LOC {CASTL} Mb/l48866 GV/l9l.24/W5/NO./l98l:3 C. l SELLAND, GLENN. THE IMPACT OF PROPOSED COAL



The Impact of Proposed Coal Development on the Recreational Opportunities and Values Present in the Elk Valley of Southeastern British Columbia

by Glenn Selland

Submitted in partial requirement for fulfillment of Wildland Recreation Technology 271.

LOCAL GV 191.46 B7 S45 1981

April 1981

Summary

The proposed Elco Resources coal development in the Elk Valley has the potential for having a significant impact on the recreational opportunities and values present in the valley. This impact will be felt chiefly in the areas of visitor use levels, and the types of recreational use. The visual aesthetics of the valley may also be significantly depreciated. There are a number of management guidelines which can be formulated for and applied to the Elk Valley's recreational use, and the implementation of these guidelines should serve to maintain a high quality recreation experience for recreational users of the valley.

Table of Contents

Title Page	i
Summary	ii
Table of Contents	iii
List of Illustrations	iv
Introduction	1
Background	2
Recreational Opportunities Present in the Elk Valley	5
Proposed Coal Development in the Elk Valley	12
Impact of the Coal Development on Recreational Opportunities and Values Present in the Elk Valley	14
Management Guidelines	18
Literature Cited	25

List of Illustrations

		Page
Tables		
Table I	Visitor Use of Class "A" Forest Service Recreation Sites	11
Table II	Visitor Use of Connor Lakes and Cadorna Valley	11
Table III	Visitor Use of Elk Lakes Provincial Park	11
Figures		
Figure 1	Elk Valley; location	3
Figure 2	Elk Valley; recreation locations	6
Figure 3	Elk Valley; coal development	13

The Impact of Proposed Coal Development on the Recreational Opportunities and Values of the Elk Valley

Introduction

In the past and continuing to this day industrial and recreational land uses have come into conflict. In the majority of instances it is the recreational land use which has come out second best. Once again the scene is set for another conflict to occur, this time in the Elk Valley of southeastern British Columbia, where a major new coal development is presently under construction. This report has been done with the intent of looking at the nature of and assessing the impact this coal development could have on the recreational opportunities and values present in the Elk Valley. It is not the intent here to do an ecological impact study; rather the coal developments impact will be looked at in terms of its effect on the valley's capacity to accommodate recreational use in light of this industrial development. As well, this report is not based on the premise that the coal development should be stopped; indeed, the development is accepted as fact. The intent here is to come up with management strategies which could be employed to solve some of the anticipated recreational use problems which may come up as a result of the coal development.

This report is, then, principally of a management guideline formulation type.

There are six basic components to this report's structure. The first component involves a presentation of some background information on the Elk Valley. This background covers some of the history of the areas use for both recreational and industrial purposes. The second component serves as a brief descriptive inventory of the recreational opportunities present in the Elk Valley. This inventory includes a description of the types of opportunities offered and the location each is offered at. As well, the intensity of use has been detailed where data permitted. The third

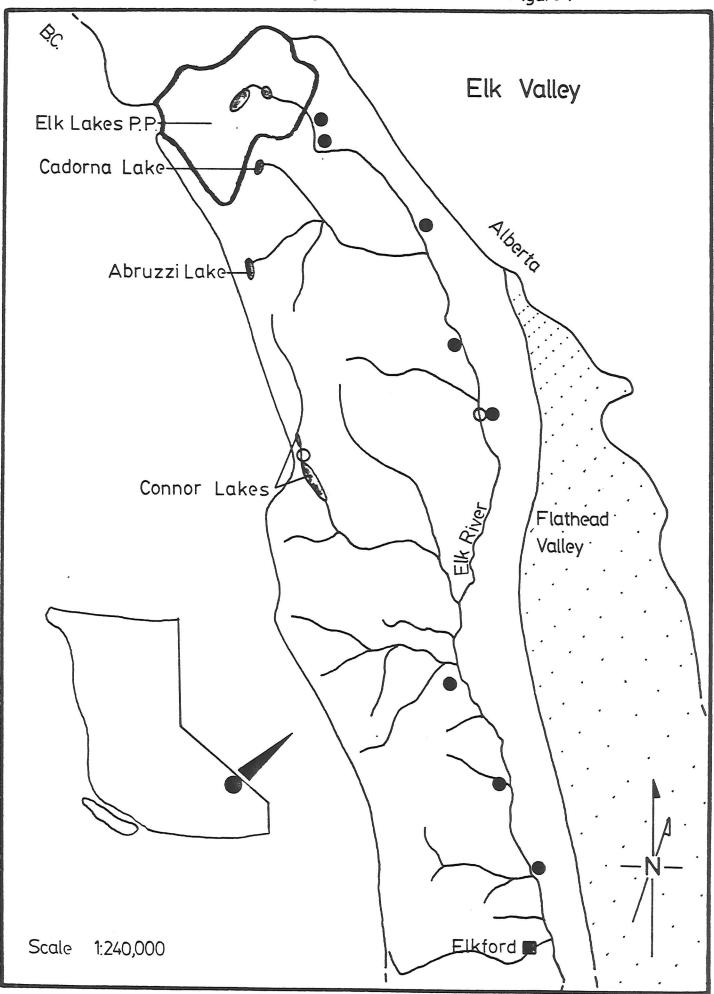
component is a brief inventory of the actual development that will take place in the valley. This section will deal with the roads, the coal mine itself, and the residential development. The fourth component will involve an assessment of the coal development's impact on the recreational opportunities and values present in the valley. This assessment points out some of the specific changes and problems in the valley's recreational use which could develop from the industrial use. The fifth, and most important, component is concerned with the formulation of management guidelines which could serve to maintain a quality recreation experience in the Elk Valley. These guidelines are intended to be a means by which some of the problems dealing with the valley's recreational use can be lessened or eliminated.

In doing this report, there has been one serious drawback in that certain information germaine to the topic has not been available especially with regards to the coal development itself. Where it has not been possible to obtain specific information, certain "best guesses" have been made. While not totally accurate, these "best guesses" must necessarily serve as the closest thing to hard data. It is worth noting here that a number of recreation oriented surveys are presently underway in the Elk Valley and adjacent areas. The Ministry of Environment, B.C. Parks Branch, and B.C. Forest Service are all looking at the recreation needs of area residents and the recreational opportunities present in the Elk Valley. Once completed these surveys should prove very helpful in any follow up of this report.

Background

The Elk Valley is located between the Front Ranges and the Elk Ranges of the Rocky Mountains in southeastern British Columbia immediately adjacent to the Great Divide (see Figure 1,p.3). The closest residential area is the village of Elkford which is located approximately 165 kilometers north of Cranbrook on highway 6.

Figure 1



The valley lies in the Elk Provincial Forest and is administered by the Cranbrook District Ministry of Forests office. The B.C. Parks Branch is responsible for the administration of Elk Lakes Provincial Park which is located at the northern end of the Elk Valley.

There are five major lakes located in the valley: Upper and Lower Elk Lakes, Connors Lakes, Cadorna Lakes, and Abruzzi Lake. The combined water from these lakes serve as the principle water source for the Elk River which flows down the valley. The valley floor lies at an average elevation of 5000 feet, while the ridges which demarcate the valley rise to an average elevation of 7500 feet. Englemann Spruce and Sub-Alpine Fir are the valley's dominant tree species. Resident mammal populations include moose, whitetail deer, mountain sheep, grizzly bear, and black bear.

Access to the valley is gained via a single road beginning at Elkford which runs 75 kilometers up the valley alongside the Elk River. While the first 50 kilometers of this road are gravel and passable in all weather conditions, the last 25 kilometers are clay and are occasionally passable only by four-wheel drive vehicles. This road is not plowed in winter.

The Elk Valley is situated at the northern boundary of British Columbia's southeast coal block. This portion of the province is underlain by large deposits of coal and has been subject to mining since the 1890's (source: Crabb, 1962). The Elk Valley itself has yet to be mined for coal though plans for coal development in the valley were drawn up in 1959 (source: Warden, 1976). The valley has not been subject to any large scale logging. Timber values in the valley are generally low due to poor site conditions and the valley has been intensively burned a number of times, the

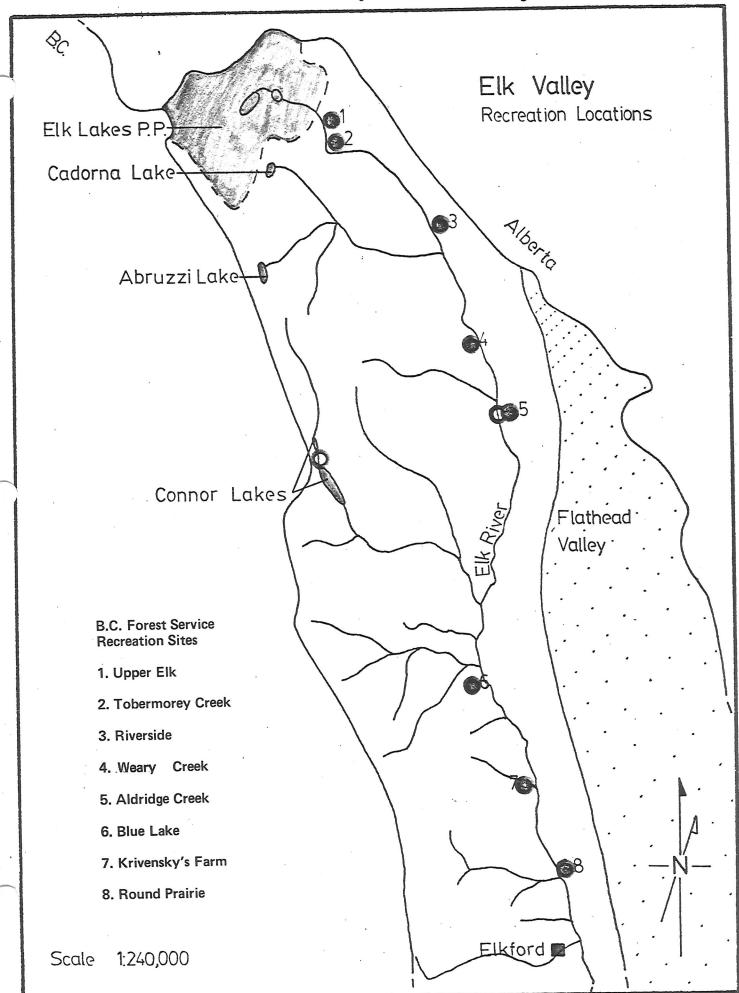
most recent burn being in 1959. Indeed, areas of the valley have failed to regenerate to the climax species because of these fires (Stanlake, et al, 1974). A power line which runs through 20 kilometers of the northern end of the valley is the only substantial development present. The valley is at present essentially undisturbed by any major development or resource extraction.

Recreational Opportunities Present in the Elk Valley

There is a fairly wide range of recreational activities possible in the Elk Valley. These activities range from those which provide a road side-front country type experience to those which provide a wilderness experience. The valley itself is well developed for recreation as evidenced by the presence of Elk Lakes Provincial Park and seven B.C. Forest Service Recreation sites (see Figure 2, p.6). In this section the recreational opportunities that presently exist in the valley will be listed and described as to their nature and location within the valley. Visitor use statistics are presented for those locations for which data was available.

roadside camping:

By this term is meant that camping which is done out of a vehicle; i.e. self-contained camper units. The Elk Valley offers such camping at eight locations, these all being Class 'A' Forest Service Recreation sites located adjacent to the access road (class 'A' sites are those which are equipped with picnic tables, outhouses, fire-rings, and garbage containers). These sites are really just open areas in which people are free to camp wherever they choose. Because of the generally rough road conditions, these sites are principally used by recreational motor vehicles or by campers with tents. Trailer pulling recreationists are an uncommon sight at these recreation sites.



backcountry-wilderness camping:

Camping which is done at locations to which the camper had to hike is considered to be of the backcountry-wilderness type. There are five principle locations at which this activity takes place. In Elk Lakes Provincial Park there are two established campsites both offering outhouses, fire-rings, and fire wood. The other three locations are on Forest Service land at Connors Lakes, Abruzzi Lake, and Cadorna Lake. There are no established campsites at any of these locations, but small cabins are present at both Abruzzi and Connors Lakes. These cabins are used by the general public even though they are held by individuals under Special Use Permits.

The camping experience offered at all of the above mentioned locations is of a very high quality due to the high aesthetic value of the areas surrounding each location.

hiking:

There are a number of established trails in the Elk Valley, all of which are maintained to a certain degree. In Elk Lakes Provincial Park there are only two main trails, both of which are of moderate difficulty (i.e. present few problems to the average hiker). One of the trails takes the hiker past Upper and Lower Elk Lakes to the Castleneau Ice Falls. The second trail leads over the West Elk Pass to Kannanaskis Provincial Park in Alberta. The other three established trails in the valley lead to each of the previously mentioned lakes. These trails are of moderate to high difficulty with the Connors Lakes trail being the most difficult and Abruzzi Lake trail the easiest. These trails are blazed out but little has been done in the way of bridgework. Thus, people who hike these trails must face a number of water crossings. This situation

makes for a backcountry bordering on wilderness experience for the hikers. While there are the established trails in the valley, it is possible for the hiker to travel off the beaten path, and thus, enjoy a wilderness hike.

climbing:

Because of the fact that the rock in the valley is principally soft limestone, which is poor for climbing, the climbing opportunities are somewhat limited. The only area known for climbing is Mt. Joffre in Elk Lakes Provincial Park which affords an intermediate level of climbing.

glacier travel:

Opportunities for this activity exist principally at two locations. The Castleneau Glacier in Elk Lakes Provincial Park offers an adventurous and sometimes dangerous trip for intermediate skilled travellers while Cadorna Glacier behind Cadorna Lake offers a somewhaat limited experience (limited in that the glacier is small). Other ice fields present in the valley are not utilized for glacier travel due to the difficulty of gaining access.

fishing:

Sport fishing exists in all of the major lakes and waterways present in the valley with some areas being better than others. Upper and Lower Elk Lakes and Cadorna Lake are only fair in their fishing opportunities while Abruzzi Lake offers good fishing. Connors Lakes and certain sections of the Elk River are reputed to offer very good fishing (good is here defined in terms of fish size and abundance). Connors Lakes is at present subject to fly-in fishing.

The species of fish caught include Dolly Varden, Cutthroat Trout, Brook Trout, and Mountain Whitefish. There are no records of any of these lakes being stocked.

canoeing:

Any lake canoeing that is done in the valley occurs at Lower Elk Lake. Other lakes in the valley are not canoed due to the extreme difficulty of transporting a canoe into these lakes. The Elk River itself is quite limited in canoeing opportunities due to the presence of numerous sweepers and beaver dams. It is only from Elkford south that the Elk River is readily passable.

snowmobiling:

The unplowed access road to the valley serves as a popular snowmobile area. Here the snowmobiler is afforded a route which is free from obstructions, and which has generally good snow conditions. Some snowmobilers will travel as far as 75 kilometers up the road to Elk Lakes Provincial Park where they establish camp at an old trappers cabin. Thus, the valley offers an overnight snowmobile trip opportunity.

ski mountaineering:

There are no established ski trails in the valley so ski mountaineering is the only type of skiing possible. The best terrain for ski mountaineering lies at the northern end of the valley. To gain access to this area skiers enter the valley from the Alberta side of the Great Divide. Access from the B.C. side is extremely difficult due to the very long distance which must be covered (a round trip would be 150 kilometers).

off-road vehicle travel:

There are a number of roads present in the valley which owe their origins to four-wheel-drive vehicles. Local area residents frequently engage in this activity with the power line right-of-way being a popular location for this activity. Up until recently the Elk Pass Road was used by residents of Alberta to gain access to the Elk Valley but this road has been closed off to this type of activity by the Alberta Parks Branch. There does still exist ample opportunity for this activity to occur in the valley despite this closure.

hunting:

The presence of Elk, Whitetail Deer, Moose, and Black and Grizzly Bears in the valley serves to attract a fair number of hunters to the valley, and this activity exists as a major attraction feature of the valley.

The above is only a brief description of the types of recreation activities present in the Elk Valley. One activity which was not included above but which could be included as an aspect of all of the above activities is sightseeing. The valley is quite scenic, and no matter what activity one is engaged in or where one is a very pleasant view is to be had.

visitor-use:

Visitor use statistics do exist for the valley but only for established recreation locations. These statistics provide only a gross number count and do not give an activity by activity breakdown. As well, the Forest Service statistics prior to 1980 are considered to be of suspect accuracy. These are the only statistics on recreation in the valley presently available, though, and thus, if a quantitative measure of recreation use of the valley is to be gained, these figures must be used. This data is presented in the following tables.

SELKIRK COLLEGE LIBRARY CASTLEGAR, B. C.

Table I: Visitor Use of Class "A" Forest Service Recreation Sites

Site name	1980	1979	1978	1977	1976
Round Pravirie	1682	1000	1000	1000	500
Blue Lake	451	400	400	400	150
Riverside	244	100	100	100	75
Tobermorey Creek	440	300	300	300	150
Weary Creek	997	400	400	400	150
Aldril ge Creek (W)	493	_	_	_	-
Krivensky's Farm	1518	800	800	800	1200
Upper Elk River	801	200	400	400	50

(source: B.C. Forest Service, Cranbrook District)

Table II: Visitor Use of Connor Lakes and Cadorna Valley

Site name	1980	1979	1978	1977	1976
Connor Lakes	750	_	_	_	_
Cadorna Valley	195	155	110	_	_

(source; B.C. Forest Service, Cranbrook District)

Table III: Visitor Use of Elk Lakes Provincial Park *

1980	1979	1978	1977	1976	1975
1150	1520	1175	918	880	840

^{*} these statistics are in visitor days (number of people X number of days stayed)

(source: B.C. Parks Branch, East Kootenay District)

As can be seen by these statistics the valley enjoys a fair bit of use, especially

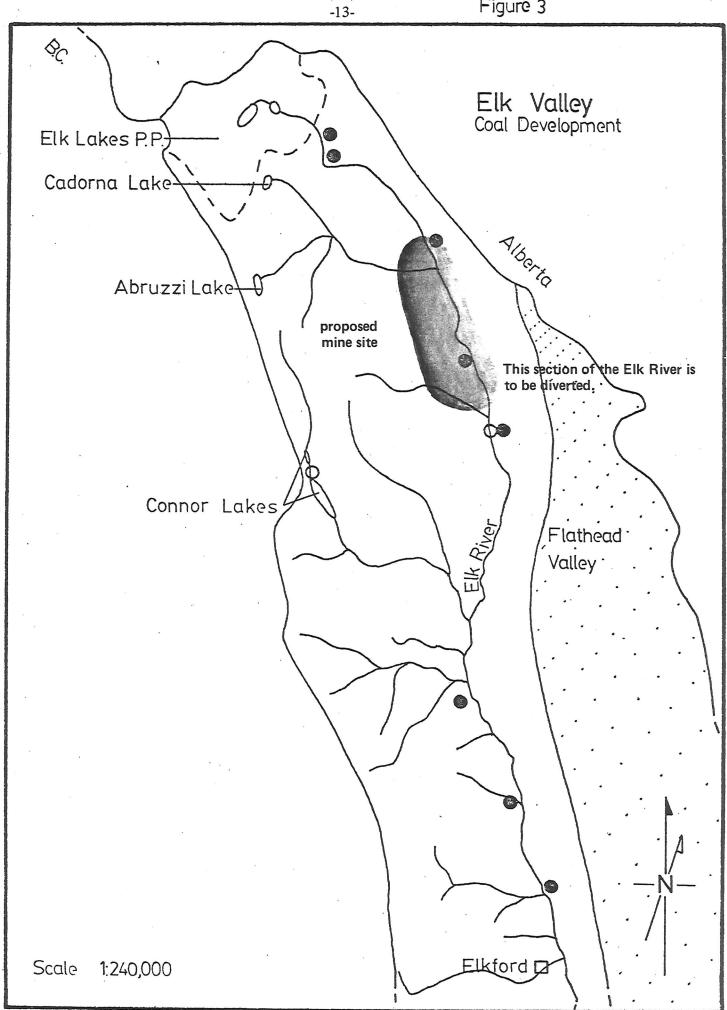
at the B.C. Forest Service recreation sites. While the Forest Servive data does not permit one to determine the point of origin of the recreationists, the Parks Branch statistics do. Using these latter statistics one can determine that over 3/4 of the park users are from the east Kootenays. If one extrapolates this fact to the Forest Service statistics (and it seems reasonable to do so), one can see that the valley is predominantly used by local area residents (i.e. East Kootenays).

Proposed Coal Development in the Elk Valley

As has been mentioned, there is an acute lack of information on this coal development, but those facts which have been gleaned will be presented here.

The coal development in the Elk Valley is being undertaken by Elco
Resources which is a consortium of German and Canadian investors. This
consortium has purchased the mining rights to the valley from the Sperry
Corporation, and is presently engaged in the initial phases of the development.

The coal development itself is locates approximately 2/3 of the way north up the valley from Elkford (see figure 3, P.19). This mine will be a strip mine which will entail the removal of overburden to depths up to 200 feet. While the initial plan called for the diversion of up to 3.2 kilometers of the Elk River, the revised plan calls for only a 1.2 kilometre diversion (Warden, 1976). During the summer of 1980 nine new roads to the mine site were put in. These roads all run perpendicularly off the existing access road, and are linear in layout. A camp has been established approximately 1/8 of a kilometre off the present access road. This camp is a trailer camp and is used by crews doing surveys and initial construction work at the mine site. When full scale construction of the mine begins, one could expect that a larger camp with full facilities will be established. This camp should be maintained for crews working in the completed mine; thus, a new settlement in the valley could be anticipated.



A tailing pond area and a coal stockpile are to be established on the site of an existing hunting lodge located approximately 1 kilometre south of the Tobermorey Recreation Site.

Some type of transportation system for the coal will have to be set up to take the coal out of the valley to main transportation routes. At the Fording coal operation in the Flathead Valley a rail link has been established between the Canadian Pacific Railway line at Sparwood and the mine site itself. It would be reasonable to assume that the Elco mine would employ the same type of system and that a rail line would be constucted in the Elk Valley.

The mine development entails, then, a sizeable strip mine, the diversion of a section of the Elk River, the constuction of access roads, a coal dump and tailing ponds, a residential area, and possibly a rail link. Given this information on the coal development and the information on the recreational opportunities present in the valley, an assessment of the coal developments impact on recreation can now be done.

Impact of the Coal Development on Recreational Opportunities and Values

Coal development will have a major impact on the recreational opportunities and values present in the Elk Valley. Any development of such significant proportions could hardly do anything but alter the area in some way. What will be outlined here are some of the probable effects which the coal development could have on the valley's recreation. Where possible, specific effects on specific recreation activities have been detailed.

Use levels of the existing Forest Service Class"A" sites will increase to a level such that these sites will become overused, and will suffer a loss of some, if not all, of their attraction features.

The coal development will probably result in an improvement of the

existing access road. The road as it now stands serves as a deterrent to a fair number of people, and is a natural means of limiting use of these recreation sites. Upgrading the road will remove this limiting factor, and will probably actually encourage vehicle travel up the valley. The coal development will almost certainly mean that there will be more people living in the valley. In fact, the Forest Service anticipates a doubling of the area population (source: B.C. Forest Service, Cranbrook). All of this will mean an increase in user demand for these sites. At the present time users are allowed to camp wherever they want, build fires, and chop up dead trees for firewood. With the present use levels these areas are receiving this system has proved to be satisfactory in that natural regeneration of the site has been able to compensate for any damage incurred through use. If the use of these sites were to increase significantly, as one could reasonably expect given a doubling of the area's population, this system may result in the degradation of these sites. Natural regeneration is, at present, just compensating for damage done through use. There are only a few areas of exposed soil and trampled vegetation present, but with increased use this situation may change for the worse. It is conceivable that these sites may suffer serious soil erosion and vegetation loss as a direct result of increased use. The present minor problems with litter, damage to trees, and user disturbances (large parties, vandalism, etc.) may become more serious as well. This may result in the depreciation of the quality of the recreation experience presently afforded by these sites.

Increased use of the eight recreation sites in the valley is anticipated. This may result in the degradation of these site's ecological integrity, an increase in user oriented problems, and a depreciation of the recreation experience afforded by these sites.

Back-country-wilderness areas could become overused and suffer environmental degradation. As well, the high quality recreation experience afforded by these areas couls be depreciated.

For the same reasons that the Forest Service recreation sites may

become overused so too may the areas of Connor Lakes, Cadorna Valley, and Elk Lakes Provincial Park become overused. These areas are especially subject to overuse due to the limited number of locations available for camping, and the limited number of access trails present. Concentration of users is already occurring in these areas, and problems with site degradation and litter are manifest. Any significant increase in use of these areas could only be expected to compound these problems and create a very undesireable situation where prime backcountry-wilderness areas are seriously degraded ecologically.

An increase in the use of these areas also creates problems in that the presence of large numbers of people in a backcountry-wilderness areas detracts from the recreation experience afforded by such areas (Hendee et. al., 1978). Even at the present there is a problem in the Cadorna Valley where groups of up to 30 people can be found camped at Cadorna Lake. It can only be expected that this overcrowding of these areas will increase in future, thus seriously depreciating the high quality recreation experience afforded.

The incidence and severity of conflicts between different recreational uses of the valley will increase.

At the present time there are few reported incidents of conflict between the various recreational uses of the valley. Most of those which do occur are between hikers and horse riders who both use the trails to Connor Lakes and the trails present in the Cadorna Valley. With an increase in the user population it could be expected that both of these activities will be more extensively practiced; thus, there will be an increase in user conflicts. The expected increase in valley users could also result in an increase in user conflicts in that there will be more people doing different things than are presently occurring. The increase of numbers of people alone makes the likelihood of of an increase in user conflicts greater.

The aesthetics of the valley may be seriously compromised by the coal development in that the present visually unmarred state of the valley will be seriously altered.

As the Elk Valley now exists, there is little in the way of development which visually impairs the area. With the construction of the coal mine, this situation will significantly change. The nine new access roads put in during the summer of 1980 have already had a significant impact on the visual aesthetics of the area due to their perpendicular nature. The motorist who passes by one of these roads is able to see the entire road right-of-way for several miles in some cases as it extends up the side of the valley. Once the strip mine is constructed users of the valley will be confronted with a view of almost the entire development as they drive by it on the main access road. With this alteration of the valley's visual aesthetics, it will be difficult for valley users to maintain a sen se of being in a rustic, backcountry-wilderness setting. This very important aspect of the valley will be lost possibly forever, thus reducing the aesthetic quality of the area.

An increase in winter recreation use of the valley could occur as a result of the development of year round road access for the coal development.

As has been mentioned, winter recreation use of the valley is limited due to the lack of ready access in to the valley. If an all-weather, all-season access road is established in the valley, this situation could easily change. What could be anticipated is that people would use the road to gain access to the northern end of the valley where the terrain is fairly well suited for activities like ski touring and snowmobiling. At the present time, there are no established trails for ski touring nor are there any facilities which could be used in winter by skiers or snowmobilers. The area is not, at present, capable of meeting the needs of the majority of future winter recreationists. The situation exists, then, where the demands of future winter recreationists cannot be met by present facilities.

The above problem descriptions represent some of the more serious

Problems which could develop as a direct result of the coal development. While

these problems are fairly serious, they are not insurmountable. In the next section some specific managemement guidelines which could be employed to solve the above problems or at least lessen their severity will be presented.

Management Guidelines

While the impact the coal development will have on the recreational opportunities and values present in the Elk Valley could be quite significant, There are means by which this impact could be lessened. The implementation of management guidelines for the recreational use of the valley will assist in the regulation of the type and amount of of recreational use which occurs in the valley, and should serve to maintain a high quality recreational experience for valley users. As well, certain management guidelines can be applied to the coal development itself in the interests of lessening certain aspects of its impact. Even with the implementation of management guidelines there will still be significant changes in the nature of recreation in the valley, if only because there will be more people recreating there. The success of these management guidelines will be measured in terms of their ability to maintain a quality recreation experience despite this and other changes.

Guidelines

1. A formal zoning system should be developed for the Elk Valley. This zoning system would divide the valley into different zones based upon the nature and level of recreation use which is desired or appropriate for an area. Each of these zones could then be managed in a manner which will serve to maintain that zone in a state which is consistent with its zone classification. The zones possible for the Elk Valley would be; frontcountry/roadside, backcountry, and wilderness.

At the present time there are no real restrictions on what recreational

activities may take place, where, and in what intensity (in Elk Lakes Provincial Park there are park regulations but this is the only location in the valley where formal regulations exist). Given the present level of valley use, this system hs been adequate in that there has not been enough inapprpriate or harmful use to cause significant damage. With the anticipated increse in valley use this system may no longer be adequate and formal use restrictions should be imposed for the entire valley. To aid in the development of such restrictions it is first necessary to know what types and levels of use are appropriate for certain locations. This is where the zoning system comes in.

The frontcountry/roadside zone would encompass the eight Class "A"

Forest Service recreation sites located along the existing main access road. This would be a zone which is subject to intensive use, and which is managed in a manner which accommodates this intensive use. The management goal of this zone would be to provide sufficient space and facilities to meet user demand while maintaining the quality of the environment and the recreation experience.

The backcountry zone would encompass Elk Lakes Provincial Park and the Cadorna Valley. These are areas which will be subject to moderate amounts of use by pedestrian and horseback travellers. Management of these areas should seek to accommodate user demand, but should set down restrictions on use in the interests of maintaining these areas in a relatively undisturbed state. The focus here will also be to maintain conditions which facilitate and enhance a backcountry recreation experience. User demand in this zone is not to be allowed to compromise the ecological and aesthetic integrity of the areas included in this zone.

The wilderness zone would include the Connor Lakes area and all other areas not yet classified. In this zone the maintenance of ecological integrity

and aesthetic quality are the prime concerns, and all development for recreation is secondary to this concern. Restrictions are to be placed on the type and level of use of areas contained within this zone, in the interest of maintaining a quality wilderness area and a quality wilderness experience.

2. A reservation system should be implemented to control use levels in the Cadorna Valley and at Connor Lakes.

There is presently no control exercised over the number of users who may use these areas at any one point in time. This is again a system which has proven adequate in the past given the relatively low use, but which may prove inadequate with the anticipated increase in use levels. These areas are limited in the number of sites which can be used for camping and other related activities, and as previously stated could become overused. To prevent this from occurring a limit on the numbers of users appropriate for each area will have to be established and imposed.

A reservation system has been selected because of the relative ease with which such a system can be administered (the success of this system in the National Parks bears this out). This system could be administered from the Forest Service offices in Elko and Cranbrook with reservation by phone being the dominant mode of making a reservation. While enforcement of the reservation only policy could prove to be problematic, a good public program by the Forest Service which points out the need and value of such a policy could help ensure success. The hope here is that the users of these areas (the majority of whom reside or will reside in the local area) will self regulate themselves, and will use these areas only after making a reservation.

If a system of use level control is not implemented for these areas, the

quality of the recreation afforded by these areas will decline in the future.

3. A complete multi-media information package on the recreational opportunities present in the Elk Valley should be developed by the Forest Service and the Parks Branch for presentation to area residents. This information package should detail not only the recreational opportunities, but should detail how to properly engage in these opportunities.

A key means of protecting a recreational resource is that of self-regulation by the users themselves. The pack-in pack-out anti-litter program presently being employed by the Forest Service is but one example of self-regulation programs. By developing a complete information package which details the recreational values of an area like the Elk Valley, as well as how to recreate in a manner which protects this value, the Forest Service and Parks Branch can help protect a quality recreation resource.

The items which would be covered in this information package could include the disposal of litter and other waste, the construction of campfires, bear problems, off-road vehicle travel, and camping/hiking techniques and courtesies. By informing users of the opportunities which exist, the value of these opportunities, and how to protect this value the overall quality of recreation in the valley can be maintained at a high level.

4. The Forest Service recreation sites at Upper Elk Crossing and Round Prairie should be expanded and developed as small campsites. These sites could then be managed by the ParksBranch.

These recreation sites are already quite popular with valley users, and their popularity can only be expected to increase in future. To anticipate and compensate

for the problems which could result from this increased use, these two sites should be formally developed. In this way the use of these sites can be regulated and the ecological integrity of the site protected (campers are kept to campsites and litter and other waste is properly disposed of). This development should serve as a means of minimizing damage to the valley by concentrating some of the use in intensively managed areas. These two particular sites have been selected because of their present popularity and size (these are the largest sites in the valley and have ample room for development).

Once developed as formal campsites these areas should be turned over to the Parks Branch as they possess the expertise and mandate to manage such sites.

5. The planning of trails, areas, and facilities for winter recreation activities should begin now to anticipate the impending increase in winter recreation activity in the Elk Valley.

To prevent being caught short by the winter recreation activity which is expected to develop because of the construction of an all-weather, all-season access road, planning should commence now on winter recreation facilities and trails. These plans should not only point out where the prime locations are for winter recreation are, but should detail locations for facilities and trails. These plans could be drawn up as a cooperative effort by the Forest Service and Parks Branch.

6. Visitor use conflicts should be identified and compensated for by either the establishment of separate facilities or the designation of use zones. This should be applied to both existing conflicts and possible future conflicts.

The present user conflicts which occur in the valley (principally between hikers and Horseriders) could increase with the anticipated increased use of the valley for

recreation. With the development of winter recreation a new point of conflict between skiers and snowmobilers could develop. To compensate for and minimize such conflicts either separate facilities should be developed (ex. hiking trails and horse trails) or areas should be designated for a certain type of use (ex. special areas for snowmobilers). The objective here is to identify these conflicts as they exist now and and in the future, and to minimize or eliminate them through planning done prior to the conflicts reaching a critical level.

7. The impact which the coal development will have on the visual aesthetics of the Elk Valley should be accurately assessed, and appropriate visual landscape plans should be drawn up. The visual impact which the coal development will have on this area should be minimized as much as possible.

One of the main attraction features of the Elk Valley is its visual aesthetics.

As such, this is an attribite which should be protected. The coal development will be quite visible due to its proximal location next to the main access road up the valley and its size. The potential for a serious reduction of the valley's visual aesthetics is great, and is a concern which requires immediate attebtion. The Forest Service should, in conjunction with Elco Resources, review plans for the coal development, and determine exactly what and where the visual impact will be. The Forest Service should then try to get Elco Resources to develop the project in a manner which recognizes and protects the valley's aesthetic value. The hope here is that the company can be made aware of the importance of prtecting this areas visual aesthetics, and that it will cooperate with the Forest Service in this matter.

The above management guidelines describe means by which some of the anticipated consequences of the coal development in the Elk Valley can be minimized.

It is the hope here that the implementation of these guidelines will help maintain a quality recreation area and a quality recreation experience for valley users.

Literature Cited

- Crabb, J.J. "Coalmining in Southeastern B.C." <u>Alberta Society of Petroleum Engineers</u>, vol. 10, no. 7, July-August 1962: 335-340.
- Hendee, J., Stankey, G., Lucas, R., <u>Wilderness Management</u>. U.S. Department of Agriculture Publication No. 1365, Washington, 1978.
- Stanlake, J. et al, "The Impact of Coal Development on Ungulate Winter Range in the Southeast Coal Block." Report submitted to the B.C. Fish and Wildlife Branch, October 1974.
- Warden, G., "Black Pits and Vanishing Hills." B.C. Outdoors, vol. 32, no. 5, Sept.-Oct. 1976, p. 38-42.