

GENERAL DESCRIPTION OF THE FERNIE MAP SHEET AREA, 82G

The area covered by the Fernie map sheet is in southeastern British Columbia and southwestern Alberta along the Canada-United States border. A dominant feature of the area is the Rocky Mountain Trench, a valley of flat to gently rolling upland from 5 to 15 miles wide on both sides of the Kootenay River. The Kootenay and its tributaries drain the area west of the Continental Divide. West of the Trench, benchlands grade into the moderately rugged terrain of the Purcell Mountains, the most scenic parts of which lie north and west of the area. Along the east side of the Trench, the Rocky Mountains form a steep almost unbroken wall up to 8000 feet high. Local relief is often over 4500 feet, creating scenic and dramatic escarpments. Flanking the Elk and Flathead rivers are the Fernie Basin and the Flathead Basin. These basins are characterized by moderate relief and gently sloping uplands up to 10 miles wide and less than 5000 feet high.

East of the Continental Divide and paralleling the eastern side of the Rocky Mountains are the Rocky Mountain Foothills, a narrow belt of hills that range in elevation from about 4000 to 6000 feet. Further east are the Interior Plains, which are characterized by gently rolling to rolling relief below 4000 feet in elevation. The Porcupine Hills in the northeast, outliers of the Foothills, rise to over 5000 feet.

The Castle River drains the southeastern part of the area, whereas the east-central part is drained by the Crowsnest River. Both these streams are tributaries to the Oldman River, which drains to the south and east.

CLIMATE

The Rocky Mountain Trench has warm, dry summers with mean July temperatures from 62°F to 65°F. The annual precipitation ranges from 15 to 41 inches, up to one-third of which falls as snow. Thunder showers are frequent in the summer. Winters may be severe because of abrupt invasions of cold, polar air that remain for relatively long periods. Temperature inversions are common in the summer and winter, with cold air overlain by warm air in the Trench and side valleys.

The lowlands and valleys associated with the Elk and lower Flathead rivers have seasonal temperatures similar to those in the Trench, but the annual precipitation may exceed 40 inches. Winter snowfall is correspondingly higher.

In the mountainous uplands, precipitation increases with elevation. The annual precipitation is 60 inches at the higher elevations and mean temperatures are nearly 55°F in summer and less than 0°F in winter. This cool mountain climate continues east to the Rocky Mountains and the upper parts of the Foothills.

East of the Rocky Mountains, the Interior Plains and Lower Foothills have a continental climate with warm summers and cold winters. Cowley has a mean July temperature of about 62°F. The mean annual precipitation is about 20 inches, including over 90 inches of snow. Frequent warm chinook winds have a moderating effect on the climate.

VEGETATION

Vegetation of the Montane (dry) Forest Region predominates in the Rocky Mountain Trench and for a short distance into its tributary valleys. The climate is arid enough to support natural grasslands, especially near the Tobacco Plains. Speargrass and Kentucky bluegrass are typical species, although grazing and fire history have resulted in the widespread establishment of other native grasses and herbs, such as mullein and yarrow. The grassland continues as ground cover under yellow pine, the tree species of the climax forest, which grows singly or in thin, savanna-type stands. The open spacing of the trees and light undergrowth provide easy ground access and a pleasant parklike landscape. Spring is marked by a colorful array of flowers, such as yellowbell, shooting star, balsam root, chocolate lily, larkspur, Indian paintbrush, and blue lupine.

Mountain slopes and valleys tributary to the Trench receive more precipitation and support species of the Columbia Forest Region. Western red cedar and western hemlock are the main forest cover, with associations of Douglas-fir and western larch at lower elevations. The undergrowth is relatively dense and sometimes makes foot access difficult, particularly where devil's club occurs.

Above 4000 feet, Columbia Forest is replaced by Subalpine Forest vegetation. Engelmann spruce and alpine fir are the main tree species up to 7000 feet. At the highest elevations, alpine larch and whitebark pine may occur, but bare rock, open treeless meadows, and ice and snow predominate. Undergrowth in the Subalpine Forest Region is composed of pinegrass, heather, and shrubs, such as blueberry, twinberry, and huckleberry.

Cottonwood, willow, and aspen are common on moist bottomlands, especially in the west. Lodgepole pine is very abundant in both British Columbia and Alberta. It forms extensive, often even-aged stands on areas of past fires throughout the area.

Vegetation east of the Continental Divide is a transition zone between coniferous forest and fescue prairie. The coniferous forest on mountain slopes and high foothills consists mainly of Engelmann spruce, white spruce, and Engelmann-white spruce hybrids. Douglas-fir and aspen are common on the Porcupine Hills and on lower parts of the foothills.

Limber pine occurs throughout on rock outcrops and stony soils. It is usually very stunted and frequently deformed by strong winds. The grassland or prairie of the Interior Plains Region is dominated by rough fescue, wheat grasses, and needle grasses.

WILDLIFE

The area has a rich variety and high concentration of big game animals. Rocky Mountain bighorn sheep, mountain goat, moose, white-tailed deer, mule deer, and elk are all found in abundance. Deer and elk are common throughout, although major concentrations occur on the winter ranges adjacent to the Kootenay River. Mountain goat and bighorn sheep are found in the mountains east of the Trench; the former tends to remain in remote areas at high elevations. Moose are generally found in or near the major valleys, such as those of the Flathead, Bull, and Elk rivers. Black bear, bobcat, and cougar are found throughout most of the area, and the grizzly bear is found in the more remote parts.

The Blue Grouse and the Spruce (Franklin) Grouse are common throughout most of the area. The Ruffed Grouse and the Mourning Dove occur in the British Columbia part of the area, whereas the Sharp-tailed Grouse, Hungarian Partridge, and White-tailed Ptarmigan are common in the Alberta part.

Waterfowl habitat is confined to the Trench, usually in association with small lakes. Large flocks of ducks stop over during fall migration and some Canada geese and ducks nest here. Important waterfowl hunting areas are the wetlands of the St. Mary Prairie and marshes along the Kootenay River southwest of Cranbrook.

Sport fishing for Kamloops trout is moderately good in almost all of the many lakes in the Trench, and angling for golden trout is popular in the South Fork (Barnaby Ridge) Lakes of Alberta. Fishing for cutthroat trout, eastern brook trout, brown trout, rainbow trout, Rocky Mountain whitefish, and Dolly Varden char is possible in many of the streams and rivers throughout the area.

SETTLEMENT AND LAND USE

The economy of the East Kootenay section of the area is based on mining. The Sullivan silver-lead-zinc mine at Kimberley and fertilizer plant in the Elk River valley is becoming a major contributor to the economy. Forestry provides employment for about 1000 persons and, with the recent establishment of a pulp mill at Skookumchuk, it will continue to be an expanding industry. Agriculture, based on livestock production, occupies a significant part of the land area but employs relatively few people. The attractions of mountain recreation, big game hunting and sports fishing permit the East Kootenay to derive a substantial income from tourist catering, big game guiding and outfitting. Road access is excellent and the proximity of national parks and adequate service centers adds to the significant potential of the region for outdoor recreation and tourism.

The Crowsnest Pass provides access between British Columbia and Alberta for the Canadian Pacific Railway and Highway 3. The centers of population in Alberta are located in the Pass along these transportation routes and represent past centers of mining activity during the coal industry boom in the early 1900s. After a postwar stagnation, the coal industry in the Pass has been revitalized by a long-term export agreement with Japan. Forestry is also a major industry in this region. There are lumber mills at Coleman, Blairmore, and Cowley. Two gas-sulphur plants operate in the Alberta part of the area, at Coleman and south of Beauvais Lake.

Agriculture, mainly ranching, predominates in the eastern part of the Foothills and on the Plains. There is some grain farming, mostly of wheat, coarse grains, and forage crops around Cowley. Cowley is the most important farming community in the Alberta part of the area.

Hunting, fishing, and other recreational activities are important to the area's economy. A network of all-weather gravel roads, including the Forestry Trunk Road, provides adequate access to widely scattered ranching communities, logging camps, and fire lookouts throughout the area. These roads also increase possibilities for the tourist industry.

RECREATION CAPABILITY

Both the British Columbia and Alberta parts of the area have a high capability for extensive outdoor recreation activities. However, there is little open, fresh water and few shoreline sites are suited to camping, bathing, cottaging, and boating. Exceptions are at Wasa Lake, which has almost 2 miles of excellent sand beaches and Moyie Lake, which is one of the few lakes suitable for boating, cottaging, and associated water sports. In Alberta, the best potential for cottaging is on Lees Lake.

Several dozen small lakes, most of them located on the floor of the Trench, offer opportunities for angling, wildlife viewing, and limited camping and cottaging. Most of these lakes, however, are too small for intensive recreational use, although Rosen and Tie lakes have moderate capability for cottaging and swimming.

The area has a high potential for viewing because of the inherent beauty and diversity of the landscape. The Rocky Mountains form a dramatic background to the attractive flat to rolling parkland along the Kootenay River and to the gentle topography of the Interior Plains and Lower Foothills regions.

Focal points in the Trench landscape are Premier Ridge, St. Mary Prairie, and Tobacco Plains. Premier Ridge supports one of the largest winter populations of big game in Canada. In the same area, Premier and Rockbluff lakes offer trout fishing amid scenic escarpments of the Rocky Mountains. St. Mary Prairie offers a unique association of small lakes, natural grassland, cultivated fields, and open yellow pine forests. The plain supports a great variety of waterfowl, shorebirds, fur bearers, and game animals. The Tobacco Plains, another natural grassland, was important as a rest stop for many animals and as an Indian encampment.

The Alberta part of the area also has a high potential for viewing, especially from the western edge of the Porcupine Hills, which provides a panoramic view of mountains, foothills, and plains. The historical and cultural significance of the Crowsnest Pass, plains, and Lower Foothills regions contributes to the viewing potential of southwestern Alberta. In addition, the varied topography provides opportunities for dispersed activities such as hiking, riding, touring, snowshoeing, and snowmobiling.

There is good potential for angling throughout the area. The lakes and streams provide good fishing opportunities for a variety of sport fish. The potential for upland and big game hunting is high throughout the East Kootenay region and the Porcupine Hills and moderate in the rest of the area.

tributaries to the Kootenay River provide scenic corridors through the Rockies. The potential for camping, angling, and hunting is high, especially along the gravelly outwash plains of the Lussier, Bull, Elk, and Wigwam rivers. The potential for organized camping is excellent on Crowsnest, Beauvais, and Beaver Mines lakes and is good on most streams and rivers in the Alberta part of the area.

Spectacular canyons and waterfalls occur frequently throughout the area. The falls at Lundbreck on the Crowsnest River in the Lower Foothills are especially interesting.

Although mountainous uplands of low recreation capability predominate, alpine areas of spectacular beauty comparable to those of Banff National Park occur, such as at Top Of The World and Kishinena Ridge. The lack of climatic data for mountainous regions has limited the identification of ski sites. In the British Columbia part of the area, the main sites indicated on the map are west of Sparwood and along the upper Lussier River. In Alberta, only a small number of possible ski sites have been mapped, most of which are presently being developed. Many sites of high potential for skiing occur throughout the mountains of the area; some have already been exploited, such as Fernie.

Almost all types of recreation features can be found in the area. Fossil beds, rock formations, caves, unusual landforms, and unique man-made attractions occur throughout. Numerous caves south of Crowsnest Lake on the Continental Divide offer potential for viewing, interpretation, and exploration. The "Gap", a narrow passage for the Oldman River through the solid rock of the Livingstone Range is a rock formation of historical significance. Remnants of an old Indian trail follow the Oldman River downstream southward through the "Gap".

Evidence of early European settlement is found at Moyie, Fernie, Cranbrook, and Perry Creek as well as at several small communities in the Trench. Fort Steele, an historic site of national significance, is a major attraction of Western Canada. Historic sites are found throughout the Crowsnest Pass, which was one of the first regions in Alberta to be settled. Also of interest are sites of Indian history, such as the rock carvings south of Cranbrook.

Crowsnest Mountain is an unusual and picturesque mountain that provides unlimited opportunities for viewing. The high peaks of the mountains along the Continental Divide also provide interesting viewing from the valleys below.

Another outstanding recreation attraction in the area is the Frank Slide. The slide consists of huge rocks and boulders on both sides of Highway 3 near the town of Frank. Castle Mountain and the 90 million tons of rock scattered over a mile of valley offer a highly unique landform with a very high capability for viewing and study. Historically, the slide represents a major disaster in which over 70 people were killed when a large section of Turtle Mountain buried the mining town of Frank in 1903.

Capability classification by K. A. Novakowski and W. D. Munn (Alberta) and by D. R. Benn, W. C. Yeomans and Associates Ltd. (British Columbia, 1968), for the British Columbia Department of Agriculture.

DESCRIPTION DU TERRITOIRE DE LA FEUILLE DE FERNIE - 82G

Le territoire représenté sur la feuille de Fernie est situé au sud-est de la Colombie-Britannique et au sud-ouest de l'Alberta le long de la frontière Canada-Etats-Unis. Le sillon des Rocheuses est le trait dominant du territoire; c'est une vallée à topographie plane ou légèrement ondulée qui s'étend sur 5 à 15 milles de chaque côté de la rivière Kootenay. La rivière Kootenay et ses affluents drainent le territoire à l'ouest de la ligne continentale de partage des eaux. À l'est du Sillon, une zone au relief en terrasse s'élève vers la région légèrement vallonnée des montagnes Purcell, dont les parties les plus pittoresques se trouvent au nord et à l'est du territoire. À l'est du Sillon, les montagnes Rocheuses forment une barrière abrupte, presque continue, qui s'élève jusqu'à 8 000 pi. Les reliefs locaux dépassent souvent 4 500 pi et les escarpements sont pittoresques et grandioses. Les rivières Elk et Flathead coulent dans les bassins Fernie et Flathead. Ces bassins au relief calme et aux pentes douces, situés à moins de 5 000 pi d'altitude, atteignent jusqu'à 10 milles de long.

Le piedmont des montagnes Rocheuses, bande étroite de collines ayant des altitudes de 4 000 à 6 000 pi, se trouve à l'est de la ligne continentale de partage des eaux, parallèle au versant oriental des montagnes Rocheuses. Plus, à l'est, on atteint les plaines intérieures qui ont une topographie plus ou moins ondulée et des altitudes inférieures à 4 000 pi. Les Porcupine Hills, situées au nord-est, sont détachées du piedmont et s'élèvent à plus de 5 000 pi.

Les rivières Castle et Crowsnest drainent respectivement le sud-est et le centre-est; toutes deux se jettent dans l'Oldman où s'égouttent le sud et le

CLIMAT

Des étés chauds et secs avec des températures moyennes de 62 à 65°F en juillet caractérisent le sillon des Rocheuses. Les précipitations annuelles varient de 15 à 41 po dont les tiers sous forme neigeuse. Les orages sont fréquents l'été. L'hiver peut être rude lorsque les masses d'air polaire froid envahissent brutalement la région et y demeurent assez longtemps. Les inversions de température sont courantes étant donné l'hiver et l'air froid recouvert par l'air chaud occupe le Sillon et les vallées adjacentes.

Les zones basses et les vallées du réseau hydrographique de la rivière Elk et de la basse Flathead ont des températures saisonnières voisines de celles du Sillon, mais les précipitations peuvent dépasser 40 po. L'enneigement est également plus important.

Les précipitations s'accroissent avec l'altitude dans les régions montagneuses. Les précipitations annuelles atteignent 60 po aux altitudes les plus élevées et les températures moyennes sont inférieures à 55°F l'été et à 0°F l'hiver. Ce climat frais de montagne s'étend jusqu'à l'est des montagnes Rocheuses et dans le haut piedmont.

Le climat est continental avec des étés chauds et des hivers froids à l'est des montagnes Rocheuses, dans les plaines intérieures et le bas piedmont. Les températures moyennes sont à Cowley d'environ 62°F en juillet et d'environ 17°F en janvier. Les précipitations annuelles moyennes sont de l'ordre de 20 po, comprenant 90 po de neige. Des vents chauds de type Chinook influencent modérément le climat.

VÉGÉTATION

La végétation de la région de forêt de montagne (sèche) domine dans la vallée des Rocheuses et à peu de distance le long des vallées adjacentes. Le climat est assez sec pour permettre la croissance de prairies naturelles, surtout près des plaines de Tobacco. La stipe chevelue et le paturin sont les essences prédominantes quoique les incendies répétés et le paturage aient grandement favorisé le développement d'autres herbes locales comme la molène et l'achillée millefeuille. La prairie constitue aussi la strate végétale inférieure sous les pins jaunes, espèces arbustives des zones hautes et poussant seuls ou en petits bosquets comme dans la savanne. La dispersion des arbres et le faible développement des végétaux des strates inférieures facilite l'accès et donne un aspect de parc agréable. Au printemps surgit une floraison de fleurs colorées: campanules, stellaires, balsaminacées, lièvres d'alouette, apocyn et lupin.

Les versants des montagnes et des vallées adjacentes au Sillon reçoivent plus de précipitations et portent des essences de la région de la forêt Columbia. Le cédré rouge et la pruche du Canada y dominent, souvent associés au pin Douglas et au mélèze aux basses altitudes. Les strates végétales inférieures sont assez denses, ce qui rend l'accès à pied difficile, surtout là où poussent des scirpes.

La végétation de la forêt subalpine remplace celle de la forêt Columbia au-dessus de 4 000 pi. L'épinette d'Engelmann et le sapin concorde sont les arbres principaux jusqu'à 7 000 pi. Aux altitudes plus élevées poussent quelques mélèzes et pins à écorce blanche, mais on y trouve surtout des rochers dénudés, des prairies sans arbres, de la glace et de la neige. Les strates végétales inférieures de la région de la forêt subalpine sont formées de bruyère et de buissons comme le bleuet, la linnaie boréale et l'actée.

Le peuplier, le saule et le tremble poussent en quantité dans les bas fonds humides surtout à l'ouest. Le pin de Murray est abondant en Colombie-Britannique et en Alberta. Les groupes de pin de Murray, souvent d'âge semblable, s'étendent un peu partout sur de vastes emplacements, ravagés par les incendies.

À l'est de la ligne continentale de partage des eaux, la végétation est en transition entre la forêt de conifères et la prairie à fétuque. Sur les versants montagneux et le haut piedmont, la forêt de conifères se compose d'épinettes d'Engelmann et d'épinettes blanches et de l'épinette hybride d'Engelmann et blanche. Le sapin de Douglas et le tremble poussent abondamment dans les collines Porcupine et sur le bas piedmont.

Le pin blanc de l'ouest se développe sur les affleurements rocheux et les sols pierreux. Il est d'ordinaire très rabougri et déformé par les grands vents. La fétuque scabre, l'agropyre et la stripe caractérisent la prairie de la région des plaines intérieures.

FAUNE

Une variété et un grand nombre de gros animaux habitent le territoire. Le mouflon des montagnes Rocheuses, la chèvre de montagne, l'original, le cerf de Virginie, le cerf mulet et le wapiti y vivent nombreux. Les cerfs et les wapitis se trouvent un peu partout, quoique l'hiver ils se regroupent sur les bords de la rivière Kootenay. Les chèvres de montagne et les mouflons se rencontrent dans les montagnes à l'est du Sillon; les chèvres restent dans des zones isolées et très élevées. L'original vit en général à proximité ou dans les grandes vallées, comme celles des rivières Flathead, Bull et Elk. L'ours noir, le chat sauvage et le puma se trouvent un peu partout; l'ours brun démeure dans les endroits reculés.

Le tétras sombre et le tétras des savanes existent sur l'ensemble du territoire. La gelinotte huppée et la colombe se rencontrent en Colombie-Britannique, alors que la gelinotte à queue fine, la perdrix grise et le lagopède sont nombreux en Alberta.

La sauvagine est concentrée dans le Sillon aux abords des petits lacs. D'importants vols de canards s'y arrêtent lors des migrations de l'automne et quelques canards et bernaches canadiennes y nichent. Les zones humides de la St. Mary Prairie et les marécages le long de la rivière Kootenay au sud-ouest de Cranbrook constituent des terrains de chasse importants.

La pêche à la truite de Kamloops est assez bonne dans presque tous les lacs du Sillon, et celle à la truite dorée est réputée en Alberta dans les lacs South Fork (Barnaby Ridge). La pêche au salmo clarkii, à l'omble de fontaine, à la truite brune, à la truite arc en ciel, au poisson blanc des montagnes Rocheuses et à l'omble d'origon peut être pratiquée un peu partout dans de nombreux cours d'eau.

PEUPLEMENT ET UTILISATION DE LA TERRE

L'activité minière est essentielle pour la région est du Kootenay. La mine Sullivan à Kimberley produit de l'argent, du plomb et du zinc; l'usine d'engrais de Marysville est également importante, et l'exploitation des réserves charbonnées de la vallée de la rivière Elk va contribuer grandement à l'économie. Les activités forestières occupent environ 1 000 personnes et cette activité va se développer par suite de l'implantation récente d'une usine de papier