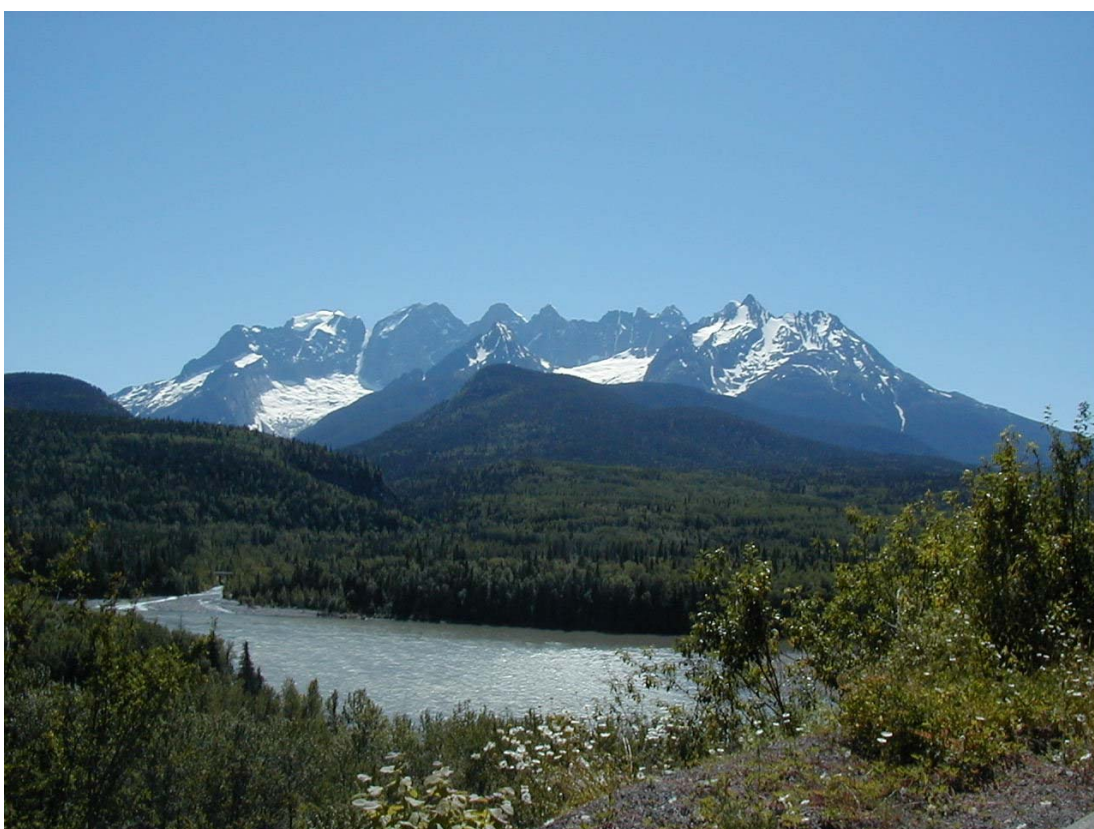




Amended Kispiox Land and Resource Management Plan



April 1996

Amended March 2001



Cover photo: Sevens Sisters Range

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Amended

Kispiox Land and Resource Management Plan

Incorporates Land Use Decisions for the
Upper Kispiox and Seven Sisters Planning Areas

April 1996
March 2001

Canadian Cataloguing in Publication Data

Main entry under title:

Kispiox land and resource management plan

Prepared by Kispiox Land and Resource Management
Planning Team. Cf. Covering letter.

"A component of British Columbia's land use
strategy." – Cover.

Includes bibliographical references: p.

ISBN 0-7726-2948-X

1. Land use – British Columbia – Kispiox Region –
Planning. 2. Land use – Government policy – British
Columbia – Kispiox Region. 3. Natural resources –
British Columbia – Kispiox Region – Management.

I. Kispiox Land and Resource Management Planning Team
(B.C.).

HD319.B7K57 1996 333.7'09711'85 C96-960220-0

Executive Summary

The Kispiox Land and Resource Management Plan (LRMP) is a sub-regional land use plan for 1.2 million hectares in west central British Columbia. The plan is consistent with the 1993 provincial government *Statement of Principles and Process for Land and Resource Management Planning* and the *Land Use Charter*.

The Kispiox LRMP is the result of the hard work and dedication of local public and government representatives with a wide range of interests. Participants worked together over several years to develop a common vision of sustainable land use for the area. Respect and recognition of all viewpoints were key operating principles at the planning table.

Although First Nations did not participate in or support the local consensus recommendation, the planning table tried to address aboriginal interests in land and resources in the Kispiox LRMP. A member of the Gitksan First Nation worked with the planning table to identify aboriginal interests in the latter stages of the planning process.

The LRMP provides management objectives, strategies and zones to guide the sustainable use of provincial Crown land and resources in the Kispiox planning area. The plan guides the management programs and activities of government agencies including the provincial Ministry of Environment, Lands and Parks, the Ministry of Forests and the Ministry of Employment and Investment.

The Kispiox LRMP provides management objectives and strategies for biodiversity, water fisheries, riparian areas, roads, cultural heritage resources, protected areas, range and agriculture, recreation, scenic areas, timber, tourism, wildlife, minerals, petroleum and natural gas, and botanical forest products. The plan designates resource management zones for protection, special resource management and general resource development.

As a result of the Kispiox LRMP, the Swan Lake Wilderness Area will be fully protected and a new protected area will be designated along the Babine River. Special features will be protected at Kitwanga Mountain, Catherine Creek and Bulkley Junction on the Skeena River. As a result of landuse decisions specific areas in the Upper Kispiox and Seven Sisters will be protected. Special resource management zones will be applied to maintain significant scenic, recreation and wildlife resources in the Atna/Shelagyote, East Kispiox/Kuldo, Rocher Deboile, Andimaul and Upper Kispiox, and in the Babine River Valley. Special resource management zones will be applied to protect water quality in nine community watersheds.

General resource development zones will be applied to maintain a wide range of resource uses, including forestry, agriculture and mineral exploration and development across the planning area in the Seven Sisters area. Management objectives and zones have been declared as a higher level plan under the *Forest Practices Code of British Columbia Act* and will guide forest development planning. The general resource development zone in the Seven Sisters has objectives and strategies, which apply in addition to those in the Kispiox general resource development zone.

Implementation of the Kispiox LRMP is the responsibility of the Prince Rupert Inter-Agency Management Committee. This group will direct the appropriate agencies to work with the public, local government and First Nations to ensure that management objectives and strategies contained in this plan are reflected in operational planning and management activities.

A local committee of stakeholders will be established to monitor and report on implementation of the Kispiox LRMP and an annual monitoring report will be produced. The plan will be reviewed regularly and will be amended every ten years or more frequently if required.

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1.0 Introduction

The Kispiox Land and Resource Management Plan (LRMP) provides management objectives, strategies and zones to guide the sustainable use of provincial Crown land and resources in the Kispiox planning area. The LRMP guides the management programs and activities of government agencies including the provincial Ministry of Environment, Lands and Parks, the Ministry of Forests and the Ministry of Employment and Investment. The plan is consistent with the 1993 *Statement of Principles and Process for Land and Resource Management Planning* and the *Provincial Land Use Charter*.

2.0 The planning area

The Kispiox planning area covers 1.2 million hectares in west central British Columbia (see Figure 1). The planning area corresponds to the Kispiox Timber Supply Area (TSA) and the Kispiox Forest District, excluding the Cranberry TSA. The communities of Village of (Old) Hazelton, District of New Hazelton, South Hazelton, Kispiox, Glen Vowell, Two Mile, Kitseguecla, Kitwanga, Kitwancool and Cedarvale are within the planning area.

First Nations have used the planning area for thousands of years. Aboriginal village sites are located along the Skeena, Bulkley, Cranberry and Babine rivers. The Skeena River, also known as the “River of Mists”, was a major trade route between the coast and the interior. Aboriginal people used all five salmon species and matched their seasonal activities to annual salmon runs. Salmon were dried in large quantities for later consumption. Berries, such as salmon berries, cranberries, soapberries, were gathered during the summer and fall. Hunting was, and is, a significant activity.

Pioneer communities developed near the confluence of the Skeena and Bulkley Rivers in the 1860s. Hazelton was the upriver terminus for up to 20 steamboats that ran on the Skeena River from 1886 to 1913. The transcontinental railway was built along the Skeena River valley in 1913. Remnants of historic mining activity are found throughout the planning area.

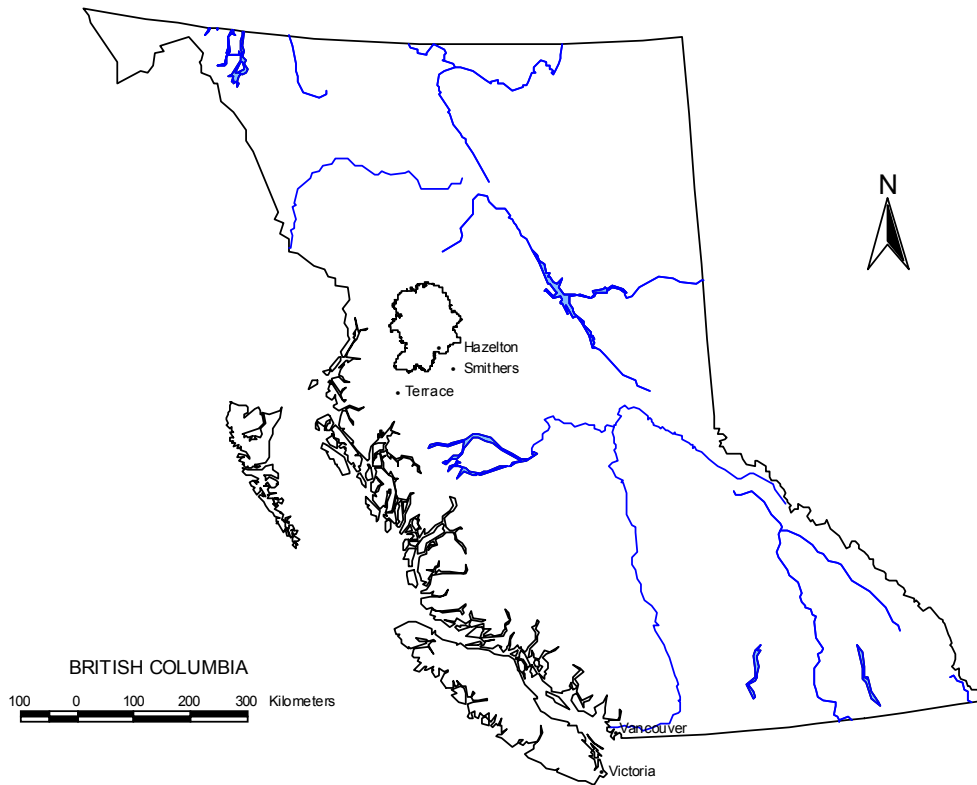


FIGURE 1. Provincial context for the Kispiox planning area.

Current employment in the Kispiox Forest District can be categorized into forestry (42%), public sector (25%), tourism (8%), agriculture (4%) and other (21%) (Horne and Powell 1995). Forestry provides 63% of the total basic income which flows into the Hazelton area from the outside (Horne and Robson 1993). Horne and Powell (1995) estimated total employment in the planning area as 1,685 jobs and annual after tax income as \$39.7 million.

Statistics Canada (1992) reported the 1991 population of the planning area as 5,965 with 2,750 residents or 46% reporting an ethnic origin of aboriginal. The band registry for July 1995 lists 2,800 band members on reserves in the Kispiox planning area. The number of band members living off-reserve in the planning area is difficult to determine.

Major mountain ranges in the planning area are the Atna in the northeast, the Babine in the east, the Nass and Seven Sisters in the southwest, the Kispiox and Rocher Deboile in south central and the Kuldo in the northwest. Mountains generally follow a north-west to south-east orientation with broad valleys between the ranges.

The planning area has been delineated into four ecosections:

- a) The Nass Basin Ecosection is characterized by a broad low elevation basin with low relief surrounded by high mountains. This ecosection covers the lower and middle Kispiox River watershed and a small portion of the Skeena River valley upstream of Kispiox. Mature forests are dominated by western hemlock with subalpine fir, hybrid spruce and western redcedar. Seral forests of lodgepole pine, trembling aspen, birch, spruce, subalpine fir and black cottonwood are extensive due to fires. This ecosection represents a transition between coastal and interior vegetation.
- b) The Nass Ranges Ecosection is the northwest portion of the Hazelton Mountains and is characterized by rounded mountain summits with the exception of the highest peaks of the Seven Sisters and Rocher Deboule Range. The ecosection covers the southwest portion of the planning area and is bisected by the Skeena and Bulkley River valleys. Vegetation is a transition between coastal and interior forests with productive old growth and deciduous forest.
- c) The Southern Skeena Mountains Ecosection is characterized by rugged mountain peaks formed by intense alpine glaciation and wide, U-shaped valleys. Remnant glaciers are found in the Atna and Sicintine Ranges. This ecosection covers the eastern third of the planning area. Major rivers are the Suskwa, Shegunia, Babine, Shelagyote and Sicintine. Western hemlock and subalpine fir dominate at low elevations with black cottonwood, hybrid spruce and red-osier dogwood along floodplains. The subalpine is widespread and is dominated by subalpine fir and hybrid spruce and, in areas that have been disturbed by fire, lodgepole pine. Moist heath, alpine meadow, dwarf willow and grass/lichen are found in alpine areas.
- d) The Northern Skeena Mountains Ecosection is characterized by rugged mountain peaks with wide valleys modified by valley glaciers. This ecosection is found in the northwest corner of the planning area. Kuldo Creek, the upper portion of the Skeena River and the upper Kispiox River are major rivers. Lower valleys are dominated by western hemlock and subalpine fir with black cottonwood and hybrid spruce along floodplains. Upper valleys are dominated by subalpine fir and mountain hemlock with minor amounts of hybrid spruce. Moist heath, alpine meadow, dwarf willow and grassy lichen vegetation are found in alpine areas.

3.0 The planning process

The following eight-step planning process was used to develop the Kispiox LRMP:

1) design of the process; 2) identification of issues, values and interests; 3) development of preliminary land use options, 4) preparation of a terms of reference including refined scenarios; 5) analysis of refined scenarios; 6) development of public consensus; 7) development of consensus management direction; and 8) completion of the LRMP. Emerging concepts, such as sustainability, public and inter-agency participation and consensus-based decision making were incorporated as the process evolved.

The Ministry of Forests initiated the planning process in September 1989 as a resource management planning process for the Kispiox TSA. Town councils, regional districts and First Nations were invited to participate in the first step of process design. In the second step, an inter-agency team of government staff contacted over 40 public resource user groups (see Appendix 1) in the winter of 1989 and spring of 1990. Values and interests were collated into a set of user group recommendations.

In the third step, the inter-agency team analyzed user group recommendations and developed preliminary land use options over the summer of 1990. The Ministry of Forests and other agencies used the options to develop three land use scenarios and a fourth scenario was developed by public representatives working with the Ministry of Forests. The scenarios were discussed at a workshop in November 1990. In step four, the scenarios were used as a basis for a terms of reference, which was published in April 1991.

In the fifth step, government agencies analysed the effect of each scenario on resources under their jurisdiction and assessed economic and social consequences. The results of the analyses were widely distributed in a tabloid flyer and public meetings were held to discuss the analyses. In the sixth step, a second workshop was held to develop a consensus on resource management statements. All user group representatives agreed to a majority of land and resource management recommendations and a core group of six representatives from the forest industry, the Suskwa Community Association and the fishing/guiding industry reached consensus on outstanding issues in November 1991.

In the seventh step, the working group and local representatives of the Ministries of Employment and Investment; Environment, Lands and Parks; and Forests agreed to a consensus management direction in May 1994. Government endorsed the consensus recommendation in principle in May 1995. In the eighth step, government directed staff worked with public and aboriginal participants to complete a LRMP consistent with the consensus recommendation, government decisions and recent government policy such as the Forest Practices Code (the Code).

Over the summer and fall of 1995, a planning table of the original working group and government staff prepared a draft Kispiox LRMP. The draft plan was distributed for public and First Nations review in November and December 1995. Comments were considered in January 1996 and incorporated into the LRMP where appropriate.

The Kispiox LRMP identified two deferred areas in the Seven Sisters and Upper Kispiox areas. In 1996, two public planning processes were initiated to provide land use recommendations for these areas. In 1999, government approved protection, general resource development and special resource management zones as per the planning processes. The LRMP document has been amended to reflect these decisions.

The Seven Sisters planning process provided land use recommendations for areas outside of the Kispiox planning area. Recommendations for the Little Oliver Creek Special Management Zone were forwarded to the Kalum LRMP table for their consideration in 1997. Recommendations for the Red Canyon Creek Special Management Zone and the Upper Mulwain Creek Protection Zone will be presented to the Bulkley LRMP Monitoring Committee.

4.0 First Nations

Traditional territories of the Gitksan, Gitanyow, Nat'oot'en, Wet'suwet'en, Nisga'a and Tsimshian First Nations overlap the Kispiox planning area (see Figure 2). Gitksan traditional territory overlaps about four-fifths of the Kispiox planning area and the planning area covers about one-half of Gitksan traditional territory. The Gitksan are Tsimshian-speaking people of the northern, northwest coast of B.C. Gitanyow traditional territory covers the Cranberry River and Swan Lake areas. Nat'oot'en traditional territory is found along the eastern edge of the planning area and Wet'suwet'en territory overlaps the southeast fringe of the planning area. Nisga'a territory is in the Cranberry River area and Tsimshian territory is in the southwest corner.

Aboriginal bands in the planning area are Gitanmaax at Hazelton, Gitsegukla at Kitsequecla, Sikedakh at Glen Vowell (includes Kuldo and Kisgegas), Kispiox at Kispiox, Gitwangak at Kitwanga, Gitanyow at Kitwancool and Hagwilget near New Hazelton. The first six bands are Gitksan and the last is Wet'suwet'en.

Aboriginal groups were contacted in the early stages identify their values, interests and concerns and to encourage participation in of the planning process to design

and implementation of the process. First Nations chose not to participate in the Kispiox planning process for a variety of reasons. First Nations felt they had not participated in the design of the process and were concerned that their participation would be interpreted as recognition of government ownership and jurisdiction over land and resources. First Nations were concerned that participation would prejudice ongoing litigation against the provincial government over aboriginal rights (i.e., the Delgamuukw case and appeals).

In June 1993, the B.C. Court of Appeal ruled in the “Delgamuukw 2” decision that aboriginal rights were not extinguished but did not extend to ownership and jurisdiction over land and resources. The provincial government is obliged to avoid unjustifiable infringement on constitutionally protected aboriginal rights. The Supreme Court of Canada granted the Gitksan leave to appeal and the province leave to cross appeal in March 1994.

In June 1994, the province and the Gitksan and Wet’suwet’en peoples agreed to adjourn legal proceedings for one year and to negotiate under an *Accord of Recognition and Respect*. The accord called for discussions between the Gitksan and the province on cooperative arrangements for forest use, socio-economic initiatives and land use planning. The accord expired at the end of 1995 after a six month extension.

The Gitksan, the province and the federal government have also commenced tripartite treaty negotiations. In July 1995, the Gitksan and the province signed a framework agreement identifying the topics, process and timeframe for treaty negotiations. The provincial government suspended treaty negotiations with the Gitksan Treaty Office in February 1996 following expiry of the *Accord of Recognition and Respect*. Negotiations were suspended because of differences over aboriginal rights.

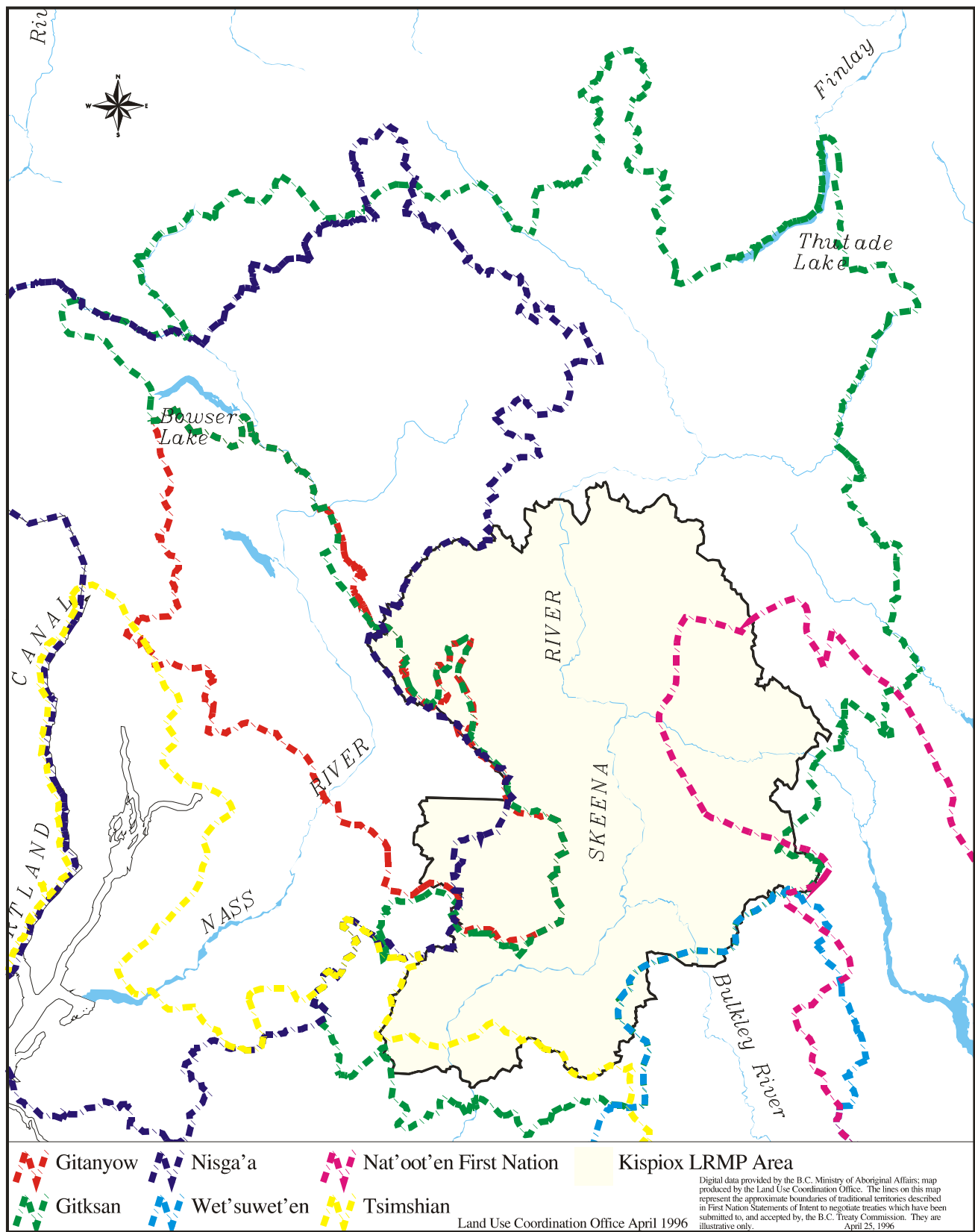


FIGURE 2. First Nation traditional territories.

Treaty negotiations address issues of ownership of land and resources, which are beyond the scope of the Kispiox LRMP. The provincial government has stated that decisions made through LRMPs will be without prejudice to aboriginal rights and will form the basis of its position during treaty negotiations.

In December 1994, the provincial government offered the Gitxsan a government to government policy review of the Kispiox consensus recommendation. In March 1995, the Gitxsan rejected the consensus recommendation as a basis for government decisions and asked that each of their 42 houses receive adequate plant and animal habitat and sufficient infrastructure to exercise aboriginal rights to hunt, fish and gather for sustenance, ceremonial and social purposes on its territories in a sustainable manner.

The house is the basic socio-political unit of the Gitxsan. The best available map of Gitxsan house territories was prepared for the Delgamuukw case (see Appendix 2). Each house has up to 200 members and has fishing, hunting and gathering territories, as well as specific resource locations, which are used under the direction of the house chief. An example of resource values that are important to the Lax'skiik Houses in the Fiddler Creek area adjacent to the Kispiox planning area is presented in Appendix 3.

A staff member of the Gitxsan Treaty Office began working with the Kispiox planning table in June 1995 to monitor the situation and identify strategic aboriginal interests in management of resources including fisheries, wildlife, land, medicinal plants, water, culturally modified trees and spiritual sites. Government members of the planning table met with representatives of First Nations to identify concerns and establish consultation processes for the LRMP. The draft Kispiox LRMP was presented to Gitxsan chiefs in late November 1995 at an open house in Kitseguecla.

The Gitxsan asked for consultation with affected house groups to identify aboriginal rights at a strategic planning level prior to resource development or management activity within a house territory. In February 1996, the Gitxsan indicated that they cannot support the Kispiox LRMP until individual Gitxsan houses are consulted and aboriginal rights are identified. The provincial government does not agree with the Gitxsan position on aboriginal rights.

5.0 Legislative, policy and planning context

Land and resource management activities and programs within the Kispiox planning area occur within a legislative framework of over 40 provincial and federal statutes and associated regulations that are administered by government agencies. Examples of provincial statutes are the *Land Act*, the *Wildlife Act*, the *Forest Practices Code of B.C. Act*, the *Agricultural Land Commission Act*, the *Water Act* and the *Heritage Conservation Act*. The *Fisheries Act* is an example of a relevant federal statute. Resource management activities of the provincial government should avoid unjustifiable infringement on aboriginal rights that are protected under the *Constitution Act* (1982).

Land and resource management activities within the Kispiox planning area are also guided by a number of resource management policies and strategies:

- a) the Land Use Charter was approved in principle in June 1993 and provides principles of environmental, economic and social sustainability, open and fair decision making and recognition of aboriginal rights.
- b) Land Use Goals for resource lands, human settlement, protected areas, coastal and marine areas, transportation, energy, sustainable economic development, sustainable environment, outdoor recreation, cultural heritage and aboriginal peoples were recommended by the Commission on Resources and Environment in January 1994.
- c) the Protected Areas Strategy was released in May 1993 and commits the provincial government to doubling the provincial protected area from 6 to 12% by the year 2000. The intent of the strategy is to protect viable representative examples of natural diversity and special natural, cultural heritage and recreational features.
- d) Forest Renewal B.C. was established under legislation in June 1994 to implement the Forest Renewal Plan. Revenue from increased stumpage will be used to enhance forestry, forest-based communities and the forest sector. Intensive silviculture, watershed restoration, forest worker training, enhanced value-added, forest inventories and research are priorities.
- e) Forest Practices Code guidebooks provide guidance for implementation of the *Forest Practices Code of B.C. Act* and regulations. Approximately 60 guidebooks describe procedures, processes and expected results for a wide variety of forest practices.
- f) the Timber Supply Review was initiated in 1992 to review the timber supply in timber supply areas and tree farm licenses. The intent of the review is to provide the chief forester with up-to-date information to confirm or adjust the allowable annual cuts (AACs) to ensure the sustainability of forests.

- g) the B.C. Mineral Strategy is intended to revitalize mineral exploration, improve competitiveness and maximize value-added from additional processing of extracted minerals. One of the goals of the strategy is to ensure that mineral resources are accounted for in land use planning; and
- h) the British Columbia Grizzly Bear Conservation Strategy was released in June 1995 with the intent of ensuring the continued existence of grizzly bears and their habitat.

In addition to the initiatives and policies cited above, local and operational plans also apply in the Kispiox planning area. The Babine River Interim Local Resource Use Plan (LRUP) provides management direction for the Babine River valley within the Kispiox planning area upstream of the Kisgegas Indian Reserve, and in the adjacent Bulkley LRMP. The LRUP was initiated in 1988 to address concerns about the effects of road development and timber harvesting on recreation, tourism and wildlife resources. Representatives of public and government agencies developed the LRUP, which was formally released by the Ministry of Forests and the Ministry of Environment, Lands and Parks in February 1995. A committee of public and government representatives will monitor implementation of the Babine River LRUP.

The Forest Practices Code establishes a system of forest planning where higher level plans, such as the Kispiox LRMP, guide operational plans, such as forest development plans, which in turn guide forest practices such as timber harvesting and road construction. The Code makes provision for landscape level planning to guide forest development and management within landscape units of 5,000 to 100,000 hectares. Landscape units are based on physiographic features and generally correspond to watersheds. Fifteen preliminary landscape units have been identified in the Kispiox planning area.

The scope and characteristics of landscape planning under the Code are being defined and clarified through several pilot projects. Staff in the Kispiox Forest District have been working with forest licensees and the Timber Supply Area Steering Committee to develop policy and procedures for total resource planning. Total resource planning is a type of landscape planning that provides direction for forest development at the landscape level. Total resource plans analyze the effects of long term forest development on ecosystems, timber supply and identified resource values for an entire watershed or landscape unit. The relationship between landscape level planning and total resource planning will be clarified over the coming year.

Local governments are empowered under the *Municipal Act* to plan and regulate the use and development of private land. The Regional District of Kitimat-Stikine has enacted the following bylaws in the Kispiox planning area: the Skeena Valley Zoning Bylaw – 1976, the Kispiox Valley Zoning Bylaw – 1976, the Kitwanga Official Settlement Plan – 1984, the Hazeltons Vicinity Official Community Plan –

1991, the South Hazelton Zoning Bylaw – 1992 and the Two Mile Zoning Bylaw – 1992. The Village of Hazelton is currently preparing an official community plan and the regional district is in the process of revising the zoning bylaw for the Kispiox Valley.

6.0 Resource management objectives and strategies

The following resource management objectives and strategies are intended to guide government programs and activities throughout the Kispiox planning area. Resource management objectives are positive statements of future condition for resources and resource uses. Resource management strategies are management actions intended to achieve management objectives. Management strategies mainly relate to land use and do not represent a full range of resource management activities.

Objectives and strategies are provided for biodiversity, water, fisheries, riparian areas, roads, cultural heritage resources, protected areas, range and agriculture, recreation, scenic areas, timber, tourism, wildlife, minerals, oil and natural gas and botanical forest products. Management direction in the Kispiox LRMP does not supersede the legislation, regulations and policies of participating agencies.

Indicators are used to measure and manage resources and resource uses. The planning table identified preliminary indicators for resource and resource uses (see Appendix 4). Indicators will be refined as part of plan monitoring and implementation.

6.1 Biodiversity

Biodiversity is defined in the operational and strategic planning regulations of the Code as “the diversity of plants, animals and other living organisms in all their forms and levels of organization and includes the diversity of genes, species, ecosystems and the evolutionary and functional processes that link them.” Key elements of biodiversity that may be addressed when establishing landscape unit objectives include retention of old growth, seral stage distribution, landscape connectivity, stand structure, species composition and temporal and spatial distribution of cutblocks. The Kispiox planning table identified a need to address biodiversity in areas that have been modified by agriculture, forestry and communities. The Gitxsan First Nation asked that biodiversity be maintained within each house territory to ensure self-sufficiency of each house and to recognize the spiritual value of old growth to the Gitxsan.

The Kispiox planning area straddles three broad geographic zones or ecoprovinces: coast and mountains, sub-boreal interior and central interior. The transition from coastal to interior climate and wide elevational gradient from 700 to 2,500 metres above sea level, combined with a variety of natural and human-induced disturbances, result in a wide variety of vegetation communities and associated fauna. Seven of the nine biogeoclimatic zones within the Prince Rupert Forest Region are found in the Kispiox planning area (Ministry of Forests 1991).

In the past 50 years, timber harvesting, clearing and forest fires have increased the heterogeneity of forest ecosystems in the Kispiox planning area, resulting in a change in biodiversity. Continued harvesting of mature forest stands may change biodiversity as old growth and mature forests are replaced by even-aged, closed-canopy second growth. The objectives and strategies in this section and throughout the Kispiox LRMP are designed to maintain and enhance biodiversity while encouraging a sustainable forest industry.

The Code provides for maintenance of biodiversity in several ways including establishment of sensitive areas to protect site specific features, maintenance of riparian areas and establishment of old growth management areas where clearcutting is not permitted unless authorized by the district manager. Forest development plans must describe forest ecosystem networks and actions required to achieve known landscape level objectives including any biodiversity objectives. Silvicultural systems must consider objectives for biodiversity from forest development plans. Cutblock design must be consistent with objectives for maintenance of biodiversity from higher level plans. Protected areas also contribute to maintenance of biodiversity.

Objectives	Strategies
<ul style="list-style-type: none"> • To maintain or enhance biodiversity over the planning area. • To maintain the present variety of plant and animal species for each of the major ecosystems at the landscape level. • To maintain rare or threatened plant and animal species and communities. • To maintain rare ecosystems and environmentally sensitive areas such as wetlands (e.g., upper Shelagyote valley), floodplains and riparian areas. • To maintain deciduous ecosystems. • To retain the structural diversity of managed forests. 	<ul style="list-style-type: none"> • The Code guidebook on biodiversity will be considered. • Landscape units will be assigned biodiversity emphasis options that are consistent with the Kispiox LRMP. • Biodiversity will be managed at the level of medium sized watersheds of approximately 10,000 hectares or greater. • Within each medium-sized watershed, 12% of the forested land will be managed for old growth values through a combination of preservation and conservation. Old growth values will be maintained in contiguous and continuous units where possible, or conserved through special treatment, such as selection harvesting. Selection harvesting may be used to retain structure for other values such as wilderness, wildlife and fisheries. • A 200 year rotation will be used for old growth values for timber analysis within old growth areas. • Intensive monitoring will be applied to evaluate and implement biodiversity management strategies. Methods for monitoring biodiversity will be developed and applied. New techniques will be incorporated as they are developed. • Rare ecosystems and environmentally sensitive areas will be identified.

6.2 Water

The Kispiox planning area has abundant supplies of high quality surface water in streams, rivers, wetlands and lakes. Major rivers are the Skeena and its tributaries, the Bulkley, Kispiox, Kitseguecla, Babine and Sicintine, and the Cranberry, which drains into the Nass River. Secondary rivers include the Suskwa, the Shelagyote and the Kitwanga. Creeks and streams are numerous. Lakes are relatively uncommon. Swan, Kitwancool, Damsumlo and Gunanoot are larger lakes. Complexes of small lakes are found in the Kispiox River and Shelagyote River valleys.

Many residents of the planning area depend on surface water for domestic use. Licensing of water use for domestic purposes is not required under the *Water Act* and the majority of water users in the planning area are not licensed. Residents are concerned about maintaining water quality for domestic consumption and for fisheries, wildlife and recreation.

The Code places stringent conditions on activities within designated community watersheds. A community watershed is defined in the *Forest Practices Code of B.C. Amendment Act – Sec 41(8)* as:

- a) the drainage area above the most downstream point of diversion on a stream for water use that is for human consumption and that is licensed under the *Water Act* for:
 - (i) a waterworks purpose, or
 - (ii) a domestic purpose if the licence is held by or is subject to the control of water users' community incorporated under the *Water Act*
 if the drainage area is not more than 500 km² and the water license was issued before June 15, 1995, or
- b) an area that is designated as a community watershed under subsection 10.

The following community watersheds supply water to the indicated communities. Community watersheds have been designated as special resource management zones in the Kispiox LRMP.

Community watershed	Area (ha)	Community served
Chicago	625	South Hazelton
Sikedakh*	1,291	Glen Vowell
Ten Link	455	Kitwancool
Kits	43	Kitseguecla
Juniper	8,849	Kitseguecla
Station	1,015	District of New Hazelton
Two Mile	2,705	Village of (Old) Hazelton, Two Mile
Dale	962	Kispiox
Quinmass	78	Kispiox

* In the process of expansion to include a watershed reserve on Sikedakh Creek.

Under the *Operational Planning Regulation* of the Code, watershed assessments must be carried out prior to timber harvesting or road work within a community watershed or other watershed that has significant downstream fisheries or domestic water values. A forest development plan within a community watershed must be approved by both the district manager and a designated environment official. Timber harvesting, clearcutting, construction of excavated or bladed trails, road construction or modification, range developments and livestock grazing are generally prohibited on sensitive terrain within community watersheds. Road construction, modification or maintenance must not cause water quality within a community watershed to fail to meet water quality objectives established by the Ministry of Environment, Lands and Parks. Application of forest pesticides and fertilizer is restricted within community watersheds.

The Watershed Restoration Program is a Forest Renewal Plan initiative to restore, protect and maintain fisheries, aquatic and forest resources that have been damaged

by past forest harvesting practices. The program provides community based employment, training and stewardship opportunities and a mechanism to bridge historical forest harvesting practices and the new Code standards while diversifying jobs in the forest sector. Government agencies, First Nations, the forest industry and conservation and stewardship groups work in partnership. Within the planning area, watershed restoration projects are being initiated for the Suskwa, Kitwanga, Kitsequecla and Kispiox Rivers.

Objectives	Strategies
<ul style="list-style-type: none"> • To maintain water quality and quantity for domestic, recreational, agricultural and industrial use, and for wildlife and fisheries. • To protect the hydrological integrity of watersheds. 	<ul style="list-style-type: none"> • The Code watershed assessment procedures guidebook will be considered. • Impacts of timber harvesting and associated activities on domestic water will be minimized. • Problems with domestic water quality or supply will be addressed promptly. • Water quality in community watersheds will be monitored through regular water testing. • Standards and procedures will be developed and implemented to maintain hydrological stability. • Site specific prescriptions and watershed management plans will be developed for priority areas, including community watersheds. • The current sediment control plan for the Kispiox Forest District will be reviewed and any gaps between the plan and the Code will be addressed.

6.3 Fisheries

The Kispiox planning area is located in the middle to upper reaches of the Skeena River drainage basin. Rivers and streams support rich anadromous and resident fish populations of international, national and provincial significance. Anadromous fish include steelhead and chinook, coho, sockeye, chum and pink salmon. Cutthroat trout, rainbow trout and Dolly Varden char are resident and/or anadromous. Bull trout and Rocky Mountain whitefish are resident.

Recreational fishing and fish guiding contribute substantially to the tourism sector of the regional economy as well as the quality of life enjoyed in the region. Six management units cover the planning area and 48 fishing guides are licensed within these units. The Skeena, Babine, Bulkley and Kispiox Rivers support important aboriginal food fisheries. Over 200 aboriginal fishing sites are located in the planning area.

Fish and fish habitat are jointly managed by the Federal Department of Fisheries and Oceans (DFO) and the B.C. Ministry of Environment, Lands and Parks (MELP). DFO is responsible for management of commercial salmon populations. B.C. Environment is responsible for management of resident and anadromous populations of fish such as steelhead, cutthroat trout, Dolly Varden and bull trout. DFO and B.C. Environment cooperatively manage habitat for all fish species.

The Skeena Fisheries Commission was established in 1992 to represent First Nations within the Skeena watershed. DFO has working agreements with the commission to provide coordinated conservation, protection and management of fisheries. In 1993, DFO and the Gitksan, Wet'suwet'en and Gitanyow signed the Gitksan and Wet'suwet'en Watershed Authorities (GWWA) Framework Agreement, which recognizes that fisheries will be coordinated through the commission. The roles and duties of the GWWA rangers are described in the agreement.

The Skeena Watershed Committee was established to promote communication and cooperation among stakeholders and to conserve, protect and rebuild salmonid resources in the Skeena watershed. The committee has representatives from DFO, MELP, Skeena Fisheries Commission, Northcoast Advisory Board, Commercial Fishery Caucus, Skeena Watershed Sportfishermen's Coalition and the North Coast Co-Management Committee of the Sport Fishing Advisory Board. A sub-committee was recently established to address habitat, restoration and enhancement activities and has initiated preliminary work on a strategic habitat plan for the Skeena watershed.

Fishery values within the Kispiox planning area are extremely high. The Kispiox River is internationally known for wild, summer-run steelhead fishing with particularly large fish. The world record fly-caught steelhead came from the Kispiox River in the 1960s. The Kispiox River supports more than 1% of the total

steelhead rod days for the entire province. More than 45% of steelhead anglers on the Kispiox River are non-residents of Canada and they account for more than 50% of the total rod days on the river.

The Babine River has been designated as Class I angling water under the *Wildlife Amendment Act* (1989) to recognize the high quality fishing experience in combination with high water quality, the visually unmodified landscape and the high diversity of natural flora and fauna. The Babine is one of ten Class I rivers in the province and has recently been recognized as a B.C. heritage river. Guided and unguided recreational fishing are controlled by B.C. Environment in these waters. The Skeena, Kispiox, Suskwa, Bulkley, Kitsequecla and Kitwanga Rivers are classified as Class II angling water to recognize the high fishing values and high natural values. Class II designation does not require a visually unmodified landscape. B.C. Environment regulations focus on managing guiding activities on these rivers.

A number of fish stocks in the planning area are declining. Concern has been raised about declines in steelhead populations in the Kitwanga, Shegunia and Kitsequecla Rivers and Kitwancool and Kitsuns Creeks as a result of ocean net and troll fisheries in B.C. and Alaska. Concern has also been raised about declines of coho in the Suskwa River and its tributaries; Natlan, Station, Harold Price and Blunt Creeks. Other stocks of coho and chinook are also believed to be depressed.

The Code contains numerous provisions to protect fish habitat. Road crossings of fish streams must be constructed at a time and in a way that provides safe fish passage and protects fish habitat. Regular inspection and maintenance of roads, maintenance of stream bank stability, control of slash and debris, and restricted livestock grazing are required to protect fish habitat. Fish streams are classified into riparian classes with associated riparian reserve zones and riparian management zones (see Riparian Areas Section). DFO and MELP have also developed a number of guidelines to minimize the impacts of development on fish habitat including guidelines for land development, bridge maintenance and culvert installation.

Objectives	Strategies
<ul style="list-style-type: none"> To maintain or increase wild indigenous fish populations including salmon, steelhead, trout, Dolly Varden char, bull trout and Rocky Mountain whitefish. To maintain, restore and enhance fish habitat. A specific objective is to achieve a net gain in productive capacity of habitat for anadromous salmon. To protect the following sensitive fish populations and habitat: <ul style="list-style-type: none"> a) lakes with small populations of large rainbow trout; b) stream reaches with identified populations of bull trout; c) important spawning and rearing areas; and d) Class I and II angling waters (Class I – Babine River; Class II – Skeena, Kispiox, Suskwa, Bulkley, Kitseguecla and Kitwanga rivers) and their tributaries. To provide for aboriginal, commercial, tourism and recreational use of fisheries. Specific objectives are: <ul style="list-style-type: none"> a) to maintain or enhance opportunities for sport fishing in a wilderness setting; b) to maintain a viable angling guide industry; and c) to maintain aboriginal fishing sites for aboriginal use. 	<ul style="list-style-type: none"> Code guidebooks on fish stream identification, riparian management, watershed assessment and managing identified wildlife will be considered. Other pertinent guidelines (e.g., land development guidelines, culvert installation) will also be considered. Fisheries habitat and water quality will be protected through a slower rate of cut at the watershed level and implementation of strategies for maximum clearcut equivalency, cutblock size, new forestry, green-up, road standards and road surface erosion control. (See section 6.11 Timber, and section 6.5 Roads). A long term source of large organic debris of appropriate size will be maintained where required for fish habitat (e.g., alluvial floodplains on major rivers and dynamic floodplains of some major river tributaries). Review of operational plans by stakeholders (e.g., commercial fishing guides, First Nations) will be encouraged to facilitate protection of fisheries values. Fisheries values will be identified at the landscape planning level and will be assessed as part of riparian classification for operational plans. Habitat planning and access control will be initiated to protect sensitive fisheries. A variety of angling opportunities will be provided through coordinated access management plans and local resource use plans. The current sediment control plan for the Kispiox Forest District will be reviewed for consistency with the Code (see strategy in Water Section). Fish habitat management activities will be consistent with the strategic habitat plan being developed by the Skeena Watershed Committee. Fish habitat restoration will be carried out within the context of the Watershed Restoration Program.

6.4 Riparian areas

Riparian areas along rivers, streams, wetlands and lakes are important for protecting water quality, recreation, cultural heritage, tourism, fisheries and wildlife values. The Code provides for maintenance of riparian management areas along streams and rivers and around lakes and wetlands. Sections 72 and 73 of the *Operational Planning Regulation* under the *Forest Practices Code of B.C. Act* establish the following riparian classes and widths of riparian management areas for streams. Classes S1 to S4 apply to streams that are within community watersheds or are fish streams and classes S5 and S6 apply to streams outside community watersheds that are not fish streams.

Riparian class	Stream width (m)	Riparian reserve zone (m) (A)	Riparian management zone (m) (B)	Riparian management area (m) (A+B)
S1	>20	50	20	70
S2	>5≤20	30	20	50
S3	1.5≤5	20	20	40
S4	<1.5	0	30	30
S5	>3	0	30	30
S6	≤3	0	20	20

Removal or modification of selected trees or groups of trees is not permitted in riparian reserve zones except in special circumstances, such as where required to protect or enhance stream banks, fisheries, wildlife or forest health. Removal or modification of trees in riparian zones requires the approval of the designated environment official in many cases. Roads, except for crossings, must be located outside riparian management areas and gravel or fill may not be removed from riparian management areas unless authorized by a district manager. Streamside trees that contribute to stream bank or channel stability or provide shade must be maintained.

Under the Code, the riparian class of streams, wetlands and lakes must be determined prior to timber harvesting or road work under a forest development plan or an access management plan. The riparian class and width of riparian reserve zones and riparian management zones along streams, lakes and wetlands must be identified in logging plans, silviculture prescriptions and stand management prescriptions.

The Ministry of Forests has completed mapping of riparian areas along the Upper Kispiox, Suskwa and Kitseguecla rivers as recommended in the original consensus recommendation from the planning table.

Objectives	Strategies
<ul style="list-style-type: none"> To maintain riparian areas: <ul style="list-style-type: none"> a) to protect rivers, streams and wetlands, and associated recreation, cultural heritage, aboriginal, tourism and wildlife values b) to protect sources of large organic debris c) to ensure bank stability d) to protect water quality and e) to maintain important fish and wildlife habitat. 	<ul style="list-style-type: none"> The Code riparian management area guidebook will be considered. Special management practices will be applied in all riparian areas. Site-specific treatments will be developed to meet riparian objectives. Site specific prescriptions will be determined when application is made for cutting permits. Riparian areas will be identified and mapped at the ecological association series level (i.e., 1:20,000 scale) in total resource plans. Harvesting within riparian management zones of Class S1 to S4 streams will be through non-clearcut systems. Single tree selection will generally be applied. Other non-clearcut systems may be used if non-timber values of the riparian management zone can be maintained. Exceptions may be allowed to maintain or enhance other resource values such as recreation, wildlife habitat or aboriginal use. A minimum 10-metre machine-free zone for commercial forest harvesting operations will be applied on either side of all streams. This strategy would not apply to timber harvesting for mineral operations. Buffers will be maintained to keep riparian reserve zones windfirm. Mapping of riparian areas will be completed for the Kitwanga, Cranberry and Sicintine Rivers.

6.5 Roads

Highways 16, 37, 62 and 49 are major paved roads in the Kispiox planning area. Highway 16 (the Yellowhead) is the major travel route between Smithers, Vanderhoof and Prince George in the east and Terrace, Kitimat and Prince Rupert to the west. Highway 37 connects with Highway 16 at Kitwanga and provides a northern route to Stewart, Dease Lake, the Yukon and Northwest Territories and Alaska. Highway 62 provides access from Highway 16 to Hazelton and Highway 49 provides access from Highway 62 to north of Kispiox.

In addition to major highways, a network of gravel and dirt roads has been built to support forest development in the Skeena, Bulkley, Suskwa, lower Kispiox, Kitseguecla and Cranberry river valleys. Road development in the remainder of the

planning area is limited or non-existent. Roads are generally confined to river valleys by steep slopes.

Construction of roads to support timber or mineral development may affect fish, wildlife, water and recreational resources and associated resource uses such as tourism or guiding operations. Restrictions on road development may affect the viability of resource development. Poor road design, construction and maintenance may result in damage to fish habitat from siltation, inadvertent diversion of watercourses or loss of terrestrial habitat. Development of new roads is a contentious issue in the planning area.

The Code contains numerous provisions for road design, construction, maintenance, use and deactivation to protect public safety and minimize environmental damage. Road construction, modification and deactivation must comply with operational plans and permits. Road construction or modification must be consistent with forest development plans or access management plans or logging plans. Access management plans are required for construction, maintenance and deactivation of roads that are not covered in a forest development plan.

Under the Code, where tree clearing is required, road layout and design must be approved by the district manager prior to road construction or modification. Measures to maintain slope stability on sensitive terrain and to maintain surface drainage patterns must be specified in road design. Disturbed areas must be reseeded within one year and satisfactorily revegetated within two years of completion of road work. Regular inspection and maintenance of roads are required.

Under the Code, a special use permit is required for construction, modification, maintenance or use of an access road on Crown land within a provincial forest or wilderness area outside of a claim, lease, permit or other authorization granted under the *Coal Act*, *Geothermal Resources Act* or *Mineral Tenure Act*. Special use permits may be used where a mining company requires authority to use or build a road in a provincial forest to access a mining site.

A coordinated access management plan is being developed for the Babine LRUP within the Kispiox Forest District and has been completed for the area within the Bulkley Forest District.

Objectives	Strategies
<ul style="list-style-type: none"> To provide appropriate road development within the planning area. 	<ul style="list-style-type: none"> Code guidebooks on road layout and design, construction and modification and maintenance will be considered. Road management and planning will be improved to minimize impacts on fish and wildlife habitat. Construction of new roads will be coordinated to minimize cost, duplication and environmental damage. All-season logging roads will be constructed a minimum of one year prior to harvesting. Grass seeding, preferably with native species, will be required within one year of construction on all road cuts, fills and ditches that may contribute to siltation of streams. Techniques to minimize siltation will be applied during road deactivation and reactivation. Ditches will be cleaned to prevent the release of fine sediments that have settled in the ditches. Forest licensees and the Small Business Forest Enterprise Program will be required to submit a road maintenance schedule as part of their annual report to the Ministry of Forests. The schedule must be approved prior to commencing operations.

6.6 Cultural heritage resources

The Kispiox planning area is rich in cultural heritage resources. A cultural heritage resource is defined in Section 1(1) of the *Forest Act* as “an object, site or location of a traditional societal practice that is of historical, cultural or archaeological significance to the Province, a community or an aboriginal people.” Examples of cultural heritage resources in the Kispiox planning area are the Battle Hill National Historic Site near Kitwanga, totem poles at ‘Ksan, Kitwanga, Kitseguecla, Kitwancool and Kispiox, the old Cedarvale fire lookout, and Temlaham, a Gitxsan spiritual site downstream of Hazelton on the Skeena River. Trails with historical significance include the Dominion Telegraph Trail along the Skeena River, the Babine trail from Hazelton to Babine Lake over Suskwa Pass and the old pack trail to Blue Lakes in the Rocher Deboule Range. The Ministry of Forests recently completed a management plan for the Dominion Telegraph Trail.

The Provincial Heritage Register maintained by the Ministry of Small Business, Tourism and Culture provides for three categories of cultural heritage resources:

archaeological sites, traditional use sites and structural features. Archaeological sites are localities containing physical evidence of past human activity. Certain archaeological sites including sites that contain artifacts, features, materials or other physical evidence of human habitation or use prior to 1846 and burial places, aboriginal rock paintings and aboriginal rock carvings with historic or archaeological value, are protected automatically under the *Heritage Conservation Act*. Additional protected sites are identified in the act. Protected sites may not be altered without a permit under the act.

Archaeological sites may or may not coincide with sites that have traditionally been used or are currently being used by First Nations. Examples of archaeological sites are the remains of villages, middens, cache pits, earth ovens and lithic sites. An archaeological overview assessment for the Kispiox planning area was completed in early 1995 (Eldridge *et al.* 1995). The assessment was completed at a scale of 1:250,000 and classified the planning area into zones with low, moderate and high potential for archaeological sites. Existing site records identified 96 archaeological sites in the planning area.

Traditional use sites have been used by one or more groups of people for ceremonial or sustenance activities. These sites often lack physical evidence of artifacts or structures and have cultural significance to a living community. Berry picking sites, herb and medicinal plant sites, culturally modified trees, spiritual sites, traditional trails, traplines, fishing stations and hunting areas are examples of traditional use sites. Traditional use studies have been initiated for the Suskwa and Shedin watersheds in the planning area.

Structural features are buildings or structures made by humans that are significant to a living community. Most of these features date from the historic past (i.e., last 150 years). Mortuary poles, fish drying racks and long houses are examples of structural features.

Under the Code, a forest development plan must identify the known location of areas of aboriginal sustenance, cultural, social and religious activities associated with traditional aboriginal life and the results of any cultural heritage impact assessments. A cultural heritage impact assessment, including measures to address cultural heritage resources, may be required prior to timber harvesting or road work. A district manager may require an archaeological impact assessment that meets the requirements of the minister responsible for the *Heritage Conservation Act* prior to timber harvesting or road work under a forest development plan or access management plan. If an unknown cultural heritage resource is discovered during operations, all operations that could damage the heritage resource should stop until the district manager is notified and, if necessary, an impact assessment is carried out.

In addition to the Code, the 1994 *Protocol Agreement on the Management of Cultural Heritage Resources* between the Ministry of Small Business, Tourism and Culture and the Ministry of Forests clarifies the roles and responsibilities of the

ministries regarding cultural heritage resources. The protocol ensures that cultural heritage resources are addressed in forest planning and operations. Under the protocol, archaeological overview assessments that are done for LRMPs are communicated to the Ministry of Forests. The overviews may be refined to a scale of 1:50,000 or 1:20,000 for use in operational decision making.

Objectives	Strategies
<ul style="list-style-type: none"> To maintain cultural heritage resources including archaeological sites, traditional use sites and trails, and structural features. A specific objective is to protect features at Kispiox, Hazelton/Hagwilget, Kitwancool, Cedarvale, Kitsegucla, Kisgegas and Kuldo. To recognize the significance of house territories and associated resources to First Nations. To protect historic features associated with river boat traffic on the Skeena River, the Dominion Telegraph Trail and early mineral exploration. 	<ul style="list-style-type: none"> The Code guidebooks on forest development planning, the <i>Protocol Agreement on the Management of Cultural Heritage Resources</i> and the <i>Archaeological Impact Assessment Guidelines</i> will be considered. First Nations will be consulted to determine the location and significance of traditional use sites. The archaeological overview assessment for the Kispiox planning area will be refined to assist in determining the need for archaeological impact assessments at the operational level.

6.7 Protected areas

The 1993 Protected Areas Strategy (PAS) committed the provincial government to developing and expanding a protected areas system that will protect 12% of the province by the year 2000. Protected areas are designated to protect natural conservation, cultural heritage and recreation values. Goal 1 PAS areas are designated to protect larger representative areas of each ecosection and Goal 2 areas are designated to protect smaller special features. The PAS provides policy direction and technical input to help LRMP planning tables recommend new protected areas to government. Interim management guidelines were applied to protect values within Cabinet-approved study areas that were being considered for protection. Within the Kispiox planning area, the Swan Lake Wilderness Area, Seven Sisters, Babine River, Shelagyote Peak/Atna Pass and Bulkley Junction areas were Cabinet-approved PAS study areas.

The Regional Protected Areas Team (RPAT) provided technical information on Goal 1, representative conservation and recreational values to the Kispiox planning table in March 1994. The RPAT identified the Babine River corridor, Swan Lake Wilderness Area and Seven Sisters area as high priorities for protection based on technical analyses of conservation, recreation and cultural heritage values. In addition, the RPAT identified the Upper Kispiox watershed (i.e., Swan Lake extension) as a high priority for protection.

The RPAT also identified a number of priority areas for consideration as Goal 2 protected areas after the Kispiox planning table developed its consensus recommendations.

The RPAT considered the results of earlier public processes, including Parks and Wilderness for the 90s and the Old Growth Strategy, as well as available inventory information and expert opinion. Only features with provincial significance were considered as potential Goal 2 protected areas. The RPAT identified Kitwanga Mountain, Bulkley Junction, Catherine Creek, Oliver Creek and Andimaul Lookout as priorities for Goal 2 protected areas. Preliminary research has indicated that sites in the Kispiox planning area may be significant for rare lichens and bryophytes.

In May 1994, the Kispiox planning table recommended mechanisms to resolve land allocation and management issues within three potential Goal 1 protected areas that had been subject to local planning processes (i.e., Babine River corridor, Swan Lake Wilderness Area and Seven Sisters area). The table also recommended deferral of timber harvesting within three potential protected areas that were not subject to local planning processes (i.e., Atna/Shelagyote, East Kispiox/Kuldo and Rocher Deboule).

Local planning processes have been completed for the Seven Sisters and Upper Kispiox areas. Approved objectives and strategies for the protection zones are included in section 7.1.

The Seven Sisters area has a representative elevation sequence of forest ecosystems, the highest peaks in the Hazelton Mountains, old growth forest (i.e., Oliver Creek), mountain goat habitat and high backcountry recreation values. The Oliver Creek area (750 ha) has old growth mountain hemlock, amabilis fir and western redcedar in the Coastal Western Hemlock biogeoclimatic zone.

The Upper Kispiox area has moderate to high conservation values, is representative of the Interior Cedar Hemlock moist cold subzone Nass variant (ICHmc1), has very high salmonid values and provides a connection between grizzly bear denning habitat in the upper Kispiox River/Kuldo Mountains and habitat in the Swan Lake area.

The Atna/Shelagyote, East Kispiox/Kuldo (outside the Upper Kispiox) and Rocher Deboule areas will be designated as special resource management areas to maintain scenic, recreation and wildlife habitat values (see resource management zoning section).

Objectives	Strategies
<ul style="list-style-type: none"> To protect the following areas to meet the indicated objectives: <p>Goal 1 – Representative Protected Areas</p> <ul style="list-style-type: none"> Ross Lake (357 ha) and Seeley Lake Provincial Parks (28 ha) to protect local recreation features. Swan Lake Wilderness Area (15,010 ha) to protect a representative area of the Interior Cedar Hemlock moist cold subzone Hazelton variant, grizzly bear summer range, very high recreation values and a unique chain of upland wilderness lakes. Babine River Wilderness Corridor (9,403 ha), as recommended in the Babine River Interim Local Resource Use Plan, to protect a nationally significant unregulated river corridor, high salmonid values, a Class 1 angling river and critical grizzly bear habitat. The Seven Sisters area (42,208 ha) has a representative elevation sequence of forest ecosystems, the highest peaks in the Hazelton Mountains, old growth forest, mountain goat habitat and high backcountry recreation values and grizzly bear habitat. The Upper Kispiox area (43,053 ha) has moderate to high conservation values and is representative of the Nass variant of the Interior Cedar Hemlock moist cold subzone (ICHmc1). It has very high salmonid values and provides a connection between grizzly bear denning habitat in the upper Kispiox River/Kuldo Mountains and habitat in the Swan Lake area. <p>Goal 2 – Special Feature Protected Areas</p> <ul style="list-style-type: none"> Catherine Creek old growth area (45 ha) to protect old growth western redcedar with minor Sitka spruce inclusions and surrounding birch and aspen within the Interior Cedar Hemlock biogeoclimatic zone. Bulkley Junction (30 ha) on the west side of the Skeena River downstream of the confluence with the Bulkley River to protect a recreational fishing site and day-use area. 	<ul style="list-style-type: none"> Seeley Lake and Ross Lake provincial parks are confirmed as protected areas to protect local recreational features. B.C. Parks will prepare management plans for these parks. The Swan Lake Wilderness Area is confirmed as a protected area. Although 4,190 ha of the wilderness area are outside the Kispiox planning area, the entire wilderness area will be protected. Commercial logging has not been permitted in the area since it was designated as a <i>Forest Act</i> wilderness area in 1991. The Swan Lake Wilderness Area was a study area under the PAS and mineral potential in the area was assessed as low. Mineral exploration or development will no longer be permitted in the area. The wilderness management plan that has been prepared by local public and government stakeholders (Ministry of Forests 1996) will provide the basis for future management of the protected area. The Babine River wilderness corridor will be established as a new protected area. The Babine River wilderness corridor was a PAS study area and mineral potential was assessed as low. Timber harvesting and mineral exploration or development will no longer be permitted in the area. The Babine River Local Resource Use Plan will provide the basis for future management of the protected area. The Catherine Creek, Bulkley Junction, Kitwanga Mountain, Upper Kispiox and Seven Sisters areas will be established as new protected areas. Management plans will be developed for these areas. Timber harvesting and mineral exploration or development will no longer be permitted. The long term legal designations for protected areas will be determined as part of plan implementation.
Objectives	Strategies

continued next page

- South-facing deciduous forest on Kitwanga Mountain (600 ha) to protect a range of forest ecosystems along an elevational gradient in the Skeena River valley and a hiking trail.

6.8 Range and agriculture

Use of range resources on Crown land in the Kispiox planning area is low. Approximately 1,000 of the available 5,000 animal unit months (AUMs) of grazing on Crown land are used each year. Nine range units are found in the Skeena River and Kispiox River valleys.

Agricultural activities are focused on beef cattle and forage production. Approximately 500 cattle are raised in the planning area. Agricultural Land Reserve (ALR) has been designated along the Kispiox, Skeena, Bulkley and Suskwa river valleys (see Figure 3).

Under the Code, an approved range plan is required before grazing or cutting hay. Livestock grazing, hay cutting and range developments must be in accordance with range use plans.

Objectives	Strategies
<ul style="list-style-type: none"> • To protect and conserve range resources. • To maintain the health and productivity of range resources by providing protection from fire, insects and diseases. • To maintain and enhance use of Crown land, water and range resources by domestic livestock. • To maintain and enhance agricultural use of Crown land within the ALR consistent with the <i>Agricultural Land Commission Act</i>. • To preserve and maintain soil quality within the ALR. 	<ul style="list-style-type: none"> • The Code guidebooks that apply to livestock grazing will be considered (e.g., range management, riparian management, community watersheds). • Range units will exclude vegetation and wildlife habitat that is critical to the maintenance of biodiversity (e.g., dry south-facing aspects that are used by wildlife). • Suitable Crown ALR lands will be made available for agricultural development as a priority. The Crown agriculture lease policy will apply.

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Objectives	Strategies
	<ul style="list-style-type: none"> • Agricultural capability and demand will be assessed when timber is harvested on Crown land within the ALR. Silviculture in these areas will be consistent with the intended long term use of the land (i.e., agriculture or forest production). • Conflicts between livestock grazing, wildlife and recreational users will be minimized through public education and range use plans. • Development of non-traditional agricultural uses of Crown land will be encouraged (See Botanical Forest Products, section 6.16). • Noxious weeds will be controlled by implementing noxious weed control plans prepared by the Northwest Weed Committee and by enforcing the <i>Weed Control Act</i>. • Target grazing levels in animal unit months will be developed for the planning area. • Local public participation in wildlife enhancement and recreational plans will be improved in livestock and agricultural areas. • Agricultural land and water stewardship programs will be encouraged to manage for other resource values. Maintenance of biodiversity on undeveloped ALR land will be encouraged. • The code of agricultural practices for waste management under the <i>Waste Management Act</i> will be applied. • Agricultural pollution problems will be referred through the Agriculture Protection Council to the British Columbia Cattlemens Association or the British Columbia Federation of Agriculture.

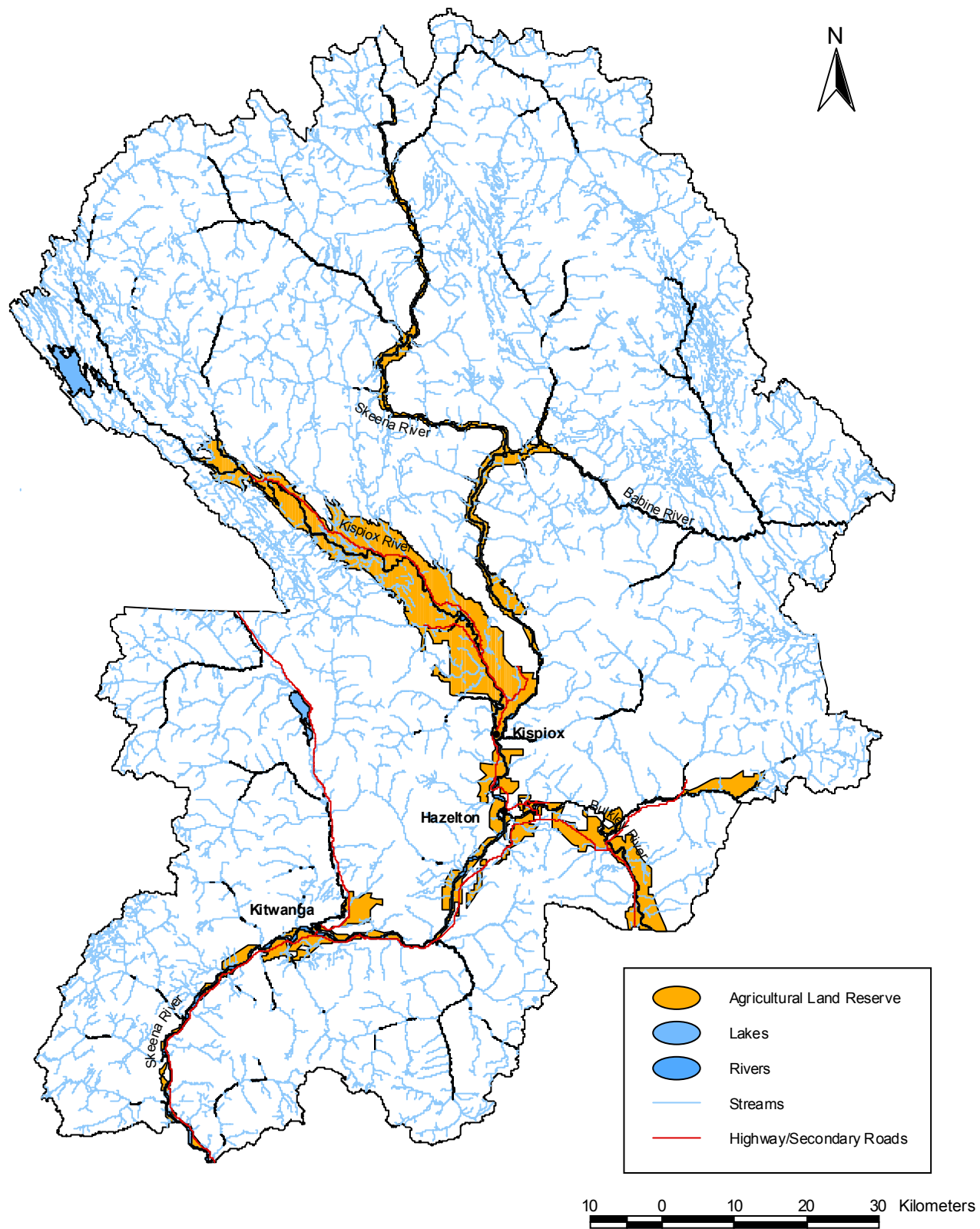


FIGURE 3. Agricultural land reserve.

6.9 Recreation

The Kispiox planning area offers a wide range of recreational opportunities including camping, hiking, boating, fishing and hunting. Numerous and diverse hiking trails provide relatively easy access to the mountains and alpine areas. The Ministry of Forests manages recreation sites on the Suskwa, Upper Kispiox and Sweetin Rivers, on Tsugwinselan and Sedan Creeks and on Little Fish, Mitten, Keynton, Pentz, Watson, Elizabeth, Octopus, Bonus and Derrick Lakes. Established B.C. Forest Service recreation trails include Blue Lake, Boulder Creek, Whiskey Creek, Cedarvale, Coyote Creek, Watson Lake, Oliver Creek and Rossvale Lake (ski trail).

The Ministry of Forests uses the recreation opportunity spectrum (ROS) to classify recreation settings ranging from roaded to roadless backcountry. Existing ROS conditions have been mapped as part of the recreation resource inventory for provincial forests. Under the Code, recreational use on Crown land and non-recreational use of recreational trails may be regulated to protect or manage recreation resources on Crown land. The Code requires approval of the district manager before constructing, rehabilitating or maintaining a trail or other recreation facility on Crown land. Regulated uses of recreational trails and sites include motor vehicle and bicycle use, trapping and hunting, firewood collection, competitive sporting events and commercial or industrial uses.

Objectives	Strategies
<ul style="list-style-type: none"> To maintain recreational values and opportunities (i.e., landscapes, rivers, lakes, trails, recreation sites). To maintain public access to recreational opportunities and established recreational features. To maintain primitive, semi-primitive and wilderness recreational opportunities. To maintain backcountry recreation opportunities in the East Kispiox/Kuldo, Atna/Shelagyote and Rocher Deboule areas. To protect the following important recreational features: <ol style="list-style-type: none"> Kispiox, Babine, Bulkley, Suskwa, Kitsequecla and Skeena river corridors for fishing and boating; Upper Skeena River for rafting; Hagwilget and Bulkley Canyons on the Bulkley River; Dominion Telegraph Trail; and 	<p>General</p> <ul style="list-style-type: none"> Significant recreational features and sensitive features will be identified and addressed at landscape and operational planning levels. The Ministry of Forests will prepare a forest recreation strategy to address protection of backcountry recreation values, maintenance of existing recreation sites, trails and opportunities, and development of new recreation sites and trails by the end of 1997. A strategy for management of motorized recreational vehicles will be developed. <p>Recreational Rivers</p> <ul style="list-style-type: none"> Recreational values will be assessed along all major rivers, starting with the Upper Kispiox, Suskwa and Kitsequecla rivers, and will be integrated with other resource values.

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Objectives	Strategies
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e) Babine River valley.

Recreational Sites and Trails

- Existing recreation sites will be maintained to Forest Service standards.
 - The original surface of recreational trails will be maintained where appropriate.
 - Machine-free buffer zones along trails will be defined on a site-specific basis.
 - Recreational trails will be defined at the landscape planning level with site-specific prescriptions addressing visual quality objectives.
 - A trail management plan will be completed for each important trail with priority on the Blue Lakes and Suskwa Pass trails.
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6.10 Scenic areas

Under the Code, a scenic area is defined as any visually sensitive area or scenic landscape identified through a visual landscape inventory or planning process carried out or approved by the district manager. Visually sensitive areas are viewsheds or landscapes that are visible from travel corridors, such as roads, recreational rivers and trails, lakes, recreation sites, communities and other public use areas. A visual quality objective is a resource management objective established by the district manager or contained in a higher level plan that reflects the desired level of visual quality based on the physical characteristics and social concern for the area.

The Ministry of Forests has completed visual landscape management inventories for the following scenic areas in the Kispiox planning area: Highways 16 and 37, Babine River, Seven Sisters, Kispiox River valley, Swan Lake, Hazelton viewshed, Kitwanga (Kitwancool) Lake, Skeena West and the Skeena River north of the Babine River. Inventories are partially completed for Kitwanga backroad and Cedarvale backroad. Inventories for the Suskwa Valley, Blue Lake trail and Oliver Creek trail will be completed in the coming year.

Under the Code, forest development plans must identify and describe the known location of scenic areas and the results of any visual impact assessment. A visual impact assessment must be carried out prior to timber harvesting or road work under operational plans if visual quality objectives have been established and the activity is within a known scenic area. Additionally, scenic areas must be described in access management plans if they affect or are affected by road work.

Objectives	Strategies
<ul style="list-style-type: none"> To maintain visual quality in scenic areas including: <ul style="list-style-type: none"> a) Highways 16 and 37 corridors b) Babine River c) Seven Sisters area d) Kispiox River valley e) Skeena River valley f) Swan Lake area g) Hazelton area h) adjacent to Ross Lake and Seeley Lake Provincial Parks i) B.C. Forest Service recreation sites and trails and j) important recreational fishing areas. 	<ul style="list-style-type: none"> Code guidebooks on visual impact assessment and visual landscape management will be considered. Inventories of visually sensitive areas will be completed and upgraded. High sensitivity landscapes (i.e., visual corridors and sensitive foregrounds of important recreational rivers, lakes, trails and sites) will be managed for retention visual quality objective (VQO) by applying a range of treatments including modification of cutblock shape, size and orientation, alternate silvicultural systems and meeting visually effective green-up requirements. Moderate and low sensitivity landscapes (i.e., middleground and background views from highway corridors and recreational rivers, lakes and trails) will be managed for VQOs ranging from retention to partial retention to modification according to an approved visual landscape inventory. Exceptions to a retention VQO along rivers and lakes may be required for access that will enhance recreational values. A visual quality objective of retention will be established for sensitive landscapes that can be viewed from within Ross Lake and Seeley Lake provincial parks.

6.11 Timber

Timber resources in the Kispiox planning area are composed of hemlock (44%), balsam (42%), spruce (7%), lodgepole pine (5%) and redcedar (2%) (Carroll-Hatch 1988). An estimated 50,000 hectares of cottonwood, birch and aspen are also present (Shaffer and Associates 1992). The net operable land base available for timber production is estimated to be 309,090 hectares or one quarter of the planning area (Ministry of Forests 1992). Timber quality is variable with a high proportion of decay due to the age of the forest. The most significant characteristic of the forest profile is an abundance of mature western hemlock and balsam (amabilis and sub-alpine fir) timber types. These over-mature stands have not been disturbed by fire for many years and are susceptible to insects and disease as a result of the transitional climate of the area.

The current allowable annual cut (AAC) for the Kispiox Timber Supply Area (TSA) of 1,100,000 m³ was set in 1981. The long run sustained yield is 681,200 m³ (Ministry of Forests 1992). The AAC is apportioned to five replaceable forest licenses: Skeena Cellulose has 52% (576,815 m³); Bell Pole Company Ltd. has 5% (55,414 m³), Hobenshield Brothers has 1% (13,680 m³), Kitwanga Lumber has 7% (77,852 m³) and Isolite-Stege has 6% (64,124 m³). Two replaceable timber sale licenses have 2% (17,034 m³), the Small Business Forest Enterprise Program has 23% (247,596 m³) and 1% (11,000 m³) is in woodlot licenses. The remaining 3% (36,445 m³) is in a Forest Service Reserve or is unallocated.

Up to 12 logging companies operate in the Kispiox TSA (Shaffer 1992). Most of the timber is processed by four sawmills (i.e., Skeena Cellulose at Carnaby, Kitwanga Lumber and C GED Forest Products at Kitwanga, and Isolite-Stege at New Hazelton), and a Skeena Cellulose whole log chipping plant at New Hazelton. The TSA provides 72% of the fiber requirements of local facilities. All of the chipping plant output is sold to the Skeena Cellulose pulp mill in Prince Rupert.

Defective timber and an inadequate supply of sawlog-quality softwood to meet the needs of operating mills are significant challenges to timber operators. Special processing techniques would provide opportunities for increased utilization of timber.

In 1988, the Gitxsan First Nation was granted the “Sam Green” injunction which prevented timber harvesting over the northern third of the Kispiox planning area pending resolution of land claims. The injunction was lifted in April 1995 in response to a request from Skeena Cellulose (Repap). Timber harvesting has been concentrated in the southern two thirds of the planning area as a result of the injunction.

New planning requirements under the Code require that operational plans for timber harvesting be consistent with higher level plans such as the Kispiox LRMP. Management objectives and zones from the approved Kispiox LRMP will be declared as a higher level plan (see Appendix 5). Forest development plans are operational plans

that provide maps and scheduling for cutblocks and roads and describe silvicultural systems, harvesting methods and forest resource protection measures. Logging plans must be consistent with forest development plans and silviculture prescriptions. Timber harvesting may be prohibited in an area if there is reasonable likelihood that harvesting would prevent achievement of higher level planning objectives. Timber harvesting under logging plans must minimize negative impacts on resource features (e.g., cultural heritage resource, recreation feature or range development) or other values identified in any higher level plan, forest development plan or silviculture prescription that applies to the area.

The concept of new forestry focuses on maintenance of ecosystem function and incorporation of genetic, structural, landscape and temporal (i.e., successional) diversity into forest management. Staff in the Kispiox Forest District have developed guidelines for application of new forestry (Marsland 1996). Maintaining biodiversity generally promotes ecosystem resilience and reduces ecological stresses on habitat and site productivity.

The objectives of new forestry are linked from the stand level to the landscape level using a coarse filter approach (e.g., maintaining structural diversity as a means of maintaining functional diversity). At the landscape level, the goal is to reduce landscape fragmentation and maintain representative stands with interior forest conditions (i.e., the stand is not affected by edge effect). At the stand level, creation of multi-structured and mixed species stands (i.e., with coniferous and deciduous components), protection of riparian habitats, provision of coarse woody debris, and maintenance of early seral species are important. Aspects of new forestry are addressed by the Code and approaches to new forestry will be refined as experience is gained.

Objectives	Strategies
<ul style="list-style-type: none"> To maintain the economic viability of timber harvesting. To maintain the health and productivity of forest resources by providing protection from fire, insects and diseases, and through reforestation. To provide a secure forest land base and a sustainable supply of timber to ensure the long term viability of the timber industry. To maximize recovery of high quality wood. 	<p>General</p> <ul style="list-style-type: none"> Code guidebooks on forest development and management will be considered. Long term effects of forest development on ecosystems, timber supply and other resource values will be assessed at the watershed level prior to forest development. A strategy for landscape level and total resource planning will be developed.

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Objectives	Strategies
	<ul style="list-style-type: none"> • A three-pass harvesting system will be applied on a watershed basis (i.e., three separate entries within a single rotation of approximately 120 years). • Future development will be focused on areas without roads before the second pass is initiated in developed areas. Accelerated construction of main access routes will be required to reduce the rate of harvest in developed areas. <p>Cutblock Size</p> <ul style="list-style-type: none"> • The average size of cutblocks will range between 40 and 50 hectares or less. • The maximum allowable cutblock size will be 100 hectares and no more than 10% of the area proposed for harvest may be in cutblocks greater than 60 hectares. Under the Code, the maximum cutblock size for the Prince Rupert Forest Region is 60 ha if no objectives for cutblock design or maintenance of biodiversity are specified in a higher level plan. A district manager may specify a larger or smaller maximum cutblock size if certain criteria are met. • Leave areas adjacent to all cutblocks should be of equal size to the harvested area. Exceptions will only be allowed for natural disturbances (e.g., blow down, insect infestation). <p>New Forestry</p> <ul style="list-style-type: none"> • 50% of harvest units harvested annually within the planning area will incorporate new forestry concepts by 1997. See the discussion on new forestry above. • Application of new forestry will be assessed and information and training will be provided to contractors and licensees during the transition period. • Increased supervision and increased on-site inspections will be required.

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Objectives	Strategies
	<p data-bbox="857 254 1156 279">Rate of Cut by Watershed</p> <ul data-bbox="857 291 1349 898" style="list-style-type: none"> <li data-bbox="857 291 1349 443">• On average, no more than 22% of the forested land in a watershed will be in a hydrological condition equivalent to a clear cut. This guideline will be refined at the landscape planning level. <li data-bbox="857 455 1349 701">• Consistent with the Code, timber harvesting will not be authorized before previously harvested, contiguous areas are greened-up. Under the Code, green-up requirements may be relaxed or increased to meet management needs for biodiversity, cultural heritage, wildlife, hydrological, recreation or scenic values. <li data-bbox="857 714 1349 898">• Within each watershed, the total area of any single opening, defined as a combination of adjacent cutblocks, which is in a hydrological condition equivalent to a clear cut, must not exceed 100 hectares. <p data-bbox="857 913 1032 938">Harvest Profile</p> <ul data-bbox="857 951 1338 1039" style="list-style-type: none"> <li data-bbox="857 951 1338 1039">• Licensees must harvest the timber profile in terms of species, quality and ground conditions. <p data-bbox="857 1054 1045 1079">Rotation Length</p> <ul data-bbox="857 1092 1354 1304" style="list-style-type: none"> <li data-bbox="857 1092 1354 1304">• In addition to maximum mean annual increment (i.e., total stand volume divided by stand age), determination of rotation length will include factors such as biodiversity, site productivity, end-product objectives, economics and objectives for other resource values. <p data-bbox="857 1318 1097 1344">Silvicultural Systems</p> <ul data-bbox="857 1356 1344 1703" style="list-style-type: none"> <li data-bbox="857 1356 1344 1478">• The silvicultural system will be identified at the highest possible planning level, which in most cases will be the landscape planning level. <li data-bbox="857 1491 1344 1703">• Clear cut systems will continue to be the primary silvicultural system used in the Kispiox planning area. A minimum of 50% of harvest units will incorporate new forestry concepts. The relationship between the Code and new forestry techniques will be clarified over time. <p data-bbox="1138 1722 1354 1747"><i>continued next page</i></p>

Objectives	Strategies
	<ul style="list-style-type: none"> • Alternate silvicultural systems will be used where stand structures allow and other concerns such as visibility, wildlife habitat and cultural heritage values dominate. Under the Code, silvicultural systems must be ecologically suited to the managed tree species and must be designed to achieve a stand structure that considers objectives from higher level plans or forest development plans. Tree species must be ecologically appropriate and must meet resource objectives from higher level plans or forest development plans. <p>Reforestation</p> <ul style="list-style-type: none"> • Reforestation will establish at least as wide a variety of species as originally found on a site.

6.12 Tourism

The Kispiox planning area has numerous tourist attractions and tourism provides significant local and regional economic benefits. Natural scenery, outdoor recreational opportunities, cultural heritage, fisheries and wildlife resources are major attractions. Commercial tourism operations include fishing, hunting, wildlife viewing, canoeing, kayaking, rafting, hiking, trail riding, snowmobiling, ski touring, heritage tours, touring by car and aircraft, camping, lodge based activities and photographic tours. A large number of tourists pass through the area on Highways 16 and 37 and potential exists to increase tourism. A travel information centre is located on Highway 16 at New Hazelton.

The planning area is rich in cultural heritage resources. A replica of a native village at 'Ksan includes traditional longhouses, a museum, art exhibition centre, carving school, gift shop, totems, art studios and interpretive tours. Over 50 standing totem poles are found in native villages in the Hazelton-Kitwanga area.

The area is internationally known for salmon, trout and steelhead fishing. The Babine River offers internationally and nationally significant steelhead fishing and wildlife viewing. The Skeena, Kispiox, Bulkley, Suskwa, Kitsequecla and Kitwanga Rivers and their tributaries are important to the sport fishing industry. The quantity and quality of wild fish stocks, high water quality, wildlife and scenic environment are major attractions for anglers.

Opportunities for wildlife viewing are high in much of the planning area. Species of particular interest for wildlife viewing include grizzly bear, black bear, mountain goat, moose, mule deer, bald eagle and other raptors, as well as variety of smaller mammals, waterfowl and songbirds.

Objectives	Strategies
<ul style="list-style-type: none">To maintain tourism opportunities based on recreation, wilderness, scenery, fish, wildlife and cultural heritage resources.To provide a wilderness environment for fishing, boating, hiking, hunting, camping and wildlife viewing.To foster a sustainable tourism industry.	<ul style="list-style-type: none">Tourism opportunities will be provided through management of recreation, fisheries, wildlife, cultural heritage and scenic areas.Opportunities for use of Crown land for future tourism development will be identified under the commercial backcountry recreation policy initiative.Tourism use will be managed to maintain the quality of the experience, the natural environment and traditional aboriginal use.Visual landscape inventories will be conducted in areas with recreation and tourism interests (see section 6.10, Scenic Areas).Protection of tourism experiences will be addressed at landscape level planning.

6.13 Wildlife

The diverse ecosystems in the Kispiox planning area support a corresponding diversity of wildlife. The area contains provincially and regionally significant wildlife populations. Hunting and wildlife viewing are popular activities. The territories of six commercial guide-outfitters overlap the planning area.

Black bears are common and widespread. A population of the Kermode colour variant (i.e., white) of black bears extends into the western half of the planning area. Key populations of grizzly bears are found in northern watersheds from the upper Kispiox River in the west to the Babine River and Gunanoot Lake in the east. The Babine Local Resource Use Plan contains management strategies to address critical habitat needs of grizzly bears. Connectivity between grizzly populations in northern watersheds of the planning area is likely. Grizzly populations in the Suskwa River, Harold Price Creek and south Babine River drainages to the east and south-east are also probably linked. Populations of grizzly and black bears are threatened by increased road access and timber harvesting in key bear habitat (e.g., riparian areas, avalanche chutes and seepage areas). Grizzly bear habitat suitability is indicated on Figure 4.

Moose are dispersed throughout the planning area. Past fires have produced local concentrations of early seral and deciduous vegetation which, in combination with riparian areas along streams, wetlands and lakes, provide year round habitat for moose. Moose habitat suitability is indicated on Figure 5. Although critical winter habitat is a limiting factor for moose, information on moose winter range is limited. Availability of mature timber for security and summer thermal cover is also important. Moose numbers appear to have been declining for the past 10 to 15 years most likely as a result of hunting, predation and habitat alteration. Recovery of moose populations is dependent on management of habitat, access and timber harvesting.

Mule deer populations in the planning area are stable or increasing. Mule deer require early seral, deciduous and riparian areas for feeding and adjacent mature to old conifer stands for thermal and snow interception cover in winter. Deer habitat suitability is indicated on Figure 6. Information on deer winter range is limited. Mature conifer stands that provide mule deer winter habitat have been reduced by timber harvesting in valley bottoms. Habitat protection and enhancement strategies must address shortages of winter range. White-tailed deer sightings have increased in recent years and this species may compete with mule deer.

Mountain goats are found in mountainous areas throughout the Kispiox planning area. The majority of the mountain goats in the world occur in B.C., and the Nass Ranges support one of the highest densities of goats in the province. Goats use mature forests on steep southerly slopes at low to middle elevations as winter range. Mountain goat habitat suitability is indicated on Figure 7. Goat populations are limited by winter range and are highly vulnerable to overharvest because of visibility and fidelity to home ranges.

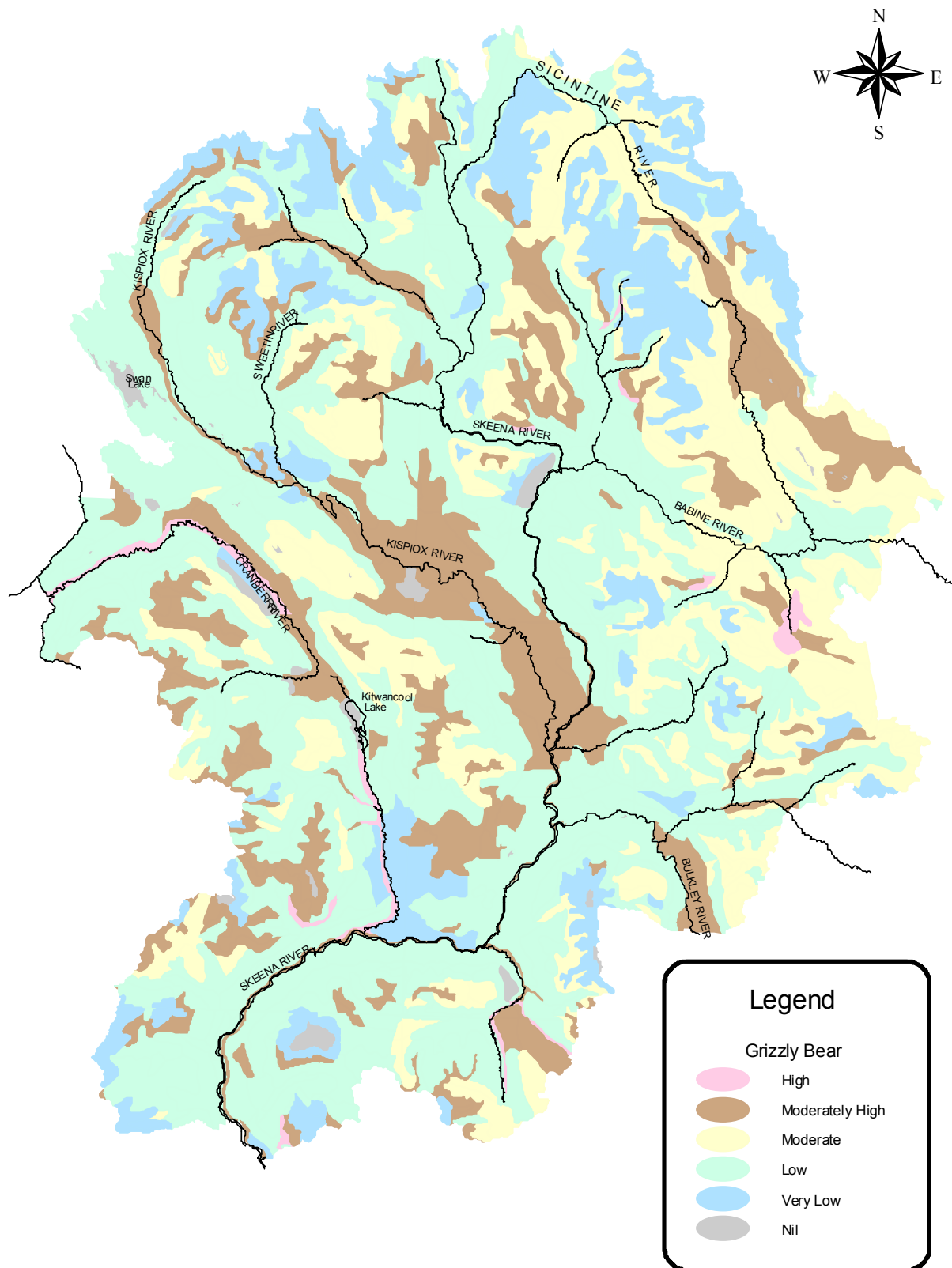


FIGURE 4. Grizzly bear habitat suitability. Map and data model from Turney (1996).

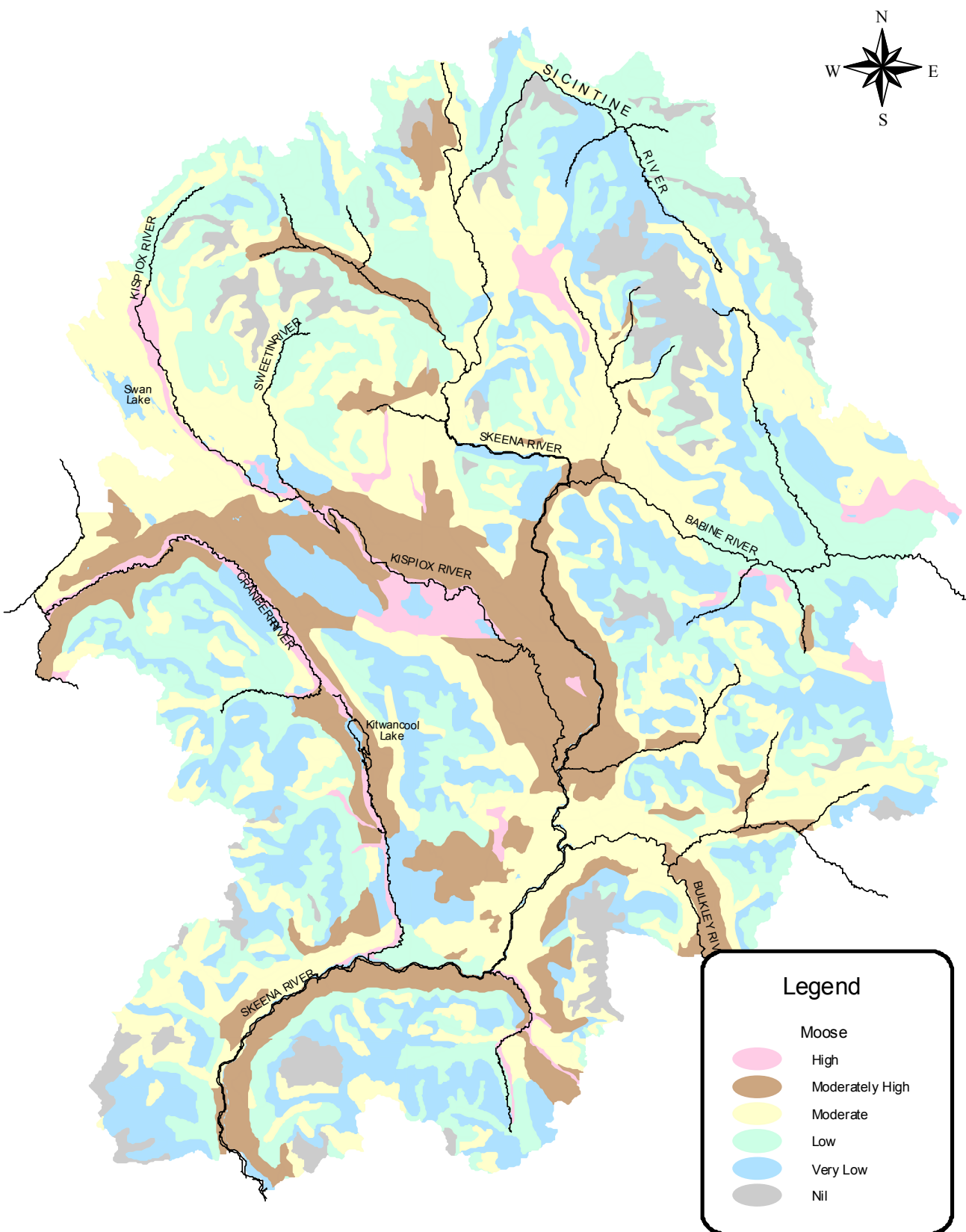


FIGURE 5. Moose habitat suitability. Map and data model from Turney (1996).

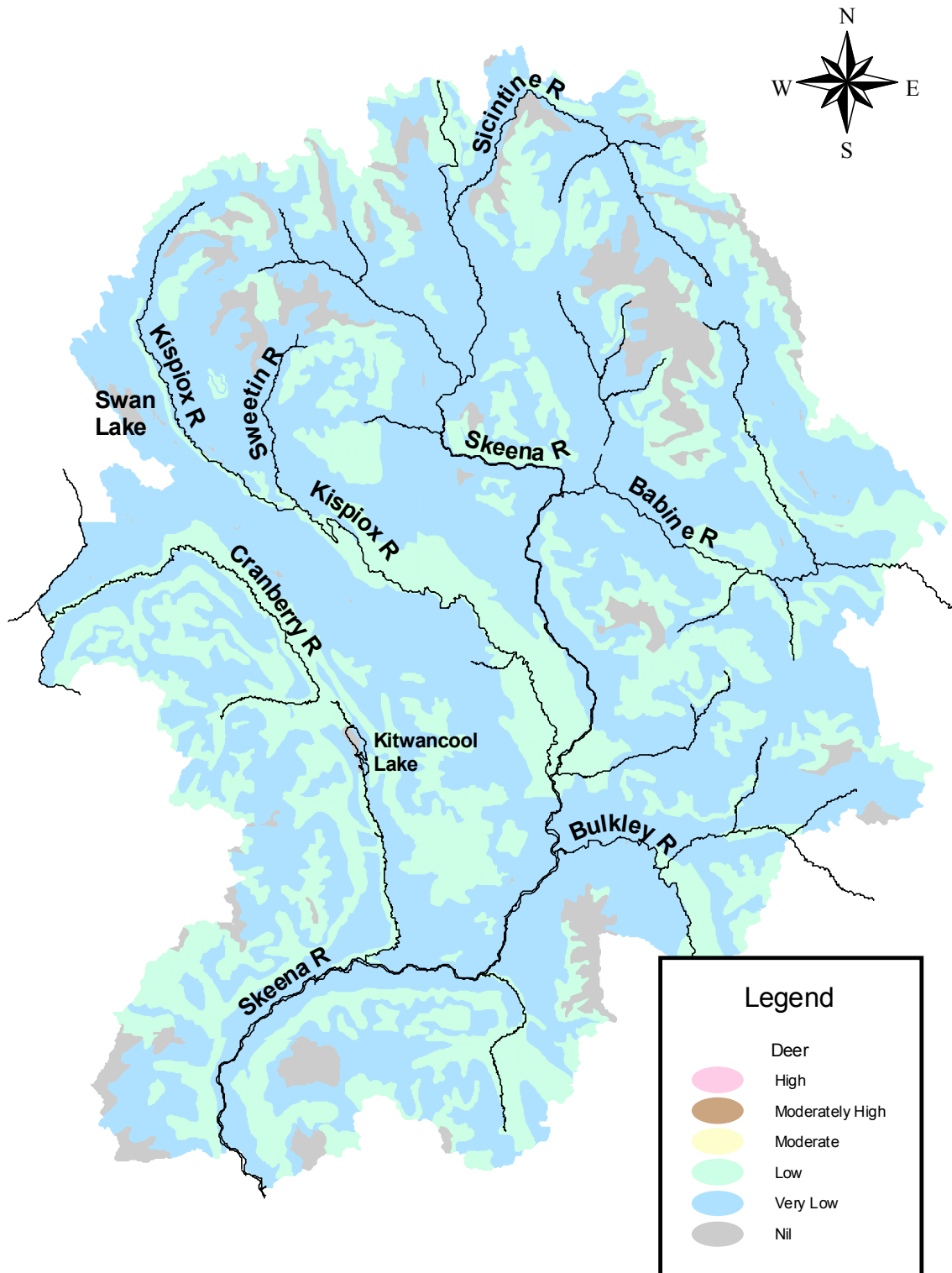


FIGURE 6. Deer habitat suitability. Map and data model from Turney (1996).

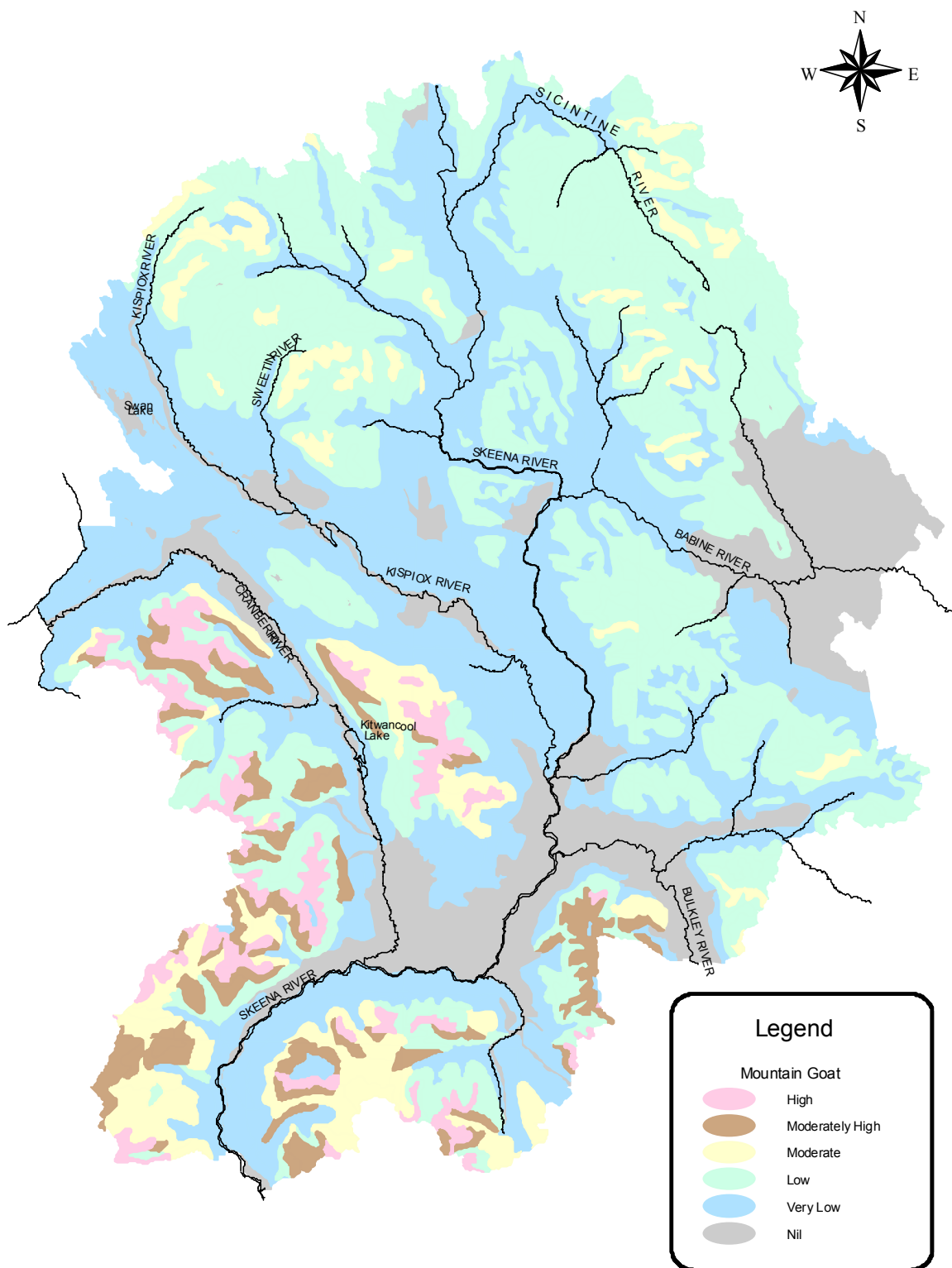


FIGURE 7. Mountain goat habitat suitability. Map and data model from Turney (1996).

Goats are threatened by access development and loss of winter range associated with timber harvesting.

Furbearers in the Kispiox planning area include black bear, wolf, river otter, fisher, wolverine, marten, mink, three species of weasel, fox, coyote, lynx, beaver, muskrat and red squirrel. Wolf populations in the planning area appear to be viable, although estimates are not available and populations are affected by changes in prey populations and human disturbance. Skunk, raccoon and bobcat occur rarely. Cougar sightings are increasing. Some species, such as the marten, are dependent on old conifer stands while others are dependent on riparian areas. Wolverine are few and rarely seen. Fur harvest records indicate that marten are the most commonly trapped species, and that lynx, mink and beaver contribute significantly to trapping revenue. The planning area is covered by 86 registered traplines.

Upland game birds are plentiful throughout the planning area. Spruce grouse depend on coniferous forests and ruffed grouse require mixed-wood forests. Wetlands, lakes and rivers support a variety of waterfowl including trumpeter swans and cavity nesters such as buffleheads and goldeneyes. British Columbia provides a major breeding and wintering area for Barrow's goldeneye.

The biodiversity of the Kispiox planning area is reflected in the variety of non-game species, which includes breeding songbirds, cavity nesting woodpeckers, raptors, small mammals, reptiles and amphibians. Many bird species depend on coniferous and deciduous forests in the planning area. The northern goshawk, many declining species of migrant songbirds, and pileated and northern three-toed woodpeckers nest in the planning area. Sandhill cranes visit the Kispiox valley during migrations.

Wildlife rely on diverse ecosystems distributed throughout the many watersheds and drainages of the planning area. Habitat requirements of wildlife range from individual forest stands to larger landscapes which cross several watersheds. The sustainability of wildlife in the Kispiox planning area is directly linked to successful implementation of biodiversity and riparian management strategies. Wildlife are part of a dynamic system. For example, some habitats in the planning areas, which have the potential to support caribou and elk, are beginning to appear. Strategies to address wildlife concerns must also be dynamic.

Under the Code, identified wildlife are species at risk that the Deputy Minister of Environment, Lands and Parks or designate, and the chief forester agree will be managed through a higher level plan, wildlife habitat area or general wildlife measure. The trumpeter swan, northern goshawk, fisher, grizzly bear, mountain goat and bull trout are species in the Kispiox planning area that are under consideration as identified wildlife in the first version of the Code guidebook on identified wildlife, which will be released shortly. Subsequent versions will consider species such as marten.

Under the Code, wildlife habitat areas are mapped areas that the above officials have identified as being necessary for the habitat requirements of one or more species of

identified wildlife. The known location of wildlife habitat areas must be identified in operational plans. Clearcutting is prohibited within areas that contain wildlife habitat where canopy retention is essential for the maintenance of identified wildlife.

Objectives	Strategies
<ul style="list-style-type: none"> • To maintain natural ecosystems and habitat to sustain viable populations of all native wildlife within their natural ranges. • To protect or enhance populations and habitat of rare or endangered and regionally significant species. • To provide for sustainable harvest of big game species (i.e., moose, mule deer, white-tailed deer, mountain goat, black bear and grizzly bear) and furbearers. • To provide for aboriginal use of wildlife resources. • To maintain viable guiding and trapping industries. • To provide and promote opportunities for viewing, study and appreciation of wildlife in their habitat. 	<p>General</p> <ul style="list-style-type: none"> • The Code guidebooks on biodiversity, riparian management areas and managing identified wildlife will be considered. • Critical and regionally significant wildlife habitat for identified wildlife species will be identified in landscape level planning. • Forests will be managed to provide a diversity of age classes and stand structures for wildlife habitat (i.e., a combination of opening sizes, silvicultural systems, slower rates of cut, smaller clearcuts, new forestry practices and higher road standards). • B.C. Environment and the Ministry of Forests will establish wildlife habitat objectives for review and provide input at landscape and operational planning levels to facilitate protection of wildlife resources. • Fragmentation of wildlife habitat will be minimized at the landscape planning level. • Concerns about the effects of access on wildlife will be addressed at landscape and operational planning levels. • Mapping of habitat capability and suitability for moose, grizzly bear, deer and mountain goat will be developed based on methods in Demarchi (1995). This habitat mapping will be used in landscape and operational planning.

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Objectives	Strategies
	<p data-bbox="883 254 1122 281">Grizzly Bear Habitat</p> <ul style="list-style-type: none"> <li data-bbox="883 296 1377 474">• High value grizzly habitat will be identified and mapped at the landscape planning level and will include floodplain and riparian areas, movement corridors, avalanche chutes and berry producing areas. <li data-bbox="883 489 1377 762">• High value grizzly bear habitat will be protected through application of management strategies such as buffering with reserves, modifying silvicultural systems (e.g., selection harvesting in appropriate cover and devil's club sites; clear cuts to increase berry production in summer feeding sites) and minimizing clear cut sizes (i.e., <15 hectares). <li data-bbox="883 777 1377 924">• Selection harvesting will be applied to a minimum of 5% of the forested portion of high value grizzly bear habitat outside riparian management areas or wildlife habitat areas. <li data-bbox="883 938 1377 1180">• Established strategies for management of grizzly habitat (i.e., Babine LRUP prescriptions for moderate and high value grizzly habitat; stocking standards from the Coastal Grizzly Bear Habitat Management Guidelines) will be used in the development and review of landscape and operational plans. <li data-bbox="883 1194 1377 1310">• Designation of grizzly bear management areas, as directed under the B.C. Grizzly Bear Conservation Strategy, will be considered in future LRMPs. <li data-bbox="883 1325 1377 1566">• Effects of access on grizzlies will be addressed through coordinated access management plans (e.g., Babine CAMP) and modified road construction practices (i.e., minimum lines of sight, reduced widths of rights of way, accelerated deactivation, temporary construction standards). <li data-bbox="883 1581 1377 1696">• Regulated grizzly bear hunting may be restricted in portions of the planning area, such as the Babine River corridor, as part of the provincial conservation strategy.

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Objectives	Strategies
	<p data-bbox="695 254 867 279">Moose Habitat</p> <ul data-bbox="695 291 1187 583" style="list-style-type: none"> <li data-bbox="695 291 1162 352">• Moose winter range will be identified at the landscape planning level. <li data-bbox="695 365 1118 453">• Older coniferous age classes will be maintained to provide security and summer thermal cover for moose. <li data-bbox="695 466 1187 583">• Deciduous and deciduous mixed-wood forests will be managed for a range of age classes to ensure adequate forage for moose. <p data-bbox="695 596 846 621">Deer Habitat</p> <ul data-bbox="695 634 1195 1108" style="list-style-type: none"> <li data-bbox="695 634 1182 695">• Deer winter range will be identified at the landscape planning level. <li data-bbox="695 707 1187 888">• Old growth stands that provide high value deer winter range, such as at the confluence of the Suskwa River and Natlan Creeks, will not be logged until adjacent stands have matured and are able to provide habitat requirements. <li data-bbox="695 900 1195 1108">• 15% of identified deer winter range will be managed at longer rotations of 150 years to provide thermal and snow interception cover for deer. Of that 15% of identified winter range, 40% will be maintained older than 150 years at any one time. <p data-bbox="695 1121 967 1146">Mountain Goat Habitat</p> <ul data-bbox="695 1159 1195 1684" style="list-style-type: none"> <li data-bbox="695 1159 1179 1220">• Mountain goat winter range will be identified at the landscape planning level. <li data-bbox="695 1232 1166 1320">• Effects of access on mountain goats will be addressed at the landscape planning level. <li data-bbox="695 1333 1166 1486">• Connectivity, between alpine and lower elevation winter ranges for annual movements, and between landscapes for population dispersal, will be maintained through landscape planning. <li data-bbox="695 1499 1195 1587">• Key habitat features, such as mineral licks, will be identified and protected (e.g., through buffering). <li data-bbox="695 1600 1166 1684">• Roads will be located and constructed to minimize impacts of increased predator access on wintering goats.

6.14 Minerals

The Kispiox planning area lies within the larger Skeena-Nass area, one of the most richly endowed parts of the province for mineral resources. The earliest recorded mining activity in the planning area is placer gold production at the Dry Hill mine on Lorne Creek in 1884. In 1889, the Klondike gold rush brought an influx of prospectors into the Hazeltons. Small placer operations were recorded on the Babine River in 1925 and on Porcupine Creek in 1931, and several placer gold occurrences were found along the Skeena and Bulkley Rivers.

Underground mining became viable in 1914 when construction of the railway provided a way to ship ore to Trail for smelting. Early mining was generally restricted to high grade metal deposits. Base metals (e.g., copper, zinc and lead) and precious metals (e.g., silver and gold) were extracted from quartz veins in eleven of the thirteen former mines in the planning area. Most of these mines were clustered around the Hazeltons, in the Rocher Deboile Range and around Nine Mile Mountain.

The operating life of these mines ranged from several months to several years and the amount of rock extracted ranged from 26 tonnes to 205,650 tonnes. Nine mines operated for various periods between 1913 and 1930. Five mines (including the Silver Standard Mine which produced periodically until 1989) operated for four years or longer. In the 1940s and early 1950s, several of these mines reopened and a new tungsten mine, the Red Rose in the Rocher Deboile Range, began production. Large increases in gold and silver prices in the late 1970s and early 1980s stimulated renewed activity at many mines, in some cases after a hiatus of more than 40 years. No mines currently operate in the planning area.

A total of 236,000 kilograms (kg) of silver, 638 kg of gold, 8.3 million kg of lead, 12.5 million kg of zinc, 3.1 million kg of copper, 1.0 million kg tungsten and minor amounts of cadmium, arsenic and cobalt have been extracted from mines in the Hazelton area. In 1986 dollars, the combined value of extracted minerals is more than \$86 million.

Exploration for industrial minerals has been significant in the planning area. In 1936 and 1939, over 110 tonnes of marl (i.e., clay and calcium carbonate used as fertilizer for lime deficient soils) were produced from the Buccaneer of the North deposit, near Ritchie in the southwest corner of the planning area. Several other marl deposits are located near Woodcock and the Hazeltons. Although coal has not been commercially mined in the area, 17 showings, 3 with significant coal seams, have been recorded. Many coal occurrences have been known since 1909.

Technological changes and improvements in mining methods stimulated exploration for low grade, large tonnage deposits of copper and molybdenum in the mid-1960s to the early 1980s. Exploration was extended over a much larger and less accessible portion of the planning area than previously. Several significant properties have been discovered and potential exists for a new mine.

The mineral potential of the planning area is determined by examining underlying geology and past exploration and mining. Several factors make determination of mineral potential quite difficult. The hidden nature of the resource is a major challenge. Although new techniques have been developed to trace mineral deposits, none are completely reliable. Geophysical and geochemical surveys may identify anomalies but cannot determine if a deposit is economic. Continual change in societal requirements for minerals is another factor. A valuable deposit may become uneconomic as the need for and availability of a metal changes. Technological change is another factor. As a result of new technology, a previously uneconomic deposit may become a viable mine or mineral deposits may be discovered in areas where mineral potential was previously assessed as low.

To help quantify mineral potential, the province has been divided into mineral tracts on the basis of geology and distribution of known mineral occurrences. The Kispiox planning area is underlain by sedimentary and minor amounts of volcanic rocks and is divided into 17 tracts. Younger intrusions into the older, mainly sedimentary rocks provide heat to mobilize fluids along fractures and develop local mineral deposits. Most of the planning area has a high or moderate mineral potential because of these intrusive rocks. Only one tract on the northern boundary of the planning area has low mineral potential, although a 1995 geochemical survey identified high values of precious metal indicators in the area. Mineral potential is indicated on Figure 8.

Government records of 175 mineral occurrences in the Minfile database and 192 assessment reports from mineral tenure holders indicate several areas of strong mineral exploration. The Rocher Deboile Range, Nine Mile Mountain, Seven Sisters Range and areas along the Skeena, Bulkley and Kispiox Rivers have been actively explored since the turn of the century. Increased road access and helicopter supported exploration programs have extended mineral exploration in the planning area. Parts of the Atna Range, the French Peak/ Mount Thoen area and Mount Thomlinson have been actively explored since the 1960s and are under current mineral tenures.

Although the number fluctuates, approximately 40 mineral tenure holders have claims in good standing in the planning area. Recent mineral tenures on sites that are not recorded in the Minfile or assessment report index indicate that new mineral deposits are being discovered in the planning area. Independent prospectors, mining companies, government geochemical surveys and geological research all contribute to these discoveries.

Although road development may not be required in the initial stages of mineral exploration, roads are usually required for advanced exploratory drilling and for development and operation of a mine. Some of the first access roads in the Hazelton area were built by the mining industry. Roads on Nine Mile Mountain and Rocher Deboile originated as mining roads. Many other mining roads are currently used for a variety of purposes.

FIGURE 8. Mineral potential.

Under the *Mines Act* and regulations, proposed exploration is reviewed through an inter-agency referral of a proponent's notice of work. Road building and timber harvesting on exploration properties are subject to the Code. Proposals for mine development undergo a thorough government and public screening through the environmental assessment process (i.e., formerly the mine development assessment process).

Objectives	Strategies
<ul style="list-style-type: none"> • To encourage new mining opportunities and development that provide local employment and investment. • To strive for a diversified and enhanced mineral industry. • To maintain or enhance access to Crown land for mineral exploration and development. • To maintain opportunities for sand and gravel mining. • To encourage geoscience inventories to support mineral investment and land use decisions. 	<ul style="list-style-type: none"> • The Provincial Mineral Strategy will be implemented. • Input on mineral resources will be provided to local government planning processes (e.g., official community plans, bylaw referrals). • Mineral potential will be evaluated within areas that are proposed for long term protection. • Existing mineral tenures will be recognized. • The Ministry of Employment and Investment intends to work through local resource use plans, landscape level plans and coordinated access management plans to encourage long term access to subsurface resources and to facilitate compatibility between mineral exploration and development and other land uses. • Resource management zoning will be used to support mineral investment by promoting certainty. • Land closures for mineral and placer exploration (e.g., no staking reserves) will be monitored and updated regularly to reflect government land use decisions. • Government-sponsored geological surveys, research on mineral deposits and exploration incentive programs may be conducted. • The Health, Safety and Reclamation Code for mines will be implemented. • Mineral exploration and site access disturbances will be rehabilitated.

6.15 Oil and natural gas

The Kispiox planning area is within the Bowser sedimentary basin. Although the basin has not been extensively explored for oil and gas, the potential for hydrocarbons is believed to be moderate to good. The Geological Survey of Canada (GSC) evaluated the hydrocarbon potential of the basin (Hannigan *et al.* 1995). The GSC assessment is based on an evaluation of the geological history of the area, potential source rocks, thermal maturity, reservoir facies, structural and stratigraphic traps, oil and gas shows and statistical analysis.

In the Kispiox planning area, the GSC recognizes the Bowser Skeena structural gas and oil plays and Bowser Mid-Jurassic–Lower Cretaceous structural gas play. A play is a geographically constrained package of rock layers within which oil and gas pools of similar types are expected to be found.

The Institute of Sedimentary and Petroleum Geology estimates mean play potentials for the whole Bowser basin as $71.9 \times 10^9 \text{ m}^3$ of gas in the Skeena structural gas play, $201 \times 10^6 \text{ m}^3$ of oil in the Skeena oil play and $52.7 \times 10^9 \text{ m}^3$ gas in the Mid-Jurassic–Lower Cretaceous gas play. Based on proportional area, one-quarter to one-third of this potential could be expected within the Kispiox planning area. Oil and gas potential is indicated on Figure 9.

No active oil and gas tenures are found within the planning area.

No potential for geothermal energy exists in the planning area.

Objectives	Strategies
<ul style="list-style-type: none"> • To encourage oil and gas opportunities and development that provide local employment and investment. • To maintain or enhance access to Crown land for oil and gas exploration and development. • To encourage geoscience inventories to support oil and gas investment and land use decisions. 	<ul style="list-style-type: none"> • Input on oil and gas resources will be provided to local government planning processes (e.g., official community plans, bylaw referrals). • Oil and gas potential will be evaluated within areas that are proposed for long term protection. • The Ministry of Employment and Investment intends to work through local resource use plans, landscape level plans and coordinated access management plans to encourage long term access to subsurface resources and facilitate compatibility between oil and gas exploration and development and other land uses. • Resource management zoning will be used to support oil and gas investment by promoting certainty. • Land closures for oil and gas exploration (e.g., no staking reserves) will be monitored and updated regularly to reflect government land use decisions. • Government-sponsored geological surveys, research on oil and gas reserves and exploration incentive programs may be conducted. • Oil and gas exploration and site access disturbances will be rehabilitated.

FIGURE 9. Oil and natural gas potential.

6.16 Botanical forest products

Botanical forest products are non-timber based products gathered from forest and range land. The Ministry of Forests (1995) has grouped botanical forest products into the following categories: wild edible mushrooms, floral greenery, medicinal and pharmaceutical products, wild berries and fruits, herbs and vegetable products, landscaping products, craft products and miscellaneous. Berry picking and collection of fungi for food are popular activities in the Kispiox planning area. Collection of medicinal plants, such as lily roots and devil's club, is an important activity for First Nations.

Commercial harvesting of pine mushrooms is a major use of botanical forest products in the Kispiox planning area. Pine mushrooms are collected in old western hemlock and subalpine fir forests in the Skeena, Bulkley, Cranberry and Kispiox River valleys in the Hazelton area (DeGeus 1995). Mushroom harvesting is currently unregulated and is permitted on unoccupied Crown land. Pickers are often secretive about mushroom harvesting locations which increases the difficulty of measuring or managing harvesting. Permission is required to pick mushrooms on Indian Reserves, private land and leased Crown land and picking is prohibited in protected areas. The Ministry of Forests is developing a policy on management of pine mushrooms.

Although the ecology of pine mushrooms is poorly understood, the vegetative mycelium of the fungus appears to form a mycorrhizal association with tree roots. The mushroom is the fruiting body of the fungus. Long term harvesting of mushrooms can only be sustained if the mycelium is not damaged. Picking or cutting of individual mushrooms is the recommended approach. The Ministry of Forests (no date) has produced a brochure on harvesting edible wild mushrooms.

Pine mushrooms or matsutake are harvested in the fall by local and professional pickers who sell to commercial buyers. Buying stations are often located in the Kitwanga Valley, in the Cranberry area and near the Hazeltons and Kispiox. Disturbance of wildlife, damage to picking sites, garbage and lost pickers have been problems associated with mushroom harvesting in the Kispiox planning area.

Pine mushrooms are exported to Japan as a delicacy. Approximately 450,000 kilograms of pine mushrooms with a value of \$26 million were exported from Canada to Japan in 1994. The same year, which was a good year for mushrooms, almost 160,000 kg of pine mushrooms were harvested and pickers were paid \$3.9 million in the Nass River valley including the area around Cranberry Junction (Meyer Resources 1995). Benefits to Nass River valley residents were estimated to be \$2.5 million and to the Nass Valley, Terrace and Kitimat region were estimated to be \$3.8 million. The price of mushrooms varies widely depending on quality and supply and may range as high as several hundred dollars for a kilogram.

Objectives	Strategies
<ul style="list-style-type: none"> • To maintain and use botanical forest products including wild berries. • To maintain mushroom resources and provide opportunities for sustainable harvesting of mushrooms. • To maintain sites that are important for production of traditional medicinal plants (e.g., lily roots, devil's club). 	<ul style="list-style-type: none"> • Mushroom harvesting in the planning area will be monitored. • Mushroom resources will be considered at landscape and operational planning levels. • Sites that are important to First Nations for production of medicinal plants will be identified at the operational planning level (see Cultural Heritage Resources, section 6.6).

7.0 Resource management zoning

The Kispiox planning area was initially subdivided into 18 planning units to assist with analysis and presentation of resource management direction. Nine resource inventories were mapped at a scale of 1:250,000 to allow comparison and to identify areas of compatibility and conflict. Planning units were subsequently replaced with five resource management zones in the consensus management direction report: resource development, deer habitat, moose habitat, visual, community watershed and natural emphasis.

The following resource management zones and associated objectives and strategies are based on the consensus management direction report, the *Upper Kispiox Land Use Recommendation*, and *Land Use Recommendations for the Seven Sisters Planning Area*, and are consistent with recent government policy on land use zoning. The zones are presented in Figure 10. The area and percentage of the planning area within each zone are presented in Table 1.

Kispiox Land and Resource Management Plan

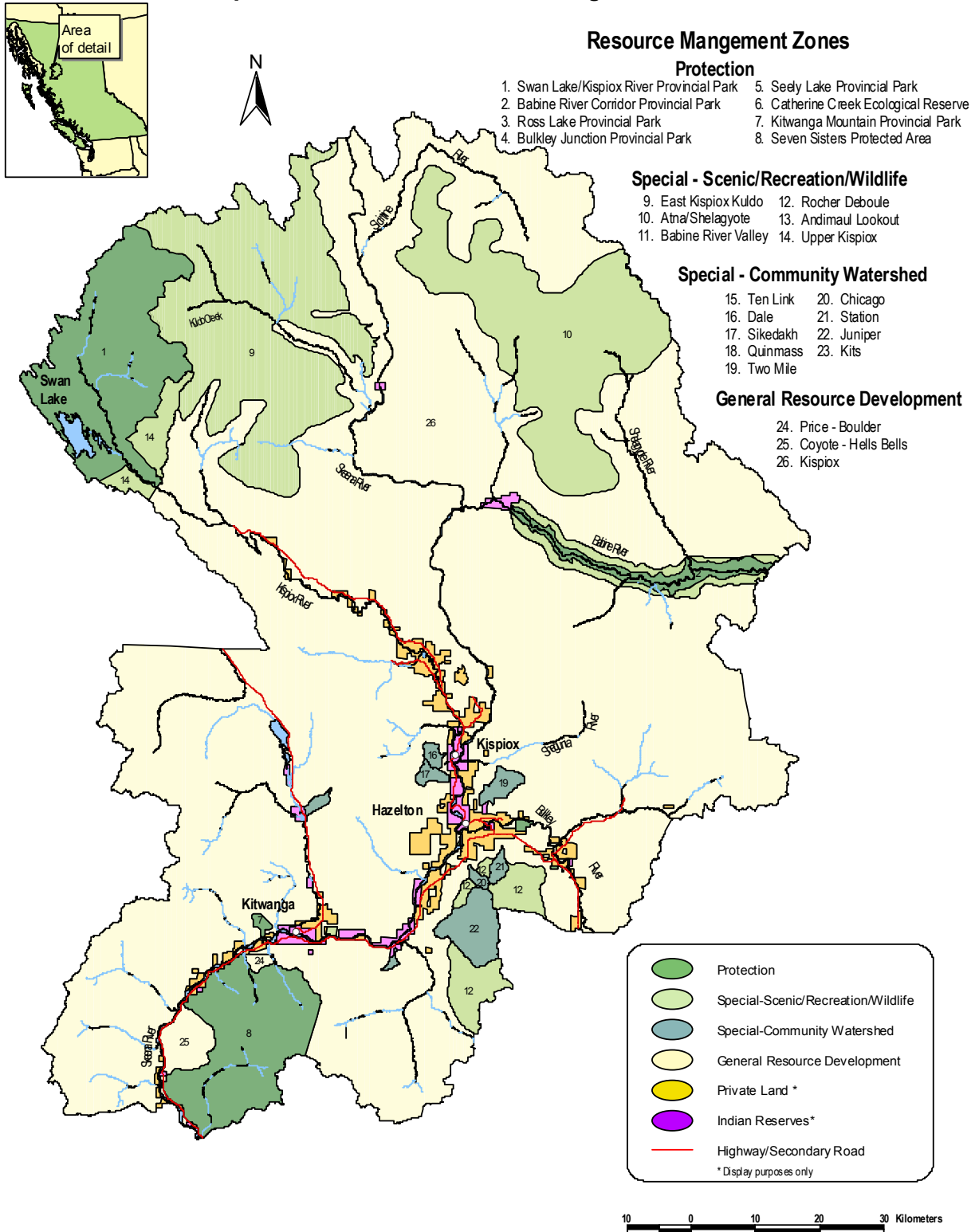


FIGURE 10. Resource management zoning for the Kispiox LRMP.

TABLE 1. Area and percentages of resource management zones in the Kispiox LRMP

Resource management zone	Area ^a (hectares)	Percentage of planning area
Protection		
Swan Lake Kispiox River Park	^b 58,063	
Seeley Lake Park	28	
Ross Lake Park	357	
Babine River River Corridor Park	^c 9,403	
Catherine Creek Ecological Reserve	45	
Bulkley Junction Park	29	
Kitwanga Mountain Park	600	
Seven Sisters Park and Protected Area	42,208	
	107,394	8.70%
Special Resource Management		
Atna/Shelagyte	79,782	
Rocher Deboule	20,616	
East Kispiox/Kuldo	98,260	
Babine River Valley	^d 9,821	
Andimaul Lookout	211	
Upper Kispiox	7,819	
	216,588	17.55%
Special Resource Management – Community Watersheds		
Chicago	625	
Sikedakh	1,111	
Ten Link	718	
Kits	331	
Juniper	7,531	
Station	1,002	
Two Mile	2,158	
Dale	908	
Quinmass	11	
	14,397	1.16%
General Resource Development		
Price Boulder	931	
Coyote-Hells Bells	6,287	
Kispiox	853,918	
	861,136	69.79%
Indian Reserve	9,840	0.80%
Private Land	24,574	2.0%
TOTAL	1,223,929	100.00%

^a Figures presented are based on best available information from geographic information systems and agency records.

^b Total park area is 62,356 ha. A total of 4,293 ha is not within the Kispiox LRMP planning area.

^c Total park area is 15,348 ha. A total of 5,945 ha is not within the Kispiox LRMP planning area.

^d Total special management zone area is 16,648 ha. A total of 6,834 ha is not within the Kispiox LRMP planning area.

7.1 Protection

Management Objective	Management Strategy
<ul style="list-style-type: none"> To protect natural, cultural heritage, and/or recreational values in the following areas: <ol style="list-style-type: none"> Ross Lake and Seeley Lake Provincial Parks; Swan Lake Wilderness Area; Babine River wilderness corridor; Kitwanga Mountain; Catherine Creek; and Bulkley Junction. 	<ul style="list-style-type: none"> Timber harvesting, exploration and development of minerals, oil and natural gas, and hydro-electric development will not be permitted in protected areas (see section 6.7, Protected areas).

Additionally, the following protected areas have been designated in the Kispiox planning area (see Figure 10):

a.) Upper Kispiox

The intent of this protection zone is to conserve certain features and attributes for their natural value, such as water quality, provincially significant fisheries and wildlife values, and ecosystem representation, and to include such areas as part of the Provincial Protected Areas Strategy in an updated park system. No commercial resource extraction is to take place in this zone. This zone is 43,053 ha in size, and includes the headwaters of the Kispiox River, the lake system in the Williams Lake area, the northern portion of the East Kispiox River and the wet lowlands and lakes in the Footsore and Hodder Lake area. This ensures the protection of water quality at the source of the Kispiox River, protection of critical spawning and rearing habitat, and protection of highly valuable and productive grizzly bear habitat. This zone also protects 1.4% of the Northern Skeena Mountains Ecosection and 2.0% of the Nass Basin Ecosection.

Specific Zone Requirements for the Upper Kispiox Protected Area

Management Objectives	Management Strategies
<ul style="list-style-type: none"> • Maintain natural water quality and stream flow regimes • Protect biological diversity and natural ecosystem functions • Protect viable representative examples of Nass Basin and Northern Skeena Mountains 	<ul style="list-style-type: none"> • Permit no mechanically assisted human activity in the zone, except: <ul style="list-style-type: none"> • search and rescue activities; • fire management activities - monitored and reported on by the monitoring committee; • forest health activities - monitored and reported on by the monitoring committee; • research activity, which may be helicopter supported, but where the emphasis is on minimal alteration of the natural systems - monitored and reported on by the monitoring committee; • collecting and gathering activities where there is no surface mechanical transportation in the planning area; and, • harvesting activities for cultural activities where there is no surface mechanical transportation assistance in the planning area. • Commercial backcountry recreational tenures are specifically discouraged. • No unspecified human activity (see strategies for <i>Water Quality</i>, above).

b.) Seven Sisters

The Protection zone protects a representative ecological benchmark of the Nass Ranges Ecosection, placing an emphasis on the achievement of the conservation and recreation objectives of the provincial Protected Areas Strategy. This zone definition also addresses the interest in continued recreational and commercial harvesting of pine mushrooms, with the understanding that this activity may become provincially regulated at some future date.

Timber harvesting and mineral exploration and development are not permitted in this area. Other accepted activities include the following: hunting, fishing, trapping, harvesting of botanical forest products by Aboriginal people, and recreational pursuits.

The following section provides guiding principles for management of the Seven Sisters protected area. Refinements appear below in the Section *Specific Zone Requirements* (page 65)

Guiding principles for the Seven Sisters Protected Area

Aboriginal Rights¹ and Interests

- It is recognized that participation by Gitxsan people and provincial agency representatives in developing land use recommendations for the Seven Sisters area will not prejudice the positions of the parties in any future treaty negotiations.
- Planning and management of the Seven Sisters will provide for the maintenance of traditional Aboriginal values and cultural heritage. Specific cultural and archaeological sites in the area will be preserved by identifying them during planning for any development activities.
- The Gitxsan people must have the continued opportunity to participate directly in future planning processes at the local level.

Fish and Wildlife Resource Management

- Land use practices will not degrade terrestrial and aquatic habitats. The areas diversity of wildlife and its relevant habitat will be maintained, including grizzly and black bears, moose and deer, wolves, mountain goats, furbearers, song birds, and raptors.
- Threatened and endangered ecosystems and plant communities, and the habitats of threatened and endangered species (Red Listed species) and species at risk from land use activities (Blue Listed species) will be maintained.
- Management plans will identify and maintain critical wildlife habitat, with particular emphasis on mountain goats.
- Hunting and fishing will continue to be permitted activities.
- Trapping will continue as an activity and the transfer and sale of trapline areas will not be affected. Seven Sisters planning will not supersede or affect the ability of parties to resolve current legal issues concerning the ownership of traplines.

¹ While this plan refers to both Aboriginal rights and interests, it is intentionally silent on any definition of these rights and interests, recognizing that these are the subject of on-going legal actions and treaty-related negotiations.

Recreation Resource Management and Use

- A recreation management strategy will be created for the Seven Sisters area that addresses the maintenance and enhancement of various recreational values and includes:
 - (i) areas of undeveloped land with the potential for enhancement and broadening of recreational uses;
 - (ii) a system of recreational trails;
 - (iii) facility and services development potential;
 - (iv) backcountry recreational values; and,
 - (v) the delineation of areas and/or routes for motorized and non-motorized recreational access in the Seven Sisters area (see the *Access Management* section below).

Recreation planning will require inter-agency co-operation to ensure that recreation management is compatible across zone boundaries.

- A visual landscape analysis will be undertaken for the study area. Objectives and strategies will be developed to manage visual quality from various locations, including Highway 16, the VIA Rail line, Sedan Creek Forest Service Recreation Site, the Cedarvale back road, viewpoints west of the Skeena River and specific viewpoints within the planning area.
- Environmental damage from recreational use will be minimized.
- Opportunities will be provided for both motorized and non-motorized summer and winter use in the Seven Sisters areas, although not in every zone. Designated areas and/or routes and the need for effective management controls will be identified through access planning at the operational level (see the *Access Management* section below). The presently used snowmobile area in the vicinity of Flint and Hells Bells Creeks will be designated for this use.

Ecosystem Preservation

- A contiguous suite of biogeoclimatic zones will be protected in the Nass Ranges Ecosection from valley floor riparian environments to alpine vegetation and snow fields, that also incorporates significant recreational features and values. The combination of northern temperate rainforest, montane-interior and boreal flora is significant.

Botanical Forest Products

- Botanical forest products are important for traditional Aboriginal and local use, and the capacity of the area to produce these products will be maintained so that these traditional uses can continue. Future management will allow for the possibility of activities that enhance specific botanical forest products for Aboriginal uses (for example, prescribed fire will be considered as a tool to enhance the productivity of local berry patches).
- The mushroom growing capability (habitat) and the opportunity to harvest mushrooms for economic and recreational purposes will be maintained. It is recognized that this activity may be regulated in B.C. at some future date by the provincial government.

Local Employment & Economy

- The ability to use wildlife products (skins, furs) as an economic supplement and lifestyle activity will be maintained (for example, a traditional blanket made of goat wool/cedar/other hair has high economic value, cedar for baskets, dogwood and willow products). The use of natural materials is increasing because of the economic value of handmade arts and crafts and the increasing awareness of Aboriginal cultures.
- Land use decisions should support diversity in the local economic base to reduce single-industry dependence and increase community stability.
- Gitxsan House groups should have the opportunity to participate in economic development resulting from land use decisions in the Seven Sisters. This does not guarantee participation for any one group, but recognizes the desire to provide employment opportunities for local Aboriginal people.

Domestic Water Use

- The quantity and quality of domestic water supplies will be maintained including the opportunity for continued use of water resources for domestic purposes.
- The results of some past forest practices have had continuing negative impacts on domestic water quality and quantity for some residents at

Cedarvale. Watershed restoration efforts (that is, hydrological stabilization) must be undertaken immediately to repair outstanding environmental damage and any related damage to domestic water delivery systems.

Commercial Recreation

- Commercial recreation use will be consistent with the objectives for environmental and cultural heritage quality and for non-commercial recreation. This may lead to tenure, licensing and permitting requirements in the future and should include identification and co-ordination between commercial operators and public recreationists to mitigate conflicts.
- Commercial recreation potential will be examined as part of the recreation management plan (see above section; *Recreation Resource Management and Use*), and be concerned with such factors as:
 - inventory of resources;
 - types of desirable uses;
 - consideration of other users;
 - implications to traditional aboriginal uses; and,
 - inter-agency co-ordination.
- Recreation planning will be directed toward high-quality, low impact, low infrastructure commercial recreation businesses. Private land planning will be encouraged to reflect local goals for the types of appropriate commercial recreation ventures that will be compatible with non-commercial recreation management.
- Wilderness qualities of the Seven Sisters backcountry will be maintained to permit the opportunity for future backcountry use, including commercial backcountry activities.
- Helicopter skiing and other tenured activities requiring exclusive use will not be permitted. Commercial recreation activities that do not require exclusive use areas will be licensed or under permit. Aircraft landing will be restricted to specified locations.
- Tourism use in backcountry areas should enhance the wilderness values, including the promotion of eco-tourism and low intensity tourism experiences.

Local Lifestyle Activities

- A common concern exists with respect to the impact of land use designations on local lifestyle-related activities, and future management must reflect this concern. Opportunities that residents currently have for

rural living and local recreation will generally be maintained. Existing historic uses will continue, wherever possible.

Access Management

- Access planning must be consistent with land use zone objectives and address:
 - motorized and non-motorized recreational access;
 - road maintenance, deactivation and rehabilitation needs;
 - maintenance of inaccessible areas for backcountry recreation;
 - environmental damage from use/overuse;
 - increased hunting pressure due to increased access; and,
 - access for people with differing physical capabilities.
- Motorized vehicles will be restricted to surfaced (ballasted) roads in all zones, subject to an access management plan, and will not be allowed in the alpine areas. Snowmobiling will take place in designated snowmobile areas in the protected area zone.
- Opportunities for continued motorized recreational use will be available, except where environmental objectives dictate the need for controls, or where motorized access conflicts with stated zone objectives (for example, motorized use of hiking trails).

Specific Zone Requirements for the Seven Sisters Protected Area

The following recommendations, which include objectives and management strategies for the Seven Sisters Park and Protected Area are refinements to the guiding principles presented above in section 7.1.

Management Objectives	Management Strategies
<ul style="list-style-type: none"> • To protect a representative example of the Nass Ranges Ecosystem as an ecological benchmark for the future. • To maintain backcountry recreation opportunities, including the scenic values on which these opportunities rely. • To promote a range of recreational uses, from easy access day-use to more difficult day-use to backcountry use. • To protect critical mountain goat habitat. • To manage recreational access and uses to meet conservation objectives. 	<ul style="list-style-type: none"> • Manage for the protection and continued ecological representation of the Nass Ranges Ecosystem. • Industrial resource extraction activities, including timber harvesting and mineral exploration and development, are not permitted. • Allow for commercial and recreational pine mushroom harvesting, subject to conservation requirements or provincial regulations that might be developed in the future.
<ul style="list-style-type: none"> • To identify the role of fire in ecosystem maintenance and to protect important values and resources from loss to wildfire. 	<p style="text-align: center;"><i>continued next page</i></p> <ul style="list-style-type: none"> • Develop a PAS Zone management plan which includes: <ul style="list-style-type: none"> • an access management component for roads and trails;

Management Objectives	Management Strategies
<ul style="list-style-type: none"> • To respect Aboriginal rights and interests that exist in the area. • To maintain water quality for domestic use. • To maintain access to traditional use, including recreation day use, trapping, hunting, fishing and camping. 	<ul style="list-style-type: none"> • a recreation management component that considers capability, use, and facility needs; • a wildlife management strategy that addresses wildlife needs, particularly mountain goat requirements; and • public participation in management plan development. • Develop a fire management plan that identifies: <ul style="list-style-type: none"> • the role of fire in maintaining ecosystems; • the use of prescribed fire for activities such as the improving berry patch production for First Nations traditional use; • wildfire control priorities and strategies to protect lives, reduce loss or damage of natural and cultural values and capital investments; and • wildfire prevention measures to reduce the risk of damage and loss from wildfires. • Fire management planning will compliment neighbouring land use objectives along common boundaries and will be developed in consultation with potentially affected interests and First Nations. • Ensure continued access and use of resources (such as botanical forest products) by First Nations for sustenance, spiritual and cultural purposes. • Restrict winter motorized access (snowmobiles) to designated trails and areas. Restrict summer motorized to surfaced roads. Address motorized and non-motorized access and use issues, including deactivation and rehabilitation needs, in the management plan for the zone. <p style="text-align: right;"><i>continued next page</i></p> <ul style="list-style-type: none"> • Undertake watershed restoration efforts in the vicinity of Cedarvale for the purposes of hydrological stabilization and reparation of environmental damage cause by previous development activities.

Management Objectives	Management Strategies
	<ul style="list-style-type: none"> Trapping will continue as an activity and the transfer and sale of trapline areas should not be affected. Seven Sisters planning will not supersede or affect the ability of parties to resolve current legal issues concerning the ownership of traplines. Hunting and fishing will continue as permitted activities.

7.2 Special

General Management Objective	General Management Strategy
<ul style="list-style-type: none"> To maintain specified resource values such as scenery, recreation opportunities, community watersheds and wildlife habitat. 	<ul style="list-style-type: none"> Although resource development, such as mineral exploration and development and timber harvesting, is generally permitted, it will be subject to stringent conditions to maintain specified resource values. Proposals for exploration and development of minerals, oil and natural gas in special resource management zones will be subjected to enhanced referral to ensure that appropriate agency and stakeholder interests are considered. The need to maintain identified resource values in these zones will also be considered in the review of exploration and development proposals and construction of new roads. Development of roads in or across special resource management zones will meet stated management objectives for resources in these areas.

The following special resource management zones have been designated in the Kispiox planning area (see Figure 10):

a.) East Kispiox/Kuldo – Scenic/Recreation/Wildlife Habitat

Management Objective	Management Strategies
<ul style="list-style-type: none"> To maintain provincially significant scenic resources, backcountry recreation opportunities and habitat for grizzly bears and mountain goats. 	<ul style="list-style-type: none"> Commercial timber harvesting will be deferred so that additional information about scenic, recreation and wildlife resources can be collected. Backcountry use will be monitored to ensure recreational use is sustainable.

b.) Atna/Shelagyote – Scenic/Recreation/Wildlife Habitat

Management Objective	Management Strategies
<ul style="list-style-type: none"> To maintain provincially significant scenic resources, backcountry recreation opportunities, grizzly bear denning habitat, mountain goat habitat and extensive wetlands in the upper Sicintine and Shelagyote valleys. 	<ul style="list-style-type: none"> Commercial timber harvesting will be deferred so that additional information about scenic, recreation and wildlife resources can be collected. Backcountry use will be monitored to ensure recreational use is sustainable.

c.) Rocher Deboule – Scenic/Recreation/Wildlife Habitat

Management Objective	Management Strategies
<ul style="list-style-type: none"> To maintain provincially significant scenic resources, backcountry recreation opportunities and wildlife habitat. 	<ul style="list-style-type: none"> Commercial timber harvesting in this zone will be deferred so that additional information about scenic, recreation and wildlife resources can be collected. Backcountry use will be monitored to ensure recreational use is sustainable.

d.) Babine River Valley – Scenic/Recreation/Wildlife Habitat

Management Objective	Management Strategies
<ul style="list-style-type: none">To protect and buffer river-based resource values within the Babine River wilderness corridor (i.e., protected area).	<ul style="list-style-type: none">Consistent with the Babine River LRUP, timber harvesting will be limited to selective harvesting or clearcuts less than 15 hectares, a slower rate of cut will be emphasized, roads will be temporary and will be deactivated when they are no longer required for forestry, and cutblocks and temporary roads will be located to minimize impacts on the adjacent protected area.Approval of both the district manager and the designated environment official will be required for forest development plans or amendments in this area as provided for under the <i>Operational Planning Regulation</i> of the Code.

e.) Community Watersheds

Management Objective	Management Strategies
<ul style="list-style-type: none">To maintain water quality and flow regime (quantity and timing) to ensure adequate potable water is available for domestic use.	<ul style="list-style-type: none">Management strategies are presented in section 6.2, Water.The Ministry of Environment, Lands and Parks and the Ministry of Employment and Investment will develop an agreement to address high mineral values and water quality in the Juniper Creek Community Watershed.

f.) Andimaul Lookout

Management Objective	Management Strategies
<ul style="list-style-type: none">To maintain a rocky mountain juniper community, deciduous forest and a recreation trail.	<ul style="list-style-type: none">Access to mineral resources will be maintained.Approval of both the district manager and the designated environment official will be required for forest development plans or amendments in this area as provided for under the <i>Operational Planning Regulation</i> of the Code.

Additionally, the following special resource management zone has been designated in the Kispiox planning area (see Figure 10):

g.) Upper Kispiox

The Upper Kispiox Special Management Zone (SMZ) is 7,612 ha in size and contains approximately 2,466 ha of available timber harvesting land base. Areas included in the SMZ include the western part of the Nangeese watershed and the area to the west of the Kispiox River and south of Swan Lake Kispiox River Provincial Park (Figure 10).

The following section provides guiding principles for management in the Upper Kispiox SMZ. Management strategies and objectives appear below in the section *Specific Zone Requirements*. It is expected that both the guiding principles and the specific zone requirements will provide direction to operational plans and resource management activities.

Guiding Principles for the Upper Kispiox Special Management Zone

General Interests

The intent of the Upper Kispiox SMZ is to emphasize the maintenance of identified natural and cultural features and attributes within the upper Kispiox area. Although commercial resource extraction activity can proceed in this zone, it is required that all development meet the objectives for the maintenance of:

1. fish habitat;
2. wildlife habitat; and ,
3. water quality.

If potential development cannot meet these objectives, then such development cannot proceed. This zone recognizes the critical importance of the timber industry to the community. This zone has been designed to allow timber extraction to continue in the upper Kispiox area so the community may continue to enjoy the economic benefits of such activity.

Access into the SMZ will occur after the rest of the Kispiox watershed has recovered from past harvesting activity. Recovery will be defined through the use of the completed Interior Watershed Assessment Procedure (IWAP) and the extent of existing physical impacts as outlined through the Watershed Restoration Project (WRP), and will be specifically related to hydrological clearcut equivalency calculations (ECAs). As per section 6.11, on average the ECA for a watershed must not exceed 22% for the forested land. MELP and MOF will determine, through the results of the above procedures, when recovery has occurred. A FDP joint approval process between MoF and MELP is required in the Upper Kispiox SMZ.

Baseline monitoring of the conditions in the upper Kispiox area, especially hydrologic regimes and sediment loads, is desirable. Any such monitoring program should be developed in consultation with competent hydrologists, staff from the MELP and the MOF, and the LRMP monitoring committee.

Access Management

The upper Kispiox area contains extensive high value grizzly bear habitat and contributes significantly to water quality of the Kispiox River. Maintenance of high water quality, productive grizzly bear habitat and healthy grizzly bear populations are the objectives for the SMZ. Specific objectives for all road construction within the SMZ are as follows:

- road construction must, as the first priority, ensure the protection and maintenance of the environment as it relates to water quality and fish habitat;
- unless otherwise specified, roads will be constructed to meet Forest Practices Code objectives;
- roads will be designed and built to prevent erosion, to minimize or prevent ground disturbance, and to maintain natural drainage patterns;
- roads will be located on the most stable ground possible;
- roads must be temporarily deactivated when not in use;
- roads, other than the mainline, must be permanently deactivated upon completion of first pass operations; and,
- road construction must minimize negative impacts on grizzly bear habitat and grizzly bear populations.

All roads constructed in the SMZ must meet all of the above objectives.

i.) Access Management for Water Quality

Road construction in the Upper Kispiox SMZ has the greatest potential of any activity to negatively impact water quality and associated fish habitat of the Kispiox River. Before the construction of any road, the licensee must submit a road construction, maintenance and deactivation plan to the Ministry of Forests for approval. This plan must contain the following:

- details of, and rationale for, timing and method of road construction;
- frequency of on-site supervision of road construction;
- equipment to be used;
- material sources;
- construction techniques;

- drainage structures to be used;
- maintenance schedules;
- deactivation plans; and,
- access management plans.

Plans and profiles must also be submitted and a joint licensee/agency/LRMP monitoring committee field review must take place prior to submission of the construction, maintenance and deactivation plan. Where required (i.e. class IV and V terrain, designed crossings, etc.), the submission must be certified by a professional engineer and a professional geomorphologist, or one individual qualified to certify under both disciplines, and approved by the District Manager of the Kispiox Forest District before construction can commence. Road construction techniques to consider include, but are not limited to, overlanding, end hauling, rock armouring, grass seeding, and the use of geotextiles and drainage structures.

There is also a requirement for a high level of competent on-site supervision of all road construction by the licensee. The MOF and BC Environment will ensure increased levels of compliance and enforcement monitoring through field reviews.

ii.) Access Management for Grizzly Bears

It is recognized that access into high bear use areas has historically increased bear mortality through increased hunting pressure, increased levels of poaching and a higher number of bear/human interactions. Most of these impacts occur in late summer and fall when bears congregate in productive feeding areas in both riparian and upland habitats (i.e. salmon and berries). Managing access into the planning area and restricting the season of logging will limit the negative impact on grizzly bear populations. The following access management and logging restrictions apply in the Upper Kispiox SMZ:

- logging will be winter only, where winter conditions are defined as within the period of freeze up, when the ground is frozen or there is a compressed snowpack of greater than one meter; and,
- road construction will address issues of minimum line of sight (avoidance of straight stretches > 300 m), minimum right of way widths and minimum road bed widths.

The objective of access management is to prevent all motorized vehicle access, including ATVs. Access management will be achieved through several control measures, the type and locations will be determined in a field review with the licensee, MELP and MOF. Control measures will be designed to meet the objectives of

access management, and may include locked gates, tank traps, removable bridges, road blockages such as concrete abutments placed on bridge decks, or any other suitable impediment to access. An access management plan will be submitted as part of the road construction, maintenance and deactivation plan.

Due to the high grizzly bear presence and to reduce bear/human interactions, only temporary camps for road and block engineering crews will be allowed within the Upper Kispiox SMZ. Suggested methods for appropriate waste disposal will be provided by BC Environment. There will be no logging or silviculture camps allowed in the SMZ.

Following the completion of first pass harvest, all roads except the mainline will be permanently deactivated. Permanent road deactivation is defined by the *Forest Practices Code Forest Road Regulation*. The primary objectives of road deactivation are:

- 1.) to minimize impacts on grizzly bears by preventing motorized vehicle access, and
- 2.) to maintain the environmental integrity of the road system (i.e. prevent sedimentation and road failures).

Recontouring of the road will only be required in those areas where the road sidecast is potentially unstable. These areas will be highlighted in a joint agency/licensee field trip prior to deactivation taking place. By the end of the first pass, all roads except the mainline will be permanently deactivated and revegetated with native grass and/or brush species.

It will be the responsibility of the licence holder to ensure that all access control objectives are being met. *Section 105* of the *Forest Practices Code of British Columbia Act* will be enforced by the MOF if necessary. If it appears that access is not being adequately restricted, then these control measures will be re-evaluated to improve access control. The MOF will undertake monitoring of access control measures after licensee obligations are complete to ensure that the objectives are being met.

Logging

Logging is restricted to winter months to minimize disturbance to grizzly bears, reduce the potential effects on water quality, and eliminate disturbances to summer recreation in Swan Lake/Kispiox River Provincial Park. Logging will commence pending recovery of the Kispiox Watershed, as per the results from the Interior Watershed assessment procedure and the Watershed Restoration

Program (refer to the General Interests discussion above). Harvest systems may include a range of opening sizes, including a range in size of clearcuts, which mimic natural disturbance patterns for the area. Harvest systems must provide for the maintenance of ecosystem function and the incorporation of structural diversity at a stand level (section 6.11). Established Visual Quality Objectives (VQOs) for Swan Lake/Kispiox River Provincial Park will be followed.

Forest Development Plans

Forest Development Plans (FDPs) in the SMZ require joint approval by the district manager of the MOF and the designated environment official (DEO) of the MELP.

Riparian Areas

The main objectives of riparian areas in the Upper Kispiox SMZ are to maintain water quality and fish habitat. All harvesting within the SMZ will meet these objectives. To meet these objectives the Forest Practices Code riparian management area (RMA) requirements will be applied as minimum standards. It is expected that in the majority of cases the Code requirements for both reserve zones and management zones will be exceeded. Riparian areas for all streams, lakes and wetlands will be mapped and managed at the FDP level. Harvesting within riparian management zones (RMZs) of S1 to S4 streams (fish bearing), will use non-clearcut silvicultural systems (see section 6.4).

The objective of non-clearcut silviculture systems in RMZs is to retain a portion of the stand structure following harvest. Suggested maximums for basal area retention are the following:

- 50% for S1 to S3 streams;
- 25% for S4 and S5 streams;
- 5% for S6 streams; and,
- 25% for all classes of lakes and wetlands.

All streams will have a minimum 10 meter machine free zone, as per section 6.4.

Connective Corridors

Connective corridors, for the purposes of wildlife travel and the maintenance of old growth and biodiversity, will be maintained at a landscape level in the Kispiox TSA. These corridors will be defined at the landscape unit and/or total resource planning level. This may or may not occur within the SMZ in the Upper Kispiox.

Stream Crossings

The design and construction of all stream crossings will be guided by the objectives for the maintenance of water quality and fish habitat. The number of stream crossings will be minimized and crossings of S1 to S5 streams will maintain the natural streambed condition. The definition of a stream can be found in the Forest Practices Code. Access to areas in the upper Nangeese watershed will require two crossings of the Nangeese River.

Minerals, Oil and Natural Gas

Mineral, oil and natural gas exploration activities will adhere to the objectives and strategies outlined below. Mineral, oil and natural gas development will be allowed to proceed in the SMZ subject to current environmental assessment procedure for such development.

Specific Zone Requirements for the Upper Kispiox Special Management Zone

The following recommendations, which include objectives and management strategies, apply in addition to the guiding principles presented in section 7.2 and the objectives and strategies outlined in section 6.0.

Management Objectives	Management Strategies
<ul style="list-style-type: none">• Manage so that important grizzly bear habitat receives special emphasis.• Manage so that important wildlife habitat and important connective corridors receive special emphasis.• Maintain biological diversity and natural ecosystem functions.• Maintain natural water quality regimes.• Maintain important fish habitat.• Protect cultural sites and protect heritage sites and trails.• Maintain specified, small scale areas for the non commercial harvest of traditionally used plants (i.e. devil's club, berry patches) by Gitxsan house groups.• Allow harvesting of cedar trees for cultural purposes.• Maintain the Swan Lake Plan retention VQOs.• Allow a sustainable flow of timber.• Allow for exploration and development of subsurface and energy resources.• Manage access to:<ol style="list-style-type: none">1) minimize human-bear interactions;2) minimize road density;3) minimize total road foot print/impact; and4) minimize road access to alpine areas.• Allow for the maintenance of existing trails.	<ul style="list-style-type: none">• Identify and maintain critical and important grizzly bear habitat.• Identify and manage, through the maintenance of suitable forest cover, important connective corridors and habitat areas. Connective corridors will be identified at the landscape planning level, and may or may not occur in the planning area.• It is recommended that biodiversity and natural ecosystem function be maintained through the application of a high biodiversity emphasis option under the Biodiversity Guidebook of the Forest Practices Code, and through increased application of the concepts of biodiversity and New Forestry as outlined in the biodiversity and timber sections.• Limit access<ol style="list-style-type: none">a) In general, minimize road building, recognizing that water quality may in some cases be protected through a longer, more stable road. It is acknowledged that employment of silviculture systems which involve small opening sizes will result in overall increased amounts of roading in the first pass.• Employ road building techniques which minimize affects on water quality; in general, use the FPC requirements for road construction applicable in designated community watersheds.

continued next page

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- Limit total impact of human activity
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Management Objectives	Management Strategies
	<p>regarding:</p> <ul style="list-style-type: none"> a) rate of timber extraction; b) timing of resource extraction activity - e.g. winter log only; c) methods of resource extraction activities; and, d) use of recreational vehicles, especially in alpine terrain. <ul style="list-style-type: none"> • De-activate roads consistent with the applicable silvicultural system. • Limit the total amount of ground disturbance. • Maintain the natural stream bed; including the flow zone of non-perennial streams. • Maintain stream bank integrity. • Maintain stream bank forest cover. • Set conservative reserves and buffers. • Employ available fisheries expertise as a regional priority for this area. • Employ the appropriate regulations in provincial legislation. • Identify and maintain areas of significance as specified by Gitksan house groups. • Consult the appropriate Gitksan house groups for advice on the area. • Follow the Swan Lake Plan with respect to retention VQO areas in the upper Kispiox planning area. • Employ rates of cut, silvicultural systems harvest patterns, and access management consistent with meeting the objectives of other identified sensitive resource values. • Use exploration and development techniques and access management which are consistent with meeting the objectives of the other identified sensitive resource values. • Prepare and implement an access management plan as part of the road construction , maintenance and deactivation plan.

7.3 General resource development

a.) Kispiox General Resource Development Zone

Kispiox

Management Objective	Management Strategy
<ul style="list-style-type: none">To maintain a wide range of resource uses, including forestry, agriculture and mineral exploration and development.	<ul style="list-style-type: none">Provincial management guidelines for maintenance of resources, such as fisheries, water quality and wildlife, will be considered.

Additionally, the following two general resource development zones (GRDs) have been designated in the Kispiox planning area (see Figure 10):

b.) Price-Boulder and Coyote-Hells Bells General Resource Development Zones

1. The Price-Boulder GRD zone is generally located between Price Creek and Boulder Creek. Boulder Creek itself is outside of the zone. The upper limit of the zone is intended to be the timber harvesting operability line, as defined by the Ministry of Forests through forest development planning procedures.

The Price-Boulder GRD zone incorporates valuable timber stands that are of above average quality and are easily accessible to the local tenure holder. The area also has important scenic values and is a popular area for harvesting of pine mushrooms and other botanical forest products.

2. The Coyote-Hells Bells GRD zone includes the area between Coyote Creek and Hells Bells Creek that has the highest mineral potential ranking where timber harvesting activities have previously taken place. The zone boundaries are drawn to include the creek beds of these creeks and 100-200 metres beyond the creeks. This is to allow for non-mechanized exploration only of rock exposures and sediment in the creek channels and adjacent riparian areas. Zone boundaries along the creeks will follow the riparian areas (as defined by the Forest Practices Code). The upper boundary of the zone is located to allow access to areas of mineral interest at higher elevations. Other important values in the zone include scenic quality, wildlife habitat (e.g. movement corridors for mountain goats) and recreational attributes.

The GRD zones allow for industrial resource extraction activities to occur, including both timber harvesting, and mineral exploration and development. Other accepted activities include: hunting, fishing, trapping, harvesting of botanical forest

products, a range of recreational pursuits, motorized use on surfaced roads and harvesting of firewood for personal use.

The following section provides guiding principles for management across the two GRD zones. Refinements appear below in the Section *Specific Zone Requirements* (page 85)

Guiding principles for Price-Boulder and Coyote-Hells Bells

Aboriginal Rights² and Interests

- It is recognized that participation by Gitxsan people and provincial agency representatives in developing land use recommendations for the Seven Sisters area will not prejudice the positions of the parties in any future treaty negotiations.
- Planning and management of the Seven Sisters will provide for the maintenance of traditional Aboriginal values and cultural heritage. Specific cultural and archaeological sites in the area will be preserved by identifying them during planning for any development activities.
- The Gitxsan people must have the continued opportunity to participate directly in future planning processes at the local level.

Fish and Wildlife Resource Management

- Land use practices will not degrade terrestrial and aquatic habitats. The areas diversity of wildlife and its relevant habitat will be maintained, including grizzly and black bears, moose and deer, wolves, mountain goats, furbearers, song birds, and raptors.
- Threatened and endangered ecosystems and plant communities, and the habitats of threatened and endangered species (Red Listed species) and species at risk from land use activities (Blue Listed species) will be maintained.
- Management plans will identify and maintain critical wildlife habitat, with particular emphasis on mountain goats.
- Hunting and fishing will continue to be permitted activities.
- Trapping will continue as an activity and the transfer and sale of trapline areas will not be affected. Seven Sisters planning will not supersede or

² While this plan refers to both Aboriginal rights and interests, it is intentionally silent on any definition of these rights and interests, recognizing that these are the subject of on-going legal actions and treaty-related negotiations.

affect the ability of parties to resolve current legal issues concerning the ownership of traplines.

Recreation Resource Management and Use

- A recreation management strategy will be created for the Seven Sisters area that addresses the maintenance and enhancement of various recreational values and includes:
 - (i) areas of undeveloped land with the potential for enhancement and broadening of recreational uses;
 - (ii) a system of recreational trails;
 - (iii) facility and services development potential;
 - (iv) backcountry recreational values; and,
 - (v) the delineation of areas and/or routes for motorized and non-motorized recreational access (see the Section on Access Management).

Recreation planning will require inter-agency cooperation to ensure that recreation management is compatible across the Seven Sisters areas.

- A visual landscape analysis will be undertaken for the study area. Objectives and strategies will be developed to manage visual quality from various locations, including Highway 16, the VIA Rail line, Sedan Creek Forest Service Recreation Site, the Cedarvale back road, viewpoints west of the Skeena River and specific viewpoints within the planning area.
- Environmental damage from recreational use will be minimized.
- Opportunities will be provided for both motorized and non-motorized summer and winter use in the Seven Sisters area, although not in every zone. Designated areas and/or routes and the need for effective management controls will be identified through access planning at the operational level (see the *Access Management* section below concerning access planning). The presently used snowmobile area in the vicinity of Flint and Hells Bells Creeks will be designated for this use.

Old Growth

- Vegetation management will aim to continuously maintain a significant percentage of old growth. This will take the form of maintaining

existing old growth and planning for the generation of future old growth.

- Because of the importance of old growth forests to the Gitksan culture, management practices will retain a level of old growth forest within each Clan territory (on the understanding that the amount of old growth is not consistent between territories and that this is not an objective).

Botanical Forest Products

- Botanical forest products are important for traditional Aboriginal and local use, and the capacity of the area to produce these products will be maintained so that these traditional uses can continue. Future management will allow for the possibility of activities that enhance specific botanical forest products for Aboriginal uses (for example, prescribed fire will be considered as a tool to enhance the productivity of local berry patches).
- The mushroom growing capability (habitat) and the opportunity to harvest mushrooms for economic and recreational purposes will be maintained. It is recognized that this activity may be regulated in B.C. at some future date by the provincial government.

Timber Resource Management

- Consider the contribution of the timber lands to sustainable local employment, economy and social well-being, and minimize the negative effects on community and economic development.
- Continued access to a portion of the timber resources will be maintained, including the potential for woodlot or community forest applications in the Coyote Creek - Hells Bells area.
- A timber allocation plan review will be undertaken to address any affects of land use zoning on access to timber harvesting areas in the short-term by affected forest tenure holders. This review should include considerations for similar timber volumes, age classes, timber quality, accessibility and development costs. It is understood that the allowable annual cut will not be affected in the short term by land use zoning in the Seven Sisters area, and that any impacts will be assessed as part of the next timber supply review for the Kispiox Forest District.

Mineral Resource Management

- Land use zoning must provide for certainty with respect to the future of mineral exploration and development in areas zoned for that purpose.
- Mineral exploration and development options will be maintained where mineral potential ratings are highest.

Local Employment & Economy

- The ability to use wildlife products (skins, furs) as an economic supplement and lifestyle activity will be maintained (for example, a traditional blanket made of goat wool/cedar/other hair has high economic value, cedar for baskets, dogwood and willow products). The use of natural materials is increasing because of the economic value of handmade arts and crafts and the increasing awareness of Aboriginal cultures.
- Land use decisions should support diversity in the local economic base to reduce single-industry dependence and increase community stability.
- Gitxsan House groups should have the opportunity to participate in economic development resulting from land use decisions in the Seven Sisters. This does not guarantee participation for any one group, but recognizes the desire to provide employment opportunities for local Aboriginal people.

Domestic Water Use

- The quantity and quality of domestic water supplies will be maintained including the opportunity for continued use of water resources for domestic purposes.
- The results of some past forest practices have had continuing negative impacts on domestic water quality and quantity for some residents at Cedarvale. Watershed restoration efforts (that is, hydrological stabilization) must be undertaken immediately to repair outstanding environmental damage and any related damage to domestic water delivery systems.

Commercial Recreation

- Commercial recreation use will be consistent with the objectives for environmental and cultural heritage quality and for non-commercial recreation. This may lead to tenure, licensing and permitting requirements in the future and should include identification and co-ordination between commercial operators and public recreationists to mitigate conflicts.
- Commercial recreation potential will be examined as part of the recreation management plan (see above section; *Recreation Resource Management and Use*), and be concerned with such factors as:
 - inventory of resources;
 - types of desirable uses;
 - consideration of other users;
 - implications to traditional aboriginal uses; and,
 - inter-agency co-ordination.

- Recreation planning will be directed toward high-quality, low impact, low infrastructure commercial recreation businesses. Private land planning will be encouraged to reflect local goals for the types of appropriate commercial recreation ventures that will be compatible with non-commercial recreation management.
- Wilderness qualities of the Seven Sisters backcountry will be maintained to permit the opportunity for future backcountry use, including commercial backcountry activities.
- Helicopter skiing and other tenured activities requiring exclusive use will not be permitted. Commercial recreation activities that do not require exclusive use areas will be licensed or under permit. Aircraft landing will be restricted to specified locations.
- Tourism use in backcountry areas should enhance the wilderness values, including the promotion of eco-tourism and low intensity tourism experiences.

Local Lifestyle Activities

- A common concern exists with respect to the impact of land use designations on local lifestyle-related activities, and future management must reflect this concern. Opportunities that residents currently have for rural living and local recreation will generally be maintained. Existing historic uses will continue, wherever possible.

Access Management

- Access planning must be consistent with land use zone objectives and address:
 - motorized and non-motorized recreational access;
 - road maintenance, deactivation and rehabilitation needs;
 - maintenance of inaccessible areas for backcountry recreation;
 - environmental damage from use/overuse;
 - increased hunting pressure due to increased access; and,
 - access for people with differing physical capabilities.
- Motorized vehicles will be restricted to surfaced (ballasted) roads in all zones, subject to an access management plan, and will not be allowed in the alpine areas.
- Opportunities for continued motorized recreational use will be available, except where environmental objectives dictate the need for controls, or where motorized access conflicts with stated zone objectives (for example, motorized use of hiking trails).

Specific Zone Requirements for Price-Boulder and Coyote-Hells Bells

The following recommendations, which include objectives and management strategies for the Price-Boulder and the Coyote-Hells Bells GRD zones, apply in addition to the guiding principles presented in section 7.3, and the objectives and strategies outlined in section 6.0.

Price-Boulder

Management Objectives	Management Strategies
<ul style="list-style-type: none">• To provide for continued industrial resource development, primarily timber harvesting in an area with above average timber quality.• To maintain visual quality as seen from Highway 16 and 37, Sedan Creek recreation site and Cedarvale backroad.• To maintain access to traditional use, including recreation day use, trapping, hunting, fishing and camping.	<ul style="list-style-type: none">• Manage timber harvesting under the general guidelines provided by the Forest Practices Code and this document.• Resource development planning that follows an approved land use plan for the Seven Sisters area will incorporate objectives for non-timber values, such as botanical forest products, pine mushrooms, visual quality and domestic water supplies.• Timber harvesting strategies will include a full range of silvicultural systems. Selection cutting in some areas may be required to manage for the maintenance of non-timber values.• The Ministry of Forests will complete a visual landscape analysis and design. In particular, the north-west corner of the zone (near Boulder Creek and Highway 16) is a very visible area and requires significant visual management constraints.• Trapping will continue as an activity and the transfer and sale of trapline areas should not be affected. Seven Sisters planning will not supersede or affect the ability of parties to resolve current legal issues concerning the ownership of traplines.• Hunting and fishing will continue as permitted activities.

Coyote-Hells Bells

Management Objectives	Management Strategies
<ul style="list-style-type: none"> • To provide for timber harvesting activities. • To recognize and manage for non-industrial values and uses. • To maintain visual quality as seen from Highway 16 and 37, Sedan Creek recreation site and Cedarvale backroad. • To allow for continued mineral exploration and development. • To protect the integrity of the adjacent protected area strategy zone from encroachment of mineral access development. • To minimize disturbance to the migration patterns of mountain goats that use the higher elevation areas to move between northern and southern ranges. • To maintain access to traditional use areas, including recreation day use, trapping, hunting, fishing and camping. 	<ul style="list-style-type: none"> • Manage timber harvesting under the general guidelines provided by the Forest Practices Code. • Resource development planning that follows an approved land use plan for the Seven Sisters area will incorporate objectives for non-timber values, such as botanical forest products, visual quality and water quality. • Access management planning will be included as part of any industrial resource extraction proposals. • Restrict summer motorized traffic to surfaced roads and do not allow ATV use in the alpine areas. Access will be managed to prevent ATV access into the Oliver Creek drainage from this zone. • Timber harvesting strategies will include a full range of silvicultural systems. Selection cutting in some areas may be required to manage for the maintenance of non-timber values. • The Ministry of Forests will complete a visual landscape analysis and design. • Early exploration will utilize existing access or be done by air. • Mineral exploration activities above the timber operability line that require any access construction, or disturbance greater than 1 ha. where access construction is not required, will be referred to affected agencies and be made available for public comment. • No permanent road development associated with a mine development application will be permitted until an environmental assessment certificate has been issued (on a project by project basis). • In creek channels and adjacent riparian areas, mineral exploration will be non-motorized and for the purposes of exploring rock exposures and sediment in creeks. • Advanced mineral exploration and development applications near the PAS Zone boundary will be referred to the managing agency for that zone so that concerns relative to impacts across the boundary are identified and addressed.
	<p><i>continued next page</i></p> <ul style="list-style-type: none"> • Advanced mineral exploration and development applications in areas of mountain goat habitat

Management Objectives	Management Strategies
	<p>will be referred to BC Environment for the addition of appropriate guidelines.</p> <ul style="list-style-type: none"> • Trapping will continue as an activity and the transfer and sale of trapline areas should not be affected. Seven Sisters planning will not supersede or affect the ability of parties to resolve current legal issues concerning the ownership of traplines. • Hunting and fishing will continue as permitted activities.

8.0 Implementation

Government agencies with the legislative responsibility for management of land and resources will implement the Kispiox LRMP through a wide variety of activities including landscape and operational planning, permitting for resource development and land dispositions. Direction on application of the higher level plan provisions of the Kispiox LRMP under the *Forest Practices Code of B.C. Act* is presented in Appendix 5. More detailed planning and resource development permits will be consistent with the Kispiox LRMP. Lower level plans will describe the linkages with the Kispiox LRMP and include an explanation of how they are consistent with and contribute to implementation of the LRMP. Conversely, the resource management zones, objectives and strategies in the Kispiox LRMP may be amended based on future feedback from local and operational planning (see the next section).

9.0 Monitoring and amendment

The intent of monitoring and amendment procedures is to allow the public and government agencies to assess whether resource management and development activities are consistent with the Kispiox LRMP and to provide a process for amendment of the plan, if required.

Public, First Nations and government representatives will form a monitoring committee to review implementation of the Kispiox LRMP. A call for nominations for committee members will be broadly advertised and selection of committee members will be by consensus among nominated candidates. The monitoring committee will develop a terms of reference for approval by the Prince Rupert Inter-Agency Management Committee (IAMC) and will produce a public annual report on implementation of the LRMP. The annual report will describe how the objectives and strategies in the Kispiox LRMP are being met by resource management activities and resource development in the planning area. An annual meeting will be held to review implementation of the plan.

The monitoring committee may recommend amendments to the Kispiox LRMP to the IAMC. Amendments may be required as a result of more detailed planning processes, new information and monitoring or as directed by the IAMC. Appropriate public participation processes will be defined for amendments. A major review of the Kispiox LRMP is required in the eighth year after approval and may be required earlier if directed by the IAMC.

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Appendix 1. Resource user groups

The following resource user groups contributed to development of the Kispiox consensus resource management direction. Representatives of the italicized groups signed the consensus recommendation in May 1994.

- Alpine Club of Canada
- Bicycling Association of B.C.
- British Columbia Wildlife Federation
- Bulkley Valley Naturalists
- Heritage Society of British Columbia
- Ducks Unlimited Canada
- Forest companies (*Skeena Cellulose – Carnaby, Bell Pole Co. Ltd., Kitwanga Lumber*)
- Hazelton Chamber of Commerce
- Kispiox Valley Community Association
- Kispiox Valley Farmers Institute
- Kitimat Cross Country Ski Club
- Kitwanga Community Association
- Kitwanga Rod and Gun Club
- North by North West Tourism Association
- Outdoor Recreation Council of B.C.
- Seven Sisters Society
- Sierra Club of Western Canada
- Silviculture Contractors and Consultants
- Small Business Loggers
- *Suskwa Community Association*
- *Steelhead Society of British Columbia*
- Terrace Hiking Club

Appendix 2. Gitxsan house territories*

* Numbers correspond to the legend on the following page. House boundaries may shift over time. The Gitxsan First Nation in Hazelton should be contacted for the latest boundaries.

Legend for Gitxsan Houses Territories

- | | |
|---------------------------|------------------------------|
| 1. BASKELAXHA | 41. ANTGULILBIX |
| 2. GWININ NITXW | 42. NIKI TEEN |
| 3. ANTGULILBIX TSII BAASA | 43. LUUTKUDZIIWUS |
| 4. GITANYOW TERRITORY | 44. GITANYOW TERRITORY |
| 5. GEEL DAWAMUXM | 45. HAAKXW |
| 6. GITANYOW TERRITORY | 46. YAL |
| 7. GEEL ALUUXW | 47. TENIM GYET |
| 8. MA'UUS | 48. HAXBAGWOOTXW |
| 9. WIIMINOSIK | 49. HAALUS |
| 10. WII GYET | 50. SAKXUM HIGOOKX |
| 11. LUUS | 51. WII HLENGWAX |
| 12. TSA BUX | 52. HAALUS |
| 13. WII GET | 53. GAXSBGABAXS |
| 14. WII GAAK | 54. SAKXUM HIGOOKS SIMA DIIK |
| 15. WIIMINOSIK | 55. WIIS DIS |
| 16. MILUULAK | 56. GAXSBGABAXS |
| 17. TSA BUX | 57. HANAMUXW |
| 18. MILUULAK | 58. SPOOKW |
| 19. WII EELAST | 59. DJOGASLEE AXTH DZEEK |
| 20. DELGAMUUKW | 60. WAH TAH KEGHT |
| 21. GWII YEEHL | 61. GWIS GYEN |
| 22. WII MUGULSXW | 62. GWAGL'LO |
| 23. GITLUDAH | 63. HANAMUXW |
| 24. GWII YEEHL | 64. GWAGL'LO |
| 25. YAGO SIP | 65. GUXSAN |
| 26. KLIYEM LAX HAA | 66. LUULAK |
| 27. GWOIMT | 67. WII HLENGWAX |
| 28. NII KYAP | 68. SAKXUM HIGOOKX TEWELASXW |
| 29. DJOGASLEE AXTH DZEEK | 69. HAAKXW |
| 30. LUUTKUDZ IIWAS | 70. SAKXUM HIGOOKX |
| 31. GYETM GALDOO | 71. LEIT |
| 32. GYETM GALDOO | 72. TENIN GYET |
| 33. YAGO SIP | |
| 34. GUTGINUXW | |
| 35. WII EELAST | |
| 36. DELGAMUUKW | |
| 37. MA'UUS | |
| 38. WII EELAST | |
| 39. MA'UUS | |
| 40. WOSIMLAXHA | |

Appendix 3. Examples of important aboriginal resource values

The following examples of aboriginal resource values were identified for the Lax'skiik Houses in the Fiddler Creek area adjacent to the Kispiox planning area. The Kispiox LRMP does not address these resource values in detail. Landscape level and operational planning under the Code, and traditional use studies, will address these resource values in more detail.

Animals

- Moose – winter and summer range, movement corridors and calving areas
- Mountain goat – winter and summer range
- Grizzly bear – summer range and trails
- Marten – habitat in mature timber and riparian areas
- Bald eagles – nesting and perching trees
- Salmon – spawning and rearing areas, migration routes and riparian areas

Plants

- Cedar – old growth western redcedar
- Edible berries – huckleberries, soapberries
- Edible mushrooms – *Amillaria ponderosa*

Infrastructure

- Trails
- Camp sites
- Village sites
- Fishing sites/smokehouses
- Dwelling site watersheds

Appendix 4. Preliminary indicators

The following preliminary indicators for resources and associated resource uses were identified by the planning table and will be considered during plan implementation and monitoring:

- Biodiversity – area of old growth as a percentage of forested area of a watershed, species present
- Water – water quality and quantity
- Fisheries – available habitat, large organic debris levels, water quality, angler days, number of licensed guides, fish populations, revenues
- Riparian areas – area in riparian management areas
- Roads – maintenance problems, roaded and unroaded area, road density, deactivation status
- Cultural heritage resources – undisturbed cultural heritage resources
- Protected areas – area protected, values protected, extent of protection
- Range and Agriculture – condition of range, number of range units, number of farms, area in agricultural land reserve
- Recreation – kilometres of recreation trails, number of recreation sites, user days of recreation, location and size of areas available for recreation, state of trail maintenance
- Scenic areas – area in visual quality objectives, effectiveness of visual quality protection
- Timber – cutblock size, allowable annual cut, number of timber operators, revenue, jobs, actual compared to planned harvest, regrowth, remaining harvestable timber
- Tourism – number of tourist operators, visitor days, number of backcountry tourism operations, revenue to local and provincial economy
- Wildlife – area of habitat for identified wildlife, wildlife population levels, hunter days, harvest levels
- Minerals – government revenues, jobs, number of mineral tenures, expenditures on exploration, area open to exploration
- Oil and natural gas – government revenues, jobs, number of oil and gas tenures, expenditures on exploration, area open to exploration
- Botanical forest products – quantity and value of mushrooms harvested, number of mushroom pickers

Appendix 5. Government intent regarding implementation of the Kispiox LRMP

The following direction is provided to facilitate implementation of the higher level plan components of the Kispiox Land and Resource Management Plan:

Application of Higher Level Plan

The higher level plan for the Kispiox LRMP area applies to all Crown land and to private land contained in woodlot licences.

Role of Resource Management Strategies

The resource management objectives and zones in the Kispiox LRMP area have been declared as a higher level plan under the *Forest Practices Code of B.C. Act*. The objectives and zones are supported by resource management strategies, which represent important policy guidance to responsible ministry officials. Flexibility may be required in the application of this policy guidance to ensure that the higher level plan objectives and the management and conservation of forest resources can be achieved in the most effective way.