Trading Post followed by HBCo & NWCo.
FORT GEORGE	P		X	NWCo Post 1792 - 1802.
FORT WHITE EARTH	P		X	1810 - 1813 NWCo & HBCo Post.
McLEOD'S FORT	P		X	1790 - 1799 NWCo Fort.
PAINT CREEK HOUSE	P		X	NWCo & HBCo Post 1800.
National Historic Park				
ROCKY MOUNTAIN HOUSE	S		X	NWCo & HBCo Post 1799 - 1875.
Provincial Roadside Signs				
FORT AUGUSTUS - EDMONTON HOUSE	P		X	Nearby - HBCo & NWCo Forts 1795.
FORT EDMONTON	P		X	1830 HBCo Post.
FORT GEORGE - BUCKINGHAM HOUSE	P		X	Nearby - HBCo & NWCo Forts.
FORT VERMILION	P		X	NWCo Post 1786.
TRADING POSTS	P		X	Site of HBCo & NWCo Post 1798.

LEGEND:

- P - plaque
- S - site
- X - direct reference to site
- O - indirect reference to site

Theme Segments	Subtheme	Fur Trade		NOTES:
		i. French & Brit. Trade in Interior	ii. Intensive Competition	
EUROPEAN ENTRY				LEGEND: P - plaque S - site X - direct reference to site O - indirect reference to site
<u>SASKATCHEWAN</u>				
Provincial Historic Marker				
ASSINIBOINE ELBOW	P	X	X	Indian meeting place 1793 - 1912 HBCo, NWCo Posts.
FORT A LA CORNE	P	X		1753 - 57 French Post.
BATTLE RIVER FORTS	P		X	1783 - 1876 NWCo & PEDLARS.
CHESTERFIELD HOUSE	P		X	1800 - 1823 HBCo, NWCo, XYCo.
CIMBERLAND HOUSE	P		X	HBCo & NWCo & Freetraders Est Inland Post in 1750's.
EAGLE HILLS POST	P		X	1778 - 79 Free Traders Post.
FORT ALEXANDRIA	P		X	1795 - 1821 NWCo
FORT JOHN	P		X	1814 - 1816 NWCo
FRANCOIS - FINLAY FORTS	P		X	1768 - 1773 Pedlars.
GREEN LAKE FUR TRADE	P		X	1782 NWCo Post, 1799 HBCo.
HENRY-FROBISHER BAY	P		X	1775 - 1777 Pedlars Post
ISAAC'S HOUSE	P		X	1773 - 1777 Pedlars Post.
PETER POND'S POST	P		X	1780 Pedlars Post.
SOUTH BRANCH HOUSE	P		X	1786 - 1794 Indians Massacre Europeans.

3.2 INVENTORY (cont'd)

	Theme Segments	Subtheme		Fur Trade
		i. French & Brit. Trade in Interior	ii. Intensive Competition	
EUROPEAN ENTRY				
<u>SASKATCHEWAN</u>				
National Historic Sites				LEGEND: P - plaque S - site X - direct reference to site O - indirect reference to site
CIMBERLAND HOUSE	P	O	X	NOTES: 1774 First Inland HBCo Post.
FORT A LA CORNE	P	X	X	From 1753, French, NWCo, HBCo Post.
FORT ESPERANCE	P		X	Built 1787 - NWCo Provisioning Depot.
ILE-A-LA-CROSSE	P		X	Island used for centuries by Natives & Whites. 1775 Post.
PETER POND (1740 - 1807)	P		O	Explored Athabasca 1778 opening it for Trapping.
National Historic Park				
FORT ESPERANCE	S		X	Two NWCo Posts 1787 - 1810 & 1816 - 1819.

		Fur Trade		
NATIVE ENTRY AND SETTLEMENT				
LEGEND:				
P - plaque				
S - site				
X - direct reference to site				
O - indirect reference to site				
NOTES:				
<u>MANITOBA</u>				
Provincial Historic Sites				
PEMBINA - EMERSON AREA	P	O	O	Site of HBCo, NWCo & XYCo Posts.
FORT DES EPINETTES - PINE FORT	P		X	Montreal Traders 1768 - 81. NWCo 1785 - 1794 & 1807 - 11.
LA VERENDRYE	P		O	Established first Post.
SEVEN OAKS HOUSE	P		X	1816 Battle Site.
THE SWAN RIVER VALLEY	P		X	From 1787 - HBCo & NWCo.
TOWN OF MORRIS	P		O	1801 NWCo & XYCo Post.
National Historic Sites				
FORT CHURCHILL	P	X	X	1689 HBCo Est. Post, 1717 Wooden Fort, 1782 Stonefort.
FORT DAUPHIN	P	X		La Verendrye built fort in vicinity (1741).
FORT LA REINE	P	X		1738 La Verendrye built Post.
FORT MAUREPAS & ALEXANDER	P	X		French Post later HBCo & NWCo 1792.
FORT PRINCE OF WALES	S	X	X	1717 HBCo Fort.
FORTS ROUGE, GARRY & GIBRALTER S & P		X	X	French, NWCo & HBCo Posts.
PIERRE GAULTIER DE LAVERENDRYE (1685 - 1749)	P	O		Establish first settlement.
SOURIS - ASSINIBOINE POSTS	P	X	X	1793 - 1824 Provisioning Centers.
BATTLE OF SEVEN OAKS	P		X	1816 Battle Site.
FORT DOUGLAS	P		X	1812 First HBCo Post at Red River.
YORK FACTORY	S	X	X	1788 HBCo Post.

3.3 EVALUATION

French and British trade before 1760 has been well represented through plaquing programs. Both groups are commemorated in the areas where they made an impact upon the landscape: along Hudson Bay and at the strategic river points in the interior.

Development of sites for the interpretation of this theme segment adequately represent the impact of the Hudson's Bay Company. This has been achieved through protection and interpretation of two major sites: York Factory and Prince of Wales Fort. Remains of both sites had persisted over the years and have been the focus of preservation programs in recent years. Currently no French trading post sites have been developed. This lack of interpretation is likely due to the architectural focus for preservation which has prevailed over the last few decades. Since the French trading posts were not as durable as those on the Bay, little has remained of them and, therefore, little preservation activity has occurred. Contributing to this lack of representation is the current focus of many historic resource agencies on in-situ resources. Given the lack of available in-situ resources and the clear philosophical climate opposing hypothetical reconstruction, interpretation of sites should be employed to create a balanced historical representation of the theme.

Documentation of landscapes associated with this theme segment is incomplete. Some of the Hudson's Bay Company landscapes have been

documented for the nineteenth century, but information is lacking for earlier periods. French trading posts have very little documentation and, therefore, will require further research to more fully understand the impact of early Europeans on the landscape.

✓ The second theme segment, Intensive Competition, has been well represented in the historical resources of western Canada. Plaquing programs adequately commemorate the major, and most minor, fur trading posts.

Several sites across western Canada have been developed to portray this theme segment. These include Prince of Wales Fort, York Factory, Upper Fort Garry Gate, Rocky Mountain House, and Fort Esperance. The first two commemorate trading posts associated with the Hudson's Bay Company, while Fort Esperance represents the influence of the North West Company. Rocky Mountain House is the only site which encompasses the remains of both a Hudson's Bay Company and a North West Company post. Mention should be made here of Fort William, which although outside the study area, relates to this theme segment. It represents an important aspect of North West Company operations and has been reconstructed for interpretation purposes.

✓ As previously indicated, selection of sites to be represented has been strongly influenced by significant architectural components. This focus may account for the lack of site development for the smaller posts of

the North West Company, the XY Company and other free traders. A lack of documentation and analysis to date has also contributed to this lack of representation. Research and site development should be forthcoming. On these future projects attention should be given to developing and implementing a landscape interpretation component for site development. In the past where development plans have been prepared for landscape interpretation, implementation has not always been carried out. Lower Fort Garry is an example of this.

The theme European Entry has received the greatest amount of attention from historic resources agencies. The reasons for this have been outlined above. Future activity will be required in the areas of French fur trade posts and other smaller free traders to provide a more balanced view of the period.

CHAPTER 4

EUROPEAN SETTLEMENT

4.1 THEMATIC FRAMEWORK

In the early nineteenth century, the economic focus on fur trade was beginning to change as permanent settlement was introduced to the West. A shift was made in resource exploitation from furs to agriculture. During this process tens of thousands of settlers were encouraged to enter the West from eastern Canada, the United States and Europe. The purpose of this was to maintain Canada's claim to the land. In this process it was necessary to establish a land survey system, define boundaries and maintain law and order. It is these actions and the impacts they created on the landscape which are the focus for the theme, European Settlement.

4.1.1 Organizing the Land

Thrust

Organizing the land of western Canada into physical units became necessary as agriculture was being introduced. Previously large territories were held by Indians and later the fur trade companies, but these had indistinct boundaries which changed over time. As explorers, and later surveyors, traversed the area, a greater knowledge of its resources developed. Two particularly important surveys were carried

out by the Dawson-Hind and Palliser expeditions in the 1850's. These indicated the potential for agriculture on a larger scale than had occurred at the Red River Settlement.

Two types of land survey were used in western Canada; river lot and township survey. They were implemented to meet different needs and each created a framework for further changes in the landscape.

The river lot survey was first used in western Canada when the Red River Settlement was established in 1812. Originating along the St. Lawrence River, this French-Canadian settlement pattern primarily made the land accessible to transportation but it also supplied food and potable water. The popularity and usefulness of this land division caused it to be practised for the majority of early agricultural settlements along the Red, Assiniboine, and Saskatchewan Rivers. In Alberta, over thirty sites employed this system many of which remain as anomalies in the township survey (Ironsides and Tomasky: 1976). One example is Victoria along the North Saskatchewan River (Figure 11).

In 1869 when the western interior was annexed to Canada, the federal government hoped to populate the area with agrarian settlers. To achieve this it was necessary to devise a comprehensive system of land subdivisions, the purpose of which would be to organize and allocate land for the tens of thousands of settlers expected to arrive over a short period of time. The river lot system proved inadequate for this

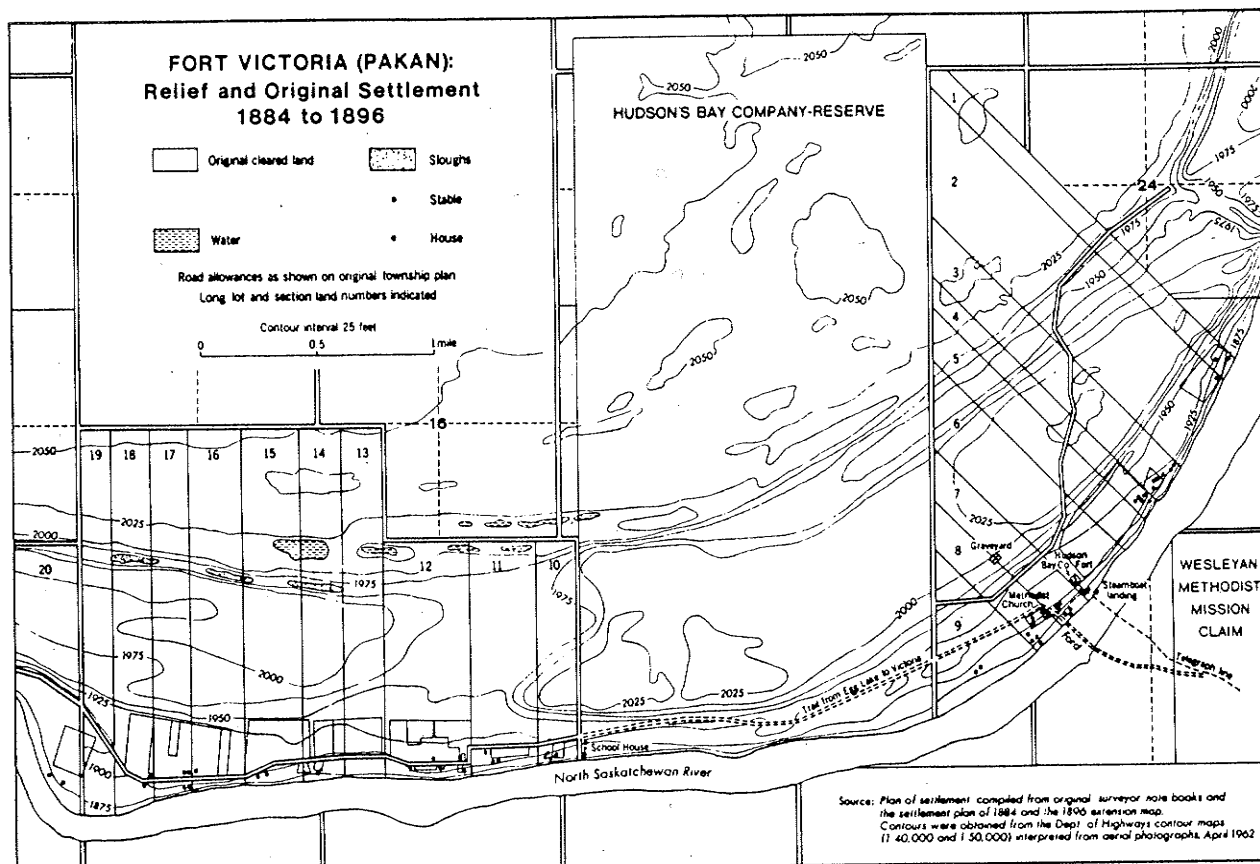


FIGURE 11 River lot survey of 1884 remaining in the current township survey (Ironsides and Tomasky: 1976, p.8).

purpose so the government employed the township survey. Minor use was being made of this system in eastern Canada, but its major implementation was occurring in the American Mid-West. It provided a massive framework that within a few years organized the land into a huge grid of sections, townships, and ranges.

Impact

Orientation of the settlement survey occurred in response to the needs of early settlers. Rivers, lakes, and streams were an inescapable part of their lives and naturally provided the orientation of their land subdivision system. Generally the lots were surveyed in blocks or groups, oriented to a base line which paralleled the water body. Lot lines were placed at right angles to this base line and projected back to the rear lot lines. The number of base lines varied and was determined by the twisting of the river channels (Kaye: 1967). While the lengths of the lots varied between one and two miles, and the widths between ten and twelve chains, the area enclosed was usually no more than a quarter section (Ironside and Tomasky: 1976). A linear settlement pattern developed as most homes and farm buildings were oriented to and along the river or lake front. In Red River, a cart trail passed behind the buildings, giving the appearance on one side of a long linear village facing the river and open prairie on the other.

This system of survey had many advantages for early settlers and the technology they possessed. Water for drinking and cattle was easily obtained as was fish for food. Wood stands, sparse especially on the prairie, occurred along the banks of most rivers and lakes and were readily accessible for lumber and firewood. Generally the banks of the rivers were fertile and well drained. This was especially important as land on the plains was level and drained poorly, tending to remain soggy and unworkable for longer periods of time in the spring. Prairie soils

were also difficult to cultivate, as they contained thick mats of roots which were impenetrable by early ploughing techniques. The small gardens and crops of the early settlers were easily contained on this fertile riverbank land.

Disadvantages of this system were inherent in its form. Growth of the settlement could only occur in one of two ways: through expansion along the lake or river front or through subdivision of existing lots. Both limited the size of the community and placed heavy demands on the resources of the area (Kaye: 1967).

The riverlot survey of western Canada had a strong control over early settlement and land use patterns. It was in harmony with the characteristics of the environment and the technological needs of the settlers. Some of the settlement surveys had remained and been incorporated as part of the later grid system. These existing surveys retain a distinctive pattern within the landscape and can be seen at many locations in the western interior such as Victoria, Alberta and Lockport, Manitoba.

After 1869 when massive settlement of the West became the government's objective, the riverlot survey would no longer suffice. The new method of township survey was deemed inexpensive to implement and practical because of its simplicity. It was based on a regular rectangular survey oriented to a standard meridian as the line of reference. The

uniformity of division would allow land policies to be administered with few difficulties.

The system adopted from the American plan was to give a "rectangular grid of townships, stacked tier on tier and ranked row on row according to the cardinal directions" (Warkentin and Ruggles: 1970, p. 232). Conformity with existing eastern Canadian townships was discarded in favor of the standard 640 acre American section. Each section would measure one mile by one mile and be divided into quarter sections of 160 acres. A township would consist of 36 sections; a square block 6 sections by 6 sections. The massive grid would be laid out over the landscape with no regard for topography or soil conditions.

Distribution of people within the township played an important role in the forming of the rural landscape. The configuration of the various grants and land allocations was to form the settlement pattern across the West. As indicated by the Dominion Land Grants, two free homesteads, a quarter section in size, were selected from every section. The intention was to spread the population evenly throughout the landscape. As farmers eventually became established, it was assumed that they would buy the adjoining land. The money generated in this manner could then be used to meet obligations incurred in obtaining the land from the Hudson's Bay Company, providing a railway, and also providing for future developments such as schools. Actual sections were designated for each of these uses (Figure 12). These allocations changed over time, but the basic layout remained the same.

		Township 43 Range 3							
		31	32	33	34	35	36		
Township 42 Range 4		30	School 29	28	27	HBC 26	25	Township 42 Range 2	
		19	20	21	22	23	24		
		18	17	16	15	14	13		
		7	HBC 8	9	10	School 11	12		
		6	5	4	3	2	1		
			Township 41 Range 3						

FIGURE 12 Prairie township showing typical allocation of land (Lower: 1983, p. 105).

Various other minor grants were made within the confines of the Dominion Land Policy. The Metis were allocated 1.4 million acres as part of their settlement from the Insurrection of 1869-70. The University of Manitoba was granted 150,000 acres to aid in its founding and financing (Tyman: 1972). In 1876, and lasting only a few years, free land grants were made to people interested in forest tree cultivation. Partially wooded townships were also set aside and subdivided into 10 to 20 acre lots as part of the Dominion Lands Act of 1872. In areas such as

Portage La Prairie, these lots were allocated to homesteaders on nearby lands for use as timber and firewood (Figure 13).

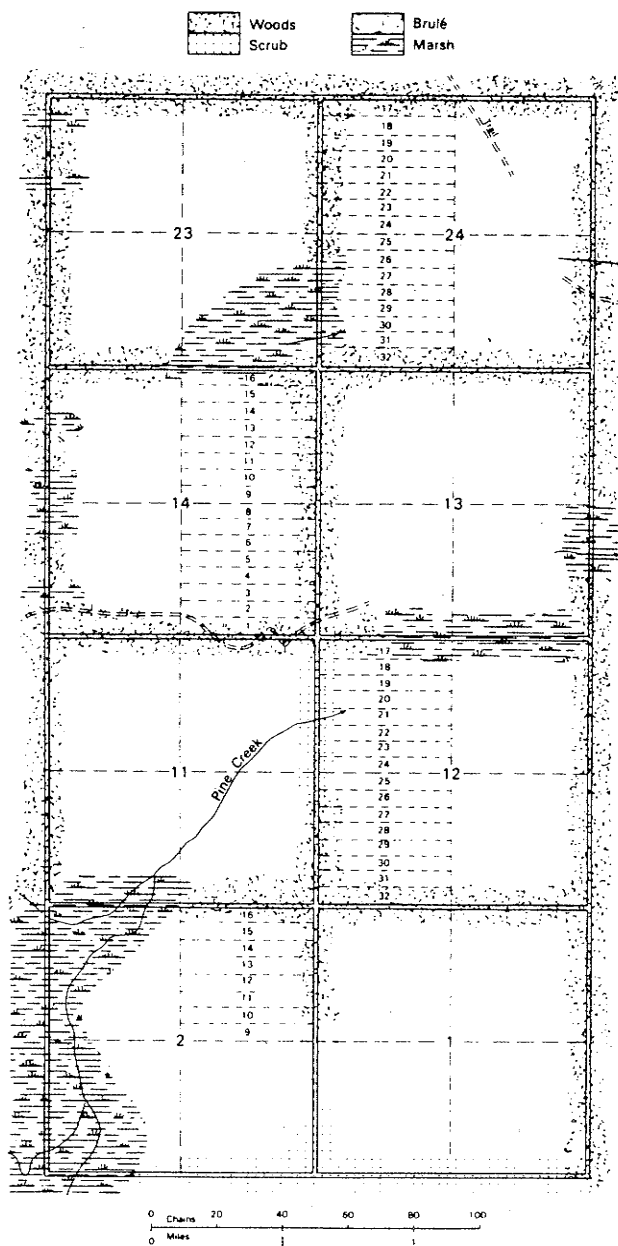


FIGURE 13 Partial plan of Township 12 Range 13 W.1 showing layout of woodlots (Tyman: 1972, p.29).

The era of Dominion land grants ended in 1930. All ungranted and waste land formerly administered by the federal government was turned over to the provinces. The original purpose of the land, to serve the Dominion through settlement and railway construction, had been fulfilled. On June 15, 1930, control and administration was turned over to the respective provinces. A sixty year period which changed the landscape of the western interior had ended.

4.1.2 Group Settlements

Thrust

Settlement of western Canada had been occurring sporadically and slowly since Europeans had begun trading for furs. While individuals and small groups interested in agricultural pursuits had begun to enter the region in the early 1800's, it was not until shortly after the annexation of Rupert's Land to Canada in 1869, that serious attempts were made at settling the region with larger groups. British immigrants and Ontario settlers, the first large groups to settle the West, came to dominate the region with their culture. They failed, however, to populate the West to the extent that the federal government had anticipated. They also failed to create a civilization adapted to the character of the plains, or to incorporate the new society into the old (Morton: 1969). The government recognized that it was difficult to attract the necessary people from Britain and eastern Canada and, therefore, began to encourage other racial and/or religious groups to come west.

Beginning in the 1870's and especially during the late 1890's and 1900's, a large number of settlers immigrated to the Prairie West from Europe and the United States.

Americans, like their British or eastern Canadian predecessors had a purpose of economic gain and were willing to subordinate ethnic and cultural goals. Europeans, on the other hand, found that cultural goals were of greatest importance. The federal government through the Dominion Lands Act of 1872 aided these religious, ethnic, and political groups by allowing them to establish communities which were not always in conformity with the established grid system. Many groups were enticed to immigrate through recruiting programs sponsored by the Canadian government or by colonization companies which specialized in finding immigrants. The Canadian government sanctioned these activities, as it wanted settlers to populate the West to reinforce Canada's claim to the land, as well as to provide a stabilizing influence for the Metis and Indian populations (Anderson: 1977).

The formation of group settlements proved very popular. Many advantages accrued to those who organized collectively. The immediate creation of community solidarity and stability, plus the pooling of productive resources, machinery, labour and tools, eased the burden of building construction, land cultivation and harvesting. For most groups the sparse settlement of the early years contributed to community isolation and stability. This character was not maintained as population density

increased and railway expansion exposed communities to new ideas and life styles. Assimilation of all but the most strict and unyielding cultures eventually took place, resulting in the gradual disappearance of many landscapes associated with these groups.

Impact

As different groups settled in the West they built and organized their farmsteads reflecting the culture of their homelands. This created distinctive landscapes which collectively became a cultural landscape unique to western Canada. The first of these landscapes, as discussed previously, was the Selkirk Colony founded at Red River on the banks of the Assiniboine and Red Rivers. It was not until the Ontarian and British settlers began arriving in the 1870's that land away from the rivers was developed extensively. Set within the sectional survey, the farmsteads became re-creations of rural Ontario or British farms. The Motherwell Homestead in Saskatchewan is an excellent example of the Eastern influence combined with scientific agriculture (Canadian Encyclopedia: 1985). Architecture of the house and barn reflected Ontarian styles, while the arrangement of shelter belts and ornamental planting recreated an Ontario estate. Motherwell's use of dugouts to store water and a landscape designed to trap snow foreshadowed scientific farming throughout the West. Cannington Manor, also in Saskatchewan, is an example of a British group settlement which attempted to form an agricultural community based on British traditions. The landscape reflected the ideals of an English parish.

Elsewhere in the West other British and Ontarian farmers attempted at a lesser scale to recreate these images.

During the 1890's, through the aid of government policy and colonization companies, group settlements became an integral part of the landscape. They created distinctive impacts on the landscape as they introduced a variety of farm units ranging from large collectives to individual homesteads.

Each group organized and utilized the landscape in ways which reflected its backgrounds and traditions. Depending upon the group, these forms were adapted to the West, reflecting the degree of isolation or separateness each wished to maintain. Hutterites, Doukhobors, and Mennonites established village and farm layouts alien to the standard forms of the prairies, but traditionally familiar to the groups. Mennonite villages were patterned after the German "Gewanddorf" which combined a linear village form with open fields beyond. Individual homes combined the residence with the barn, which was attached directly behind. Trees, gardens, and fences were placed to separate the houses from each other and the street. Generally these groups pursued mixed farming and sought out sites in the parkland belt. The meadows with mixed wood and water were similar in many instances to the landscapes from where they originated.

The majority of groups arriving in the West organized their farms within the existing quarter section as group settlements. Their particular contributions to the cultural landscape consisted of unique building forms which were introduced from their homelands. One example of this was the Eastern Europeans who constructed farm buildings in traditional styles with white or pastel coloured plastered log walls and steeply pitched gable roofs covered with thatch (Figure 14).



FIGURE 14 Ukrainian Farm, ca. 1915. (Manitoba Archives, W.J. Sisler Collection).

The groups also contributed other features to the cultural landscape. One of the most striking is the church architecture used in various communities. Of particular importance and prominence are the Eastern European churches which punctuate the rural landscape with their onion-shaped domes. Other ethnic groups are similarly represented by their churches.

By the late 1920's, large areas of the West had been settled in blocks (Figure 15). Some were large enough to include upwards of thirty villages and towns. Assimilation into the larger culture increased and

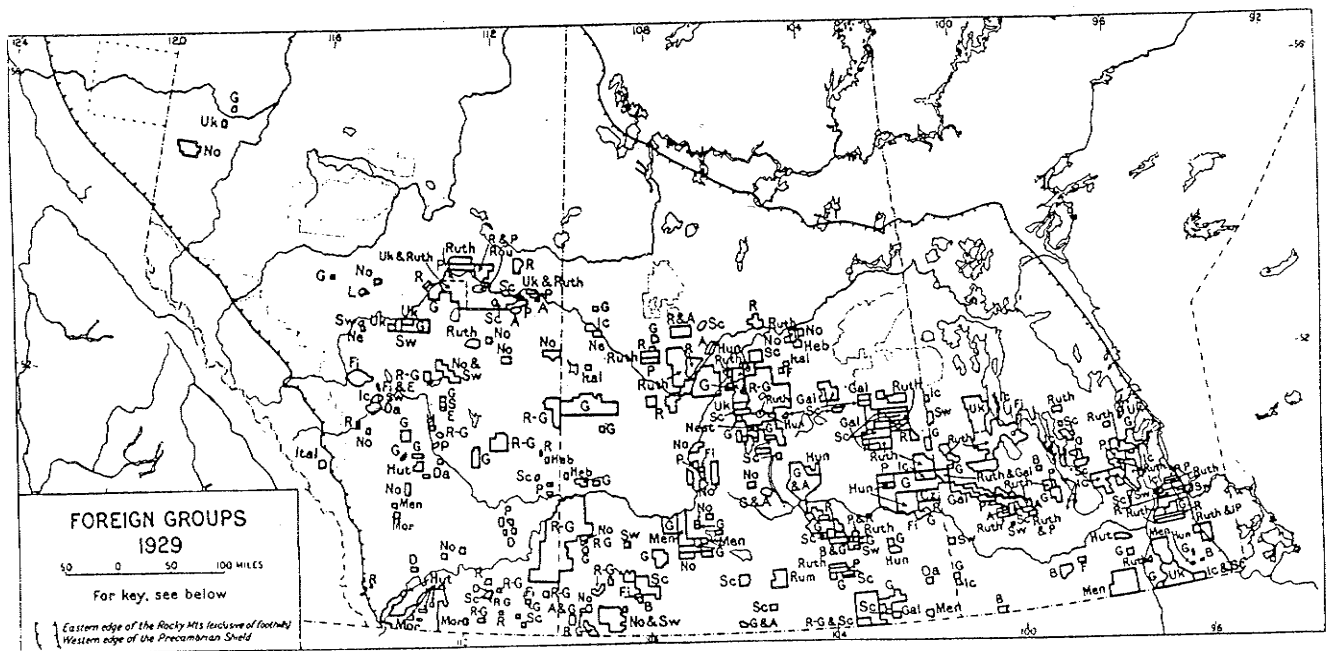


FIG. 1—Foreign groups, 1929. The areas outlined are those in which the groups still retain to some extent their old-world practices and languages. Key to symbols: A, Austrians; B, Belgians; Cz, Czecho-Slovaks; D, Dutch; Da, Danes; E, Estonians; F, French; Fi, Finns; G, Germans; Gal, Galicians; Heb, Hebrews; Hun, Hungarians; Hut, Hutterites; Ic, Icelanders; Ital, Italians; L, Letts; Men, Mennonites; Mor, Mormons; Ne, Negroes; Nest, Nestorians ("Assyrians"); No, Norwegians; P, Poles; R, Russians; Rum, Rumanians; Ruth, Ruthenians; S, Swiss; Sw, Swedes; Sc, Scandinavians (undifferentiated); Uk, Ukrainians.

FIGURE 15 Nationality of group settlements in western Canada 1929. (Mackintosh and Joerg: 1939, p. IV).

individuality was gradually lost. Patterns in the landscape which were not destroyed by this aculturization process succumbed to the economic pressures of economies of scale. As farms became larger units of production, adhering to standard organizational principles, the small culturally distinct landscapes progressively disappeared.

4.1.3 Delimitation and Defense

Thrust

The impacts on the landscape from establishing boundaries and law and order relate to the maintenance of territorial integrity to support cultural goals. Throughout the history of the West, these goals have varied as have the borders. Originally the natives maintained flexible boundaries which varied in response to their needs for food, shelter, and clothing. When Europeans entered the West, they also claimed specific territories with informal boundaries. Borders were, however, defined. One of the most important borders delineated was that between the United States and Britain in the West. Agreed to in 1818 as a result of the Treaty of Ghent, the location of the border reflected the negotiated balance between American perception of settlement opportunities and British interest in the fur trade (Harris and Warkentin: 1974).

After 1867 Canadian interest in the West focussed on settlement. As Canadian interest increased, the Metis population became concerned about their rights to the land they had settled. The establishment of the

province of Manitoba in 1870 brought matters to a head. As a result many Metis moved on to the Northwest Territories west of Manitoba.

A police force for the West, the North West Mounted Police, was created to control and protect Indians, protect settlers, and establish a Canadian presence to stem any American aggression (Horrall: 1972). Despite their presence a major uprising occurred in 1885 when the Metis of the South Saskatchewan River basin took up arms in defense of their lands. Canadian determination to settle the West could not be stopped, however, and as population grew, the provinces of Alberta and Saskatchewan were formed in 1905. The current eastern boundary of the region was completed in 1912 when the Manitoba border was extended to Hudson Bay.

Impact

The demarkation of the 49th parallel as the line of the American-Canadian boundary established the first formal border in the West. The physical impact of demarkation occurred in 1875. At this time a series of earth mounds were built along the boundary. In 1908 a more permanent system was begun which consisted of iron (later steel) posts being set one to two miles apart. A one hundred foot wide strip was cleared of trees to give a direct site line from one marker to the next (Jewett; 1976).

The defining of boundaries and subsequent creation of the territories and later provinces also had impacts on the landscape. As the territories and provinces were formed, centres to administer and govern them were founded. As indicated below in the discussion of urbanization, this action created a stimulus for growth and development in these centres.

The direct impact of the Red River Rebellion on the landscape was minimal. Several sites associated with battles exist but few traces remain in the landscape. As the Rebellion was instrumental in the development of Manitoba as a province, the indirect impact on the landscape was significant and was discussed in delimitation. The Metis Uprising in Saskatchewan created an important battlefield at Batoche and several other sites such as Duck Lake, Fish Creek and Cutknife. At Batoche fortifications constructed of soil were created and are still visible in the landscape.

The arrival of the N.W.M.P. in the West in 1874, necessitated places from which they could administer the regions. They were first stationed at trading posts such as Fort Edmonton and Fort Whoop-Up, but as they were required in more isolated areas, posts were established at Fort Macleod, Fort Walsh, Fort Calgary, Fort Battleford, and Fort Saskatchewan. Eventually a network of posts was created throughout the West.

Often small towns developed adjacent to the forts such as at Fort Walsh and Fort Calgary. A few of these became the nucleus of large urban centres, Calgary is the most notable example.

The North West Mounted Police were involved in many skirmishes with natives and whites. The sites of many of these are important for the activities which occurred at them. One example is the Cypress Hills Massacre site in southwest Saskatchewan. Here twenty natives were killed by American wolf hunters.

By the early twentieth century, a framework was laid upon the land within which resources were developed. A rich culturally-divergent population had settled in the region to pursue agriculture as a livelihood. The landscape had been transformed from a wilderness to a well integrated region.

4.2 INVENTORY

EUROPEAN SETTLEMENT	These Segments	Subtheme				LEGEND: P - plaque S - site X - direct reference to site O - indirect reference to site
		1. Organizing The Land	2. Group Settlements	3. Delimitation & Defence		
ALBERTA	National Historic Sites	i. River Lots & Sections	i. Groups in the West	i. Delimit. Inter. Boundaries	ii. Conflict in West	NOTES:
		DISCOVERER OF ATHABASCA PASS	P	O		
PALISER EXPEDITION	P	X				1857 - Scientific Expedition.
CREATION OF PROVINCE OF ALBERTA	P			X		1905 September 1.
FORT CALGARY	P				X	1875 NWMP Post.
FORT MacLEOD	P				X	1883 - NWMP Post.
FORT WHOOP - UP	P				X	1869 - American Whiskey Post.
Provincial Cairns						
FOURTH MERIDIAN	P	X				Survey Control Line.
ST. PAUL DES METIS	P	X				1895 Metis Farming Community.
DISTRICT OF ALBERTA, 1882	P			X		Creation of District from NWT.
DISTRICT OF ASSINIBOIA, 1882	P			X		Creation of District from NWT.
DISTRICT OF ATHABASCA, 1882	P			X		Creation of District from NWT.
DISTRICT OF SASKATCHEWAN	P			X		Creation of District from NWT.
FORT MACLEOD	P				X	NWMP Post 1874.
FORT SASKATCHEWAN	P				X	NWMP Post 1875.
MASSACRE BUTTE	P				X	1867 - Blood Indians kill 12 Immigrants.
Provincial Road Side Signs						
DAVID THOMPSON (1770 - 1857)	P	O				Surveyed & Explored West.
THE PALLISER EXPEDITION (1857-1860)	P	X				Expedition to Evaluate Prairies.
PETER FIOLER	P	O				Geographer & Surveyor 1788.

4.2 INVENTORY (cont'd)

EUROPEAN SETTLEMENT	Theme Segments	Subtheme				NOTES:
		1. Organizing The Land	2. Group Settlements	3. Delimitation & Defence		
ALBERTA		i. River Lots & Sections	i. Groups in the West	i. Delimit. Inter. Boundaries		LEGEND:
				ii. Conflict in the West		
AMBER VALLEY	P	X				Negro Settlement - 1910.
BARR COLONISTS	P	X				1903 British Colonists.
BLIMENAU	P	X				Swiss Settlement 1903.
ESTONIAN SETTLEMENT	P	X				Several Settlements Beginning 1898.
ICELANDIC SETTLEMENT	P	X				Group Settlement 1888.
JAPANESE SETTLEMENT	P	X				1907 Settlement.
KUUSAMO	P	X				Finish Settlement - 1902.
THE LABOUCAINE SETTLEMENT	P	X		X		1870's Metis Settlement.
MORAVIAN SETTLEMENT	P	X				German Settlement 1894.
MORMON TREK	P	X				1887 Mormon Settlement at Cardston.
NORWEGIAN SETTLERS	P	X				Group Settlement 1893.
POLISH SETTLEMENT	P	X				1890's est. Homesteads.
ROMANIAN SETTLEMENT	P	X				1888 Settlement.
THE SHAFTSBURY SETTLEMENT	P	X				Catholic & Anglican Missionaries 1880, Agriculture Developed.
SLOVAK SETTLEMENT	P	X				Czechoslovakian Settlement near Drumheller & Lethbridge.
TOIL & PEACEFUL LIFE	P	X				Doukhobor Settlement 1915.
UKRANIAN SETTLEMENT	P	X				1891 Arrival of 1st Settlers.
FORT MACLEOD	P				X	MWMP arrival in S. Alta 1874 Town Developed nearby.
FORT NORMANDEAU	P				X	Mounted Royal Rifles Occupied during N.W. Rebellion 1885.
FORT OSTELL	P				X	HBC. Trading Post - Occupied by Mr. R. During N.W. Rebellion 1885.

EUROPEAN SETTLEMENT

ALBERTA

	Theme Segments	Subtheme				NOTES:
		i. River Lots & Sections	i. Groups in the West	i. Delimit. Inter. Boundaries	ii. Conflict in the West	
						1. Organizing The Land
						2. Group Settlements
						3. Delimitation & Defence
						LEGEND: P - plaque S - site X - direct reference to site O - indirect reference to site
FORT SASKATCHEWAN	P				X	First NWMP Fort in N. Alta 1875.
FROG LAKE MASSACRE	P				X	1885 Cree kill 9 Whites.
MURDER OF CONSTABLE GABURN	P				X	1879 NWMP Officer killed.
MURDER OF SGT. WILDE	P				X	Killing of NWMP Officer by blood Indian 1896.
STANDOFF	P				X	1871 Whiskey Post. 1877 NWMP Post.
TREK OF 1874	P				X	March of NWMP - 1874.

EUROPEAN SETTLEMENT

SASKATCHEWAN

Provincial Historic Marker

	Theme Segments	Subtheme				LEGEND: P - plaque S - site X - direct reference to site O - indirect reference to site
		1. Organizing The Land	2. Group Settlements	3. Delimitation & Defence		
		i. River Lots & Sections	i. Groups in the West	i. Delimit. Inter. Boundaries	ii. Conflict in the West	NOTES:
JOHN MACOUN	P	O				Fleming Expedition Botanist indicated Agricultural potential of West.
JOSEPH BURR TYRRELL	P	O				Surveyor and Geographer.
McMURRAY'S POST & PALLISER EXPEDITION	P	X				1857 HBCo Post visited by Palliser.
SECOND MERIDIAN	P	X				Control Line for Survey.
THIRD MERIDIAN	P	X				Control Survey Line.
ALL SAINTS CHURCH	P		O			1887 Cannington Manor Church.
BARR COLONY CAMPSITE	P		X			1903 British Settlers Campsite.
CHIMNEY COULEE	P		X		X	1850's - Metis Cabins & NMP Post.
COLONIZATION COMPANIES	P		X			Settled Large areas of MWT.
FRENCH SETTLEMENT	P		X			1880's - 1914 French Aristocratic Community.
THE LAST BEST WEST	P		X			1869 - 1914 American Immigration Encouraged.
LINDSAY CHURCH	P		O			1883 - Selkirk Descendants Build.
PETROFKA FERRY	P		O			1899 Doukhobor Villages.
PRIMITIVE METHODIST COLONY	P		X			1883 - Settlers from England & Ontario.
ST. JOHN'S MINSTER	P		O			1903 Barr Colonists Church.
ST. JOSEPH'S COLONY	P		X			1905 German Catholic Settlers from United States.
SASKATCHEWAN VALLEY LAND COMPANY	P		X			1902 - 1914 Colonization Company.
ALMIGHTY VOICE					O	
CRIPPLE CAMP	P				X	1874 - NMP Campsite.

4.2 INVENTORY (cont'd)

EUROPEAN SETTLEMENT	Theme Segments	Subtheme				LEGEND: P - plaque S - site X - direct reference to site O - indirect reference to site		
		1. Organizing The Land						
		2. Group Settlements						
		3. Delimitation & Defence						
SASKATCHEWAN		i. River Lots & Sections	i. Groups in the West	i. Delimit. Inter. Boundaries	ii. Conflict in the West	NOTES:		
		EASTEND NWMP POST	P				X	1889 - 1914 NWMP Post.
		FORT QU'APPELLE NWMP POST	P				X	1875 - 1880 NWMP Post.
		NWMP CEMETERY	P				X	Started 1883.
NWMP POST	P			X	1878 - 1931 Prince Albert Post.			
NWMP TREK WEST	P			X	Trail followed by NWMP in 1874.			
SHORT CREEK CAMP	P			X	1874 NWMP Camp.			
TELEGRAPH FLAT (BATTLEFORD)	P			O	1876 NWMP Post.			
WOOD MOUNTAIN NWMP POST	P			X	Site of a series of Posts beginning in 1874.			
National Historic Sites								
PETER FIDLER (1769 - 1822)	P	O				HBCo Surveyor.		
PETER POND	P	O				1740 - 1807 Explorer.		
GEORGE EXTON LLOYD (1861 - 1940)	P		O			Encouraged British Migration.		
LOUIS PIERRE GRAVEL	P		O			Encouraged French speaking Canadians to settle in West between 1906 & 1926.		
CREATION OF PROVINCE OF SASKATCHEWAN	P			X		1905		
BATOCHÉ	P				X	1885 Battle Site & Site of Surrender.		
THE BATTLE OF CUT KNIFE	P				X	1885 Battle Site.		
BATTLE OF FISH CREEK	P				X	1885 Battle Site.		
CYPRESS HILLS MASSACRE	P				X	1873 - American traders kill 20 Indians.		
DUCK LAKE BATTLEFIELD	P				X	Start of 1885 Rebellion.		
ESTABLISHMENT OF NWMP	P				X	Establishment of force.		

4.2 INVENTORY (cont'd)

Theme Segment	Subtheme	1. Organizing The Land				LEGEND:
		2. Group Settlements				
Theme Segment	Subtheme	3. Delimitation & Defence				NOTES:
		i. River Lots & Sections	i. Groups in the West	i. Delimit. Inter. Boundaries	ii. Conflict in the West	
EUROPEAN SETTLEMENT						
SASKATCHEWAN						
ESTABLISHMENT OF NWMP	P			X		Establishment of force.
ESTABLISHMENT OF NWMP	P			X		1873 NWMP allowed settlement.
FORT BATTLEFORD	P			X		1876 NWMP Post.
FORT LIVINGSTONE	P			X		1874 First NWMP Post.
FORT PITT	P			O		NWMP - Sub-Post (1876).
FORT WALSH	P			X		NWMP Headquarters (1878 - 1882).
FRENCHMAN BUTTE	P			X		Site of Indian Entrenchment 1885.
NORTH WEST REBELLION - BATTLEFORD	P			X		1885 - Refuge for 600 settlers.
STEELE NARROWS	P			X		1885 - Last engagement of NW Rebellion.
National Historic Parks						
BATOCHÉ	S	X		X		Metis Head Quarters for 1885 Rebellion.
MOTHERWELL HOMESTEAD	S	X				
BATTLEFORD	S			X		NWMP Post Associated with 1885 Rebellion.
CYPRESS HILLS MASSACRE	S			X		1873 Massacre of 20 Indians.
FORT WALSH	S			X		NWMP Post.

4.2 INVENTORY

EUROPEAN SETTLEMENT	Theme Segments	Subtheme	1. Organizing The Land				LEGEND: P - plaque S - site X - direct reference to site O - indirect reference to site
			2. Group Settlements				
			3. Delimitation & Defence				
			i. River Lots & Sections	i. Groups in the West	i. Delimit. Inter. Boundaries	ii. Conflict in the West	
MANITOBA						NOTES:	
Provincial Historic Sites							
CAPTAIN WILLIAM KENNEDY	P	O				Promoted annexation of Rupert's Land to Canada and railway to Hudson Bay.	
PETER FIDLER (1769 - 1822)	P	O				Survey and trade routes.	
RED RIVER SETTLEMENT	P	X				1812 - R.R. settlement formally proclaimed.	
ASESSIPI TOWNSITE	P	O				Colonization Co. - railway bypassed. Abandoned 1888 Ontario settlers.	
ICELANDIC SETTLEMENT - GIMLI	P	X				1875 - First permanent Icelandic settlement.	
ICELANDIC SETTLEMENT - RIVERTON	P	X				1876 - Second settlement found.	
LYNCH PARTY, THE	P	X				1871 - Scots (56) from Ontario, advocated scientific farming.	
MENNONITE SETTLEMENT (EAST RESERVE)	P	X				Introduced field system with long strips around village - system abandoned by 1923.	
MENNONITE SETTLEMENT (WEST RESERVE)	P	X					
SELKIRK	P	O				1812 - estimate first permanent aging settlement in Western Canada.	
ST. BONIFACE	P	O				(First white man to settle in N.W.) Lagamodiere settled here (1817) followed by De Meurons Troups.	
THOMAS GREENWAY (1838 - 1908)	P	O				Promoted settlement and railway building.	
TOWN OF MORRIS	P	O				Ontario British settlers arrived 1874.	
NORTHERN MANITOBA 1912 - 1962	P			X		1912 - Manitoba boundary extended to 60th parallel.	
POSTAGE STAMP PROVINCE	P			X		Original boundary of Manitoba.	
BARRIER, THE	P				X	Metis barred road for Government at this site 1863.	
National Historic Sites							
DOMINION LAND SURVEY SYSTEM	P	X				First marker placed on principal meridian.	
FIRST HOMESTEAD IN WESTERN CANADA	P	X				Homestead policy - following survey to attract settlers.	
FORT DOUGLAS	P	O				Founded 1812 - headquarters for R.R. settlement and 1st HBC post in area.	

4.2 INVENTORY (cont'd)

	Theme Segments	Subtheme				
		1. River Lots & Sections	i. Groups in the West	i. Delimit. Inter. Boundaries	ii. Conflict in the West	
EUROPEAN SETTLEMENT						
1. Organizing The Land						
2. Group Settlements						
3. Delimitation & Defence						
LEGEND:						
P - plaque						
S - site						
X - direct reference to site						
O - indirect reference to site						
NOTES:						
NOTES:						
<u>MANITOBA</u>						
SIR CLIFFORD SIFTON (1861-1929)	P		O			Responsible for Government program to settle West.
THOMAS DOUGLAS 5th EARL OF SELKIRK	P		O			Brought colonists to found settlement (1811 and 1815).
THE CREATION OF MANITOBA	P			X		Proclaimed province in 1870.
JOHN NORQUAY (1841-1889)	P			O		Premier extends Manitoba boundary.
LOUIS RIEL (1844-1885)	P				O	Rebellion leads to creation of Manitoba.
THE MARCH WEST	P				O	1874 - NWMP assembled at Fort Dufferine.
National Historic Parks						
RIEL HOUSE	S		X		X	Metis community.
FORT PRINCE OF WALES	S			X		HBCO Fur Trade Post.
YORK FACTORY	S			X		HBCO Fur Trade Post.
LOWER FORT GARRY	S				X	HBCO Fur Trade Post.

4.3 EVALUATION

Two major segments occur in the subtheme organizing the land: Settlement Survey and Township Survey. Currently both are poorly represented by historical resources. The riverlot survey which was used in many areas throughout the West has not been commemorated. As this land survey pattern had a profound influence on current land use and organization, commemoration should be forthcoming.

The sectional survey has been adequately represented through plaquing programs. Generally this commemoration occurs at the meridian. This siting is appropriate, as the meridians are the major base lines from which the rest of the survey is aligned. In the existing plaques, little information is given regarding the effect of the survey pattern on settlement patterns. This is an important aspect of the survey pattern's impact on the landscape and should not be overlooked in future interpretations.

The role of surveyors and geographers in organizing the landscape has been poorly represented. Fiddler, Tyrrell, and Palliser are the only ones commemorated. Dawson and Hind are only two of many others who took part in developing an understanding of the West and laying out the survey.

Many diverse cultural groups contributed to the landscape development and many of them have been represented through plaquing and site

development. The plaquing program has included Icelanders, Doukhobors, Mennonites, Metis, Americans, Eastern Canadians, and British settlers. As indicated in the inventory, many smaller groups have been commemorated in the western portion of the study area, but those in the rest of the West should also be recognized.

Existing site development has been adequate for some cultural groups. A Metis settlement has been represented at Batoche, Ontarian settlers at the Motherwell Homestead, and British settlers at Cannington Manor. While these represent three important components of the cultures which shaped the landscape, they are by no means the only ones. Other site developments should be considered before more resources are lost. Many of these groups are well documented in historical texts, but much research remains to be done, particularly on the smaller groups. The Unkranian Cultural Village is an example of a major settlement commemoration in Alberta. While the resources are not on their original locations, every effort has been made to be as accurate as possible in developing the landscapes. Given that current attitudes do not favor the reconstitution approach, this facility allows visitors to gain an appreciation of a landscape which no longer exists.

The subtheme, Delimitation and Defense, has been only partially represented in the historic resources programs. Delimitation of territories and provinces has been adequately plaqued. The creation of all provinces has been acknowledged as well as the expansion of any

provincial boundaries. All the territories which were organized after 1870 have also been acknowledged through the plaquing programs in the western portion of the study area. The change of administration centers for the Northwest Territories from Battleford to Regina has been well plaqued and is acknowledged under the theme Urbanization. No sites have currently been developed to interpret this subtheme.

Native battle sites have been adequately represented through a variety of plaques. Impact on the landscape at many of these sites is minimal, but the importance derives from the event, not its effect on the land. The Red River Rebellion has been represented through only two plaques, one commemorating Louis Riel and the other marking The Barrier where Metis kept the new governor from entering the colony. Two sites in Manitoba have been developed at which the Red River Rebellion is commemorated. These are Lower Fort Garry and Riel House. The focus of the former is on the fur trade and the latter on Metis settlement within the Red River colony. This is expected, as the Rebellion had little direct impact on the landscape.

The North West Rebellion of 1885 is well represented through plaquing and site development. Many of the major battle scenes have been commemorated throughout Saskatchewan. Batoche has been developed to illustrate one of the most important and the landscape plays an important role in the interpretation of the site.

The contribution of the North West Mounted Police to landscape development has been adequately represented. Fourteen posts have been commemorated through plaquing and two posts, Fort Walsh and Battleford, are interpreted for the public through site development. Attention should be directed to the adequacy of landscape interpretation at these sites, as the relation of the NWMP to the land was fundamental to their role in the West.

CHAPTER 5

RESOURCE UTILIZATION

5.1 THEMATIC FRAMEWORK

Utilization of resources has played an important role in western landscape development. It began as Europeans entered the West to exploit the fur resources and continued as agriculture became the primary objective of settlers in the late nineteenth century. While the pursuit of these two resources has played an important role in western landscape development several other industries and pursuits have contributed to the shaping of the land. These have included mining, forestry and the use of land for recreation. In varying degrees and locales these activities have created different imprints on the land, but each one represents the use of the land as a resource.

5.1.1 Farming the Land

Thrust

Agricultural activity in Saskatchewan, Alberta, and Manitoba has gone through a series of developments, each of which had different impacts upon the landscape. No agricultural activity, however, was possible without fertile soil and a favorable climate. Perhaps more importantly man must recognize these qualities, or the land will not be utilized. The history of agricultural landscape development in western Canada is

ted to this changing understanding, as well as to economics, technology, and a willingness or need to utilize the land. Within the West, two major agricultural pursuits developed, grain/mixed farming and ranching. Each was suited to specific regions of the West and created individual impacts on the land.

The first agricultural activities in the West had limited impacts on the landscape. As indicated previously neither Indians nor European fur traders developed agriculture to any significant level. The Red River Settlement was the first attempt in western Canada to base a community on an agricultural economy. Its growth was limited by the small local markets and difficulties in transporting goods to outside markets. Large scale agriculture began after the potential of the land was recognized and the railway reached the West in the 1870's.

Tens of thousands of immigrants poured into the West, as free homestead land was granted to qualifying settlers. Following the Canadian Pacific mainline, the early settlers selected farmsteads in the plains areas of the West. As branchlines were extended and the Canadian Pacific - Grand Trunk lines were constructed, settlement spread into the region between the Saskatchewan River and the C.P.R. mainline. This latter movement was accomplished between 1900 and 1914 (Thomas: 1976).

At the same time that the wheat and mixed farming economy was becoming established in the parklands and prairies in the 1870's, a ranching

industry was developing in the southwestern prairies and foothills. This industry would dominate land use patterns in the southwest plains for a period of 30 to 40 years (Evans: 1979). The area this industry occupied extended from the foothills of the District of Alberta into the southern District of Saskatchewan. It coincided with the brown soil zone and its associated short grass prairie. With its natural forage and large uninterrupted expanses, the environment was ideal for grazing. Coulees and breaks provided protection for the cattle, while light snowfall and chinooks permitted grazing through the winter.

Initially, the Canadian government supported the industry. It realized that settlement could result in an area originally thought to be unsuitable for agriculture. To further this settlement, the government land policy of 1883 provided exceptionally favourable terms for leases of large acreages while precluding homestead settlement (Breen: 1983). The intention was to induce eastern capital into the underdeveloped West. Canadian, British, and some American companies and individuals eagerly took advantage of the offer and by so doing created large cattle companies.

The favourable terms for the leases did not last. In 1896 the original closed leases were cancelled. To replace them various stock watering reserves were established to help maintain the ranchers' control of the land. By the early 1900's, the influx of settlers was too great, however, and grazing land became severely fragmented. The rights of the

squatter were supported by the government in 1904 by Frank Oliver, Minister of the Department of the Interior. This was a complete reversal of the earlier policy. The effect was to limit the ranchers to the foothills in Alberta and marginal land on the prairies.

Impact

The founding of the Red River Settlement in 1811 increased the impact of agricultural activity in the West. Settlers generally restricted themselves to the warm, well-drained soils of the river bank (Kaye: 1967). Small garden plots near the houses were used for vegetables, while cereals and grains were grown in plots behind the houses. As increasing numbers of animals foraged in the settlement at will, it became increasingly necessary to fence both field and vegetable crops (Hurst: 1982). These fenced areas were only a few acres in size and little is known of the materials used in their construction. Confinement to the land near the river did not end until the 1850's. At this time areas referred to as 'park lots' were established within the grassland behind each lot. The lots of enclosed land varied in size and shape and contained cereals or grain crops (Kaye: 1967). While the Red River Settlement had increased use of the land for cereal crops and vegetables, large scale impact of agriculture on the landscape did not begin until after the railway improved access to the land and tens of thousands of settlers arrived in the 1880's and 1890's.

Large scale immigration to the Prairies from the late 1890's had a profound impact on the landscape. When a farmer arrived on a quarter section of land, his first objective was to build a house. Local materials were commonly used, logs in the parkland, and sod on the plains. Farmyards were created as barns, outbuildings, and fences were constructed when need and time arose. As farmers became more established, the farmstead became further developed. In dry regions, dugouts were scraped out of the ground to collect spring run-off for household and farm use. Some farmers attempted to beautify their properties with flower beds and trees. The result was usually a series of functional areas consisting of a presentational front between the road and the front of the house, a private area for the family, and a service yard of barns and outbuildings (von Baeyer: 1984).

Cultivation of the land created a profound impact on the landscape. In the grasslands the first step involved turning the heavily matted sod to expose the rich prairie soil. In the process, farmers were destroying a centuries old complex, resilient ecosystem and replacing it with a mono-culture cereal crop. The speed and efficiency of this destruction resulted in near total eradication of the native tallgrass prairie in the first half of the twentieth century. In the parklands a similar but not so extensive process, was also occurring, as native stands of aspen were being cleared for fields. Fences constructed of logs often surrounded these fields, but by the mid 1880's, they were replaced by the now ubiquitous fence posts and barbwire (Thomas: 1976).

In 1886 the federal government constructed the first experimental farms in the West. Because of their role in agricultural experimentation and their influence on the cultural practices of prairie farmers, these sites are historically significant. Sites like Brooks, Alberta and Indian Head, Saskatchewan were developed as research centers, with trial plots for vegetables, ornamentals, and cereal crops. Through the research, shorter season, disease-resistant wheat was produced, thus enlarging the potential arable lands in the West. Tillage practices were also examined and summer fallowing was recommended. By this system consecutive fields were left fallow for a year, a technique still commonly used today.

One of the other objectives of the prairie research stations was to initiate a program of windbreak establishment. It was realized that windbreaks would provide shelter around homesteads, creating an ameliorated climate. Typically rows of trees and shrubs were planted along the north and west side of the farmyard. Inside this windbreak it was possible to cultivate plants which normally would not survive the harsh winters or dry summers. The response of the individual farmers to this program is phenomenal, and by 1917, seven million trees had been distributed (von Baeyer: 1984). The effect of the shelter belts was to create a copse of trees around most farmsteads. These are still visible today as they mirror the euclidian geometry of the road and field network.

In southern Alberta a specialized agriculture developed around irrigation, creating a unique impact on the landscape. Irrigation channels were first dug on a small scale for individual farms in 1878. This activity increased in scale by 1890, and by 1925 four large irrigation districts had been set up, moving water as far as 100 miles (Figure 16). These districts allowed cultivation of agricultural crops such as sugar beets and vegetables in areas formerly too dry.

Mechanization of agriculture closely followed the arrival of the first settlers and changed the agrarian landscape once again. As machines became necessary to run a farm efficiently, the capital cost of purchasing and operating a farm increased. The consequences of this by the 1920's was a need to increase farm size. As grain farming expanded,

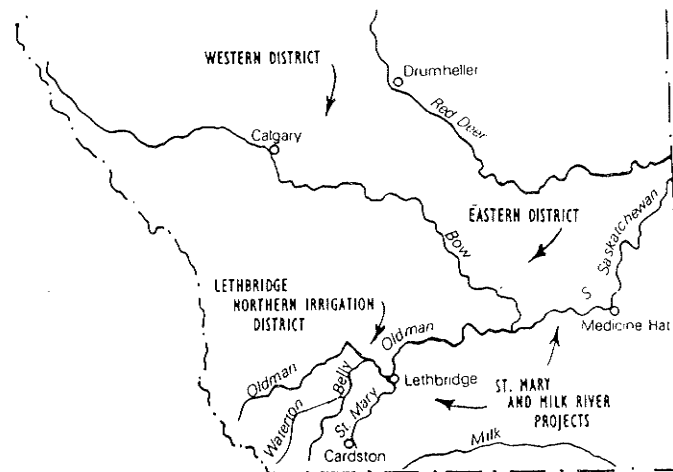


FIGURE 16 Irrigation districts in southern Alberta beginning in 1878 (MacGregor: 1981, p.164).

many of the small homesteads disappeared resulting in a general depopulation of rural areas.

Farming was not the only agricultural impact on the landscape. South of Fort Calgary, large tracts of land with indeterminate boundaries were being used as grazing areas for cattle. Starting in the 1870's, during the free range era, ranchers simply turned cattle loose to graze in given areas. The rights to a particular area were determined by a vague mutual understanding among stockmen, where range rights were acquired by the first person to use the rangeland (Breen: 1983). This control of large grazing areas was formalized and provided with protection under the government lease hold system instituted in 1881. This allowed grants of up to 100,000 acres to be leased for not more than 21 years at a cost of one cent per acre. While homesteading was allowed in these areas, few people attempted it as two years' notice of occupation had to be served to the lease holder. The result was that ranchers were able to maintain control over vast areas of land.

As a result of the generous terms of the leases, there was an influx of settlement and money from eastern Canada and Britain. This investment encouraged growth of the industry and the impact on the landscape. Large cattle companies were quickly formed, each controlling massive amounts of land (Figure 17). In 1894, ten companies controlled two-thirds of all stockland. The Cochrane Ranch Company Limited alone controlled 189,000 acres at this time (Breen: 1983).

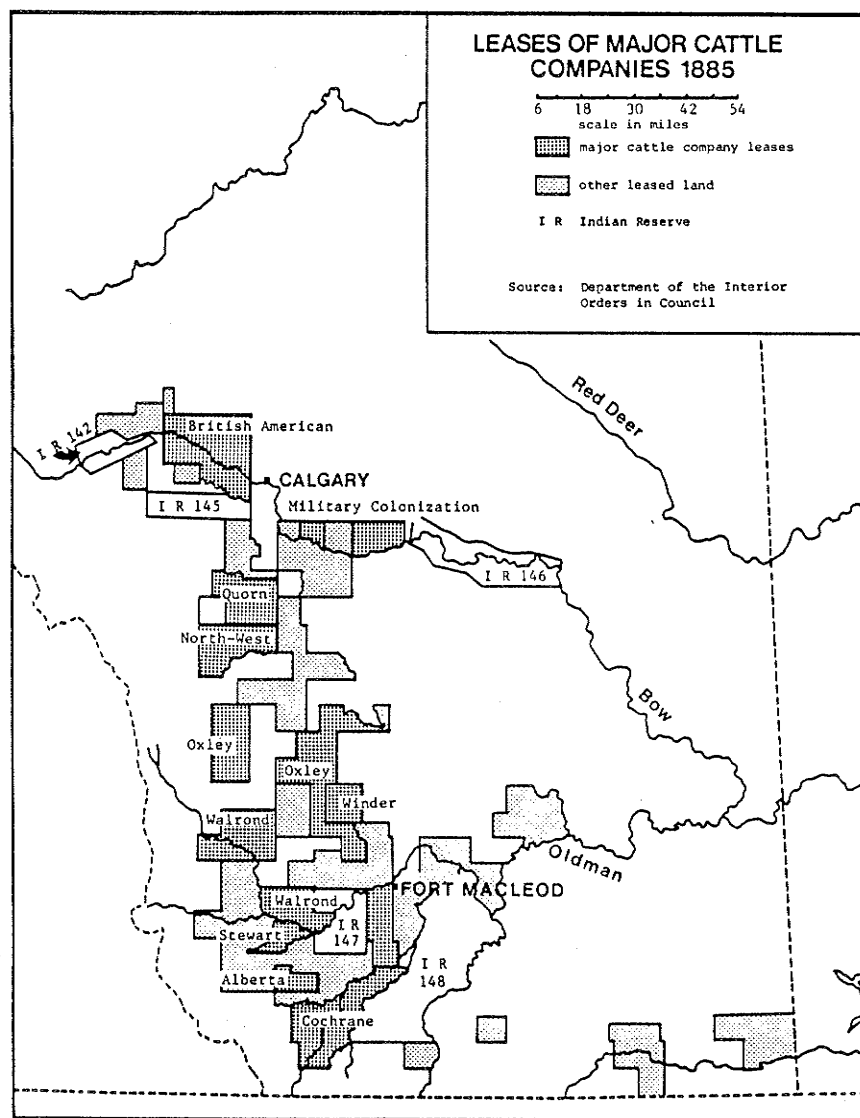


FIGURE 17 Leases of major cattle companies 1885 (Breen: 1983, p.45).

The impact of these massive companies on the landscape was a sparsely settled countryside where the more suitable lands were not available for homesteading. The ranch houses which did exist were remote from each other. They varied from small log shacks to large stone houses with lawns and flower beds in the English tradition (Breen: 1983). Ranch sites also contained outbuildings, bunkhouses, and fenced corrals (Figure 18).

In 1896 the original closed leases were cancelled in exchange for generous terms of settlement. This action had been spurred by the fact that squatters, slowly settling the land, were interfering with water access. Under the new agreement the government guaranteed the ranchers that in exchange for giving up the leases for deeds that stock watering reserves, shelter reserves, driftways and cattle trails would be retained. This policy maintained the cattlemen's control over the land (Breen 1983).

In the first years of the twentieth century, the demand for land by agriculturists challenged the rights previously held by ranchers. This demand was spurred by rapidly evolving farming technology, increases in the price of wheat, extension of railway, mileage, wet cycles of rainfall, and mechanization (Evans: 1983). This preference was encouraged by the Department of the Interior which wished to see the West settled as quickly as possible. The sparsely populated ranching landscape was to be changed to the more densely populated farm use. The

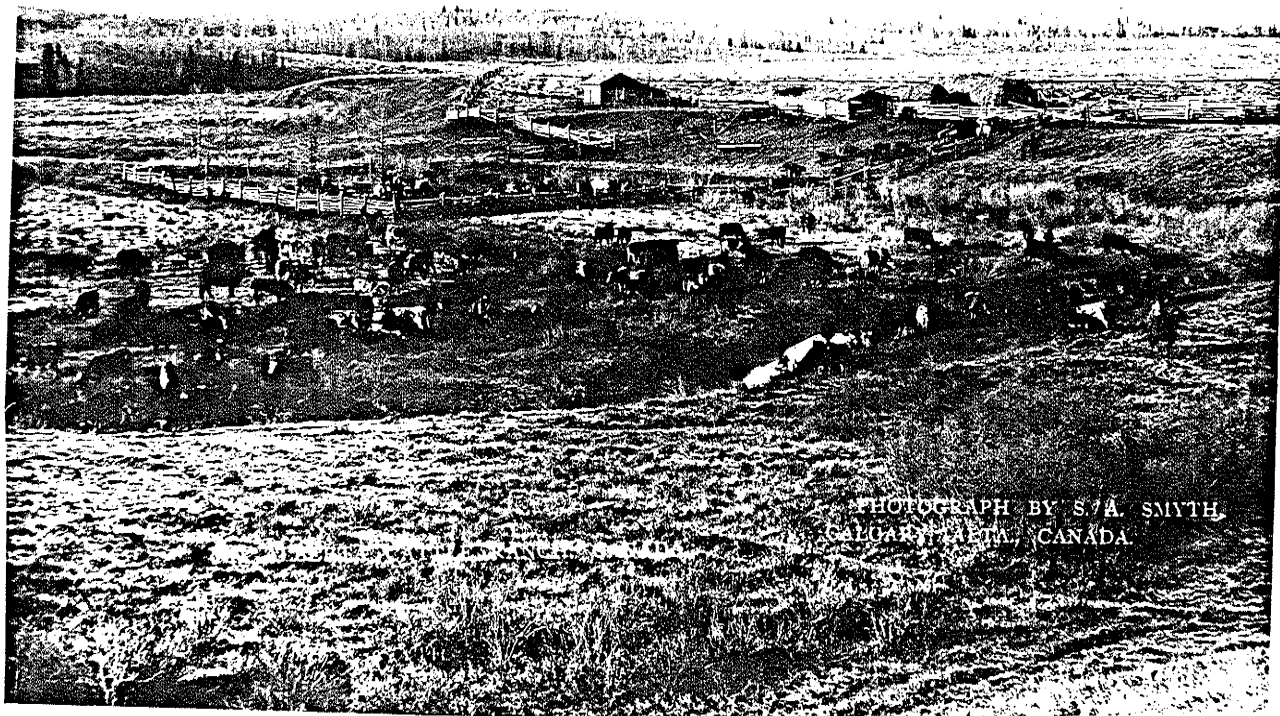


FIGURE 18 Cattle Ranch near Calgary, ca. 1885 (Manitoba Archives: Calgary - Farms).

result of all this activity was to transform the open range land into a mosaic of farms and small ranches, accompanied by barbwire fences and road allowances. This strong competition from farmers and their fences was to limit the range of the cattlemen. Ranchers were cut off from summer grazing pastures by a belt of farmland 50 - 100 miles wide, which followed the railway. They had only two choices left: to intensify production by fencing, winter feeding and cropping fodder, or to relocate on the short grass prairie to the east. However, even this latter opportunity was not a permanent solution, for dry land farming techniques were improving to the stage where it was difficult to assume that large areas of western Canada would remain unsuitable for agriculture.

5.1.2 Forestry

The use of forest to produce timber has created an impact on the land since Europeans entered the West. Natives used little timber but were known to destroy it with fire to attract wildlife to the burnt-off areas. Europeans, however, utilized limited amounts of wood for fuel and construction.

As settlement increased, the use of timber did also. First the Red River settlers, then later settlers on the prairies used the wood for fuel, construction, fence posts and rails. Prior to 1900 cutting was largely carried out by small firms for local markets. As demand increased, large scale saw mills were centered in areas such as The Pas

and Prince Albert. In response controls were placed on cutting by creating forest reserves managed on a perpetual yield basis. By 1914 there were 33,666 square miles of reserves in the West, two-thirds of which were in Alberta.

Impact

When Europeans first utilized the forest to procure timber for construction of trading posts, they created major impacts on the local landscape by clear cutting the area around the posts. At the Red River settlement the shortage of wood was solved by rafting in logs from further upstream a process which gradually extended the cleared area.

As settlement increased before 1900, portable saw mills were utilized in timbered regions of the West. Their small camps created limited impacts on the land, as only a small number of log buildings were constructed. The bunkhouses and kitchen were built of rough sawn logs as the camps were not permanent and the buildings would be abandoned.

The impact of these small operations on the surrounding landscape, however, was often devastating. As initially there were no controls on cutting, the general practice was to clear cut. Flooding resulted in many of the areas causing severe erosion of the land. The federal government realized that if this continued the land and adjoining forests would be lost. Forest reserves were created which controlled the degradation of the resource. The first of these reserves were

established in 1906. The designation kept the land from being settled and allowed forest protection and management.

After 1900 the scale of forest operation grew as larger saw mills were constructed in northern areas. While a number of mills existed, the industry was centered at The Pas and Prince Albert. By this time, however, controls were being enforced on the amount of timber removed with emphasis being placed on forest management.

5.1.3 Mining

Thrust

Mining has been a part of resource exploitation since Europeans entered the West. A variety of minerals, including salt, limestone, and building stones, were utilized by fur traders but their extraction occurred on a limited scale. Larger impacts on the landscape did not occur until and late nineteenth century, as the need for coal expanded. The recent dominance of oil and gas has eclipsed the fact that coal at one time was thought to be the new wealth of the West. While it had been mined in small quantities since Europeans entered western Canada, it was not until the railway arrived that it developed to any great degree. In 1913 British Columbia, Alberta, and Saskatchewan were thought to contain 90 percent of all recoverable coal in Canada (Lambrecht: 1979), with nearly half of this supply in Alberta.

Major coal fields were opened every decade, from the inception of large scale mining in 1872 until the start of World War I, when oil products

became the chief fuel source. Development of coal reserves depended upon the extension of rail lines to service the industry and the construction of communities to house the workers. In the Banff region of Alberta, several mining companies operated collieries along the mainline of the Canadian Pacific Railway between 1882 and 1891. To decrease its operating costs, the C.P.R. opened up its own mine at Bankhead, near Banff. This development occurred at a time when resource extraction was seen to co-exist with natural resource conservation. In the 1920's poor coal prices, lack of access to eastern markets and a shift to petroleum-based fuels decreased the need for coal, and the mine was closed.

The mining of metals has also played a role in landscape development. Hematite and limonite deposits east of Lake Winnipeg were mined as early as 1880 and foreshadowed the large-scale extraction processes which occurred in the northern portions of the provinces. These latter operations focused on the gold, silver, nickel, and copper of the pre-cambrian shield. After World War I, access to the northern areas with motorized vehicles facilitated the extraction of these ores.

Hydro-electric energy was another resource of the West which created the same scale of impacts on the landscapes as mines. While not extensively developed prior to World War I, generating stations did supply electrical energy for urban areas like Winnipeg. These early operations foreshadowed the massive hydro-electric projects of later years. Many

of these projects attracted metal refining operations which depended on the inexpensive energy.

Impact

The impact of mining on the landscape has varied according to the scale and type of operations necessary to remove the minerals. Many small extraction operations have existed throughout the history of the West. The impacts of many of these are still visible and include small coal operations and sand and gravel, gypsum and clay pits, many of which had limited lifespans. Large iron kettles still exist at Monksman's Springs in Manitoba where water was evaporated from brine to produce salt. These operated as early as 1800 (Cole: 1950). Limestone deposits in various locations of Manitoba have also been exploited to manufacture lime. Remnants of kilns used in this process exist in towns such as Stonewall, Manitoba.

The extraction of stone, and to a larger degree coal and metals, has had two major effects upon the landscape. The first was the impact of the mining procedure itself, and the second was the creation of communities to house the labour force and their families. This latter impact occurred when the resource existed away from population centers, and the size of the work force was large enough to create a community separate from the work site.

Two methods of extraction have been commonly used in the West: open pit and closed. Open pit or strip mining, employed for some coal, minerals, and all stone excavations, involved the removal of overburden to expose the work surface. The mining of the work face then occurred in the open air. This created not only large open pits or quarries, but also large mounds of overburden which were stacked on or near the site. Closed or mine shaft operations, which comprised the majority of coal and mineral extraction sites, reached the working surface through shafts, slopes and tunnels. Like overburden, the waste created in digging tunnels was stored near the site. Some of the extraction industries' above-ground processing operations required a variety of buildings for storage and refining. Several coal mines near Banff processed lower grades of coal into coke and briquets (Lambrecht: 1979).

As mining commenced at the larger remote operations, communities were formed to house the labour force and their families. The haste with which both mining operations and settlement were established in a region was reflected in the poor housing standards and sanitary conditions. In isolated areas the management of the mines took on the responsibility of building, operating, and servicing the towns. Stores and essential services were owned by the company and leased to individual tenants. The existence of the towns depended solely upon the economic stability of the mines. When the extraction process ended, the towns were quickly deserted. Examples of this occurred in the coal mining regions of western Alberta.

Hydro-electric energy and oil and gas exploration both began to have impacts on the landscape in the 1920's, but were not developed extensively until after the Second World War. Early oil and gas exploration had limited impacts on the landscape. Drill sites generally consisted of the drilling tower and associated buildings (Figure 19). After the drilling occurred, however, these rigs were removed, leaving only a small pumphouse. While oil would eventually be produced from the tar sands in northern Alberta and Saskatchewan, during the study period, the sand was only utilized as a paving material.

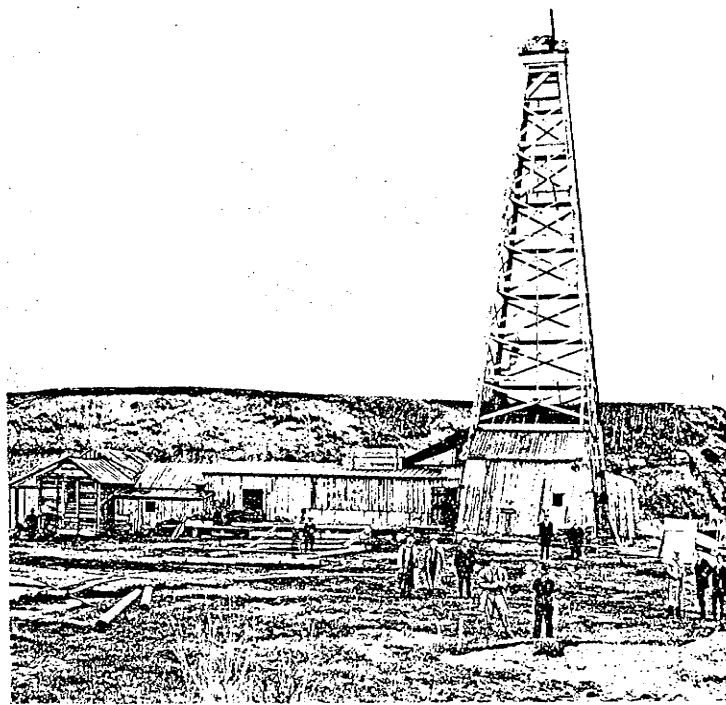


FIGURE 19 Dingman well site, Turner Valley, Alberta (MacGregor: 1981, p. 18, illustrations).

Hydro-electric projects also produced impacts on the landscape. Utilizing natural water drops and impoundment areas, they changed the character of many landscapes through the construction of dams and the resulting lakes. Surviving remnants of these early projects can be seen at Lac Du Bonnet in Manitoba or at the dam constructed in 1911 at Horseshoe Falls near Calgary. In later years the construction of dams attracted metal refining operations and created industrial sites in northern areas.

The various aspects of mining activity have created a variety of impacts on the landscapes. Generally they have been geographically isolated areas. Where they did occur, the impacts were intensive and often permanent. Today many of mining operations are still evident in the landscape as little attempt was made to ameliorate their impact.

5.1.4 Hunting

Thrust

Hunting as a resource utilization played a key role in the development of the West. It was the elementary component of the fur trade. Its role, however, decreased as the fur trade declined in the latter part of the nineteenth century.

The impact of hunting on the landscape changed after the amalgamation of the Hudson's Bay Company and the North West Company in 1821. It was brought about, in part, by decreased returns suffered by both companies

resulting from their intensive competition. This union once again returned a vast land area from the American border to the high Arctic and from Hudson Bay to the Rocky Mountains into virtual monopolistic control. Governor George Simpson was appointed by the Hudson's Bay Company Council to control this 'empire'. It was hoped he could return the fur industry to the economic success it had once had. To achieve this goal, Simpson instituted changes through a realistic management approach. This included creating quotas on trapping, closing over-trapped areas, opening up new areas and new posts, closing redundant posts, releasing personnel, and changing some of the traditional trade routes. Each of these changes had its own direct or indirect effects upon the landscape.

Simpson's practices revitalized the fur industry primarily because of the profits derived from the northern districts, but by the 1850's the company's monopoly to govern the watershed of Hudson Bay was challenged. Both the British and the Canadian governments were concerned with issues of American annexation, monopolistic control, enforcement of law and order, and the potential for further settlement of the West.

In 1859 the company's licence was not renewed, but it retained its territorial rights. It took eleven more years to work out the details, but on the fifteenth of July, 1870, the Hudson's Bay Company signed the Deed of Surrender. This agreement returned Rupert's Land to the British

Crown, which then turned it over to Canada. While hunting continued to present times at a limited scale its influence on landscape development decreased.

Impact

As hunting was reorganized after 1821, one of the first impacts on the landscape was created by the closing of redundant or uneconomical posts. The abandoned trading centres dotted the landscape. By 1832 the network of trading centres which remained or had been moved to new locations efficiently and economically serviced the region. The personnel released were the cause of another impact. With few options to create a livelihood, many ex-employees moved to the settlements clustered around the confluence of the Assiniboine and Red Rivers. This added to the growth of the communities at Whitehorse Plains, St. Boniface, St. Norbert, and the Red River Settlement as discussed previously.

The reorganization not only decreased the number of Europeans, Natives, and Metis in the interior, but also affected the trade routes. The use of Fort William as a major depot was decreased as the route from Montreal was longer than that through York Factory. Use of Norway House increased as it became the central distribution point for trade goods and fur collection. Fort Edmonton on the North Saskatchewan became the largest post west of Fort Garry as it served as the central distribution and collection point for the most lucrative trapping areas of the Mackenzie River.

Another feature of this period which contributed to the landscape was the construction of large inland trading posts. During the first 150 years, post planning and construction had been based upon the requisites of defense, shelter, and trade. It was a very pragmatic approach resulting in an utilitarian landscape. As discussed earlier, this landscape included stockades and fences surrounding warehouses and officers' quarters. Local native vegetation was cleared for lumber and fuel. Vegetable gardens were the only attempts at growing plants. After 1821 this pragmatic approach to the landscape began to change gradually. Working spaces and domestic spaces began to be separated and horticulture was introduced (Thomas: 1979). Flower gardens and lawns were incorporated into a few of the larger posts, where spruce, elm and maple trees were planted.

This movement can be viewed as part of the civilizing influence which was hoped to be achieved through settlement. This effect, however, did not readily influence the majority of small posts, which remained as one or two log cabins in the wilderness.

As hunting decreased in the twentieth century, many trading posts were abandoned, torn down, or leased for other purposes. The remaining posts were further apart and often the fur trade function was combined with R.C.M.P. detachments. Limited fur trapping was continued by individuals operating out of isolated northern communities. The halcyon era of the

fur trade was never to return and many of the impacts created by the period were to disappear as land uses changed.

5.1.5 Resource Conservation

Thrust

This subtheme addresses issues related to the development of recreational resources and a subsequent concern for conserving them. Development of recreational sites began in 1885 as the federal government set aside land near Sulphur Mountain in Alberta for public use. This site was the beginning of Banff National Park and the National Park System of Canada. Jasper and Waterton were added shortly after 1885 and were followed by Elk Island (1913), Wood Buffalo (1922), and Riding Mountain (1929).

Activity was first focused on development and promotion of the parks, with emphasis on the commercial potential. One tenet of government policy was to make the parks attractive and accessible to visitors (Van Kirk: 1969). This approach to development allowed the government to economically justify the Parks and was welcomed by the Canadian Pacific Railway which hoped to profit from development of the regions. As a result of these attitudes, preservation and conservation of the natural resources received little attention during the late 1880's and 1890's.

Leisure time and a demand for recreational activities began increasing in the 1890's and 1900's. The public was seeking a respite from

industrialized cities and turned to the parks system to provide it. At this same time there was a rising awareness of conservation of resources. In 1911, J.B. Harkin was appointed Commissioner of Parks in the newly created National Parks Branch. His objective was to enable Canadians to enjoy recreation in the parks setting. Harkin recognized the great commercial potential of the parks land and also that preservation of the forests and wildlife were essential to achieve this. Under his administration the two major tenets of parks policy were to maintain and use the parks for the benefit of the people and to leave them unimpaired for future generations. This shift from earlier policy changed the impact of man on the park landscapes.

Impact

As parks were first formed, the impacts on the landscape reflected the exploitive attitudes and policies which the government developed towards the resources. Construction of commercial facilities to attract tourists was encouraged. The building of hotels owned by the railways introduced imposing architecture into the landscape (Figure 20). Some of the attractions and impacts these hotels created in the landscape included tennis courts, golf courses, and ski resorts. Small towns developed near or around these resorts to service the growing tourist industry. Often park administration buildings and their landscaped grounds were located here. Residential areas were also planned, with residents being given long term leases. The intent was to attract an elite community which would construct elegant houses (Van Kirk: 1969).



FIGURE 20 Banff Springs Hotel, 1903. (Van Kirk: 1969, p. 178).

During this early period, industrial development within the parks created significant impacts on the landscape. In areas removed from public view, forestry operations were permitted to clear-cut timber from the land. Government policy sanctioned this activity in the belief that it did not interfere with the natural beauty or enjoyment of the parks. This attitude also allowed the mining of coal, quartz and the construction of industrial sites such as Exshaw Cement Works in Rocky Mountains Park, 1908 (Figure 21). While the parks were created to protect the natural resources, the industrial uses were creating

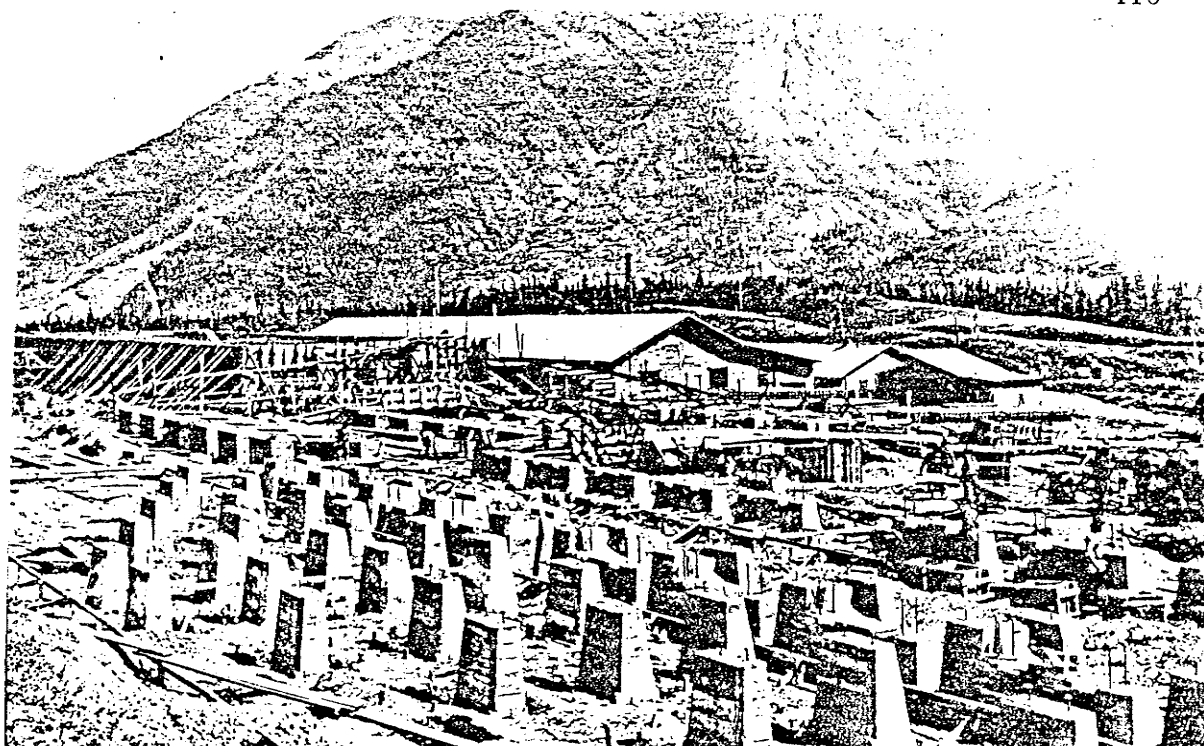


FIGURE 21 Exshaw Cement Works, Rocky Mountains Park, 1908 (Van Kirk: 1969, p. 180)

negative impacts on the landscapes in the form of denuded forest areas and industrial plant sites.

Impacts on the landscape began changing in the early twentieth century as the rise in environmental awareness and conservation fostered the view that national parks were preserves of natural environments. In 1906 the control on forests was increased as reserves were created under the Dominion Forests Act. In the parks this action curtailed and eventually stopped the use of park forests for commercial use (Van Kirk: 1969). Fire fighting techniques and forest ranger patrol were begun, thus decreasing the destruction of forest fires. Controls were also

placed on all other lands within the parks. Exploitation of mineral resources was discouraged and existing mining operations were slowly excluded from the parks. In 1930 no provision was made for resource extraction in the National Parks Act.

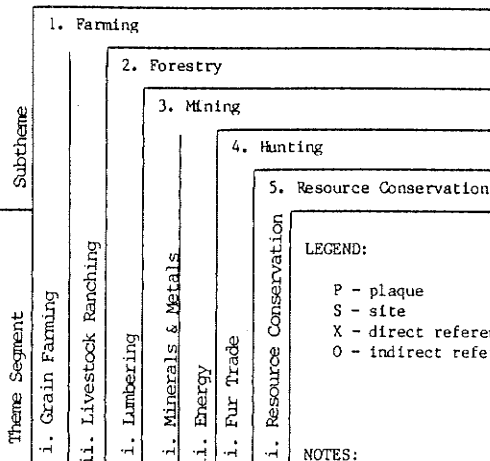
Wildlife was also being conserved in the parks after 1911 but impacts on the landscape were minimal. Outside the parks the creation of bird sanctuaries was having a greater influence on the land. Areas of natural vegetation were being reserved to protect migrating and nesting birds. The first bird sanctuary was founded in 1885 at Last Mountain Lake in Saskatchewan.

As tourism and demand for recreation increased in the early 1920's, the impacts on the landscape also increased. To gain access to the parks, construction of highways was promoted. Along with this more commercial establishments were allowed into the parks to service the needs of the tourists. To limit the impact of these activities, standards were placed on buildings to maintain the distinct character of the towns. The long leases originally granted were no longer offered so as to allow the National Parks Branch more control over activities in the parks. The existing long term renewable leases posed problems as they amounted to a free hold system. This reduced the government's efficiency in enacting its policies which were favouring the view that parks were to become preserves of natural environments. The attitude that parks were

preserves of the original Canadian landscape was gaining momentum in the 1920's and became strongly reflected in the official policies created under the National Parks Act of 1930.

5.2 INVENTORY

RESOURCE UTILIZATION



LEGEND:
 P - plaque
 S - site
 X - direct reference to site
 O - indirect reference to site

ALBERTA

National Historic Sites

Site Name	Theme Segment	Subtheme	1. Farming	2. Forestry	3. Mining	4. Hunting	5. Resource Conservation	Notes
ALBRIGHT, W.D	P	O						Shaped agriculture pattern of Peace River.
BRICK, REV. J.G.	P	O						Discovered wheat growing potential in Peace River.
BURNS, PATRIC	P	O						Promoted mixed farming & ranching.
MAGRATH HEAD GATES	P	X						1899 First large scale irrigation.
FIRST COAL MINE IN ALBERTA	P				X			1872 - Oldman River.
FIRST OIL WELL IN WESTERN CANADA	P				X			1902 - Oil Well.
FORT ASSINIBOINE	P					X		HBCo Post 1825
FORT DUNVEGAN	P					X		1805 - 1918 NWCo & HBC. Post.
HENRY HOUSE	P					X		NWCo Post 1811 - HBCo till 1830's.
JASPER HOUSE	P					X		HBCo Post 1829.
Provincial Roadside Signs								
DRYLAND FARMING	P	X						Adoption of new methods for Chinook belt.
FAIR FIELD FARM	P	X						Model irrigation farm 1901.
THE FIRST DITCH	P	X						1879 - First attempt at irrigation.
IRRIGATION	P	X						1898 First ditches near Lethbridge.
CATTLE BARONS	P	X						S. Alta opened for ranching 1880.
PINCHER CREEK	P	X						NWMP Horse & Cattle Ranch 1878
ATHABASCA OIL SANDS	P				X			Early 1900's use of Tarsands as road surfacing.
BANKHEAD	S				X			Coal Mine Site.
BOW ISLAND GAS FIELD	P				X			First gas field 1909.

NOTES:

5.2 INVENTORY (cont'd)

RESOURCE UTILIZATION	Theme Segment	Subtheme					NOTES:
		i. Grain Farming	ii. Livestock Ranching	i. Lumbering	i. Minerals & Metals	ii. Energy	
<p>1. Farming</p> <p>2. Forestry</p> <p>3. Mining</p> <p>4. Hunting</p> <p>5. Resource Conservation</p> <p>LEGEND:</p> <p>P - plaque S - site X - direct reference to site O - indirect reference to site</p>							
ALBERTA							
FIRST DISCOVERY OF NATURAL GAS	P				X		1883 First gas well nearby.
TURNER VALLEY OIL FIELD	P				X		First major oil & gas field nearby in 1914.
PEIGAN POST	P					X	HBCo Post 1823 - 1834.
SPITZEE POST	P					X	American fur trading Post - 1869.
STANDOFF	P					X	Whiskey Post 1871.
ROCKY MOUNTAINS PARK	P					X	1885 - First national park.
Provincial Cairns							
FORT EDMONTON	P					X	1830 HBCo Post.
VICTORIA POST	P					X	1864 - 1897 HBCo Post.

5.2 INVENTORY

RESOURCE UTILIZATION	Subtheme		1. Farming					2. Forestry		3. Mining		4. Hunting		5. Resource Conservation		LEGEND:	
	Theme Segments		i. Grain Farming	ii. Livestock Ranching	i. Lumbering	i. Minerals & Metals	ii. Energy	i. Fur Trade	i. Resource Conservation								
<u>SASKATCHEWAN</u>																	
Provincial Historic Markers																	NOTES:
BELL FARM	P	X															1882 Farming Company.
INDIAN HEAD EXPERIMENTAL FARM	P	X															1887 First experimental farm.
SEAGER WHEELER	P	0															Developed Marquis wheat.
THE LISTER KAYE ENTERPRISE	P		X														1888 Ranch Site.
THE RANCHING INDUSTRY	P		X														Cattle Industry.
THE "76" RANCH	P		X														1888 - 1925 Large ranch operation.
BEAVER CITY	P					X											1910 - 1918 Boomtown.
GOLD DREDGING ON THE NORTH SASKATCHEWAN RIVER	P					X											
COAL INDUSTRY	P						X										Abandoned Town.
BATTLE RIVER FORTS.	P								X								1821 HBCo Post.
CHIMNEY COULEE	P									X							1871 - 76 Fort Walsh Outpost.
FORT DELLY	P										X						HBCo Post.
FORT PITT	P											X					
GREEN LAKE FORT TRAIL	P												X				1821 HBCo Post.
LAST MOUNTAIN HOUSE	P													X			1869 HBCo & Freetrader Posts.
MOOSE MOUNTAIN WINTERING POST	P														X		1850's HBCo Wintering Post.
ONION LAKE SETTLEMENT	P															X	1886 HBCo Post.
TELEGRAPH FLAT (BATTLEFORD)	P															0	1876 HBCo Post.
TOUCH WOOD HILLS POST	P															X	1879 - 1909 HBCo Post.

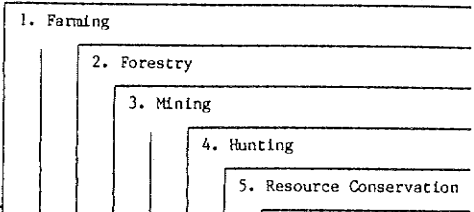
5.2 INVENTORY (cont'd)

RESOURCE UTILIZATION	Theme Segments	Subtheme					LEGEND:
		1. Farming	2. Forestry	3. Mining	4. Hunting	5. Resource Conservation	
<u>SASKATCHEWAN</u>							
National Historic Park							
MOTHERWELL	S	O					
National Historic Site							
FORT A LA CORNE	P					X	1846 - 1932 HBCo Post.
FORT DELLY II	P					X	1865 HBCo Post.
FORT PITT	P					X	1829 HBCo Post.
FORT QU'APPELLE	P					X	1864 Depot for trade & collection.
McMURRAY'S POST & PALLISER EXPEDITION	P					X	1857 - HBCo Post.
LAST MOUNTAIN BIRD SANCTUARY	P					X	1887 - First Canadian Bird Sanctuary.

LEGEND:
 P - plaque
 S - site
 X - direct reference to site
 O - indirect reference to site

NOTES:

RESOURCE UTILIZATION



LEGEND:
 P - plaque
 S - site
 X - direct reference to site
 O - indirect reference to site

MANITOBA

Provincial Historic Sites

Site Name	P	S	X	O	1. Farming	2. Forestry	3. Mining	4. Hunting	5. Resource Conservation
FRANK LEITH SKINNER	P			O					
MANDY MINE	P		X						
ST. NORBERT	P							X	

NOTES:

Bred Plant varieties for prairies.
 1916 Copper Mine.
 1822 - Former fur trade employees settled here.

National Historic Sites

RIEL HOUSE	S	O							
LOWER FORT GARRY	S							X	
NORWAY HOUSE	P							X	
YORK FACTORY	S							X	

Metis agriculture in Red River.
 1831 HBCo.
 1821 Depot for Athabasca Brigades.
 Provisioning Depot.

5.3 EVALUATION

Representation of resource utilization in the historic resources programs has varied from one component to another but generally they are partially commemorated.

Farming the land consists of several theme segments: agriculture at Red River, homesteaders, ranching, experimental farms and irrigation. Currently these activities are only partially represented. The agricultural settlement at Red River was composed of several elements including Scots, and Metis. Only the impact of the Metis culture on the landscape has been commemorated, through the development of Riel House. The other groups of the period had different influences on the landscape which are worthy of representation.

The impacts of different farming practices have been partially commemorated. One plaque represents the development of dryland farming techniques and another describes one of the large farming companies. The Motherwell Homestead in Saskatchewan is the only site which depicts the impacts of scientific farming practices. These include the use of dugouts, summer fallow, and improved strains of grain. A partial research base has been prepared for this theme segment but further research is required to distinguish how other groups farmed the land.

Ranching has received adequate representation within the study area. In Southern Alberta and Saskatchewan several ranch sites have been plaqued

commemorating the impact this industry had on the landscape. The Cochrane Ranch near Calgary has been developed as a provincial historic site to depict the influence of the large cattle ranches on land use. Commemoration of smaller ranches should be considered as they too contributed to the landscape.

Irrigation in Southern Alberta has been represented at four sites with plaques to commemorate the first ditches, first attempts at irrigation, head gates and a model irrigation farm. Currently no sites have been developed to illustrate this theme segment and consideration should be given to including it. Documentation is, however, lacking at this stage.

The influence of experimental farms on the landscape has been commemorated at the Indian Head Farm with a plaque. As these farms were instrumental in developing many plant species and agricultural practices suited to western growing conditions, consideration should be given to further representation and interpretation in the historic sites programs.

Use of forest resources has occurred throughout the history of the West. In varying degrees the impact has been recorded within the landscape. Currently no sites are represented as historic resources, likely because exploitation of extractive resources is not considered

further representation and interpretation in the historic sites programs.

Mining operations in the West have created various forms of industrial landscapes including open pit mines, closed mines, hydro-electric dams, and oil fields. Several sites dealing with diverse extractive operations have been commemorated with plaques. These include the first coal mine in Alberta, the coal industry in Saskatchewan, two mines in Manitoba and the discovery of oil and gas in Alberta. Currently the preserved site of the Bankhead coal mining operation in Banff National Park is interpreted for the public. Other industrial sites are present across the West and should be considered for commemoration. These include examples of early salt extraction sites in Manitoba and limestone kilns also in Manitoba. The lack of representation is due not only to the general absence of industrial landscapes from the historic record but also due to the lack of knowledge regarding the impacts of these industries. Further research should be encouraged.

Hunting has been adequately represented. The reasons for extensive recognition have been discussed previously in the theme European Entry and are apparent in this inventory. Major fur trade posts are represented by Lower Fort Garry and York Factory. Nineteen of the smaller inland posts have been acknowledged with plaques.

Resource conservation has been poorly represented in the historic resources program. One plaque commemorates the creation of Rocky Mountain Park and one the creation of the Last Mountain Lake Bird Sanctuary. The Cave and Basin Hotsprings have recently been restored and represent the early attempts at creating tourist attractions. These commemorations are insufficient to represent an important segment of landscape development. Within the national parks there are landscapes which are noteworthy. These include the large hotels and their grounds, early residential areas, landscaped gardens around public buildings and the early industrial activities. Many of these sites represent activities which are no longer in keeping with park policies. While maintaining natural environments is important, recognition should also be accorded the historic impacts within these environments.

CHAPTER 6

TRANSPORTATION AND COMMUNICATION

6.1 THEMATIC FRAMEWORK

Throughout history, transportation and communication have played an essential role in the development of the western landscape. The impacts of pre-historic and historic native tribes on the land were guided by their transportation modes. This reflected their attitude of living with the land and not imposing their technology on it. When Europeans began moving inland, their impacts were also guided by the transportation system; they had adopted Indian methods of travel. This changed, however, as Europeans increased the intensity and diversity of resource use during the nineteenth and twentieth centuries. They began to impose their transportation and communication technology on the land. The scale of the impacts which resulted permanently changed major portions of the landscape. It is the modes of transportation and communication which created these changes that are the focus of this theme.

6.1.1 Inland Transportation

Thrust

This subtheme distinguishes the various water and land routes which evolved in the West and focuses on the impact they created on the

landscape. The early dependency on rivers and lakes by both Indians and Europeans is shown through the use of canoes, York boats, and, later, steam ships.

Travel away from water bodies was slower to develop but eventually cart trails, the railway and roads appeared. These later transportation systems allowed settlement to develop on a large scale, eventually encompassing the major portions of the West. For purposes of clarity, the different transportation modes are discussed chronologically, but it should be recognized that rarely did any of them operate exclusively; rather, they most often complemented each other.

Native transportation was an essential component of pre-historic and post-contact native peoples' lives. Movement was necessary as they followed migratory and seasonal food sources. Exact transportation routes of pre-historic populations are difficult to establish, but it is likely they were similar to historic plains and forest tribes. As the plains Indians pursued the bison, they moved frequently. Distances travelled were limited by how far they could walk in one day. After the arrival of the horse, the Indians were able to carry more goods over greater distances. Their migration patterns, however, still followed the same seasonal movement. Transportation for Boreal forest Indians was less important than for plains Indians as they subsisted on a broader range of foodstuffs which existed over wider areas of the forest. Therefore, while movement was necessary, they were not as

nomadic as the plains Indians (Forbis: 1970). Their transportation routes, the river, lakes, and streams of the north, provided access to most of western Canada. It was through these rivers that the natives first had contact with Europeans.

As Europeans began travelling inland, they used the same river routes for transportation as the Indians. The French from eastern Canada were the first to move inland; they used Lake Superior through Grand Portage to gain access to Lake Winnipeg and the West. Later, the Nor'Westers would follow these same routes. As they began to move inland from Hudson Bay after 1774, the English utilized two river systems, the Hays - Nelson and the Churchill (Morton: 1957).

A complete water based distribution network developed in the West by the early nineteenth century. Norway House on the Nelson River at the outlet from Lake Winnipeg was the inland Hudson's Bay Company distribution point from York Factory. It was here that brigades from Fort Garry and western posts met York boat brigades from the Bay. Further inland along the North Saskatchewan, posts were strategically located at Cumberland House (the crossing between the Saskatchewan and the Churchill River), Fort a la Corne (storehouse of pemmican), and Edmonton House (start of the overland route to the Athabasca River and northern posts).

The North West Company had also developed such a system with Fort William as their main distribution point and meeting place for western

traders and eastern suppliers. After the amalgamation of the Hudson's Bay Company and the North West Company in 1821, there was a vast reorganization of the transportation system. The long costly route from Montreal was no longer used for freight. Instead, the shorter route from York Factory became the trunk line. This functioned well until it was challenged from the south by American traders. The American routes, composed of various trails, worked their way north along the Mississippi and Red Rivers. This served to unite the West with southern centers of trade. In 1849 the Sayer trial effectively broke the Hudson's Bay monopoly and allowed free trade throughout the West (Morton: 1957). No longer able to stem the flow of furs south and cheaper trade goods north, the Hudson's Bay Company eventually began to transport its own goods through the southern routes.

Trails provided the access to the interior and to posts not located on water bodies. Freightling of larger quantities of furs, trade goods, and pemmican between the inland posts and exterior markets was made possible with the use of the Red River cart. Developed originally in the early 1800's, the carts proved most durable, even after they were generally supplanted by steamboats and later the railway. The major posts at Fort Garry and Fort Edmonton were linked by the Carlton Trail, the longest overland route during the fur trade (Figure 22). Others such as the Saskatchewan Trail, Fort Ellice Trail and Battleford Trail linked the minor posts.

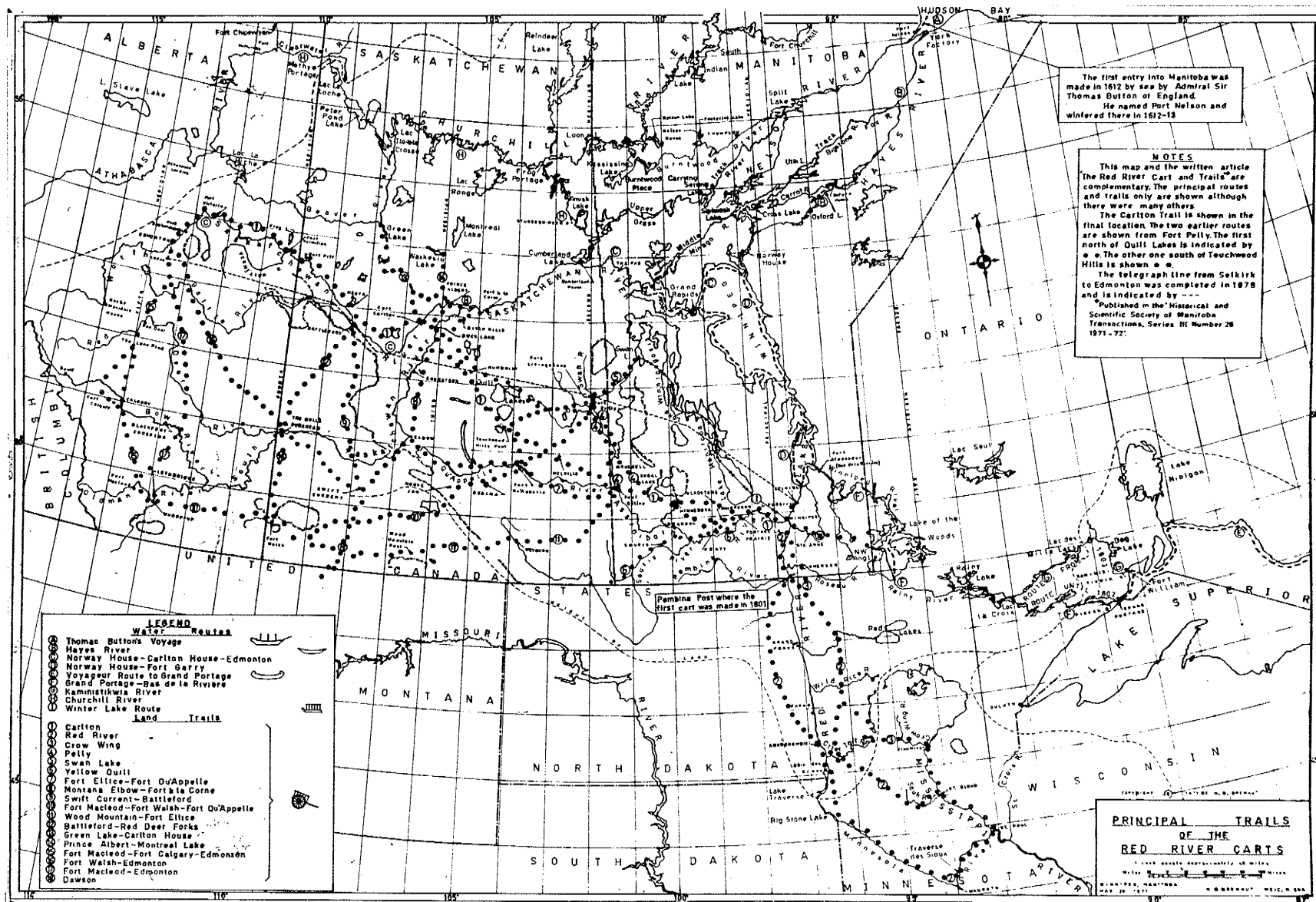


FIGURE 22. Principal Trails of the Red River Carts, 1971 (Manitoba Archives Map Collection).

Steamboats became a competitive alternative to the Red River cart trail system and canoe brigades in 1859. Originating in the United States, the first steamships travelled north on the Red River to Fort Garry, where the Red joined the Assiniboine River. They proved the viability of shipping goods and people north while returning produce south. Able to travel faster and more economically, these vessels transported bulkier items than previously possible. They adopted the traditional river routes of the fur traders and, within a few years, were reaching as far inland as Alberta. As goods could be brought in more economically this way, the Hudson's Bay Company began shipping more furs and goods through the United States. This decreased the importance of Norway House and York Factory, making Fort Garry the major inland depot. As useful as steamships were, their dominance was not to last after the American railroad reached Winnipeg in 1879. This was quickly followed by the Canadian Pacific Railway in 1881.

Settlement of the West was the basic objective of western annexationist promotion in Canada. To achieve this at the vast scale envisioned by the federal government, a new transportation method became necessary. Steamships and cart trails alone could no longer handle the influx of settlers in the 1870's. As a solution and to establish its sovereignty across the West, the Government supported the construction of a trans-continental railway to integrate the Northwest Territories and Manitoba with British Columbia and the rest of Canada. The railway was able to accomplish this vast settlement as no other transportation

method could. It had the capability to move goods farther and faster than ships or carts with a greater variety of routes, and a flexibility of service which far surpassed all other modes of transportation.

By 1882 - 1883 the Canadian Pacific Railway reached across the southern prairies, and began to spread branchlines throughout the West. The growth of extra lines was rapid but could not keep pace with demand. This demand for increased rail lines and the expansion of settlement had been stimulated in 1896 by Clifford Sifton's immigration policy. It offered free homestead land to qualifying individuals and groups. During the period 1905 to 1930, the prairies became the focus of the greatest peace-time migration in human history (Warkentin: 1968). In 1903 a second transcontinental line was opened through Edmonton, via the Yellowhead Pass to Prince Rupert. With the recognition of arable tracts of land further north and the discovery of wheat varieties adapted to earlier maturity, there was a push to move north into areas such as Peace River in 1903. The effect of ready access to all these lands steadily increased the population as well as the number of service centers, cultivated acres, and farmsteads. Public opinion for an alternative route to ship wheat out of western Canada was increasing in the early part of the twentieth century. By 1928 an alternative shipping route to Prince Rupert and the Lakehead was established, through Hudson Bay, out of the Port of Churchill. The general effect of the growth of these branch and main lines by the early 1930's was to bring all of the presently settled areas of the West within ten miles of

a railway, except certain sections of the Palliser Triangle which were still found too dry for agricultural production (Warkentin: 1968). Although massive economic and social changes occurred in the West after 1930, the basic structure of the railway influenced forms remains a strong element of the western Canadian landscape.

Roads and a vast road network developed in western Canada shortly after the arrival of the railway. They evolved from a combination of the old cart trails plus roads allowances allocated during the grid survey. The first true road, however, was the Dawson Road. Its construction was prompted by the federal government after the West was brought into Confederation in 1869-70. National defense and better access through a Canadian route were the objectives (Encyclopedia Canadiana, s.v. 'Roads': 1958). While the route stretched some 433 miles from Prince Arthur's Landing (later named Port Arthur, now Thunder Bay) to Fort Garry, it proved inconvenient, uncomfortable, and time-consuming, and not as efficient as the steamboat and later rail routes through the United States. Never used to any great extent, a western road network did not form until settlement increased.

In the late nineteenth century, railways curtailed the use of the outdated stage coaches and carts. Long distance travel moved exclusively by rail, and the federal government left road construction as the responsibility of individual municipalities (Encyclopedia Canadiana, s.v. 'Roads': 1958). A lack of adequate funds resulted in

little road construction. By the First World War, however, the demand and need for better roads had grown as motorized vehicles revolutionized transportation. Between the wars, as cost and the importance of roads grew, provincial governments took a greater concern and provided financial assistance for road construction. This allowed the formation of a provincial road network linking major provincial cities and towns. Pressure for a national road began in the early twentieth century, and in 1919 the federal government allocated funds for a national highway which linked with the provincial network in the three prairie provinces and reached from the Atlantic to the Pacific coast.

Impact

The impact of transportation upon the western landscape began as natives moved during their seasonal migrations. Their transportation routes created limited impacts on the landscape as the population was small and exact routes were not always followed. The limited impacts reflected the native relationship to the land by which they lived with it rather than impose a technology.

Before the arrival of the horse, the plains natives developed a few trails in repeatedly used areas. These trails generally led past rapids, canyons, through forests, plains, or upland from one valley to the next. Due to infrequency of use, these trails were often so overgrown with brush or lichens that they could barely be distinguished from animal trails (Jenness: 1982).

By the time plains tribes came into contact with Europeans, the horse had revolutionized their way of life. By utilizing the traditional travois, the capacity to carry heavier and greater numbers of items permitted a wider range of migration and probably resulted in increased use of some trails. It is likely that the now heavier travois incised trails with deeper tracks.

In contrast to the plains Indians, the natives of the Boreal forest moved along the edges of rivers and streams. Camps and villages were, therefore, located along these transportation routes. Movement on land was difficult as the thick forest was often impenetrable. Utilizing the birch bark canoe and portages, it was possible for Indians to gain access to all the major river systems.

As Europeans entered western Canada their impact on the landscape occurred at the focal points on the transportation network of rivers and lakes. It was at these locations, the confluence of major rivers (ie. Fort à la Corne at the forks of the Saskatchewan Rivers) or where rivers entered lakes (ie. Fort Maurepas at the mouth of the Red River), that the traders built their posts. As trade expanded further inland after 1774, Europeans used existing Indian trails and portages where necessary and available.

In the early nineteenth century, trails began to create a new impact on the landscape. Red River cart wheels created well defined tracks as a

loose framework of routes developed between the American border, various trading posts and, after 1873, North West Mounted Police posts. The routes were well known to travelers who established various day camps, river crossings and camp sites (Morton: 1957). Portions of the route are still visible in the West. The majority, however, have disappeared beneath cultivated crops and roads which in some areas follow the same general routes.

When steamboats replaced some of the long distance hauling by Red River carts, a small direct and larger indirect impact on the landscape occurred. As they were able to dock anywhere low river banks allowed access, only a few slightly larger docking facilities were required such as at Fort Garry (Figure 23).

The river routes used by the steamers had previously been used by the canoe and York boat brigades. Steamboats, however, brought about a change in the scale of transportation, as they were able to transport larger quantities and bulkier goods. The result was that limited agricultural production became viable as markets were more accessible. Linked with this easier accessibility to land, a limited number of settlers began to enter western Canada. Agricultural implements and livestock were readily transported as far inland as Fort Edmonton and the Rocky Mountains (McFadden: 1953). Portages along these routes were necessary, just as they had been for canoes and York boats. The most difficult and strategically located was at Grand Portage, near the mouth

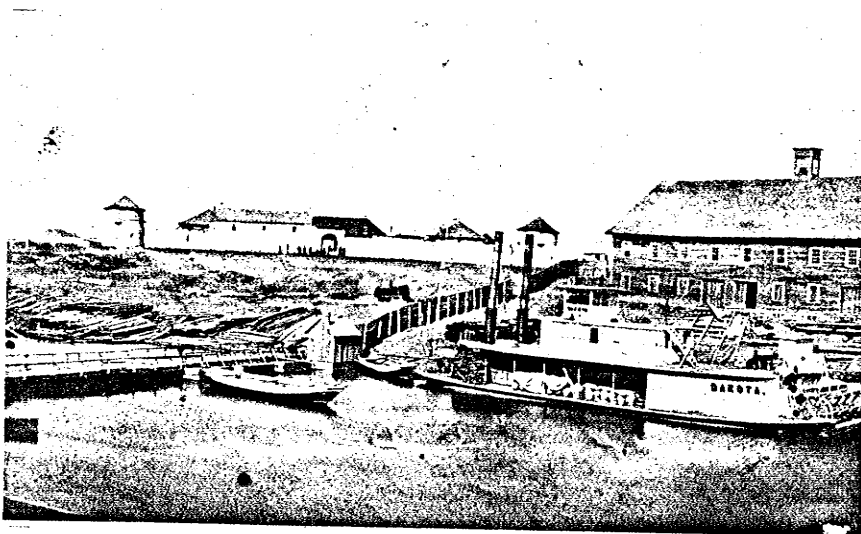


FIGURE 23 Docking facilities at Fort Garry 1873 (Manitoba Archives).

of the Saskatchewan River on Lake Winnipeg. To overcome this obstacle, a short rail line, the first in western Canada, was built around the rapids in 1875 (Letourneau: 1975).

When the railways entered western Canada, they created new impacts on the landscape by restructuring the transportation system and developing new focuses for settlement. The railway had three distinct impacts upon the landscape: construction and operational impacts, an effect on town form, and influence on settlement pattern. Impacts from construction depended upon the existing landscape. In the mountains, the track bed was drilled or blasted from the bedrock. Tunnels and galleries were notched into mountainsides, while excess material was used to fill

gorges or to create favorable slopes. In wooded areas of pre-cambrian shield, parklands, or mountains, a sixty-foot swath of trees was cleared. Where lakes or swamps presented obstacles they were either filled in, diked, or drained (Berton: 1970). Bridges of immense proportions were constructed to span coulees and river valleys (Figure 24). Across the plains, huge blade scrapers formed ditched embankments on top of which the rails were laid. Operational impacts resulted as various support buildings and structures such as water towers, freight

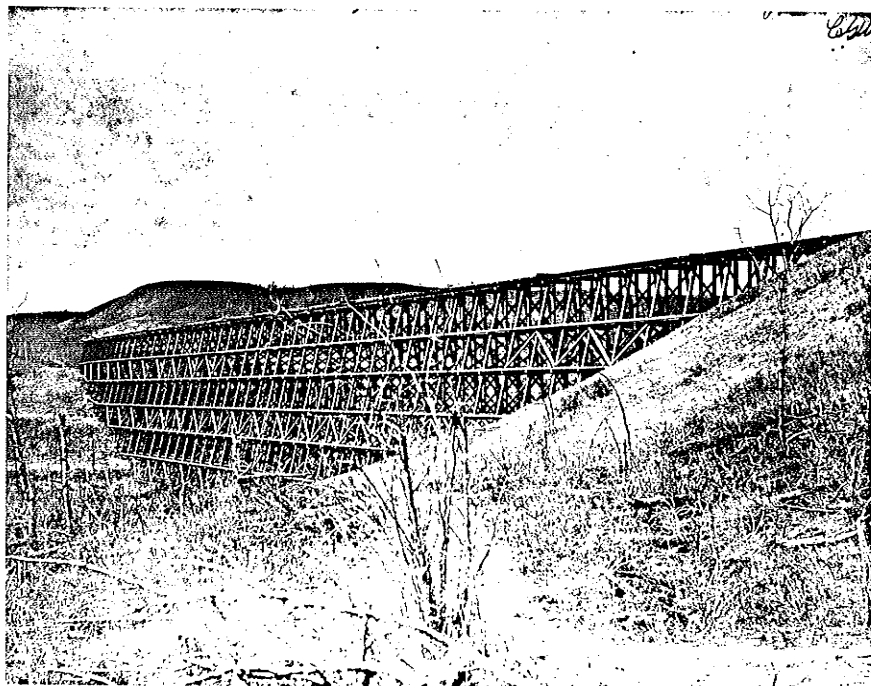


FIGURE 24 Trestle near Rocanville, Saskatchewan, 1903 (Manitoba Archives).

yards, train stations, turn tables, and sidings were grouped together at divisional points. These were located approximately every 100 miles along with the line and provided the impetus for town growth. In addition to divisional points, small towns developed along the railway line. The form of these towns was strongly influenced by the railway. Generally small centers with elevators, warehouses, and loading platforms developed at regular points along the railway line to service the surrounding community. Population were usually 200 people or less (Warkentin: 1968). For the railway companies, the towns functioned as a facilitator between the large urban centers and the agricultural hinterland. Their purpose was to act as a distribution point for consumer goods and a collection center for grain. Towns were economically dependent upon the railway, and as a result were physically oriented to the train station, warehouses, and grain elevators. The main street, surfaced in dirt and 60 - 80 feet wide, generally ran parallel to the tracks, with the railway structures on one side and the main commercial store fronts on the other. Behind the commercial district and on streets perpendicular and parallel to the main street, wood frame houses, a school, churches, a curling rink, and possibly a hospital in larger centers, filled out the rest of the plat in no particular order. The euclidian order and harmony of the street pattern varied little. When not oriented to the railway line, it was oriented to the compass lines just as the survey grid was. Exceptions to this form and orientation existed, but they were few, as the majority of towns were expeditiously set out within few years of each other (Warkentin and Ruggles: 1970).

Adjacent to the train station in most western centers, the railway constructed gardens. These were generally gardenesque in character, with regular geometric flower beds divided by paths and surrounded by a picket, or later iron pipe fence (Figure 25). Little consideration was given to unity of design or harsh ugly views before the turn of the century (von Baeyer: 1984). After this, a company landscape gardener developed plans for the gardens to present the best views to travellers while meeting the functioning of the railway. In many locations the railway gardens had become the only spot of color within the community

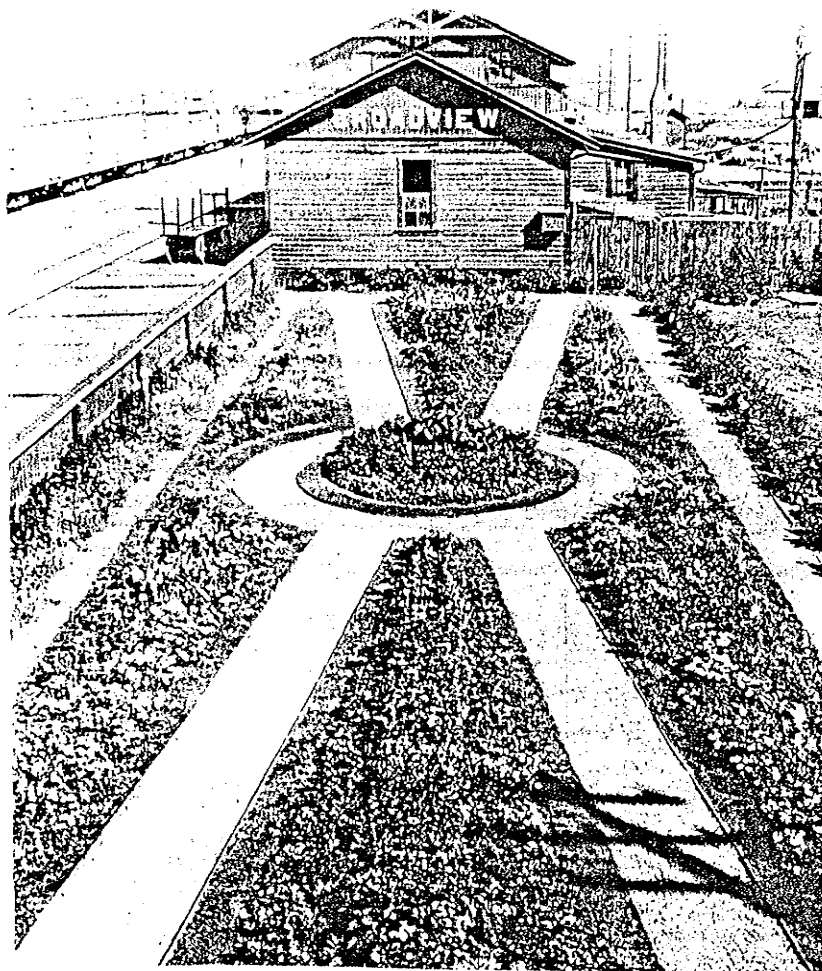


FIGURE 25 Railway Garden, Broadview, Saskatchewan about 1920 (von Baeyer: 1984, p.15).

(von Baeyer: 1984). During W.W.I, many of the ornamental gardens were plowed up to plant war gardens for food production. After this some were abandoned, but many were changed to perennials to eliminate spending on labour and materials. The gardens remained an important component of many towns till the 1950's.

The third impact on the landscape was created by the railway's effect on settlement pattern. After 1870, the most dramatic growth of settlement occurred along the mainline and branchlines of the C.P.R. The railway was the key to commercial farming, with the wagon as the basic vehicle of transportation to the railway. It has been calculated that in the late nineteenth and early twentieth century the theoretical equitable hauling distance (with variation according to time, condition of the roads, capital available to farmers, the price of wheat) was ten to twelve miles (Glazebrook: 1964). This dictated that access along the line had to be seven to eight miles apart. As the railway was the access route and adjacent lands were publicized as available for settlement, a twenty mile wide strip of settlement occurred along the right of way. While settlement did occur further away from the lines, it was not as intensive and differed as to the type of farming carried on. Grain farmers had to locate near railway lines, while small or mixed farmers could be located further away. Ranchers had the least need of easy access to rail lines and therefore were able to establish further away (McCormick: 1980).

Development of road networks created another impact on the landscape. The first was the Dawson Road consisting of 137 miles of rough corduroy roads, dirt tracks and water routes. The massive network of roads which currently exist were created when settlers entered the West. As homesteads were occupied and fenced, the road pattern emerged between the quarter sections on the road allowances. Often these early roads were little more than dirt tracks aligned with the survey grid leading to the provincial highway system. The provincial highways were superimposed upon the main market road structure, many of which paralleled or actually were the old cart trails. An example of this is illustrated by the Calgary - Edmonton trail which retains much of its original route. These roads were not improved until after 1919 when provincial governments provided funds for upgrading (Encyclopedia Canadiana, s.v. 'Roads': 1958). Between the wars, this added money allowed the straightening and widening of many local roads. Slopes were cut, valleys bridged, and drainage improved. In some areas where old roads skirted around sloughs, low areas were filled to allow straightening. The provincial road structure was also upgraded and its surface improved from dirt tracks to graded dirt, to gravel and eventually asphalt.

The enlarged network of roads and their improved quality provided a more regular, safe road structure. It also provided easier and faster access to homesteads and farms. For urban dwellers this easier access

encouraged tourism when coupled with the motorized vehicle. Tourism became an object of public and private business policy.

By the 1930's transportation networks of rivers, roads, and railways had effectively serviced and populated regions of the study area. They created not only their own impacts on the landscape but also made vast sections of the West accessible to impacts from settlement, resource utilization, and urbanization.

6.1.2 HIGH SPEED TRANSPORTATION

Thrust

Aviation was in its infancy prior to World War I. A few experimental and exhibition flights occurred but an air transportation industry awaited the impetus of military reconnaissance and limited transportation of W.W. I (Encyclopedia Canadiana: 1958, s.v. 'Aviation'). Pilots trained by the R.C.A.F., upon discharge, sought to utilize their aviation training by operating private aviation firms. Known as bush pilots, these private operators flew into northern areas where only arduous canoe trips had previously made access possible.

Impact

Air transportation had two effects upon the landscape: first, that of the buildings and fields necessary at landing areas, and second, that of facilitating access and impacts to areas not previously accessible.

The first physical impact upon the landscape of airfields did not occur to any large extent within the study area. Aviation was only beginning to be tested prior to World War I. Some barnstorming took place in the West, but generally a pasture or park provided the necessary landing field. By the early 1920's airfields were being used in most major western cities. These consisted of large grass fields used as landing strips. At some fields, aerodromes were being constructed but these were generally small buildings to hold one plane during repairs. It was not until after World War II that larger fields with more aerodromes were built (Nelson: 1985).

During the early 1920's the bush pilots were providing faster service for mail delivery, transportation of goods, and most importantly, access to northern communities. The impact on the land of this northern access occurred as mining companies extracted minerals. Mining companies employed aircraft to fly men and supplies into remote regions. By the end of the 1920's Sherritt Gordon mines were regularly using Western Canadian Airways to gain access to northern sites. Most of the exploration and subsequent mineral extraction would have been difficult if not impossible without the aid of the developing aviation industry.

As a result of air photo survey work by the Royal Canadian Air Force in 1925 and 1927, Churchill was selected as the terminus of the Hudson Bay Railway. Employed in this manner, the aircraft influenced the development of northern Manitoba.

While the role of aviation in western transportation was only beginning during the period of study, it was already proving to have an influence over the landscape. This would not be fully realized, however, until after World War II, when the importance of air transportation increased.

6.1.3 COMMUNICATION

Thrust

Communication in western Canada had always been difficult due to the great distances between settlements. When the telegraph was introduced in 1876 and then later the telephone, this problem was overcome. As settlement expanded in the late 1880's and 90's demand for telegraph lines grew. For many communities it was thought of as an inexpensive way to increase security of the people and encourage settlement (Macdonald: 1930). This was particularly true during the Metis Uprising in 1885 when the telegraph played an important role in quelling the problem. By the turn of the century, most centers were serviced by telegraph lines.

The introduction of the telephone in 1878 faced the same problems of great distance and scattered population. Large urban centers were the first to receive the service in the early 1900's. Co-operative rural companies came into existence slightly later but these were bought out by the provincial government to allow organization of a comprehensive telephone system.

Impact

The first telegraph line created two impacts on the landscape: the telegraph poles were a visual intrusion in the landscape, and the telegraph offices were physical intrusions. Poplar poles were used to hold the wire above ground as the original line followed the intended route of the C.P.R. line from Winnipeg to Edmonton. Where the route entered a grove of trees, existing trees were used. Telegraph offices were little more than huts (Figure 26). As the railway network spread through the West, telegraph lines followed the same routes, using train stations as their offices. As North West Mounted Police entered, they often chose locations for their posts near telegraph lines. An example of this is Fort Livingstone.

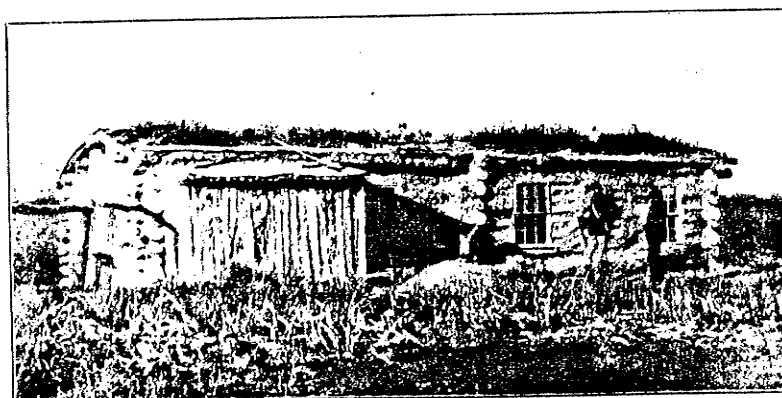


FIGURE 26 Wood Mountain Telegraph Office and Police Headquarters 1877 (Macdonald: 1930, p.41).

The impact of telephones on the landscape was first seen in the commercial and urban centers. Wires were strung from roof tops between customers and central switchboards. Fences and poles were used. By the first decade of the twentieth century, the poles in many urban centers carried hundreds of cables bundled together. Long distance lines traversed the landscape joining major centers in the West and linking to telephone systems in the United States.

In rural areas the use of telephones spread quickly in the 1920's. Hundreds of miles of line were strung between poles, serving many small towns' homes. By the end of the study period the West was linked by a network of telegraph and telephones.

6.2 INVENTORY

TRANSPORTATION AND COMMUNICATION	Subtheme	1. Inland Transportation				2. High Speed Transport		3. Communication	
		Theme Segments		iv. Trunk Railways	i. Air Transportation	i. Telegraph	LEGEND:		
		i. Water Routes	ii. Trails				iii. Trunk Roads	P - plaque	S - site
<u>ALBERTA</u>									
National Historic Sites								NOTES:	
FORT BENTON - FORT MACLEOD TRAIL	P		X					1882 Trail.	
ATHABASCA PASS	P			X				Fur Trade Route.	
FIRST AIR CROSSING OF THE CANADIAN ROCKIES	P					X		1919 Vancouver to Lethbridge.	
WILFRID REID "WOP"	P						O	Bush Pilot.	
Provincial Cairns									
ATHABASCA LANDING	P	X		X				Access to the Northland by river & later railway.	
HAYS LAKE TELEGRAPH STATION	P						X	Hays Lake cart trail passed here.	
WINNIPEG TRAIL	P		X					Trail.	
J. WALTER HOUSE	P						X	Telegraph Station.	
Road Signs									
THE ATHABASCA RIVER	P	X						Used by Fur Traders & Gold Seekers.	
THE ATHABASCA RIVER	P	X						Used by Fur Traders & Gold Seekers.	
THE PEACE RIVER	P	X						Indian Fur Trade & Settlers Highway.	
ATHABASCA LANDING TRAIL	P		X					Fur Trade Trail between rivers.	
THE BATTLEFORD - EDMONTON TRAIL	P		X				O	First route surveyed for C.P.R. Telegraph Line 1876 - 1887.	
THE BENTON - WHOOP-UP TRAIL	P		X					Visible Ruts.	
THE CALGARY - EDMONTON TRAIL	P		X					Used by Indians, Traders, NWP.	
THE EDSON - GRANDE PRAIRIE TRAIL	P		X					Used by settlers in 1910.	
THE EDSON - GRANDE PRAIRIE TRAIL	P		X					Used by settlers in 1910 (Different Location).	
THE KLONDIKE TRAIL	P		X					Overland route from Edmonton to the Klondike.	

6.2 INVENTORY (cont'd)

TRANSPORTATION AND COMMUNICATION	Theme Segments	Subtheme						LEGEND:
		1. Inland Transportation				2. High Speed Transport	3. Communication	
		i. Water Routes	ii. Trails	iii. Trunk Roads	iv. Trunk Railways	i. Air Transportation	i. Telegraph	
<u>ALBERTA</u>								LEGEND: P - plaque S - site X - direct reference to site O - indirect reference to site
THE LEAVINGS	P		X					NOTES: Trail across Prairies.
THE CALGARY AND EDMONTON RAILWAY	P				X			Begun 1890 - Opened land for settlers.
GRAND TRUNK RAILWAY TRESTLE	P				X			Trestle Crossing Battle River. Largest in Commonwealth 1910 - 23
NARROW GAUGE RAILWAY	P				X			Installed 1885 to Haul Coal.

TRANSPORTATION AND COMMUNICATION	Subtheme	1. Inland Transportation						2. High Speed Transport	3. Communication
		Theme Segments							
		i. Water Routes	ii. Trails	iii. Trunk Roads	iv. Trunk Railways	i. Air Transportation	i. Telegraph		
<u>SASKATCHEWAN</u>									
Provincial Historic Markers								LEGEND: P - plaque S - site X - direct reference to site O - indirect reference to site	
								NOTES:	
AMISK LAKE	P	X						Water Routes.	
ASSINIBOINE RIVER	P	X						Water Routes.	
BEAVER RIVER	P	X						Water Routes.	
CHURCHILL RIVER	P	X						River Route for Traders.	
CUMBERLAND HOUSE	P	X						Inland Fur Transport Route.	
NORTH SASKATCHEWAN RIVER	P	X						Inland Water Routes.	
PETER POND - CHURCHILL	P	X						Inland Water, Fur Transport Route.	
QU'APPELLE RIVER	P	X						Inland Water Routes.	
RED DEER RIVER	P	X						Inland Water Routes.	
THE SASKATCHEWAN	P	X						Extensive use of River for Transport.	
STEAMBOATS ON NORTH SASKATCHEWAN	P	O							
STEAMSHIPPING ON LAST MOUNTAIN LAKE	P	X						1905 - 1913 Steamboat.	
STEAMSHIPPING ON THE SOUTH SASKATCHEWAN RIVER	P	X						1879 - 1908 Steam Boats.	
STURGEON WEIR	P	X						Inland Water Route.	
WATERHEN RIVER	P	X						Inland Water Routes.	
ASSINIBOINE ELBOW	P		O					Trails Cross River.	
BATOCHÉ CROSSING	P		X					Ferry Crossing.	
BATTLEFORD - RED DEER FORKS TRAIL	P		X					Red River Cart Trail.	
BONE TRAIL	P		X					Local Trail.	

6.2 INVENTORY (cont'd)

TRANSPORTATION AND COMMUNICATION	Subtheme	1. Inland Transportation				2. High Speed Transport	3. Communication	LEGEND: P - plaque S - site X - direct reference to site O - indirect reference to site
		Theme Segments	i. Water Routes	ii. Trails	iii. Trunk Roads	iv. Trunk Railways	i. Air Transportation	
<u>SASKATCHEWAN</u>								NOTES:
BOUNDARY COMMISSION TRAIL	P		X					Traders, Surveyors - NWMP Patrol.
CARLTON TRAIL	P		X					Important Overland Route between Fort Garry & Edmonton.
CLARK'S CROSSING	P		X				X	Ferry Crossing & Telegraph Office.
COCHIN - GREEN LAKE TRAIL	P		X					Trail Connects to other Indian Settlements & Trading Posts.
ELBOW - FORT A LA CORNE TRAIL	P		X					Intersection of two trails.
ELBOW - PRINCE ALBERT TRAIL	P		X					1860 Provisioning Route.
FORT A LA CORNE - CUMBERLAND HOUSE TRAIL	P		X					Indians Traders HBCo Loggers NWMP Settlers.
FORT A LA CORNE - CUMBERLAND HOUSE TRAIL (Different Site & Text)	P		X					Indian Trappers HBCo Loggers NWMP Settlers.
FORT CARLTON - FORT A LA CORNE TRAIL	P		X					Existing Street part of old Trail System.
FORT CARLTON - GREEN LAKE TRAIL	P		X					Linked Saskatchewan and Churchill Water Systems.
FORT CARLTON - GREEN LAKE TRAIL (DIFFERENT LOCATION & TEXT)	P		X					Linked Saskatchewan and Churchill Watersheds.
FORT CARLTON - TOUCHWOOD TRAIL	P		X					Indian, Metis, NWMP.
FORT ELLICE - ELBOW TRAIL	P		X					HBCo Route.
FORT ELLICE - FORT CARLTON TRAIL	P		X					Pemican Route later used by NWMP & Settlers.
FORT ELLICE - FORT QU'APPELLE TRAIL	P		X					Red River Cart Trail.
FORT ELLICE - WOOD MOUNTAIN TRAIL	P		X					Pemican Provisioning Route.
FORT PELLY TRAIL	P		X					1809's Indian Route, Surveyors Loggers, and Settlers.
FORT PITT - FORT CARLTON TRAIL	P		X					Overland Route Between Red River and Edmonton.
FORT QU'APPELLE - FORT PELLY TRAIL	P		X					1850's HBCo, NWMP.
FORT QU'APPELLE - TOUCHWOOD HILLS TRAIL	P		X				X	Carlton Trail existing ruts.

6.2 INVENTORY (cont'd)

TRANSPORTATION AND COMMUNICATION	Theme Segments	Subtheme						LEGEND:	NOTES:
		1. Inland Transportation							
		1. Water Routes			2. High Speed Transport				
		i. Trails		3. Communication					
		ii. Trunk Roads		i. Air Transportation					
		iii. Trunk Railways		i. Telegraph					
		iv. Air Transportation							
<u>SASKATCHEWAN</u>									
FORT WALSH - FORT QU'APPELLE TRAIL	P		X					Used by Indians, Traders, NWP Patrol & Ranchers.	
FORT WALSH - FORT QU'APPELLE TRAIL	P		X					Used by Indians, Traders, NWP & Settlers.	
FORT WALSH - FORT QU'APPELLE TRAIL	P		X					Trail used by Indians, Traders, Ranchers & Settlers.	
FORT WALSH - MOOSE JAW TRAIL	P		X					Indian, Metis, NWP Patrol, Settlers.	
FORT WALSH - WOOD MOUNTAIN TRAIL	P		X					Cart Trail, NWP Patrols, Settlers.	
GABRIEL'S CROSSING	P		X					1877 - Ferry Crossing on Cariton Trail.	
MEADOW LAKE - BATTLEFORD TRAIL	P		X					Indian, Traders, NWP & Settlers.	
MOOSE JAW - RED DEER FORKS TRAIL	P		X					Existing Ruts.	
MOOSE MOUNTAIN - FORT ELLICE TRAIL	P		X					Served Fur Traders, NWP & Settlers.	
MOOSE MOUNTAIN WINTERING POST	P		O					Shelter for Travellers on Fort Ellice - Wood Mountain Trail.	
NUT LAKE - PEIWEET TRAIL	P		X					Indians, Trader & Settlers.	
PRINCE ALBERT - RED DEER FORKS TRAILS	P		X					Traders, Metis, Settlers & NWP.	
QU'APPELLE CROSSING	P		X					Native Trappers & Settlers used this crossing, CPR Trails.	
RACETTE'S CROSSING	P		X					Ford on Qu'Appelle River.	
RED DEER LAKE TRAIL	P		X					Traders, NWP & Settlers.	
SASKATOON - BATTLEFORD TRAIL	P		X					1800's Trail.	
SASKATCHEWAN LANDING	P		X					Major River Crossing.	
SWIFT CURRENT - BATTLEFORD TRAIL	P		X					Existing Trail ruts.	
SWIFT CURRENT - BATTLEFORD TRAIL (NO.2)	P		X					Cart Trail.	
SWIFT CURRENT - BATTLEFORD TRAIL	P		X					Traders, NWP & Settlers.	

TRANSPORTATION AND COMMUNICATION	Theme Segments	Subtheme						LEGEND: P - plaque S - site X - direct reference to site O - indirect reference to site
		1. Inland Transportation			2. High Speed Transport		3. Communication	
		i. Water Routes	ii. Trails	iii. Trunk Roads	iv. Trunk Railways	i. Air Transportation	i. Telegraph	
<u>SASKATCHEWAN</u>								NOTES:
SWIFT CURRENT - BATTLEFORD TRAIL	P		X					Traders, NWP & Settlers.
SWIFT CURRENT - MAPLE CREEK TRAIL	P		X					Indians to homesteaders Trail.
TROY - PRINCE ALBERT TRAIL	P		X					Fur Trade & Homesteaders Trail.
WOOD MOUNTAIN - FORT ELLICE TRAIL	P		X					NWP, Settler Provisioning Trail.
WOOD MOUNTAIN - FORT QU'APPELLE TRAIL	P		X					1850 Trail.
WOOD MOUNTAIN - QU'APPELLE TRAIL	P		X					Indian, HBCo, Settler & NWP Trail.
WOOD MOUNTAIN - FORT QU'APPELLE TRAIL	P		X					Indian, HBCo, Settler & NWP Trail.
PETROFIKA FERRY	P			X				Ferry Crossing.
C.P.R. RAILWAY GRADE	P				X			Impact of Railway Construction.
REGINA AIR TERMINAL	P					X		1925 Municipal Airport.
ONION LAKE SETTLEMENT	P						X	Telegraph Office.
National Historic Site								
THE DOMINION TELEGRAPH	P						X	Constructed 1874 - 1878 from Fort William to Edmonton.
FORT QU'APPELLE	P		O					Focus for Prairie Trails.
MENTHYE PORTAGE	P	X						Gave access to Athabasca & Peace Rivers.

6.2 INVENTORY

TRANSPORTATION AND COMMUNICATION	Theme Segments	Subtheme						LEGEND: P - plaque S - site X - direct reference to site O - indirect reference to site
		1. Inland Transportation						
MANITOBA	Theme Segments	Subtheme						NOTES:
		2. High Speed Transport						
Provincial Historic Sites	Theme Segments	Subtheme						NOTES:
		3. Communication						
		i. Water Routes	ii. Trails	iii. Trunk Roads	iv. Trunk Railways	i. Air Transportation	i. Telegraph	
THE ANSON NORTHUP	P	O						Steamboat on Red River 1859 - 1862.
THE ASSINIBOINE RIVER	P	X						Canoes, York Boats, Sternwheelers.
FORT DES EPINETTES - PINE FORT	P	O						Situated on Trade Route along Assiniboine.
SWAN RIVER VALLEY	P	X						Access to Plains Indians.
TOWN OF MORRIS	P		O					Trail from Pembina crossed here.
THE HUDSON BAY RAILWAY	P				X			1908 Reaches The Pas.
National Historic Sites								
FORT LA REINE (BUILT 1738)		O						Indians Portage from Assiniboine River to L. Manitoba.
ROSEAU ROUTE	P	X	X					War Road of the Sioux leading to Lake of the Woods.
SOURIS - ASSINIBOINE ROUTE	P		O					Inter-Tribal & Fur Trade Traffic.
THE DAWSON ROAD	P			X				1871 first all Canadian Route.
THE CANADIAN NORTHERN RAILWAY	P				X			1899 Construction began. Typical railway station.
HAROLD ANTHONY "DOC" OAKS (1896 - 1968)	P					O		Pioneer Bush Pilot.

6.3 EVALUATION

As indicated in this inventory, the impact of transportation on the landscape is only partially presented as a historic resource. The use of river systems by natives is plaqued at two sites, a portage from Assiniboine to Lake Manitoba and a site on the Peace River in Manitoba. This is a reflection of the general lack of commemoration previously noted in native impact on the landscape. Native transportation is a theme which should be incorporated with European water transportation as they used many of the same routes.

European water routes have been adequately commemorated throughout the study area. All major rivers have plaques commemorating them: these include the Red River, Saskatchewan, Assiniboine, Athabasca, and Peace River. No portages have been commemorated and action should be taken to do so as the sites were critical in the movement of goods east and west. There is also a lack of acknowledgement of the major rivers which flow into Hudson Bay and the river route joining the St. Lawrence. These were the two major routes which gave access to the interior and neither one is represented. Commemoration should be forthcoming and be linked with the other impacts they contributed to (eg. fur trade).

The commemoration of trails has received an uneven representation in the study area. The trails leading from western forts to the fur trade posts on the lower Saskatchewan and Assiniboine Rivers are very well plaqued. In some areas remnants of cart trail ruts have been

incorporated into the interpretation. These sites with an in-situ resource are valuable as few remnants now exist. In the eastern portion of the study area, only three trails have been plaqued: The Dawson Road, Roseau Route and the Souris-Assiniboine Route. Trails occupied a central role in this region's history and commemoration should be considered. Road networks which have often developed from the trails have received little attention. Attempts should be made to integrate the interpretation of these inter-connected resources.

Steamboat transportation has received only partial representation. These are currently commemorative plaques on the Red River and the lower South and North Saskatchewan. Generally these indicate that steamboats used the rivers to move goods and people into and out of the West. The inventory does not show any sites as having been developed for this sub-theme. The opportunity exists at some currently developed sites, however. Lower Fort Garry is one example where interpretation should be occurring. As indicated previously this is a site where a landscape interpretation plan was prepared but implementation has not occurred. Generally the impact of steamboats on the landscape was minimal and site development should be incorporated into other resource interpretation. An excellent opportunity for this is occurring in Winnipeg where a new park is being constructed at the confluence of the Red and Assiniboine Rivers.

The impact of the railway has received some attention. The current focus of commemorative plaques is on specific lines: the Hudson Bay Railway, Canadian National and the Edmonton-Calgary Rail. Plaques at two sites, one in Alberta and the other in Saskatchewan, indicate the railway's impact on the landscape using the original C.P.R. grade and the largest wooden railway trestle in the Commonwealth as an example. No commemoration of the industrial landscapes associated with railyards has taken place. Excellent opportunities to incorporate this impact on the landscape are occurring as railyards are being moved from downtown areas. This is currently taking place in Edmonton and Winnipeg and commemoration should be forthcoming.

As indicated in the thematic framework, railway gardens provided an important visual component of the landscape, yet none have been preserved. This aspect of railway impact has received some attention in research literature and a solid base of knowledge is developing to allow restoration. An opportunity exists in most communities to restore this resource and greater attention should be generated to encourage it. In many communities new uses for abandoned railway stations are being sought and often local museums are occupying them. Provincial museum associations assist these local organizations and developing a "landscape program" through them should be encouraged.

The impact of air transportation on the landscape has not been acknowledged adequately. Currently bush pilots and the first

trans-mountain flight have plaques commemorating them. These, however, only represent the increased accessibility to remote regions. One airfield in Regina has been acknowledged, but many others existed. Only a very limited amount of literature exists on this subject and further research is necessary.

Communication through telephone and telegraph has received only partial commemoration. The site of several telegraph offices have been commemorated with plaques, but none have been developed. Within urban centers the impact of early telephone lines on streetscapes has not been represented. It is likely that in existing historic districts, this is one resource overlooked, as it would not be an integral part of the romanticized restorations which generally occur. Attempts should be made though to indicate that this early service did create impacts on the streetscape.

Generally transportation and communication have received little attention across the study area. Some of the exceptions include the vast number of trails which have been represented, but even this resource has received little attention in some areas. Currently there is a disjointed representation of transportation. Efforts should be made to integrate the commemoration of transportation resources which were linked by common elements. This integration of different transportation modes should also be represented as Red River Carts and canoes were both used to reach interior areas.

CHAPTER 7
URBANIZATION

7.1 THEMATIC FRAMEWORK

In western Canada, the development and growth of urban centres has had a large impact upon the landscape. These centres were vital in western expansion and played a key role in changing the West from a sparsely settled hinterland occupied by the fur trade to a settled, economically integrated region (Artibise: 1979).

In occupying such a role, urban centres facilitated a series of political, economic, and social functions. The organization of the city and construction of buildings, and the structuring of the sites to house these functions, created the urban landscape.

For the purposes of this practicum, the accepted definition of an urban centre will be "a concentration of people organized at a specific site who carry on various functions or services differentiated from the surrounding countryside; functions may be economic, political, social, or cultural in nature and which usually involve some combination of these factors" (Artibise: 1979, p. 260).

7.1.1 COMMERCIAL CENTRES

Thrust

The first urban centres developed after 1870 (Artibise: 1979). Prior to this, the economy and land use revolved around the fur trade and the Hudson's Bay Company. During this "pre-urban period", for two centuries before 1870, agriculture was barely above a subsistence level and the only commercial centres were scattered fur trading posts. While many of these posts were active trading centers with small native villages clustered nearby, few were able to sustain their existence as fur trade declined. Only five posts were to become urban centres as population and economic growth continued. These were Winnipeg, St. Boniface, Portage La Prairie, Prince Albert, and Edmonton House.

After 1871 and before 1901, many commercial centres developed across the West in response to the railway which required centres of trade to distribute goods and services to the growing number of settlers. As population increased, urban centres grew as nodal points in this distribution network. The presence of the railway was critical to the survival and maintenance of growth for all centres, large or small (Artibise: 1979).

By the end of the nineteenth century, the main urban centres had emerged across western Canada (Figure 27). Between 1900 and 1914, a rapid expansion and development took place within these centres. This growth included increased population due to immigration, improvements in

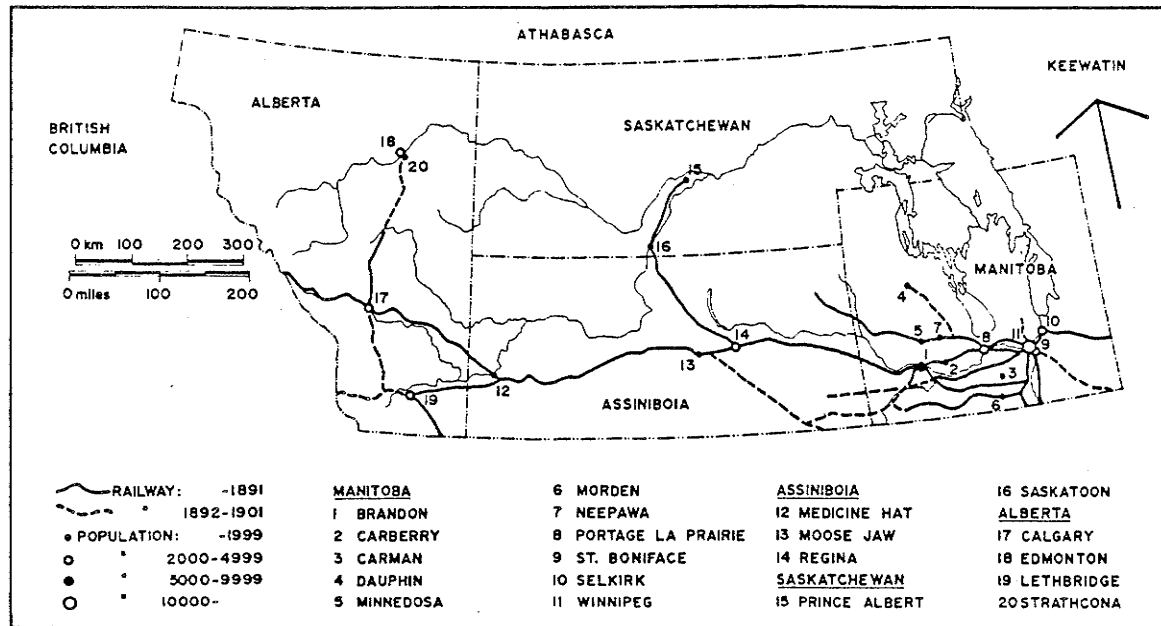


FIGURE 27 Urban centres on the Prairies 1901 (Artibise: 1979, p. 250).

farming techniques, expansion of rail service and the formation of two new provinces. The result was that many small towns and urban centres became established while existing communities grew in size. Large urban centres emerged including Regina, Saskatoon, Calgary, Edmonton and, the largest, Winnipeg. These centres were able to "compress a century or more of eastern urban growth into a few short years" (Artibise: 1979).

After 1914, the expansion of urban centres declined due to economic difficulties. Recession and World War I constrained immigration. Increased mechanization and improved transportation systems gave farmers

better access to urban skills and services. The nature of urban growth also changed. Small commercial centres stopped developing, while large urban centres were at an economic level where extra-provincial ties allowed a slow growth. Winnipeg declined as the major urban centre as the role of the other large centres increased. During the depression of the 1930's there was a concentration of effort on community survival, not growth (Artibise: 1979). By then the network of urban centres had developed to service the agricultural hinterland (Figure 28).

Impact

In urban centres across western Canada, settlement and growth created a series of diverse impacts on the landscape. Despite the different physical settings of the centres, there were similarities in their physical structure developed during periods of growth. This is not unexpected as many of the urban centres developed as a result of similar influences during the late nineteenth and early twentieth century.

As indicated previously, the railroad had a strong impact on the infrastructure of towns. This was maintained as towns grew into urban centres and is reflected in the orientation of the block and street patterns to the same grid. An alternate pattern evolved where the founding of centres predated the arrival of the railway. This is exhibited in Winnipeg (Figure 29), where the original trails of Portage and Main Road developed into Portage Avenue and Main Street (Reynolds:

1 BEVERLEY	12 GRAND PRAIRIE	23 RAYMOND
2 BLAIRMORE	13 HANNA	24 REDCLIFFE
3 CALGARY	14 HIGH RIVER	25 RED DEER
4 CAMROSE	15 INNISFAIL	26 STETTLER
5 CARDSTON	16 LACOMBE	27 TABER
6 CLARESHOLM	17 LETHBRIDGE	28 VEGREVILLE
7 COLEMAN	18 MACLEOD	29 VERMILLION
8 DRUMHELLER	19 MAGRATH	30 WAINWRIGHT
9 EDMONTON	20 MEDICINE HAT	31 WETASKIWIN
10 EDSON	21 OLDS	
11 FORT SASKATCHEWAN	22 PINCHER CREEK	

1 ASSINIBOIA	12 LLOYDMINSTER	23 ROSTERN
2 BATTLEFORD	13 MAPLE CREEK	24 SASKATOON
3 BIGGAR	14 MELFORT	25 SHAUNAVON
4 CANORA	15 MELVILLE	26 SUTHERLAND
5 ESTEVAN	16 MOOSE JAW	27 SWIFT CURRENT
6 GRAVELBOURG	17 MOOSOMIN	28 TISDALE
7 HERBERT	18 NORTH BATTLEFORD	29 WATROUS
8 HUMBOLDT	19 PRINCE ALBERT	30 WEYBURN
9 INDIAN HEAD	20 RADVILLE	31 WILKIE
10 KAMSACK	21 REGINA	32 WYNYARD
11 KINDERSLEY	22 ROSETOWN	33 YORKTON

1 BEAUSEJOUR	9 NEEPAWA	17 TUXEDO
2 BRANDON	10 PORTAGE LA PRAIRIE	18 VIRDEN
3 BROOKLANDS	11 ST. BONIFACE	19 WINKLER
4 CARMAN	12 SELKIRK	20 WINNIPEG
5 DAUPHIN	13 SOURIS	
6 KILLARNEY	14 STONEWALL	
7 MINNEDOSA	15 THE PAS	
8 MORDEN	16 TRANSCONA	

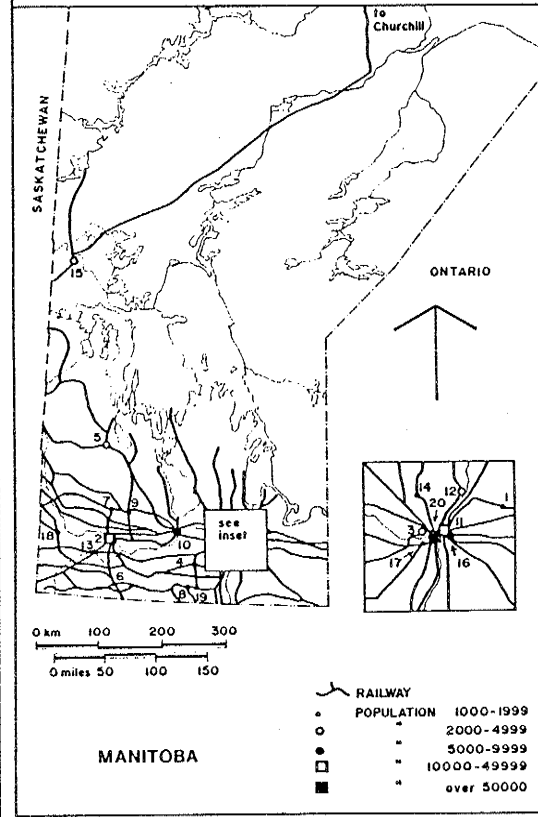
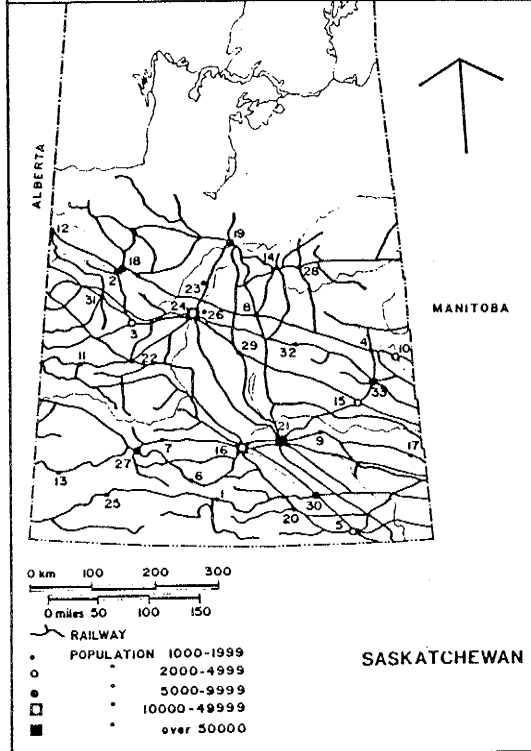
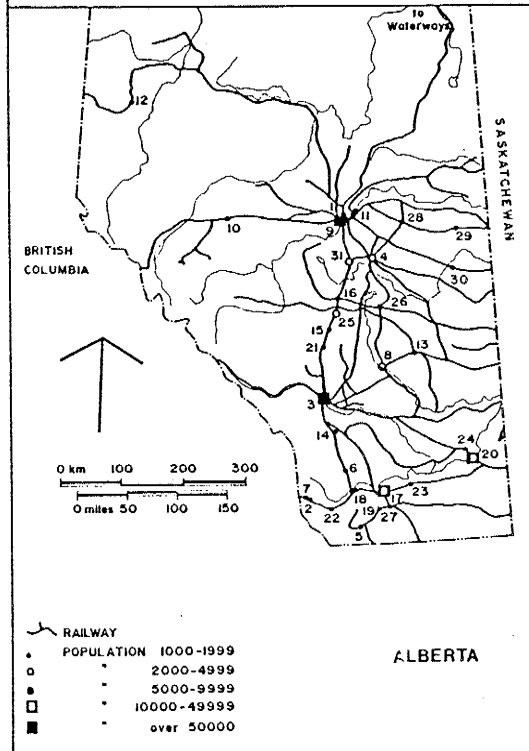


FIGURE 28 Urban Centers 1931 (Artibise: 1979, pp. 252, 254, 255).

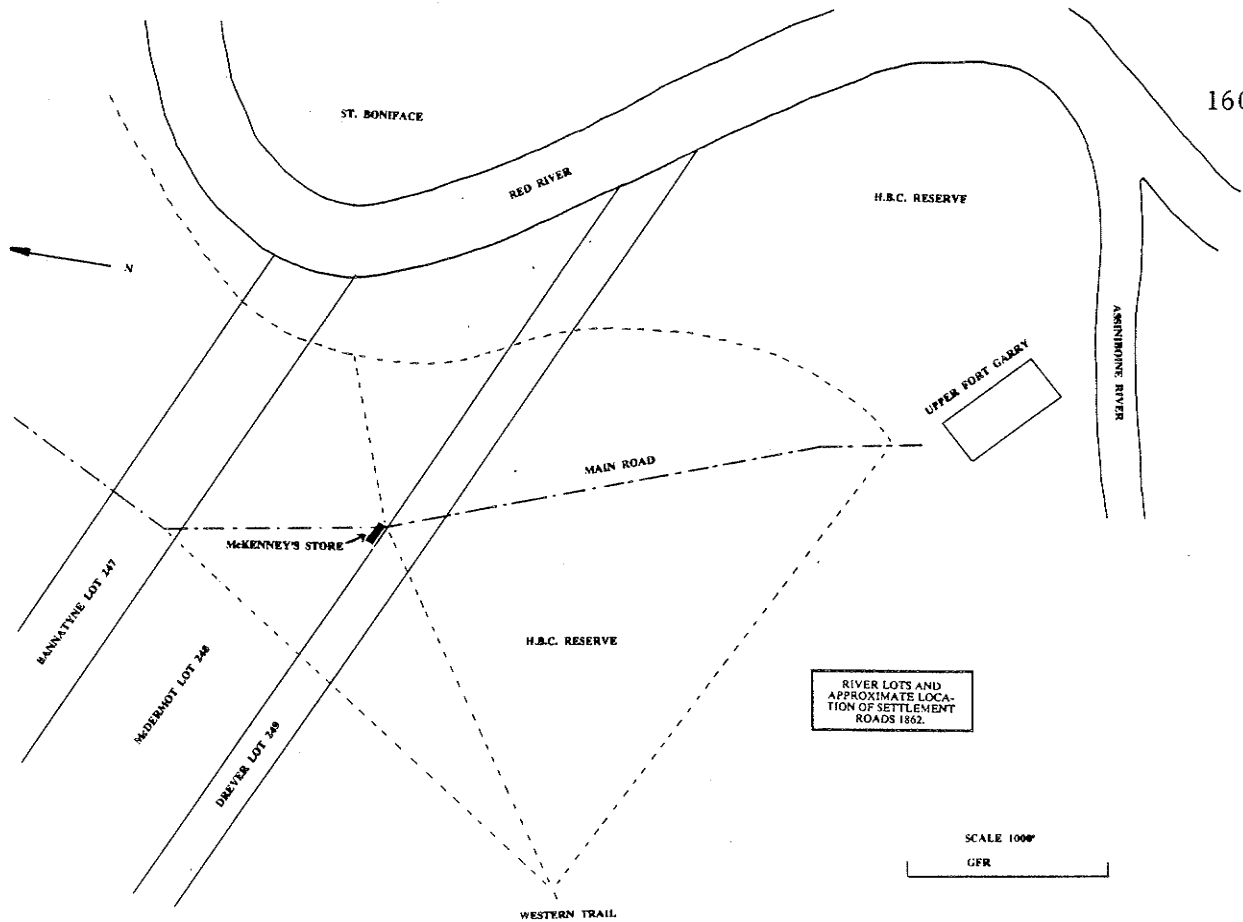


FIGURE 29a Red River Lots and approximate location of settlement road, 1862 (Reynolds: 1969-1970 p.12).

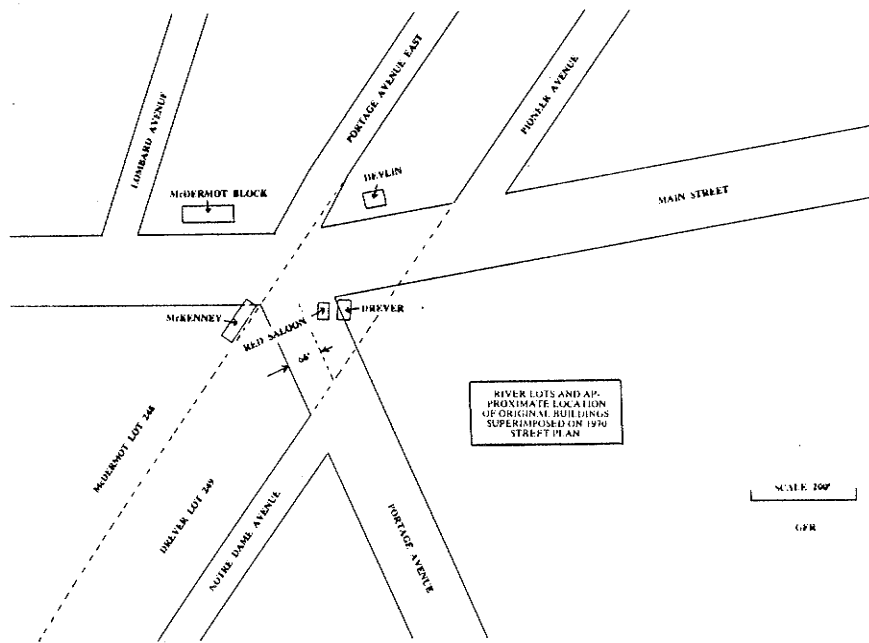


FIGURE 29b Red River Lots and 1970 Winnipeg street plan (Reynolds: 1969-1970 p.24).

1969-70). Secondary streets or blocks oriented to the riverlot pattern or conformed to the later survey grid.

The central focus of activity around the railway stations eroded as a centre's economy grew and diversified. Business and merchandising nodes developed on nearby streets, reflecting the generalized pattern or organizing the city by function. The result was that commercial, industrial, and residential areas, etc. were located separately within the existing road and block system. Each of these areas created different impacts upon the landscape; together they created the urban landscape.

The landscapes of the urban core contained the key economic functions of the communities. An "industrial landscape" was centered around the railroad and contained the marshalling yards, round houses and locomotive shops necessary for railway operation. These industrial landscapes grew and diversified as facilities such as grain terminals, stock yards, warehouses, and manufacturing-wholesale firms located near their transportation source, the railway. In many centres, the manufacturing-wholesale firms were grouped together in "warehouse districts".

The development of complex services grew to facilitate the activities of the industrial and commercial areas. These services included utilities, transportation systems and land use schedules. The urban landscape

became dotted with the ubiquitous utility poles supporting overhead wires for power and telephones (Figure 30). In many larger centres, over-head wires were installed and tracks laid down for street railways. These systems provided cheaper transportation for growing populations and facilitated the development of residential areas further away from the industrial cores.

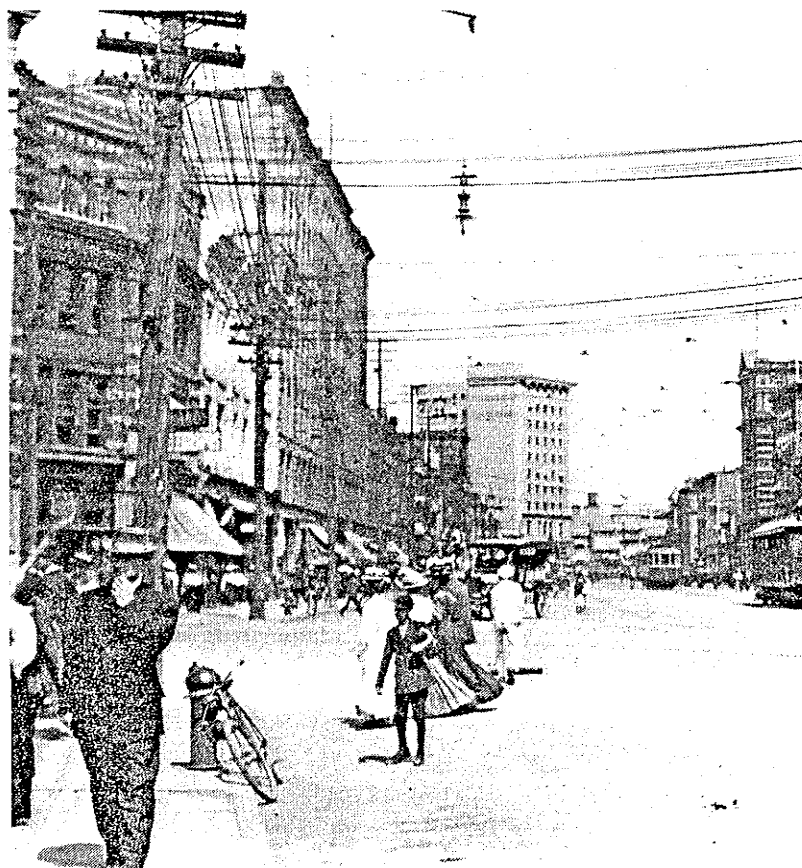


FIGURE 30 Winnipeg street 1909 (von Baeyer: 1984, p. 68).

Central business districts developed streetscapes nearby the industrial bases. Office blocks were built to house professional and commercial services with a distinct contrast developing between buildings of local entrepreneurship and the branch offices of regional or national organizations. Most local buildings were modest structures which relied on prefabricated ornamentation for visual interest. Banks and branches of eastern firms provided more substantial buildings within the western streetscapes. Often these were designed in prevailing styles, out of stone and brick. These structures created an impression of permanence and stability as part of settling the West and exhibited the competitiveness and boosterism which was generated between the urban centres. The Bank of Montreal in Winnipeg at Portage and Main is an example of Beaux Arts architecture which contributed to this period of development. This structure and others throughout the West are also evidence of the arrival of an architectural profession which could be linked with federal and provincial requirements for building design. Important structures designed by these professionals included city halls, court houses, post offices, libraries, churches, hospitals, etc. These professionals introduced new ideas in construction, one of which was the skyscraper. These structures from the "Chicago School" soon dotted the streetscapes of most centres (Canadian Encyclopedia: 1985).

Streetscapes of western Canada were often enlivened by a variety of architectural styles. This diversity arose from the ethnic mix of immigrants from Northern Europe, Asia, Germany, Russia and other

backgrounds. These groups introduced distinctive building styles and ornamentation which varied from the domes and towers of Orthodox churches to the ornamentation of Chinese buildings. The result was often a unique streetscape symbolizing the diverse cultural mosaic of the western people.

Some of the notable landscapes of the West were created in the late nineteenth and early twentieth centuries as territories and then provinces were formed. At this time, the federal government selected a few urban centres from which to administer the districts and later the provinces. This designation not only encouraged the growth of centres, but also through the construction of provincial legislative and office buildings created some of the most imposing architecture in the West. The landscapes and streetscapes associated with these buildings were influenced by the arrival of a design profession, as landscape architects and other designers laid out formal approaches to the buildings and developed the grounds surrounding many of the sites. This is illustrated by Wascana Centre in Regina, Saskatchewan. Originally designed by Frederick Todd in 1907 and later added to in 1917 by Thomas Mawson, this site reflects the popular English landscape style as interpreted by F.L. Olmsted, the leading American landscape architect of the late nineteenth century.

In the early years of the twentieth century, educational institutions were also founded across the West. These included universities, trade

schools, and teacher colleges. Many of these were sited on large campuses and developed landscaped grounds. Professional designers were employed to work on many sites, the most notable of these being the University of Saskatchewan campus by Thomas Mawson.

Another component of the urban landscape was the residential area. As small settlements grew, the demand for housing increased. Distinctive residential neighbourhoods developed according to social class. Lower and middle class areas were laid out on smaller lots within the same street grid pattern as the central core. Often these districts were located near the industrial and business core to afford the residents easy access to work. As transportation systems improved, the accessibility to outlying districts allowed suburban residential areas to develop away from the central cores. Designed suburbs appear in the early 1900's and are exemplified by Tuxedo Park and Crescentwood in Winnipeg. Upper class neighbourhoods had lower densities where winding boulevards were desired. Only a few of these areas developed; two examples are Ada Boulevard in Edmonton and Wellington Crescent in Winnipeg.

Street tree planting programs were begun in many western cities in the early twentieth century. It was hoped that spreading tree planting through the entire city would increase aesthetic appeal, bring visitors, and encourage settlement (von Baeyer: 1984). The impact of these projects was tremendous, for as the trees matured, they added a visually

interesting, dynamic quality to many residential and business districts. Landscaping went beyond just street trees within the cities. It became a part of a much larger movement toward city form. Often landscaping represented a refinement or statement of stability and aspiration on pre-existing forms. One influence on this was the City Beautiful movement. Originating in the 1890's in the United States, the movement advocated the use of professional designers to plan and design a total city. The objective was to create a visually unified environment, including parks, landscaped boulevards, and stately buildings. In western Canada this vision, while often planned for, was not fully realized. Thomas Mawson's plan for Calgary is a renowned example of this inspiration but resulted in limited implementation. The intent of the movement, however, was generally accepted by the public, resulting in the movement being applied to individual projects and areas within most western cities. Residential, commercial and government buildings exhibited these trends through the use of lawns, window boxes and perennial borders (von Baeyer: 1984).

In residential areas and rural settings, school yards were also a subject of the City Beautiful movement. Trees, perennial borders, shrub beds, and vegetable gardens were promoted for the mental and physical benefits they would bring to the children. Arbor Days were encouraged and supported by the forestry association who distributed hundreds of thousands of tree seedlings to school children (von Baeyer: 1984).

The creation of parks became an important component of the urban landscape. Encouraged in part by the City Beautiful movement, the main emphasis was on the creation of small parks or ornamental squares. The style of these areas reflected the geometric arrangements of flower beds and paths popularized in Victorian England. Within most centres, large urban parks were also created. The impetus for this was not only the City Beautiful movement, but also a reaction against the social pressures associated with urbanization (von Baeyer: 1984). These altruistic motives were not always paramount, however, as promoters and

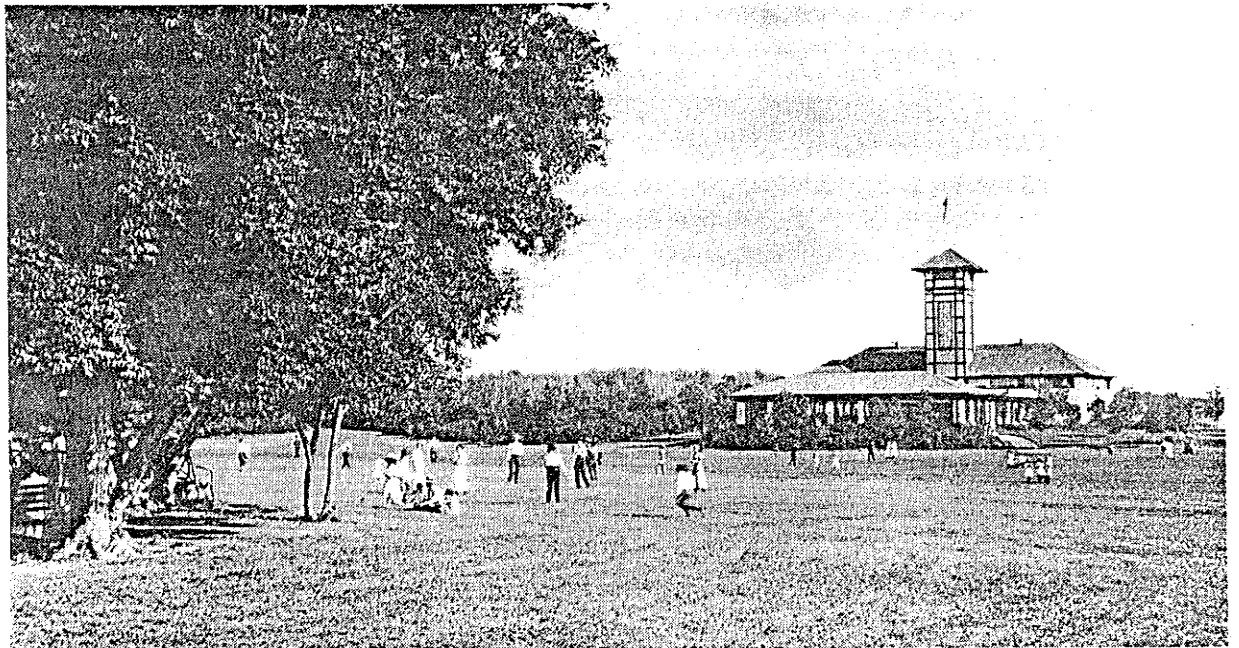


FIGURE 31 Assiniboine Park, Winnipeg 1920's, (von Baeyer: 1984, p.88).

residential developers also used parks to attract new residents. An example of this is Bowness Park in Calgary, where developers donated land to the city for park development (Martin and Segrave: 1983). For most communities, these sites became the setting for many social and recreational functions. The design of the large parks was strongly influenced by Frederick Law Olmsted's ideals of "natural landscape" which reflected the English landscape style. Vistas of rolling hills, sweeping lawns and grouped trees became important elements still seen in urban parks today (Figure 31).

By the 1930's urban centres consisted of a variety of landscapes each with its own distinct features and characteristics. Many of these landscapes were altered after World War I as the economics and populations of the centres grew and changed. The basic structure had been formed and is often evident in the urban centres of today.

URBANIZATION		Subtheme	1. Commercial Centres
		Theme Segments	
		i. Urban Centres	
<u>ALBERTA</u>			
Provincial Cairn			LEGEND: P - plaque S - site X - direct reference to site O - indirect reference to site
C.O. CARD HOME	P O		NOTES: First Build in Cardston Town Site 1887.
<u>SASKATCHEWAN</u>			
National Historic Sites			
EDGAR DEWDNEY (1835 - 1916)	P O		Helped Est. Regina as Territorial Capital.
SEAT OF TERRITORIAL GOVERNMENT 1876 - 78	P O		Fort Livingston-Site of Territorial Government.
SEAT OF TERRITORIAL GOVERNMENT 1878 - 83	P O		Site of Territorial Government - Battleford (Northwest Territories).
SEAT OF TERRITORIAL GOVERNMENT (Post 1883)	P O		Regina permanent site of Government.
Provincial Historic Marker			
GOVERNMENT HOUSE	S X		Character of landscape restored.
LAND TITLES BUILDINGS	P X		Government Building 1907 - 09.
NORTHWEST COUNCIL/GOVERNMENT HOUSE	P X		Government Buildings.
SKYSCRAPERS	P X		
TELEGRAPH FLAT (BATTLEFORD)	P X		NW Territories Capital in 1876.
<u>MANITOBA</u>			
Provincial Historic Sites			
GOVERNMENT HOUSE	S O		Built 1883 by Dominion Government.

7.3 EVALUATION

In urban centres a series of landscapes have evolved over the years. These have consisted of designed landscapes, industrial landscapes, streetscapes, public parks, etc. Change is an inherent characteristic of many of these, as the demand for land in cities is generally high and land use is constantly evolving. Representing this theme as part of the historic resources is necessary if we are to maintain connections to historic urban landscapes, as many components of the historic urban landscape have already been lost.

It is evident from the inventory that this theme has not received adequate recognition. Currently only a few sites have been commemorated with plaques. These acknowledge only a few cities and towns which were designated as territorial or provincial capitals. Generally the plaques bear only a secondary reference to the effect on the landscape of this designation. There are, however, many governmental buildings and sites in the West which represent this aspect of urban landscape development. Further commemoration of these should be pursued.

The most acknowledged aspect of urban landscape development is the streetscape. One program which is examining these is the Mainstreet Revitalization Program developed by Heritage Canada. The focus of this activity is to revitalize mainstreets both economically and visually. They promote, therefore, the maintenance of historic streetscapes. There are also several historic district programs throughout the West.

Generally these contain a large component of historic architecture and attempt to maintain and build on the character they create. Examples of these occur in Edmonton's Old Strathcona District, Winnipeg's Warehouse District and Fort Macleod's Mainstreet Program. One of the limitations of these projects is that often the streetscape elements of paving, lighting, etc. are 'dressed up' to create a romanticized rehabilitation. However, these rehabilitations are generally sympathetic to the original and are the most appropriate approach. Restoration in these areas would only recreate drab functional streetscapes. In these treatments appropriate attempts should be made to illustrate the changing character of the area. An example of such a technique is the use of comparative photos. Walking tours through these areas have become popular and assist in educating the public about architecture as an important component of the urban landscape. Many of these 'walks' could be improved by providing a broader representation of the general streetscape characteristics.

There are many examples of designed landscapes within the urban centres which have not received any commemoration. These include large and small urban parks, educational buildings, government offices, residential neighbourhoods, schoolyards, and home gardens. No historic resource agencies appear to be addressing this lack of commemoration. Part of this inactivity may be due to the lack of documentation regarding these sites. Research will be necessary to increase the knowledge of such sites and their importance within the urban

landscape. Efforts are currently being made to increase the knowledge of Canadian historic gardens through an inventory carried out by The Royal Botanical Gardens at Hamilton. While this is a beginning at understanding such sites, action to interpret and preserve them should be forthcoming.

Industrial landscapes within the city have also received little attention. Changing technology and land use are making some former industries and their landscape redundant. This issue is becoming more critical as railway yards are being relocated in major centers. Attention should be given to examining these resources for preservation potential.

Documentation of general urban development for western centres has been carried out under socio-economic studies in history and geography departments. These studies do not, however, provide sufficient detail of specific site developments. Research in these areas should be encouraged as they provide a documentation of sites which may be lost due to changing landuse. There are many significant landscapes in the urban West and preservation activity should be focused on these resources before they are lost.

CHAPTER 8

CONCLUSIONS

It is evident from the inventory that many sites commemorate historic landscapes through plaquing and site development. However, the discussions which outline each theme also indicate that there are many segments of landscape development which are not currently being represented. The evaluation which follows each theme has been summarized in the theme representation matrix (Figure 32). It is apparent from the matrix that no themes have been fully represented within the study area and that there are variations in representation between provinces. The discussion which follows suggests how this representation can be improved. Three levels of activity have been addressed: research, identification and implementation. Traditionally these are the areas which historic resource programs deal with.

Research is the preliminary and critical step necessary to provide a context for identification and implementation. While preliminary research exists on many topics within the themes most lack a comprehensive discussion of impacts on the landscape. Throughout the evaluation this lack of research information has been noted.

Currently, Urbanization and Resource Utilization urgently require research to facilitate commemoration. Both themes are under-

FIGURE 32 Theme Representation Matrix

			ALTA.	SASK.	MAN.
I. NATIVE ENTRY & SETTLEMENT	1. Post Glacial Entry	i. Corridors of Migration	○	—	—
	2. Post Glacial Settlement	i. Paleo-Indian	○	○	○
		ii. Archaic Settlement	◐	○	◐
		iii. Initial Woodland	◐	◐	◐
	3. Arctic Entry & Settlement	i. Pre-Dorset	—	—	○
4. Post-Contact Native Settlement	i. Interior Hunters & Gathers	◐	◐	◐	
II. EUROPEAN ENTRY	1. Fur Trade	i. French & Brit Trade in Interior	—	◐	◐
		ii. Intensive Competition	○	○	◐
III. EUROPEAN SETTLEMENT	1. Organizing the Land	i. River Lots & Sections	◐	◐	◐
	2. Group Settlements	i. Groups in the West	◐	◐	◐
	3. Delimitation & Defence	i. Delimiting Inter. Boundaries	◐	◐	◐
		ii. Conflict in West	●	●	●
IV. RESOURCE UTILIZATION	1. Farming the Land	i. Grain Farming	◐	◐	◐
		ii. Livestock Ranching	◐	○	—
	2. Using the Forest	i. Lumbering	○	○	○
	3. Mining	i. Minerals and Metals	◐	◐	◐
		ii. Energy	●	◐	○
	4. Hunting	i. Fur Trade	●	●	●
5. Resource Conservation	i. Recreation	◐	◐	○	
V. TRANSPORT DEVELOPMENT	1. Inland Transportation	i. Water Routes	◐	◐	◐
		ii. Trails	◐	◐	○
		iii. Trunk Roads	○	○	◐
		iv. Trunk Railways	◐	◐	◐
	2. High Speed Transport	i. Air Transport	◐	◐	○
	3. Communication	i. Telegraph	◐	◐	○
VI. URBANIZATION	1. Commercial Centres	i. Urban Centres	○	○	○

LEGEND:

- Not Represented ◐ Partially Represented ● Adequately Represented — Not Applicable to the Area

represented within historic resources and existing sites are threatened with destruction from changing land use. Designed landscapes, including urban parks, government office sites, educational institutes, residential neighbourhoods, school yards and residential grounds should be researched to establish their impacts on the western landscape. Examples of each should then be chosen and interpreted with plaquing and site preservation.

As indicated in the study, Resource Utilization has also had limited commemoration. Hunting is the only resource which is adequately represented within the theme. Mining, farming, forestry and resource conservation will require further research to establish their impacts on the landscape and to identify specific sites for commemoration. Only a few industrial landscapes are currently represented and none of these are within urban areas. Research will be necessary to document the contribution each industry made to the landscape. An example is the railway yards and the industries which developed near them. These are particularly significant as they occupied central roles in the development of a large portion of the urban landscape. Currently many of these sites are being abandoned in centers such as Winnipeg and Edmonton. Efforts should be made to identify significant segments for commemoration.

Research will also be necessary in most other themes. The objective of this work should be to document and eventually develop sites

illustrating landscape development. Within the theme Native Entry and Settlement basic research is lacking, as the archaeological record is still being interpreted. However, for the latter period of Post-Contact Native Settlement, an information base exists which would facilitate plaquing and site development. Research should be focused to allow development of sites associated with seasonal camps and later agricultural missions.

While European Entry is one of the most well represented themes, the focus of commemoration is on the Hudson's Bay Company. Research should be undertaken to identify the impacts and sites of smaller trading posts of the French Traders, North West Company, the XY Company and free traders. The development of a site interpreting the impact of these posts on the landscape should be forthcoming.

European settlement has been well commemorated through plaquing in some portions of the West, but only a few sites have been developed to illustrate this impact on the landscape. Research and documentation would provide a base from which to select sites for interpretation and development. Particular effort should be made to develop sites typical of the variety of groups who contributed to the development of the western landscape.

Identification of sites will also be a necessary step to improve the representation of landscapes as a historic resource. In the process of

preparing the thematic framework a number of sites were identified as particularly significant. This should not be considered a definitive list, but rather as a starting point for commemoration of landscapes. The sites included in the following discussion could be commemorated with limited research.

Three outstanding designed landscapes worthy of national recognition are Wascana Centre in Regina, the University of Saskatchewan Campus in Saskatoon, and Assiniboine Park in Winnipeg. Thomas Mawson and Frederick Todd both contributed to the design of Wascana Centre, while Mawson was responsible for the University of Saskatchewan and Todd for Assiniboine Park. These landscape architects were renowned for their impact on landscape design. They introduced the ideas of Frederick Law Olmsted which still influence landscape design today. Commemoration and preservation should be forthcoming for these three sites.

Within the West a series of landscapes were identified as important to the development of agriculture and horticulture. These included agricultural research stations and farms where agricultural practices and plants suitable for western growing conditions were developed. The experimental farm at Indian Head, Saskatchewan, is commemorated with a plaque, but efforts should be made to include those in each province. Examples include the research station at Brandon, Manitoba and Lethbridge, Alberta. The Skinner Nursery at Dropmore, Manitoba is also worthy of commemoration, as it was here that Frank Skinner developed

many plant species for the West. While Dr. Skinner is commemorated with a plaque, the landscape he developed is not through commemoration. The significance of the nursery should be recognized.

The railway gardens present through the West were also identified as significant in western landscape development. Currently no sites or plaques commemorate this component of transportation. While no specific sites were identified, limited research would allow selection and development of a site. As most of these sites have changed in character and are being abandoned, commemoration and site development should be forthcoming.

Implementation of commemoration can occur in a variety of ways. These range from simple plaquing to the various approaches used in historic landscape treatment (eg. preservation, conservation, rehabilitation, restoration, reconstruction, and reconstitution). The technique or techniques employed in each commemoration depend upon the current state of the historic resource and the body of knowledge which surrounds it.

Commemorative plaques play an important role in landscape interpretation. Plaques can convey information about a site that does not lend itself to development or where the original land use has changed. An example of this occurs in delimitation of boundaries. The development of the township survey is adapted to plaquing, as there is little physical presence of the boundary. Its impact was significant

however, as it provided a physical framework for the impacts of other theme segments. Landscapes which no longer exist due to changing land use are also well suited to commemoration through plaquing. Urban areas are one example where the dynamic nature of the landscape is well suited to interpretation through descriptive plaques. Often only a few discernable features of the historic landscape remain as land use changes. Comparative photos and descriptive text should be employed to portray this dynamic character when commemorating these landscapes.

In the past, site development has focused on restoration of in-situ resources. This is appropriate and should be continued where there are well documented sites such as group settlements, urban landscapes, or post-contact native settlements. Restoration in these locations is an effective technique in portraying land use during specific phases of landscape development. The technique, however, proves ineffective or results in inaccurate restoration where there is a lack of information about the site. When information is lacking and hypothetical site development occurs, the results are often sterile or cosmetic in appearance. This can be avoided by providing adequate information to accurately restore a landscape.

When knowledge of a site or period is incomplete, preservation and conservation techniques should be employed to illustrate the impact on the landscape. Preservation can poignantly represent the evolution and basic dynamic characteristics of a landscape while maintaining the

integrity of the site. Many of the industrial landscapes lend themselves to this application and its use should be encouraged.

In the past, implementation of site development has been avoided at archaeological sites due to the potential destruction of the resource. While this does pose some concern, current interpretive approaches through reconstruction on or off-site are proving an effective tool. It is an approach which should be considered for representative segments of the existing archaeological record in Native Entry and Settlement, as well as early European Entry.

As indicated in the study, preservation programs and site development have previously focused on architectural resources with less concern for the landscape. These existing historic sites should be examined to determine their potential for landscape interpretation, the objective of which is to develop and interpret the landscape as a historic resource. In the past, landscape development plans have been proposed for some sites but implementation has not occurred. Lower Fort Gary is one example at which implementation would benefit the total site interpretation.

Once implementation has occurred, the integrity of interpretation should be extended to include landscape maintenance. This can be achieved by respecting or mirroring the maintenance practices of the period rather than relying on modern ones. To aid in this, a manual should be

prepared for each site, the intent of which is to maintain the integrity of the site interpretation.

It is apparent from the study that the historic landscape is just beginning to be represented as a historic resource. This practicum has outlined the large potential number of landscapes worthy of commemoration and has also indicated which landscapes are currently being interpreted by the historic resource agencies. Most importantly this study has shown that much more work remains to be done through research, identification and implementation if the landscape is to be an integral part of the prairie provinces historical resources.

BIBLIOGRAPHY

Anderson, Alan, B. "The Formation of Bloc Settlements." The Settlement of the West, pp. 188-193. Edited by Howard Palmer. Calgary: University of Calgary, 1977.

Archer, J.H. Saskatchewan: A History. Saskatoon: Western Producer Prairie Books, 1980.

Artibise, Alan F.J. "The Urban West: The Evolution of Prairie Towns and Cities to 1930." Prairie Forum, Vol.4, No.2, 1979, pp.237-61.

von Baeyer, Edwinna. Rhetoric and Roses: A History of Canadian Gardening 1900-1930. Markham: Fitzhenry and Whiteside Ltd., 1984.

Ballas, Donald J. "Lifestyles and Landscapes: The Element of Culture in Geography." Journal of Outdoor Education, Vol. 13, No. 1, 1978, pp. 4-6.

Berton, Pierre. The Last Spike - The Great Railway 1881-1885. Toronto: McClelland and Stewart Limited, 1971.

_____. The National Dream - The Great Railway 1871-1881. Toronto: McClelland and Stewart Limited, 1970.

Bonnycastle, R.H.G. "The Fur Trade today: 1935" Historical and Scientific Society of Manitoba, Transactions, Series III, No. 10, 1955.

Breen, David. "Anglo-American Rivalry and Evolution of Canadian Petroleum Policy to 1930." Canadian Historical Review, Vol. LXII, 1981, pp. 284-303.

_____. The Canadian Prairie West and the Ranching Frontier 1874-1924. Toronto: University of Toronto Press, 1983.

Brehaut, Harry B. "The Red River Cart and Trails." Historical and Scientific Society of Manitoba, Transactions, Series III, No. 28, 1971-1972, pp. 5-35.

- Brown, Roy. "The Origin and Growth of Western Canadian Aviation As I Have Seen It." Historical and Scientific Society of Manitoba, Transactions, Series III, No. 14, 1959, pp. 54-60.
- Bruce, Jean. The Last Best West. Vancouver: Fitzhenry and Whiteside, 1976.
- Buggey, Susan. "Period Gardens in Canada: A Researcher's Resources." Research Bulletin 87. Ottawa: Parks Canada.
- Buggey, Susan, ed. Alliance for Historic Landscape Preservation. Report on New Harmony Symposium on Landscape Preservation. Ottawa, Ontario, 1979.
- Canadian Encyclopedia. 1985 ed, S.v. "Architecture", "Motherwell Homestead.", "Parks".
- Careless, J.M.S. Canada - A Story of Challenge. Toronto: The Macmillan Company of Canada, 1970.
- Clark, W.D. Fort Edmonton: Development of a Fur Trade Centre, Museum and Archives Notes, No.4, Alberta Culture, Provincial Museum of Alberta, n.d.
- Clay, Grady. "Whose Time Is This Place?" Landscape Architecture, May 1976, pp. 217-218.
- Cole, George E. "Mining in Manitoba." Historical and Scientific Society of Manitoba, Transactions, Series III, No. 5, 1950, pp. 63-81.
- Cowan, James C. "A Working Context For Interpretation of Tallgrass Prairie Remnants." Master's Practicum, University of Manitoba, May 1981.
- Crosby, Theo. The Necessary Monument: Its Future in the Civilized City. Greenwich, Connecticut: New York Geographic Society, 1970.
- Davis, John, A.L. Best, P.E. Lachance, S.L. Pringle, J.M. Smith, D.A. Wilson. The Outlook for the Canadian Forest Industries. Royal Commission of Canada's Economic Prospects, 1957.

- Denhez, Marc. "Protecting the Built Environment of Saskatchewan." Prairie Forum, Vol. 7, No. 1, 1982, pp. 13-37.
- Dewdney, Selwyn. "Writings On Stone Along the Milk River." The Beaver, Winter 1964, pp. 22-29.
- Dickason, Olive Patricia. "A Historical Reconstruction for the North Western Plains." Prairie Forum, Vol. 5, No. 1, 1980, pp. 19-37.
- Ellis, Frank. "Airmen Adventurers to the Bay." The Beaver, Summer 1970, pp. 56-63.
- Encyclopedia Britannica, ed. S.v. "Pipelines"
- Encyclopedia Canadiana, 1958 ed. S.v. "Alberta," "Aviation," "Mining History," "Pulp and Paper Industry," "Roads," "Saskatchewan."
- Evans, Simon M. "American Cattlemen on the Canadian Range, 1874-1914." Prairie Forum, Vol. 4, No. 1, 1979, pp. 121-135.
- _____. "The End of the Open Range Era in Western Canada." Prairie Forum, Vol. 8, No. 1, 1983, pp. 71-87.
- Fitch, James Marston. Historic Preservation. New York: McGraw-Hill Book Company, 1982.
- Forbis, Richard G. A Review of Alberta Archaeology to 1964. Ottawa: National Museums of Canada, 1970.
- Friesen, Gerald A. Lecture, Department of Landscape Architecture, University of Manitoba, 12 October, 1983.
- Friesen, J. "Expansion of Settlement in Manitoba." Historical and Scientific Society of Manitoba, Transactions, Series III, No. 20, 1965, pp. 35-47.

- Galblum, Jane. What is Historic Preservation?, Occasional Paper, Centre for Environmental Research. Eugene, Oregon: University of Oregon, 1977.
- Galbreath, Carol. "Criteria For Defining the Historic and Cultural Landscape." In Conference On Conserving the Historic and Cultural Landscape, pp. 1-9. Edited by Carol Galbreath. Washington, D.C.: The Preservation Press, 1975.
- Gentilcore, R. Louis. National Parks Historic Theme Study. Ottawa: Parks Canada, 1978.
- Glazebrook, G.P. de T. A History of Transportation in Canada 2 vols. Toronto: McClelland and Stewart Limited, 1964.
- Gluek, Alvin C. Jr. "The Minnesota Route." The Beaver, Spring 1956, pp. 44-50.
- Grant, R.S. "Canada's Flying Box Car Returns." The Beaver, Winter 1982, p. 53.
- Guillet, Edwin C. The Story of Canadian Roads. Toronto: University of Toronto Press, 1966.
- Harris, R. Cole and Warkentin, John. Canada Before Confederation - A Study in Historical Geography. New York: Oxford University Press, 1974.
- Harvey, Robert R. and Buggey, Susan. "Historic Landscapes." In Time-Saver Standards for Landscape Architects. Edited by Hideo Sasaki et al. (New York: McGraw Hill Books, in press), sect. 630, table 2.2.1.
- Hewlett, A.E.M. "England on the Prairies." The Beaver, December 1952, pp. 20-25.
- Horrall, S.W. "Sir John A Macdonald and the Mounted Police Force for the North West Territories." Canadian Historical Review, Vol. LIII, 1972, pp. 179-200.

- Hosmer, Charles B. Jr. Presence of the Past. New York: G.P. Putnam's Sons, 1965.
- _____. Preservation Comes of Age. 2 vols. Charlottesville: University Press of Virginia, 1981.
- Hurst, Richard D. "An Exploration Into the Changing Form of the Landscape of the Red River Valley in Response to the Evolving Cultures of the People of the Parish of St. Norbert up to 1870." Master's Practicum, University of Manitoba, 1982.
- Ironside, R.G. and Tomasky, E. "Agriculture and River Lot Settlement in Western Canada: The Case of Pakan (Victoria), Alberta." Prairie Forum, Vol. 1, No. 1, 1976, pp. 1-18.
- Jackson, J.B. The Necessity for Ruins and Other Topics. Amherst: The University of Massachusetts Press, 1980.
- _____. "'Sterile' Restorations Cannot Replace a Sense of the Stream of Time." Landscape Architecture, May 1976, p.194.
- Jenness, Diamond. The Indians of Canada. Toronto: University of Toronto Press, 1982.
- Jewett, Robert Lee. "Recollections of a Monument Setter." The Beaver, Spring 1976, pp. 10-16.
- Kaye, Barry. "Some Aspects of the Historical Geography of the Red River Settlement from 1812 to 1970." Master's Thesis, Department of Geography, University of Manitoba, 1967.
- Klaus, J.F. "Early Trails to Carlton House." The Beaver, Autumn 1966, pp. 32-39.
- Kunst, Lisa A. And O'Donnell, Patricia M. "Landscape Preservation Deserves a Broader Meaning." Landscape Architecture, January 1981, pp. 53-55.

- Lambrecht, Kirk. "Regional Development and Social Strife: Early Coal Mining in Alberta." Prairie Forum, Vol. 4, No. 2, 1979, pp. 263-279.
- Lancaster, Osbert. "What Should We Preserve?" In The Future of the Past, Edited by Jane Fawcett. London: Thames and Hudson, 1976.
- Leechman, Douglas. "I Sowed Garden Seeds." The Beaver, Winter 1970, pp. 24-33.
- Letourneau, J.A. Rodger. "The Grand Rapids Tramway: The First Railway in the Canadian North West." Historical and Scientific Society of Manitoba, Transactions, Series III, No. 32, 1975-1976, pp. 21-31.
- Lower, J. Arthur. Western Canada: An Outline History. Vancouver: Douglas & McIntyre, 1983.
- Lynch, Kevin. What Time is This Place? Massachusetts: The MIT Press, 1972.
- McCann, L.D., ed. A Geography of Canada - Heartland and Hinterland. Scarborough: Prentice - Hall Canada Inc., 1982.
- McCormick, P.L. "Transportation and Settlement: Problems in the Expansion of the Frontier of Saskatchewan and Assiniboia in 1904." Prairie Forum, Vol. 5, No. 1, 1980, pp. 1-17.
- Macdonald J.S. "The Dominion Telegraph." Canadian North - West Historical Society Publication, Vol. 1, No. VI, 1930.
- Macdonald, Norman. Canada - Immigration and Colonization: 1841-1903. Toronto: Macmillan of Canada, 1966.
- MacEwan, Grant. "The Birth of Twin Provinces." The Beaver, Summer 1980, pp. 10-19.
- McFadden, Molly. "Assiniboine Steamboats." The Beaver, June 1953, pp. 38-42.

- McGhee, Robert. Canadian Arctic Prehistory. Toronto: Van Nostrand Reinhold Ltd., 1978.
- MacGregor, J.G. A History of Alberta. Edmonton: Hurtig Publishers, 1981.
- Mackintosh, W.A. and Joerg, W.L.G. gen. eds. Canadian Frontiers of Settlement. 9 vols. Toronto: The MacMillan Company of Canada, 1936-40. Vol. VII: Group Settlement, by C.A. Dawson.
- Maguire, Robert. "The Intangible Values of Conservation." Conservation of Buildings in Developing Countries, Working Paper No. 60. Oxford: Oxford Polytechnic, Department of Town Planning, January 1982, pp. 22-24.
- Martin, Linda and Segrave, Kerry. City Parks of Canada. Oakville, Ontario: Mosaic Press, 1983.
- Meinig, D.W., ed. The Interpretation of Ordinary Landscapes. Oxford: Oxford University Press 1979.
- Melnick, Robert Z. "Capturing the Cultural Landscape." Landscape Architecture, January 1981, pp. 56-60.
- _____. "Protecting Rural Cultural Landscapes." The George Wright Forum, Winter 1983, pp.15-30.
- Moodie, D.W. "Gardening on Hudson Bay - The First Century." The Beaver, Summer 1978, pp. 54-59.
- Morton, W.L. "A Century of Plain and Parkland." Alberta Historical Review, Vol. 17, No. 2, Spring 1969, pp. 1-10.
- Morton, W.L. Manitoba: A History. Toronto: University of Toronto Press, 1957.
- Mott, M. Lecture, Department of History, University of Manitoba, 5 January, 1982.

- Muir, G.A. "A History of the Telephone in Manitoba." Historical and Scientific Society of Manitoba, Transactions, Series III, No. 21, 1964-65, pp. 69-82.
- Nelson, Pat. Transport Canada, Edmonton, Alberta. Interview, 18 November 1985.
- Palmer, Howard, ed. The Settlement of the West. Calgary: University of Calgary, 1977.
- Peel, Bruce. "First Steamboats on the Saskatchewan." The Beaver, August 1964, pp. 16-21.
- Pettipas, Leo F. ed. Introducing Manitoba Prehistory. Papers in Manitoba Archaeology Popular Series No. 4. Winnipeg: Manitoba Department of Cultural Affairs and Historical Resources, 1983.
- Ray, Arthur J. Indians in the Fur Trade: Their Role as Hunters, Trappers and Middlemen in the Lands Southwest of Hudson Bay 1660-1870. Toronto: University of Toronto Press, 1974.
- Rees, Ronald. "The Small Towns of Saskatchewan." Landscape, Vol. 18, No. 3, 1969, pp. 29-33.
- Reynolds, George F. "The Man Who Created the Corner of Portage and Main." Historical and Scientific Society of Manitoba, Transactions, Series III, No. 26, 1969-1970, pp. 5-40.
- Riley, Robert B. "Notes on the Northern Plains." Landscape, Vol. 21, No. 2, 1979, pp. 38-47.
- Robinson, Lewis. "Northland by Road and Rail." The Beaver, June 1954, pp. 43-45.
- Ronaghan A. "The Telegraph Line to Edmonton." Alberta Historical Review, Vol. 18, No. 4, Autumn, 1970, pp. 15 & 16.
- Russell, R.C. "A Minister Takes the Carlton Trail." The Beaver, Winter 1959, pp. 4-11.

- Selwood, John. "Mr. Brydges' Bridges." The Beaver, Summer 1981, pp. 14-21.
- Shay, T. Interview, Professor of Anthropology, University of Manitoba, 25 November, 1983.
- Soars, Norman. "An Era Closes." The Beaver, March 1953, pp. 28-32.
- Stewart, John J. "Canada's Landscape Heritage." Landscape Planning, Vol. 6, 1979, pp. 205-24.
- Stewart John J. and Bugey, Susan. "The Case for Commemoration of Historic Landscapes and Gardens." Bulletin of the Association For Preservation Technology, Vol. VII, No. 2, 1975, pp. 99-123.
- Stobie, Margaret. "The Formative Years." The Beaver, Autumn 1955, pp. 42-47.
- Streatfield, David C. "Standards for Historic Garden Preservation and Restoration." Landscape Architecture, Vol. 59, No. 3, 1969, pp. 198-204.
- Swanson, W.W. Rail, Road and River. Toronto: The Macmillan Company of Canada Limited, 1937.
- Symington, Fraser. The First Canadians. Toronto: Natural Science of Canada, 1978.
- Tabulenas, D.T. "A Narrative Human History of Riding Mountain National Park and Area: Prehistory to 1890," Parks Canada Microfiche Report Series No. 10, 1983.
- Talbot, F.A. The Making of a Great Canadian Railway. Toronto: The Musson Book Company Limited, 1912.
- Taylor, Rubert L. "The Winter Pocket." Historical and Scientific Society of Manitoba, Transactions, Series III, No. 27, 1970-1971, pp. 19-24.

- Thomas, Greg. "Lower Fort Garry National Historical Park: A Period Landscape Study." Manuscript Report 407, Parks Canada 1979.
- Thomas, Greg and Clarke, Ian. "The Garrison Mentality and the Canadian West." Prairie Forum, Vol. 4, No. 1, 1979, pp. 83-104.
- Thomas, Lewis H. "A History of Agriculture on the Prairies to 1914." Prairie Forum, Vol. 1, No. 1, 1976, pp. 31-45.
- Tishler, W.H. "The Landscape: An Emerging Historic Preservation Resource." Bulletin of the Association for Preservation Technology, Vol. XI, No. 4, 1979, pp. 9-25.
- Turner, Suzanne Louise. "Preservation of the Man-Made Landscape: An Introduction for the Landscape Architect." Master's Thesis, University of Georgia, 1972.
- Tyman, John Langton. By Section, Township and Range. Brandon, Manitoba: Assiniboine Historical Society 1972.
- Van Kirk, Sylvia M. "The Development of National Park Policy in Canada's Mountain Parks 1885-1930." Master's Thesis, University of Alberta, Fall 1969.
- Warkentin, John, ed. Canada: A Geographical Interpretation. Toronto: Methuen Publishing, 1968.
- Warkentin, John and Ruggles, Richard I. Historical Atlas of Manitoba: A Selection of Facsimile Maps, Plans and Sketches from 1612 to 1969. Winnipeg: The Historical and Scientific Society of Manitoba, 1970.