

## GENERAL DESCRIPTION OF THE NELSON MAP SHEET AREA, 82F

The area covered by the Nelson map sheet is made up entirely of elements of the Columbia Mountains. The area includes parts of three mountain ranges: the Purcell Mountains in the east, the Selkirk Mountains between the Kootenay and Columbia rivers, and the Monashee Mountains in the southwest. In the south, elevations seldom exceed 7000 feet and summits tend to be rounded and well-wooded. In the north, a few peaks are over 9000 feet and isolated ridges and peaks are serrate. Some glaciers occur, such as in Kokanee Glacier Provincial Park.

Valleys are generally north-south trending, and their floors lie at about 2000 feet above sea level. Valley walls are steep, rock bluffs common, and streams are short and swift-flowing. Kootenay Lake, at 1745 feet, is surrounded by peaks from 5500 to 7000 feet high. Tributary creeks in narrow, deep valleys have carved a series of east-west ridges 7000 feet high overlooking the lake. Similar conditions are found at Slocan Lake.

A major physiographic feature is the Creston Valley, which is the only extensive area that is not mountainous. Much of it is floodplain or diked, reclaimed agricultural land that forms an attractive pastoral landscape.

Rock structures are favorable to an abundant occurrence of cold springs and a few hot springs.

### CLIMATE

Most valleys of the West Kootenay have warm summers, mild winters, and moderate annual precipitation. Mean daily temperatures in July range between 63°F and 70°F and in January are about 24°F. Annual precipitation varies from about 19 inches at Creston to about 28 inches at Nelson and Trail. Two-thirds of the precipitation occurs in winter, and annual snowfalls of 50 to 100 inches are common.

Much of the area, however, is mountainous uplands, where summers are short and cool and winters long and cold. The mean daily temperature in July is below 55°F and in January below 10°F. At the higher elevations, annual precipitation is up to 60 inches and winter snowfall is commonly more than 150 inches, with extremes of 600 inches in some years.

Strong winds, thunderstorms, and squalls are common throughout the May to September recreation season. Afternoon winds exceed 10 mph, with gusts to 30 mph almost half the time. This creates an extreme hazard to boating on all water bodies, particularly the larger lakes, such as Kootenay and Arrow lakes. The occurrence, force, and direction of winds is unpredictable and wave action can suddenly become dangerous to pleasure boats.

### VEGETATION

Columbia Forest is the predominant vegetation in the valleys below 4000 feet. Representative tree species are western red cedar and western hemlock. On drier sites, Douglas-fir, western white pine, western larch, and lodgepole pine are important tree species, whereas cottonwood, birch, and spruce frequently associate with cedar on moist bottomlands. An undergrowth of sword fern, thimbleberry, salmonberry, and devil's-club makes walking difficult and deters access for recreation.

Above 4000 feet, species of the Subalpine Forest, such as Engelmann spruce and alpine fir occur. The undergrowth is composed of attractive shrubs that do not prohibit foot travel. Blueberry, twinberry, huckleberry, and pine grass are common species. In mountainous areas above 7000 feet, bare rock, ice, or snow replaces vegetation.

### FISH AND WILDLIFE

Sport fishing is a significant feature of the area. Kamloops trout and kokanee are the most important game fish species. In Kootenay Lake both species are abundant and specimens up to 25 pounds may be caught by fly casting. Trout are present in most streams and lakes throughout the area, whereas eastern brook trout and whitefish are common to southern lakes and streams. Dolly Varden char occur in large rivers and lakes, and sturgeon in the Kootenay River at Creston, smallmouth bass in Duck and Leach lakes, and large lake trout (char) in Kootenay Lake.

Deer are the only wild ungulates found in relative abundance. The uplands adjacent to the Pend d'Oreille River support high concentrations of both white-tailed and mule deer. Mule deer are also numerous along the east side of Kootenay Lake and along the north side of the West Arm of Kootenay Lake. In the north, mountain goat are scattered in remote areas at high elevations. Small populations of caribou occur in the Purcell Mountains, in Kokanee Glacier Provincial Park, in the Nelson Ranges, and near the summit of the Kootenay Skyway. Elk and moose are scarce and are mostly confined to the St. Mary River drainage and east of Kootenay Lake. Black and grizzly bears are relatively abundant throughout the area, although the grizzly bears are generally confined to inaccessible high country.

The Ring-necked Pheasant is common on and adjacent to agricultural lands near Creston. Common upland game birds dispersed in moderate numbers throughout the area include Ruffed, Blue, and Franklin grouse. The Hungarian Partridge and Ptarmigan may also be found.

There are few wetlands in the area, but the Duck Lake-Creston Flats marshes, from the south end of Kootenay Lake to the International Border, represent one of the most significant waterfowl migration and production areas in the interior of British Columbia. It is important for both hunting and observing ducks and geese. Of local significance are marshes at St. Mary Lake and associated wetlands on the St. Mary River, upstream from the lake to about Meaghen. Goose nesting is the primary attraction in this location.

### SETTLEMENT AND LAND USE

This is a fairly densely settled area for the interior of British Columbia, however, most of the settlement is confined to the major valleys and vast mountainous expanses have no permanent settlement. Between 1890 and 1920, the West Kootenay was a major mining region of Canada. Lead, silver, and zinc were the most important ores mined. Secondary industries are centered at the Cominco establishment at Trail, where chemicals are produced for world distribution. Due to the requirements of smelting and chemical production, hydroelectric plants have become important secondary industries on the Kootenay and Pend d'Oreille rivers.

The local forest industry began as a response to the mining industry's need for timber. Today, Douglas-fir, spruce, and larch, along with several less important species, are cut to supply a major sawmill industry. The establishment of the Celgar Pulp Mill near Castlegar has further stimulated the growth of logging and forestry is now the most important industry in the West Kootenay.

Agriculture accounts for a small amount of land use and engages about 5 per cent of the population. Creston is an important center for the production of cereal grains and small fruits. Mixed farming with a variety of local specializations is carried on throughout the area and dairying, poultry, swine, and beef production are becoming increasingly significant.

Control of water for flooding is an additional use of watersheds, for example, the Arrow Dam near Castlegar. Field work and maps indicate recreation capability before Arrow Lake was flooded. Tourism, especially sport fishing, contributes to the economy and is becoming an important economic contributor in the region.

Of special interest are the communities of Ooteshenie and Brilliant, which are important as Doukhobor historic sites. Between 1908 and 1913, about 5000 Doukhobors moved to the West Kootenay and Grand Forks region. They constructed large community houses, communal homes that were an adaptation of the village commune system under new conditions. Each house accommodated 30 to 50 people, or 100 people in a set of two houses. A few units still intact at Ooteshenie are evidence of an important aspect of the settlement of this region.

### RECREATION CAPABILITY

Kootenay Lake is the chief recreation feature of the area. The main body of the lake lies in a scenic valley between the Purcell Mountains to the east and the Selkirk Mountains to the west. Although less than 4 miles wide at its widest point, the lake has continuous open water throughout its 70-mile length. Wind and wave action are a constant potential hazard to boating, and there are few protected bays and natural harbors. The shoreline does, however, offer a varying landscape that is suited to many recreation activities. Steep, fast-flowing streams that enter the lake on the east shore have created numerous alluvial fans of coarse-textured materials. Each of these sites has sand or gravel beaches and is ideally suited to camping. Frequent winds, mosquitos, and cool water temperatures in summer limit capability for sunbathing and swimming, but capability is high for gathering and collecting driftwood, angling, and viewing. Shoreland suited to cottaging predominates, although areas of scenic rocky headlands are frequent. Crawford Bay, which is partly free from the wind hazard of the main body of Kootenay Lake, offers the only extensive area for boating.

The West Arm of Kootenay Lake has better and more frequent opportunities for intensive shore-based recreation activities. Capability for boating, camping, and cottaging is extremely high. Numerous sand beaches with shallow offshore gradients offer excellent family bathing, and angling for trophy-sized trout and kokanee has an international reputation. However, afternoon winds, combined with the effect of the currents created by varying the drawdown at Cora Lynn and Bonnington Falls dams, are a hazard to sailboats and small open craft.

Kootenay Lake has special features that add to its significance for recreation. Viewing of spawning trout and kokanee is an attraction in tributary streams, particularly north of the area. The Creston Flats marsh and slough area has an intricate waterway system that is well-suited for canoeing and also provides outstanding opportunities to observe, photograph, and hunt waterfowl. Ainsworth Hot-springs, Cody Caves, and the historic features and scenic setting of the town of Kaslo add significantly to the recreation potential of the area.

Downstream from Nelson, Kootenay Lake narrows into the Kootenay River. Capabilities for camping, cottaging, angling, and canoeing are limited by the presence of a number of hydro dams.

Tributary to the Kootenay River is the picturesque Slocan River valley. Small farm communities in a pastoral setting are the main attraction, and there are good opportunities for fishing and camping along the Slocan River. Slocan Lake has only moderate capability for intensive recreation and low capability for sport fishing. However, it is a very scenic area, where steep slopes rise continuously for several thousand feet from the water's edge. The west shore offers frequent sand beaches and access to the dramatic alpine country to the west.

Numerous streams and rivers drain the area, all of them set in scenic mountainous terrain. The larger drainages have the highest capability for camping, angling, viewing, and deer hunting. The most significant of these are the Pend d'Oreille, Salmo, Goat, and Moyie rivers. The St. Mary River offers similar capabilities in addition to canoeing and waterfowl habitat.

Most of the area has steep, rugged terrain of low recreation capability. However, certain locations serve as focal points for extensive upland activities and consequently have been given high capability ratings. A large plateau-like area between White and Dewar creeks is characterized by about 50 square miles of subalpine forest, alpine meadow, and dozens of small lakes and tarns. Dramatic mountain viewing is lacking, but the extensiveness of this alpine area makes it unique. The Evans-Beatrice-Cahill lakes area forms another dramatic upland. The lakes lie west of Slocan Lake at elevations of 4000 to 5000 feet. Mountain scenery, subalpine forest, and fishing are the main attractions, and Gladstone and Gimli peaks at the head of Mulvey Creek provide an important focus for rock climbing.

Dozens of small alpine areas are found throughout the Selkirk and Purcell mountains. Although capabilities are generally only moderate because of the short recreation season and the sensitive nature of the environment, these areas offer high-quality potential for extensive and primitive activities.

Because of the lack of specific climatic data, the identification of ski areas on the map has been limited to those already established or proposed. The capability for skiing in this area is high because of the abundant snowfall and great topographic variation. In fact, the frequency and overabundance of snow makes ski hill operational costs high.

Because of a colorful history and active development of mineral extraction industries, the West Kootenay region offers a great diversity of man-made attractions. Indian history, early mining booms, and Doukhobor settlements figure prominently in the history of the area. Ooteshenie near Castlegar is the most significant site of Doukhobor history. Several community houses, Peter Verigin's tomb, and an old hand-built bridge are the main physical remnants of this heritage. Mining has always played an important role in the region and many abandoned mines, the ghost town of Sandon, and old structures at Kaslo, New Denver, Silverton, Slocan, Nelson, Trail, and Rossland are significant historic attractions.

The Nelson area offers a full range of recreation activities with few limitations. Capabilities are high for shore-based activities, riverside recreation, extensive upland pursuits, and interpretation of man-made, cultural, historic, and natural features.

Capability classification (1968) by D. R. Benn, W. C. Yeomans and Associates Ltd., for the C.L.I., British Columbia Department of Agriculture.

## DESCRIPTION DU TERRITOIRE DE LA FEUILLE DE NELSON - 82F

Le territoire inscrit sur la feuille de Nelson se compose entièrement de parties des monts Columbia. On y trouve des sections de trois chaînes de montagnes: les monts Purcell à l'est, les monts Selkirk entre la rivière Kootenay et le fleuve Columbia et les monts Monashee au sud-ouest. Au sud, l'altitude dépasse rarement 7 000 pi et les cimes sont plutôt arrondies et bien boisées. Au nord, quelques pics dépassent 9 000 pi et les crêtes isolées sont dentelées. On trouve quelques glaciers tels ceux du parc provincial Kokanee Glacier.

Les vallées sont habituellement orientées nord-sud et leur fond se situe à environ 2 000 pi d'altitude. Les versants de ces vallées sont escarpés, les falaises rocheuses fréquentes et les cours d'eau courts, mais très vifs. Le lac Kootenay, à 1 745 pi, est entouré de pics variant de 5 500 à 7 000 pi. Des ruisseaux secondaires, dans les vallées étroites et profondes, ont sculpté une série d'arêtes est-ouest à 7 000 pi au-dessus du lac. Les conditions sont semblables au lac Slocan.

La vallée Creston, seule vaste région sans montagnes est la principale caractéristique physiographique du territoire. C'est une plaine inondable ou égouttiée à des fins agricoles, formant un joli paysage pastoral.

La structure du roc est favorable à la présence de nombreuses sources froides et de quelques sources thermales.

### CLIMAT

Dans la plupart des vallées du Kootenay-Ouest les étés sont chauds, les hivers doux et les précipitations annuelles modérées. La température diurne moyenne en juillet varie de 63 à 70°F; en janvier, elle est d'environ 24. Les précipitations annuelles varient d'environ 19 po à Creston, à environ 28 à Nelson et à Trail. Les deux tiers des précipitations tombent pendant l'hiver, et les chutes de neige annuelles de 50 à 100 po sont fréquentes.

Toute une grande partie du territoire comprend des hautes terres montagneuses où les étés sont courts et frais, les hivers longs et froids. La température diurne moyenne en juillet fait moins de 55°F; en janvier, elle est de moins de 10. A haute altitude, les précipitations annuelles donnent jusqu'à 60 po et la chute de neige dépasse souvent 150 po. On a même déjà enregistré des chutes records de 600 po.

Les grands vents, les orages et les bourrasques se rencontrent communément pendant toute la saison créative, entre mai et septembre. L'après-midi, la vitesse des vents dépasse 10 mi./h, avec des bourrasques allant jusqu'à 30 mi./h presque la moitié du temps. La navigation devient alors très dangereuse partout, mais surtout sur les plus grands lacs, tels les Kootenay et Arrow. La fréquence, la vitesse et la direction des vents est imprévisible et l'action des vagues peut soudainement mettre en danger les embarcations de plaisance.

### ÉCOLOGIE

La végétation de la forêt colombienne prédomine dans les vallées de moins de 4 000 pi. Les essences typiques sont le thuya géant et la pruche de l'Ouest. Sur les terrains secs, le sapin de Douglas, le pin argenté, le mélèze occidental et le pin de Murray sont importants, alors que le peuplier, le bouleau et l'épinette s'associent au thuya sur les fonds humides. Un sous-bois de fougère épée, de ronce pariflorie, de ronce remarquable et de bois piquant rend la marche difficile et décourage l'accès à des fins créatives.

Au-dessus de 4 000 pi, on rencontre les essences de la forêt subalpine, telles l'épinette d'Engelmann et le sapin concolor. La flore forestière se compose d'arbustes attrayants qui n'entrent pas la marche. L'airelle, le chêvre-feuille, la myrtille et le calamagrostis rougissant sont communs. Dans les régions montagneuses au-dessus de 7 000 pi, le roc dénudé, la neige et la glace remplacent la végétation.

### POISSON ET GIBIER

La pêche sportive constitue une importante caractéristique du territoire. La truite arc-en-ciel et le saumon kokani sont les espèces les plus recherchées; au lac Kootenay, l'on peut prendre, au lancer à la mouche, des spécimens pesant jusqu'à 25 lbs. On trouve des truites dans presque tous les cours d'eau et les lacs, alors que l'omble mouche et le ménomin sont communs dans les eaux méridionales. Le Dolly Varden se trouve dans les grandes rivières et les vastes lacs; l'esturgeon, dans la rivière Kootenay à Creston; l'achigan à petite bouche, aux lacs Duck et Leach; et la grosse truite de lac, au lac Kootenay.

Le cerf est le seul ongulé relativement abondant. Les hautes terres adjacentes à la rivière Pend d'Oreille abritent de grandes concentrations de cerfs de Virginie et de cerfs mulets. Les cerfs mulets sont aussi nombreux du côté est et sur la rive nord du bras ouest du lac Kootenay. Au nord, les chèvres de montagnes sont isolées dans les régions reculées de haute altitude. On trouve de petites populations de caribous dans les monts Purcell, le parc provincial Kokanee Glacier, les chaînes Nelson et près du sommet du Kootenay Skyway. Le wapiti et l'original sont rares et se bornent à l'aire d'alimentation de la rivière St. Mary et à l'est du lac Kootenay. Les ours noirs et grizzlis sont assez abondants sur tout le territoire, bien que les grizzlis s'en tiennent aux régions élevées et inaccessibles.

Le faisand à collier est commun sur les terres agricoles et aux environs, près de Creston. La sauvagine commune des hautes terres, modérément nombreuse, se trouve partout et comprend la gélinotte huppée, le tétras sombre et le tétras des savanes. On rencontre aussi la perdrix grise et le lagopède.

Il existe peu de zones humides sur le territoire, mais les marais Duck Lake-Creston Flats, qui vont de l'extrémité sud du lac Kootenay à la frontière américaine, constituent l'une des régions les plus importantes de l'intérieur de la Colombie-Britannique pour la migration et la reproduction de la sauvagine. Elle est à la fois importante pour la chasse et l'étude des canards et des oies. Les marais du lac St. Mary et les terrains marécageux associés sur la rivière St. Mary, en amont du lac jusqu'à Meaghen environ, sont d'importance locale. La nidification des oies constitue la principale attraction de ce site.

### PEUPLEMENT ET UTILISATION DE LA TERRE

Le territoire est assez densément peuplé pour l'intérieur de la Colombie-Britannique. Toutefois, la majorité de la population se limite aux principales vallées, et les vastes régions montagneuses ne contiennent aucun établissement permanent. Entre 1890 et 1920, le Kootenay-Ouest était l'une des principales régions minières du Canada. Le plomb, l'argent et le zinc constituent les plus importants gisements. Les industries secondaires se concentrent à l'établissement Cominco de Trail, où l'on fabrique des produits chimiques pour distribution mondiale. Vu les besoins des fonderies et des usines de produits chimiques, les installations hydroélectriques sont devenues une importante industrie secondaire sur les rivières Kootenay et Pend d'Oreille.

L'industrie forestière locale a été mise sur pied pour répondre à la demande de bois de l'industrie minière. Aujourd'hui, on abat du sapin de Douglas, de l'épinette et du mélèze, ainsi que plusieurs autres essences, pour fournir une importante industrie de sciage. L'installation du moulin de pâte à papier Celgar, près de Castlegar, a encore stimulé la croissance de l'exploitation forestière, et toute cette industrie est présentement la plus importante du Kootenay-Ouest.

L'agriculture compte pour une petite proportion de l'aménagement des terres et engage environ 5% de la population. Creston constitue un centre pour la production de céréales et de petits fruits. Les cultures mixtes, localement spécialisées, se rencontrent sur tout le territoire et l'importance de l'industrie laitière, de l'élevage des volailles, des porcs et des bovins s'accroît constamment.

L'aménagement des eaux à des fins d'inondation comme, par exemple, le barrage Arrow près de Castlegar, constitue une autre utilisation des bassins hydrographiques. Les études sur le terrain et les cartes indiquent des possibilités créatives avant l'inondation du lac Arrow. Le tourisme, et particulièrement la pêche sportive, constitue un apport économique de plus en plus considérable.

Les communautés de Ooteshenie et Brilliant, sites historiques doukhobors, sont d'un intérêt tout particulier. Entre 1908 et 1913, environ 5 000 Doukhobors s'établissent dans le Kootenay-Ouest et la région de Grand Forks. Ils construisent de grandes maisons communales en adaptant le principe du village communal aux conditions nouvelles. Chaque demeure abrite 30 à 50 personnes, ou alors 100 personnes dans deux maisons jumelées. Quelques-unes sont encore intactes à Ooteshenie, témoins d'un aspect du peuplement de cette région.

### POSSIBILITÉ RÉCRÉATIVES

Le lac Kootenay constitue la principale aire de récréation. La plus grande partie du lac est située dans une vallée pittoresque entre les monts Purcell, à l'est, et les monts Selkirk, à l'ouest. Bien qu'il ne fasse jamais plus de 4 milles de largeur, le lac s'ouvre sur 70 milles de longueur. Les vents et les vagues sont toujours incertains et rendent la navigation de plaisir hasardeuse. Toutefois, on trouve quelques baies protégées et des ports naturels. Les rives, d'autre part, offrent divers paysages qui conviennent à nombre d'activités créatives. Les ruisseaux vifs et à forte inclinaison, qui se déversent sur la rive nord du lac, ont créé plusieurs cônes alluviaux de texture grossière. Tous ces endroits sont pourvus de plages de sable ou de gravier et sont idéaux pour le camping. La fréquence des vents, la présence des moustiques et la fraîcheur des eaux en été, limitent les possibilités de baignade et de bronzage, mais on peut ramasser du bois flottant, pêcher à la ligne ou admirer le paysage. Les