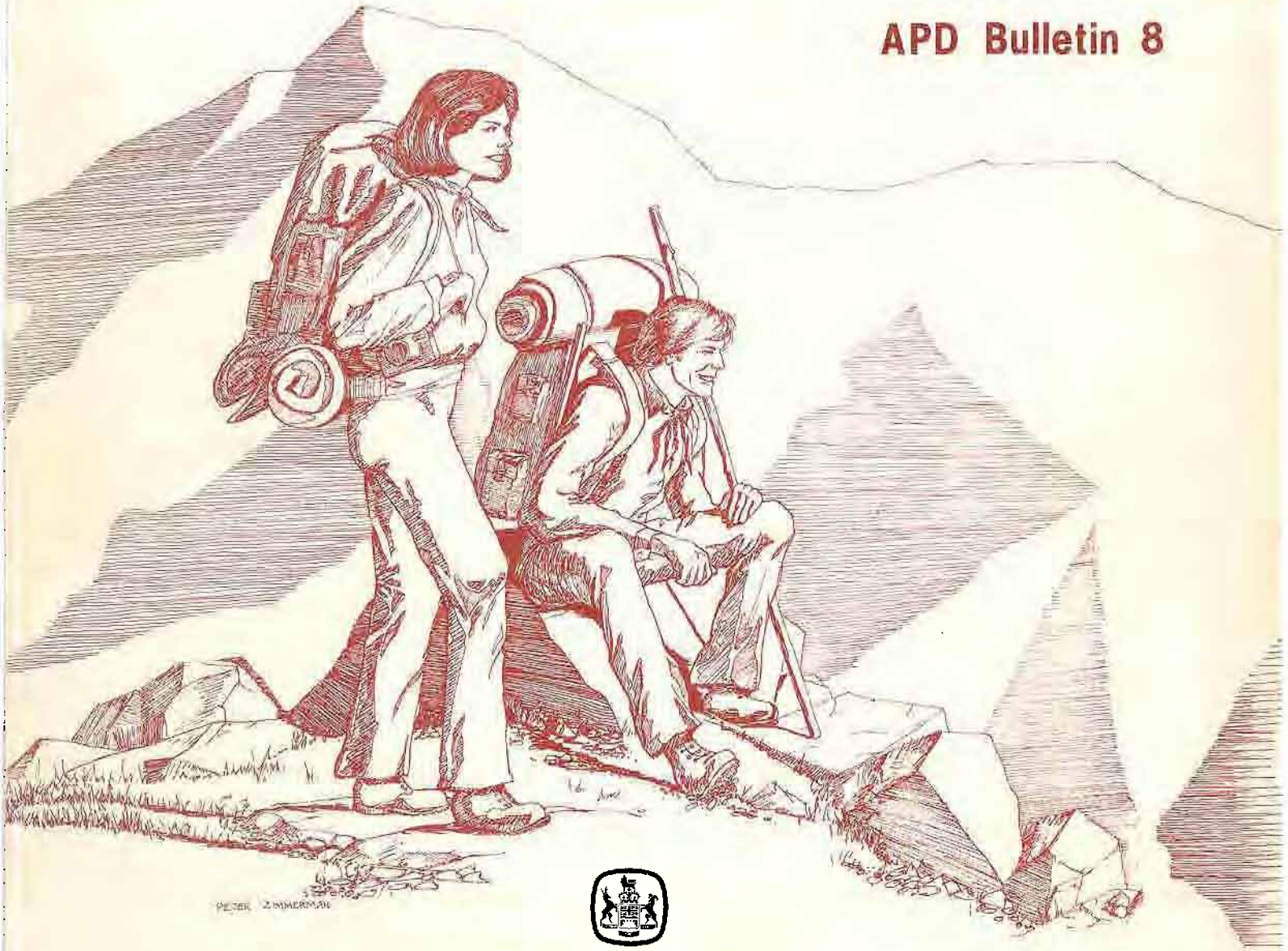
Biophysical Resources of the East Kootenay Area:

Outdoor Recreation

APD Bulletin 8



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BIOPHYSICAL RESOURCES OF THE EAST KOOTENAY AREA:

OUTDOOR RECREATION

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PREFACE

This report is one of a series of Assessment and Planning Division (APD)[1] bulletins that describes and analyzes the biophysical resources of the East Kootenay area. Individual bulletins focus on terrain, soils, climate, vegetation, wildlife, aquatics, and outdoor recreation, but are closely interrelated and rely on cross-referencing rather than duplication of material. A set of base data maps at 1:50 000 is also available for each discipline.

The East Kootenay study was initiated in 1975 in response to increasing pressure on land resources and the development of land-use conflicts. Forestry, mining, ranching, farming and tourism are all major contributors to the economic well-being of the region. General population growth and maintenance of these industries requires that land be allocated for urban and industrial expansion and transportation corridors, and yet at the same time, areas be preserved for wildlife and recreational purposes.

The data, analyses, and interpretations that are contained within the East Kootenay bulletin and map series will assist in the development and implementation of a rational resource management policy. In addition, information is presented here that will increase systematic knowledge of the physical and biological components of land and water systems.

It is anticipated that careful utilization of this data base will ultimately result in the maintenance of a high quality environment in this part of British Columbia.

[1] Formerly Resource Analysis Branch, Ministry of Environment.

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Chapter One

Chapter One

INTRODUCTION

1.1 STUDY BACKGROUND

The Terrestrial Studies Branch, Ministry of Environment, has recently completed an outdoor recreation features inventory mapping project in the East Kootenay region (Figure 1). This part of southeastern British Columbia has a number of outstanding attractions that have made it a popular recreation area. These include the Rocky Mountain Trench, the Rocky Mountains, the Columbia-Windermere Lakes recreation area, angling and big-game hunting, hot springs, mountain wilderness hiking and camping, winter sports, and historical aspects related to early settlement.

In recent years, land-use conflicts have arisen which are potentially damaging to outdoor recreation resources. In order to preserve the recreation potential of this area, future land-use plans for the East Kootenay region should incorporate the results of this inventory of outdoor recreation features.

In 1965, the East Kootenay region was mapped for recreation capability (Yeomans, 1966) according to the Canada Land Inventory (C.L.I.) system as a pilot project. The C.L.I. programme for land resource capability was established as a joint Federal-Provincial undertaking under the Agricultural Rehabilitation and Development Act (A.R.D.A.). As part of the East Kootenay resource inventory programme initiated in 1975, the recreation features inventory has been updated according to the method used by the Resource Analysis Branch (Block and Hignett, 1976).

Since 1965, a number of resource studies have been carried out in the East Kootenay region by C.L.I., A.R.D.A., and Resource Analysis Branch (R.A.B.). The studies listed in Appendix A pertain to, or have sections pertaining to, the outdoor recreation resource, and may be of interest to the reader. Copies of most of these may be obtained from the Map Library, Assessment and Planning Division, Ministry of Environment, Parliament Buildings, Victoria, B.C., V8W 1X4.

This report gives the results of the outdoor recreation features inventory and some physical carrying capacity information for outdoor recreation of the East Kootenay region. It is one of

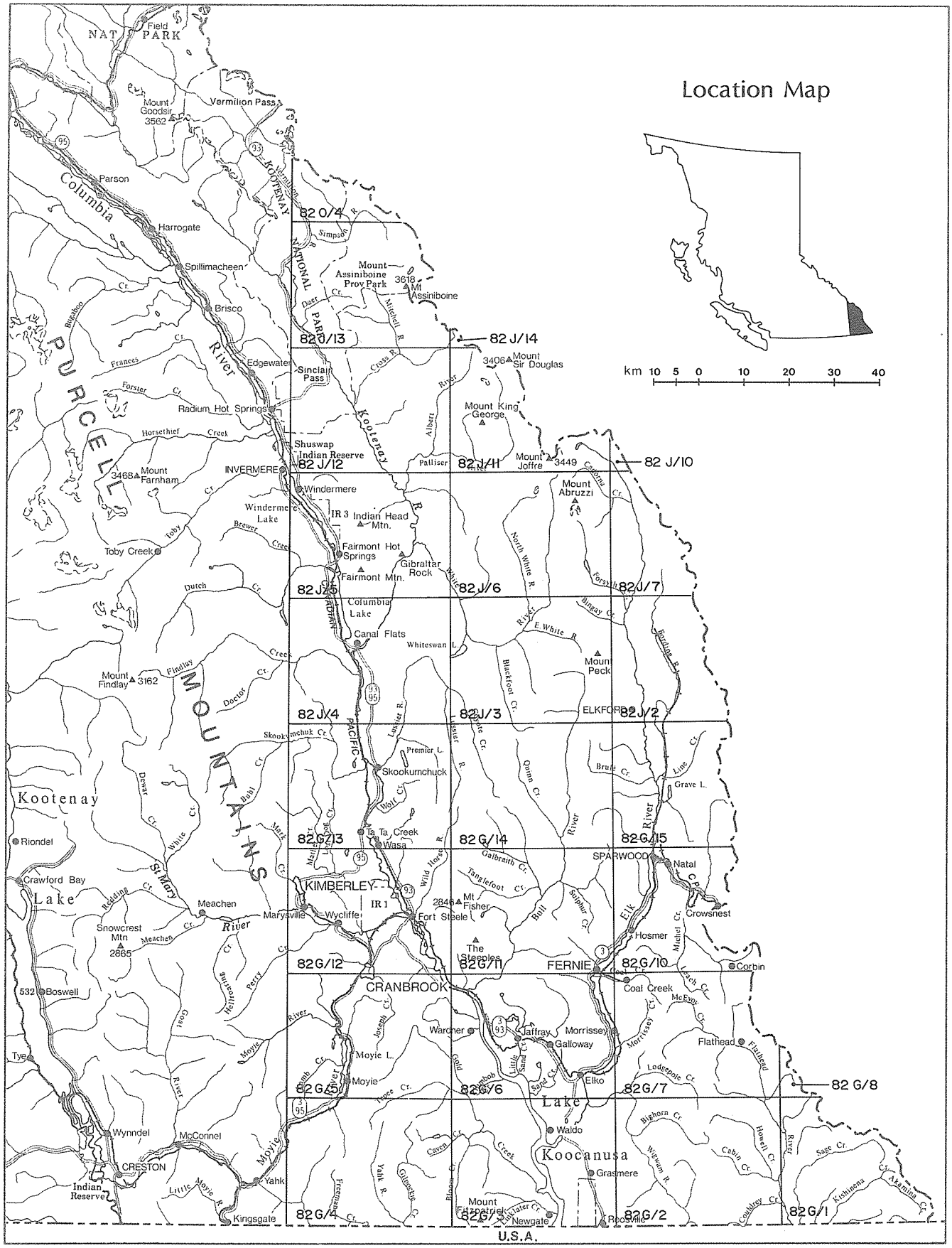


Figure 1: Location of East Kootenay Biophysical Study Area

several volumes in a series of bulletins entitled "Biophysical Resources of the East Kootenay Area" which comprise the East Kootenay resource inventory study.

1.2 OBJECTIVES AND APPLICATIONS

The main objective of this outdoor recreation features inventory was to identify and evaluate the type and quality of the physical and biological aspects of the East Kootenay region that are of recreational interest and value. This was done according to a Provincial recreation capability mapping scheme outlined in Chapter Two. The analysis of an entire region carried out in this manner provides a comparative recreation resource data base so that recreation features can be evaluated in terms of quality, quantity and distribution.

This report provides:

1. background information about the natural landscape and recreational resource values on a regional basis.
2. a description of specific areas of high recreational significance in the region; and
3. comments on those areas with high recreational value which require immediate consideration in land management plans for the region.

It is not intended that this report should identify in detail all the information which is presented graphically on the 1:50 000 scale Outdoor Recreation Features maps. Rather, it should be used in conjunction with the maps as an extension of the mapping programme in order to explain the methods used and to highlight the unique or interesting aspects of significant outdoor recreation features.

The outdoor recreation components of the landscape are a natural resource that can be defined and delineated on a map in a manner similar to other recognized natural resources. Recreation information provided by this project should serve as a useful resource input into future land management and planning programmes in the East Kootenay area. It will allow planning and management agencies concerned with recreation to locate, identify and compare areas of recreational significance for development, preservation, and/or acquisition.

1.3 REGIONAL OVERVIEW

1.3.1 PHYSIOGRAPHY

The East Kootenay project area contains three broad physiographic units: the Rocky Mountains (subsequently referred to as "the Rockies"); the Purcell Mountains; and the Rocky Mountain Trench (subsequently referred to as "the Trench") (Figure 2).

The Rockies consist of numerous elongated ranges of rugged, mountainous terrain that are aligned roughly from north-northwest to south-southeast. Elevation differences between peaks and adjacent valleys range from 750 to 1850 metres (2460 to 6068 feet) and summit elevations lie between 2000 and 3600 metres (6560 to 11 708 feet) above sea level. Relatively resistant rock formations such as limestone*, dolomite* and quartzite* are widespread in the Park, Kootenay and portions of the Front Ranges. They form tall peaks which are surrounded by steep ridges and high cliffs. Within the same area, where less resistant rock such as shale* and phyllite* outcrop, the terrain is characterized by broad eroded valleys such as those of the Kootenay (north of Gibraltar Rock), White and Upper Elk Rivers. The Fernie and Flathead Basins are structural depressions with downfolded and downfaulted rocks.

The Purcell Mountains in the Study Area have relatively subdued topography and lack the dramatic cirques* or peaks of the Rockies; their broad, rounded summits rise to 2200 metres (7200 feet) above sea level. Quartzite, limestone and argillite* are the chief rock types in this area. The main ranges of the Purcells lie further west.

The Trench is a broad downfaulted lowland of flat to hilly terrain at 760 and 1060 metres (2493 and 3477 feet) in elevation. It is 3 to 16 km wide and consists of undulating drift* terrain with occasional bedrock hills, crossed by shallow, flat-floored valleys. It is bounded to the east by a fault scarp* which constitutes a visually spectacular mountain front such as at the Steeples and Mount Fisher in the Hughes Range. Since it is flanked on either side by high mountain ranges, the Trench is one of the most significant viewing corridors in the Province. It is drained by the Kootenay River in the south and the Columbia River in the north. The broad Kootenay Valley grasslands of the south are separated from the extensive wetlands of the upper Columbia Valley by the Columbia-Windermere Lake and marsh* system.

* See Glossary (Appendix H) for definition. Words defined in the Glossary are indicated where they appear for the first time in each chapter.

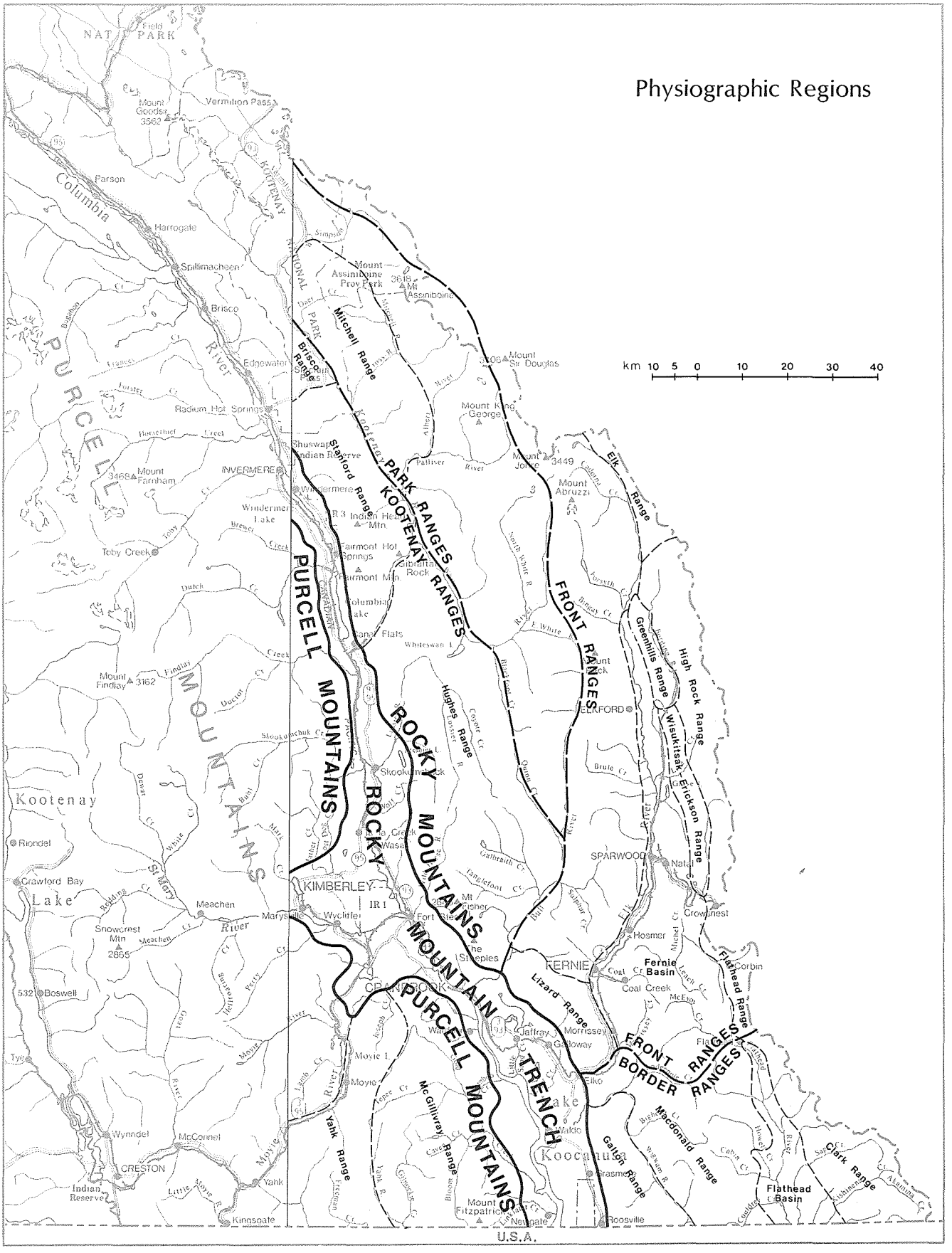


Figure 2: Physiographic Regions (after Holland, 1964)

This present day landscape represents the results of geological processes* that have been taking place over millions of years. The general pattern of mountain ranges and valleys was formed before the onset of Quaternary* glaciations, two or three million years ago. Most of the present day landforms, however, are the result of erosion and deposition that has occurred during the past 20 000 years. Fresh-appearing glacial troughs and cirques were vacated by ice no more than 12 000 years ago, and most river canyons, terraces and waterfalls have formed since that time.

Landforms of particular recreational interest are discussed in Chapter Three within specific area descriptions. For a comprehensive description of the geology of the Study Area, see East Kootenay terrain maps and report in the East Kootenay bulletin series.

1.3.2 CLIMATE

The East Kootenay region is characterized by hot summers, with sporadic rain shower activity, and winters which vary annually from mild to severe. Climatic variations occur within the region. Warmer, drier conditions are evident in the Trench (mean annual precipitation in the Trench is approximately 400 to 500 mm) and cooler, wetter conditions in the side valleys and at higher elevations in the Rockies and Purcell Mountains. The windward side of these two mountain ranges experiences greater amounts of cloud and precipitation, both of rain and snow, than do the lee or eastward facing slopes.

Local climate is controlled mainly by topography. The relatively dry climate is the result of the predominant westerly airflow losing the majority of its moisture on mountain ranges west of the Trench. Climatic variations as a result of aspect and elevation changes are significant throughout the East Kootenay region. Southerly aspects receive the greatest amounts of solar radiation. Consequently, temperatures are generally warmest, snow cover the least prolonged and drought conditions most extreme in these locations. Northerly aspects have the exact opposite situation, and east and west aspects have intermediate characteristics. Climate becomes increasingly cool and wet upslope resulting in substantially greater amounts of snowfall, thicker snowpacks, and a much more prolonged snow season.

Wind should be regarded as a predominant factor throughout the region as far as the effect of climate on recreation in concerned. Winds within the valley have a tendancy to blow predominantly north or south due to the orientation of the main valleys, and tend to increase in velocity upslope.

In areas cleared of vegetation and in most high elevation mountain areas, winds are inclined to blow and drift snow. Winter activities such as snowshoeing, skiing (both downhill and cross-country) and snowmobiling depend on continuous good quality snow cover. In lighter snowfall areas, snow-oriented recreational activities may be limited for much of the winter in exposed areas and on south-facing slopes. High winds, combined with very cold temperatures, result in increasing chill factor. High ridges and exposed valley locations are two such areas where this may occur. However, wind can have a beneficial cooling effect during extremely warm summer weather conditions. Areas along lake shores and vegetated sites benefit from such cooling winds and shade during the warm summer months.

The climatic variety within the region, accentuated by well-defined seasonal changes, increases the variety of recreational activities that can be enjoyed during the year. More comprehensive information regarding climate parameters for the study area, in the form of maps and the climate report of this East Kootenay bulletin series, will be published in the near future by the Air Studies Branch following completion of data analysis for the East Kootenay climate network*.

A Resource Analysis Branch published report (Bennett, 1977) provides information regarding climate suitability for recreation for many of the Atmospheric Environment Service (AES) stations in British Columbia.

1.3.3 VEGETATION

The East Kootenay contains three very broad vegetation patterns: the open grasslands and forest parklands of the Trench; forested mountain slopes and side valleys; and the upper subalpine areas and alpine ridges of the Rockies and Purcell Mountains. For a comprehensive description of vegetation and vegetation zonation in the study area, refer to the East Kootenay vegetation maps and report of the East Kootenay bulletin series.

Throughout the lower elevations of the Trench the vegetation is characterized by parklands of ponderosa pine with various amounts of Rocky Mountain Douglas-fir, which are interspersed with grassy areas. Forests of lodgepole pine, western larch and trembling aspen occur adjacent to the parklands and on lower elevation mountain slopes. Extensive areas of open grassland are found in

the southern Trench as well as in the Skookumchuck-Wasa Lake area. This vegetative pattern is particularly attractive visually, and is ideally suited to camping, picnicking, viewing, horseback riding, cross-country skiing and sightseeing by vehicle.

Above the Trench floor, the vegetation is generally characterized by closed-cover forests. A change from the lower elevation Rocky Mountain Douglas-fir forests to the Engelmann spruce - alpine fir forests is evident above approximately 1300 metres (4250 feet). Other common tree species at this elevation include lodgepole pine, western larch and trembling aspen. Whitebark pine and alpine larch are found above 1530 metres (5000 feet). These add variation in type and contrast in colour during the fall season when western larch, alpine larch and trembling aspen turn brilliant shades of yellow. Such contrasts provide an important component of the viewing corridor within the valley system.

In areas west of Moyie Lake, and scattered throughout the southern part of the region, forests contain components of western hemlock and western red cedar similar to the dense Interior Wet Belt forests of the West Kootenay area. Upland forests are of relatively uniform colour and texture, and are not highly significant with respect to specific recreational attractions, although variation is provided by less densely vegetated south-facing slopes and rocky environments throughout the area. Hiking, viewing, horseback riding, cross-country skiing, snowmobiling and hunting are among the recreation activities associated with these forested areas.

Upper subalpine environments of the East Kootenay region, usually found on ridges and in cirque basins above 2200 metres (7200 feet), are characterized by open forests, meadows and krummholz* vegetation dominated by alpine fir with lesser amounts of Engelmann spruce, alpine larch and whitebark pine. Extensive alpine meadows are found in the Mount Assiniboine Park area. Wildflowers, flowering shrubs and alpine larch add to the beauty of these landscapes which provide significant recreational opportunities for hiking, viewing, photography, wilderness camping and wildlife observation. These environments are generally fragile and subject to deterioration from intensive recreational use such as campsite developments.

Specific vegetation features often provide diversity and visual attractiveness to the landscape in which they occur. Avalanche chutes, present on most steep-sided valleys, support a variety of grasses, wildflowers and deciduous shrubs which enhance viewing corridors with their contrasts in colour, texture and pattern. Wetland fens* and marshes* occur on floodplains and lakeshores. These

provide numerous opportunities for nature observation in areas which are most accessible to the general public. Additional vegetation features associated in particular with the floodplain* of the Kootenay River near Wasa Lake and the gullies* in lacustrine* terraces of the Trench, are stands of trembling aspen and black cottonwood (poplar) which provide variation in colour particularly during autumn. White spruce is frequently found on floodplain areas. Pastoral landscapes represented by cleared fields from past and present agricultural activities, are seen throughout the Kootenay, Columbia, Elk and Moyie River valleys. Terraces along tributary valleys provide good areas for viewing.

1.3.4 WILDLIFE[1]

Wildlife values for the East Kootenay region are the highest in the Province (Lands Directorate, 1976), and the region may even support more prolific and varied herds of big game species than any other comparable area in North America (Benson, 1970, and Pearse and Bowden, 1966). In general, it is the juxtaposition of extensive areas suitable for use as winter ranges*, and extensive areas of subalpine habitat suitable for use as summer range* that provides the necessary major habitat requirements for so many big game species.

Rocky Mountain elk, the most prolific of the big game species, winter in all the major valley bottoms, especially the Rocky Mountain Trench. They summer throughout the subalpine forests and alpine basins. Mule deer, while not nearly as prolific as elk, are just as widespread; they winter mainly in the Trench and summer throughout the subalpine forests and alpine basins. White-tailed deer also winter mainly in the Trench but summer in areas in the Trench, immediately adjacent to it or along the floodplains and lower terraces of the major river valleys. Moose are found wintering mainly in the major valley bottoms away from the Trench. They summer in the forests and valley bottoms adjacent to their winter range. Rocky Mountain bighorn sheep winter on a few exposed ridges and terraces on the east side of the Trench or on a few windswept, high-elevation grasslands or alpine slopes in the Rocky Mountains. They summer in the mountains in the subalpine and alpine environments adjacent to their winter ranges. Mountain goats are found on the rugged mountain tops and ridges of the Rocky Mountains and in only a few areas of the Purcell Mountains in the study area. They winter on the exposed ridges, bluffs, and slopes of the mountains. A few scattered herds of woodland caribou are found in the subalpine forests of the Moyie Range of the study area.

[1]Demarchi, D.A., personal communication.

Black bears are scattered throughout the study area and grizzly bears are found mainly in the side valleys, subalpine forests and alpine basins. Cougars are found mainly in the Trench or in association with deer winter ranges. A few wolves are located in some of the more remote watersheds* of the region.

The landscape and vegetation diversity of the East Kootenay provide a variety of habitat for many species of birds. Migratory waterfowl and upland game birds abound in the Trench area. The Columbia Lake marshes and the Kootenay Valley wetlands* are significant staging areas* for waterfowl. As well, the dryland grass/shrub habitat provides excellent nesting habitat for many species of passerine* birds.

1.4 OUTDOOR RECREATION RESOURCE OVERVIEW

The following describes briefly the kinds of recreational opportunities that exist within the study area.

The East Kootenay, compared with other regions of British Columbia, is one of the most valuable with regard to overall scenic quality and opportunities for outdoor recreation. Four large parks are located within the study area: Kootenay National Park, and Mount Assiniboine, Elk Lakes and Top of the World Provincial Parks. These parks are all representative of the Rockies in terms of angular rocky ridges and krummholz-alpine scenery, and are heavily used by tourists as well as by local residents for camping, picnicking, hiking and viewing. A number of smaller provincial parks, such as Wasa, Premier and Whiteswan Lakes, which provide picnicking and camping opportunities have also been developed. Forest recreation sites have been established by the Forest Service and offer basic facilities such as pit toilets and picnic tables. Fort Steele, a highly developed historic park which is managed by the British Columbia Parks and Outdoor Recreation Division, attracts a large number of tourists to the region.

1.4.1 WATER-ORIENTED FEATURES AND ACTIVITIES

Many of the lakes within the East Kootenay region are located in the Trench and are a significant component of the viewing landscape, particularly those which lie adjacent to transportation corridors. The largest lakes in the region are: Columbia, Windermere, Moyie, Grave, Premier,

Whiteswan, Wasa, Tie, Rosen and Koocanusa (Libby Reservoir). These lakes and their shorelands all receive fairly heavy recreational use particularly during the summer months, through angling, power boating, water-skiing, wind surfing, canoeing, picnicking, camping and cottaging activities. Swimming activities also take place in most of these lakes but are limited to relatively select shoreline areas because of the presence of aquatic weeds, fine-textured bottom material (muddiness), and a lack of sandy beach areas.

Most of the small lakes found in the region are associated with wetland areas that provide birdwatching and wildlife observation opportunities. Other lake-related activities are much the same as mentioned for the larger lakes with the exception of power-boating and water-skiing.

A distinctive feature of a substantial number of East Kootenay lakes is their attractive aquamarine colouration. This is caused by the reflection of sunlight from clay-sized sediments suspended in the water.

The study area supports a significant sport fishery, mainly in the river systems of the Kootenay, Elk, Columbia, Moyie and Flathead. The most common species include cutthroat trout, rainbow trout, Dolly Varden char and mountain whitefish. A number of small lakes are stocked regularly by the British Columbia Fish and Wildlife Branch, usually with rainbow trout. Angling takes place almost year-round as ice-fishing is a popular winter sport. Generalized maps at 1:700 000, prepared by the Aquatic Studies Branch, Ministry of Environment, show the distribution and abundance of the major sport fish species (see Appendix D). More detailed 1:50 000 aquatic maps are available from the Map Library, Assessment and Planning Division, Ministry of Environment, Parliament Buildings, Victoria, B.C., V8W 1X4.

A number of hot springs* and mineral springs are also found within the study area. Fairmont and Radium are two commerically developed hot springs of major tourist importance. There are at least three additional undeveloped hot springs suitable for bathing which are used by local residents. Small mineral springs and seepage areas are common in the East Kootenay and are used by wildlife as "mineral licks"*.

The East Kootenay area also has many rivers such as the Kootenay, Flathead, Elk, and Moyie Rivers and Columbia River from the south shore of Columbia Lake up to Donald Station, which provide

significant opportunities for canoeing, kayaking, nature viewing and camping on their shorelands. There are many attractive waterfalls in the area also and while none are of exceptionally high significance, they add visual variety to the landscape.

1.4.2 LAND-ORIENTED FEATURES AND ACTIVITIES

Landscape diversity, combined with a favourable climate, are the major factors contributing to the high quality land-oriented recreational attractions of the study area. The variety of plant communities and individual species which are found in the East Kootenay region allows for recreational activities which may range from cross-country skiing in the winter to edible plant and berry collecting in the summer and fall months. Vegetation species of recreational interest have been documented by the Vegetation Section of the Terrestrial Studies Branch (see Appendix F).

The wildlife resources of the study area provide excellent opportunities for hunting, trapping and viewing. Hunting is one of the most significant recreational activities in the area. It attracts people from many parts of the province, the rest of Canada, the United States and, more recently, from Europe. It is of major economic importance to the region.

The high scenic quality of the Rockies encourages significant mountaineering activities. The Trench and most of the major side valleys provide excellent opportunities for a variety of family recreation activities such as camping and horseback riding. Downhill ski developments have been established in Fernie, Kimberley, Fairmont, Invermere and Elkford, and numerous old logging and mining exploration roads in the region provide areas suitable for snowmobiling and cross-country skiing. Hang-gliding has also become an increasingly popular sport and usually takes place from some of the mountain peaks adjacent to the Trench.

Although "viewing" or "sightseeing" is a more passive activity, it is probably the main recreational pursuit of most visitors to the East Kootenay region.

1.4.3 HISTORIC FEATURES

The East Kootenay area is of high significance with regard to both native Indian and pioneer history. Early use of the region by the Kootenai (also spelled Kootenae, Kootenay) and Shuswap

Indian groups related mainly to hunting, horse grazing, and fishing opportunities. Remnants of numerous camps and trails can be found throughout the region. Pictographs* and petroglyphs* have been found at many sites and documented by the British Columbia Heritage Conservation Branch. These heritage resources, it should be noted, are protected under the Heritage Conservation Act. They are discussed in this report in order to provide important planning information.

Early pioneer history centres around the exploration of the Continental Divide, the fur trade, and the gold rush days of the 1860s. David Thompson and James Sinclair were among the early white explorers of this area. Trading posts were established by the Hudson's Bay and/or North West Companies at Toby Creek, Galbraith's Ferry, Tobacco Plains and Perry Creek. The Wild Horse River, terminus of the Dewdney Trail, was the site of greatest activity during the 1864 gold rush, but gold was also panned in Perry, Toby, Findlay, Palmer Bar, Gold and Nigger Creeks, and in Moyie River.

Remnants of many small logging and mining mills, and settlements can still be seen today. Remains of paddle wheel steamboats in the Upper Columbia River, the Baillie-Grohman Canal at the south end of Columbia Lake, and the occasional abandoned railway bed represent early transportation ventures. Many old log cabins and small abandoned farmland sites characterize the region and provide historic and viewing interest.

Chapter Two

Chapter Two

DESCRIPTION OF METHODS FOR OUTDOOR RECREATION CAPABILITY INVENTORY

2.1 INTRODUCTION

Land capability can be defined as the ability of land to support a land-use at a specific level of management or performance. Two functions of the outdoor recreation capability inventory programme (Block and Hignett, 1976) are:

1. to classify the land and water for outdoor recreation values (designation of map units on the basis of recreation features); and
2. to assess the inherent limitations of the land and water which will affect outdoor recreational use (inventory of physical carrying capacity for outdoor recreation).

2.2 OUTDOOR RECREATION FEATURES

Recreation features are natural aspects of land and water which provide opportunities for outdoor recreation. The mapping of recreation features in the East Kootenay region follows the methods established by the Resource Analysis Branch, which are described in Recreation Capability Inventory (Block and Hignett, 1976). These methods entail the description, in map form, of naturally occurring features according to 68 different sub-feature categories in order to provide as specific an identification as possible.

Appendix B lists the sub-feature categories which comprise the inventory and describes other inventory conventions used in mapping the East Kootenay study area. This Appendix is, in fact, the legend which accompanies each of the twenty-two 1:50 000 mapsheets completed for outdoor recreation features. Copies of the original maps are available from the Map Library, Assessment and Planning Division, Ministry of Environment, Parliament Buildings, Victoria, B.C., V8W 1X4.

A portion of a 1:50 000 scale recreation features map is reproduced in Figure 3 in order to illustrate the type of information which is available. It should be interpreted with reference to Appendix B.

The following describes the steps taken in order to complete the outdoor recreation features mapping for the East Kootenay region:

1. The first step toward updating the Canada Land Inventory recreation capability information for the region (see Chapter One, Study Background), was an interview programme (Duncan and Duncan, 1975). The objective of this programme was to document, in both map and report form, local information relating to specific features of the region. East Kootenay residents, government and industry employees, and hunting guides were selected for interviews. The results of this study are on file in the Map Library, Assessment and Planning Division.
2. The second step entailed delineating recreation feature units on 1:70 000 scale aerial photographs. These units consist of features (e.g., a sandy-textured beach), or features patterns (e.g., a small lake with a complex of marsh and backshore vegetation, which has wildlife viewing potential) which are identified by symbols (Appendix B). Each unit may contain up to three different features. These units were designated on aerial photographs by observation of significant features and landform boundaries.

   Each map unit feature was rated for its significance based largely on comparison with other similar features in the region and/or province. Map symbols are used to express feature significance (e.g., moderate or regional feature significance is represented by a +).

   All land areas were mapped regardless of ownership or existing land status. Factors such as access, land tenure and land status did not affect the way a map unit was described. However, major, long-term transformation of the landscape, such as logging, burning or urbanization was identified, within a unit, by a circled number (annotation) subscripted to the symbol designation of that particular unit. These annotation numbers were also applied to units to indicate that additional information of recreational interest was noted (see Figure 3 and Appendix B for examples).

   Mapping for this project was carried out by initially identifying units characterized by water bodies, since these are not only prime recreation sites but also form useful boundaries between other feature units. The units adjacent to and having influence on water bodies were then classified, based on whatever significant features were present.

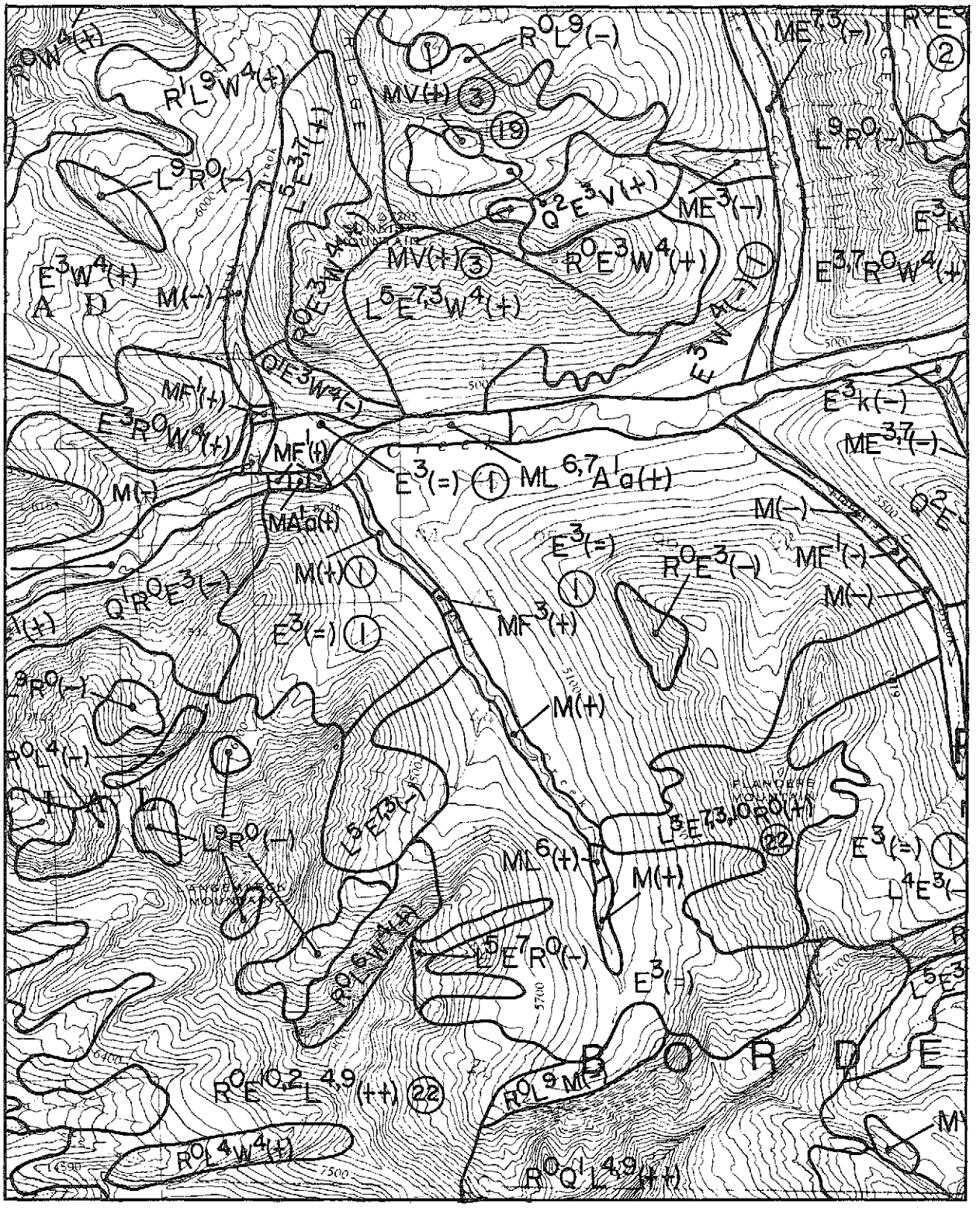


Figure 3: Example of a 1:50 000 Outdoor Recreation Features Map (portion of 82G/1)

Following this, units more distant from the water bodies were characterized as to their specific recreation features. In this manner, an entire mapsheet was divided into recreation feature units.

3. The next step, accomplished during the summer field seasons of 1976 and 1977 involved ground-checking, by vehicle and helicopter, the recreation feature units previously delineated on the aerial photographs. Information provided for units which were not ground-checked because of time or inaccessibility constraints, was derived strictly from aerial photograph interpretation and interview information. Figure 4 illustrates access routes as an indication of mapping reliability.
4. Finally, the recreation feature units, together with information gathered from field-checking, interview material, and information of recreational interest taken from other resource inventory programmes (e.g., vegetation and/or wildlife), were then transferred to 1:50 000 scale topographic base maps.

2.3 PHYSICAL CARRYING CAPACITY FOR OUTDOOR RECREATION

The physical carrying capacity assessment involves an overall interpretation of soil, terrain, vegetation, wildlife, aquatics and climate. The Terrestrial Studies Branch (formerly Resource Analysis Branch) method for evaluating physical carrying capacity is described in the aforementioned Recreation Capability Inventory (Block and Hignett, 1976).

Two small areas in the East Kootenay area were, in previous studies, assessed in this manner. These are: 1) the Springbrook project area (Resource Analysis Branch, 1975), and 2) the Windermere-Invermere Settlement Suitability project area (Terrestrial Studies Branch, in progress). Maps for these are available from the Map Library, Assessment and Planning Division, Ministry of Environment, Parliament Buildings, Victoria, B.C., V8W 1X4.

While a full carrying capacity evaluation was not carried out in the East Kootenay region because of time constraints, an attempt was made to provide some outdoor recreation capability information by utilizing soils map. Ratings for outdoor recreation carrying capacity were determined for all soil associations* mapped in the East Kootenay region (see Appendix C). Reference to a particular area of interest on a soil map will enable report users to determine which soil associations are present there. Appendix C can then be used to determine carrying capacity for outdoor recreation based on these soil associations.

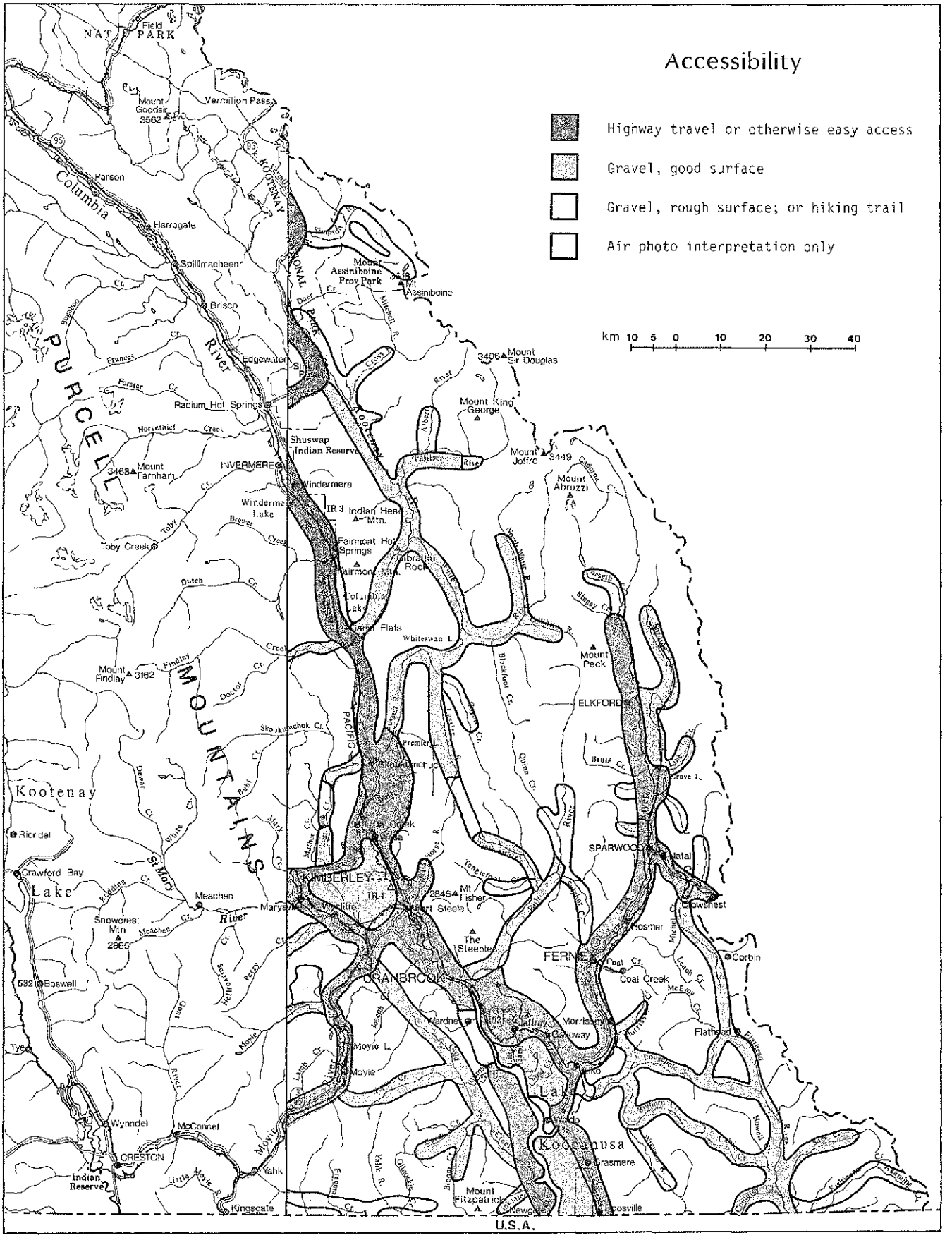


Figure 4: Map Showing Access Routes to Give Indication of Mapping Reliability

Soil associations are composed of various components of related soils which are indicated on the soil maps. For example, a soil association characterized by coarse-textured material on steep slopes (colluvium)* may have both shallow and deep components. The differences in components of a soil association may be significant enough to constitute a change in the carrying capacity rating. Report users familiar with the use of soil maps can modify the carrying capacity ratings by referring to the Recreation Capability Inventory manual (Block and Hignett, 1976, pp. 29-31).

Chapter Three

Chapter Three

OUTDOOR RECREATION FEATURE DESCRIPTIONS FOR THE TEN SUBREGIONS WITHIN THE PROJECT AREA

For descriptive purposes the study area was divided into ten subregions according to approximate watershed* boundaries. These generalized subregions, as shown on Figure 5, are as follows:

3.1 LOWER KOOTENAY RIVER

3.2 MID-KOOTENAY RIVER - PREMIER LAKE

3.3 COLUMBIA-WINDERMERE LAKES

3.4 UPPER KOOTENAY RIVER

3.5 PALLISER-WHITE RIVER DRAINAGES

3.6 BULL RIVER DRAINAGE

3.7 LOWER ELK RIVER

3.8 UPPER ELK RIVER

3.9 FLATHEAD RIVER DRAINAGE

3.10 MOYIE LAKE - YAHK RIVER

Each of these subregions is described with regard to the type and location of the most significant recreation features that it contains. Information from the outdoor recreation features maps, field notes, interviews, historical documents, past studies, and other disciplines was utilized in describing these subregions.

These descriptions are intended as a summary of the extensive amount of data presented on the 1:50 000 scale mapsheets. For detailed analysis and site-specific evaluation, the maps should be referred to with this text being used as a supplementary source of information. Figure 5 illustrates the 1:50 000 mapsheet boundaries relative to each of the ten subregions.

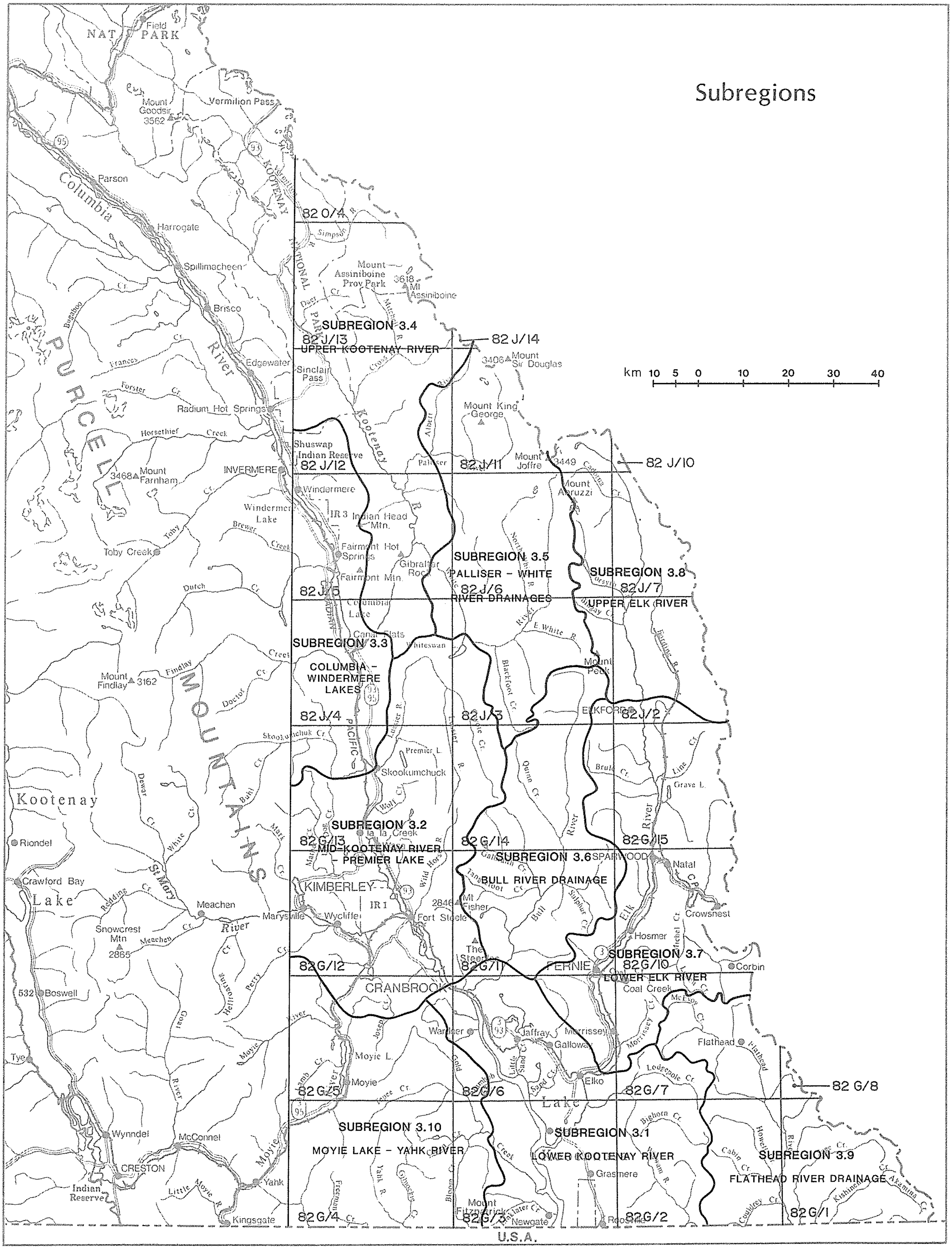
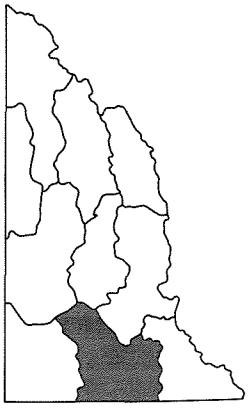


Figure 5: Outdoor Recreation Subregions within Project Area with 1:50 000 NTS Grid System Indicated

3.1 LOWER KOOTENAY RIVER



This subregion consists primarily of the most southerly portion of the Trench in British Columbia including the Libby Reservoir (subsequently referred to as Lake Koocanusa), and extends from the Canada-U.S.A. border to the Bull-Kootenay River confluence. It also includes the Wigwam River and its tributaries, and Lodgepole and Bighorn Creeks to the east. Areas of high recreational value are found in this unit because of the attractiveness of the Trench floor. These include several small lakes and Lake Koocanusa itself, which provide opportunities for boating, angling and swimming. Wildlife viewing and hunting opportunities are particularly good in this area.

The broad floor of the Trench is particularly significant here since it offers good opportunities for viewing the rugged peaks of the Rockies to the east, contrasted with the more gently rising Purcell Ranges to the west.

From Tobacco Plains northward to the Elk River, the topography is characterized by low, rounded hills (drumlin)*. The vegetation cover is of either variable open grasslands or forest- parkland which lends itself to viewing, hiking, horseback riding, and cross-country winter sport activities.

Plate 3.1.1 Tobacco Plains looking south toward the United States

This type of landscape is complemented by pastoral areas of farms and ranchland throughout the floor of the Trench. Typical views include: Lake Koocanusa, small agricultural holdings, large alluvial fans* from such tributaries as Elk River and Gold Creek, and the peaks of the Rockies which form a backdrop to the east.

Highly significant winter ranges*, which afford excellent opportunities for both consumptive and non-consumptive wildlife-related activities, are located in this subregion. The whole of the Trench floor is high value winter range.

Plate 3.1.2 Bull River below Aberfeldie dam: high value ungulate winter range

This subregion is significant for its bird and small mammal populations because a number of small lakes and associated wetlands* are found here. Generally, all small ponds up to 1050-1200 metres (3500-4000 feet) are potential habitats. Lake Koocanusa (Libby Reservoir) lies in an attractive setting but is limited in its usefulness for water-related activities because the water level is drawn down considerably during the summer season. The reservoir presently has good opportunities for angling, particularly for cutthroat trout. The attractiveness of its shorelines for campsites, swimming and boat launching is also severely limited due to the large fluctuations in water level, and in some areas failing banks present a potential hazard to use. Woodlands and meadows in the Trench, both east and west of the reservoir, are heavily utilized range for both wild and domestic ungulates*.

Plate 3.1.3 Lake Koocanusa: east side looking south (note cattle grazing on the shoreland)

At present, one camping area, Kikomun Creek Provincial Park, has been developed on the east shore of Lake Koocanusa south of Kikomun Creek. This park provides opportunities for camping and picnicking, and for swimming at Surveyors Lakes. A boat launch is also located at Kikomun Park.

Plate 3.1.4 Lake Koocanusa showing a portion of Kikomun Provincial Park campground

Creeks such as Gold, Linklater, Kikomun, Big Sand and Little Sand offer good recreational sport fishing opportunities. Species in these creeks include cutthroat trout, eastern brook trout, and Dolly Varden char. Angling opportunities also occur at the lower Elk and Bull Rivers and many of the small lakes in the Trench area. There is a fish hatchery on the Bull River near Wardner, which is operated by the Fish and Wildlife Branch, and is open to the public.

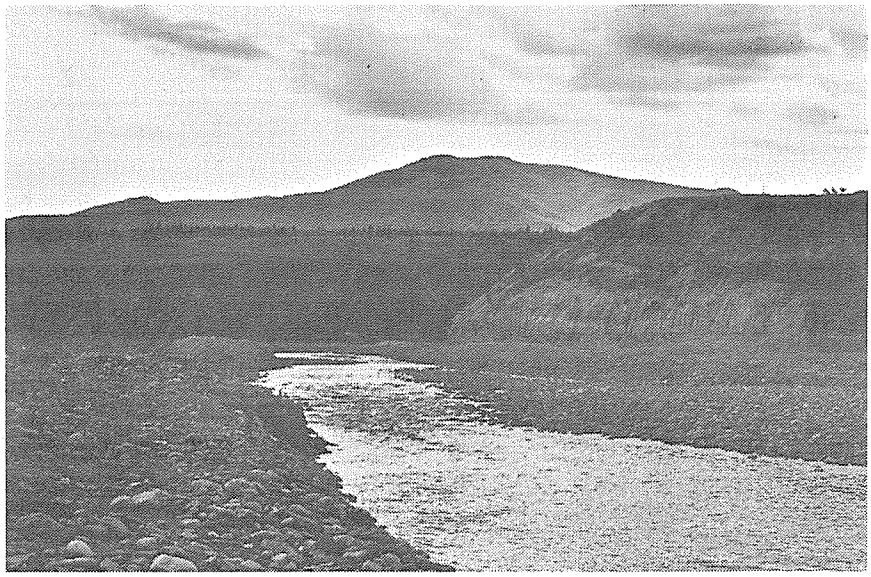


Plate 3.1.5 Gold Creek fan where it enters Lake Koocanusa

As mentioned above, this subregion contains several attractive small lakes. Of these, the most heavily used are Rosen and Tie Lakes and their shorelands, which afford swimming opportunities, small beaches, boating, cottaging, picnicking and camping. Smaller lakes such as North Star, Suzanne, Edwards, Loon and Wapiti offer recreational opportunities as well but generally to a lesser extent than Rosen or Tie. All are located in visually attractive settings, some have camping or picnicking facilities and most have associated wetland vegetation with potential for nature interpretation. The isolated Silver Springs Lakes located southeast of Elko, which are accessible only by hiking, are of particular interest for their attractive setting and aquamarine water colouration.

Most of the other small lakes in this subregion are generally unsuitable for swimming because of their fine-textured bottom sediments, aquatic vegetation, leeches, and pollution from cattle. However, they do add variety to the landscape.

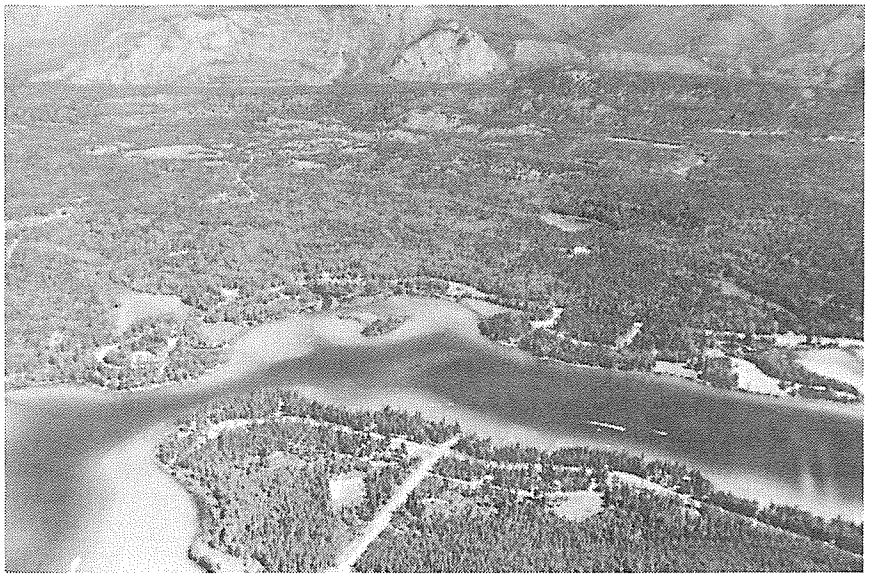


Plate 3.1.6 Aerial view of Tie Lake

Interesting landform features, both man-made and natural, are found in many parts of this subregion. These include a dam, a reservoir and a waterfall at Bull River, and a dam in the Elk River Canyon near Elko.

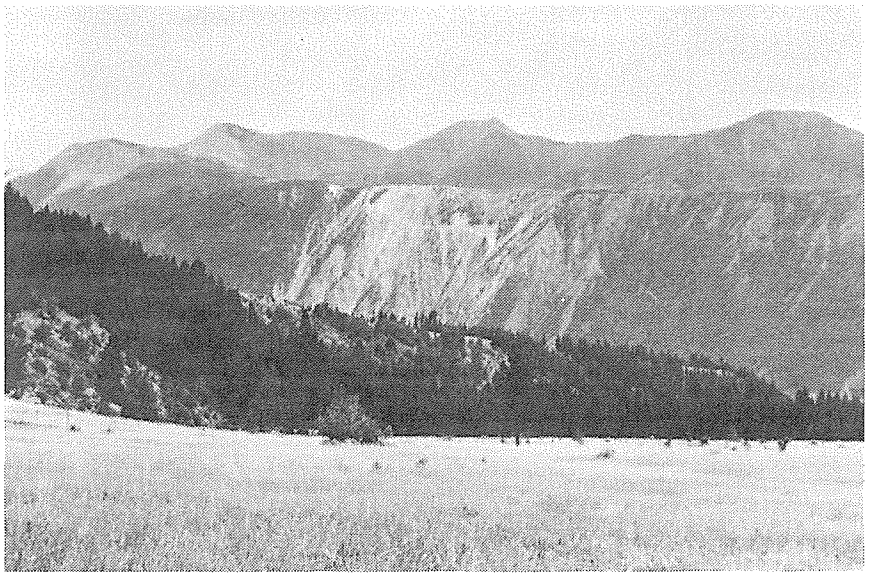


Plate 3.1.7 Wigwam Flats above the Elk River canyon near Elko

The Elk River flows through a deeply-incised canyon southeast of Elko. Wigwam Flats, an elevated fan southeast of Elko, is of interest not only with regard to its viewing, grassland vegetation and wildlife habitat but also to its history of early settlement in the area.

Mount Broadwood, part of the Lizard Range, is made up of folded limestone* and presents spectacular views, particularly from the southeast. Silver Springs Lakes are situated in a canyon which was originally carved by the Elk River in Pleistocene* glacial times and has since been abandoned by the river.

Plate 3.1.8 View of Mount Broadwood

The lower Kootenay River subregion is rich in archaeology and cultural history*. Of particular interest in this respect are: the China Wall pictographs* at Mount Broadwood depicting bighorn sheep; and a significant prehistoric* route used by native Indians which led from Kootenay River through the Wigwam River, Lodgepole Creek and North Kootenay Pass to Alberta, to their buffalo hunting grounds (Duncan and Duncan, 1975).

There is much of historical interest relating to early settlement in this area. Large mineral and timber resources were opened up in the Southeast Kootenay area in 1898 when the Canadian Pacific Railway built its British Columbia Southern branch line through the Crowsnest Pass to Kootenay Lake. The area was made more accessible in 1901 when the Great Northern Railway's main line in Montana was extended up the Kootenay and Elk River Valleys to Fernie. Considerable growth in both the coal mining and lumbering industries took place during the first few years of this century. Sawmills were located at various places along the railway lines and small settlements such as Waldo, Baynes Lake, Elko, Jaffray and Krag were established. Waldo was also on the route of the old Kallispell Trail, that was used during the Gold Rush of the 1860's to get from Montana to Wild Horse River.

During the 1860's also, fruit farming promotions brought up to 500 newcomers a month to the Baynes Lake area. The Wigwam Flats area was developed for orchard farming during this time and remnants of this activity can still be seen. A decline in the lumbering industry in this area occurred in the 1920's while at the same time mining was brought to a virtual standstill by a declining market for metals. Today these little towns have become mainly pleasant, small farming centers or rural residential areas for workers employed at the lumber mills around Elko (Affleck, 1976).

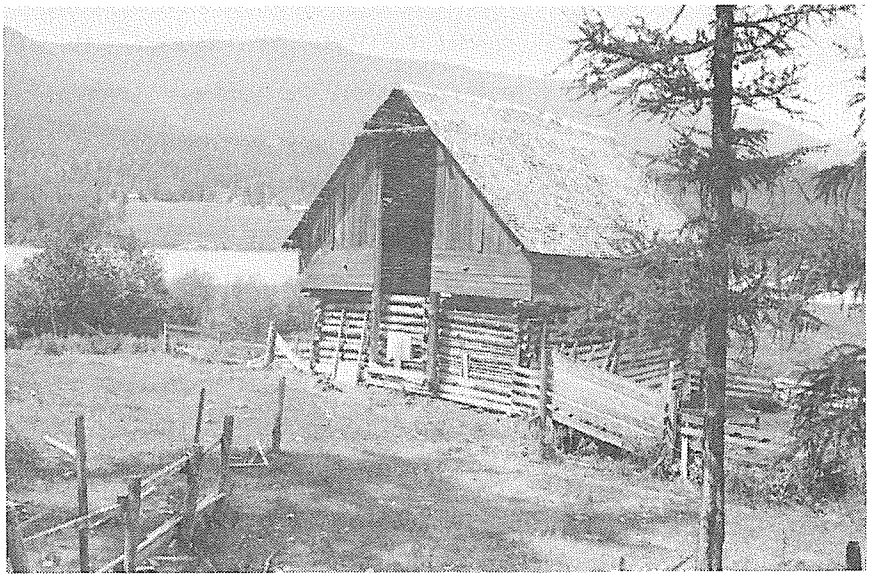
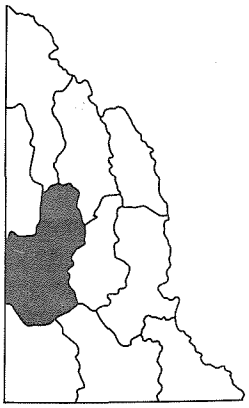


Plate 3.1.9 Old barn at Hahas Lake near Wardner - a typical pastoral scene in the East Kootenay region

3.2 MID-KOOTENAY RIVER-- PREMIER LAKE

This subregion includes the Trench from the Bull River to Skookumchuck, the Cranbrook-Kimberley area, and portions of the Hughes and Van Nostrand Ranges of the Rockies.



An abundance of outstanding recreation features is found within this area, some of which are common to adjacent subregions. One of the most significant viewing features is the Kootenay River which drains south into Lake Koocanusa. Views of the Rocky Mountain peaks are exceptional from the Trench particularly from the highway corridor. Rivers and creeks such as the Lussier, Wild Horse, St. Mary and Wolf, drain into the Kootenay River in this portion of the Trench, and several potentially significant parks and well-known East Kootenay lakes are also located here. Other recreational features of high significance include Mount Fisher and the Steeples, Top of the World and Whiteswan Lake Parks, the historic town of Fort Steele and the city of Kimberley which is modelled after Bavarian-Swiss subalpine communities.

A significant portion of the East Kootenay population resides in this area either in the major service centre of Cranbrook or in the mining city of Kimberley. Major industries include Sullivan mine, Skookumchuck pulp mill and regional service facilities in Cranbrook. This area is particularly rich in cultural history pertaining to early mining, the gold rush, railroad construction and ranching.

In the Trench itself, views of the Rockies and Purcell Mountains are excellent from along the highways. Viewing of the Trench is also possible from mountain roads leading to the abandoned Estella Mine and Mount Baker (the road to Mount Baker has recently been closed to vehicles but it is a pleasant and short hike to the top), or from hiking trails such as those leading to Mount Fisher and The Steeples. Viewing opportunities are numerous in this area as it contains a variety of diverse landscapes. Some of the high value viewing areas include St. Mary's Prairie, Premier Ridge, Mount Fisher, the Steeples, Lussier Canyon and Top of the World Park.

Plate 3.2.1 A view of Steeples Range of the Rockies and a farm along the Bull River road

Plate 3.2.2 View of wetlands to the southeast from Premier Ridge

Angling opportunities are also numerous in this subregion. In particular, Whiteswan Lake has a high fish population of rainbow trout. Mather and Wolf Creeks have high fish populations of eastern brook trout. As well, a number of small lakes such as Lazy, Twin (locally called Yankee), and

Quartz (locally call Rockbluff), are stocked with rainbow trout by the Fish and Wildlife Branch. Between Whiteswan and Alces Lakes, a rainbow trout spawning channel managed by the Fish and Wildlife Branch affords seasonal opportunities for observing fish in their natural habitat. The natural recruitment from the spawning channel to Whiteswan Lake contributes significantly to recreational fishing enjoyed by both locals and tourists.

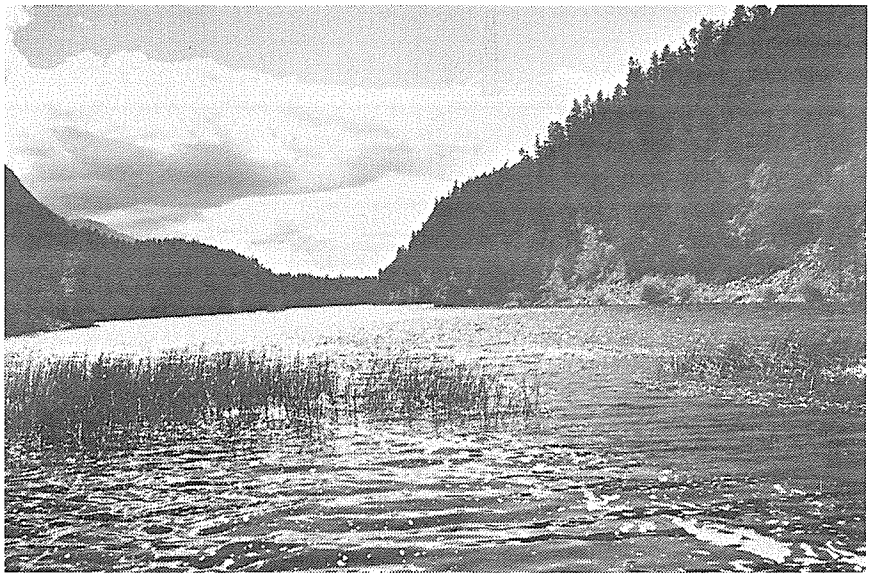


Plate 3.2.3 Rockbluff Lake viewed from small camping area on the north shore (note weedy shoreline)

The larger lakes in this subregion, such as Whiteswan, Premier, and Wasa (also known as Hanson) have facilities for boat-launching, canoeing and angling and for camping and picnicking on their shorelands. The Whiteswan-Alces Lakes area, reached via a logging road which in part follows the Lussier River Canyon, attracts fishermen and campers from many parts of British Columbia and Alberta. Developed camping areas, maintained by the British Columbia Forest Service, are located at Whiteswan Lake and at the west end of Alces Lake. Angling at Alces Lake is limited to fly-fishing. Swimming is possible but limited by cold water temperatures and lack of sandy beaches. There is a Class "A" Provincial Park (established in 1978) surrounding the lakes which also includes Lussier Hot Springs.

Premier Lake, northeast of Skookumchuck, is also of high recreational significance and attracts tourists from the prairie provinces as well as from British Columbia. This lake and the surrounding area have provincial park status with possibilities for swimming, camping, hiking, boating, angling and viewing.

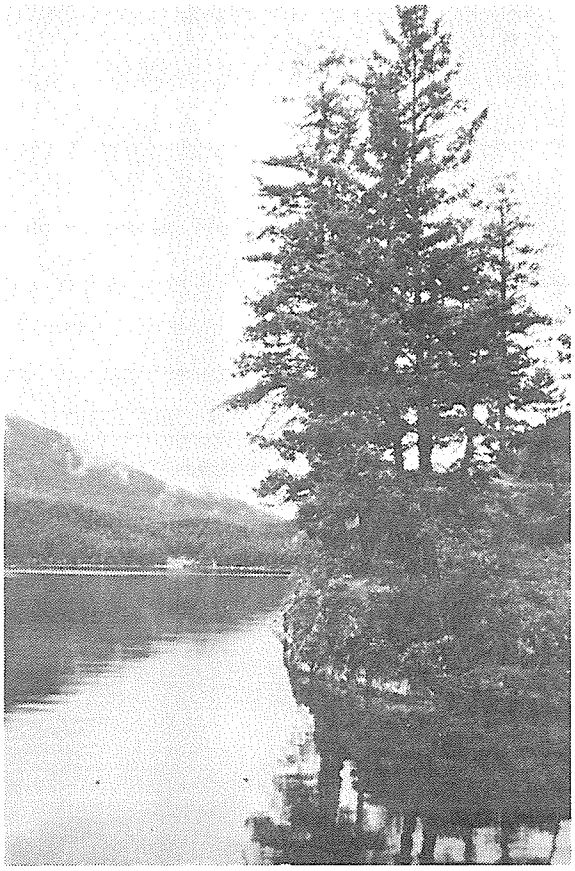


Plate 3.2.4 Premier Lake from west side: example of deep water swimming opportunities from rocky bluffs

Plate 3.2.5 Peckhams Lake: part of Norbury Lake Provincial Park

Smaller lakes in this subregion, such as Hahas and Ta Ta, are primarily of local significance in terms of their size and attractiveness. Jim Smith and Norbury Lakes are provincial parks with possibilities for picnicking, viewing, camping, canoeing and swimming.

There are highly significant wetland areas in this subregion which provide good sites for nature interpretation. Of particular interest are Wolf Creek, Bummer's Flats, and Elizabeth Lake. Saugum Creek, Reed Lakes north of Ta Ta Creek, and the Waterfowl Oxbows at the confluence of Mayook Creek and the Kootenay River. These are waterfowl enhancement project areas under the management of Ducks Unlimited, and in some cases jointly with the Fish and Wildlife Branch. Appendix G gives locations and descriptions of Ducks Unlimited project areas in the East Kootenay region. The Wasa sloughs along Highway 93 are also of particular interest with respect to waterfowl viewing. The old Kimberley Airport is a sharptailed grouse reserve established by the Fish and Wildlfe Branch.

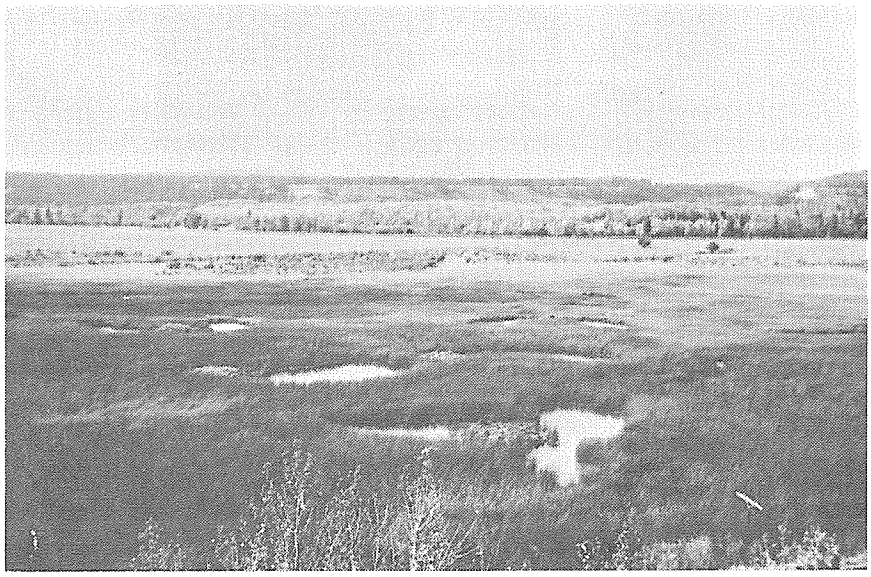


Plate 3.2.6 Bummer's Flats waterfowl enhancement project area near Wasa Lake

Two relatively undeveloped hot springs of significance are Lussier Hot Springs in the Lussier River canyon, and Ram Creek Hot Springs which has been designated as an Ecological Reserve. Appendix E describes the Ecological Reserves which are located in the East Kootenay region.

Plate 3.2.7 Sharptailed grouse reserve at the old Kimberley Airport

Mount Fisher, which is part of the Hughes Range in the Rockies, is the most prominant peak in this subregion. Excellent trails for hiking and viewing are found here, along the Steeples which are also in the Hughes Range, and lead to the Bull River.

Hiking, viewing and wilderness camping can be experienced at Top of the World, a limited access, mountaintop provincial park. This park also features interesting alpine vegetation and karst* topography, including sinkholes*.

Other distinctive landforms of this subregion are the hoodoo* formations along the St. Mary River near Wycliffe Regional Park. The park itself, located at the confluence of St. Mary River and Perry Creek, offers views of hoodoos as well as opportunities for angling, camping, picnicking and hiking.

Wildlife values are generally very high for elk and white-tailed deer winter range everywhere in the Trench. Very high value areas for wildlife winter range include: Premier Ridge, Estella Mountain, Eager Hills and Wycliffe Prairie.

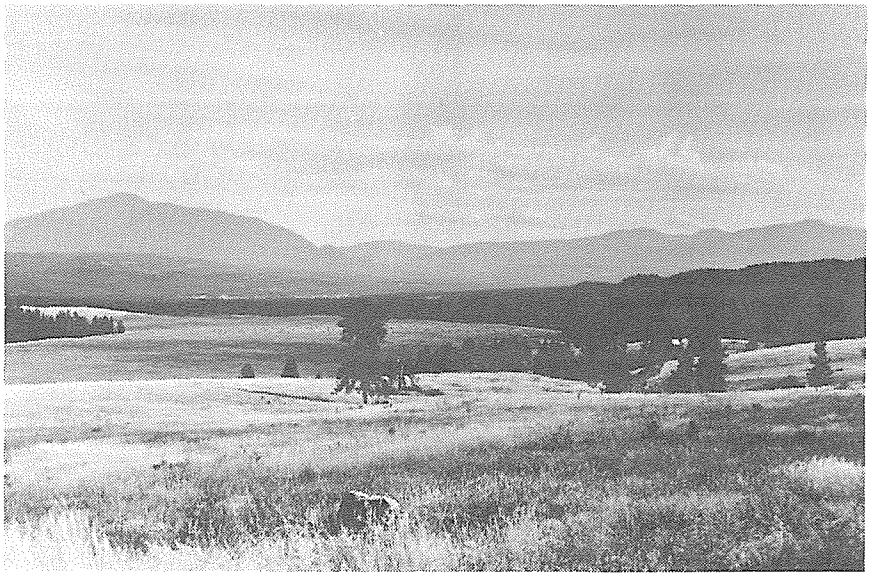


Plate 3.2.8 Wycliffe Prairie looking south toward Cranbrook: example of very high value ungulate winter range

Mines are of cultural significance in this area, particularly The Sullivan Lead-Zinc Mine in Kimberley which is one of the world's largest underground mines. An underground public tour is available here. Ruins of old mines are located at high elevations in this subregion, and include Estella and Kootenay Queen mines in the Hughes Range of the Rockies.

Another important cultural feature is the city of Kimberley which has adopted a Bavarian or alpine theme, has decorated buildings accordingly and promotes recreational activities related to this theme.

Prehistory of this subregion includes archaeological features such as prehistoric campsites and trails. At Whiteswan Lake a prehistoric trail, a quarry* and some pictographs may be found on the north side of the lake (Duncan and Duncan, 1975).

Some of the more significant features related to early European settlment of this area include the following:

1. The gold rush of 1864 was responsible for the first permanent white settlers coming to the southeast Kootenay area. The town of Fisherville, originally built on the lower benches of Wild Horse River, was burned down in order to get the gold from the townsite and later

rebuilt on the upper benches. A few old cabins and a cemetery still remain (Duncan and Duncan, 1975).

2. The city of Fort Steele, first established as Galbraith's Ferry on Kootenay River in 1864, was for many years the district's seat of government. Hotels and business houses were erected and prospectors set up tents on the outskirts of town and along the banks of the river. When Cranbrook was established as a result of the railway bypassing Fort Steele, the historic town gradually became a ghost town (Kay and MacDonald, 1972). However, Fort Steele has been restored and now stands as an important monument of the frontier days of this area.

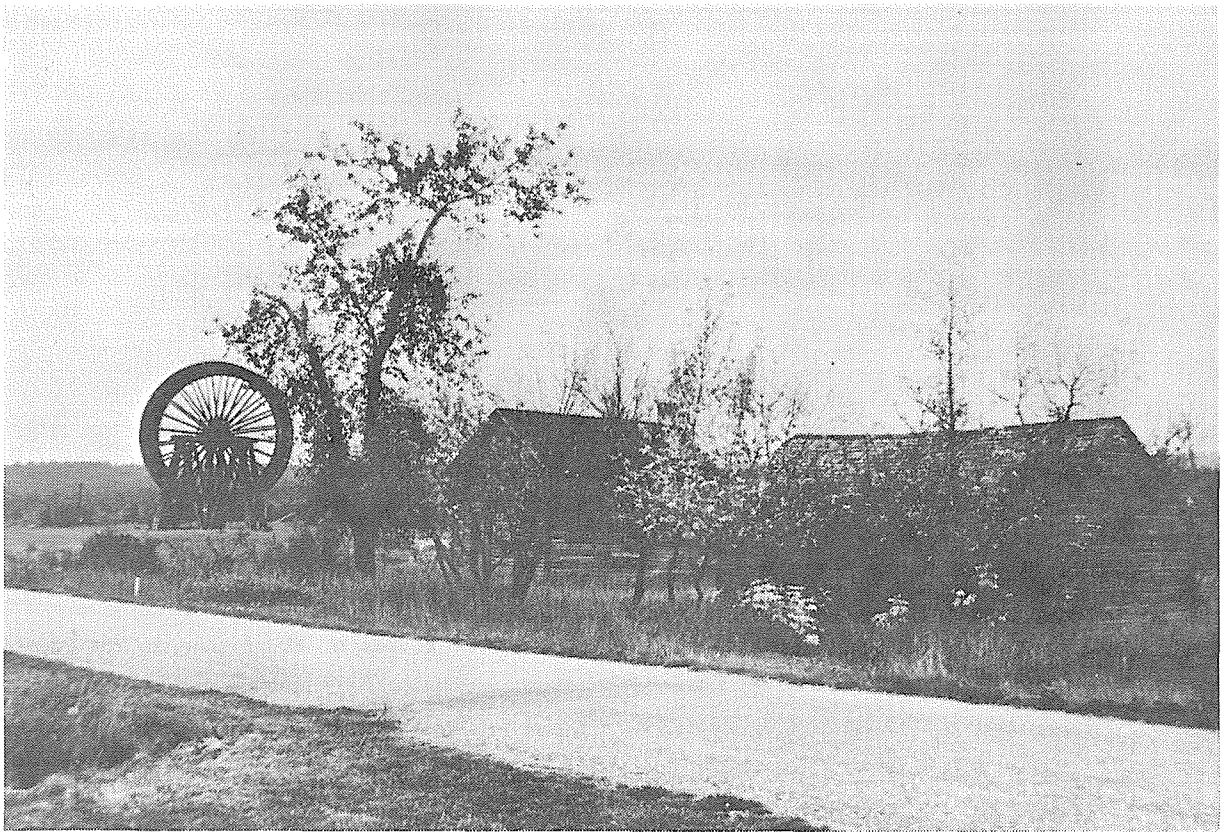


Plate 3.2.9 Ft. Steele - showing old log buildings that were moved to this site from Fisherville

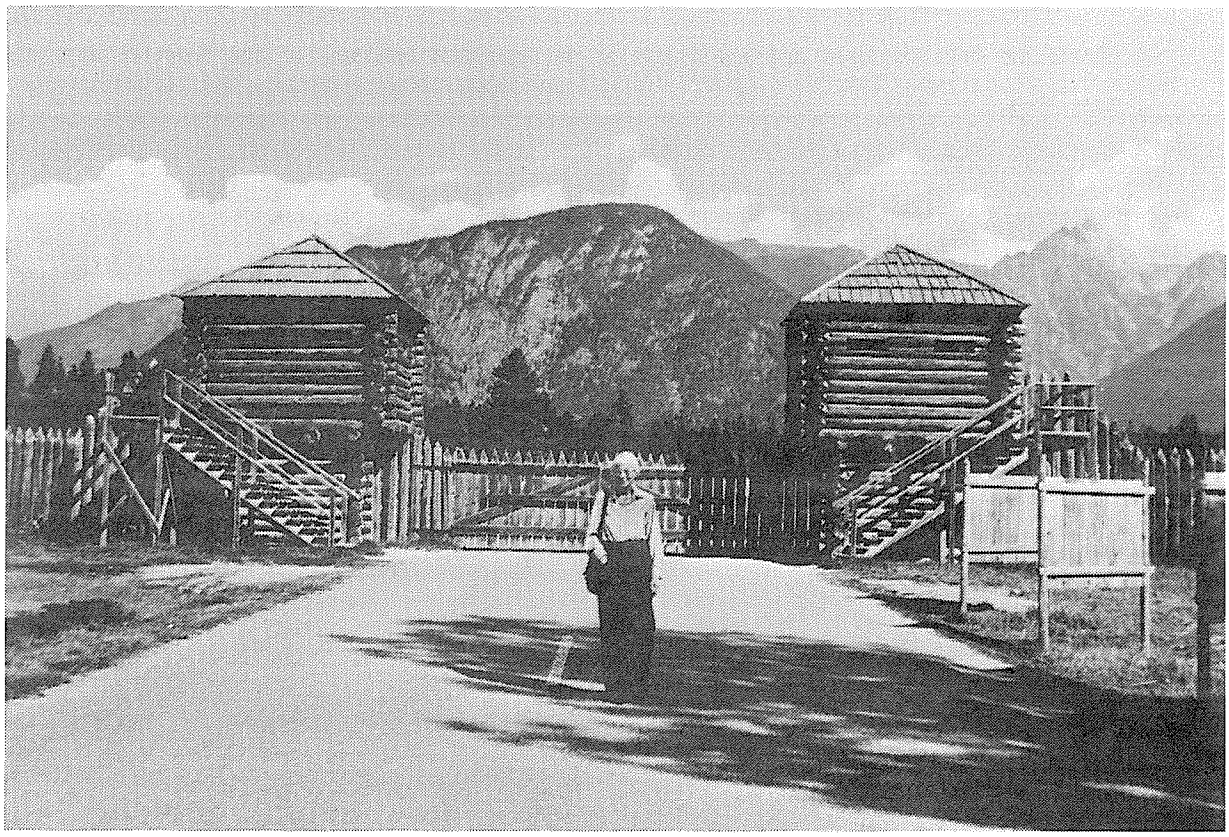


Plate 3.2.10 Gateway to the historic town of Ft. Steele with a view of Mt. Fisher in the right background

3. St. Eugene's Mission in the St. Mary River Valley was established by Father Fouquet in 18? to educate the local Indians. In 1887 Father Fouquet was replaced by Father Coccola wh subsequently built a church and enlarged the Mission (Kay and MacDonald, 1972).

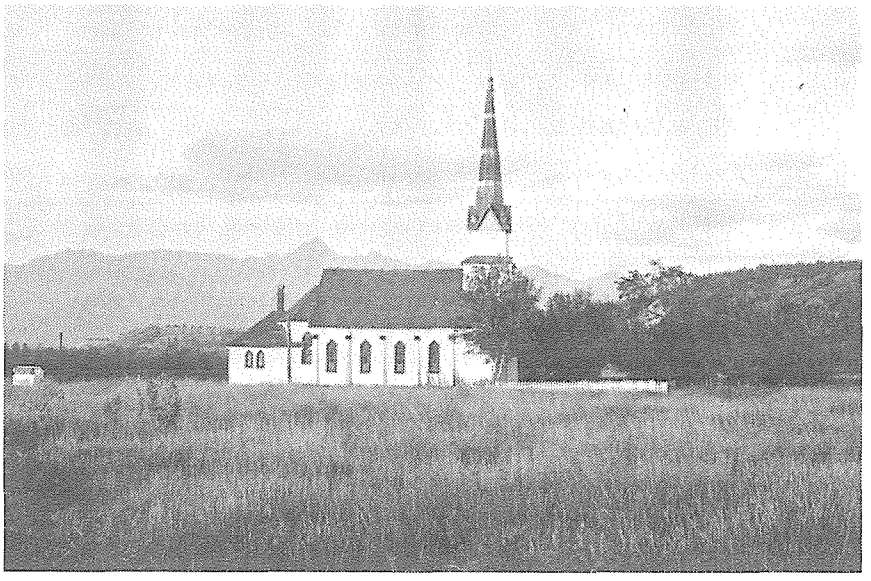
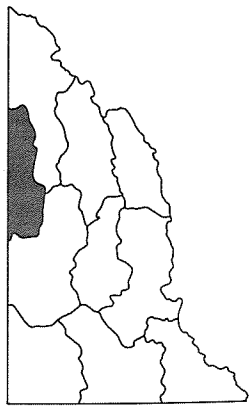


Plate 3.2.11 St. Mary Church near St. Eugene Mission in the St. Mary River Valley

4. The idea of blazing the Dewdney Trail, to connect the coast cities with the vast riches of the Wild Horse placer* mines, was first conceived in 1860. In 1865 trail blazing began an it took seven months to construct the 466 km mule road (Kay and MacDonald, 1972).
5. The McGinty Trail was built in 1895 from the North Star Mine at Kimberley to North Star Landing on the Kootenay River where ore was then shipped by steamboat to Jennings, Montana (Duncan and Duncan, 1975).
6. The city of Cranbrook, originally a Kootenay Indian village, began in 1897 with the construction of the Cranbrook Hotel and a few shacks to house Canadian Pacific Railway construction workers. The hotel stood alone on the open prairie until 1898 when activity began in anticipation of the coming railway (Kay and MacDonald, 1972). Cooking ovens built by Canadian Pacific Railway when track was being laid can still be seen in Isadore Canyon.
7. Perry Creek - at the "Old Town" townsite, there are remnants of buildings constructed during the 1867 gold discovery in this area (Duncan and Duncan, 1975).

The above describes only briefly the history of this area. Much more has been written and can be found in works by historians and local residents of the East Kootenay region (see References).

3.3 COLUMBIA - WINDERMERE LAKES



This subregion includes the Kootenay River from Skookumchuck to Mount Grainger and extends north approximately as far as Shuswap Creek. The major area of recreational interest in this subregion is the Columbia-Windermere Lake system with its aquamarine-coloured lakes, attractive wetlands and spectacular mountain backdrops. The Kootenay River is characterized by its blue-green colour, banks with deciduous vegetation, braided channels* and numerous small gravel bar islands. The recreational quality of the river deteriorates somewhat downstream from Skookumchuck as a result of pollution by pulpmill effluent. Skookumchuck, Findlay, Dutch, Shuswap, and Windermere are the most significant creeks in this area.

A wide variety of possible recreational activities within this subregion make it one of the most important in the East Kootenay area. Significant opportunities exist for hiking, cross-country skiing, hunting, snowmobiling, nature interpretation, camping, viewing and water-oriented activities.

Columbia and Windermere Lakes are of exceptional scenic value. Angling, boating, water-skiing and limited swimming are the most common activities associated with both lakes. Mountain whitefish, burbot and Dolly Varden char inhabit both lakes.

Swimming opportunities are restricted mainly to resort areas and public beaches, most of which have been improved by sand and gravel fill. Although these shorelines are characterized by fine-textured bottom material and aquatic vegetation, a number of small, sandy-gravel point bars* are suitable for swimming. Athalmer Beach which is located at the north end of Windermere Lake is now a Class "A" Provincial Park with day use facilities under construction.

A number of boat launching facilities are available on both Columbia and Windermere Lakes. A Canadian Pacific Railway track runs adjacent to the shoreline on the west side of the lakes and limits, to some extent, the quality of recreational opportunities available along these shorelines.

Plate 3.3.1 Columbia Lake: view to northeast from south end of the lake

Plate 3.3.2 Windermere Lake looking south from east side of the lake near Pantycelon Beach Resort area

The Columbia River marshes* have an extremely high recreational value. A canoe trip through this area in summer offers excellent opportunities for nature interpretation, viewing, and photography. Osprey and bald eagles are common species observed in this marsh system, together with other large birds such as Canada geese and blue herons. Due to the late spring flooding the river bottom is suited best for early nesting species such as Canada geese. Other waterfowl, although not present in large numbers in the nesting season, congregate in large numbers after the breeding season until freeze-up forces them to find open water further south. Smaller birds present include kingfisher, rails, bitterns, yellowhead and redwinged blackbirds, and sandpipers. A variety of duck species also occupy the area during the summer months. The marshes are inhabited by large numbers of beaver and muskrat. Signs of their presence such as dam and lodge construction, runs and tunnels, are evident throughout the area.

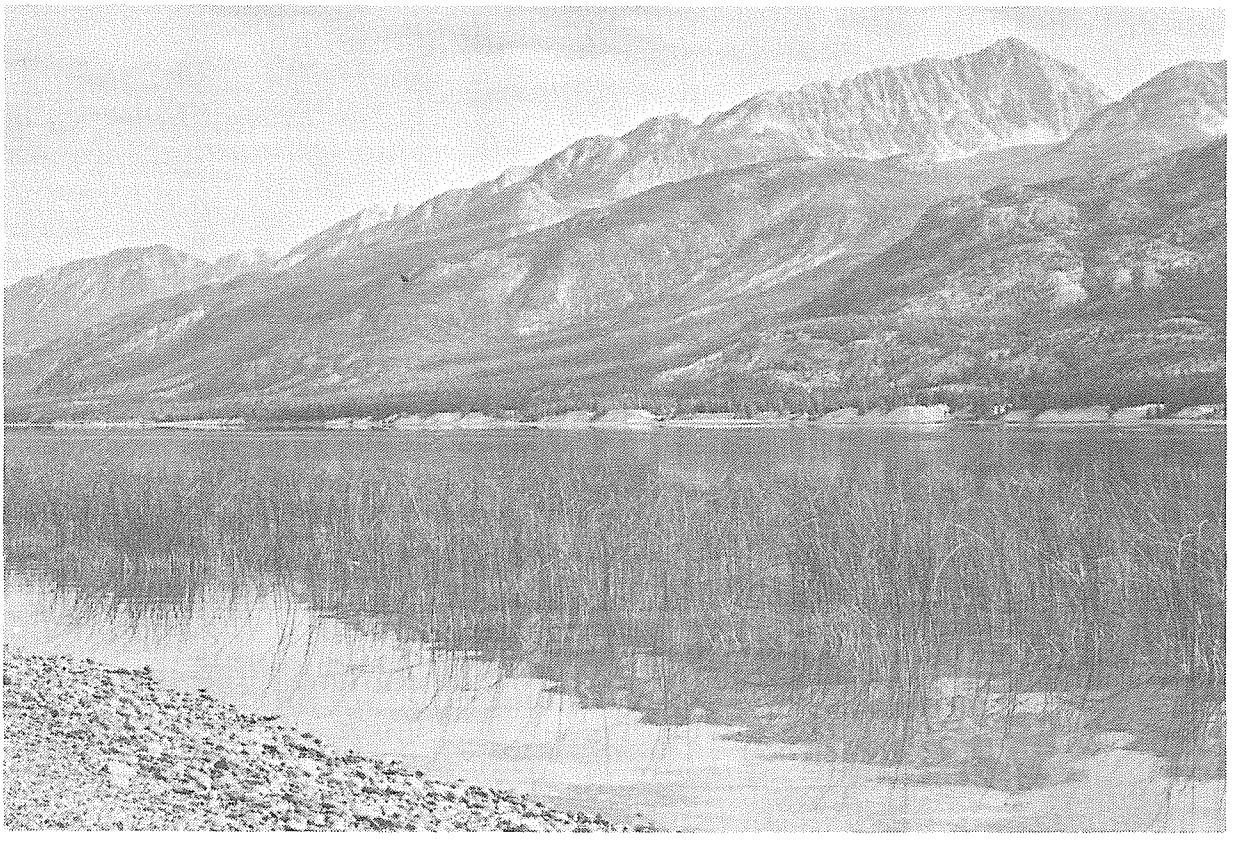


Plate 3.3.3 Marshy area at the south end of Columbia Lake viewing Fairmont Mtn. to the east

Armstrong Bay, on the east side of Columbia Lake, is a significant area for nature interpretation since it supports a variety of upland and wetland wildlife species.

Extensive areas of ungulate winter range are located within this subregion. Very high value winter ranges include the benchlands between Findlay and Dutch Creeks, and the east side of Columbia Lake. The rest of the valley bottoms consist of high capability winter range.

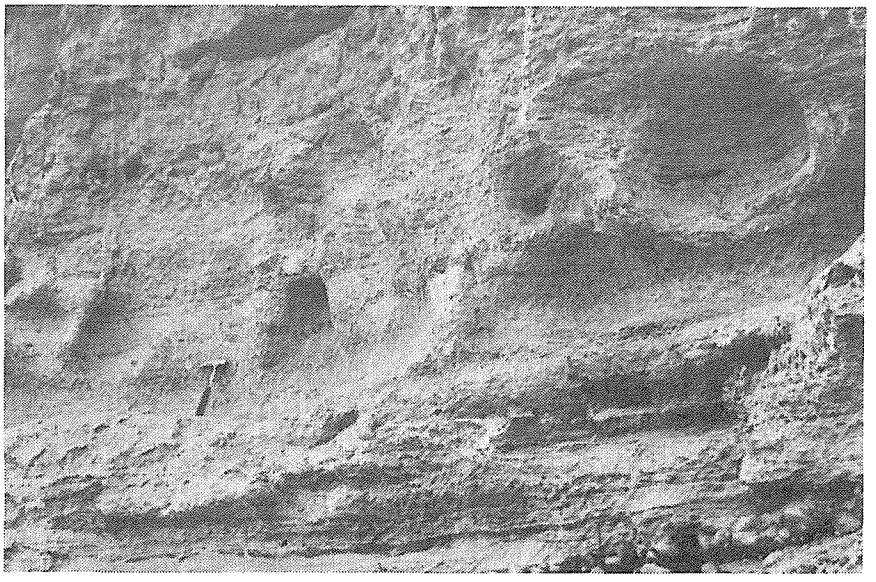


Plate 3.3.4 Example of ungulate "mineral licks" near Copper Creek north of Skookumchuck

Mineral-rich streams drain into Columbia Lake from the southeast shoreline approximately two kilometers north of Canal Flats. These streams coat the rock face of the shoreline with mineral deposits. The upland meadow areas associated with these streams have been collectively designated as an Ecological Reserve.

Fairmont Hot Springs is a well-established, nationally significant resort area which offers developed facilities for camping, hotel accommodation, hot spring bathing, golfing and downhill as well as cross-country skiing. This is a major tourist attraction that draws users from many parts of Canada, Europe and the United States.

Several small lakes and wetland areas of recreational interest are located in this subregion.

Johnson Lake located on the west side of Highway 93, approximately 13 km south of Canal Flats, offers camping, picnicking and angling opportunities, and there is a small beach and boat launching ramp at the south end of the lake. Several wetland areas of significant scenic value are located between Johnson Lake and Canal Flats. Tamarack Lake located north of Skookumchuck Creek, provides excellent wildlife observation and birdwatching opportunities. The group of lakes south of Lavington Creek, including Copper Lake, is noted for cutthroat trout angling potential. A small hiking trail connects the lakes with the main road which is reached via Findlay Creek.

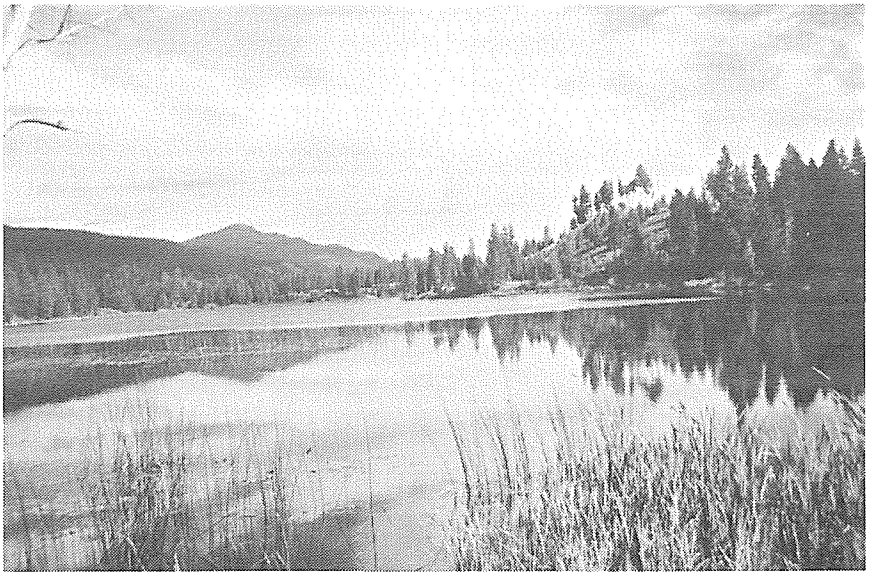


Plate 3.3.5 Tamarack Lake near Skookumchuck

The wetland north of Marion Creek on the west side of Columbia Lake, provides habitat for beaver and is another significant birdwatching area. A higher elevation wetland area, which is designated as an Ecological Reserve, is located on the northwest slopes of Mount Sabine.

The Dutch Creek hoodoos are a landform of high significance which add viewing interest to the Highway 93 corridor. Sport fish species found in Dutch Creek include burbot, Dolly Varden char and mountain whitefish.

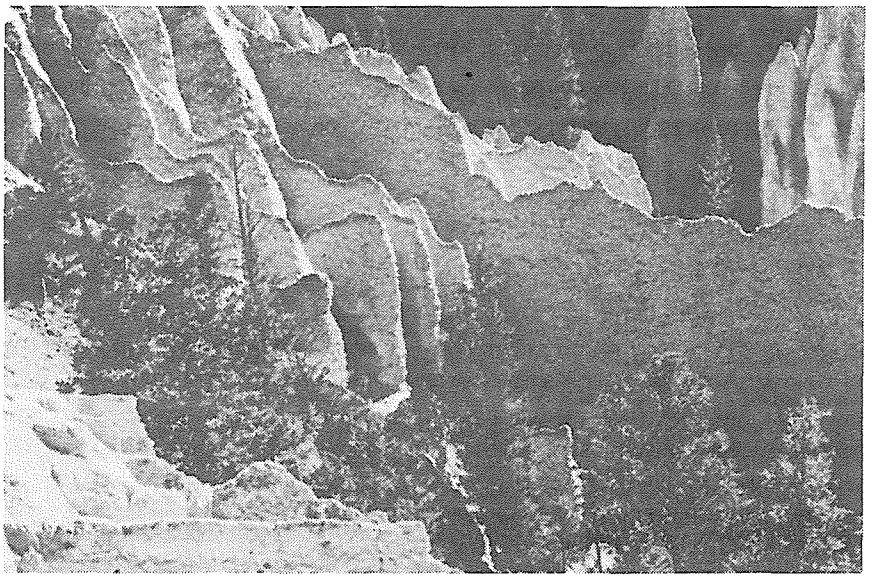


Plate 3.3.6 The Dutch Creek Hoodoos

One of the main attractions of Findlay Creek is an impressive bedrock canyon that extends approximately eight kilometres downstream from Deer Creek. Natural caves can be seen in some sections of the canyon wall. Sport fish species found in Findlay Creek include cutthroat trout, Dolly Varden char and mountain whitefish. The adjacent upland is characterized by forest parkland vegetation which provides camping and viewing opportunities. Dry, "salt flat" grasslands are an unusual vegetation feature found on the north side of the creek, west of the Deer Creek confluence.

A canyon and waterfall with pools suitable for bathing are significant features of Skookumchuck Creek, located approximately four kilometres west of the pulp mill. An unusual log cabin, with a two-story hexagonal tower, is located on an attractive abandoned homestead site adjacent to the canyon.

A deep sinkhole lake and environs which is located east of the North Windermere Creek confluence is associated with a high bedrock escarpment* and a wetland area. This area offers camping, picnicking and hiking opportunities.

Subalpine areas offering excellent hiking opportunities can be found on Fairmont Ridge, Indian Head Mountain and at Pedley Pass. Fossils*, mostly of shellfish types, can be found in the Pedley Pass area and on the ridges at the head of Windermere Creek.

This subregion appears to have been the major focus of prehistoric activity. The remnants of Indian pit-houses* can been seen on the east side of both Columbia and Windermere Lakes. Pictographs are located in the Armstrong Bay area, on the southeast side of Columbia Lake north of Canal Flats, and in the Findlay Creek area.

Plate 3.3.7 Prehistoric pictograph located on east side of Columbia Lake

David Thompson, representing the North West (Fur) Company, was the first white man to journey through the East Kootenay region. In 1807, he and his small party established a fort and trading post near the mouth of Toby Creek and called it "Kootenay House" (also spelled Kootenae). Other travellers through this area were George Simpson and party in 1841; Father De Smet, an early missionary to the Indians, in 1845; and other fur brigade men. Baptiste Morigeau was probably the first white man to build his home in the area, just north of Lake Windermere. James Sinclair made two trips in 1841 and 1854, with the Red River settlers for the Hudson Bay Company. Sinclair Canyon and Creek were named after him (Kay and MacDonald, 1972). In the years 1858-59 John Palliser and his party, which consisted of a geologist, a meteorologist, a botanist, and a secretary, explored and studied the area. Palliser had been commissioned by the British government to find out whether one or more practical passes suitable for a wagon road or a railroad existed over the Rocky Mountains within British Territory (Smyth, 1977).

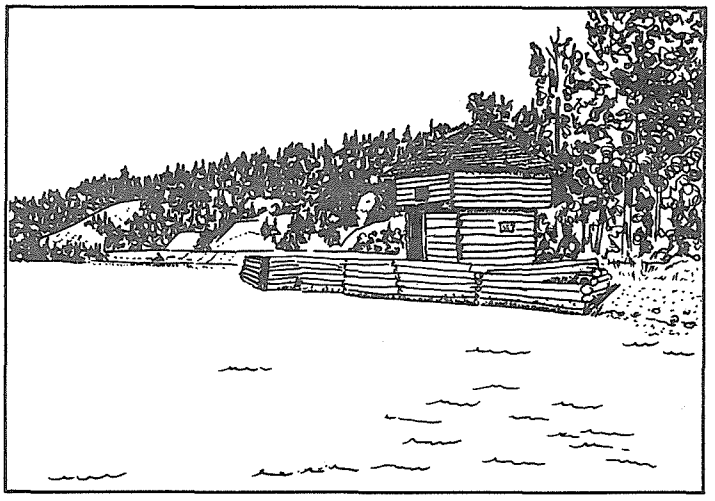


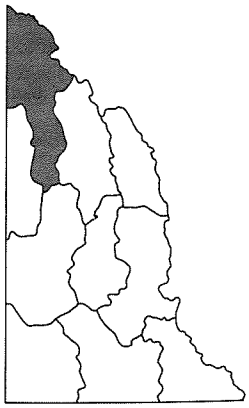
Figure 6: Sketch of blockhouse from David Thompson's fort

Remnants of the Baillie-Grohman Canal, built in 1887 to connect Columbia Lake with the Kootenay River, can still be seen in the wetland area west of Canal Flats. The Thunderhill Mine, which operated in the 1850's, was one of the first mine sites in the East Kootenay region. It was located on the southwest side of Columbia Lake, where remnants of an old tram track which led up to the mine can still be seen.

Windermere is the site of "The Stolen Church" which was actually taken from the town of Donald and brought by wagon and barge to Windermere in 1897. Attractive farmland areas in the Windermere vicinity add significant viewing interest to the present day landscape.

Plate 3.3.8 Church at Windermere known as "the Stolen Church" which was originally located at Donald, B.C.

3.4 UPPER KOOTENAY RIVER



This subregion is dominated by recreational features associated with the major river corridors of the Kootenay, Cross and Simpson and with the subalpine and alpine environments of the Continental Divide as well as the other ranges. It is an area of exceptional scenic quality. Kootenay National Park and Mount Assiniboine Provincial Park are located within the boundaries of this unit. Recreational activities are mainly oriented toward mountaineering and corridor travel.

The Kootenay River Valley is the major corridor in this subregion. In the southern section the Kootenay floodplain consists of a wide, braided channel and numerous gravel bars. The river is substantially smaller in the northern section where the Vermilion River is the major watercourse. The Kootenay Valley provides excellent opportunities for viewing, camping, hiking and cross-country skiing. Sport fish species in the Kootenay River include cutthroat trout, Dolly Varden char, and mountain whitefish.

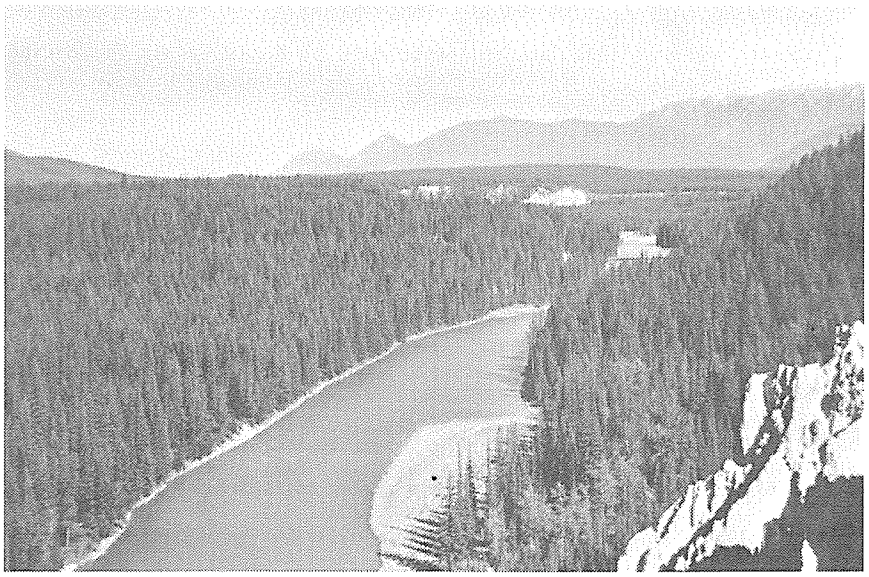


Plate 3.4.1 A section of the Kootenay River north of Gibraltar Rock (note hoodoos in right front corner of photograph)

From McLeod Meadows to Canal Flats, the Kootenay is an excellent wild river providing challenging opportunities for white-water kayaking, canoeing and rafting. Commercially guided raft trips take place here. This section of the river was, in the summer of 1977, assessed by a Parks Canada study of navigable mountain rivers. It was rated as one of the finest quality river travel corridors in the western Provinces. The symbology used on the 1:50 000 Outdoor Recreation Features maps for the Kootenay River in this section (mapsheets 82J/4,5 and 12) reflects the information gathered during this assessment. The Kootenay River Valley is also a significant viewing corridor which has undergone only slight disturbance as a result of logging and road construction. Other features of recreational interest which can be found on this route include high terrace walls of calcium carbonate cemented sands and gravels, waterfalls from tributary creeks, remains of old settlement areas, mineral streams and pitted limestone rock formations such as Gibraltar Rock. Detailed information, in map and report form, on this section of the river is available from the Parks Canada office in Calgary, Alberta (Hooper, 1978).

Hector Gorge on the Vermilion River is a narrow canyon of easily erodible, white phyllite* rock. The colour contrast of the water and canyon is an interesting viewing feature. Kootenay, White, Cross, and Palliser Rivers also flow across similar phyllite formations.

Dolly Varden Creek is a small tributary of the Kootenay River south of Kootenay Crossing. It is a particularly attractive area that has been developed by Parks Canada for hiking, cross-country skiing and "walk-in" camping.

The Simpson River and Surprise Creek are followed by wilderness trails into Mount Assiniboine Provincial Park, a limited access park. Features of recreational interest include the campsite area at the Simpson-Surprise Creek confluence, Police Meadows on the Upper Simpson and Rock Lake on upper Surprise Creek. The Simpson River offers angling opportunities for cutthroat trout and Dolly Varden char.

The Cross River is a major drainage of the East Kootenay region. Logging roads provide vehicle access to much of the valley. The wide, braided* floodplain of the Cross River provides viewing and camping opportunities. Two waterfalls of high significance are found on the lower section of the river. Both falls can be seen from associated short hiking trails. Sport fish species of the Cross River include cutthroat trout, Dolly Varden char and mountain whitefish.

Plate 3.4.2 View of Mt. Assiniboine with Magog Lake in foreground

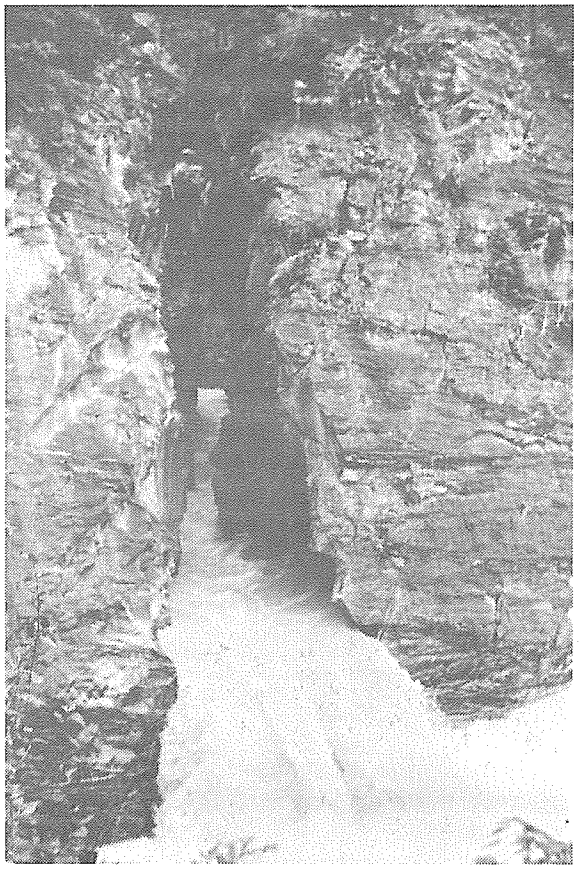


Plate 3.4.3 Cross River box canyon falls carved into the bedrock

The Mitchell River Valley is followed by a trail into Mount Assiniboine Provincial Park. The present road system extends to the Aurora Creek confluence. The wide floodplain of the Mitchell, downstream from Aurora Creek, provides significant opportunities for viewing and camping. Cutthroat trout and Dolly Varden char are the sport fish species associated with the Mitchell.

The lower Palliser River flows through a canyon approximately 1.5 km in length. An interesting section of this canyon can be viewed from the abandoned bridge site south of Little Elk Creek.

This subregion includes relatively extensive alpine and subalpine areas of national and provincial significance. Many subalpine lakes of superb scenic quality occur here including Sunburst and Magog Lakes, the Rock Isle Lake complex, Eohippus and Talc Lakes. These lakes and also Simpson, Marcel, Wonder, Citadel and Whiteswan Passes, are of exceptional recreational quality and are well used, particularly in conjunction with access from Banff National Park.

Plate 3.4.4 View of the Citadel Pass area showing alpine - subalpine landscape

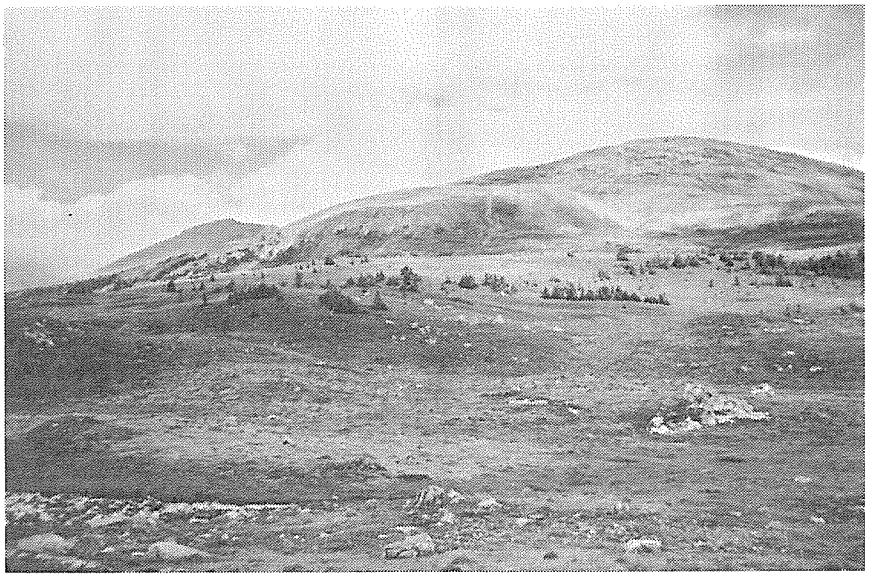


Plate 3.4.5 The Sunshine area near the B.C.-Alberta border offers good opportunities for wilderness hiking and camping

Smaller subalpine areas of lesser significance include Kindersley Pass area north of Sinclair Creek, Gibraltar lookout area on the east side of the Kootenay River south of Mary Anne Creek, and the Mount Soderholm area. These areas are excellent for weekend hiking.

This subregion has high wildlife values. Winter ranges are found in the valleys of the Kootenay, Cross and Simpson Rivers. Areas of high significance for wildlife include: the Mitchell Range, the Stanford Range, and Simpson Range.

Several small lakes and wetland areas are present in the Kootenay River Valley. Short hiking trails have been established by Parks Canada to Cobb and Dog Lakes. An attractive wetland area known locally as Warden's Lake is located north of Dog Lake. The Salt Lake Meadows area, north of the confluence of the Palliser with the Kootenay River, is a wetland complex of regional significance that provides opportunities for scenic viewing and wildlife observation. The east side of Kootenay River within the National Park boundaries is closed to vehicular traffic, and is an excellent day-use area for hiking, bicycling, and cross-country skiing. Fenwick Lake, northeast of the Palliser-Kootenay River confluence, offers significant angling and camping opportunities. Olive Lake and Kootenay Pond adjacent to Highway 93 add viewing interest to the vehicle route. A group of old cabins is situated at Yearling Creek beside a meadow which has camping and viewing potential.

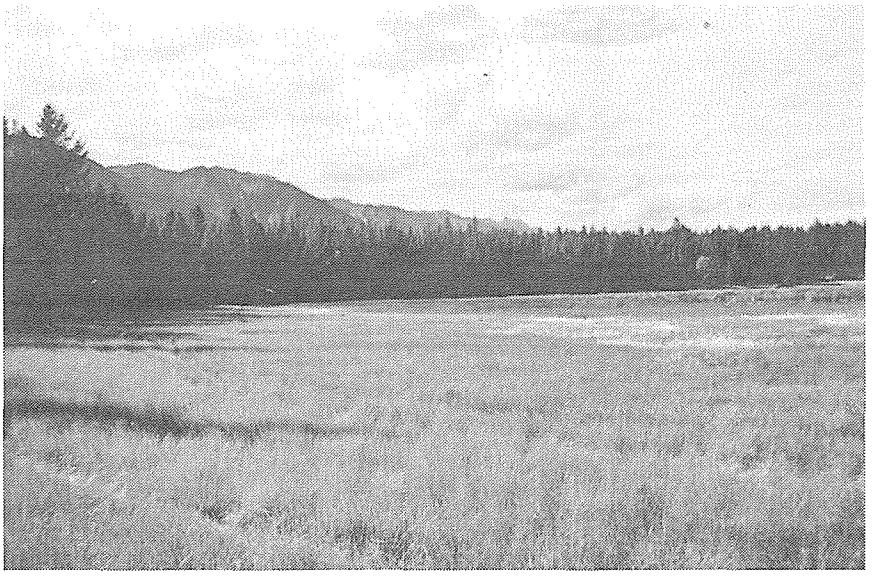


Plate 3.4.6 Salt Lake Meadows wetland complex

Historically this subregion was the site of early exploration along the Continental Divide. George Simpson, in 1841, was the first white man to cross the Rockies by way of Simpson Pass. In 1845 Father De Smet, a missionary, travelled through Whiteman Pass into the Cross River drainage.