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**Property Rights in a Canadian Mountain Watershed:
A Case Study from the Columbia River Valley, British Columbia.**

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Shastri Project on Sustainable Development of Mountain
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Sustainable Development of Mountain Environments in India and Canada Project Overview

Sustainable Development of Mountain Environments in India and Canada is a project of the Shastri Indo-Canadian Institute supported by the Canadian International Development Agency (CIDA). The project is based at the University of Manitoba, the University of Delhi, and the Indian Institute of Science, and is carried out in cooperation with the International Institute of Sustainable Development. The study team is led by F. Berkes, Principal Investigator; R.B. Singh, Chief Co-investigator; and J.S. Gardner, Senior Investigator.

The objective of the project is policy development for the use of mountain watershed ecosystems that are environmentally, socially and culturally sustainable. More specifically, the goals of the project are:

- 1) To develop integrated methodologies best suited for the comparative study of land resource management policies in forested mountain watersheds;
- 2) To study the successes and failures of mountain environment resource management policies and their social, economic, and historical context as revealed in case studies;
- 3) To develop cross-cultural criteria for assessing sustainability in mountain environments;
- 4) To interact with policy-makers in resource management and sustainable development, so that policy implications of the study are communicated to the appropriate parties.

In 1994 the Project analyzed land and resource use patterns in selected watersheds in the Upper Beas River valley in the Himalayas of Himachal Pradesh State. In 1995 the research team concentrated on companion analyses of the Columbia River valley of Interior British Columbia in western Canada. The joint Canadian-Indian team, which includes expertise in natural resources, remote sensing, geography, and anthropology, has investigated the sustainability of mountain environments, the local socioeconomic system, and the biogeophysical characteristics of the surrounding watershed. In both Canada and India, the investigations come at a time of rapid social, economic, environmental and land use changes. In India these took the form of rapid economic change in which agricultural, grazing and forest land resources are adapting to the arrival of commercialization and regional and global economic integration. In Canada environmental, social and land use changes are competing with traditional attitudes and development of resource stocks, with local, regional and global pressures for more sustainable harvesting.

The present report is the ninth in a series. Of the three technical reports that pertain to British Columbia, the other two are:

"Sustainability in a mountain watershed ecosystem: Resource use in the Columbia River valley near Nakusp, British Columbia," by Jay Anderson, Tech. Rep. No. 8-- (May 1996).

"Locally identified signs and signals of sustainability: Arrow Lakes region , West Kootenay, BC"
By Colin Duffield, Tech. Rep. No. 7-- (May 1996).

**Property Rights in a Canadian Mountain Watershed:
A Case Study from the Columbia River Valley, British Columbia**

Greg Stevens and Jay Anderson

Abstract:

In the summer of 1995, an interdisciplinary team investigated property rights and biophysical aspects of sustainability in and around the village of Nakusp, B C , in the Canadian Cordillera. A temporal review of land use was used to bring together historical trends of resource exploitation, overlapping property rights and evolving pressures for land use change. Community interviews, site observations and an extensive literature review were supported by analysis of satellite imagery, air photos, and biogeophysical resource maps within a Geographic Information System. Due to the history and culture of resource exploitation in the area, rights and "rules" of land use, as defined and practised locally in the watersheds of the Columbia River valley, basically fall under state property and private property regimes. Although Canadian resource exploitation is highly articulated in law, it was found that there is an undertone of public participation at all levels. Strictly speaking community-level institutions are weak and poorly defined and the only local common property institution concerned mushroom gathering in the forest. At the regional scale however, "common-property"-like structures are evolving as a result of extensive public participation and stakeholder consultation concerned with future land use regulations. In comparison with the Kullu Valley mountain forest commons, the Nakusp area has an evolving strength in regional commons institutions. The comparison raises the question, "are local and regional institutions for the commons complementary or competitive?"

1. Introduction

It is a truism to say that words such as "property rights" and "land use practices" mean different things to different people. The forested lands along the Kuskanax and Wenseley Creeks, near Nakusp, British Columbia are an example of a multiple use natural resources that retain many different, and often divergent meanings and values to different people. These are lands that have undergone considerable change, both in usage and decision making, over the last few decades. These lands have supported a diversity of lifestyles and resource industries through several cycles of resource extraction, multiple economic booms (and associated busts), and an episodic pattern of regional settlement (ARA, 1994; 1995; CORE, 1994, MoF, 1994). Recent history sees these forests as either neglected wilderness to be conquered, a source of export revenue to be retained, wasteland to be made productive, and / or prime wildlife habitat to be preserved. Each of these perspectives has typically been based on exclusive ownership and allocation of land to single purpose uses. Values however, like people, change over time, and in this once wild and independent land, a new phenomenon has occurred; that of multiple use decision-making (CORE, 1994; BC Environment, 1995). There are no new lands to allocate for resource exploitation, and there is growing pressure for shared management and overlapping use of a limited set of lands, that are already divided (CORE, 1994; MoE, 1994; Forest Renewal, 1995). In a legal sense, a multitude of partial "use rights" are starting to catch up to, and overlap, simple "ownership rights" (Ross, 1995).

Present economic, social and environmental pressures in the Nakusp area are forcing changes in land use valuation that is pressuring stakeholders to re-consider past practice and management decisions in light of present limitations and predictions of future impacts (BC Environment, 1995; Mahood, 1990; MoF, 1994; CORE, 1994; Forest Renewal, 1995; CBT, 1995). In the past, resource industries have been episodic and consumptive in nature, and resource economies have been based on quick extraction of high volumes of raw materials (MoF, 1994; ARA, 1994; CORE, 1994). The present land base is no longer capable of maintaining continued industrial growth as it has, and there is growing concern over the regions economic and social capacity to adapt to coming changes (MoF, 1994; ARA, 1994; CORE, 1994). The future is expected to bring limited resource supply (particularly in forestry), increased protection of non-consumptive forest uses (i.e. wilderness habitats, environmental and visual buffer zones and recreational parks); population growth pressures (ongoing immigration is leading towards a changing cultural mix) and the embryonic establishment of an economy based on value added forestry, non-consumptive recreational values and tourism (MoF, 1994; ARA, 1994; CORE,

1994). These changes are reflected in land use values and practices, and are articulated through property rights.

The distribution of property rights over a natural resource reflect the abilities of the user to retain the benefits of using and managing resources (Freudenberger, 1994, Bromley, 1993). Since decision authority and benefits are related, it stands to reason that if any given user has no say or control over land use decisions, they will find it difficult to invest their time, money and efforts into long term care and improvement of these lands unless they are able to capture some of these benefits (Schlager and Ostrom, 1993; Bromley, 1992; MoELP, 1995; FPC, 1995; CORE, 1994; Freudenberger, 1994). In our research area "individual land use decisions now trigger confrontations between sectors that hold differing views on what values should be given priority in a particular location" (CORE, 1994). The area around Nakusp is no stranger to change and land use controversy, and provides an interesting case study for property rights research.

1.1 Purpose

The purpose of this research is to document how decision-making authority over natural resources is distributed among stakeholder groups in the Upper Arrow Lakes Valley of Interior British Columbia, Canada. To this end, property rights research is used to relate rights over a resource (and its associated benefit stream) to observed land use practices. The full articulation of property rights is generally recognized to include the rights of access, use, management, exclusion and alienation (Schlager and Ostrom, 1993)¹.

For the purpose of this report, the distribution of these five characteristics, common to all property rights, is used to identify both basic ownership regimes (State, Private, Common Property, or Open Access)², and trends in land use decision making. These property right characteristics are then combined with an overview of land uses, to provide

¹These rights are adapted from Schlager and Ostrom as follows

Access:	The right to enter a defined physical property,
Withdrawal:	The right to obtain the 'products' of a resource,
Management:	The right to regulate internal use patterns and transform the resource by making improvements.
Exclusion:	The right to determine who will have access rights, and how that right may be used,
Alienation:	The right to sell or lease other rights (Transferability)

²This research looks at Common Property as an explicit sharing of authority over the full bundle of property right characteristics, by a collective arrangement of resource users. Past debate has typically confused the last two categories (Common Property & Open Access) as identical, and focused discussion on the existence, or non-existence of collective management arrangements. Many critics assumed that even if collective arrangements did exist, they were simply not capable of successfully managing a resource over the long term. It is the opinion of this author that sufficient research now exists to refute this supposition and to distinctly separate the two categories into areas managed through some form of shared decision authority (Common Property) and those in which no decision authority (neither shared nor unshared) exists (Open Access)

a base for making recommendations for future natural resources management and planning.

The specific objectives of the research are to :

- 1) Identify and describe natural resource uses in the Upper Arrow Lakes Valley;
- 2) Identify the users (stakeholders) of these resources;
- 3) Describe the distribution of decision-making authority over these natural resources as held by each stakeholder (group);
- 4) Identify instances of shared decision authority;
- 5) Derive recommendation for the inclusion of property rights research in natural resources management in the research area.

This report presents the results of seven weeks of land use and property rights field work made during the spring and summer of 1995, followed by several months of literature review, data analysis and debate over property rights theory, application and practice. Using available historical, statistical and empirical data, and drawing heavily from regional planning documents and local consultant interviews, the research identifies multiple land uses in the area, key players involved in making land use decisions, describes the distribution of the property right characteristics, and discusses relationships between overlapping rights and land use practices. Emphasis is placed on the distribution of decision-making authorities that influence site specific land use practices. The area was chosen for case study research as information was available on multiple types of resource use; the scale was compatible with the companion research site in India; and many resources were under significant pressures for change.

1.2 Methods

Fieldwork was based on the iterative use of semi-structured interviews; ongoing literature review; two site visits; non-parametric data analysis; multiple field observations; and a structured community survey. A variety of social sciences and rapid appraisal techniques were used to cross reference and 'triangulate data' (Cernea, 1991; Chambers, 1991; Freudenberg, 1994).

Following a review of background literature, photographs and maps, an initial proposal and outline of natural resource and land use issues was compiled and preliminary research methodologies were developed. An early site visit allowed familiarization with the

research location, and an introduction to local land users and stakeholders to be interviewed during the later field season. During this time local government and resource professionals were approached, introduced to the research, and asked to participate in the upcoming research. These contacts provided considerable personal expertise, volumes of background materials, perceptive insights into land use practices and numerous consultant leads. Following this introductory visit, available background data was further reviewed, research questions were refined (Appendix 1) and the land use overview (Table 1) was updated into usable form.

The primary fieldwork took place during the summer months of July and early August of 1995. The first week of this period was used to establish a 'home base', re-affirm initial contacts made earlier, and to start the research process. This time was also used to collect a broad cross-section of reference data for the entire research team to access when they arrived a few days later and to make preliminary arrangements for the upcoming research. During the second week, all five members of the research team were present on the site. Interviews with key resource users and management professionals were arranged and conducted as a group, and extensive site familiarization trips were undertaken. A region-wide tour provided introduction to the physical landscape, the people living there and the resource related issues important to local land users. A comprehensive list of consultants was developed and is available in summarized form as Appendix 2

The third and fourth week of the field research season were used to conduct the bulk of the local interviews, to consolidate the various sources of information available, to follow up on 'leads', and to assist each other in conducting research. Local newspapers were collected and reviewed for resource related content and names of potential consultants. Researchers regularly met to discuss methodologies, interview techniques, general findings and to strategize approaches for ongoing data collection. Because of the international nature of the team the opportunity was taken to discuss the research internally from a cross-cultural perspective.

The final week of the research field season was used to consolidate and confirm findings. The historical overview was refined, final interviews and site visits were conducted, and a 'hard copy' of all available information was consolidated. During this last week a community survey was developed and distributed. Although this survey did not add significant new information to the research and is not included here, it did reaffirm existing findings and provided a useful focal point for more in-depth interviews with a wider cross section of consultants. Following all interview sessions, as well as the field season as a whole, appreciation in both written and verbal form was extended to each

consultant for participation and assistance in the research endeavors.

Following the research season, data was consolidated into files, reports were reviewed, and the Canadian members of the research team members reconvened in Winnipeg to discuss progress. All of the reported findings reflect a triangulation between recorded histories, personal interviews, literature review, government reports, statistical summaries and researcher observations. Follow-up research and report writing was carried out from Winnipeg.

1.3 Description Of Research Area

The research area is centered on the watersheds of Kuskanax and Wenseley Creeks, and the Village of Nakusp, in the Upper Arrow Lakes Area of the Central Kootenay's area of Interior British Columbia. Figure 1 is a map showing the relationship of the site to the surrounding region while Figure 2 provides a closer look at the focal research area itself. The Arrow Lakes region lies between the Selkirk Mountain Range to the west and the Monashee Mountain Range to the east and is a subset of the Columbia River watershed, an area of ongoing historical, economic and hydrological importance, presently being used as a primary upriver reservoir for U.S. flood control and hydro electric benefits. The Columbia River Reservoir is the central axis of the Arrow Lakes Valley which extends some 230 km. from Castlegar in the south, and about 100 km. to Revelstoke in the north. The reservoir ranges from one to two km. wide in most reaches.

Geography. The area is a typical mountain environment characterized by vertical zonation of ecological and vegetative types. The vegetation changes from lush cedar forest to alpine tundra as the elevation increases. The topography varies from low lying, rolling hills of reasonably fertile soils near the valley bottom, to upper areas with high energy streams flowing through the heavily forested coniferous slopes of the neighboring mountains. The valley bottom elevation at Nakusp is about 440m. with the immediate valley side rising another 1500+ to peak elevations of ~2200m. At the research location on the east side of the valley, near Nakusp, the valley slopes are relatively more gentle, well forested, and allow good connection to surrounding valleys. The higher Rocky Mountain Range further to the east supports small to medium sized glacier systems which act as important water sources for the Columbia River and its tributaries. As a controlled reservoir, the water levels of the river system here fluctuate on average 68 feet (~20 m.) per year from high to low water (Wheeler, 1905; Wilson, 1973; CORE, 1994; MoF, 1994; Krutilla, 1967).

1994

Climate. The climate of the area is characterized by a cool, snowy winter and a relatively warm summer. Valley level cloud cover is quite extensive throughout the winter months. As a result of the mountain topography there is considerable local and sub-regional micro-climatic variations over short distances (Rain in town can quickly turn into several feet of snow a few miles down a side road). Mean annual temperature at Nakusp is approximately 7.3°C, with a mean maximum of 12.3°C and a mean minimum of 2.3°C. Mean annual precipitation is 601 mm. The distribution of precipitation is fairly strong year round, with a notable increase in precipitation days per month during the winter. Snowfall in the valley bottom at Nakusp is common from late November to early March, whereas rainfall is possible throughout the year. There is enough snowfall on the surrounding mountain tops to support a viable Heliskiing operation daily, from December through to March. Vegetative growth is lush, providing the area with thick forest and extensive wildlife habitat (CORE, 1994; MoF, 1994; Wilson, 1973).

Population. The Village of Nakusp itself (pop. 1374) is located in the Regional District of Central Kootenay (RDCK: pop. 51073). The rural areas being studied roughly overlaps RDCK, Subdivision A (pop. 7164), so Census Canada statistical information for these areas was reasonably combined with historical literature and historical interviews to identify population change information over time. These trends can be seen in Figure 3. Several things to note are the volatility of the local population vs. regional and provincial trends. This is accounted for by sporadic influxes of labour for short term hydro-electric dam construction jobs in the late 1960's, high immigration during the generally prosperous 1970's, a gradual decline in residential populations in the 1980's, followed by a short growth spurt during the early 1990's mini-forestry boom (this latest growth is more regional than local). The present population density of the immediate area of 1.1 person / km² is significantly lower than the BC. average of 3.7 persons / km². Overall, the growth of the area has not increased very quickly and has been consistently lower than the growth for the province as a whole (Statistics Canada, 1961 - 1991; CORE, 1994; MoF, 1994; RDCK, 1980). No regional census data is available before the 1950's, but from qualitative sources it is known that the local populations grew most quickly in the late 1890's - early 1900's with the local mining boom to around 1500 - 2000 people, stabilized and then dropped to below 1000 people in the mid 1900's, and is now sporadically starting to rise.

As was noted earlier, the local population trends are very dependent on cyclical industrial growth. Figure 4 demonstrates quite clearly the volatility of the area population as people move in and out of the region looking for work over the last fifteen years. Net

migration, for example, is high around 1981 and is probably related to a forestry boom. Furthermore, the late 1980' sees out-migration of short term resource workers as they follow jobs elsewhere (probably reflecting the bankruptcy of the local lumber mill). Another increase in migrant populations is apparent during the regional forestry surge of the early 1990's, and the local establishment of Pope and Talbot, the primary lumber mill for the neighboring Tree Farm License area. Natural population increases during the same period, however (relating the number of births to the number of deaths), is in decline. This probably indicates that the migrant resource based workers are not staying long enough to settle and raise families, whereas existing residential populations are getting older and not having as many children. Influxes of retirees, urban refugees, temporary resource workers almost, but do not quite, balance the out migration of younger people and traditional resources based jobs in the area (MoF, 1994).

Economy. The Nakusp area of the Central Kootenay's is a resource rich landscape with a wide range of resource users, varied land uses and overlapping land use jurisdictions. Historically, the local economy has been based on episodic extraction of abundant natural resources (CORE, 1994; MoF, 1994; RDCK, 1980), private land use activities and small settlements. As an overview, Table 1 identifies major episodes of historic development, major events and / or significant factors that affected local land use patterns. Figure 5 further demonstrates these trends in a more graphic way, showing the relative intensity of different land uses, as they have changed over time. Both are based on a combination of personal interviews, historical trend charts and historical literature review and present qualitative land use change information in a graphic way.

The original economic boom started with silver mining in the 1890's and lasted until the early 1920's. With the early mining and transportation boom of the 1900's came a boat and bridge building industry, transportation infrastructure, some hotel and recreational activities and considerable populations of labourers, service providers and agricultural settlers. Nakusp served as a convenient transportation node for transferring ores from neighboring deposits from horseback to ship and / or rail-lines and boomed along with the mines (Barlee, 1973; CORE, 1994; Gardner, 1986). The local transportation, hospitality, and ship building industries thrived from the 1890's to the 1920's and a fledgling orchard and agricultural industry developed along the valley's fertile flood plains.

Early industries were episodic however, and by the mid 1900's a regional depression brought the area to an economic standstill. Once the boom ended, settlement and transportation still brought in tourists, but the industrial base continued to erode. Over

time, and particularly following the First World War the local rail lines became redundant to neighboring areas, silver prices collapsed, and the development of more efficient orchards and transportation routes elsewhere contributed to the areas depression (1930's to 1950's). Only local use forestry, subsistence agriculture, minor timber exports and wide scale hunting of wildlife kept the area economy viable. Forestry use (exporting small amounts of lumber, shakes and poles) never really stopped during this period, but did not boom again until the establishment of large commercial forestry facilities in the late 1960's.

During the late 1960's the Province and BC Power Authority created the Keenleyside Dam to provide downstream hydro-electric power generation and flood control. Local area residents were resettled, infrastructure was put in, and the region was expected to develop. This didn't happen to the extent expected (CBT, 1995; RDCK, 1980; BC Hydro, 1995) and the subsequent conversion of the valley from a natural river system into a storage reservoir led to considerable controversy and ongoing land use conflicts that are still being debated today. (BC Hydro, 1995; CORE, 1994; CBT, 1995; Wilson, 1973; Waterfield, 1973).

Post 1960's saw the establishment of the ongoing commercial forestry industry. Current resource based industries are heavily dependent on timber extraction, with only minor reliance on recreation and tourism, small scale services, silviculture, subsistence wild mushrooms, and some construction related activities (MoF, 1994; CORE, 1994). Even now, however, the forest industry itself is facing potential depression as the timber base is being consumed more quickly than it is being regenerated. (MoF, 94; TSA Review, 1994; CORE, 1994). Figure 5 demonstrates changing forest harvest and management practices and indicates a dependency on forest resources for supplying chips and logs for pulp and timber mills, respectively, as opposed to decreased exports of shakes and poles. Recently recreation, tourism and agroforestry are seen as potential growth industries.

Figure 6 complements these graphical representations by showing statistical changes in labour force distribution. Generally speaking, primary industries are regionally quite stable, but locally volatile. Whereas forestry jobs are increasing regionally, they are decreasing locally, reflecting the transience of that industry. No other primary industries are based out of Nakusp. Local increases in construction and trade likely reflect the recent influx of retirees and settlers from other areas. The service and finance industries have not increased as significantly in Nakusp as they have on a regional or provincial basis, representing a concentration in larger centres; and while government services have increased elsewhere, they have been actually declining in Nakusp.

2. Land Use Overview

This section provides a more detailed look at major episodes of land and resource use.

First Nations (Pre 1890). Prior to colonization in the 1800's, the area was used as a north-south transportation corridor for migrant aboriginal hunting and fishing groups. Apparently, 'Nequ'sp' was the name given to a large landing site at the mouth of what we know call Kuskanax Creek, where minor amounts of hunting, trapping and fishing activities took place (Bouchard and Kennedy, 1995). The area was connected by land to Kootenay Lakes to the east, and by water to neighboring valley's to the south and north. By the mid 1800's these migrant populations were severely reduced by imported epidemics spread up from the south (Wheeler, 1905; Bouchard, 1995). By the late 1800's, when the local gold and silver rushes started, there was apparently no noticeable aboriginal presence in the area (CORE, 1994; Bouchard, 1995; MoF, 1994; Wheeler, 1905). There are no First Nations reserves in this area nor has there been strong indication of traditional settlements since well before colonial times. There are presently three overlapping land claims on the general research area by different first nations groups (Ktunaxa / Kinbasket, Shuswap & Okanagan) (CORE, 1994). The potential impact of these land claims is not part of this research.

Colonization And Mining (1890 - 1920). When first Nakusp was settled by colonialist (1890's) the forest lands around it were considered vast and indestructible, and provided ample supplies of timber for railways, construction, heating and fuelwood, not to mention the boat building trade (Barlee, 1973; Mahood, 1990). As a centre for transportation and trade, ores from the surrounding silver mines were hauled overland to Nakusp, first by pack mule and then by rail (Barlee, 1973). Here they were transferred to river boats which brought them to the processing mill in Trail BC, to the south. At this time, Nakusp was a thriving town of about 2000 people with good north - south access, inter-regional trade, an emerging agriculture industry, and tourism (CORE, 1994; RDCK, 1980; MoF, 1994). The mining industry boomed and the area settled quickly. In terms of forestry, timber harvest was inevitably close to some means of water or rail transportation, and / or the forest were simply burned to the ground to ease prospector speculation (MoF, 1994; CORE, 1995; Barlee, 1973). This has present day consequences in terms of forest regrowth (MoF, 1994). Up until the mid 1900's forestry was of only minor importance to the area as a secondary industry. A considerable quantity of telephone-poles and cedar shakes and shingles were exported but the primary forest

usage went to supplying the local mining and construction industry and for personal need.

Orchards (1900 - Mid 1900's). For a short time, Nakusp and the Arrow Lakes were well known for their orchards (CORE, 1994; Wilson, 1973; MoF, 1994). Many of the original settlers came to this area to set up farms. When they got here they found fertile soils underneath the heavy forests. After considerable clearing of valley bottom land, a reasonable orchard industry developed by the early to mid 1900's. At one time the fruit industry in the area was considered competitive with, if not preferable to, anywhere in BC (CORE 1994; MoF, 1994; Wilson, 1973). The climate was cooler and the product ripened a little later than the Okanagan to the west, but apparently the quality was very good. With the advent of the East - West railway systems from the Okanagan through the Roger's Pass to the north and the Crow's Nest Pass to the south, this industry suffered greatly. A cooler, damper climate, transportation difficulties, high costs, and limited capacity to expand prevented the industry from capturing larger outside markets. Eventually the industry became viable only on a local scale. After the low-lying orchards were flooded by the creation of Arrow Lakes Reservoir in the 1960's, even this local industry collapsed. Today only one or two local farms still carry on.

Subsistence Economics (Mid 1900's). After World War One and the collapse of the silver industry, economic prosperity and populations dropped, quickly at first but then steadily to the low in Nakusp of 992 in 1961 (CORE, 1994; RDCK, 1980; MoF, 1994). For a while, during W.W.II, the lakes were still used to transport troops from one area of BC to another, but by the late 1940's times were trying for the area; Ore prices were low, large scale industry was essentially non-existent, agriculture was not thriving, less expensive transportation routes became available elsewhere, and settlers (the ones who didn't leave) shifted to more of a subsistence existence. To outsiders, the region was seen as being underpopulated and "stagnant" (Wilson, 1993), but to the local peoples it was their chosen way of life. The valley offered them resources, livelihoods, natural beauty and independence and beneath the 'apparent' neglect of the landscape was a healthy and interactive subsistence economy that allowed diversity to prosper and thrive within private dreams. "Most of all it was a region which was permeated by social ways and standards which were not those of the urban majority of Vancouver or Victoria, where decisions were made" (Wilson, 1973).

The Pre-Flood Blues (1950 - 1964). Along with the independence of the people was a minimum of formal organization. When BC Power Authority proposed the building of

the Arrow (now Keenleyside) Dam and its related Arrow Lakes Reservoir, it had difficulty coming to terms with the local lifestyle, and the developers strongly believed that the existing population should simply be moved and set up someplace else (Wilson, 1973; Waterfield, 1973). Since the area was clearly "[u]ncultivated, unkempt and dotted with weathered houses of yesterday" (Wilson, 1973), there were few concerns, as the benefits of taming the Columbia River were seen to outweigh the costs. Furthermore, in a virtual catch-22, the perceived rural 'stagnation' of the 1950's was accentuated by an artificially enhanced economic depression during the 1960's; With the newly introduced hydro-electric proposals threatening to evacuate and flood the whole region for downstream power production and flood control no new money flowed into the valley, and the economy 'sank' even deeper (RDCK, 1980; Wilson, 1973).

Flooding of The Columbia River (1964-1971). With no significant resource extraction opportunities, relatively poor road and rail access and no economic development activity, regional growth ground to a halt (Wilson, 1973). The burning of the last great river boat (The MINTO) in 1955, combined with the threat of converting the lake into a hydro electric storage basin, burdened the area with economic stagnation. In 1964, the Columbia River Treaty (CRT) was finally negotiated and despite considerable, but ineffective local protests (Wilson, 1973; Waterfield, 1973), the Arrow Lakes section of the Columbia River System was dammed in 1969 and turned into the Upper Arrow Lakes Reservoir. What this meant for the local populations was a forced uprooting and a complete re-establishment of their way of life (CORE, 1994; CBT, 1995; Wilson, 1973). Most of the settled land was bought up or expropriated, local settlements were moved, and new settlements, houses and roads had to be built. Yes, the area benefited from short term in-migration of hydro workers and construction jobs as many temporary employees moved in for the big 'development-project' pay checks, some stayed, but most left once the project was over. By the 1970's this local building boom, too, had past. Even today, thirty year's later, there is ongoing debate over the values of creating this reservoir, and many people interviewed still discuss whether it was worth the costs (CBT, 1995; BC Hydro, 1995; CORE, 1994).

Forestry (1960 - Present). By the mid to late 1960's, full scale forestry was starting in the area. The Celgar lumber mill was up and running at peak operation in Castlegar, and a new era of commercial forestry had started. By the late 1960's the forest industry had worked itself up from a small scale selective and 'railway' styles of logging of the early to mid 1900's (Mahood, 1990), to the large scale capital intensive, high production

logging operations that we have grown familiar with today. A new economic boom was starting, salaries increased, access was improving, and people moved in and started to stay (MoF, 1994; CORE, 1994). For a short while the area prospered as commercial harvesting practices were being innovated, and profits soared. It was at this time that the large timber licenses (i.e. TFL's & FL's, etc.) were created, to provide security of timber access to the large corporations operating lumber and pulp production facilities (MoF, 1994; Pearse, 1976; Mahood, 1990). The forest resources were still considered perpetual, extraction standards were lax (MoF, 1994; Mahood, 1990; CORE, 1994) and even then there was already debate over the method, practice and management of a forest resource (Valley Resource Society, 1970's). In terms of our specific research area, most all of the 'old growth' wood in the Kuskanax watershed had already been logged or burnt by this time because of its proximity and convenience to town, but the industry simply expanded elsewhere.

For a variety of reasons including economic pressures, changing regulations and standards, and some internal inflexibility, almost all local forestry operations have recently been forced to change how they operate (MoF, 1994; Forest Renewal, 1995; CORE, 1994). Westar, for example, at one time the largest operator in BC, went bankrupt in the late 1980's, and was sold to the present local operator, Pope And Talbot. Today's contractors, instead of being independent, tend to be tied directly to large mills with little or no competition in price available to them. With the burden of constantly changing demands for different and expensive machinery being shifted increasingly onto their shoulders, several consultants confided that there seems to be no way to get out of debt to either the larger companies or the banks. Considering the decreasing age structure of the forests, changing environmental and social land use requirements, harvesting difficulties, and increasing concern for non-consumptive forestry and livelihood values (MoF, 1994 CORE, 1994; ARA, 1994), it appears that the forestry boom is starting to bust, with considerable resource management and policy consequences in its wake.

Newcomers (1970's). Right in the midst of the forestry 'boom' was the so called "hippie era" of the 1970's. Large numbers of draft dodgers and other 'social refugees' moved in and lived, or squatted, in the region. For a short while the different cultures and economies co-existed. Traditional resource extraction on the one side, area residents on the other, and the 'hippie' culture on the third. By the mid to late 1980's, however, the forest resources were under considerable pressure, stable jobs were becoming harder to come by, and at the same time the majority of the squatters had either moved on, moved in or grown up to become yuppies. The area still retains a relaxed free spirited charm,

increasingly the economy has diversified, new populations of wealthy and / or retiring urban refugees are currently moving in from the Okanagan and Calgary, and most recently (1990's) a significant number of German nationals are buying up river front property. If one thing can be said about this area, it is no stranger to change.

3. Property Rights Details

Property rights research is based on the distribution of rights and responsibilities that a stakeholder, or collection of stakeholders exhibit over a resource (Bromley, 1992; Schlager and Ostrom, 1993). The five commonly held characteristics of all property right regimes include the rights of access, use, management, exclusion and alienation (Schlager and Ostrom, 1993). The distribution of these characteristics reflects not just the nature of the governing regime (Private, State, Common Property or Open Access) but the values of the stakeholders, and their ability to tap into any associated resource-benefits stream (Bromley, 1992; Freudenberger, 1994). In other words, the distribution of decision authority over a natural resource "often determines who benefits from [a] project as time goes on" (Freudenberger, 1994). Different users, of course, value different aspects of these benefits (i.e. social, economic, environmental) and in British Columbia the increasing articulation of these values is polarizing stakeholders, burdening resource usage with conflicts, and changing the distribution of decision authority over natural resource use in the province (CORE, 1994; CBT, 1995; MoF, 1994; Forest Renewal, 1995). This section of the report presents the general types of land and natural resource uses located in the study area, and articulates the distribution of property right characteristics for each. The next section briefly describes none-property related pressures that influence practical resource use decision making, and the subsequent section draws natural resource management implications from this property rights and land use information.

Tables 2, 3, and 4 highlight the types of property rights retained by each user or stakeholder as they are articulated over each resource, as found in the detailed study area. Table 2 highlights details of forestry resource's, which are broken down into the four basic tenures as follows: Forest Licenses (held mostly by Slocan Forest Products), Tree Farm License (Pope and Talbot); Woodlot Licenses (a partnership between local and crown interests); and Small Business Forest Enterprise Program (a combined educational and employment program between crown and private interests). The crown also presides over all micro-level uses of forested crown lands for such activities as firewood collection, Christmas tree cutting, grazing and haying rights and the upkeep of minor roadside

recreation areas. Table 3 covers broad based land uses such as mining, wildlife, agriculture, parks, water rights, the hydro-electric reservoir and some economic development initiatives. Table 4 concentrates on local level uses such as local hot springs, settlement, heliskiing and the local wild mushroom harvest.

The smaller, detailed research area was used to limit the extent and types of land uses and property rights considered in the research. The dashed lines of Figure 2 outline major forestry boundaries areas which include the basic forest tenures. The lightly shaded areas represent private lands (including alienated crown properties). Other major land uses include lands under the municipal authority of the Village of Nakusp (marked 'M' on Figure 2), Central Kootenay Regional District (marked 'RDCK') and Parks (marked 'P'). One of the more important players overseeing land use in this region is the Ministry of Environment, Lands and Parks (MoELP), who 'own' no land, per se, but who manage and license for such things as wildlife, fisheries, water rights, some recreation, and the parks.

3.1 Crown Forests

Forest practices are one of the largest concerns for the local land users (MoF, 1994; CORE, 1994) and is supervised by the Ministry of Forests (MoF); who administer the state legislation and are ultimately responsible for the management and alienation of all crown owned forest lands. These lands are managed under area based Timber Supply Areas (TSA's), company run Tree Farm Licenses (TFL's), volume based Forest Licenses (FL), privately owned Woodlots (WL), Small Business Forest Enterprise Program (SBFEP) and general use permits. Overall, there are two major groups of timber based forest users: large forest companies that require high volumes of forest products for the operation of their mills and processing facilities (FL & TFL), and smaller, local level forest users and companies (SBFEP, WL) that operate small operations, or contract out to larger companies. Individual uses of the forest products are limited to minor cutting rights for firewood, Christmas trees, etc., through the granting of temporary permits.

Forest License (FL). A Forest License (FL) is a long term volume based tenure giving a specific company access and use of crown forested lands within a regional Timber Supply Area (TSA). The Kuskanax Creek research area lies in the Arrow TSA #3, which is managed by the MoF out of Castlegar, Nelson and a division office in Nakusp. The stakeholders in the FL areas include the MoF, the forest company (in this case, Slocan Forest Products), contractors and employees, environmental lobby groups and local land

users and area residents. Generally, the 'public' has an individual right to access crown land, but they simply can not take anything out of it (no rights of withdrawal). The forest company (Slocan Forest Products) negotiates use and withdrawal rights from the government to a specified volume of a certain tree species, over a limited period of time and location. Areas SL15, SL16, SL17, SL21 on Figure 2 are all licensed to Slocan Forest Products, located 50 km. to the South East, for supplying raw timber for production of soft wood dimensional lumber. This type of license is for a maximum of 20 years and defines the volume, type and methods of timber operation required. Since a FL is inevitably associated with a processing facility, it also tends to be large in extent. In the research area over 85% of the land base falls under this tenure. All other consumptive uses of trees are excluded by the crown (exclusion and alienation). In terms of management, the licensee must follow detailed use rules established by the crown (usually determined with input from other stakeholders at a regional level) with some input by the company (operational and management plans). These rules are legally binding and are intended to allow commercial forest harvesting to take place with limited environmental impacts for the duration of the license.

Local community groups have been quite vocal in their objections to historic forest practices and lobby the government extensively to apply and monitor a higher standard of commercial forest practice. The term 'lobby' is used as these groups do not consume resources (withdrawal) and ultimately, have no direct say in the creation and application of management rules (management). They do, however, have potential clout in monitoring the application of these rules and acquiring rights to exclude certain areas from logging (exclusion and *de facto* management). These groups have been instrumental, for example, in creating the political climate for the establishment of the nearby Valhalla Provincial Park and the more recently proposed Goat Range (White Grizzly) protected area located along the east boundary of the research area.

Employees and contractors are strictly users of the land in that they have no rights to make decisions over management, exclusion or alienation other than that dictated by the government or the company. Local users and municipalities do have local interest in these forests for small scale consumptive and non-consumptive uses such as firewood, wildlife, and scenery values, as well as economic stability (jobs); but again, they are simply lobbyists with no identifiable rights of withdrawal and have no decision authority over management, exclusion or alienation unless they are directly affected by forest use decisions.

Many of these rights are articulated in the recently enacted British Columbia Forest Practices Code (FPC), a Provincial Act that recognizes some non-consumptive forest

values such as recreation, visual qualities, cultural heritage and forest health (FPC, 1994) when making forest management decisions. These are each explicitly detailed in the regulations and guidelines, and are reviewed by the companies, the MoF, and the public, through open houses. If, through these reviews, concerns are brought up in writing, then the proponents (Slocan Forest Products, or others) must address them in some way, and thus they may impact forest practices by requiring the proponent to alter which management requirements that it applies. During the late winter months the local newspapers contains numerous announcements for public viewing of proposed development plans, silviculture prescriptions and different forms of management and operational plans throughout the area. At this stage, public viewing is for compliance confirmation, information dissemination and conflict avoidance; and not rulemaking or enforcement. Public participants only have actual rights for input into use (or disuse's) of certain standards of practices if they are directly impacted by a harvesting proposal, or are explicitly recognized within the legislation. Ultimately, responsibility over decision making is still held by the MoF and articulated through a company 's negotiated silviculture prescription.

Tree Farm License (TFL). Tree Farm Licenses (TFL) are slightly different from Forest Licenses as the company (in this case, Pope and Talbot) has a more general authority over the land itself. A Tree Farm License is a long term (25 year) area based tenure for the management and utilization of crown timber outside of a TSA, and can contain privately owned lands. Similar to a forest license, a TFL is designed for larger companies with processing facilities which must follow the same management rules as other forest users (as directed by the FPC). In this case they do, however, have increased rights to exclude others from using the lands under their license (exclusion and alienation), have more flexibility in operational area and, being area based more security in land base. Again, a TFL is still state property as the crown retains final decision authority over all the rights and both management and operational plans must still be approved through the MoF. The area in question is small in this case study, but is very extensive throughout the rest of the Arrow Lakes region.

Recently, local contractors went on strike against the area based licensee. Their issue was over how the costs of forest use and withdrawal are distributed as they were not getting enough work to pay for their equipment costs. Although they may or may not disagree with other considerations of the new Forest Practices Code, they take exception to being required to carry the burden of the changing infrastructure and equipment costs of implementing these new rules (Personal Interviews). Since there was little work for

them this year (because of a surplus of stock imported that winter from Alberta) and there were high costs associated with upgrading equipment to meet rapidly changing forestry standards, the strike, became an expression of their rights for use (with compensation) and was not associated with rulemaking or management authority. Community, contractor, employee and local government rights are the same as in a Forest License.

Small Business Forest Enterprise Program (SBFEP). Through the Small Business Forest Enterprise Program (SBFEP), the crown has established a system of supporting local level use of crown forests. This is a negotiation between the state and individual local companies to apply or use various degrees of forest management responsibility in their operations. The SBFEP is a short term, volume based license designed to provide opportunity for small companies to enter into forestry without the burden of long-term planning, reforestation and management requirements. Silviculture and management planning are provided by the Ministry of Forests (MoF). So too, is some degree of job training (the province's goal is to manage as much as 12-25% of the TSA under this initiative; MoF, 1994). Each negotiation is tailored to the individual capacity for land use management exhibited by each company (individualized withdrawal and management). No collective negotiations, agreements or shared decision-making institutions were evident, and the MoF retains all rights and responsibilities for forest management, exclusion and alienation. The government simply distributes the costs and benefits of forest use and withdrawal on an individual basis, to individual land users. All standards of forest use, as laid out by the Forest Practices Code, including recognition of non timber values, must be adhered to.

Woodlot License (WL). The structure of the Woodlot License Program is exactly the opposite of the SBFEP. Private woodlots are private property that are, generally, not required to comply with state forestry regulations. Being private, individual land use management and practices vary considerably from case to case, and since the Forest Practices Code does not apply to private lands, other land users and groups have no legal authority over private land use. In Woodlot Licenses therefore, the government gives incentives for the local woodlot owners to apply crown management requirements on their private woodlots by making crown lands available for private consumption if these private woodlot owners apply government standards and rules to their own lands. In this way the state increases its management and exclusion authority over private land, and the private woodlot owner profits from having more harvestable land available to them. Considering economies of scale, many small scale operators appeared to appreciate having access to

more wood in this fashion, even if it does limit their individual freedom for rulemaking. Opponents to forest logging point out an apparent increase in deforestation on private forested lands over the last ten years. No Woodlot Association or other collective management institutions were found in the study area.

Permits, Grazing and Recreation. The MoF is also responsible for incidental permits for local use of crown forest lands for such things as firewood collection and cutting Christmas trees. These tenures are strictly a means for the state to allow small scale use of crown forests in an organized fashion that does not conflict with other users. Access to forested crown lands are generally open, but if someone wants to cut just about anything - a permit or license is required.

Aside from supervising all of the above, the MoF is also responsible for grazing and hay rights on public lands. These rights are given to private individuals by the MoF to use state land for private ranching purposes. Use of the land for grazing and hay is of only minor importance in this area, and is distributed like any other user permit on crown land.

Since the MoF is also responsible for recreation sites on crown lands, several local trails and picnic locations near the Kuskanax Creek are maintained by the MoF (i.e. Mount Jordan, Kimbol Lake, Wenseley Creek rest sites). Anybody has the right to access these crown lands for non-consumptive recreation purposes but no withdrawal rights are allowed. Other recreational opportunities such as mountain biking, hiking and bird watching are present and quite popular in the area. These recreation activities are fairly low key and don't require permits. Local community groups do promote 'safe use' rules and standards of conduct for recreational users. These are self imposed and generally only socially enforceable. If a problem does occur, the crown may be asked to intervene by writing or enforcing a regulation.

3.2 Commission on Resources and the Environment (CORE)

Although the FPC is the most recent and explicit articulator of forest resource property rights (use, access and management) it only has authority over forestry on crown lands. The Commission on Resources and the Environment (CORE), on the other hand, was a recent regional planning and land use allocation process to integrate multi-stakeholder values and land users into planning and decision-making over the whole area. As a process for dealing with land use conflict, CORE involved eighteen months of public round-table discussions between 1992 and 1994, and tried to bring consensus and direction to regional land use allocations; essentially dealing with the property rights of alienation

and exclusion, as opposed to use, access and management. Participants included resource users, companies, environmental groups, local governments and individual interests (Appendix 3). The local CORE process succeeded in re-partitioning the West Kootenay's Region into land use strata - each appropriate for different levels and types of resource use (exclusion & alienation). Within such areas, access is generally open to anyone but no withdrawal rights are allowed, and all internal decision authority is government based. These zones ranged from fully protected parks areas that disallowed any consumptive land uses; special management zones that required some degree of 'extra care'; through to integrated resource management 'zones' that continued to allow traditional resource extraction developments (Core, 1994). None of these 'zones' fall within the immediate study area, but the process was an important one regarding local distribution of property rights. One nearby area is the proposed Goats Range Protected Area located immediately adjacent to the research area to the east.

The round table process used by CORE involved the major stakeholders discussing land designations from a consensus perspective, and the government acting, not as decision makers, but as facilitators providing information and support (shared authority over exclusion and alienation). This was unique to the province, and for a year and a half, the delegates hashed out land use designations before finally presented these to the government department in charge in late 1994. Unfortunately, the group almost reached a consensus but didn't quite make it before they had to submit their recommendations. Later, when the government produced its final plan, it contained changes to the original consensus derived recommendation. Any differences, of course, were ripe for ridicule, and since the original decisions were revised by the government, there appears to be a question about the effectiveness and integrity of the consensus process itself. Effectively, the *short circuited* process opened itself up to mudslinging and further polarization over regional land issues. Despite all of this, however, the strength of the CORE was in providing a process and direction for regional land use planning and allocation during a time of serious conflict between stakeholders, and is a valuable one.

Overall, the CORE demonstrated shared decision authority over broad property right characteristics of exclusion and alienation but not the specifics of access, use and rulemaking. Since decisions over management and withdrawal were not under the mandate of CORE, at present nobody appears to know how the zones that allow some form of resource extraction will actually differ in management criteria from each other or what, if any, land use rules will be applied. CORE will definitely have an effect on forestry operations as forest lands are re-assigned to other uses. The question is how much effect. The Provincial government says that CORE will result in a maximum 6%

reduction in harvest levels overall, while the Forest Industry claims as much as 22% (CORE, 1994; and FPC, 1995). The real impact is still unknown and depends as much on enforcement as on how well defined each 'zone' becomes.

Outside of the FPC and CORE, there are numerous other resource based land uses in the area.

3.3 Wildlife Resources

Fish. The Ministry of Environment, Lands and Parks (MoELP) is responsible for managing the fish, wildlife, parks and water resources in the area. Fishing in the Kuskanax Creek area is limited to below the falls located one kilometer above Gardener Creek (just below the hot springs in Figure 2). This spatial limit is intended to protect areas of downstream spawning habitat. Fishing licenses are granted for limited withdrawal of all species, over a designated time period (by the day, the week or the year), in a defined area and serve to track pressures on fish harvest. They are not transferable and decision-making is held by the State.

Hunting. The hunting season is monitored and regulated, but applies no special limitations to this area. Hunting permits are individually bought by private users to allow them to withdraw a limited number (bag limit) of a certain animal species (examples include elk, deer, moose, bear, grouse and cougar), from a specific area over a set period of time (usually during the fall or winter months only). The government controls the number and content of these permits based on species population trends and regional wildlife management strategies. Local level input into definition and management of these resources has been attempted by community conservation and wildlife groups, but has not been very successful. Ultimately, use, management, exclusion and alienation rights sit firmly in the hands of the MoELP (Wildlife Act). Since wildlife habitat and forested lands overlap extensively, the MoF may be consulted if land use decisions affect forestry operations.

From a local perspective, even though the right to hunt is considered to be an individual right of access and use, the responsibility for management remains with the government. This polarization leads to management difficulties. Even though effort is sometimes made to soften these boundaries through public education and presentations to conservation organizations, for example, very rarely is any actual management decision authority divulged. The result is that when an animal, such as a bear, wanders out of the forest (provincial jurisdiction) into the town (private or municipal jurisdiction) looking for

food as happened this spring, only extreme solutions seem to be considered: either the province is called in to remove the animal (management by state), or it will get shot (management by citizens). If any damage has been done, then the burden of responsibility is aimed towards the provincial conservation officers for allowing their wild animals to endanger private property.

TrapLines. There are two registered traplines running through the research area. Trappers are licensed to access and withdraw wildlife species within their designated areas. They have no rights to restrict other users authorized by the government (no exclusion rights) and licenses are only transferable with permission from the licensee (limited alienation rights). However, since these users are explicitly recognized in government legislation, they may be allowed input into some management and exclusion decisions, if they express that their traplines are directly impacted by forestry, or other, operations (possible *de jure* management) during forestry planning open houses.

3.4 Water Resources

Water Rights are licensed by the MoELP on a use basis. Individuals are given a license to access and withdraw a certain amount of water from a defined area for a specific purpose. The MoELP retains the rights to exclude all other users, but also promotes shared use and mediates disputes between users (exclusion and alienation). Once the license is given (alienated), the government may not take it away without cause. Management decisions are based on water availability, conflicts between users, available information, and provincial and federal legislation to protect fish and fish habitat. If a licensee's use of the water creates damage to fish or fish habitat, for example, the crown has the right to apply its management rules. No immediate water license issues were directly raised by consultants, but it became apparent that potentially significant concerns included the maintenance and monitoring of the Kuskanax as Nakusp's alternative water supply during low water years, the local carrying capacity for future residential development, maintenance and upgrading of local sewage treatment and the proximity of a proposed regional landfill site to the creek itself.

3.5 HotSprings

Another interesting use of water is the HotSprings that dot the neighboring hills. There are at least four recognized sets of HotSprings in the nearby area, each uniquely used and

each demonstrating different combinations of property rights. Of the three reviewed, one is Municipally owned, one is privately owned and the third is on provincial forested lands.

Nakusp HotSprings. The Nakusp HotSprings is privately owned by the Village of Nakusp, and sits in the middle of a provincial park. The water comes from, and returns to, the park (withdrawal), but the pool itself is owned by the town (management, exclusion and alienation). This is a hybrid association between the Village of Nakusp and BC Parks (an arms length division of the MoELP) that is allowing the village to promote and control tourism development at the HotSprings. Local businesses are trying to gain access and use rights in order to tap into the tourism potential, but these are still retained firmly by the Municipality. If any environmental damage occurs, the MoELP retains some management and exclusion authority for habitat protection. These HotSprings have been a local commodity for generations, and with 60,000 visits per year are expected to be the backbone of future economic development initiatives. Despite the fact that the municipality controls all private property rights, local users do have a long history of involvement in this resource, and have considerable *de facto* input over how the pools are run. Through public discussion and pressure, and a strong local affinity to the HotSprings, the public may potentially have alienation rights, through public outcry if the HotSprings were ever sold or poorly managed.

Halcyon HotSprings. Halcyon HotSprings, just outside the research area, is privately owned by a collection of local investors. The site used to be the home of an historic hotel in the early 1900's and is now an undeveloped private property. The water still remains however, and while some of it is piped to private residences the rest is funneled into two openly accessible pools. The owners are not exercising their control over access and exclusion rights, and the pools are, effectively, open to public use. The users vary from day to day, but include a core group of people who have no official rights, but who take care of the place, rebuild the pools when they collapse and moderate users (*de facto* management). They essentially manage it as their own, but have no authority if the property is sold (alienation). The owners appear to be holding discussions with potential out of town developers so these *de facto* property rights may soon become a thing of the past.

Halfway HotSprings. The third example is a group of HotSprings located on provincial forest lands. These fall completely under state authority, but also include local individuals and community groups as users who periodically contribute to maintenance

(i.e. the local boy scouts organize clean up campaigns once per year or so). Management and use guidelines are clearly based on social etiquette and a good neighbor policy of cleaning up after use, and consideration of other users (*de facto* rulemaking). As a community property, considerable public outcry would be raised if the immediate area were ever alienated or made available for logging.

3.6 Columbia River Reservoir

In terms of the Columbia River Reservoir, the government has clearly retained all authority over its use, management, exclusion and alienation. By making this river into a reservoir, the government demonstrated these rights in full. For example, in the late 1960's, local people were required to remove themselves from their homes (with what many claim was inadequate compensation) and relocate in other parts of the valley. The social consequences of these actions are still being felt in water rights negotiations and dealing with BC Hydro today. Despite the facts that local users have access to the reservoir, they retain no authority over reservoir use, management, exclusion or alienation, and are clearly concerned that the sixty eight foot annual vertical fluctuation in reservoir level negatively effects shoreline stability, accessibility, visual appeal and environmental health. The international Columbia River Treaty, negotiated thirty years earlier, clearly gives withdrawal rights to downstream users for flood control and hydro-electric power generation. In 1997, the current downstream benefits agreement with Bonneville Power Corp. in the USA will be revised, and some of the economic benefits to downstream users are to be repatriated back to the Province of BC (A total of seventy two million dollars of these benefits are expected to be distributed through the Columbia Basin Trust over the next decade or so). There is considerable debate over how the benefits from downstream uses are to be re-distributed locally by the communities and peoples bordering on the reservoir. With historically poor recognition of local values and property rights, skepticism about equity issues is apparent (Personal Interviews).

3.7 Wild Mushrooms

There is clearly considerable use of crown (and private) lands for private collection of wild forest products such as the *Matsutake* or 'Pine Mushroom'. The underground (unregulated) industry that surrounds this fungi has caught the attention of the government as it is a potentially very lucrative industry, currently with an estimated ten million dollars in provincial sales per year; it involves access onto state and private lands (which may or

may not allow permission) and is completely unregulated and untaxed. Since it is unregulated, the state, at present, has some theoretical rights to make management, exclusion and alienation decisions, but has not decided how best to articulate these (MoF, 1994). There is presently ongoing discussion on whether to try to license the distributors, the pickers, or nobody (MoF, 1994). The picking season in the Nakusp region is an intense three weeks in duration and is surprisingly secretive, despite the influx of up to fifteen hundred non-local pickers scouring the surrounding forests for mushrooms worth as much as six hundred dollars a piece (potential individual profits run as high as fourty thousand dollars, tax free) (MoF, 1994; McLean, 1992, Personal Interviews).

The user that comes closest to retaining decision authority over this resource currently are the distributors. Their influence is through the economic incentives of buying and selling the mushrooms and price control, but exert no direct control over withdrawal or management. One distributor talked about trying to exert management and exclusion rights over other mushroom pickers in order to protect the resource, but since he retained no generally accepted nor enforceable authority over this resource use (as opposed to simple buying power), these efforts were independent and ineffectual. Users on private property have exclusive rights to do what they want. Other users (pickers) have no rights other than access and use. Picking of any products in park lands, for commercial purposes is strictly forbidden.

The wild mushroom harvest can be considered an 'open access' resource, as even local participants have no apparent management or control over the resource, nor have any effective common property institutions yet evolved.

3.8 Heliskiing

A successful Heliskiing operation is based out of Nakusp. The local operator (Kootenay Heliskiing) has exclusive recreational skiing rights (sole commercial access) to a broad area of high alpine slopes, including eight locations within our detailed research area. A multi-million dollar industry, this winter sport makes non-consumptive use of mountain areas with open timber, and is dependent on scenic beauty and quality of experience. As with most 'danger' sports, the principle management guidelines are based on private health, safety and liability insurance. Through negotiation with the government the company retains exclusive commercial use and access rights to this particular resource; these rights are not transferable and the company must comply with state environmental management and safety legislation (management). Commercial forestry may have the right to harvest these same areas, but they can not limit commercial ski access. Because the

company license is exclusive, no other company can operate a commercial ski operation there either. Since they are a local business that solicits local input into yearly management plans, some decision authority over management is shared with local citizens at the annual public open house (possible *de facto* input into management).

3.9 Mining

Mine claims do exist here, but are presently negligible in importance in our research area. The larger area to the SE is well known for lead and silver, gold is to the north (and somewhat to the south) and nearby a graphite deposit was recently found (1980's); but no major mining claims are presently operating in the research area. Some small scale placer claims appear to exist near the mouth of the Kuskanax, but because of the recording mechanisms in place, the researcher was unable to easily ascertain if these claims are still current.

Mining claims are interesting as they exist on top of other tenures. In other words, just because someone owns the land, does not mean that they can mine it, nor does it mean that they can control or prevent somebody else from mining it (layers of exclusion and alienation rights, MoEMPR, 1995). The Minister of Energy, Mines and Petroleum Resources (MoEMPR) retains alienation rights over the subsurface resources in most areas (alienation), irrespective of whether they are sitting under private or public property (some limitations do apply, MoEMPR, 1995). Once a license is given (i.e., a placer claim is staked), then access to that land becomes assured (access), and the extracted subsurface resources become private chattel for the duration of the license, irrespective of private ownership of surface rights (withdrawal and alienation). Strict rules are in existence that determine how long an individual retains these rights (alienation is temporary), and these rights are not transferable. In the case of private property, some form of compensation must be given to the surface property owner, and a buffer zone (curtilage) is usually provided around dwellings and actively used lands. Only when the private use of the land causes environmental or financial damage to others may the government step in to regulate environmental management requirements (management). Some mediation services are provided by the MoEMPR when conflicts occur.

3.10 Agricultural Lands

Agricultural lands in the research area are privately owned. This means that private rights, rather than state regulations apply to their use and management, and the individual

land owners are quite free to do what they want (within legal health and safety limits, of course). There is one glaring exception. In BC, most of the arable agricultural lands have been designated into the Agricultural Land Reserve (ALR), based on soil capability. All of the agricultural lands in the research area fall within this category. In order to protect these lands from competing uses (i.e. settlement, industry or transportation, for example) on a provincial level, the province has designated almost all of British Columbia's high quality farm lands as ALR. What this means is that agricultural lands may not be easily subdivided, or differently used without first being withdrawn from the ALR. The private land owners still retain alienation rights in that they may freely sell the land, but they cannot subdivide it, and sell it off as building lots (they have lost some of their exclusion rights). Even though commercial agriculture is no longer considered viable in our research area, most existing farms and open areas will likely stay that way, as farms. The fact that most of the valleys settleable land had been earlier expropriated by the province and is now under water makes this a very contentious issue for many local peoples.

3.11 Settlement Areas

Village of Nakusp. In a general sense, the Village of Nakusp holds broad scale authority for zoning guidelines (designating appropriate land uses for different areas) on private areas within their municipal jurisdiction. The village also has the authority for supplying and operating basic services such as snow removal, parking, waster supply, sanitation and sewers. Every year the village produces detailed zoning bylaws for specific land uses, backed by a five year broad scale planning (or vision) document. Any changes (and they are frequent) must undergo some form of public review, ranging from simple posting of proposed amendments (i.e. for basic building permits) to full scale community wide public hearings for larger issues (i.e. changing the community bylaws to include the surrounding areas within village boundaries, as happened in 1995). Current pressures include providing adequate sewage treatment and waste disposal facilities, discussing re-aligning highway access to downtown and lobbying the RDCK to allow subdivisions on agricultural lands.

Since many of the resource industry employees, contractors and business people are settled in the community itself, the Village of Nakusp does have a keen interest in the environmental, social and economic stability of this particular watershed. As the Kuskanax and Wenseley Creek watersheds provide the bulk of the their water supply, the town lives an ongoing debate between the needs to manage for environmental concerns such as run-off, siltation and erosion into their drinking supply, and consideration for the

visual and environmental qualities that are essential for potential future tourism expansion, with a very present desire to ensure that timber extraction jobs are available in a stable forest industry (The forests provide for major levels of employment and a stable, local tax-base). The village has no generally recognized property rights outside of its own eight km² jurisdiction.

Private Lands. Private Lands are individually owned, operated and managed independently of each other at the owners discretion. Generally speaking, management requirements are self imposed (or imposed through the courts through the actions of torts and civil proceedings), or associated with municipal zoning bylaws. Land owners retain the full bundle of access, use, management, exclusion and alienation rights. Some individual private property rights have been given up to the municipality of Nakusp and the RDCK for zoning purposes in exchange for the municipal provision of basic services such as roads, sewage treatment and other utilities (management and exclusion). Internal management is based on an individual balance of personal beliefs, preferences, some social pressure, and compliance with external standards.

Regional District of Central Kootenay (RDCK). The Regional District of Central Kootenay (RDCK) plays a small role in the more settled parts of our research area, mostly near the reservoir itself. Their jurisdiction is limited to zoning and providing building permits, managing the ALR, prevention and protection from environmental hazards such as forest fires and runoff, and overseeing industrial developments and/or log boom grounds and their associated landing areas. (The latter are located close to the reservoir but are mostly outside of the research area). There is some talk of making a blanket designation of 'Forest Land Reserves' (comparable to 'Agricultural Land Reserves') for all regional district forest lands for environmental protection and management on both crown and private forested properties. This is not presently the case.

Alienated Crown Lands. Alienated Crown Lands are essentially private lands held by crown corporations and utilities. The crown itself is the user. Since the full bundle of property rights is retained by the user these effectively become private properties, which must, however, comply with all state management regulations. Examples include the expropriated hydro lands near the reservoir, transportation and road corridors, telephone and electric line right of ways, etc. Public input is limited to input sessions and periodic public reviews.

3.12 Summary

The state (the Province of British Columbia through its various natural resource ministries) retains primary decision authority over the full bundle of property right characteristics on almost all natural resources and land uses on crown owned lands in the research area; and allows access and withdrawal rights to registered users through the issuing and monitoring of a variety of licenses, permits and contractual agreements. This covers, generally, all aspects of forestry, mining, wildlife, parks, hydro, recreation, and water rights. Even agriculture, which is basically private property, is significantly controlled by the state, which exerts exclusion rights through the Agricultural Land Reserve (ALR). No explicit common property regimes were observed and only one unmanaged resource was found (wild mushroom harvest). In almost all cases, however, some degree of overlapping or shared decision making authority was evident in the distribution of property rights. In some cases management rights, for example, were not simply applied by the government, but negotiated between the stakeholders using the resource (i.e. SBFEP, WL); discussed with multiple stakeholders through public participation processes (i.e. FL, TFL, Recreation, FPC, CORE); or applied by external funding agencies (i.e. economic development initiatives, Forestry Renewal BC, Columbia Basin Trust). In other cases, exclusion rights, for example, could become part of a negotiated licensing arrangement (Heliskiing, WL); shared through multiple use situations (i.e. negotiated water rights, municipal zoning) or discussed and debated at public open houses and land use reviews (i.e. forestry open houses and meetings for CORE and the FPC). Very rarely are alienation rights shared, but even these are not always clearly articulated (i.e. completely missing as per wild mushrooms, negotiated between stakeholders as per water rights, or even taking the form of *de facto* decision authority through extreme public protest.

4. Other Pressures on Land Use Resources

Not all land use decision making comes from property right holders. Other players in the regional land use debate include the federal government, environmental protection groups and economic development initiatives. None of these directly owns land, but still manage to exert considerable influence over property rights, and imbibe multiple use values into local land use management decisions.

4.1 Economic Incentives

Partnership Agreements (FDRA II). The federal government wants to have some say in land use practices within the provincial forest industry. They have no property rights over land in BC., *per se*, but promote their values through providing money for environmental enhancement through programs such as The Canada - British Columbia Partnership Agreement on Forest Resource Development: (FDRA II) (\$300 million has been provided over the past five years, and \$200 million is being provided over the next four). This money is made available to improve silviculture practices in the province and to decrease the backlog of NSR lands (Not Sufficiently Restocked Lands). The money goes towards stand tending, re-planting NSR lands, supporting better management and silviculture practices, and identifying new or value added forestry products and markets.

This initiative recognizes that future timber harvest is expected to be less than past harvests (MoF, 1994; MoF, 1991) and implies, of course, that traditional property rights regimes have inadequately valued environmental management and reforestation practices in the past. It is important to note that the intent of this initiative is to support improved forest management and contribute to incremental wood supply (through silviculture) "[a]nd **not** (emphasis added) to displace the obligation of the landowner for long term basic forest management" (MoF, 1991). Essentially, they are buying their way into historically inadequate management rights. This example, of an outside body recognizing the economic values of sustainable forestry management practices can be seen as one of the underlying forces behind the development of the new Forest Practices Code (1995).

Forest Renewal Plan. Since 1994 the government has increased the stumpage fees and royalty rates charged to harvest public timber. This money (approximately 400 million dollars per year) is used to invest in forest renewal projects (It is also used to compensate forestry corporations for profit losses from changing the fee structure on harvesting). These funds are intended to support value added industries, as well as those that find new commercial uses for under-used forest products (hardwoods, agroforestry, alternative silviculture, etc.). As long as the forest industry is thriving, then money is available to promote innovative and alternative uses of the forested areas. Having projects money like this available enables local level economic development. Although no direct property rights are associated with this plan, standards of practice are; meaning that this project based money directs the application of individualized management rights by targeting the stream of benefits associated with resource use itself.

Columbia Basin Trust. A less dramatic, but potentially important player in local and regional land use decisions is the Columbia Basin Trust. Again, this is an economic development initiative that directs regional money towards individual and local land uses. This organization was formed as an amalgamation of local municipal interests to lobby the province for economic development funding from repatriated Columbia River Benefits. Their claim is that economic benefits have been extracted from the regional land base following past hydro-electric development initiatives, and that "the impacts in the Columbia Basin [from these past developments] far outweigh the benefits the regions received" (CBT, 1995). It is past time, they say, for some of these benefits to be redirected back into the local economy, towards local residents (CBT, 1995). Their success in capturing these benefits in the form of the Columbia Basin Trust Fund (approximately 72 million dollars) was based on concerted cooperative lobbying of the province as a group. The projects that they sponsor will operate on a local level.

4.2 Environmental Protection.

From a regional perspective, well organized environmental and social organizations are adding pressures to the land use debate. A very strong and highly focused environmental lobby group exists in a nearby valley. These organizations, again tend not to hold property rights outright, but in combination with other provincial, national and international environmental pressure groups, they have had effective impact in regional scale land use initiatives such as FPC and CORE, to the point where large areas of nearby forest lands have been alienated from timber rights and reassigned to parks. The recent protection of the Goats Range (White Grizzly) Area immediately adjacent to the research area is a prime example. The goal of these organizations is to motivate the government to provide exclusive environmental protection to specific forested areas for wildlife and habitat protection (Valhalla Society, 1995). Their influence has been considerable and has resulted in an increased inclusion of environmental values in resource management decision making province wide (i.e. wilderness protection standards in parks, forestry regulations such as FPC and regional planning processes such as CORE). Although they might not be successful in protecting every specific habitat that they lobby for (exclusion and alienation), they have been successful in influencing environmental policy (withdrawal, and rulemaking), and are a strong voice that is being listened to.

4.3 Local Level Decision-Making

Locally the story is completely different. Only on small scale resource uses, such as visiting the local Hotsprings, the operation of a local tourist outlet, the collection of minor forestry products, possibly the management of local water rights, or input into municipal affairs; do local resource users have some share in local decision making authority (usually on a small, *de facto* basis). Local land use decisions are driven much more by regional management guidelines, policies, standards, and development initiatives than by local values and social networks. In some cases, however, effort is being made to incorporate local level decision making into simple personal and social management decisions, irrespective of absolute ownership (i.e. Hotsprings, tourism, wild mushroom harvest). At this scale, regional initiatives are seen as a sometimes overpowering (yet necessary) burden.

Hotsprings. In terms of the Hotsprings, each of the three examples demonstrate some degree of social (*de facto*) factors influencing resource decision-making. Unpaid and unsolicited maintenance by local users, social etiquette guidelines amongst the users, community clean up operations, and a strong local perception that these resources belong, to some degree, to the local community all help to articulate these community rights. Alienation and exclusion are difficult not because the local peoples retain legal ownership of any of these properties, but because of the community uproar that could occur if these resources were ever mismanaged or sold would be considerable.

Local Tourism. Tourism is a non-consumptive use of natural resources that is touted as the panacea of future economic development. Since the area has considerable natural appeal and recreation potential, it is blanketed with small scale hotels, bed and breakfasts, camping sites, recreation areas and retail outlets catering to tourist ideals. No general property rights are retained by the individual tourism operators in that they are almost totally dependent on broad based natural values, tourist wildlife experiences and an area wide visual appeal; None of which they have any control over and which are derived mostly from publicly owned forested lands and 'natural' environments. These local users try to balance private and local rights to establish and run businesses, with public and regional rights to lobby the government for non-consumptive wildlife use. Some controversy exists over the potential for this industry to influence local land uses as tourism land values (i.e. beauty, natural experience and scenic qualities) are often in direct conflict with traditional resource extraction industries (i.e. timber supply and mining),

which are still currently relied upon locally for jobs. Tourism development initiatives and joint business ventures are not yet able to compete with the natural resource industries for shared property rights on an individual or level), but they have been active on regional planning initiatives; and have influenced the inclusion of 'visual quality' values into forestry legislation.

Water Rights Disputes. In some circumstances, the regional rule makers have taken it upon themselves to encourage and enhance local shared decision-making, not through setting the rules or the 'buying' of management rights but through facilitating the conflicts that arise between users in context of these rights. CORE is the primary example of this but at a local level water rights can also be used. In this case the Ministry of the Environment (MoELP) has set itself up to act as mediator between disputants, as opposed to using an outside decision maker. The attempt is to equitably distribute access to water rights. Sure the state has final decision authority, and may eventually be required to arbitrate a decision, but they apparently use this as last resort.

Consensus Processes. The next example is again CORE, where the province attempted to facilitate consensus decision-making between user groups over land use designation. Decision making by consensus is new to the area, and takes some getting used to. Considerable concern has been expressed that, despite following shared decision-making intentions, and being an example of 'how to' develop consensus in complex land use disputes, time and financial constraints have prompted recent CORE actions to be seen as cursory and less representative of individual and local concerns than perhaps they were intended. With a history of private rights vs. state driven rule making, the idea of sharing responsibility over decision making is a difficult one for many people (CORE, 1994; MoF, 1994; Personal Interviews). Interestingly, with the recent changes in government, the process was labeled successfully completed and has subsequently been dropped.

Unsuccessful Initiatives. Some attempts at local decision-making have been unsuccessful. These usually occur when the group is small or not generally recognized. Examples include the local gun and fishing clubs proposal for local fisheries management; or local mushroom harvesters attempts at environmental management, which were essentially ignored in both regional decision-making, as well as by the users themselves. This implies that these groups may have good knowledge, information or ideas, and may even be recognized as important stakeholders to be included in decision making processes,

but may in fact not have recognized authority among users to make representative decisions over shared property right regimes. Non inclusion and non recognition in resource decision-making leaves local users frustrated and at the mercy of larger groups and outside economic, social and environmental pressures. The example of the local mushroom industry indicates that the local users lack of ability to control resource extraction will likely mean an imposition of new state legislation.

4.4 Summary

There appear to be four general categories of pressures influencing the distribution of property rights and local land use practices in the research area. These include provincial efforts at explicitly defining and articulating usage rights, rules and responsibilities over specific land uses through legislation (FPC); regional efforts to develop broadly acceptable planning guidelines for land use allocation, from a consensus perspective (CORE); project oriented economic development money stimulating local level land uses, usually with strings attached (Economic Initiatives); and *de facto* social interactions that still guide some public participation and land use interactions on a local scale (Local Level Land Uses). This latter category is seriously overshadowed by the other three.

Examples of regional imperatives that dominate local land use decision include the process of creating new forest practice rules; debates over environmental protection; and large scale regional economic development initiatives. Examples of local land uses that still value *de facto* input include the Hotsprings, local level public meetings, and some small scale resource users such as local water rights, local tourism, or wild mushroom harvesting. Examples of regional initiatives that call for local participation include economic development plans such as the Columbia Basin Trust and the Forest Renewal Plan and community stakeholder meetings for public interest groups. Some of these demonstrate effective use of local decision authority through banding together to pressure external decision makers as a group, some of them do not.

5. Discussion

With its history of cyclical resource extraction, changing land use regulations, physical resource limitations, and overlapping property right jurisdictions, it is no surprise that local land use debates in the region are both tumultuous and complex. Essentially, the area has

undergone a series of economic 'booms' each based on simple resource extraction over a relatively short period of time (i.e. mining, agriculture, hydro-electric reservoirs and forestry). The property rights and management requirements guiding these past resource industries typically started off as minimal and have grown increasingly complex and 'integrated' as environmental and social consequences appear; and as more stakeholder values are included in the decision making process. Overtime, however, social pressures over zoning, safety, alternative resource values, conflict management and environmental protection and shared access have started to express themselves and increasingly complex management rules were developed. New regulations, public open houses and consensus based planning processes are examples of how this evolution of multiple use rights and management values have changed.

In terms of property rights, land use in the research area has historically been divided into discrete compartments (licenses, permits, and contractual agreements) and users have been managed (with varying degrees of success) under state supervision. In this context, overlaps in decision authority were seen to focus the conflict, and when supervision is inadequate, or inappropriate, land use conflicts result. Examples include forestry use conflicts, environmental protection debates, and the appropriation of the land base to create a hydro-electric reservoir. Recent provincial initiatives have emphasized two approaches to dealing with ongoing land use disputes and environmental concerns in cases of overlapping, or multiple use landscapes. The first is by more clearly articulating users rights and responsibilities and providing explicit land use guidelines (i.e. Forest Practices Code). The second approach is to guide resource users through a broad planning initiative to identify and discuss disputes, and through consensus decisions to give direction to future land use planning decisions (i.e. CORE).

5.1 Shared Decision Authority

One thing that becomes apparent from this research is that there is increasing discussion being held over how to share decision authorities over complex and overlapping land use jurisdictions (CORE, 1994; MoF, 1994; MoE, 1995). Reading from the CORE Summary Report, without the contribution of all sectors it is no longer possible "to develop well informed, balanced and comprehensive plan[s] for the region" (CORE, 1994). In the context of predominantly state driven property right rules strong demands are being made for increasing local control and sharing of decision-making powers with resource users themselves (CORE, 1994; FPC, 1995). Current property rights increasingly require some degree of public participation and review (MoE, 1995; CORE,

1994) and tend to be oriented towards shared use and management responsibilities, as opposed to absolute ownership and exclusion rights. In fact, exclusive ownership over natural resources regimes appears to be becoming more of a rarity than a common practice.

Management Through Regulation; The Forest Practices Code (FPC). The Forest Practices Code (FPC) is essentially a complex rule book that approaches property rights through increased legislation, detailed rule making and explicit definition of recognized land uses and users. The emphasis is on making components of the first three property right characteristics of access, withdrawal and management explicit. By naming and defining roles and responsibilities, rights become clearer. Because certain multiple use values, such as non-consumptive forest uses, recreation, visual qualities, cultural heritage and forest health are also included in the forestry legislation, the effect is that a wider range of individual user values and property right characteristics are being considered in operational forestry management decision-making. Generally speaking, the FPC regulations and guidelines increase the 'legitimacy' of traditionally ignored non-consumptive land uses through their recognition and inclusion in the body of the 'rules' itself. The legislation is detailed, explicit and although somewhat cumbersome and is based on articulating the rights and responsibilities of usage, as opposed to ownership.

Apparently, actual harvesting and silviculture practices have, in fact, been improving since the late 1980's and early 1990's, but have never been legally enforced (MoF, 1994; MoE, 1995). The FPC does not so much 'create' new standards then, but attempts to put these 'known and existing improvements' into law, and makes them available for all operations to follow. The intention is to create a set of standards and guidelines that is clear and applicable to every one, irrespective of ownership, with an emphasis on rights and responsibilities of access, use and management, as opposed to exclusion through ownership or alienation. The FPC is seen to legitimize social and environmental concerns over forest practices of the past, and is generally accepted as an inevitable and useful, if overwhelmingly complicated tool for implementing management standards into modern day practice. A common consultant comment was that the FPC did not in fact create new standards, but simply consolidated existing practices into commonly applicable rules.

Management Through Consensus; The Commission on Environment and Resources (CORE). The Commission on Environment and Resources (CORE) approaches property rights decisions from the other end of the spectrum. Through multiple stakeholder consultations, the attempt is made to use consensus decision-making to develop land use designation and planning guidelines for future resource management

decisions. In this case the government role is to bring together disparate stakeholders, guide them through a joint decision-making process, provide information and structure to the talks, and then implement these consensus decisions into defensible land use designations and planning guidelines. A broad spectrum of users is recognized and cooperative agreements between them are encouraged. "The environmental, economic and social principals shall be implemented and reconciled in neutral administered decision-making processes that are open to the participation of all interests. The processes shall promote decision-making through the building of consensus amongst diverse perspectives and stakeholders" (CORE, 1994). The intended benefits of such a process are that consensus can be found on broad scale land use planning, that accommodates a full range of values, users and needs, and provide a direction, or "blueprint for managing...the provincial landscape" (CORE, 1994). In terms of property rights the emphasis here is on alienation and exclusion, rather than rulemaking. As a broad based planning initiative the process is very time consuming, requires considerable patience and understanding of values and rights, and is relatively new to the province, particularly on a regional scale. There was some concern expressed over the legitimacy of the final land use plan as representative of local values. Questions raised included the ability of delegates to represent local views, the commitment of both the participants and the government to follow through with the decisions, and the effectiveness of the process as a whole for actually resolving conflict.

FPC vs. CORE. As a means of resolving land use property right concerns neither approach is perfect and significant problems still exist in the implementation of each. Both, however, address a trend towards increased user involvement in land use decision-making by recognizing a wider range of stakeholders, non-consumptive resource values and shared authorities over land use decision-making. The common ground is increased recognition of shared decision authority over land use practices. Both of these initiatives are regional in scope. The development of both the new FPC, and the CORE process involves large scale regional consultation with a wide cross section of users. The differences in the approaches appears with the distribution of property right characteristics: the former, being based on explicit rules directed at access, use and management; and the latter, addressing alienation and exclusion characteristics through establishment of generally acceptable planning guidelines, based on consensus. Both initiatives are state driven, and involve the government trying to come to terms with the physical depletion of forest resources, the increasing demand for local control by the various stakeholders, and the maturation of strong environmental and social lobby groups. Generally speaking, the FPC is seen as being pragmatic, if overly complex, as it discretely defines detailed rules

of use and management; whereas the CORE, while interesting and innovative, is generally seen as having become bogged down in problems of legitimacy, timeliness and cost. The result of these two approaches has been increased recognition of user rights, partial legitimization of non-consumptive forest values in land use decision making, and the preliminary introduction of a land use allocation and dispute resolution process that is capable of providing direction for future land use decisions.

Public pressure and external funding. Direction for increased shared decision making authority comes from several other directions as well. The first is intensive lobbying and public input by large, well organized public interest groups. These groups influence decision making by articulating the social and environmental values of non-consumptive forestry uses. The second is significant volumes of external investment (i.e. federal or provincial money tied to silviculture, or more regional funding initiatives). The influx of external moneys affects decision making by targeting the stream of benefits associated with land use decisions directly. As a general rule, local social and cultural values are still poorly articulated *de facto* rights at the regional level, that may influence the direction of these broad scale planning initiatives, but have little direct influence on regionally held land use rights, responsibilities or benefits retention.

The difficulty in implementing shared decision processes and non-exclusive property rights into land use management comes when outside pressures such as state legislation or large economic development initiatives overshadow local decision-making by alienating the property or excluding small users from positions of decision authority (i.e. if the local Hotsprings ever get sold, local users retain no recognized decision-making authority). At this scale, local users are no longer effective at articulating their social rights to jointly manage a resource (through shared decision-making), and are forced to resort to other, more highly articulated private and public property solutions (such as the courts), which may or may not recognize cooperation and joint use. Local individual users, therefore, tend to be caught in the back draft of larger initiatives, and often have difficulty finding the time, energy and money to participate at a regional level (CORE, 1994; Columbia Basin Trust, 1995). Sometimes, as in the case with the local forest contractors strike, they also end up bearing the burden of changing property right cost on their own shoulders.

5.2 Conclusion

All of the property rights and land use initiatives discussed in this research demonstrate some degree of shared decision making. None is exclusive in either a theoretical or a practical sense; All are overlapping. State property, for example, is increasingly sensitive to public opinion and pressure to recognize multiple resource values. Private property is rarely, if ever, independent of public, cultural or regional economic incentives. Common property does not exist as such, but almost all resources display some common property like characteristics (shared authority over jointly used resources). and open access resources appear to become managed resources (usually by the state) as soon as they demonstrate significant economic or social benefits. When planning natural resource management strategies in the case study area, one would be wise to consider the evolving nature of natural resources decision making in the British Columbia mountain environment as they move towards recognizing multiple use values, increasing levels of stakeholder involvement and overlapping property right jurisdictions.

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TABLE 1: OVERVIEW OF HISTORIC LAND USE CHANGE IN THE UPPER ARROW LAKES REGION OF BRITISH COLUMBIA.

Land Use Category	Significant Time Period	Major Event or Factor Influencing Land Use
Traditional Land Use	Pre-Colonial "Néqú'sp" pre-1850's	<ul style="list-style-type: none"> • Temporary usage for hunting, gathering, fishing • Furs / Trade • Plague decimates population
Mining	<ul style="list-style-type: none"> • 1860's - 1930's • 1920 • 1980's - 1990's 	<ul style="list-style-type: none"> • "Boom Town", "Frontier" Mentality • Non recognition of existing or past property rights • Industry collapses with drop in world price and increasing competition • A few local placer claims still being made (subsurface rights)
Settlement	<ul style="list-style-type: none"> • 1890 - 1920 • 1920 - 1950's • 1964 + • 1970's • Now 	<ul style="list-style-type: none"> • Resource Town based on accessibility & trade, Transportation Nub • Episodic Development (Subsistence Economics vs Resource Extraction) • Village Incorporated • Squatters move in • Immigration of Retirees & Urban Refugees
Agriculture	<ul style="list-style-type: none"> • 1900's - 1930's • 1930's+ • 1950's • Now 	<ul style="list-style-type: none"> • Land clearing for orcharding and farms (Private property) • Industry collapses with declining market access and seasonal lateness • Subsistence economies • Farming and market gardens
Transportation	<ul style="list-style-type: none"> • 1860's • 1890's - 1920's • 1930's - 1950's • 1967+ 	<ul style="list-style-type: none"> • Exploration Route • Transportation Corridor (access by rail & boat) • Access by gravel roads and Steamboats, primarily • Land appropriation, flooding and the building of new roads
Hydro	<ul style="list-style-type: none"> • Pre 1960's • 1960's 	<ul style="list-style-type: none"> • Periodic Flooding • Negotiation of international flood control agreement • Arrow Lakes Reservoir created and existing populations displaced & resettled (Controversial public consultation & compensation)
Forestry	<ul style="list-style-type: none"> • 1900's - 1940's • 1960's+ • Early 1990's • Now 	<ul style="list-style-type: none"> • Local use for heating, building and railway ties • Some Industry use (Poles, Matches, Shingles) • Vast amounts of clearing and burning • Timber and pulp mills start and bring with them clear cuts & NSR lands • Changing Technology and Harvesting Techniques • Evolving State Regulation & Management (Evolving Standards, practices and enforcement?) • Serious timber supply problems
Tourism Recreation	<ul style="list-style-type: none"> • 1900 - 1920's • Mid 1900's-80's • Now 	<ul style="list-style-type: none"> • Hot Springs, Hotels, and Steamboats have always been popular • Problems with isolation and poor access • Now catching overflow tourism (many local), attracted by high scenic beauty and peaceful atmosphere, driven by private investments
Parks		<ul style="list-style-type: none"> • The age old question of preservation vs conservation leads now to multiple use. • Increasing recognition of non-consumptive land use values and overlapping property rights • Public Participation increases through regional consultation and consensus driven planning process (CORE)
	Present	<ul style="list-style-type: none"> • Tenure Conflicts between individual, industrial and government values. • Issues of overlapping jurisdiction and multiple use • Changing industrial base - forest consumption vs protection vs historic (mis)management practices. Short term vs long term values • Public participation and consultation increasing (Community Groups, Round Tables, Public Participation, Multi-stakeholder decision processes)

Table 2: Detailed Distribution of Property Right Characteristics over State Forested Lands in the Kuskanax Creek Watershed (Upper Arrow Lakes).

Resource Type	Stakeholder Group	Access	Use & Withdrawal	Management / Rule Making	Exclusion	Alienation
Forest License						
	MoF	√	√	√	√	√
	Forest Company	√	√	@	@	x
	Contractors	√	√	x	x	x
	Employees	√	√	x	x	x
	Community Groups	√	x	§	@	x
	Local Users	√	x	@	§	x
Tree Farm License						
	MoF	√	√	√	√	√
	Forest Company	√	√	@	@	@
	Contractors	√	√	x	x	x
	Employees	√	√	x	x	x
	Community Groups	√	x	§	@	x
	Local Users	√	x	@	§	x
Small Business Forest Enterprise Program						
	MoF	√	√	√	√	√
	Local Users	√	√	@	@	x
Woodlot License						
	Private Lots	√	√	√	√	√
	MoF	√	√	@	@	x
Permits: Cutting, Firewood, Christmas Trees +						
	MoF	√	√	√	√	√
	Local Users	√	√	x	x	x
Grazing and Hay Permits						
	MoF	√	√	√	√	√
	Local Users	√	√	x	x	x
Recreation						
	MoF	√	√	√	√	√
	Local Users	√	√	§	x	x
	Community Groups	√	x	§	x	x

Legend	
√	Clearly Articulated Rights
@	Shared Legal Rights (<i>de jure</i>)
§	Customary Rights (<i>de facto</i>) Only
x	No Articulated Rights

Property Right Characteristics	
Access	• The rights to enter a defined physical property
Withdrawal	• The right to obtain the 'products' of a resource
Management	• The right to regulate internal use patterns and transform the resource by making improvements
Exclusion	• The right to determine who will have access rights, and how that right may be used
Alienation	• The right to sell or lease other rights (Transferability)

Table 3: Detailed Distribution of Property Right Characteristics in the Upper Arrow Lakes Region.

Resource Type	Stakeholder Group	Access	Use & Withdrawal	Management / Rule Making	Exclusion	Alienation
CORE	MoELP	√	√	√	√	√
	Stakeholders	√	x	x	@	@
	Local Users	√	x	x	x	x
Wildlife	MoELP	√	√	√	√	√
	MoF	√	x	§	§	x
	Trap Lines	√	√	@	x	x
	Local Users	√	√	x	x	x
	Wildlife Society	√	x	§	x	x
Columbia River	Hydro	√	√	√	√	√
	USA	√	√	x	x	@
	Local Govt.	√	x	x	x	x
	Local Users	√	x	x	x	x
Mining	MoEMPR	√	√	√	√	√
	MoELP	x	x	@	@	√
	Local Govt	x	x	x	x	x
	Private Users	√	√	@	@	@
Agriculture	Farmers	√	√	√	@	√
	MoELP	√	√	x	@	x
	Local Govt.	x	x	@	@	x
Water Rights (Kuskanax Creek)	MoELP	√	√	√	√	√
	Local Users	√	√	x	@	x
Economic Development Initiatives		x	x	@	x	x

Legend	
√	Clearly Articulated Rights
@	Shared Legal Rights (<i>de jure</i>)
§	Customary Rights (<i>de facto</i>) Only
x	No Articulated Rights

Property Right Characteristics	
Access	• The rights to enter a defined physical property.
Withdrawal	• The right to obtain the 'products' of a resource
Management	• The right to regulate internal use patterns and transform the resource by making improvements
Exclusion	• The right to determine who will have access rights, and how that right may be used
Alienation	• The right to sell or lease other rights (Transferability)

Table 4: Detailed Distribution of Property Right Characteristics on Local Level Land Uses in the Upper Arrow Lakes Region.

Resource Type	Stakeholder Group	Access	Use & Withdrawal	Management / Rule Making	Exclusion	Alienation
Wild Mushroom Harvest	MoELP	√	√	@	@	@
	Distributors	√	√	@	x	x
	Pickers	√	√	x	x	x
	Locals	√	√	x	x	x
	Community Groups	√	√	x	x	x
Nakusp HotSprings	Local Govt	√	√	√	√	√
	MoELP	√	√	√	√	√
	Local Users	√	√	§	§	§
	Local Business	x	@	x	§	x
	Tourists	√	x	x	x	x
Halcyon HotSprings	Partners	√	√	√	√	√
	Users	√	@	§	x	x
St. Leon's Hot Springs	MoF	√	√	√	√	√
	Users & Community Groups	√	§	§	x	§
Heliskiing	MoELP	√	@	√	√	√
	Company	√	√	@	√	x
	Local Citizens	√	√	§	x	x
	Tourists	√	√	x	x	x
Settlement	Municipality	√	@	@	@	√
	Private Property	√	√	@	√	√
	RDCK	√	@	@	@	√

Legend	
√	Clearly Articulated Rights
@	Shared Legal Rights (<i>de jure</i>)
§	Customary Rights (<i>de facto</i>) Only
x	No Articulated Rights

Property Right Characteristics	
Access	• The rights to enter a defined physical property
Withdrawal	• The right to obtain the 'products' of a resource
Management	• The right to regulate internal use patterns and transform the resource by making improvements
Exclusion	• The right to determine who will have access rights, and how that right may be used.
Alienation	• The right to sell or lease other rights (Transferability)

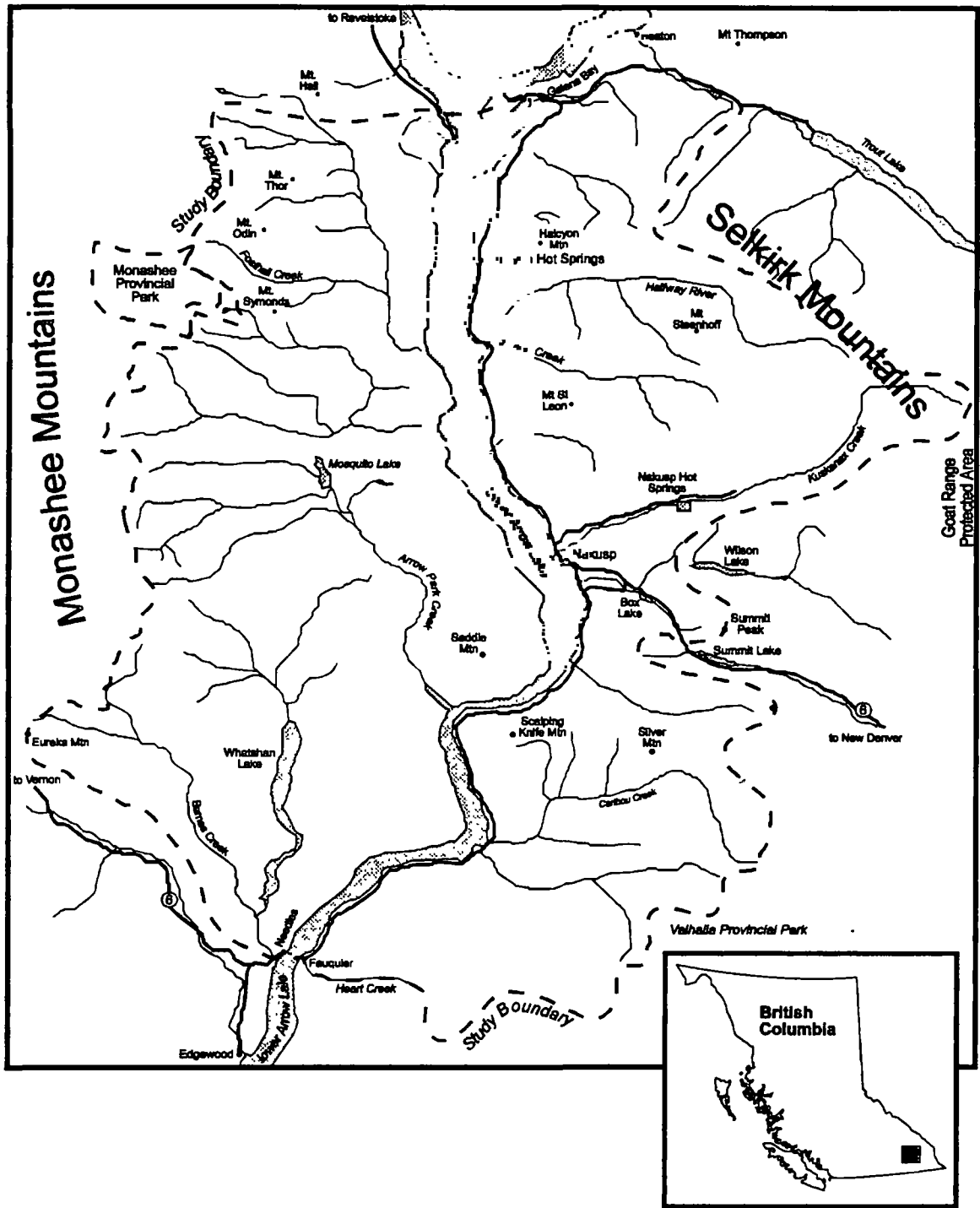
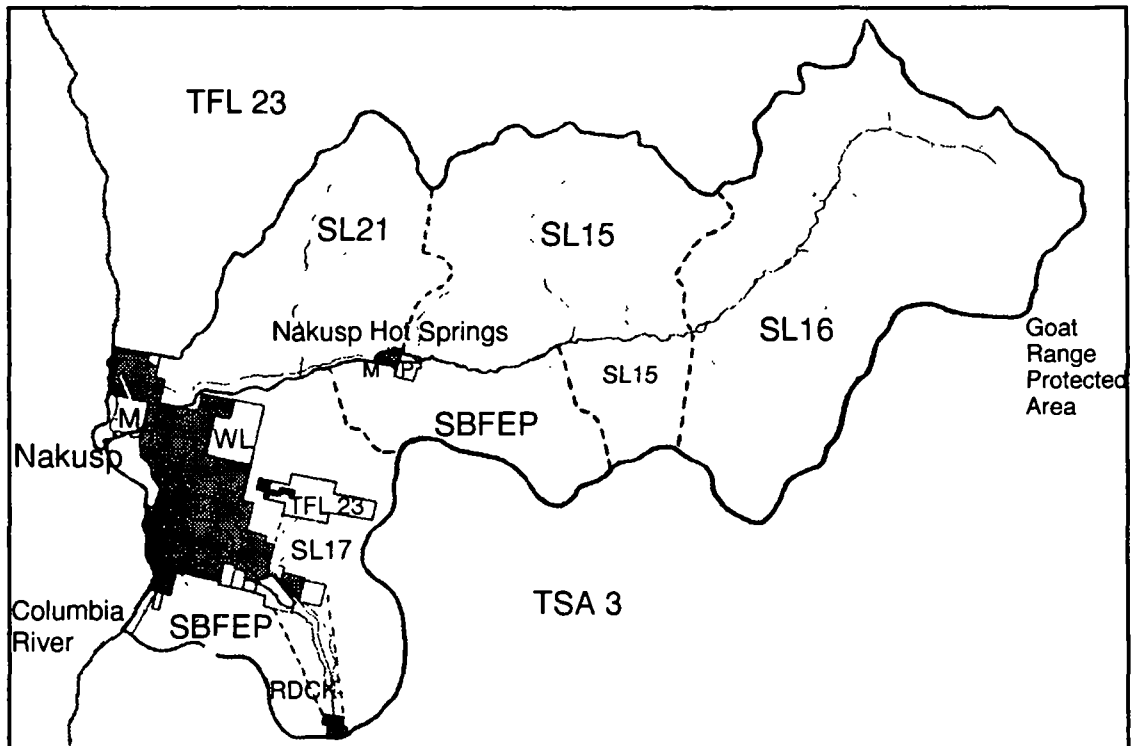


Figure 1. The Arrow Lake study area. The boundaries of the study area are outlined by a dashed line.

Figure 2: Detailed map of ownership categories in the Kuskanax Creek watershed.



LEGEND

- Private Property (Shaded)
- Municipality (M)
- Forested Lands
 - Tree Farm Licence (TFL 23)
 - Forest Licences (SL15, SL 16, SL17, SL 21)
 - Woodlot Licence (WL)
- Small Business Forest Enterprise Program (SBFEP)
- Parklands (P)
- Regional District of Central Kootenay (RDCK)

Figure 3: Population Trends

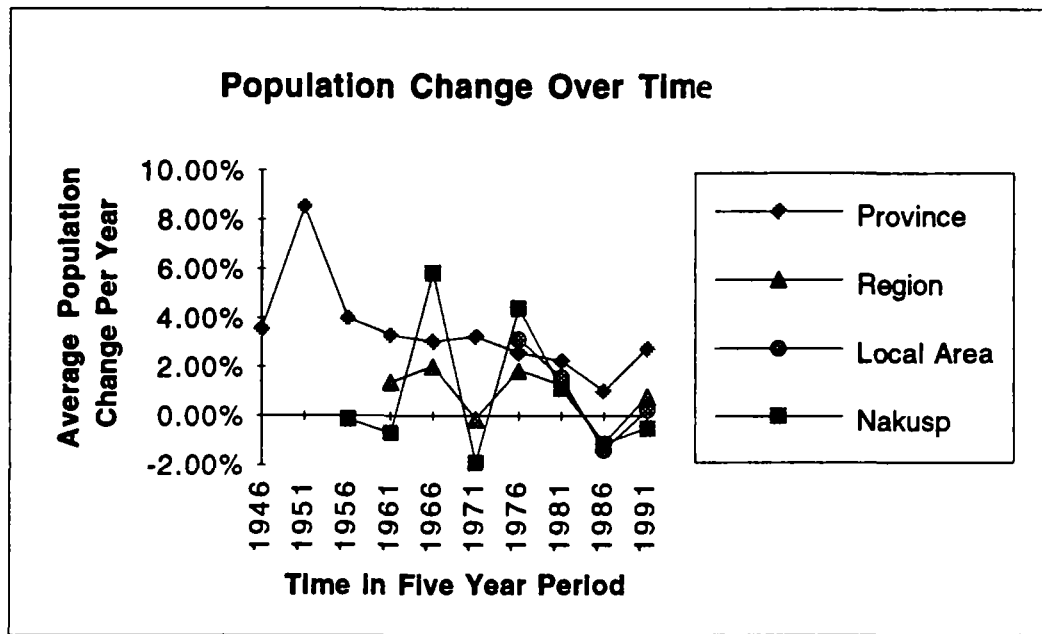


Figure 4: Detailed Population Trends

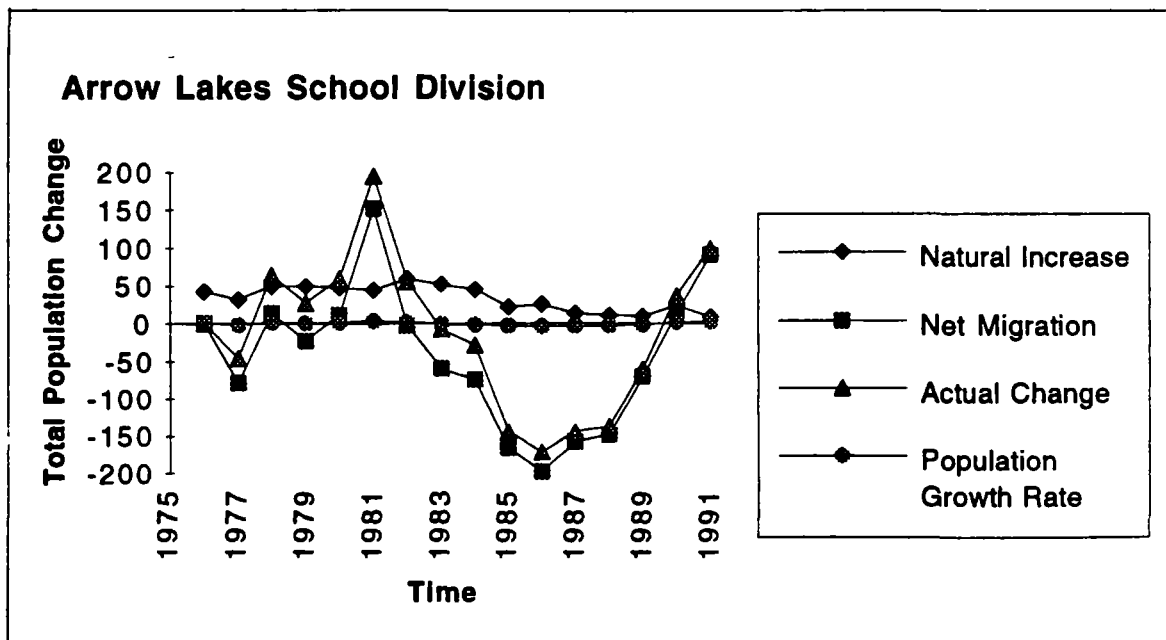
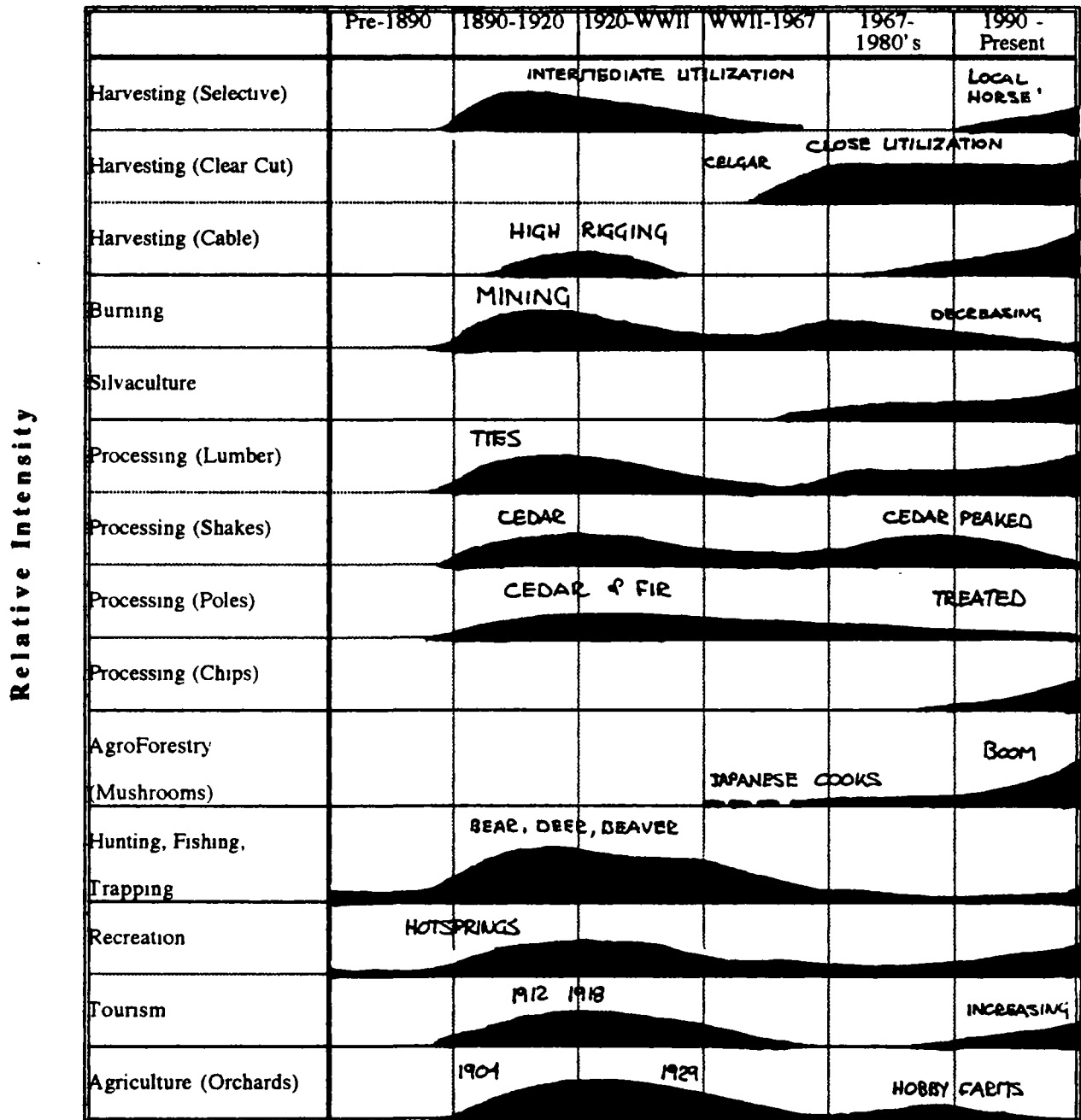
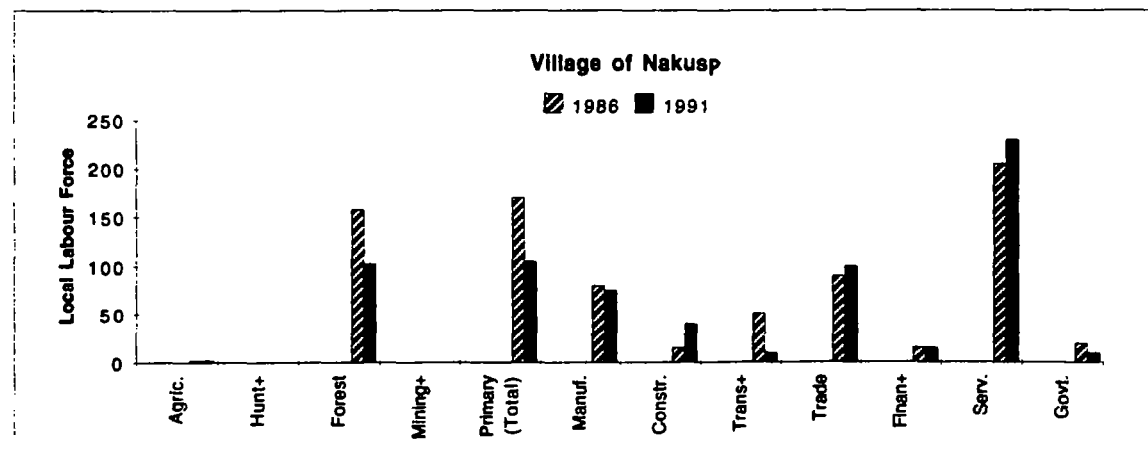
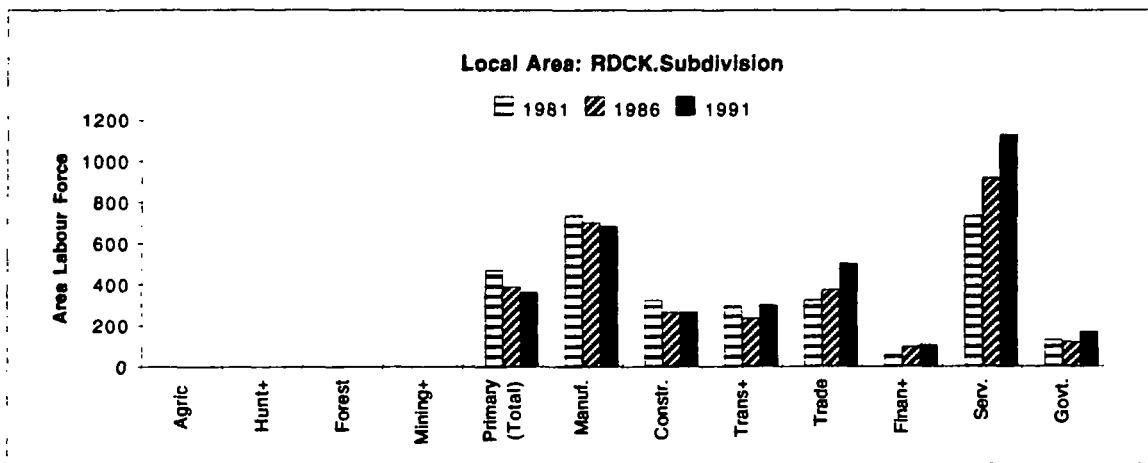
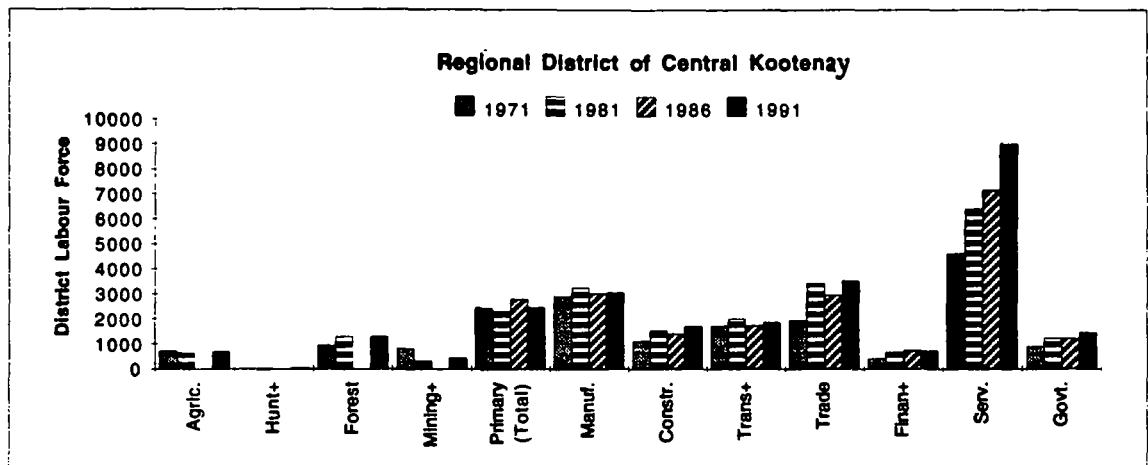


FIGURE FIVE: RELATIVE INTENSITY OF HISTORICAL USE*



*Based on Personal Interviews, Consultant Drawn Charts and Historical Literature Review.

Figure 6: Labour Force Distribution in the Arrow Lakes Area.



APPENDIX PERSONAL COMMUNICATIONS

<u>Stratification of Interviews</u>	<u># of Individuals</u>
• Ministry of Forests (MoF), Field Office, District Office, Regional Office	12
• Ministry of Environment, Lands and Parks (MoELP)	8
• Ministry of Energy, Mines and Petroleum Resources (MoEMPR)	2
• Village of Nakusp, Mayor, Council Members, Chamber of Commerce	7
• Regional District of Central Kootenay: Area K, Director, Planning Office	5
• Pope and Talbot, Director, Planners, Employees, Silviculture	7
• Loggers	6
• Contractors	5
• Citizens of Nakusp	15
• Environmentalist, Valhalla Society	6
• Kootenay Heliskiing	3
Total:	76

Appendix: Composition of the West Kootenay–Boundary Regional Negotiation Table



