GREEN LAKE AND AREA OFFICIAL COMMUNITY PLAN

MAY 2012

CARIBOO REGIONAL DISTRICT

Green Lake and Area Official Community Plan Bylaw No. 4641

LIST OF AMENDMENTS TO GREEN LAKE AND AREA OFFICIAL COMMUNITY PLAN BYLAW NO. 4641 UP TO (see date at bottom of last page of amendments) WHICH ARE INCLUDED IN THIS CONSOLIDATED VERSION OF THE BYLAW

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Bylaw No.	File No.	Purpose	Adopted
4780	-	Block designation assignment and redesignation	Jun 7/13
4853	-	Text Amendment – Inclusion of Riparian DP Area	Dec 13/13
4971	6481-20/20150031	Rural Holding to Small Holding and Rural Residential	Oct 23/15
5077	3360-20/20170002	Rural Holding to Small Holding	Dec 15/17
5158	3360-20/20180031	Resource to Rural Residential 1	Dec 7/18

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Preamble

Interest in a consolidated plan for all of Green Lake and the surrounding area originated with the Green Lake Area Ratepayers Association (GLARA). GLARA members were concerned about the effects of various land uses and any future development on Green Lake. Green Lake is essentially a closed water system since there is no outfall except during years of high water level, Water quality is thus the highest consideration. The health of Green Lake is the foundation for this plan. The quality of the water must be protected; “if the lake dies, the whole area will die” (Resident)

It is recognized that the Plan Area is within the traditional territory of the Secwepemc people. This plan is without prejudice to and cannot be used to define and/or limit Aboriginal and Treaty Rights and Aboriginal Title of First Nations in British Columbia. The OCP has no jurisdiction over Indian Reserves or Treaty Settlement Lands.

SECTION A: CONTEXT AND VISION

1.0 BACKGROUND

1.1 PURPOSE OF AN OFFICIAL COMMUNITY PLAN

An Official Community Plan (OCP) is a bylaw of local government that provides objectives and policies to guide decisions on planning and land use management within a community or plan area. In British Columbia, the requirements of an OCP are defined by the *Local Government Act* and the *Community Charter*. For areas outside of an incorporated municipality, Regional Districts provide local government.

Each Regional District is divided into Electoral Areas for which they may create individual OCPs, usually for a portion of the Electoral Area. This OCP is unique in that it is focused on a geographical area that spans two regional districts and three electoral areas. The focus of this OCP is Green Lake and the watersheds that drain into it.

The boundary of the plan area was established based on: watersheds mapped by Ministry of Environment, private properties (desire not to cross through any), adjacent OCPs (Interlakes OCP to the northeast, South Cariboo OCP to the north), the public's desire to protect key features, and road and settlement patterns (see Figure 1). The plan area includes parts of Electoral Areas "L" and "G" located within the Cariboo Regional District (CRD), and Electoral Area "E" (Bonaparte Plateau) within the Thompson Nicola Regional District (TNRD).

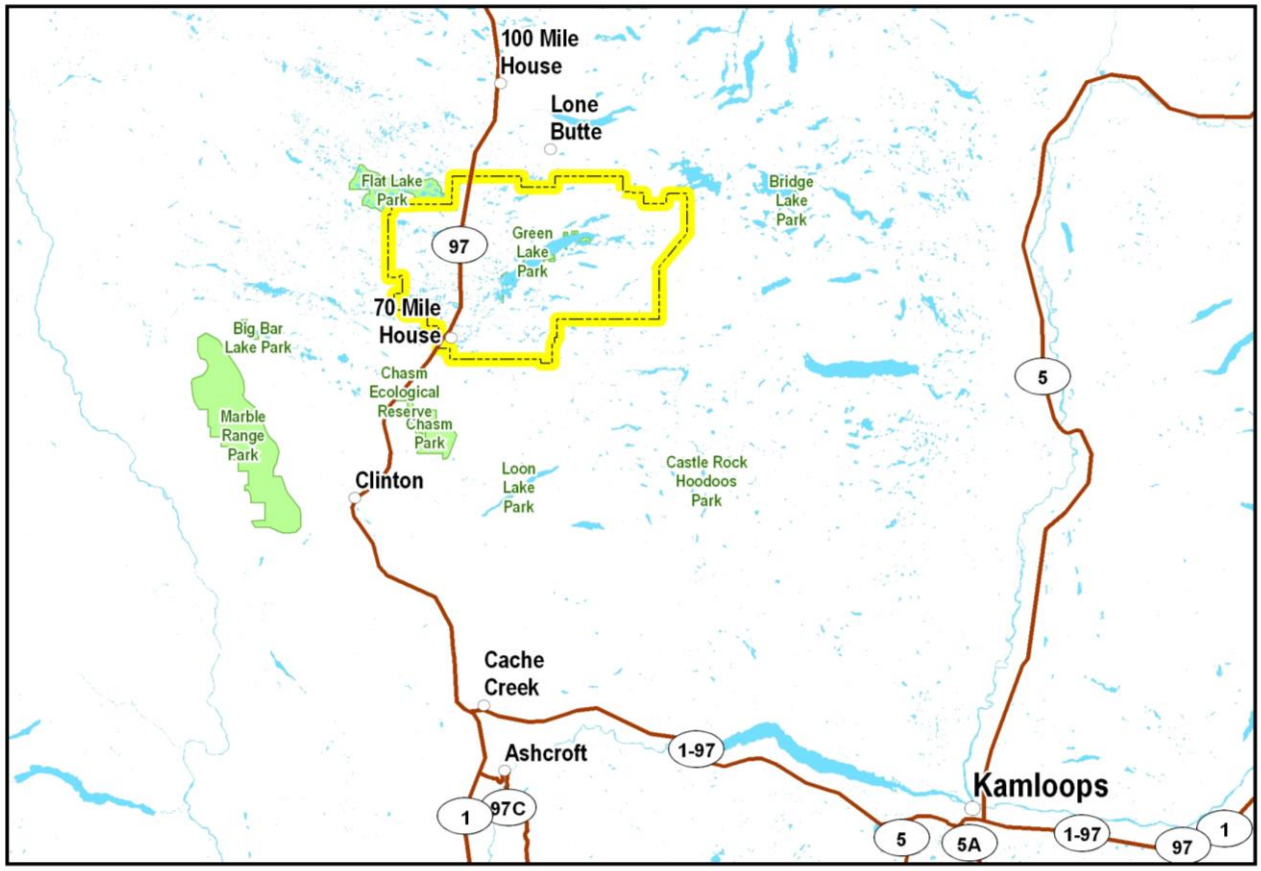


Figure 1: Study Area Location

Because of the uniqueness of this OCP and its strong focus on natural resource management, the Province of British Columbia contributed financially to and participated throughout the planning process. The First Nations in the plan area were also invited to participate in the process, and several discussions with them were held, and correspondence exchanged.

Planning and land use in the area are presently managed separately by the two Regional Districts; CRD manages the north shore and areas north of Green Lake, and TNRD manages the south shore and locations south of Green Lake. The CRD and TNRD both have Zoning Bylaws for the plan area, but there has not been a previous OCP.

Interest in a consolidated plan for all of Green Lake and the surrounding area originated with the Green Lake Area Ratepayers Association. To achieve consistency in planning and land use management for the lake *and its watersheds, the Regional Districts chose to conduct this cross-jurisdictional OCP.*

An OCP is generated with community input, and provides statements on the form and character of land uses and servicing requirements in the plan area for the future. The plan policies will guide decisions by the CRD and TNRD Boards of Directors when considering applications for development. The Official Community Plan:

- expresses a community vision, developed through the planning process;
- provides an understanding of how the Regional Districts plan to work cooperatively with other jurisdictions, First Nations, provincial government agencies, residents, developers and community groups;
- contains statements regarding the Regional Districts' plans to accommodate future growth and to integrate various land uses such as: residential, commercial, industrial, agricultural, institutional, public utility, and recreational uses;

- identifies approximate locations of existing and future sand and gravel resources;
- provides statements regarding options for servicing new areas and levels of servicing that are appropriate for different types and levels of development;
- recognizes the growth patterns experienced within the plan area;
- provides policies relating to the preservation and protection of the natural environment, its ecosystems and biological diversity;
- provides policies related to avoiding hazards, and promoting safety of humans and security of land improvements;
- contains policies respecting affordable, rental and special needs housing;
- contains targets for the reduction of greenhouse gas emissions and actions to achieve identified targets;
- other discretionary statements referred to in Section 878 of the *Local Government Act*, in particular a Regional Context Statement, and where appropriate Part 27 of the *Local Government Act* dealing with heritage conservation.

After the adoption of an OCP, all bylaws and works undertaken by the local governments must be consistent with the OCP, unless it is amended. Whereas the OCP indicates the **desired future** uses and services, the Zoning Bylaw describes **existing** uses. The Zoning Bylaw also identifies more detailed conditions of use such as setbacks, building heights, and parking requirements associated with the land uses.

Updates of OCPs are recommended every 5 to 10 years to ensure that it still reflects current conditions and community trends, needs and desires.

1.2 Related Documents and Jurisdictions

Many documents inter-relate with the provisions of the OCP, including the following:

Key Policy Documents – Regional Districts

TNRD's Regional Growth Strategy, 2000

CRD Shoreland Management Policy, 2004

TNRD Lakeshore Development Guidelines, 2004

South Cariboo Area Zoning Bylaw No. 3501, 1999

TNRD Zoning Bylaw No. 940, 1985

CRD Agriculture and Forestry Policy Development and Review, 2003

Key Studies and Surveys

Report on the Green and Watch Lakes Sewage Contaminated Seepage Detection Study, Ministry of Environment, 2009

Watch Lake, B.C. Lakeshore Survey, Ministry of Environment, 2008

Green Lake, B.C. Lakeshore Survey, Ministry of Environment, 2008

70 Mile House / Green Lake / Watch Lake Community Survey, Urban Systems, 2006

Provincial Legislation and Policy Documents Affecting the Plan Area

Riparian Areas Regulation – applies in TNRD but not CRD

Agriculture Land Commission Act

100 Mile House Sustainable Resource Management Plan, 2005

Cariboo Chilcotin Land Use Plan, 1994

Kamloops Land and Resource Management Plan, 1995

General Provincial and Federal Legislation and Policy Documents

Local Government Act

Community Charter

Bill 27, Local Government (Green Communities) Statutes Amendment Act, 2008

Bill 44, The British Columbia Climate Action Charter, which commits local governments to taking action on climate change, including planning liveable, sustainable communities, encouraging green developments and transit-oriented developments, pedestrian and cycling facilities, and implementing innovative infrastructure technologies

Canada Shipping Act, 2001

Other Resources

A Guide to Green Choices: Ideas and Practical Advice for Land Use Decisions in BC

Develop with Care: Environmental Guidelines for Urban and Rural Land Development in BC

Resources from Waste: A Guide to Integrated Resource Recovery

Smart Growth BC

Green Bylaws Toolkit for Conserving Sensitive Ecosystems and Green Infrastructure

Best Practices Guide for Resort Developments in British Columbia, Province of B.C., 2005,

Best Management Practices for Recreational Activities on Grasslands in the Thompson and Okanagan Basins, Province of B.C. and Grasslands Conservation Council of B.C., 2004

TNRD - 70 Mile House – Green Lake – Big Bar – Jesmond Evacuation Plan –2008

TNRD Lake Stewardship Principles – Better Choices for Living Around Water

The Dock Primer, The Shore Primer, Land Development Guidelines for the Protection of Aquatic Habitat (DFO) (and other documents on the DFO website)

On the Living Edge, Your Handbook for Waterfront Living. Sarah Kipp and Clive Callaway

Hudson Bay Company Brigade Trail brochure

Environmental Guidelines for Urban and Rural Land Development in BC, Ministry of Environment, 2006

Protect our Forests and Rangeland, BC Government brochure

CRD Cariboo-Chilcotin Lakes: Protecting Water Quality and Shorelines Brochure

Related Jurisdictions

Where the CRD and TNRD do not have jurisdiction, the OCP may only state broad goals related to the topic. The following regulatory bodies have jurisdiction on certain matters and have been consulted in the OCP preparation process:

- Agricultural Land Commission,
- Fisheries and Oceans Canada,
- Interior Health Authority/ Ministry of Health Services,
- Ministry of Agriculture and Lands,
- Ministry of Community and Rural Development,
- Ministry of Energy, Mines and Petroleum Resources,
- Ministry of Environment,
- Ministry of Forests and Range (Integrated Land Management Bureau),
- Ministry of Transportation and Infrastructure,
- Ministry of Tourism, Culture and the Arts,
- School District # 27,
- District of 100 Mile House,
- Village of Clinton.

The planning team also engaged with First Nations to discuss and better understand their interests in the plan area. The First Nations that were contacted include: Northern Shuswap Tribal Council, Shuswap Nation Tribal Council, Canim Lake (Tsq’uescen’) Indian Band, Canoe Creek (Stswecem'c/Xgat'tem) First Nation, Bonaparte (St’uxwtews) Indian Band, Simpcw First Nation (North Thompson) Indian Band, Skeetchestn Indian Band, Whispering Pines / Clinton (Pellt’iq’t) Indian Band, and High Bar First Nations (Llenlleney’ten).

1.3 REGIONAL CONTEXT STATEMENT

The *Local Government Act* provides mechanisms to link local community plans with regional plans. At the time this OCP was written, the TNRD had an adopted Regional Growth Strategy (RGS), and the CRD had not. The *Local Government Act* requires municipalities to adopt a Regional Context Statement, which must identify the relationship between an OCP and the RGS. Although the Green Lake plan area does not contain a municipality, the TNRD requested a Regional Context Statement within this OCP.

The following is the RGS Vision:

A Sustainable Future

To create a balance among goals relating to human settlement, economic development and environmental conservation, such that development actions do not significantly limit the options of future generations.

Vision Statement

The TNRD is a unique region of diversity and contrast characterized by numerous distinct and special places. Building on this diverse mix of urban, rural, resource and wilderness settings shall be the dominant guiding principle as new development is encouraged. Urban places will grow while retaining their existing scope and character; rural places will remain rural while accepting appropriate new development; and settlement in resource areas will be limited and carefully managed.

The Green Lake and Area OCP is highly consistent with this vision. The OCP also promotes sustainability; balancing of settlement, development and conservation; protection of rural and resource settings; and focuising growth in “urban” areas. For the purpose of this OCP, 70 Mile House is the “urban” hub.

Goals

- Promote and encourage economic development.
- Protect and enhance the environment.
- Protect and maintain access to the resource base.
- Preserve the rural and wilderness character of the region.
- Ensure adequate and appropriate services are provided.
- Maintain mobility throughout the region.
- Establish and maintain equity among the urban and rural centres.
- Ensure an adequate range of housing opportunities is available.
- Promote regional collaboration on common issues.
- Promote cooperative planning with First Nations.

The RGS goals are reflected very closely in the goals and policies of the OCP. The OCP goals also address economic development, environmental protection, agriculture and rural protection, infrastructure, transportation, balance (equity) of urban and rural settings, housing diversity, regional collaboration, and cooperation with First Nations.

Policies

The following are the high level policies of the RGS for specific topics, and a summary of OCP approaches to each topic:

Human Settlement

- Contain urban/rural sprawl by building on the existing network of diverse regional centres. Direct growth into established centres. Promote policies of infill and intensification. Ensure adequate levels of servicing are provided.

The OCP is based on this approach by promoting new development and infrastructure in 70 Mile House, and discouraging growth outside of that area.

Transportation and Energy

- Integrate transportation and energy considerations with land use and settlement planning to achieve mobility, conservation and efficiency goals.

The OCP is consistent with that approach, with policies in support of alternative modes of transportation and objectives and targets for energy conservation and the reduction of greenhouse gas emissions.

Economic Development

- Broaden the economic base through diversification and expansion. Support and encourage existing resource industries while promoting new economic development opportunities.

The OCP also encourages economic growth and development, supporting and encouraging agriculture and resource industries, as well as tourism and progressive new industries.

Environmental Protection

- Protect and enhance the environment through the adoption and co-operative use of stewardship principles.

The OCP has many objectives and policies related to protection of the environment. They address water quality, protection of lakes and other riparian areas, and protection and enhancement of other types of environmentally sensitive areas.

Green Space and Cultural Heritage

- Protect the green space and rural character of the region and unique heritage features.

The OCP includes objectives and policies for protection of parks, trails, and cultural and heritage facilities and features. Policies also address archaeological sites and the importance of Green Lake and area to First Nations.

Co-Operation and Process

- Implement the RGS through the establishment of ongoing co-operative processes.

The OCP was conducted through a process that involved extensive consultation with the community and key stakeholders, as well as efforts to involve First Nations. The OCP likewise recommends the continuation of such cooperative procedures for plan implementation and eventual amendments and updates.

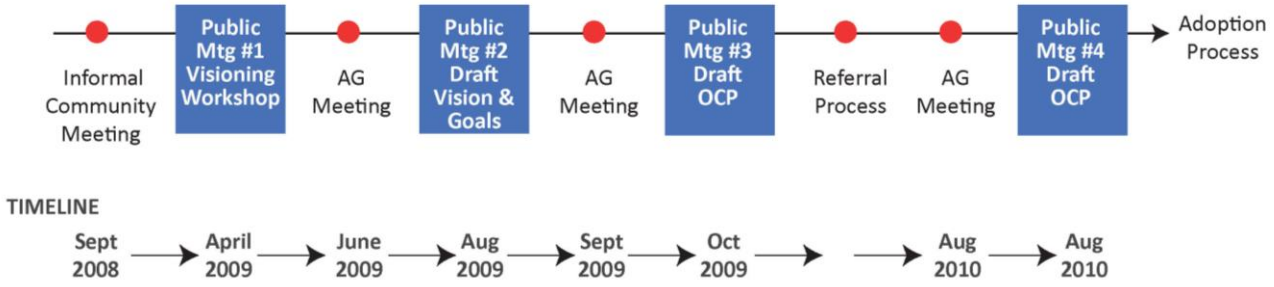
Although the CRD does not have a RGS, this OCP addresses the 14 matters recommended for inclusion in a Regional Growth Strategy. Per the requirements of a RGS, the CRD and TNRD will continue to coordinate work with relevant provincial and federal agencies on the following initiatives:

- Coordination of municipal and regional district planning programs, including Official Community Plans;
- Economic development;
- Regional transportation planning;
- Liquid waste management planning;
- Lake use and navigation;
- Parks, trails and recreation planning.

1.4 Planning Process

The preparation of this OCP took place from September 2008 until late 2009, using a participatory process that consisted of a series of meetings with a local Advisory Group, alternating with public open houses / meetings. The Advisory Group was composed of volunteer representatives of various geographic areas and interests in the community. Their role was to provide comments to the regional districts and consultants on draft content for the OCP, to provide input on the public consultation process itself, and to serve as a communication link between the planning process and the community.

Four public sessions were held in the community during the preparation of the OCP. The first session introduced the OCP purpose and process and involved an open house / informal workshop on the vision and objectives. The second public meeting requested input on draft objectives and policies. The third public meeting involved a review of the draft OCP, and the fourth session provided opportunities to review the final draft of the OCP. In addition to the meetings, letters were sent to all property owners potentially affected by proposed designations.



1.5 DEFINITIONS AND ACRONYMS

The following are some of the definitions and acronyms used in this document:

Definitions

- Affordable housing – housing where the rent or mortgage plus taxes is 30 percent or less of a household's gross annual income, where household income is average for the area or less.
- Agri-tourism - means a tourist activity, service or facility supplementary to land that is classified as a farm under the *Assessment Act.*
- Cluster development – a pattern of development in which homes and other buildings are grouped together on a portion of a site in order to leave the remaining land as natural area, recreation and/or common areas.
- Commons - a garden that is communally tended.
- Community garden - a piece of land gardened by a group of people for the purpose of providing a garden experience, education, and food or flowers to citizens; in most community gardens, support facilities are provided, e.g., access to water, plots with growing medium, storage area, and people are assigned individual plots.
- Community water system - a shared water source, treatment and delivery system meeting provincial standards, either privately or publicly built and operated. Facilities may include water treatment plants and ancillary works, reservoirs, impoundments (dams), groundwater development (wells), and pumping stations for the collection, treatment, storage, and distribution of domestic potable water.
- Community sewage system - a - shared sewage collection and treatment system meeting provincial standards, either privately or publicly built and operated. Facilities may include wastewater treatment (disposal) plants and ancillary works, sanitary sewers and lift stations for the collection and treatment of wastewater, and the discharge and/or re-use of treated effluent wastewater and biosolids.
- Density – the number of dwelling units allowed within a specified land area. In this plan, all densities are net of roads, parks, utilities, and other non-residential but complementary uses.
- Density bonusing - bylaws that enable developers to build additional units in return for public amenities such as affordable or special needs housing, parkland, protected area, or recreation facilities.
- Development Permit Area - an area designated pursuant to the Local Government Act where approval of a development permit is required before a building permit can be issued. Development permit areas may be established to protect the natural environment, to protect development from hazardous conditions, to guide the form and character of commercial, industrial and multi-family development, resort development, promote energy and water conservation, reduce greenhouse gas emissions, or to protect farming.
- EnerGuide - EnerGuide for Houses is a Canadian program developed by the Office of Energy Efficiency of Natural Resources Canada (NRCan). EnerGuide includes a house energy evaluation, including tests to find air leakage and the energy efficiency of its heating. It was designed to help Canadians reduce their greenhouse gas emissions and to save energy. EnerGuide for Houses was terminated on May 12, 2006. The ecoENERGY Retrofit program was launched April 1, 2007 and is scheduled to end March 31, 2011. To accomplish the same goals for new home construction the EnerGuide for New Houses program was initiated in 2006. This program helps Canadians plan and build new homes that are cost-effective and energy efficient, that lower greenhouse gas emissions and save energy. The EnerGuide for Houses rating scale goes from 0-100 with 0 being the least efficient and 100 being the most energy efficient. In 2005 the

average home in Canada had a rating of 66 on the EnerGuide scale. By comparison a home built to the R-2000 standard has a rating of 80.

- Environmentally Sensitive Areas – an area or site with environmental attributes worthy of attention or special care, such as creeks and streams; lake shorelines; wetlands; wildlife habitats.
- Eutrophic - a body of water with high primary productivity due to excessive nutrients, especially nitrogen and phosphorous, often from sources of pollution on adjacent lands. The high organic production rates may overcome the natural self-purification processes; effects include algae blooms, poor water quality, oxygen deficiency in bottom waters, and reduced survival for fish and invertebrates.
- Green Space – generally undeveloped area, with minimal buildings or roads, which may be within or outside private development, potentially offering protection of any environmentally sensitive and hazard areas, low-impact recreation, and/or visual character.
- High Water - the highest level typically reached by any body of water.
- Home Occupation - any occupation or profession carried out for gain that is secondary to the principal residential or agricultural use of the property, permitted under certain conditions.
- Institutional Use - any use which is institutional in nature, including but not limited to schools, churches, sports centres, recreation facilities, parks, museums, hospitals, rest homes, day care centres, and government offices.
- Natural Boundary - the visible high water mark of any lake, river, stream or other body of water where the presence and action of the water are so common and usual, and so long continued in all ordinary years, as to mark on the soil of the bed of the body of water a character distinct from that of its banks, in vegetation, as well as in the nature of the soil itself.
- Oligotrophic – waters that are poor in dissolved nutrients and plant life, and rich in dissolved oxygen at all depths.
- Open Space - locations with potential to be parkland or other protected areas based on potential recreation and scenic opportunities and/or environmental values.
- Parcel - the smallest lot, block or other area in which land is held or into which it is subdivided, registered under the Land Title Act or held by way of lease granted by the federal or provincial Crown.
- Policy - a statement that is consistent with the goals of this plan, and that generally indicates a course of action to be undertaken or pursued.
- Qualified Environmental Professional - an applied scientist or technologist in good standing in British Columbia with an appropriate professional organization constituted under an Act, acting under that association's code of ethics and subject to disciplinary action by that association; the individual's area of expertise is recognized in the assessment methods as one that is acceptable for the purpose of providing all or part of an assessment report in respect of that development proposal; and the individual is acting within that individual's area of expertise.
- Riparian Area - the land adjacent to the normal high water level in a stream, river, lake or pond and extending to the portion of land that is directly influenced by the presence of the watercourse or water body; per the Riparian Areas Regulation, riparian area is the streamside protection and enhancement area.
- Sewage treatment method - a treatment method for domestic sewage classified as Type 1, Type 2 or Type 3 where:

  a) Type 1 is treatment by septic tank only,

  b) Type 2 is treatment that produces an effluent consistently containing less than 45 mg/L of total suspended solids and having a 5 day biochemical oxygen demand of less than 45 mg/L, and

c) Type 3 is treatment that produces an effluent consistently containing less than 10 mg/L of total suspended solids and having a 5 day biochemical oxygen demand of less than 10 mg/L, and a median fecal coliform density of less than 400 Colony Forming Units per 100 mL.

- "shared interest in land" means a person's interest in one or more parcels of land if (a) the parcel or parcels are owned or leased, directly or indirectly, by the person and at least one other person, and (b) as part of any arrangement relating to the acquisition of the person's interest, that person's right of use or occupation of the land is limited to a part of the land.
- Special Needs – BC Housing defines subsidized housing developments as being for people including: seniors, people with mental or physical disabilities, individuals who are homeless or at risk of homelessness, women and children fleeing abusive relationships, and aboriginal people.
- Steep Slopes - all lands with a slope greater than 30%.
- Stream – per the Riparian Areas Regulation (RAR) includes any of the following that provides fish habitat: (a) a watercourse, whether it usually contains water or not; (b) a pond, lake, river, creek or brook; (c) a ditch, spring or wetland that is connected by surface flow to something referred to in (a) or (b);
- Temporary Accommodation means rental, lease or accommodation for consideration obtained by means of internet, newspaper or other advertising for a period of less than four consecutive weeks in a calendar year or, with respect to a time share plan, as defined in the Real Estate Act, a period of less than 6 consecutive months.
- Watercourse –any natural or man-made depression with well-defined banks and a bed 0.6 metre or more below the surrounding land serving to give direction to a current of water at least six months of the year or having a drainage area of 2 square kilometres or more upstream of the point of consideration, or as required by a designated official of the BC Ministry of Environment.

Acronyms and Abbreviations

- ALC - Agricultural Land Commission
- ALR - Agricultural Land Reserve
- BMP – best management practice
- BOD – biological oxygen demand
- BRR - Boating Restriction Regulations
- CC – Community Charter
- CCLUP – Cariboo Chilcotin Land Use Plan
- CRD –Cariboo Regional District
- CPTED - Crime Prevention through Environment Design
- DAIA – Development Approval Information Area
- DFO – Department of Fisheries and Oceans (Canada)
- DP – Development Permit
- FC BC – Front Counter BC (Ministry of Forests and Range)
- ha - hectare
- IHA - Interior Health Authority
- ILMB – Integrated Land Management Bureau (Ministry of Forests and Range)

- km - kilometre
- LEED - Leadership in Energy and Environmental Design
- LGA - Local Government Act
- LHA - Local Health Area
- MOE – Ministry of Environment
- MOF - Ministry of Forests and Range
- MOT - Ministry of Transportation and Infrastructure
- MOU – Memorandum of Understanding
- mm - millimetres
- OCP - Official Community Plan
- RAR – Riparian Areas Regulation
- The Riparian Development Permit Area (RDPA)
- RGS - Regional Growth Strategy
- R. P. Bio. – Registered Professional Biologist
- QEP – Qualified Environmental Professional
- TNRD - Thompson-Nicola Regional District
- TSS – total suspended solids
- UREP - Use and Recreation for the Enjoyment of the Public
- WHA - Wildlife Habitat Area

2.0 Plan Area Overview

2.1 Physical Context

Geography

Located on the Bonaparte Plateau, a sub-area of the Cariboo Plateau, the plan area straddles the political boundary between the Cariboo Regional District (CRD) and the Thompson-Nicola Regional District (TNRD). The plan area is approximately 872 square kilometres and includes the watershed for Green Lake.

The majority of the OCP area is rural in nature. The western and central portions of the plan area are dominated by the Interior Douglas-fir biogeoclimatic zone with a Fraser Dry Cool subzone variant. The eastern third of the plan area has a Sub-Boreal Pine-Spruce zone with a Moist Cool subzone variant. The topography is gently rolling, punctuated with an abundance of lakes and marshes, with elevations ranging from 940 to 1360 metres.

Green Lake is the primary feature, and with a surface area of 2880 hectares (all area and distance measurements in this section are from GIS mapping), it is one of the larger bodies of water in the southern portion of the Cariboo. The lake is approximately 18.5 km long, averaging 1.5 km in width and 10.3 metres in depth, with a shoreline perimeter of 89 km. Green Lake is a “marl lake” which means it has hard water with a high pH and low nutrient levels (Robinson, 2008). The lake has several creeks flowing into it, but the lake has no outflow.

Watch Lake is the second largest lake in the plan area. Located northeast of Green Lake, it flows into Green Lake. Watch Lake has a surface area of 248 ha, a mean depth of 4.3 metres and has a shoreline perimeter of 13.6 km. It is a lake with high primary productivity resulting from high nutrient content and is known for its excellent trout fishing.

Little Green Lake is the third largest lake in the Plan area at 173 hectares. Large rural lots surround this shallow lake, however very few are private.

Pressy Lake is located south of Green Lake. At 44 hectares and a mean depth of 7.2 metres, Pressy Lake has some pockets of private lots and some natural shoreline which is more sloped than the previous lakes mentioned.

The landscape around these four lakes is characterized by numerous other lakes, many of which are very small. There is also an extensive network of creeks, the largest of which is 83 Mile Creek, which flows into Green Lake from the north.

Other smaller but prominent lakes within the plan area include the following, listed in order of size: Jim, Cunningham, Eighty Three, Bullock, Taylor, Loch Lomond, Tin Cup, Lesser Green, Little Horse, Trapping, Round, Bishop, and Boyd, Hutchison, and Nolan.

Climate and Vegetation

The Interior Douglas-fir biogeoclimatic zone covers the western two-thirds of the plan area, and the eastern third is within the Sub-Boreal Pine-Spruce zone. In both of these biogeoclimatic zones, the climate is characterized by short, warm, and dry summers and long cool winters. The Sub-Boreal Pine Spruce zone is particularly dry in the winter with a mean annual precipitation of only 335 to 580 mm. Skies are mostly clear and humidity is low. The resulting lack of moisture is a principal factor in limiting plant growth.

The vegetation of the Interior Douglas Fir zone is dominated by Douglas-fir trees with a grassy understory, in which pinegrass is most common. On hotter and drier sites, grassland and open Ponderosa Pine forest predominate, while dense, closed-canopy spruce forests occur on wetter and cooler sites such as in riparian areas.

The Sub-Boreal Pine Spruce Zone consists of two principal ecosystems; Lodgepole Pine forests and wetlands. The forest canopy and the understory are dominated by Lodgepole Pine, a climax tree species that seldom occurs in North America. In the wetter parts of the zone, White Spruce, Trembling Aspen, and Black Cottonwood occur in small site-specific stands.

Fish and Wildlife

The Interior Douglas Fir zone supports a large number of ungulates. Mule Deer habitat in particular occurs within a large area of the north-east section of the study area near Watch Lake. Their range is quite vast during the summer months but is limited to south facing slopes in the winter due to snow depth. South-aspect forests are also important winter habitat for other ungulates, including White-tailed Deer, Rocky Mountain Elk, and Bighorn Sheep. The wetland ecosystems support species such as Great Blue Herron, American Bittern, and the Painted Turtle.

The Sub-Boreal Pine Spruce zone supports numerous species of mammals, birds, and insects. There are relatively few species that inhabit the Lodgepole Pine forests, due to the relatively sparse vegetation for ungulates or other large mammals. The primary species are small mammals and birds such as the Red Squirrel, Boreal Chickadee, Red-breasted Nuthatch, Yellowrumped Warbler, Dark-eyed Junco, and Ruby-crowned Kinglet. Although the Aspen and Mature Spruce forests are small and uncommon, a large number of mammals and birds inhabitat them. The Rufous Hummingbird, Red-naped Sapsucker, and Ruffed Grouse occur almost exclusively in the aspen forests. Both the aspen and spruce forests provide forage for moose, Mule Deer, Black Bear, Grizzly Bear, and Snowshoe Hare, and habitat for predators such as Grey Wolf, Coyote, Red Fox, and Lynx.

The wetlands and the adjacent moist meadows are especially important for wildlife. Wetland vegetation provides year-round forage for moose, beaver, and muskrat, plus summer forage for Black Bear and Grizzly Bear. Birds and small mammals are also abundant in wetlands, and include a wider range of species compared to the surrounding dry uplands.

2.2 SOCIAL CONTEXT

First Nations

The Secwepemc (generally translated as Shuswap) are the indigenous peoples who inhabit the plan area (see section 12.0). The Secwepemc have lived on these lands for thousands of years. Archaeologists date evidence of their existence over 10,000 years, however Secwepemc elders say their people have lived on their lands since the time of creation.

Green Lake has always been an extremely important gathering place for the Secwepemc; the Secwepemc name for the lake, Cqelqletkwe translates as "jumping off the ledge". For centuries Green Lake was the site of the annual gathering where trade, political discussions, kinship ties, sports, spiritual, ceremonial and communal activities were shared and celebrated by Secwepemc from near and far. Today, it continues to be a ceremonial and spiritual gathering place and a source of game, medicine, subsistence plants and an important May run of trout.

Green Lake is also a sacred place. There are archaeological sites, most notably an ancient burial ground in use as late as the 1850s. Green Lake has about 18 recorded archaeological sites around its shoreline; other unrecorded sites may also exist.

Early Settlers

The plan area also has a rich history based on the activities of early settlers. The discovery of gold in the Cariboo in the late 1850's brought many adventurers from around the world (see section 12.0). They travelled the Cariboo Wagon Road between Lillooet (Mile 0) and Barkerville, and along the way towns sprang up. The community of 70 Mile House is one of those settlements, and there are buildings and trails in the plan area dating back to the gold rush era.

Present Day Land Use

The primary land use in the OCP area is seasonal, recreational residential lots with a few lodges along the waterfront; smaller lots and some commercial and industrial uses in 70 Mile House; and larger parcels of land with agriculture, rangeland and forestry in the surrounding area. Land uses in the watershed of Green Lake include: agriculture (35%), forestry (20%), residential/developed (15%), and undisturbed land (30%) (Robinson, 2008). According to existing zoning, the plan area is 10% agriculture, 89% rural, with the remaining small amounts being occupied by parks and settlement uses. There is a significant amount of vacant private property in the plan area; according to BC Assessment Authority data, there are approximately 75 unimproved lots in the TNRD, and another 75 in the CRD.

70 Mile House

The primary year-round settlement in the area is concentrated in 70 Mile House. Originally established in the 1860s as a Gold Rush roadhouse and important agricultural supply centre, 70 Mile House marks the 112 km (70 miles) of travel distance north from Lillooet along the original Cariboo Wagon Road. Today, the settlement is located at the junction of North Bonaparte Road and Highway 97. The settlement of 70 Mile House provides basic services to its population of around 450 people, and also serves residents to the east in the Green Lake / Watch Lake area. Services include several businesses and an industrial area.

For many intermediate level services and schools, people travel north 50 kilometres to 100 Mile House or south 30 kilometres to Clinton. For major services, the closest communities are Kamloops to the south or Williams Lake to the north, both of which are around 1 ½ hours away in driving time. Elementary school students are bussed to

100 Mile House. The Abbeyfield Clinton Non-Profit Society was considering the 70 Mile House/Clinton area as a potential location for a supportive living seniors' home, but found there to be an insufficient market.

There are differing opinions among residents on the most appropriate future for 70 Mile House. Some residents enjoy the freedom and independence that accompanies life in a relatively isolated rural community. Others would prefer some population growth, at least enough to support reestablishment of an elementary school.

Major Lakes

The major lakes are Green Lake, Watch Lake, and Pressy Lake, in order of size and surrounding population. These lakes have significant numbers of residential lots around their shorelines, of which about 30% support permanent year-round homes and are crucial to and comprise the lifeline/backbone of the areas cattle ranching community. Other uses around the lakes and surface water sources include: resorts, fishing lodges, RV parks, public shoreline access points, recreation sites and trails, and multiple provincial park sites on Green Lake, all part of Green Lake Provincial Park. Green Lake has Canada's oldest guest ranch, the Flying U Ranch. The shoreline of Green Lake is approximately 64% Crown land and 36% private land. Watch Lake is approximately 30% Crown and 70% private land. Pressy Lake has about 62 lots, 19 of which are under Crown Administration (Crown Provincial, Forests and Range, Integrated Land Management Bureau).

Surrounding Areas

The rural areas surrounding the community of 70 Mile House and the larger lakes are mainly occupied by agriculture, rangeland and forestry uses. Most of the area is covered by large rangeland tenures. There are also some smaller areas with hay cutting permits.

The other primary use of the rural areas is recreation and tourism. There is an extensive network of trails, which are used year-round; mostly by snowmobiles with some cross-country skiing in winter. Summer uses include horse-riding, the majority from the guest ranches in the area, ATVs, and walking/hiking. A small amount of mountain biking also occurs.

Population

Since the plan area straddles two regional districts, both areas need to be reviewed to obtain an understanding of the area's current and anticipated population. Figure 2 provides an overview of the population trends and demographic characteristics in the plan area, including the CRD's Electoral Areas 'G' and 'L', and the TNRD's Electoral Area 'E'.

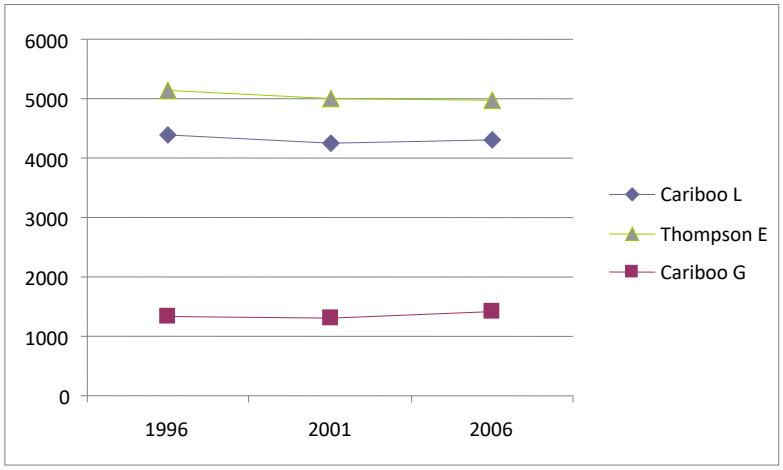


Figure 2: Population Trends

Between 1996 and 2001, there was an average 3.0% decline in population in the three electoral areas. Between 2001 and 2006, the South Cariboo Area 'G' had a 0.5% decrease and South Cariboo Area 'L' had a 1.5% increase in population. The biggest change was in Thompson-Nicola Area 'E' where the population increased by 8.2 % while the adjacent Village of Clinton located south of the plan area actually declined by 8.4%. The growth areas within the TNRD were not within the Green Lake area.

The changes in age distribution from 2001 to 2006 show an aging population, with fewer young families and more seniors over that time period (Figures 3 and 4).

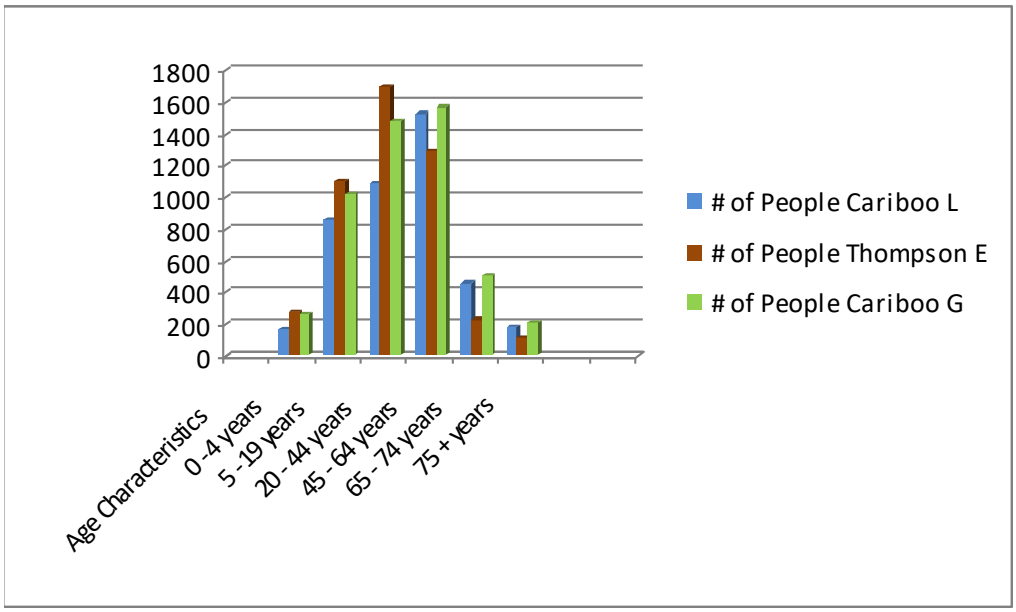


Figure 3: Age Distribution 2001

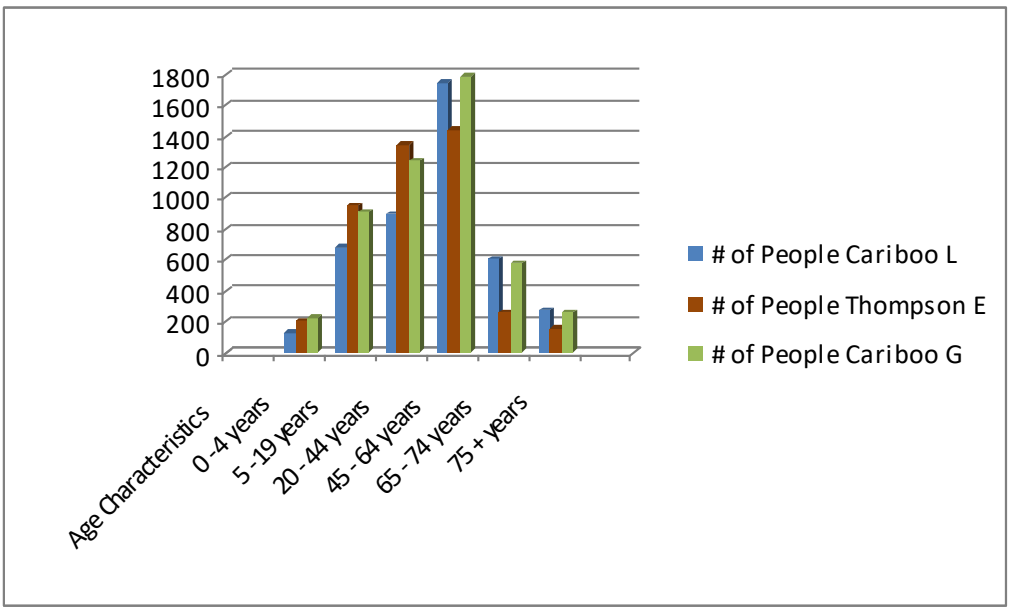


Figure 4: Age Distribution 2006

The demand for housing is influenced by factors such as population change, demographics and economics. These affect housing types, land use demand, and services, and are important considerations for an OCP. The demand for growth in the plan area is currently low.

Economy

Agriculture and ranching, forestry and tourism are the primary sectors in the local economy, however the economy is limited in the plan area. Forestry is declining, a number of tourist lodges and facilities have closed in the last several years, and the industrial activity in 70 Mile House is struggling to survive. Services supporting year-round and seasonal residents are stable, but have been eroded by recent structural fire losses.

Community Survey

In response to community interest in a planning process for the Green Lake area, a community survey was undertaken in 2006 (Urban Systems). About 1,000 surveys were sent to property owners in the study area, and approximately 250 were completed. The respondents were mostly from Green Lake (81%). Some of the primary issues and interests identified by respondents include the following:

- The challenge of striking a balance between development and preserving the existing quality of life,
- Preserving the environment, particularly water quality of the region's lakes, wildlife habitat, vegetation, and scenic resources,
- Maintaining the rural character and the lakes' attraction and value to residents and tourists,
- Managing growth, regulating building setbacks from lakes and streams, and regulating retention of vegetation,
- Addressing the Mountain Pine Beetle issues of wildfire dangers and job losses in forestry,
- Recognizing that increasing land values and taxes are a challenge to some long-time residents,
- Influencing the future use of Crown Land,

- Limiting ALR exclusions,
- Improved facilities, servicing and infrastructure (e.g., emergency services, road maintenance),
- Providing opportunities for residents, particularly young families, to remain in the community with economic growth opportunities,
- Maintaining and enhancing community and recreational facilities in 70 Mile House.

3.0 Vision for the Future

3.1 Policy Framework

The goals and policies in this OCP have been generated in close consultation with the public, however they have been influenced by an array of current planning philosophies and approaches. No one philosophy or approach was used solely as the basis for this OCP, however many of the principles and characteristics of the philosophies and approaches described in this section were considered and integrated into the policy development process.

Full implementation of all of these philosophies and approaches in the plan area is difficult, largely due to the rural context and the relatively low growth rate. The integration of the transportation, social and economic sectors that would have to be realized to fully implement these philosophies is unattainable and unrealistic within the period of applicability of this OCP. The inability to fully integrate some of the principles does not nullify the overall importance of the philosophies, but instead limits the development and integration of principles to those that are attainable within the rural context of the Green Lake area.

The field of integrative and sustainable planning is very broad and constantly evolving. For the purposes of the development of this OCP, the following is a summary of the philosophies and approaches used as part of the policy development process.

Sustainable Development

Sustainable development is the key principle of higher level policy documents at both the regional district and provincial levels. Since the term came into common use following the release of the Brundtland Commission report in the late 1980s, it has meant many things to many people. The interpretation of sustainable development within the context of this OCP means to seek a balance among the goals and policies associated with social development, economic development and environmental protection within the community. It also sets an over-riding focus on trying to ensure that future opportunities and resources are as good or better than they are today.

"We came to Green Lake for the beautiful place that it is - the clean clear water for swimming, canoeing, and the nature around us."

- Resident

Smart Growth

Smart Growth is based on a series of principles that can be applied to achieve a more sustainable, livable and integrated community. The following are the typical Smart Growth principles:

- Create a range of housing opportunities and choices,
- Create walkable and accessible communities,
- Promote the creation of a strong sense of place,
- Emphasize the need for a mix of land uses,
- Preserve open space, agricultural land and critical environmental areas,
- Provide a variety of transportation choices,
- Strengthen and direct development towards existing developed areas and communities,
- Integrate transit-oriented design including alternative transportation methods,
- Create opportunities for public engagement and involvement, and
- Plan on a broad or regional scale.

Green Bylaws Toolkit

The Green Bylaws Toolkit for Conserving Sensitive Ecosystems and Green Infrastructure was produced in 2007 as part of the Stewardship Series by the B.C. Government, Environment Canada and other organizations. The document provides many tools that local government can use to protect and maintain the integrity of sensitive ecosystems, to restore ecosystems when possible, and to ensure that green infrastructure plays a role in promoting fiscally responsible local government services and programs. The toolkit is based on the following objectives:

- Contain urban development within a compact area;
- Maintain environmentally sensitive lands outside urban containment boundaries as large lot parcels (20+ hectares), parks, or protected areas that are connected by greenways and, if not as parks or protected areas, wherever development is clustered;
- Prevent degradation and fragmentation of sensitive ecosystems and encourage connections among ecosystems;
- Prevent development of subdivisions and individual lots on or near sensitive ecosystems;
- Maintain the integrity of the ecological systems of which sensitive ecosystems are a part;
- Restore degraded ecosystems; and
- Ensure adequate assessment of the impacts of development and carry out mitigation measures.

Develop with Care: Environmental Guidelines for Urban and Rural Land Development in B.C.

This document was produced by the B.C. Ministry of Environment in 2006. It covers some similar information to the Green Bylaws Toolkit in its initial chapters on Community Planning, Site Development and Management, and Environmentally Valuable Resources. The subsequent sections address each of B.C.'s regions. Appendix B has a checklist for community planning according to the principles described.

Bill 44, 2007

Bill 44 is the Greenhouse Gas Reduction Targets Act that applies to the provincial government. It states in section 2(1) that by 2020 and for each subsequent calendar year, BC greenhouse gas emissions will be at least 33% less than the level of those emissions in 2007; and by 2050 and for each subsequent calendar year, BC greenhouse gas emissions will be at least 80% less than the level of those emissions in 2007.

Climate Action Charter

The Climate Action Charter is supported by both regional districts. The Charter is a cooperative initiative of the Province of BC, Union of British Columbia Municipalities (UBCM), and local governments.The parties agreed to take action reducing greenhouse gases (GHGs), and through the Climate Action Charter, the Province has implemented a range of initiatives related to climate change and environmental management. The Climate Action Charter states that signatory local governments agree to develop strategies and to take action to achieve the following goals:

- Being carbon neutral in respect of their operations by 2012 (recognizing that solid waste facilities are not included),
- Measuring and reporting on their community's GHG emissions profile; and
- Creating complete, compact, more energy efficient rural and urban communities.

Amendments to the Local Government Act contained in Bill 27, 2008

The Local Government (Green Communities) Statutes Amendment Act is designed to enable local governments to think, plan and build green in ways that meet the unique needs and circumstances of their communities. Provisions in sections 877 (3) of the Local Government Act now require the inclusion of GHG reduction targets in Official Community Plans (OCPs) and Regional Growth Strategies (RGSs). In addition, local governments must include policies and actions which support the GHG reduction targets. Targets, policies and actions are required to be in OCPs by May 31, 2010 and in RGSs by May 31, 2011.

The intent of the legislation is to enable communities to take action to reduce community-wide greenhouse gas (GHG) emissions, and transition to compact, complete and more energy-efficient communities. However, it is up to each local government to identify the targets, policies and actions most suitable to its community. Local governments are not required to develop a plan separate from the OCP to address Bill 27 requirements such as Community Energy Plans (CEP) and Integrated Community Sustainability Plans (ICSP).

Partners for Climate Protection (PCP) Program

Beginning in the 1990s, the Federation of Canadian Municipalities (FCM) has advanced an initiative called the Partners for Climate Protection (PCP) Program. It estimates that close to 50 per cent of the country's GHG emissions can be influenced by decisions made by municipal governments. Municipalities can reduce GHG emissions through land use, energy and transportation planning, infrastructure design and policy regulations.

The FCM suggests the following targets:

- A 20 per cent reduction below baseline year GHG emissions for municipal operations within 10 years; and
- A 6 per cent reduction below baseline year GHG emissions for the community within 10 years.

As participation in the PCP is voluntary, a municipal government may choose to revise its target as it develops its Local Action Plan.

3.2 Vision

The following is a vision statement related to land use and development in Green Lake and Area, based on community input. It is expressed in the present tense since it represents how it is hoped that the area will be described in the future.

The Green Watch 70 Area is renowned for its stunning lakes and scenery, outstanding year-round outdoor recreation opportunities, and easy-going rural lifestyle. Residents have made clear choices to protect the environmental qualities as a top priority, and to integrate residential, commercial, tourist, agriculture and industrial land uses in a sustainable manner.

Green Lake has a rich history of use by the Secwepemc First Nations for thousands of years, particularly as a summer gathering, meeting and trading place. This is recognized through protection of sacred sites and numerous archaeological sites which dot the shoreline.

The area also has an interesting heritage, as early settlers were drawn there as part of the Gold Rush. Heritage structures and trails remain from that period.

The community of 70 Mile House is a hub, providing affordable housing, employment and social opportunities for a diverse population, including seniors and young families. It also serves as a service centre and gateway for the year-round tourism industry.

The lakes support a balance of full-time and seasonal residents, as well as tourists. Infrastructure is designed to retain the high water quality, efficient energy use , and to encourage waste reduction.

3.3 GOALS

The following are the goals articulated by the community to guide this OCP:

1. **Water Quality.** Protect water quality for human use and the natural environment by ensuring that all development and infrastructure around the lakes and watercourses minimize the potential for negative effects on water resources.

2. **Natural Environment**. Protect the region's natural resources, including the unique ecosystems, integrity of watersheds, river and lake water quality, fish, wildlife and scenery.

3. **Rural Community**. Retain the rural values and character, including safe, peaceful, and environmentally sensitive settlements and a friendly, supportive lifestyle in a natural setting.

4. **Primary Settlement**. Recognize and enhance the role of 70 Mile House as the "centre" for this area, and encourage more economic, affordable housing, social, institutional and recreation opportunities there in accordance with the principles of Smart Growth as they apply to rural communities.

5. **Strong Economy**. Strengthen the economic and employment base, including year-round tourism as well as commercial, industrial, and agriculture uses that respect the rural character and the environmental resources of the area.

6. **Housing Diversity**. Ensure that there continues to be diversity in housing options, including affordable housing, accessible housing, and housing for all age groups.

7. **Green Development**. Encourage new development to be energy efficient, use land efficiently, conserve water, and manage waste to the highest standards, especially on the lakes and adjacent to watercourses.

8. **Transportation**. Improve the transportation network, including emergency access and alternative modes of transportation such as community vans, safer roads, and pedestrian and cycle routes within and between settlements.

9. **Infrastructure**. Work towards more and better infrastructure for all residents, including proper water and wastewater treatment systems, and improved telecommunications.

10. **Recreation**. Increase opportunities for outdoor recreation for all residents, including: lake access, trail access, public parks, and recreation facilities in 70 Mile House.

11. **Heritage and Culture**. Protect sites and facilities with heritage and cultural values, respect and provide for First Nations' traditional uses, and enhance and interpret cultural and heritage resources where appropriate.

12. **Tourism**. Protect and enhance tourism opportunities, including: existing lodges, an expanded trail network, eco-tourism and agri-tourism.

13. **Emergency Planning**. Improve planning related to emergencies, including: wildfire hazard management, evacuation planning, and police and ambulance service.

14. **Agriculture**. Protect agriculture and ranch land, support the agriculture and ranching industry, and include community agriculture in new developments.

15. **Climate Change**. Establish targets, policies and actions to reduce greenhouse gas emissions, and look to adapt and respond to local effects of climate change.

3.4 Climate Change

As in any other region, climate change is a concern in the plan area. The immediate concerns related to climate change in the plan area are declining water levels and increased wildfire hazards. Longer term impacts may include: changes in ecological process and ecosystems affecting wildlife habitat and biodiversity, changes in hydrology, and resulting impacts on agriculture, forestry, and recreational opportunities. The *Preliminary Analysis of Climate Change in the Cariboo-Chilcotin Area of British Columbia* (Pacific Climate Impacts Consortium - ILMB and University of Victoria), 2008, provides extensive information on this topic.

As two of 175 local governments that are signatory to the B.C. Climate Action Charter, the TNRD and CRD are committed to reducing GHGs and have agreed to take actions to achieve certain goals. In order to address growing concerns regarding climate change, the *Local Government Act* was amended in 2008 to require all OCPs to set targets, policies and actions to achieve the reduction of greenhouse gases.

In 2007, the BC Ministry of Environment launched a GHG reporting system called the Community Energy and Emissions Inventory (CEEI) to provide emissions inventories for municipalities and regional districts in BC. These reports capture annual community-wide energy consumption and GHG emissions estimates for three key sectors: on-road transportation, buildings, and solid waste. The inventories exclude emissions sources such as woodstoves, gas and diesel generators, boats, and propane. Estimates of GHG emissions caused by deforestation as a result of land use changes (settlement and agriculture) are available at the regional district level only.

For Green Lake and Area, there is no CEEI like there is for 100 Mile House or the regional districts of TNRD and CRD. The challenge in a rural area is the availability of indicator data and the varying degrees of accuracy of the data in each sector. Electricity consumption for a defined area can be obtained from BC Hydro data and it is very accurate, whereas “vehicle kilometres travelled“ (VKT) data is difficult to estimate. Bill 27 does not require an inventory to be included within the OCP, however inventory data is required for monitoring and measuring any targets expressed as energy consumption or GHG emissions.

Setting a target is intended to provide motivation for practical actions to reduce GHG emissions in a measurable way. There are three types of targets:

“Create a ‘green’ community – solar, thermal buildings and businesses.”

- Resident

- aspirations, e.g. “by 2012 reduce GHG emissions by 33% compared with 2007 levels”,
- policy, e.g., “80% of all new housing units to be located within a specific growth node”, and
- process, e.g., “by 2012 complete an agriculture plan to identify opportunities for locally-grown food”.

The legislation does not specify what type of target or how many targets are needed for a community.

For the three primary emissions areas measured in the CEEI, the situation in the Green Lake area is as follows:

- transportation is likely responsible for the majority of emissions, however it is very difficult to measure and most of the traffic in the area is along Highway 97, having minimal relationship with local land use,
- waste management is difficult to measure for this area as a separate entity and the population cannot support major waste management facilities, however improvements to waste management are being undertaken (see Section 17.0),
- although buildings don’t likely account for a significant portion of the GHGs in the OCP area, they do provide opportunities for target setting, as described below.

Reducing GHGs through energy efficiencies in buildings is a relatively easy, cost-effective way to reduce emissions. All new buildings are reaching higher energy efficiencies by adhering to the requirements in the 2008 BC Building Code, which requires small residential buildings to meet a standard of EnerGuide 77 or equivalent (see Definitions). Analysis completed by the Province indicates that improving a house from EnerGuide 73 to 79 results in a 29 percent reduction in energy consumption. Therefore, retro-fitting existing homes provides an opportunity to reduce GHG emissions associated with electricity, propane and wood burning, while offering cost savings for the homeowner. BC Hydro has a program called Team Power Smart. The program offers benefits and rewards to BC Hydro customers who commit to a 10% reduction in energy use.

A significant number of the homes and other buildings in the plan area were likely built before 1970 when there was generally limited energy efficiency in construction. The opportunity therefore exists to improve energy efficiency. Relatively few new dwellings have been built since 2008; these would likely be achieving a relatively high Energuide rating.

BC Hydro provided the power use for the past three years in the plan area for all locations with at least one month of consumption information between January and December for the year specified (see Figure 5). This is an indicator of relative consumption, however some buildings in the plan area are heated by wood stoves. In 2006, residential and other properties consumed an average of 8232 kWh each. The average consumption rose 2% in 2007, then fell 3% in 2008, for an average consumption of 8147 kWh in 2008. The total power use of 9,817,527 kWh in 2008 is equivalent to 271 CO2 e (t) (tonnes of carbon emissions).

	2006		2007		2008	
	Service Locations	Consumption (kWh)	Service Locations	Consumption (kWh)	Service Locations	Consumption (kWh)
Residential	1,110	8,497,908	1,123	8,913,583	1,140	8,835,552
Other	60	1,133,523	60	1,030,628	65	981,975
Total	**1,170**	**9,631,430**	**1,183**	**9,944,211**	**1,205**	**9,817,527**
Average		**8,232**		**8,406**		**8,147**
GHG Intensity				**22**		**28**
CO2e(t)				**219**		**271**

Figure 5: Electrical Energy Consumption

It is up to each local government to identify the targets, policies and actions most suitable to its community. Both the CRD and TNRD have adopted targets for community greenhouse gas (GHG) emissions. TheTNRD agreed to defer to targets established by the CRD within the plan area.

The CRD is planning to undertake a region-wide approach to energy and emissions planning and will complete a CRD Climate Action Plan on reducing energy use and greenhouse gas emissions by December 2011. Steps and considerations in the planning process will include: a corporate inventory of energy use and greenhouse gas emissions; implementation methods such as sustainability checklists and building standards; investigating home-based business and industry opportunities, support for local food security, opportunities to collect methane at landfills, and improved waste management; working with First Nations on a region-wide approach; and partnering with local environmental groups to promote and support energy conservation and climate change initiatives.

In addition to the targets related to climate change, this OCP contains policies in various sections that will contribute to the Regional Districts' pursuit of the common goals identified within the Charter.

Objectives

1. Understand the likely impacts of and vulnerabilities to regional climate change within the plan area.

2. Consider the impacts of climate change and greenhouse gas emissions in all land use decision-making. Recognize the need for and participate in energy conservation measures.

3. Participate in an effort to reduce human impacts on the climate.

Policies

There are policies throughout this OCP that relate to climate change and GHG reduction. They are cross-referenced with some of the more general policies below:

3.4.1 Establish GHG reduction targets that are consistent with the overall targets in of the CRD; reduce GHG emissions by 33 percent by the year 2020, and 80 percent by 2050 based on 2007 levels.

3.4.2 Implement Smart Growth principles by designating 70 Mile House as the primary settlement area, locating new density in proximity to amenities and services, using infill sites before developing greenfield areas, and locating commercial, institutional and industrial uses in and near 70 Mile House (Related Policies: Land Use Concepts, 70 Mile Settlement Area)).

3.4.3 Encourage planning, design and construction strategies to minimize greenhouse gas emissions in new construction and development:

a) Promote achievement of an EnerGuide rating of 80 for all new homes by 2010, and encourage passive solar design.

b) Encourage local renewable energy generation, e.g., solar hot water technology.

c) Encourage developers and builders to follow best practices in sustainable development, seeking out leading edge technologies and minimizing the impact on existing infrastructure (e.g. permeable parking lots; stormwater detention ponds, solar orientation etc.). References include: *Environmental Best Management Practices for Urban and Rural Land Development* (Ministry of Water, Land and Air Protection) and *Develop with Care: Environmental Guidelines for Urban and Rural Land Development in British Columbia*.

d) Consider the use of incentives for investment in green technology, such as density bonusing, modified development standards, or other mechanisms.

3.4.4 Encourage strategies to improve the energy use and emissions of existing buildings:

a) Establish as a target an increase in the average efficiency of Green Lake and Area homes and businesses by 10% over the next 10 years to result in an emissions reduction of 19 to 20 tons per year. As part of this policy, encourage residents and business owners to join BC Hydro's Team Power Smart.

b) Encourage energy conservation through the retrofit of existing homes with cost-effective energy efficiency improvements as outlined in *Energy Efficient Building Strategy: More Action, Less Energy* and *BC Hydro's Guides and Tips – Green Your Home*.

c) Encourage use of BC Hydro's energy efficiency services, including: LiveSmart BC Program, BC Hydro's Power Smart program, and BC Hydro's Energy Saving Kits for low-income households.

d) Encourage and support initiatives to upgrade wood-burning appliances through the wood stove exchange program.

3.4.5 Encourage recycling and improve the efficiency of solid waste management for public facilities and agriculture/industrial uses (Related Policies: 17.6, 17.7).

3.4.6 Encourage and support sustainable infrastructure and use of resources, including water conservation and energy production (Related Policies: 17.5, 17.12, 17.13).

3.4.7 Encourage the development of alternative transportation options such as walking and cycling within the plan area, and car sharing and shuttle bus services for commuters to other communities (Related Policies 11.8-11.11, 16.6, 16.7).

3.4.8 Provide more opportunities for home-based business and industry to decrease dependence on automobiles (Related Policies 6.6).

3.4.9 Encourage employment opportunities that support GHG reduction, e.g., conducting energy audits for buildings, commercial composting operations.

3.4.10 Support local food security through large and small scale agriculture, local food processing and local food consumption (Related Policies 5.7, 6.7).

3.4.11 Promote conservation of sensitive ecosystems and forested land—especially unfragmented areas (Related Policies Land Use Concepts, 11.2 - 11.6, 11.8).

3.4.12 Collaborate with other levels of government, First Nations, regional districts and utilities to address energy and emissions management and promote best practices in energy efficiency.

3.4.13 Endeavour to participate in senior government programs and initiatives that address climate change impacts and energy management applicable to planning for local-scale impacts of climate change.

3.4.14 In consultation with other jurisdictions, organizations and energy providers within the watersheds of the plan area, undertake to:

a) Identify the potential impacts, risks and vulnerabilities of climate change regionally;

b) Identify and prioritize adaptive measures; and

c) Inventory and establish a monitoring process for GHG emissions.

3.4.15 As signatories to the Climate Action Charter, the Regional Districts will take steps to address and support the goals of the Charter including becoming carbon neutral in their corporate operations by 2012.

3.4.16 Adopt a "lead by example" approach to energy and emissions planning by setting corporate targets, seeking funding to measure the existing corporate carbon footprint, identifying the best carbon reduction opportunities and setting specific reduction targets.

3.4.17 Incorporate strategies to reduce greenhouse gas emissions when engaged in major infrastructure planning and design projects or new facility construction.

3.5 LAND USE CONCEPTS

Generally the land use designation concepts in this OCP are as follows:

- 70 Mile House is the primary settlement area – higher densities, commercial and institutional uses, and improved services are encouraged.
- 70 Mile House periphery – rural holdings are located around 70 Mile house as a transition between the settlement and the resource/agriculture surroundings.
- Near the 83 Mile Road / Hwy 97 junction, protection of the heritage values and increased tourism-related commercial services are encouraged. Increasing density to small holdings is also encouraged there, provided there are no negative impacts to 83 Mile Creek or other resources.
- New residential lots on Green Lake are not encouraged, either through subdivision or development of Crown Land, except where permitted by existing zoning. The lake has a significant number of vacant lots, and increased development is considered a threat to the water quality of the lake and other environmental and cultural resources.
- Existing and future shoreline development is to be managed with policies that protect water quality, and protect and enhance biophysical resources.
- Land use designations in the more remote areas are intended to limit development sprawl and to protect resource values.
- Protection from development is encouraged for areas with high environmental values, high recreation values, and areas of significance to First Nations.
- New development is encouraged in appropriate areas, particularly development that will support the economy, and ensure that new projects minimize environmental and social impacts.

SECTION B: LAND USE DESIGNATIONS

4.0 RESOURCE

Context

The plan area is composed of a rural landscape that includes flat and gently rolling forests, grasslands, and farmlands, with many streams and lakes of all sizes. This section addresses the non-agricultural portion of the undeveloped area; section 5.0 addresses lands within the Agricultural Land Reserve (ALR). Other than scattered acreages, resource lands are often publicly owned Crown land that may include rangeland tenures (i.e., grazing and hay-cutting permits), recreation tenures, transportation/utility networks, and mineral resources. The management of these lands, through public agencies in consultation with the community and stakeholders, is complex and can lead to conflicts, particularly among settlement, tourism, conservation, and resource extraction. Development and resource extraction, while contributing to the economy, can have negative impacts on the natural environment that is highly valued by residents and recreational users.

One of the key stakeholders of the resource area is the Grasslands Conservation Council of BC. It is a strategic alliance of organizations and individuals whose mission is to foster greater understanding and appreciation for the ecological, social, economic and cultural importance of the grasslands throughout BC. The organization provides a number of outreach programs, monitoring and research initiatives, and strategic plans to ensure the long term sustainability of BC's grasslands.

The Bonaparte Plateau, within which the study area is located, has unique geology. As a result, there is a proliferation of mineral claims in the area for sodium carbonate mining. These claims are for mining the sodium carbonate and natron from the stagnant pools of water in the Green Timbers Plateau area north of 70 Mile House. The area is also known to have significant copper and gold deposits. The potential for mining has

implications for the overall economy of the area, since “instant” resource towns have been known to develop in B.C. based on mining opportunities.

The Cariboo Chilcotin Land Use Plan (CCLUP, 1994) was designated as a higher level plan in 1995 under the Forest Practices Code of British Columbia Act. It was later amended in 1999. The CCLUP guides the application of the Forest Practices Code and other resource management activities within the plan area (see Figure 6) Most of the Green Lake area is classified in the CCLUP as Enhanced Resource Development Zone, Two Special Resource Development Zones overlap the Green Lake plan area in the northwest (Bullock Lake area) and the northeast (Sheridan Lake area). In the southwest portion of the Green Lake area, the CCLUP has an Integrated Resource Management Zone. Some of the Green Lake community members who participated in the CCLUP process were disappointed that Green Lake was not designated a Special Resource Development Zone.

The following are descriptions of the CCLUP designations (see Figure 6):

- The **Enhanced Resource Development Zone** includes areas where economic benefits and jobs will be increased through intensive resource management and development. In this zone, the plan challenges all local resource users and government to set targets for increased sustainable resource development. In particular, forest productivity will be maintained and enhanced through intensive reforestation, spacing, pruning, thinning and new harvest practices.
- The **Special Resource Development Zone** is being designated where significant fish, wildlife, ecosystem, back country recreation and tourism values exist. Timber harvesting, mining and grazing will take place in this zone in a manner that respects these values.
- The **Integrated Resource Management Zone** includes areas that will be dedicated for sustained integrated resource use.

Objectives

1. Support the protection and use of Crown lands for a wide range of rural and resource values, including water resources, fish and wildlife habitat, ranching, environmentally sensitive areas, cultural and heritage values, and recreation and tourism.

2. Minimize conflicts between resource activities and adjacent land uses.

3. Discourage new development of Crown land on and near environmentally sensitive areas.

4. Encourage recreational access and recreational uses compatible with the economic uses of resource lands.

5. Maintain strong lines of communication with senior levels of government that are responsible for managing Crown lands.

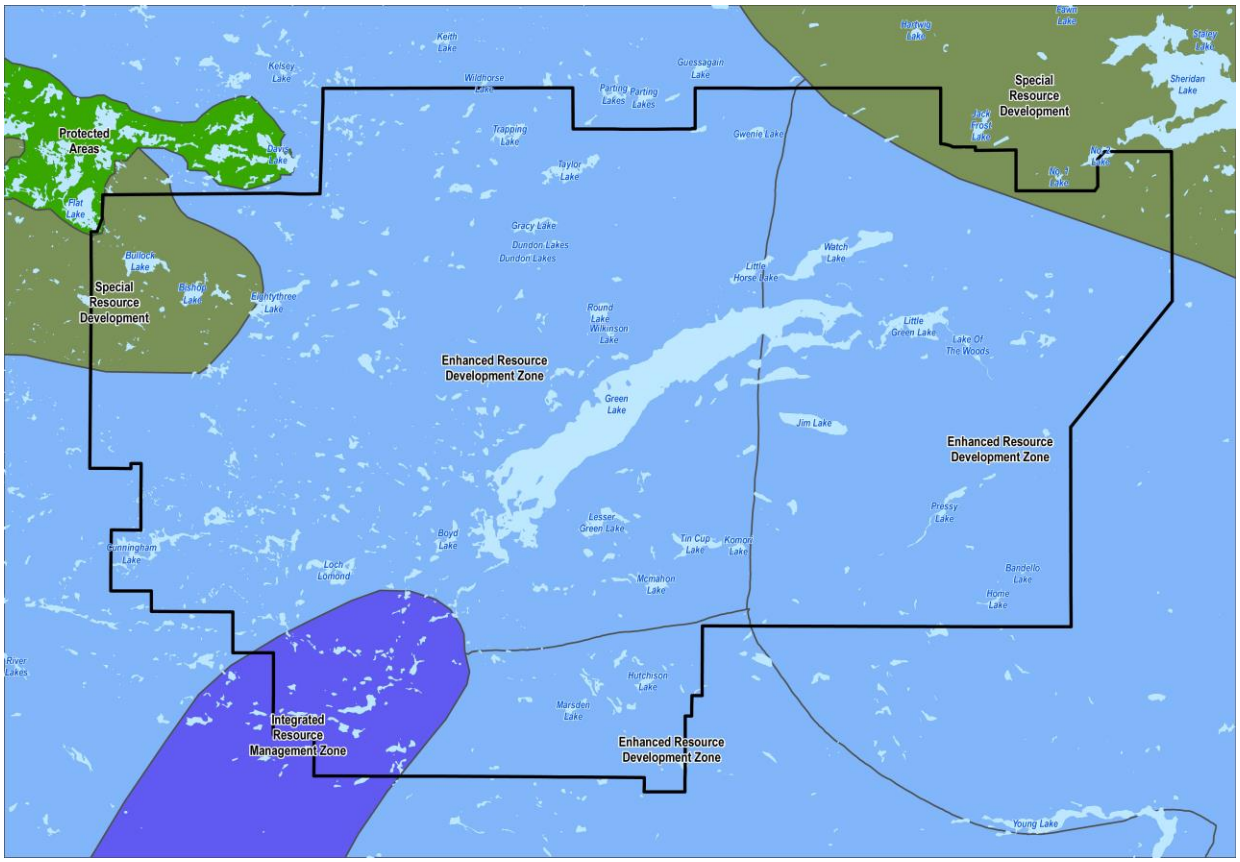


Figure 6: CCLUP Map

Policies

4.1 Resource lands are identified on Schedule B. Appropriate uses are forestry, mineral and aggregate extraction and processing, agriculture, ranching, public utilities, trails, and back-country recreation.

4.2 Areas with known aggregate potential are identified on Schedule C. This mapping should not be considered complete. Sand and gravel deposits should be identified prior to any development, and these resources should be protected.

4.3 Lands designated as Resource should be maintained as large parcels of 32 ha (79 acre) minimum.

4.4 Any application with potential impact on neighbouring properties must conduct a review of potential impacts, consult with the public, and minimize impacts.

4.5 Encourage and work with the Province and others to retain, enhance and manage public access to back-country trails and other recreation resources, ensuring that trails through logged areas are reactivated once logging is completed (see section 11.0).

4.6 Recognize established trails and snowmobiling areas and work with the Province and others to ensure that they have adequate staging areas with off-street parking for vehicles.

4.7 Encourage relevant agencies to support back-country trails and recreation sites through management strategies and granting of tenures.

4.8 Encourage the Province to increase consultation with the other levels of government, First Nations, the public, and stakeholders on Crown land decisions.

4.9 Encourage the Province to establish a Special Resource Development Zone in the Cariboo Chilcotin Land Use Plan for Green Lake and Watch Lake and the area within a 2 km radius from the shoreline of these lakes. Work with industry and other agencies to ensure that resource extraction operations, including forestry and mining, restore the affected environmental resources upon completion of operations, including removal of waste materials, and restoration of soil and vegetation.

4.10 Discourage the use of brush fences due to fire hazard, danger for animals, and the short lifespan of these fences.

4.11 Development, particularly Resort Commercial, may be located on Crown land, provided that a variety of conditions are met (see section 7.0).

4.12 Support communication with and participation by First Nations in the management and development of Crown land.

5.0 AGRICULTURE

Context

Agriculture was one of the first industries established in the plan area, beginning well over 100 years ago. Ranching remains one of the cornerstones of the local economy. The soil and climatic conditions are not conducive to many other agricultural activities.

The cattle industry played an important role in the development of British Columbia and its economy since the arrival of the first gold seekers. As the gold rush miners flooded into the province, opportunities opened up for the establishment of ranches to serve the market provided by the miners.

The first cattle were driven up through the province from the USA and became the basis for the first herds and ranches. In the late 1800s and early 1900s, many ranches developed throughout the Okanagan, Similkameen, Merritt, Kamloops, and north into the Cariboo and Peace River areas. Packing plants and stockyard were established in the Vancouver area, which served as a marketing centre for the province.

Many ranches are represented by the Cattlemen's Association of BC. Their purpose is to promote, encourage, protect and develop the cattle industry in British Columbia, in an environmentally responsible manner.

Farming and ranching are challenging ventures in the area. The challenges for local farmers include rising fuel costs, rising land values, aging farmers, animal health issues, and competitive world markets. While agriculture is no longer the centre of the local economy, farming is an important part of the area's history and may play an important role again in the future as fuel costs continue to rise and food security becomes a greater concern. Farming and ranching are also a lifestyle choice for many people in the plan area.

Invasive plants are a concern to agriculture. The Green Lake area is severely affected by spotted knapweed and is under threat from other invasive plants. The OCP area falls under two active weed management committees, the Southern Interior Weed Management Committee and the Cariboo Chilcoltin Coast Invasive Plant Committee, both of which have regional strategic plans to deal with the issue of invasive plants. Committee liaisons exist within both the TNRD and CRD.

Objectives

1. Support the long-term viability of agriculture and ranching in the area.

2. Encourage the preservation of existing and potentially viable agricultural and ranch lands.

3. Discourage the fragmentation of agricultural and ranch lands through subdivision or development for non-agricultural purposes.

4. Minimize conflicts between agriculture / ranching and other land uses.

5. Minimize the impacts of agriculture and ranching on environmental resources.

6. Recognize and support the maintenance of the Agricultural Land Reserve.

Policies

5.1 Areas designated Agriculture are shown on Schedule B. These areas have known agriculture or ranching use and/or a portion of the lot is within the ALR. The ALR is illustrated on Schedule D. In areas designated Agriculture, agriculture and ranching should be the primary and dominant land use.

5.2 Associated land uses may include a principal home, secondary home for farm help or family members, other buildings and structures associated with an agricultural operation, agri-tourism, and home-based business.

5.3 Lands designated as Agriculture should be maintained as large parcels of 32 ha (79 acre) minimum.

5.4 Owners of parcels less than 32ha in the ALR which existed prior to the adoption of the OCP may apply to the ALC for approval to subdivide, and if approved by the ALC, would not be opposed by the regional districts if a zoning and/or subdivision application was required.

5.5 Retain good quality agriculture and ranching lands intact and do not detract from agricultural viability, except where authorized by the Agricultural Land Commission (ALC).

5.6 Work with the community and the ALC to consider block exclusions on properties that are less than 0.8 ha (2 acre) and not used for agriculture.

5.7 Encourage support for the agriculture industry and local food production, e.g., diversified production and marketing of locally grown foods, on-site sales of food, farmer's market, energy efficient greenhouses, waste wood burning heating systems with carbon capture for greenhouses, incentives for farmers to remain on their land, support for new farmers' access to land.

5.8 Respect historical stock water rights, agricultural use, and access to water on Crown rangeland.

5.9 Encourage farms and ranches to provide agri-tourism opportunities and to develop agri-tourism accommodation.

5.10 Encourage agricultural practices that enhance natural ecosystems and protect environmental resources, e.g., Environmental Farm Planning. Encourage best farm management practices in and around riparian areas.

"The OCP should protect the ranchers' access to Crown land grazing."

- Resident

5.11 Encourage implementation of the Codes of Agricultural Practice and the protection of and importance of sustaining water resources.

5.12 Encourage the Province to enforce regulations where poor agricultural practices have caused negative impacts on watercourses or groundwater.

5.13 Support programs designed to increase public awareness of invasive plants and the implications of their spread.

6.0 Residential

Context

Residential development throughout the study was traditionally rural in character, with homes on acreages, originally for ranching and logging. Over time, clusters of smaller lots were developed, including the settlement of 70 Mile House and lots along the shorelines of the larger lakes. Most of the residential development retains a rural character, with trees and natural vegetation surrounding the single family and manufactured homes. The rural character is partly a result of the larger lot sizes dictated by the servicing with individual on-site wells and septic systems.

In recent years, there has been very little demand for new development in the area. This has been appreciated by many in the community, because what is important to most residents is to retain the area's natural and cultural values and assets.

The disadvantages of no or slow growth are that the school is unlikely to be re-established and improvements to infrastructure such as roads and community services are unlikely without increases to the tax base. Most residents who participated in the OCP were more concerned about retaining the natural/cultural values than in increasing the population and associated services and amenities.

The rural character and larger lot sizes associated with on-site servicing tend not to comply with Smart Growth principles. The cost of providing services is high in relation to existing land values and demands. The most likely demand is for retirement or recreational lots outside of the existing communities, and these developments have limited opportunity to strengthen 70 Mile House socially or economically. Another associated challenge is that, although the area would benefit from new commerce and industry, the demand for those is limited.

The following are the primary existing residential areas.

70 Mile House

The settlement of 70 Mile House has approximately 130 residential properties located on both sides of Highway 97, which is a major barrier within the community due to the speed of travel and high amount of truck traffic. The housing is all single family, with many manufactured homes. All properties have individual wells and septic systems on fee simple lots.

Green Lake

Green Lake is surrounded by approximately 629 private lots, of which 536 are developed (Source: BC Assessment Authority), accommodating about 1,500 residents. Of the developed lots, 314 are on the south shore of Green Lake, and 222 developed properties are along the north shoreline. The north side has the higher proportion of permanent residents, 36%, compared to 22% on the south.

Watch Lake

Watch Lake has about 177 private lots, of which 133 are developed (Source: BC Assessment Authority), accommodating about 450 residents. About 33% of the home owners are permanent residents.

Pressy Lake

Pressy Lake and area has 79 private lots, of which 43 are developed (Source: BC Assessment Authority), accommodating about 120 residents. Most of these are on Pressy Lake, with the remainder on Pressy Pond and the area to the south. About 33% of the home owners are reported to be permanent residents according to some sources, however this is indicated by residents to be closer to 10%.

Objectives

1. Direct new residential subdivision and development to 70 Mile House and away from the lakes in the study area.

2. Ensure that new housing occurs in an organized manner and is compatible with the character of existing residential areas, while protecting their environmental resources and social values.

3. Ensure that all new development has appropriate, healthy and safe infrastructure that can be maintained at reasonable costs.

4. Encourage developments that respect the lifestyles of residents, including provision of parks and green space that support recreational opportunities close to residential areas.

5. Encourage a range of housing to accommodate all age groups, accessibility needs, and a variety of incomes.

6. Encourage home-based businesses that do not detract from the residential use and character.

7. Encourage the inclusion of community agriculture in new developments, due to its social, recreation, health, education, and food security benefits.

8. Ensure that new development doesn't conflict with ranching and other uses.

9. Ensure comprehensive analysis and coordinated review of new developments.

Policies

General

6.1 Residential use shall be in accordance with the designations identified on Schedule B.

6.2 Minimize impacts and protect green space by encouraging: clustered development; and green space networks with trails through developments leading to public and commercial uses, parks, and other trails.

6.3 One secondary suite may be considered in a detached home, provided that all legislated code requirements, such as building, plumbing and electrical codes, as well as parking, water and sewage regulations, are met.

6.4 Duplex dwellings are permitted, per the existing zoning, except within 250 metres of Green Lake.

6.5 Bed and breakfasts up to a maximum of 4 bedrooms are allowed in single family dwellings in any residential designation, and in areas designated Agriculture and Resource, provided they are consistent with the residential character of the neighbourhood, provide adequate parking, appropriate water and sewer, and comply with all governing bylaws, acts and regulations.

6.6 Home occupations are allowed in any residential designation, and in areas designated Agriculture, provided they are compatible with the character of the neighbourhood, provide adequate parking, address traffic and environmental considerations, provide appropriate water and sewer, and comply with all governing bylaws, acts and regulations.

6.7 Community agriculture is allowed in all areas designated residential.

6.8 Ensure that new developments provide fences to keep out ranging livestock, and that they identify and respect water sources for ranging livestock.

6.9 Encourage a balance between housing that caters to seasonal and permanent residents.

6.10 Require new developments to be consistent with Environmental Best Management Practices for Urban and Rural Development, Ministry of the Environment.

6.11 Encourage a green, environmentally friendly approach to development where possible, e.g., siting and design for passive energy conservation, low water use fixtures, alternate energy systems, low-impact development standards.

6.12 Boundary adjustments are not prevented by this OCP, provided that there is no increase in density and that there is compliance with zoning and OCP designations.

70 Mile House Settlement Area

6.13 Encourage new residential development that strengthens the existing settlement and that will provide for an affordable, family-oriented community with commercial enterprises.

6.14 Encourage increased density and infill, subject to the provision of appropriate water and sewer services, including:

e) A walkable village core with institutional, commercial and residential uses,

f) Improved transportation system, including multi-use trails, and transit or other forms of alternative transportation, e.g., car co-ops, carpooling,

g) Safer opportunities to cross Highway 97, ideally a pedestrian overpass.

6.15 Encourage a range of housing types.

6.16 Direct future development at higher densities to occur within the proposed 70 Mile House settlement area.

6.17 Encourage developments in the Rural Holding area around 70 Mile House and 83 Mile to use a Residential Cluster form of development and to protect land in the Agricultural Land Reserve and environmentally sensitive areas as green space.

Green Lake, Watch Lake, and Other Lakes

6.18 New development on lakes must comply with objectives and policies in Section C: The Natural Environment, and must obtain a Riparian Development Permit (section 20.1).

6.19 Locate and design new subdivisions and new development to avoid the need for shoreline stabilization.

6.20 Encourage enhancement of existing public accesses between the lakeshore and the upland.

6.21 For new lake accesses, encourage them to be in locations that benefit the public, with adjacent parking where there is road access to the upland, and in locations that minimize disruption to adjacent properties.

6.22 Encourage the Province to continue enforcement, education and responsible use of septic systems.

6.23 New residential lots on Green Lake are not encouraged, however applications for subdivision on land that is currently zoned for residential development will be considered at the density of the current zoning.

Residential Designations

6.24 The following are the residential land use designations used in this plan, with associated densities:

Residential Land Use Designation	Parcel Size or Density
Rural Holding	1 unit per 4 ha (9.9 ac) minimum parcel size
Small Holding	1 unit per 2 ha (5 ac) minimum parcel size
Rural Residential	1 unit per 0.8 ha (2 ac) minimum parcel size
Settlement Area	Small lots (no minimum), duplex, manufactured homes, townhomes, small apartment/condominium. Lot size dependent on servicing levels.

The following policies apply to the various designations:

Rural Holding

6.25 Rural Holdings are intended to remain rural in character.

6.26 The principal use shall be residential or agricultural, maximum one dwelling unit or duplex per lot.

Small Holding

6.27 Small Holdings are intended to remain rural in character.

6.28 The principal use shall be residential, maximum one dwelling unit or duplex per lot.

6.29 Increasing density to small holdings is encouraged near the 83 Mile / Highway 97 junction, provided there are no negative impacts to 83 Mile Creek or other resources.

Rural Residential

6.30 The principal use shall be residential, maximum one dwelling unit or duplex per lot.

6.31 Many lots in Rural Residential areas are currently as small as 0.2 ha (0.5 ac), and these lots are acknowledged as non-conforming in size. Small non-conforming lots are encouraged to be serviced with community water and sewer systems, particularly where there are significant concentrations of lots, making servicing improvement more financially feasible.

Settlement Area

6.32 Settlement Area is proposed as the designation within 70 Mile House in order to achieve objectives and principles related to sustainability and Smart Growth. Figure 7 illustrates appropriate locations for additional residential uses if 70 Mile House were to densify. The proposed densification is focused east of the highway where most of the services are now, and so that commercial and institutional uses can more easily service the lake-area residents.

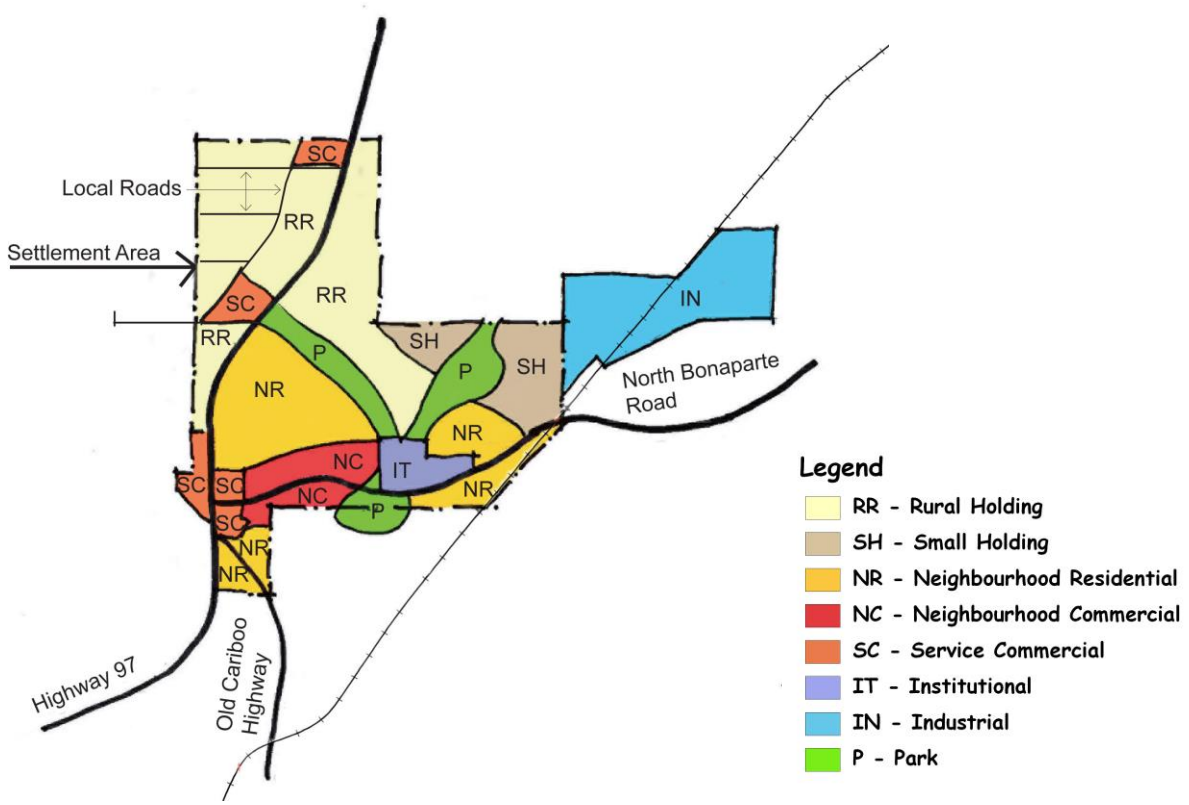


Figure 7: Conceptual Land Use Plan for 70 Mile House

6.33 The principal use shall be residential. Commercial uses may be incorporated at ground level in higher traffic locations.

6.34 New developments must be serviced by appropriate water and wastewater treatment systems. Larger community water and wastewater systems operated by the regional district or strata developments are preferred, if financially feasible.

6.35 A minimum density of 20 units/ ha (8 units/acre) is encouraged for larger lots. There is no maximum density, however site capacity and limitations combined with development requirements may affect the achievable density.

6.36 All Settlement Area developments must meet the following criteria:

a) Residential uses must comply with all other OCP policies, e.g., Riparian Area Regulations, emergency access.

b) Transportation planning for the development must be addressed, including provision for pedestrians and bicycles, either on the road shoulder or separated from and parallel to the road.

c) The siting of buildings and structures shall give consideration to the relationship between buildings and green space, access by alternative transportation modes (e.g., pedestrian, bicycle, transit), views, and the visual and noise privacy of neighbouring uses.

d) Lighting and illuminated signs shall be the minimum possible with shielding from above to prevent disturbance of neighbours and to respect dark sky principles.

e) Retain large trees and natural vegetation existing on site where possible;

f) Grading shall follow the slope of the land to the degree possible to avoid large retaining walls;

g) Provide landscaping on portions of the site abutting roads, parking areas, buffers for adjacent properties, and public or semi-public green space; use native or native-like plants where possible;

h) Ensure that developments are visually and physically accessible from surrounding areas, i.e., no “gated” communities.

i) Large surface parking areas shall be broken down into smaller parking lots of no more than 20 vehicles each; tree planting is encouraged within and around parking areas; pedestrian access routes in or near parking lots shall be clearly defined, separated from roads and parking areas; -parking spaces for recreational vehicles and boats shall be provided away from the street; -bicycle parking shall be provided for larger developments.

j) Provision shall be made to manage all stormwater and rainwater safely, without environmental effects or impacts to other properties, e.g., infiltration on site with permeable materials, landscaping, and wet or dry detention ponds to the degree possible.

Residential Cluster

6.37 Residential cluster developments concentrate units close together to create a compact development surrounded by green space. Residential cluster developments may occur on land within any residential designation, however they are most effective in Rural Holding and Small Holding designations.

6.38 Encourage all residential developments in Rural Holding and Small Holding designations to use a cluster form of development, especially on properties that contain Agricultural Land Reserve, hazard, and/or riparian/environmentally sensitive areas.

6.39 The density in residential cluster developments may be increased from the permitted number of dwellings with density bonusing, if community green space, amenities, or affordable housing are provided.

6.40 Dwelling units may be detached, duplex, townhouse, or manufactured homes.

“All new residential housing should be cluster developments to minimize impact on lake shorelines.”
- Resident

6.41 All Cluster Developments must meet the following criteria for approval:

a) Development is clustered to minimize the impacts of buildings and associated roads and utilities.

b) Residential uses must comply with all other OCP policies, e.g., Riparian Areas Regulation, lake resources, emergency access.

c) Retain and protect a significant portion of the parcel as green space, with no buildings, roads, or servicing footprints.

d) Green space shall include protection of any environmentally sensitive and hazard areas, and a contiguous area with trails and recreation amenities where possible.

e) If the property contains land in the Agricultural Land Reserve, protection of this land as green space is encouraged, with community agriculture if possible.

f) New roads shall be designed efficiently, to fit into the terrain and to minimize impacts on green space.

g) Transportation planning for the development must be addressed, including provision for pedestrians and bicycles, either on the road shoulder or separated from and parallel to the road.

h) The siting of buildings and structures shall give consideration to the relationship between buildings and green space, access by alternative transportation modes (e.g., pedestrian, bicycle, transit), views, and the visual and noise privacy of neighbouring uses.

i) Lighting and illuminated signs shall be the minimum possible with shielding from above to prevent disturbance of neighbours and to respect dark sky principles.

j) Retain large trees and natural vegetation existing on site where possible;

k) Grading shall follow the slope of the land to the degree possible to avoid large retaining walls;

l) Provide landscape of portions of the site abutting roads, parking areas, buffers for adjacent properties, and public or semi-public green space; use native or native-like plants where possible;

m) Ensure that developments are visually and physically accessible from surrounding areas, i.e., no “gated” communities.

n) Large surface parking areas are discouraged.

o) Provision shall be made to manage all stormwater and rainwater safely, without environmental effects or impacts to other properties, e.g., infiltration on site with permeable materials, landscaping, and wet or dry detention ponds to the degree possible.

6.42 Residential Cluster developments must be serviced by appropriate water and wastewater treatment systems. Larger community water and wastewater systems operated by the regional district or strata developments are preferred, if financially feasible.

6.43 “Shared Interest” developments are not permitted.

Housing Affordability and Special Needs

6.44 Encourage innovative approaches to affordable or special needs housing, e.g., rent-to-own, mixed market and non-market projects, public-private partnerships, financial incentives such as parking relaxations or density bonusing.

6.45 Applicants for higher density projects over 20 units must provide a minimum of 5% of their housing as affordable and/or for special needs residents.

6.46 Work with organizations to support the development of affordable or special needs housing.

6.47 Encourage and support housing for seniors and for families.

6.48 Ensure that a minimum of 10% of the units in any development over 10 units are “visitable” by those with mobility challenges, i.e., access to front door with no steps or steep grades, wide front door, accessible washroom on main floor.

7.0 COMMERCIAL

Context

Most of the commercial uses in the plan area are concentrated in 70 Mile House. The businesses there include: a grocery store/gas station, pub, auto mechanic, motel, army surplus/tire store, craft store and restaurant. The shores of the larger lakes support various types of resorts; there are several resorts on the north shore of Green Lake and on Watch Lake. In the recent past, two other resorts on Green Lake were closed. Several other home-based businesses are scattered throughout the plan area, e.g., accounting and contracting services.

The relatively low population in the plan area makes it a challenging environment for commerce. Most of the existing businesses are long-time establishments, or enterprises run by people who wish to live in this area even if they are not employed full-time. The number of seasonal residents and minimal winter tourism make the non-summer months particularly difficult for businesses.

Objectives

1. Encourage a range of commercial activities that meet the needs of residents and tourists.

2. Encourage commercial development that is respectful of the environment and the community.

3. Minimize land use incompatibility between commercial activities and surrounding land uses.

Policies

7.1 Existing commercial land is identified on Schedule B. Figure 7 illustrates appropriate locations for additional commercial land if 70 Mile House were to densify.

7.2 Encourage and support the development of more year-round commercial uses.

7.3 Highway Commercial uses such as gas stations, restaurants, tourist attractions, and services for travellers are encouraged in the 70 Mile House settlement area, where visibility and easy access from the highway are important criteria for these uses.

"Build a settlement in 70 Mile that allows access (e.g. trails) for walking, riding horses, ATV's to outlying areas."

- Resident

7.4 Tourist Commercial uses such as gas stations, restaurants, tourist attractions, recreation facilities, campgrounds, and services for travellers are encouraged in the 70 Mile House settlement area and in the 83 Mile House commercial node.

7.5 Neighbourhood Commercial uses such as small retail and service businesses that focus on serving the surrounding population are encouraged in the 70 Mile House settlement area.

7.6 Support the continuation of Service Commercial uses throughout the plan area, particularly home-based businesses that don't require a significant amount of vehicular visitation.

7.7 Discourage the development of a stand-alone commercial marina on Green Lake.

7.8 New commercial development is to meet the following criteria:

a) Development must comply with all other applicable OCP policies, e.g., Riparian Areas Regulation, lake resources, emergency access.

b) New commercial development must be serviced by provincially approved water and wastewater treatment systems.

c) The development should support safe and attractive access for pedestrians and cyclists, as well as vehicles, where appropriate.

d) New roads should be designed efficiently, to fit into the terrain and to minimize impacts on green space.

e) Grading must follow the slope of the land to the degree possible to avoid large retaining walls.

f) Encourage a green, environmentally friendly approach to development where possible, e.g., siting and design for passive energy conservation, low water use fixtures, alternate energy systems, low-impact development standards.

g) Development should be clustered to minimize the impacts of buildings and associated roads and utilities spread over large areas.

h) Lighting and illuminated signs shall be the minimum possible with shielding from above to prevent disturbance of neighbours and to respect dark sky principles.

i) Retain large trees and natural vegetation existing on site and use native or native-like plants where possible.

j) Provide landscape of portions of the site abutting roads, parking areas, buffers for adjacent properties.

k) Avoid large surface parking areas.

l) Provision shall be made to manage all stormwater and rainwater safely, without environmental effects or impacts to other properties, e.g., infiltration on site with permeable materials, landscaping, and wet or dry detention ponds to the degree possible.

m) Provide communal docks and water access points.

7.9 Resort Commercial uses include lodges, campgrounds, RV parks, resorts, and hotels. They may be considered throughout the plan area, provided they meet the following criteria:

a) Accessible from adequate transportation routes or with an appropriate transportation plan,

b) Capable of being appropriately serviced with approved water, sewer, stormwater drainage and other utilities,

c) For resorts with a sewage disposal area, set aside a 100% reserve area for potential future replacement of the sewage disposal area, leaving this area unused and unaltered for other purposes,

d) Compatible with surrounding land uses,

e) Respect and protect environmental and cultural resources,

f) Required parking is provided on site,

g) Provide for or include a plan for temporary accommodation for construction workers,

h) Consistent with all other objectives and policies of this OCP, e.g., Riparian Areas Regulation, lake resources, emergency access,

i) Consistent with Best Practices Guide for Resort Developments in British Columbia, 2005, Province of B.C.,

j) Include an eco-tourism component (e.g., non-motorized recreation, environmental education),

k) Provide accommodation for the travelling public (minimum 5% if development is over 20 units),

l) New roads should be designed efficiently, to fit into the terrain and to minimize impacts on green space,

m) Encourage and support a green, environmentally friendly approach to development where possible, e.g., siting and design for passive energy conservation, low water use fixtures, alternate energy systems,

n) Development should be clustered to minimize the impacts of buildings and associated roads and utilities spread over large areas,

o) Lighting and illuminated signs shall be the minimum possible with shielding from above to prevent disturbance of neighbours and to respect dark sky principles.

p) Retain large trees and natural vegetation existing on site and use native or native-like plants where possible,

q) Provide landscape of portions of the site abutting roads, parking areas, buffers for adjacent properties,

r) Avoid large surface parking areas,

s) Provision shall be made to manage all stormwater and rainwater safely, without environmental effects or impacts to other properties, e.g., infiltration on site with permeable materials, landscaping, and wet or dry detention ponds to the degree possible,

t) Provide communal docks and water access points.

8.0 INSTITUTIONAL

Context

Institutional uses include civic facilities such as schools, fire halls, medical facilities, community care facilities, religious facilities, government offices, libraries and community halls. The institutional uses in the plan area are very limited because of the low population, and the fact that the key service centres are outside of the plan area.

There was previously one elementary school in 70 Mile House, however it was closed when enrolments declined. The building, which is owned by School District # 27, now serves as the Seventy Mile Access Centre (SMAC), a community facility that supports recreation, thrift store, recycling, library and various other community activities.

Other institutional uses in the area include three volunteer fire services (in 70 Mile House, South Green Lake, and North Green Lake - Watch Lake), and community halls in Watch Lake and 70 Mile House. The fire halls are particularly important social facilities for the communities; in addition to being emergency planning centres, they support social networking and gatherings.

Objectives

1. Encourage public and private institutional uses to meet the needs of the community.

Policies

8.1 Existing institutional land uses are shown on Schedule B.

8.2 Work with the Province and other organizations to acquire the SMAC property and redevelop it for community purposes, potentially in combination with other uses, e.g., seniors' housing, affordable housing.

"We need a school to bring families back to area, also for creation of jobs."

- Resident

9.0 INDUSTRIAL

Context

Industrial uses in the plan area are very limited. There is an industrial site on the east side of 70 Mile House. A manufactured home production operation located there has been closed and remains in receivership. Other industrial uses in the plan area include gravel/excavating and former forestry-related enterprises, e.g., lumber company, sawmill.

Objectives

1. Encourage industrial uses in existing industrial and other suitable locations.

2. Encourage industrial uses to be respectful of the environment.

3. Minimize conflicts between industrial land and other land uses.

4. Identify and protect land with recoverable deposits of aggregates from uses which would limit or prohibit extraction.

5. Encourage the clean-up and restoration of areas negatively affected by past and existing industrial uses.

Policies

9.1 Existing industrial land use areas are shown on Schedule B.

9.2 Encourage industries that require the raw materials from the region, e.g., value-added wood products, wind turbines.

9.3 Encourage redevelopment of existing industrial sites as a higher priority than expansion of industrial areas.

9.4 Work with other agencies to ensure that strict pollution controls are developed and enforced for existing and new industries, including emissions to land, water and air.

10.0 TEMPORARY PERMITS

Context

The *Local Government Act* makes provisions for Temporary Permits. The intent of these permits is to provide for the ability to locate uses on a temporary basis. Rationale for such a permit can be a short-term contract requiring an activity for a limited duration. Legislation can permit a conditional permit for up to three years, with the ability to apply for one extension for up to another three-year period. Further extensions are not permitted. Upon expiry of the permit, the use must be removed, unless a zoning and plan amendment have been adopted.

Vacation rentals also fall within this category. Rentals of vacation property have economic benefits for the community, provided that potential impacts are managed.

Objectives

1. Provide an opportunity for temporary use applications to be considered within the plan area, including vacation rentals.

2. Ensure that temporary uses are compatible with adjacent land uses.

Policies

10.1 Consider the issuance of temporary permits within properties designated as Resource, Agriculture, Rural Holding, Small Holding, Rural Residential, Highway Commercial, Tourism Commercial, Resort Commercial or Industrial on Schedule B.

10.2 Consider the issuance of temporary permits for temporary accommodation vacation rentals for properties designated as Rural Holding, Small Holding, or Rural Residential on Schedule B.

10.3 Include conditions on the permit to minimize the intrusion of the use on adjoining agricultural, residential and resource areas, as applicable, including the possible requirement of sound and visual mitigation measures.

10.4 The Regional Boards may require the proponent to invite the local community to a public meeting prior to consideration of a resolution to conditionally approve the temporary use.

10.5 Should the applicant wish the continuation of the use beyond the expiry of a permit, or expiry of a renewal, an application to amend the zoning bylaw and/or official community plan must be submitted well in advance of permit expiry in order to assure non-interruption of land use. It is recommended that applications be submitted six (6) months prior to permit expiry.

10.6 Should the property be affected by chemicals, litter, or other waste or damage, site rehabilitation is required upon cessation of the use.

10.7 When considering temporary permits for temporary accommodation vacation rentals, the Regional Board will consider the following:

a) the cumulative effects on the neighborhood of all the temporary use permits issued for commercial vacation rentals;

b) the potential alteration of the residential appearance of the neighbourhood;

c) the requirement for mitigating measures to address neighbourhood concerns, such as screening or fencing where needed and practical;

d) the ability of the property to accommodate a minimum of two on-site parking spaces, excluding on-street parking;

e) required documentation from a Registered Onsite Wastewater Practitioner or Professional Engineer, with appropriate background, confirming that the septic disposal system has been inspected to show it is working properly and capable of supporting the proposed additional occupancy load;

f) required proof of an occupancy permit and written proof that the dwelling meets the building code;

g) proof that the owner or a local contact/manager resides within the plan area and that the owner or a local contact/manager will be available by telephone 24 hours/day, seven days per week to respond to concerns;

h) proof that the owner or local contact/manager has provided neighbours within a 100 metre radius of the vacation rental with the phone number of the owner or local contact/manager, and a copy of the temporary use permit;

i) proof that the owner or local contact/manager posts for guests information on noise bylaws, water conservation, fire safety, transfer station location, and septic system care;

j) a stated restriction on the maximum number of occupants that can stay to a maximum of two guests per bedroom with limits of 3 bedrooms or 6 occupants on lots less than 2.0 hectares and limits the number of 4 bedrooms or 8 occupants for lots greater than 2.0 hectares;

k) a stated restriction on the maximum number of signs advertising the commercial vacation rental to one sign, with a maximum area of 0.2 square metres (2.15 square feet) be made of wood and not illuminated;

l) a stated restriction that prohibits recreational vehicles or camping; and

m) such other considerations as the Regional Board deems applicable with respect to a specific commercial vacation rental application.

11.0 PARKS, RECREATION AND TRAILS

Context

The Green Lake area attracts people interested in summer and winter outdoor recreation with its stunning lakes and beautiful scenery, supported by facilities including trails, lodges and parks. The primary warm season activities include: camping, boating / water sports, fishing, hiking/walking, horseback riding, ATV riding, and hunting. The main winter activities are snowmobiling, cross-country skiing, and other snow sports.

Parks and Protected Areas

Green Lake Provincial Park, the primary park in the plan area, covers 347 hectares and provides a total of 121 campsites at three locations: Emerald Bay, Sunset View and Little Arrowhead. There is a BC Parks information shelter, which provides information on campground and picnic area locations and a sani-station, located at the south end of the park. The park is open from May to September. Two boat launches are provided at Green Lake Provincial Park, one at the south side of Sunset View campground and at the other at the north side of Little Arrowhead picnic site.

In addition to the park sites, there are 14 UREP (Use and Recreation for the Enjoyment of the Public) parcels. These are managed for multiple resource uses, however the recreation notation means that the Province usually consults with local government regarding potential recreation values prior to designating these sites for other uses. There are no regional district parks in the Plan Area. The TNRD has a parks function, however, which would enable it to manage community and regional parks. The CRD has no parks function.

The Ministry of Transportation and Infrastructure is responsible for managing many lake accesses which were established at the time of subdivision of lakeshore lots. These are intended for the enjoyment of the public. Some lake accesses are well marked and have roads, parking, and beaches, some of which are used for boat launching. Others have no infrastructure, and these are referred to as “unconstructed” lake accesses. There are a number of issues with respect to managing these sites including:

- Inappropriate uses, e.g., loud noise at night, litter, vandalism, dog shampooing, human bathing, changing boat oil, parking on accesses that are intended for pedestrian access only,

“Identify areas that are naturally beautiful and special and protect beauty with various tools available - protect water quality above all else”.
-Resident

- Use of lake accesses for private purposes, e.g., extending private fences into the accesses, storage of items such as docks, boats, picnic tables, canopies etc.
- Alteration of unconstructed lake accesses, where the management intent is to keep these as natural as possible with healthy vegetation and natural drainage, etc.

The protection of additional lands as open space was one of the primary objectives expressed by the community during the preparation of this OCP (see Schedule E). The following sites were noted as being of particular interest for recreation and environmental purposes:

- Expansion of Green Lake Park – a petition was received supporting this,
- Crater Lake Goal 2 Candidate area,
- Olsen's Butte UREP on Watch Lake and other UREPs,
- Area on north-east shore of 83 Mile Lake.

Outdoor Recreation

In addition to the provincial park facilities, there is a sports field and ball diamond at SMAC in 70 Mile House. There are also some private recreation facilities such as a snowmobile club, a Scouts Canada camp and a gymkhana site at Watch Lake.

There are four commercial recreation tenures over Crown land for trail riding and multiple recreation uses covering approximately 16% of the plan area.

Trails

There is an extensive network of trails throughout the plan area as illustrated on Schedule F. Some of these trails are based on information from GPS; others are from government mapping systems. The local snowmobile club received funding from the Union of B.C. Municipalities to develop a trail route, which is also used in the summer. The condition and use of the specific trails is variable. Some of these trails have not been formalized and primarily exist on Crown lands. The Regional Districts do not condone trespass on public or private lands and encourage users to get permission from the custodian of the land.

There are several important historic trails that ran through the plan area:

- The Gold Rush Trail from Lillooet (Mile 0) to Barkerville. This is now the Old Cariboo Road which runs parallel to Highway 97, west of the highway.
- The Hudson Bay Company Fur Brigade Trail – Tobacco Creek / Fort Alexandria Trail from Kamloops Lake to 100 Mile House. Parts of the trail follow Hutchison Lake Road, the route passes the southwest corner of Green Lake, it follows part of Green Lake North Road, then turns north towards Horse Lake and 100 Mile House. Over time, since the trail was not used since 1862, sections have been turned into roads, railway beds, or have become part of private lands. There are traces of the trail here and there, but it is rare today for someone to travel over this entire route by foot or on horseback.
- An old wagon road that paralleled North Bonaparte Road between 70 Mile House and the North Green Lake Road turn-off. Portions of that trail still exist, following a chain of potholes. These sections would be ideal as pedestrian/bicycle trails.
- There were likely First Nations travel routes that preceded the Gold Rush trails.

Trail development and use was one of the primary topics of interest to the community during the preparation of this OCP. Some of the opinions and concerns related to trails are as follows:

- Concern that ranching activities can limit access to trails,
- Concern about ATV use of trails and back roads; issues include environmental impacts, noise, safety with respect to non-motorized trail uses,
- Concern that trails can have adverse impacts on private and resource lands,
- Concern that trail segments are not linked with each other,
- Concern by ATV users that their interests are not respected or understood,
- Concern about standards of development, maintenance and signage of trails, and
- Concern about codes of conduct related to trail use.

Objectives

1. Provide ample opportunities for local residents and visitors of all ages and abilities to benefit from the recreational site and trail opportunities within the plan area.

2. Protect as parks regionally unique and significant natural features and features that have value for recreation.

3. Encourage and support acquisition of environmentally sensitive areas as parks in order to protect natural values and to provide opportunities for low-impact recreation activities.

4. Protect and enhance parks and facilities that support recreation activities within 70 Mile House.

5. Encourage the provision of adequate access to the lakeshore, for non-lakeshore landowners, as well as to interior Crown land where recreation is appropriate.

6. Acquire and protect corridors suitable for trails, and support the development, maintenance and linking of existing trails that will accommodate a range of uses.

7. Provide information to residents and visitors on the respectful use of trails.

8. Ensure that new trails don't disrupt ranching operations or commercial recreation tenures.

9. Work with the Province, heritage societies, community stakeholders, residents, and local businesses to further develop and enhance information and marketing about the historic significance of trails such as the Fur Brigade and the Gold Rush / Old Cariboo Trails.

10. Encourage the provision of appropriate economic development opportunities associated with historic and other trails.

Policies

11.1 Existing parks are shown on Schedule B. These are to continue to be protected and managed per existing regulations and practices.

11.2 Locations noted as having identified potential to be parkland or other protected areas are identified with symbols on Schedule B, and as Proposed Open Space on Schedule E. The locations identified as having such potential do not include all areas of public and private land with high potential as parkland or other protected areas.

11.3 Encourage senior levels of government to maintain and expand Provincial Parks and Recreation Sites and Trails within the plan area, in accordance with the potential open space identified on Schedule E, mapped trails, and other locations that may be identified by the public or others in the future. Future park boundaries and recreation sites should take into account the external influences and potential wildfire management impacts on adjacent private lands.

11.4 Work with the Province, and support private landowners and/or local organizations in identifying potential recreation and conservation parks and trails.

11.5 Encourage and support volunteer assistance in the development and management of community parks, stewardship projects, and trails.

11.6 Retain and continue to manage outdoor recreation facilities for community recreation in 70 Mile House, and acquire additional parkland and trail corridors within the settlement area when development occurs.

11.7 New developments may be required to provide up to 5% dedication of parkland or cash in lieu, in accordance with the *Local Government Act*.

11.8 Encourage the Province, forest companies and ranches to protect the natural vegetation and landscape features of the area and to provide opportunities for controlled use of trails and resource roads for outdoor recreation.

11.9 Work with senior agencies to provide for continuation, linking, and expansion of the existing trail network by mechanisms such as registering easements or rights-of-way.

11.10 Encourage and support an effort to field check the location and condition of existing trails, and compile this information in GIS.

11.11 Encourage and support the provision of information regarding historic and other trails, e.g., trail maps, signs, brochures, Web sites.

11.12 Encourage and support the provision of corridors and existing linked trails suitable for non-motorized and motorized trail uses including hiking, cycling, horseback riding, mountain biking, cross-country skiing, snowmobiling and ATV use, with management guidelines to protect resources and minimize conflicts (see Trail Guidelines below).

11.13 Support promotion of winter tourism opportunities to help balance the tourism industry, provided that the use is respectful of the landscape and addresses the safety of visitors.

11.14 Support the Ministry of Transportation and Infrastructure in protecting and enhancing lake access sites, determining the appropriate uses and infrastructure for each access in collaboration with the regional districts, area residents and stakeholders; and ensuring that these are well marked, respect environmental and riparian values, and inform the public about the purpose of and appropriate uses of lake accesses.

11.15 Encourage the provision of new lake access points in association with any new lakeshore development. These access points should be located at desirable points for public access, e.g., low slopes, usable beach or shoreline. Where feasible, provide limited parking either on the lake access site or on the upland side of the road, and encourage local residents to walk or bicycle to the sites.

11.16 Encourage the Province to license and regulate ATV use.

11.17 Encourage the identification of and respect for ranging livestock patterns of use, wildlife habitat, and commercial recreation tenures prior to new trail development.

Trail Development Standards and Guidelines

Recreation participants have rights to respectfully use some Crown land and may be permitted to use selected private lands. However, their activities must be properly managed so that:

- healthy grasslands and sensitive areas are maintained,
- disturbances from vehicles and dogs to free ranging livestock and wildlife are minimized, and
- no new trails through grasslands are created leading to changes in grazing patterns and damage to sensitive ecosystems.

There is an identified need for trail management and guidelines for recreational trail activities in order to prevent damage and disturbance. The Grasslands Conservation Council (GCC) of BC, in partnership with several

organizations and government, prepared two documents outlining guidelines that form an effective basis for trail management.

The *Best Management Practices* (BMPs) *for Recreational Activities* document was developed with input and review by over 40 organizations, resulting in a comprehensive code of practice for both motorized and non-motorized forms of recreation. The fundamental strategy is to encourage users to stay on managed trails, roads and routes and to be respectful trail users. The document's objectives are to:

- Minimize soil disturbance by ensuring that trail users stay on managed trails, roads and routes,
- Avoid introducing or spreading invasive plants,
- Respect native plants and wildlife,
- Respect sensitive environments and landscape features such as wetlands, riparian areas, rock faces and slopes,
- Avoid disturbing livestock and damaging forage,
- Respect property (buildings, fences/ gates) and livelihoods,
- Respect First Nations cultural heritage and traditional land use, and
- Respect historic features.

These objectives are supported with numerous recommendations for motorized and non-motorized forms of recreation.

The GCC has also prepared an educational 'pocketbook' specifically for motorized recreation groups, commercial operators and individuals. The *Best Management Practices for Motorized Recreation on BC's Grasslands* identifies the impacts of motorized recreation on grasslands and provides strategies to limit those impacts. This document should be used for community and visitor awareness. It is available for download at www.bcgrasslands.org/conservationcampaigns/bmp.htm. The pocketbook encourages the following educational program:

- Inform youth about why these trail BMPs are important, through the schools in the region,
- Spread the word through the park information office, resident associations, local tourist businesses / resorts, ATV and snowmobile dealers, clubs, local newspapers and websites,
- Develop a sign strategy that marks the locations of trails and sensitive ecosystems,
- Place signs at trail heads outlining the trail code of ethics,
- Distribute the BMP document by providing email links and through hard copies.

12.0 Culture and Heritage

First Nations

The Secwepemc[1] are the indigenous peoples of the south central interior of British Columbia. The territory of the Secwepemc extends from the Columbia River Valley on the east slope of the Rocky Mountains to the Fraser River on the west and from the upper Fraser River in the north to the Arrow Lakes in the south. Secwepemc territory covers a vast area; approximately 180,000 square km. The territory traditionally was an extensive and varied environment, although much of the territory today has been affected by forestry, mining, tourism, and other commercial developments. The landscapes traditionally used by the Secwepemc include: alpine, parkland, montane forest, grasslands, lakes, river terraces, and river valleys.

The Secwepemc have lived on these lands for thousands of years. Archaeologists date evidence of their existence over 10,000 years, however Secwepemc elders say their people have lived on their lands since the time of creation.

The Secwepemc were traditionally semi-nomadic; their life was based on fishing, hunting, and plant gathering. They traveled great distances to procure food and other needs. The various landscapes they used provided everything the Secwepemc needed to survive and flourish, including a wide diversity of animal and plant food, medicines, and technological resources. The Secwepemc harvested deer, moose, elk, caribou, many smaller mammals, and many species of salmon and fish. They gathered over 135 species of plants for food, medicine, ceremonial uses, habitation, and technology. The Secwepemc, with their intimate knowledge of their environments, based their subsistence economy on balancing the use of resources with careful management regimes. They made use of food and materials which were in abundance, but also relied on other sources when their primary sources failed.

The Secwepemc maintained a vast storehouse of ecological and cultural knowledge gathered from years of experience and observations on the land. By knowing and keenly observing the natural environment, the Secwepemc were able to obtain knowledge. For example, they knew that to find the best pitch medicine, they had to find a tree which was wind shook. The tree released the pitch to heal itself and to provide medicine for the people.

The Secwepemc maintained a spiritual and practical respect for the land, water, air, animals, plants, and all things needed for their survival. This respect, as well as responsible stewardship, was essential for their survival and livelihood. Through stewardship, they upheld their responsibilities to maintain a balanced and harmonious relationship with other people and the land.

The traditional Secwepemc way of life was based on a complex and interdependent system. Practical needs, spirituality, social and political organization, kinship, and nature were all interrelated and interconnected. The Secwepemc knowledge system provided them with a clear understanding of the social and ecological implications of their actions.

The Secwepemc practiced intensive land management regimes which ensured a sufficient supply of needed items, not only for present needs but to ensure the resources would be available for future generations. One example is landscape burning to ensure better and more plentiful root crops. Survival was dependent on ecological knowledge and cultural skills being passed down by oral tradition to the following generations.

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[1] Source for this section: www.landoftheshuswap.com

Songs, dances, and ceremonies played an important role in taking care of the land and everything the Secwepemc harvested from it. Prayers and offerings were made before anything was collected from the land. Thankfulness and respect for the harvest were shown at all times.

Traditionally, the Secwepemc lived in informal groupings composed of extended family members, the composition of each group varying from season to season. Each band was composed of closely related families that generally wintered within a definite locality. These bands were primarily nomadic and would migrate to spring, summer and fall food-gathering areas, only coming together in the late fall and winter to settle in pit house villages.

Although boundaries were not marked before the arrival of the Europeans, the Secwepemc people had formed bands and established territories based on their food-gathering patterns. Research suggests that the Secwepemc population before contact with Europeans would have been over 21,000. Contact brought new diseases, and by 1850 there were probably 30 Shuswap bands with an estimated population of only 7,200. In the last half of the nineteenth century there was a further decrease, primarily due to the smallpox epidemic in 1862. Some bands were so reduced in size that the remaining members settled with other nearby bands, leaving only 17 Secwepemc bands by 1903.

Today there are presently over 7000 Secwepemc. There is regular movement away from the reserves and into more populated areas where education and employment opportunities are available. Many off-reserve Secwepemc live within the territory in the larger communities. Others have moved further abroad to obtain jobs, for education, or to be near relatives. Many Secwepemc still live in one of their seventeen communities located within their traditional area.

In 1982, all 17 Secwepemc bands signed the Shuswap Declaration, dedicated to the preservation and perpetuation of the Secwepemc language, culture, and history; it led to the formation of the Secwepemc Cultural Education Society in 1983. This movement led to efforts to provide public education and curriculum materials about the Secwepemc, including the Secwepemc Museum and a native post-secondary education institute in Kamloops. It also re-established the annual Shuswap Gathering.

Green Lake was an extremely important gathering place for the Secwepemc; the Secwepemc name for the lake, Cqelqletkwe translates as “jumping off the ledge”. Every summer, many Secwepemc would gather there to trade and to join together in cultural practices. It was said that Green Lake was considered neutral territory, and even people in conflict with each other let go of their animosities at the gathering place. From a First Nations’ perspective, the essence of Green Lake is the water. The quality and quantity of the water and the ecosystems supported by the water are intrinsically important.

Green Lake has about 18 recorded archaeological sites around its shoreline; it and the plan area have the potential to contain more since archaeological studies have been limited. The Archaeology Branch of the Ministry of Tourism, Culture and the Arts has information on these sites. The data is not distributed to the public for the protection of the heritage and cultural resources.

The Province protects these sites, whether known or unrecorded, through the *Heritage Conservation Act*. This protection applies to both private and Crown land and means that one must have a heritage permit to alter or develop within an archaeological site.

Some recent occurrences have been of grave concern to First Nations. There are numerous ancient burial sites around Green Lake, and these have been disturbed by various recreation activities. Some reburials were conducted to allow for development.

Early Settlers

Fur traders for the Hudson's Bay Company used the Fur Brigade Trail to pass through 100 Mile House from 1820 into the 1850's. They would move trade goods up the trail to supply inland forts with goods to exchange with First Nations for the furs they would move down the trail for eventual shipping to Europe and Asia. Fur traders gave many place names to the South Cariboo, and Green Lake was commonly referred to as Lac Du Vert by the French traders. The road along the north shore of Green Lake was part of the original Fur Brigade Trail.

The discovery of gold in the Cariboo in the late 1850's brought many adventurers from around the world. They travelled the Cariboo Wagon Road between Lillooet (Mile 0) and Barkerville, and along the way roadhouses and towns emerged. As the fur trade declined in importance, the forts were used to supply miners and settlers who flooded up the trail. While most remaining examples of the original Gold Rush Trail are on private land, they can still be viewed from Highway 97 at a number of locations.

Scattered along the Cariboo Gold Rush Trail are a series of roadhouses. Usually within a day's ride of each other, the roadhouses were most often built where water and grasslands were plentiful. Those on the way to the gold fields to the north stopped overnight for a meal, a bed and a place to water and feed their horses. Road contractors or those who didn't fare so well in the gold fields were often responsible for building the stopping houses. They in turn became the pioneers of the area and developed communities and local businesses.

The primary heritage facility in the plan area is the 83 Mile Antique Equipment Museum. There are numerous other heritage structures. Heritage trails are described in section 11.0.

Objectives

1. Recognize that local government and First Nations have a common interest in a sustainable future.

2. Continue to build and enhance working relationships with First Nations in the plan area, recognizing that constructive and enduring relationships with aboriginal communities provide a foundation for continued constructive dialogue on future regional land use issues.

3. Acknowledge that any statements, objectives and policies regarding First Nations in this OCP are without prejudice to and have no influence on treaty negotiations, Aboriginal title and rights, or other negotiations with senior governments.

4. Support the establishment of MOU's between aboriginal communities and local governments that address issues of mutual concern.

5. Support and recognize heritage conservation groups.

6. Encourage and support the identification and protection of cultural and heritage features, and the provision of information on these features to the public where appropriate.

7. Encourage continued identification of and assist in the protection of archaeological sites in accordance with the *Heritage Conservation Act*.

8. Encourage identification, protection and restoration of heritage buildings, artifacts and sites in accordance with the *Heritage Conservation Act*.

Policies

12.1 Continue information sharing with aboriginal communities on local government plans, and encourage First Nations to share information with local governments on the development of their land use plans.

12.2 Engagement with First Nations will take into consideration First Nations guidelines and the Province's: First Nations Engagement on Local Government Statutory Approvals Guide (INTERIM).

"The Cariboo was the centre of the Gold Rush. Ironically, unsuspecting Secwepemc and Carrier guides led a party of five Europeans to the gold."

- First Nations historical account

12.3 Explore opportunities to work towards a formal protocol agreement with First Nations with respect to Green Lake and Area.

12.4 Support the recognition of a First Nations traditional gathering area at Green Lake through land use policy. This would not be a settlement of First Nations' interests, but an interim measure for the benefit of all 17 bands.

12.5 Acknowledge First Nations' rights to hunt, trap, fish and to gather food within the plan area.

12.6 Encourage the identification and protection of First Nations' sacred places along Green Lake.

12.7 Include acknowledgement of and respect for First Nations traditional territory and traditional uses at provincial parks and other appropriate locations.

12.8 As part of the development process, the appropriate Regional District may direct the applicant to engage a professional consulting archaeologist to determine whether an archaeological overview assessment is required. If the overview assessment discovers significant values, or if requested by a First Nation, a Historical Society, the Ministry of Tourism Culture and the Arts, or if a property overlaps with a recorded protected archaeological site, or archaeological artifacts are encountered or suspected, an archaeological impact assessment will be required. Altering a protected archaeological site will require a Provincial Heritage Alteration Permit before any land altering activities.

12.9 Support enforcement of the Heritage Conservation Act.

12.10 Encourage and support the protection, enhancement and interpretation of early settler sites and trails.

SECTION C: THE NATURAL ENVIRONMENT

13.0 POTENTIAL HAZARD AREAS

Context

The major hazard of concern in the plan area is wildfire. Two factors have increased the wildfire hazard within the OCP area. The first is the forest health epidemic, which is causing widespread mortality of trees, thereby adding fuel loads to forests and grasslands. Secondly, it is anticipated that one of the impacts of climate change will be increased drought during the warmer months; this can increase the duration of the wildfire season and affect the availability of water to combat wildfires. Under the provincial *Climate Action Charter*, communities need to plan for local effects of climate change such as increased fires.

The probability of wildfire has been mapped in the plan area. Almost the entire area is rated high or moderate probability (see Schedule G). The purpose of policies related to wildfire is to educate property owners and to regulate development activities to reduce the risk to citizens and property where there is a wildfire hazard. Management measures can help to reduce the risk of wildfire, e.g., Fire Smart measures, removal of deadfall in parks, controls over campfires, safe use of off-road vehicles, education on smoking and cigarette disposal in rural areas. Emergency response is addressed in section 18.0

Another localized hazard is potential instability associated with steep slopes, which are very limited in the plan area. The CRD and TNRD define steep slopes as over 30%.

Objectives

1. Strive to protect human life and property from natural and human-made hazards.

2. Ensure that human activities do not contribute to wildfire.

3. Encourage the Province to manage forests to limit fire risks.

4. Plan for the impacts of climate change.

Policies

13.1 Hazardous areas are indicated on Schedule H. They include slopes over 30%. The map may not include all steep slopes.

13.2 Development in hazardous areas requires a Development Permit (section 20.3).

13.3 Prior to undertaking any subdivision or land use development that will create four or more parcels or dwelling units within a high wildfire hazard area, the landowner shall provide the regional district with a Wildfire Hazard Assessment Report for the proposed development, prepared by a Registered Professional Forester licensed in BC or an equivalent qualified professional. The Wildfire Hazard Assessment Report shall: assess the current wildfire hazard, assess conditions on the site and neighbouring lands, evaluate the proposed development for wildfire susceptibility, and provide Fire Smart wildfire hazard mitigation recommendations to reduce the hazard of wildfire for the land and buildings to moderate or lower. The recommendations of the Wildfire Hazard Assessment Report shall be implemented during development and written into a restrictive covenant to be registered on property title advising the property owner of the ongoing responsibility to manage their land and buildings in accordance with the recommendations of the Wildfire Hazard Assessment Report.

13.4 For any subdivision or land use development that will create fewer than four parcels or dwelling units in a high wildfire hazard area, and for any subdivision or land use development in a moderate wildfire hazard area, the property owner shall register a standard restrictive covenant on the property title encouraging land owners to use Fire Smart wildfire mitigation practices for building construction and land management to reduce the wildfire hazard in their development.

13.5 Where wildfire hazard management requirements and riparian area or environmentally sensitive area requirements overlap, the riparian area or environmentally sensitive area requirements shall prevail.

13.6 Continue to work on education related to Fire Smart and appropriate codes of conduct related to wildfire in rural areas.

13.7 Work with the Ministry of Forests on evaluating and approving new developments in areas where fire hazard is high.

13.8 Encourage new construction using “fire smart” principles, balanced with interests in maintaining rural character.

13.9 Encourage harvesting of health-damaged trees and replanting of infected or damaged forest areas.

13.10 Work with community and other government groups to ensure evacuation plans are prepared and implemented.

14.0 Environmental and Riparian Resources

Context

The plan area has diverse, rich and beautiful natural resources. Early settlers were attracted to these resources, and to the economic and recreational activities the resources could support. Today, the economic activities that use natural resources include forestry, agriculture and ranching. Tourism and recreation are also important to the economy, and visitors are drawn to the area for the wide range of outdoor recreational activities.

Residents, industry and tourists benefit from the natural resources. The use of the resources and development can also have negative impacts such as water contamination, deforestation, air pollution and habitat destruction. To ensure the long-term sustainability of the communities and resource-dependent industries, it is important to increase environmental awareness, to minimize the impacts of development on the environment, and to work with senior agencies to identify and protect environmentally sensitive areas.

This section describes environmental resources related to riparian areas on land and other habitats; refer to section 15.0 for lake resources, i.e., lakes below the natural boundary.

The Ministry of Environment and Conservation Data Centre maintain records of habitats of rare and endangered species. The following are some of the features mapped as environmentally sensitive areas (ESAs) (see Schedule I):

- Riparian Areas include the shorelines of creeks and lakes on the base maps used for the OCP,
- Fish Critical Habitat illustrates field mapping of waterbodies with salmon, trout, or char, with their riparian areas,
- Existing and proposed Wildlife Habitat Areas (WHA) include the Hutchison Lake Habitat Conservation Project, which was a partnership of MOE, Ministry of Forests and Range, the Habitat Stewardship Program, Ducks Unlimited, and a rancher. Fences were built to conserve and enhance habitat for Conservation Framework priority 1 species including: badger, Columbia spotted frogs, yellow rail, brown creeper, and Barrow's goldeneye. Additional WHAs are proposed at the west end of Green Lake for protection of the Great Basin Spadefoot Toad.

- Old Growth Management Areas (OGMAs) are spatially defined areas of old growth forest that are identified during landscape unit planning or an operational planning process. OGMAs, in combination with other areas where forestry development is prevented or constrained, are used to achieve biodiversity targets.
- High Value Wetlands for Moose are based on the biodiversity guidebook definition for wetlands and additions from TRIM mapping.
- The rare and endangered (red, blue and yellow listed) species identified and mapped within the plan area include three bird species: the American Avocet nesting at Lesser Green Lake, Sandhill Crane, and Great Blue heron (colony on Little Horse Lake); the Great Basin Spadefoot Toad, Badger, and the Western Painted Turtle - Intermountain - Rocky Mountain Population. Species at Risk were also considered in the classifications of lakes, as described in the next section.

The mapping should not be considered inclusive of all riparian and environmentally sensitive areas. Site investigations are required. Some of the specific exclusions include:

- Bald eagle nests, and
- Mule Deer winter range, which is not mapped due to its large size, however it should be considered in planning and development (see section 2.1).

Areas of exceptional natural beauty are sometimes considered environmentally sensitive areas. In the Green Lake OCP area, these are focused around the lakes and other water features, as well as parks and protected areas so they are already identified as ESAs or existing and proposed protected areas. The Riparian Areas Regulation (RAR) helps to manage the ESAs alongside all types of watercourses, however the RAR applies in the TNRD but not the CRD. Other ESAs also require management and protection.

Specific environmental concerns raised by the public include declining water levels in 83 Mile Creek. This is considered to result as least partly from beaver dams in the upper reaches of 83 Mile Creek.

Lakeshore Development Guidelines

Both regional districts have guidelines related to development of lakeshores. The TNRD has its *Lakeshore Development Guidelines*, 2004, and the CRD has its *Shoreland Management Policy*, 2004. One of the issues raised by the public was the fact that two different guideline documents for Green Lake can be confusing for landowners.

The two guideline documents have similarities and differences. The following is a comparison of some of the key provisions of the guidelines:

Topic	Similarity / Difference	TNRD	CRD
Classification System	Both documents classify lakes, but with different classification systems. Green Lake is considered critical by TNRD and moderate sensitivity by CRD.	Critical Lakes: Green (south shore) – water quality; Pressy – small size. There are 5 other classification types, reflecting the role of the lake, e.g., natural, wilderness, general use, development (see below for other classified lakes).	High Sensitivity Lakes: Watch –shallow, small watershed with activity, slightly eutrophic Moderate Sensitivity Lakes: Green (north shore-due to being a 'marl' lake) Low Sensitivity Lakes Default to high sensitivity if

			lake is not classified
Guiding Principles / Objectives	Similar intent, TNRD principles are broader in scope, CRD objectives are more focused on environmental resources	Environmental quality of lakes, access to resources, collaborative approach, appropriate regulations, protect lake users from hazards, cultural and heritage values, public access, stewardship and awareness, planning document consistency, economic development	Preserve water quality of lakes and watercourses, manage shoreline development to retain integrity of environmental resources, integrate development with surroundings, protect shoreline from erosion / degradation, shoreland access, suitable areas for development
Area of Influence of Guidelines	Different	1 kilometre	High sensitivity – 250m; moderate sensitivity – 200m; low sensitivity – 150 m
Site Development Guidelines	Similar intent, TNRD principles are broader in scope, CRD objectives are more focused on riparian areas	Sitework, vegetation, buildings, public access, hazard protection	Riparian buffer, riparian vegetation, riparian leave strips
Riparian Buffers	Same for streams, different for lakes	Minimum 15 m from streams; minimum 30 m setback for natural boundary of lakes	Minimum 15 m; greater if habitat is sensitive; absolute minimum 5 m
Building Setbacks	Different	Minimum 30 m from high water mark	Minimum 7.5 m
Sewage Systems	Different	Minimum setback of septic field from a waterbody – 100m; Minimum lot size adjacent to lakeshore – 1 ha; absolute minimum 0.4 ha; lots under 1 ha – community sewer encouraged Community water and sewer – lot size under 0.4 ha may be okay	Minimum setback from the natural boundary or high water – 35m
Water Systems		Developments of 2 or more parcels should have community water system	
Education		Policies in guidelines and brochure – Lake Stewardship Principles	Brochure, and policy document

Development Approval Process	Different	Based on consultation with regional district	Development Permit may be required

One of the biggest differences between the TNRD and CRD guidelines is the difference in the classification of Green Lake. The TNRD's "critical lake" classification of Green Lake, and Pressy Lake, describes management guidelines that include no further residential subdivision or development of shoreland to prevent the acceleration of deteriorating water quality and to avoid further development or overcrowding of surface water. Further development of existing residential subdivision which is in conformity with existing land use regulations may be considered provided that no additional nutrient input is allowed into the lake. The CRD rating of "moderate" for Green Lake does allow for future development, provided the guidelines are followed.

Little Green Lake also spans both regional districts. It is not classified in the CRD, making it high sensitivity, nor is it classified in the TNRD.

The other named lakes in the CRD have not been classified, therefore they are considered high sensitivity. These lakes include: Bishop Lake, Bullock Lake, Dundon Lakes, Eightythree Lake, Gracy Lake, Gwenie Lake, Little Horse Lake, No. 2 Lake, Porter Lake, Round Lake, Si Lake, Taylor Lake, Trapping Lake, Wildhorse Lake, and Wilkinson Lake.

Five other named lakes are classified in the TNRD. Flat Lake is classified as a wilderness lake, not considered appropriate for development. Cunningham (waterfowl and ungulate capability), Jim (high fisheries values) and Loch Lomond (good waterfowl capability) Lakes are classified as natural environment lakes. The management guidelines for these lakes allow no new subdivisions, and in some cases minimal redevelopment except where permitted by existing zoning. Tin Cup is classified as a general use lake, allowing subdivision or development up to 20% of the perimeter or 0.5 units per hectare of surface water. Hutchison is a special case lake due to a Ducks Unlimited site. Proposed uses require special planning, preferably a lake management plan, before further development is considered. Other named lakes in the TNRD which are unclassified are likely under 16 ha. They include: Bandello, Boyd, Home, Komori, Lake of the Woods, Lesser Green, Marsden, Mcmahon, and Sodium Lakes.

"Protect our undeveloped shorelines for the future."

-Resident

Objectives

1. Strive to protect the environment and human health and safety by managing for clean water, land and air.

2. Increase environmental awareness and promote activities that protect and enhance ecological systems and biodiversity.

3. Identify and strive to protect environmentally sensitive areas such as watercourses, riparian areas, essential habitats for significant species, and connectivity of ecosystems.

4. Direct all types of development to areas of least environmental sensitivity.

5. Ensure that new development protects and respects environmentally sensitive areas.

6. Encourage conformity in the classification of Green Lake between the TNRD and CRD.

Policies

General

14.1 Development in Riparian Areas and Environmentally Sensitive Areas requires a Development Permit (see Section 19.1).

14.2 Encourage and support the protection of the east and west ends of Green Lake and other identified environmentally sensitive areas (see Schedule I).

14.3 Provide public information and education on appropriate land and water management in and near riparian and environmentally sensitive areas.

14.4 Encourage the review of classifications of lakes that span the CRD and TNRD, particularly Green Lake, to achieve more consistency.

14.5 Shoreline stabilization works and measures are subject to the following guidelines:

- All shoreline stabilization works must adhere to the Ministry of Environment's *Best Management Practices for Lakeshore Stabilization*.
- Recognizing that a natural shoreline is often the best and least expensive protection against erosion, shoreline stabilization activities shall be limited to those necessary to prevent damage to existing structures or established uses on waterfront property. New development should be located and designed to avoid the need for shoreline stabilization.
- Shoreline stabilization structures for extending lawn or gardens or providing space for additions to existing structures or new outbuildings are prohibited.
- Stabilization works should be undertaken only when there is a justifiable level of risk to existing buildings, roads, services, or property, as deemed necessary by a qualified environmental professional (QEP). In such cases, the 'softest ' stabilization measures should be applied.
- Stabilization works and measures must be located within the property line of the waterfront parcel, above the natural boundary of the water. Soft shoreline measures that provide restoration of previously damaged ecological functions may be permitted waterward of the natural boundary.

- Additional guidelines can be found in the Green Shores Program, www.greenshores.ca; these are not a requirement.

14.6 Discourage the removal of vegetation along the shoreline that could result in erosion, loss of food and nutrients for fish, and loss of shade for young fish. Landowners must refer to the Ministry of Environment's Best Management Practices for Hazard Tree and Non Hazard Tree Limbing, Topping or Removal, and to the Riparian Areas Regulation (in the TNRD).

14.7 Encourage the Ministry of Environment to review the causes of decreased water levels in 83 Mile Creek, and to take appropriate management actions to address this.

14.8 Work with other agencies and organizations to promote surface and groundwater protection, e.g., circulate Best Management Practices for all land uses.

14.9 Discourage burning of brush and encourage composting and chipping, with reuse, as a priority.

14.10 Incorporate environmental considerations as an integral part of assessing land use plans, transportation plans, and development proposals.

14.11 Encourage and support the preparation of an inventory of environmentally sensitive areas, or sensitive ecosystem inventory.

14.12 Work with ATV users and the Province to develop a protocol for protecting particular sensitive areas within the plan area, and other areas suitable for ATV use, in order to reduce damage being caused to small water bodies.

15.0 THE LAKES

Context: The Lake Environment

The plan area has numerous lakes with important environmental values. Green, Watch and Pressy Lakes are among the key natural features of the plan area, and they are of primary importance to the community and the economy. The lakes have many roles, including: recreational playground, spiritual inspiration, and economic generator. These larger lakes support the natural habitats for a wide variety of fish and aquatic life, waterfowl, other wildlife, and plant species.

Green and Watch Lakes remain relatively healthy aquatic environments. However, as the amount of development around the lakes intensifies, the water becomes more susceptible to human contamination, from runoff, septic systems, and water-based recreation. Many properties have wells or surface water licenses and on-site septic systems. With proper design and maintenance, these systems can adequately dispose of sewage; however when inadequate conditions exist, such as a failed or saturated tile field, it can lead to sewage leaching into groundwater or the lake, causing serious contamination.

Green Lake is an oligotrophic lake, has a low flushing rate, and a moderate mean depth of 10 m. It appears to have a good open water assimilative capacity due to chemical processes within the lake, however it can be subject to localized problems.

Watch Lake is a eutrophic lake, surrounded by gently rising hills of interior Douglas-fir and some poorly drained land. Land uses included considerable agricultural activity; extensive cottage development on the west 1/3 of the lake, and moderate logging/clearing.

Two studies have been conducted by MOE of Green and Watch Lakes over the past two years (Shoreline Survey, 2008; Sewage Contaminated Seepage Detection (Fluorometer) Study, 2009). The objectives of the shoreline study were to evaluate current riparian and foreshore conditions regarding their potential effect on lake water quality and to recommend future water quality protection measures. The lakeshore survey was conducted by motor boat, June 17 to 19, 2008, and a photograph and video catalogue of the developed lakeshore was compiled. Particular attention was given to:

- the riparian buffer zone,
- human-induced shoreline erosion,
- breakwaters / retaining walls,
- setback distances for houses and outhouses,
- presence of imported sand, gravel, or treated wood structures, and
- compliance with TNRD Lakeshore Development Guidelines and CRD Lakeshore Management Policy.

The overall conclusions were as follows (see Figures 8 and 9):

- Green Lake – the protective function of riparian areas is compromised in large areas along the developed shoreline
- Watch Lake – the protective function of riparian areas is largely intact along the developed shoreline.

TABLE 1 – Summary of Data for developed Shoreline of Green Lake

DEVELOPMENT		TOTAL # of Developed Lots	% of Developed Lots
	Total Number of Developed Lots	421	100
	Building Infringement	320	76.0
	Outhouse Infringement	15	3.6
BUFFER CLASSIFICATION		**TOTAL # of Developed Lots**	**% of Developed Lots**
	No Riparian Buffer	196	46.6
	Low Riparian Buffer	92	21.9
	Moderate Riparian Buffer	86	20.4
	High Riparian Buffer	34	8.1
	Complete Riparian Buffer	13	3.1
OTHER		**TOTAL # of Developed Lots**	**% of Developed Lots**
	Visible erosion	67	15.9
	Breakwaters/Retaining walls	282	67.0
	Treated wood structures	71	16.9
	Visible Pipes in water	93	22.1

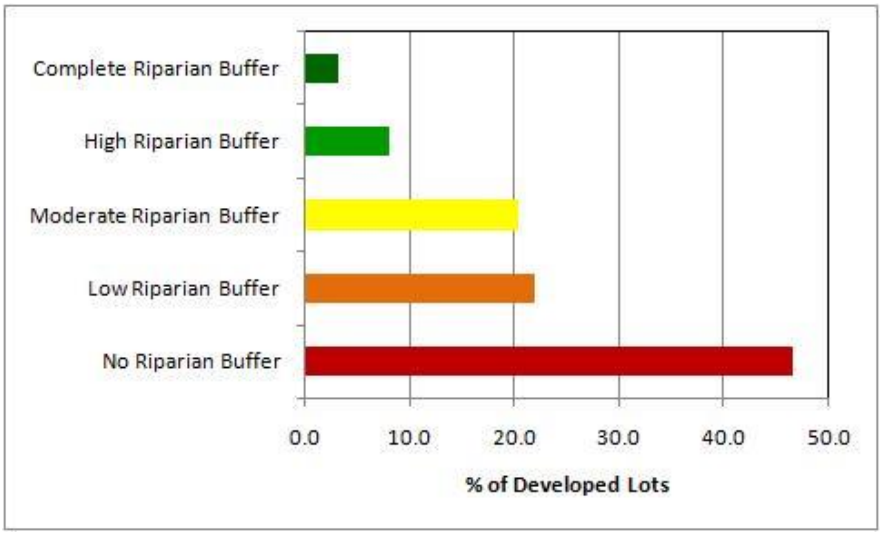


Figure 8: Green Lake Summary Data

TABLE 2 – Summary of Data for developed shorline of Watch Lake

DEVELOPMENT		TOTAL # of Developed Lots	% of Developed Lots
	Total Number of Developed Lots	113	100
	Building Infringement*	59	52.2
	Outhouse Infringement*	7	6.2
BUFFER CLASSIFICATION		**TOTAL # of Developed Lots**	**% of Developed Lots**
	No Riparian Buffer	19	16.8
	Low Riparian Buffer	14	12.4
	Moderate Riparian Buffer	46	40.7
	High Riparian Buffer	21	18.6
	Complete Riparian Buffer	13	11.5
OTHER		**TOTAL # of Developed Lots**	**% of Developed Lots**
	Visible erosion	7	6.2
	Breakwaters/Retaining walls	11.5	10.2
	Treated wood structures	16	14.2
	Visible Pipes	7	6.2

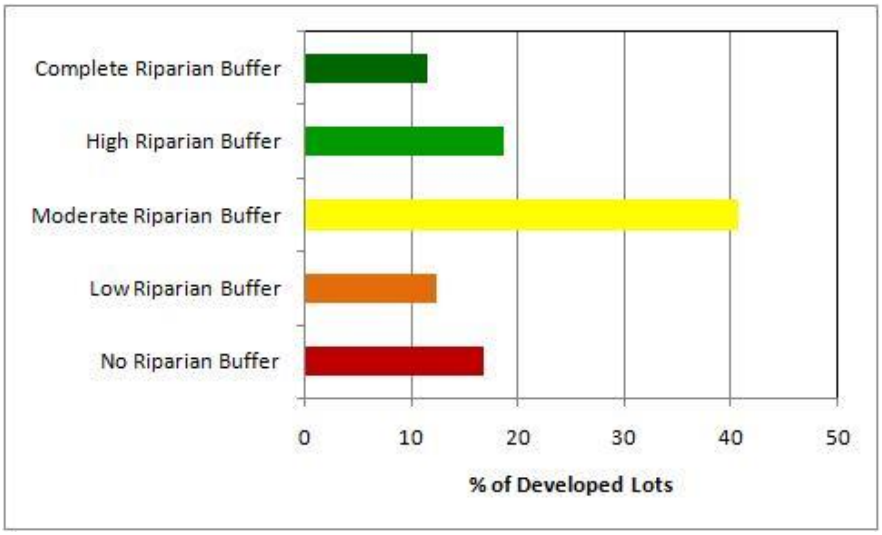


Figure 9: Watch Lake Summary Data

The alterations with potential effects on Green Lake's water quality include erosion, presence of breakwaters and/or retaining walls, and building infringement.

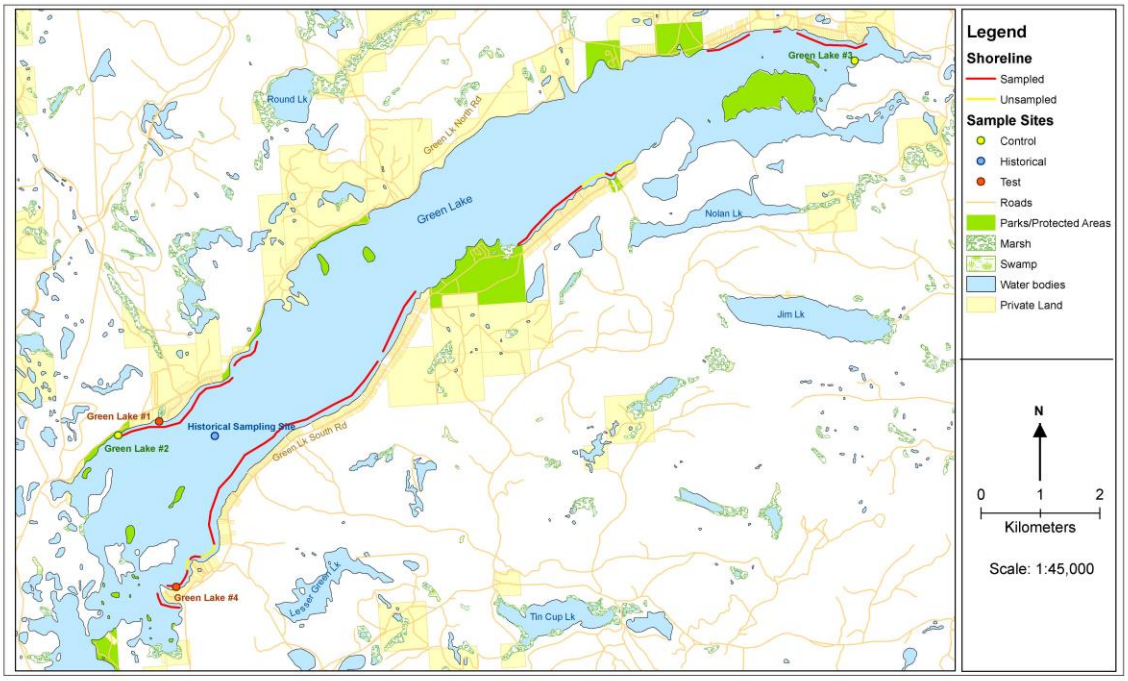
The recommendations for improvement of Green Lake shorelines and conservation of Watch Lake shorelines include:

- Education of lakeshore owners and developers on the importance of maintaining a natural vegetative riparian buffer zone and following proper lakeshore practices as outlined in the CRD Lakeshore Management Policy and the TNRD Lakeshore Development Guidelines, and
- Continual observation to ensure that the lakes' water quality, lakeshore lands, and foreshore areas are maintained for generations to come.

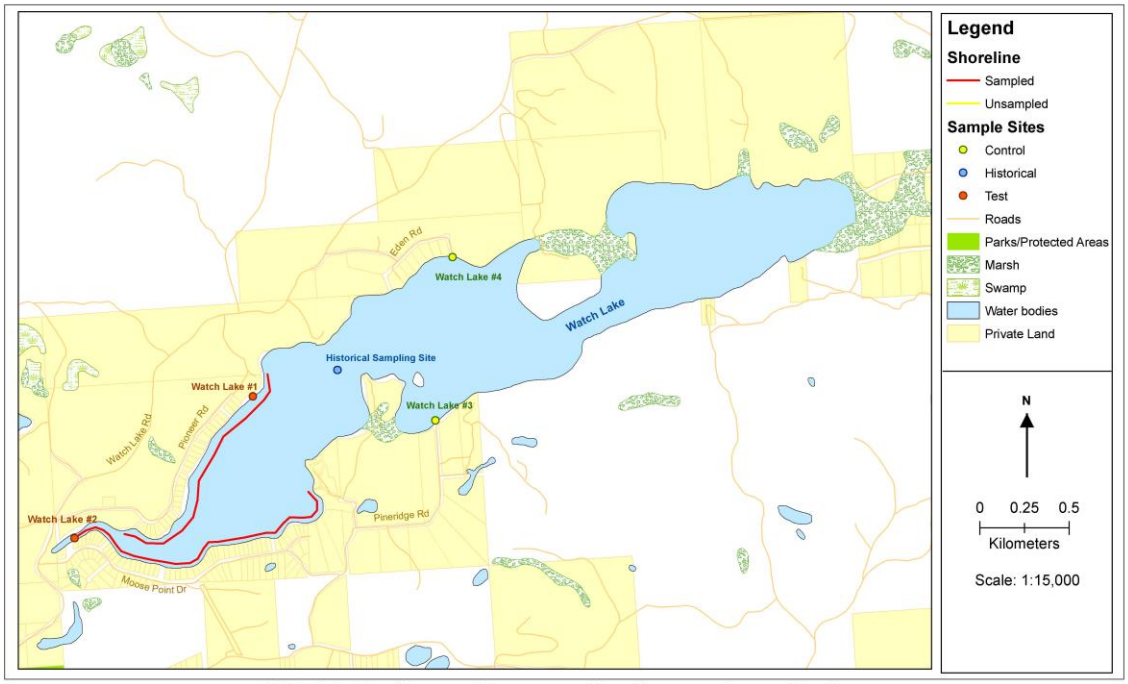
The Seepage Detection Study focused on water quality. The water near the developed shoreline was scanned with a fluorometer to detect soap and whiteners. Water samples were collected where fluorometer readings were above background, and the samples were analyzed for bacteria, phosphorus, nitrogen, carbon, chloride, sulphate, ammonia and caffeine. On Green and Watch Lakes,16.5 km of shoreline was sampled (see Figure 10). Three fluorometer spikes were detected. Elevated fecal coliforms, *E. coli*, and phosphorus indicate fecal contamination from warm-blooded animals (e.g. beavers, waterfowl, pets, livestock, wildlife) and/or humans. Caffeine was detected at one test site which may indicate human (or pet) fecal matter.

The conclusions and recommendations are as follows:

- Elevated results are likely due to typical wetland conditions, nutrient accumulation, and direct runoff from land.
- Caffeine results are similar to other studies of natural waters having low human impact.
- There is no clear indication of sewage contaminated seepage into either Watch or Green Lake.
- Future development plans should include requirements to sufficiently prevent sewage contamination.
- Lakeshore residents should be encouraged to limit nutrient inputs into the lakes.



Green Lake fluorometer survey locations and sample sites.



Watch Lake fluorometer survey locations and sample sites.

Figure 10: Green and Watch Lake Fluorometer Sampling Locations

Shoreline environments experience a significant amount of pressure from human activity, including the impacts from watercraft use. The Provincial Crown owns the foreshore, the area between high and low watermarks, and the lake area itself. Individuals cannot build on, or develop, aquatic Crown land without the Province's

authorization. If an owner of waterfront upland property proposes to construct any structure on the foreshore, a licence of occupation is required from the Integrated Land Management Bureau (ILMB).

Residents are concerned about declining water levels in Green Lake. Water Surveys Canada operated a water level recording station on the lake for 26 years, but it was closed down in 1995.

Context: Lake Use

Boating is a recreational activity enjoyed by many residents and visitors. There is a wide variety of watercraft on Green and Watch Lakes, including powerboats (many wake boats), sailboats, jet skis, canoes and kayaks. When used responsibly, watercraft can have limited impact on the lake environment. However, misuse can lead to water quality degradation and destruction of fish and wildlife habitat. Examples of irresponsible practices include: dumping of "black water" (toilet water) and "grey water" (sink and shower water) into the lakes; boating through sensitive environments; fuel spills; shoreline habitat disturbance from large waves, and parking on sensitive shorelines.

With the increasing amount of motorized boating, there are also concerns about impacts on human safety and quiet enjoyment. While it is recognized that greater education of the boating public is necessary, the limited resources available for enforcement pose a challenge. While some people are convinced that, in the interest of long-term sustainability, there should be limits on motorized boating, others feel that some areas should be designated to provide safe non-motorized water recreation.

Transport Canada regulates marine transportation and marine safety. Within their jurisdiction, the *Boating Restriction Regulations* (BRRs) allow for the restriction of boating activities on a specific body of water, in order to achieve safety, environmental, or public interest objectives. BRRs provide the means to impose restrictions such as:

- Prohibition of all boats,
- Limitation of propulsion power or type of propulsion,
- Imposition of speed limits,
- Restriction of towing activities such as waterskiing or regattas.

Restrictions can apply at all times or be specific to certain times of the day, week, month or season. Submissions for a boating restriction under the BRRs can target a particular type or types of craft that are the cause of a problem.

"We need to find ways to improve water quality and not infringe on habitat that is already there."

-Resident

Identifying a problem and proper consultation are key components in resolving a waterway concern. Part of consultation is to explore non-regulatory or voluntary compliance initiatives that may resolve the concern. It has been demonstrated on many waterways that non-regulatory initiatives can achieve the same result as a boating restriction, without going through the time-consuming regulatory process. The TNRD and CRD also have the authority to establish marine designations, specifying permitted and non-permitted uses over water areas.

A non-regulatory alternative can be as simple as an agreement between waterway users to respect each other's rights and operate in a courteous manner, or to follow a voluntary code of conduct. Other forms of non-regulatory alternatives can be signs posted around a waterway requesting operators to reduce speed near narrow channels, near shore, around swimming areas or in areas where non-powered pleasure craft such as canoes and kayaks may be adversely affected by the speed or wake of a power-driven vessel. Signs such as "Please do not enter swimming area", "Please reduce your wake", "Hazards near shore", "Please reduce speed near shore", are a few examples of how signs can be used to improve behaviour and increase safety on a waterway. It is not the responsibility of local government to post such signs.

Voluntary compliance signs posted near a waterway cannot be mistaken for a federal prohibition if no prohibition exists. Posted signs that could be mistaken for a boating restriction are not permitted under federal legislation.

Signs indicating certain penalties already in regulations or Acts are also a good reminder to waterway users. "Prohibition Against Careless Operation" under section 43 of the Small Vessel Regulations is a good example. This section states "No person shall operate a small vessel in a careless manner, without due care and attention or without reasonable consideration for other persons". Federal boating regulations also indicate a maximum speed limit of 10 km per hour within 30 m of a shoreline; this is enforced by the RCMP and provincial Conservation Officers. Regional Offices of Boating Safety have sign templates indicating the types of operation this may include. Signs reminding waterway users of prohibitions under the *Fisheries Act*, *Wildlife Act*, or other applicable Acts and regulations are also a good method of educating waterway users.

Objectives

1. Protect the water quality and quantity of Green, Watch, and Pressy Lakes, and all other lakes, and their watersheds.

2. Maintain healthy aquatic and groundwater environments and protect people and habitats from water contamination.

3. Maintain the unique physical and biological characteristics of shoreline environments.

4. Ensure that shoreline habitats and the foreshore are protected from inappropriate development and use, and unnecessary shoreline manipulation.

5. Direct development to areas of least ecological sensitivity, particularly in relation to habitat for fish and endangered species.

6. Encourage and support active, responsible stewardship of the environmental quality of the lakes, while supporting diverse water-based recreation.

Policies

15.1 The Foreshore and Marine area is designated as all lakes up to the natural boundary.

15.2 Discourage foreshore and water structures and uses in high value fisheries habitat and areas of high environmental sensitivity, e.g., east and west ends of Green Lake, and any significant areas identified on other area lakes.

15.3 In collaboration with resorts/lodges, BC Parks, MOT, and watercraft users, create public awareness of sensitive shorelines and ecosystems, and advise watercraft users about appropriate protocol in these areas, e.g., maximum boat speed 10 km/hour within 30 m of shoreline per Transport Canada.

15.4 Pursue the establishment of a "slow no-wake" speed limit south of Haines Island in Green Lake Provincial Park, per Transport Canada procedures, due to safety concerns, sensitive environmental resources, low-impact recreation (wildlife viewing) opportunities, and high public interest.

15.5 Encourage public education programs and continued provincial initiatives to reduce the spread of aquatic weeds.

15.6 Encourage waterfront owners to consider shared docks in the interests of having one larger dock that extends into deep water, rather than a number of individual docks that are in relatively shallow water with higher fish habitat values.

15.7 Applicants should refer to the Fisheries and Oceans Canada brochures entitled The Dock Primer (Prairies Edition), The Shore Primer, other educational materials on the DFO website, the Living by Water Guidebook (livingbywater.ca), and Guide to Green Boating (georgiastrait.org) for additional dock, boating, and foreshore development guidelines.

15.8 Placement of structures in the foreshore and aquatic area shall endeavour to:

- minimize or eliminate impact on the foreshore and water wherever possible;
- be sited away from fish spawning and rearing, and waterfowl habitat areas;
- not use wood treated with creosote, paint or other chemical treatments that may be toxic to or have negative effects on fish or other aquatic organisms. Instead, applicants should use untreated Western Redcedar, pre-cast concrete, or steel.
- in the case of docks, private mooring buoys and community moorage facilities, such structures shall be removable, such as floating docks, and not permanent (i.e. no concrete, pile or crib docks).

15.9 The following guidelines apply to structures:

- A maximum of one dock or community moorage facility is encouraged per waterfront parcel; plus one private mooring buoy per 15 m (49.2 ft) of the waterfront boundary length of the parcel.
- Docks, private mooring buoys, boat lifts and community moorage facilities must be setback a minimum of 5 m (16.4 ft) from the side parcel boundaries projected onto the foreshore and water.
- Private mooring buoys must comply with the requirements set out in Transport Canada's *An Owner's Guide to Private Buoys*.
- The following uses, not related to mooring, are not acceptable on the foreshore: beach houses, storage sheds, patios, sun decks, and hot tubs. In addition, no long-term camping, beach creation, sand importation, groyne construction, infilling, private boat launches, or substrate disturbance, are acceptable

on the foreshore, unless the purpose is to enhance habitat and the use is approved by the authorities having jurisdiction.

15.10 Private moorage is subject to the following:

- Private moorage will not impede pedestrian access along the beach portion of the foreshore.
- The siting of new private moorage shall be undertaken in a manner that: is consistent with the orientation of neighbouring private moorage, is sensitive to views and other impacts on neighbours, and avoids impacts on access to existing private moorage and adjacent properties.
- The zoning bylaw will set out other detailed provisions related to siting, setbacks, size, configuration, width, materials, and projections for private moorage.
- Encourage the Integrated Land Management Bureau, in carrying out reviews of foreshore tenure applications, to take the foregoing factors into consideration, with emphasis on the environmental sensitivity of the foreshore areas, as well as ensuring an appropriate relationship with upland areas.
- Private moorage owners and builders will refer to the Ministry of Environment's *Best Management Practices for Small Boat Moorage on Lakes* and the Ministry's *BMPs for Boat Launch Construction and Maintenance on Lakes*. As well, owners and builders will refer to minor works policies published by Transport Canada, Navigable Waters Protection Division prior to construction of any foreshore moorage (works), and to the Riparian Areas Regulation (in the TNRD).

15.11 Encourage federal and provincial agencies to continue monitoring issues of environmental importance, particularly water quality and quantity in Green Lake and the condition and impacts from septic systems near all lakes and watercourses.

15.12 Encourage federal and provincial agencies to partner with the Green Lake Area Ratepayer's Association to re-establish the water level recording station on Green Lake.

SECTION D: COMMUNITY INFRASTRUCTURE

16.0 TRANSPORTATION

Context

Construction of the Cariboo Wagon Road was undertaken in the 1860s and one of the first stopping places was the outpost of 70 Mile House. The Cariboo Highway (Hwy 97) is now the primary transportation corridor through the plan area. The community of 70 Mile House is situated on Highway 97, approximately 42km (26 miles) south of 100 Mile House and 32 km (20 miles) north of Clinton.

The Ministry of Transportation and Infrastructure plans to improve the Cariboo Connector, widening the 460 km portion of Highway 97 to four lanes from Cache Creek to Prince George (see Figure 11). The intent is to increase safety and decrease travelling times. A strategy has been identified to widen the most urgent portions of Highway 97 first. These portions are typically in urban areas and around industrial and commercial centres where high traffic volumes cause increased congestion and / or elevated accident rates.

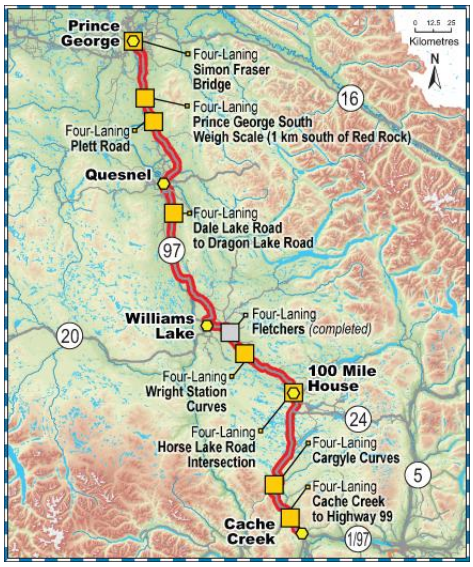


Figure 11: Highway Upgrading

While passenger vehicle traffic has grown along Highway 97 by about three per cent between 2000 and 2003, heavy truck traffic has grown by as much as 28 per cent and is expected to continue to grow. Traffic volumes currently range from 20,000 vehicles per day in major centres to 3,700 vehicles per day in the rural areas. The local community is concerned about speed limits through 70 Mile House and continues to lobby MOT to reduce the speed through the community in an effort to improve safety and enhance commercial and pedestrian opportunities.

Other roads provide access to all settled portions of the study area, including the north and south shores of Green Lake, Watch Lake, Pressy Lake, and the 83 Mile corridor. Some of these roads are in reasonable condition, and others are minimally maintained gravel roads (see Figure 12).

"The highway through 70 Mile House is dangerous and the speed limits economic vitality."
– Resident

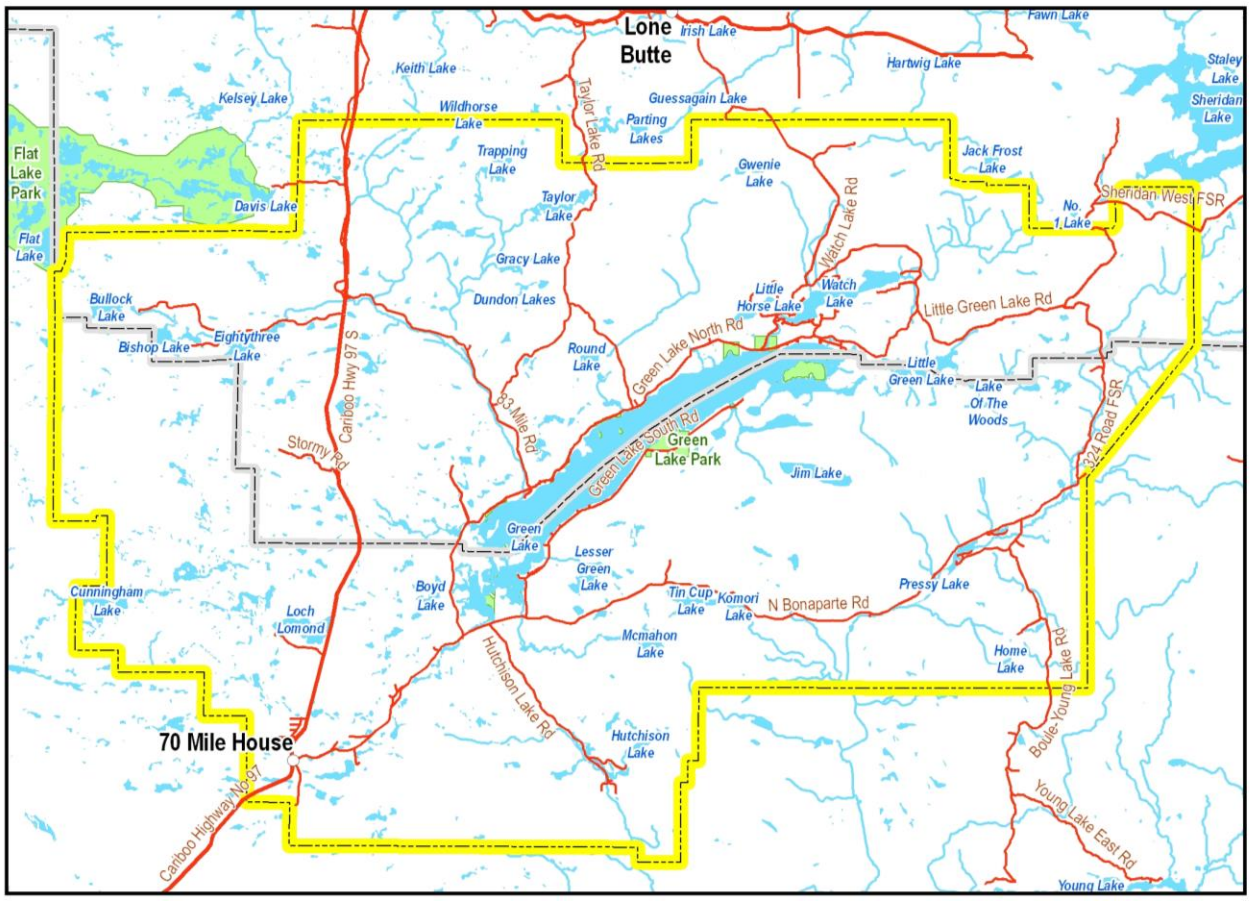


Figure 12: Road Network

In 2007, the Province of British Columbia passed the Climate Action Charter which commits all communities in the province to significantly reduce their greenhouse gas emissions by 2012. Reducing individual vehicle traffic through alternative forms of transportation is one of the key ways to meet this goal. There is currently limited alternative transportation and no public transit within the plan area.

Objectives

1. Encourage the provision of a safe and efficient road system to serve the existing and future needs of residents and visitors.

2. Encourage safe alternatives to vehicular use, including walkways and bike routes.

3. Encourage the provision of alternative transportation options along major routes.

Policies

16.1 Encourage the Ministry of Transportation and Infrastructure (MOT) to upgrade North Green Lake Road, Moose Point Road, Eden Road, and North Bonaparte Road from South Green Lake to Bridge Lake.

16.2 Encourage MOT to upgrade the east end of South Green Lake Road for emergency purposes, and to plan for and develop alternate emergency access to the South Green Lake area.

16.3 Encourage MOT to grade and maintain the Old Cariboo Highway year-round due to its role in emergency access.

16.4 Encourage MOT to upgrade road infrastructure as needed, especially to address stream flows, which in some cases are increasing.

16.5 Encourage MOT to collaborate with the community of 70 Mile House to examine ways of improving economic development and highway safety, including the possible reduction of speed limits and new signs within the vicinity of the community

16.6 Encourage efforts to maintain existing trails, especially when development occurs, and support new initiatives that contribute to walking and biking, e.g., dedicated, safe cycle paths adjacent to roads, trail expansion, new trail linkages.

16.7 Encourage and support alternative transportation modes, potentially including Handidart, community van, carpool, and/or car co-op.

17.0 INFRASTRUCTURE

Context

There are no community water or sewage treatment systems in the plan area. Residents and businesses obtain their water from individual on-site wells or surface water licenses, and sewage is handled with on-site septic systems. Many of the septic systems are older, and many were built under regulations that were much less stringent than current requirements. Regular maintenance of septic systems is required, however this does not always occur. Concerns have been expressed about sewage leaching into Green Lake in particular.

The Interior Health Authority (IHA) has jurisdiction over sewage treatment on individual lots and small subdivisions. The IHA's *Subdivision Guideline* states that "it is not the intent of the guideline to address or dictate lot sizes. The local government is responsible for planning, including setting lot sizes. However, where there is no zoning, the following lot sizes should be observed: a) Water service provided: minimum lot size of 0.2 ha (0.5 acres); and b) No water service provided: minimum lot size of 1 ha (2.5 acres). The TNRD and CRD have been informed by IHA that they have sufficient regulations in place to enable approval of 0.8 ha lots with individual on-site water and sewer systems. The role of IHA is to evaluate each proposed lot on its own merits, and decide if it will be able to support individual water and sewer systems in a sustainable manner. The cumulative effect of development is also considered.

The *Sewerage System Regulation* and the *Standard Practice Manual* address long-term disposal of sewage. The principles in the regulation and manual are based upon protection of both public health and the environment.

The *Drinking Water Protection Act and Regulations* apply to all water systems serving two or more dwellings. IHA does not support numerous small community water systems which require Permits to Operate, regular sampling and inspection. Rather, either individual systems or larger, commercially viable community systems are preferred.

The TNRD previously managed a solid waste (garbage) facility in 70 Mile House, however it has been discontinued. A solid waste transfer station is now located there, and the waste is trucked to Clinton. Upgrades to the transfer station are planned to increase service levels and efficiencies. Weigh scales will be installed, subject to approval from the province to expand the site. The site will be based on the eco-depot concept, where all materials that can be diverted and recycled will be removed from the waste stream at the front end of the facility. The site will include support for recycling for materials such as batteries, paint, hazardous household waste, and other materials as they are added to the MOE Product Stewardship Initiative. The site is currently part of a pilot project for waste oil recycling. Organic waste diversion options will be considered in the future.

The CRD has a waste dump site in Watch Lake. The operation of the Watch Lake landfill is authorized by the Ministry of Environment through the issuance of an Operational Certificate. This effectively means that the Ministry believes that the environment will not be affected by its operation. Environmental monitoring conducted at the site does not show any impacts. The development of a transfer station at the site was considered in 1997 when the Cariboo Regional District developed its solid waste management plan. Due to favourable soil and climatic conditions in the area that facilitate effective protection of the environment, the landfill was retained. The continued use of the landfill will be reviewed through the CRD's solid waste management plan review which is planned for 2011 to 2012. The CRD also has a recycling drop-off station in 100 Mile House.

Rainwater and stormwater management is an important component of preserving waterways and lowering risk of contamination, floods and washouts. Allowing rainwater to infiltrate naturally and providing green infrastructure for stormwater management are the primary ways to minimize runoff and the risk of environmental impacts. These actions also help to meet the provincial Climate Action Charter goal of

'encouraging infrastructure and a built environment that supports the economic and social needs of the community while minimizing its environmental impact'. Two documents available on www.env.gov.bc.ca provide guidance on this: Stormwater Planning: A Guidebook for British Columbia, and An Economic Rationale for Integrated Stormwater Management. Since the plan area is mainly rural, it has not been difficult to manage rainwater and stormwater in this fashion.

BC Hydro supplies most plan area residents with electricity; a few rural residents also use generators and other forms of power. Telephone service is available throughout most of the area. Cell phone service and internet service are minimal in the outlying areas.

Objectives

1. Encourage the provision of appropriate, safe infrastructure, balancing demands with environmental impacts and affordability.

2. Require the provision of appropriate, safe wastewater treatment in order to maintain healthy aquatic and groundwater environments, and to protect humans from water contamination.

3. Ensure that rainwater and stormwater are managed in a responsible way, minimizing flooding of buildings and property, and minimizing impacts to lakes, watercourses, other environmentally sensitive areas, and fisheries.

4. Encourage utility service providers to supply residents and businesses with modern, affordable utility services.

5. Encourage and support alternative energy systems for existing and new development, provided that environmental and other issues are addressed.

Policies

General

17.1 Encourage major new developments to build community water and wastewater systems, with fire flows, allowing existing lots to tie into new systems where possible.

17.2 Require all properties with wells or water licenses and septic systems to meet appropriate regulatory standards.

17.3 Explore methods for improving enforcement related to the installation and maintenance of sewage systems.

17.4 If grants from the federal or provincial government are being sought for sewage systems, the proponent should check on compatibility with granting criteria prior to design, since the criteria may require a minimum 1 hectare lot size for individual on-site disposal unless a Liquid Waste Management Plan is prepared.

17.5 Encourage water conservation for all land uses, including residential, commercial, industrial and agricultural.

17.6 Encourage and support public education on water supply and a drop-off facility for water testing.

17.7 Encourage, through education, efficient and environmentally responsible solid waste disposal, especially reduction of waste, reuse of materials, recycling and composting.

17.8 Encourage and support more sustainable management of agricultural and industrial waste, including: reduce, reuse, composting, and energy production facilities, in compliance with local zoning.

17.9 Infiltrate rainwater on site in new developments where possible, per best management practices.

17.10 In rural areas, retain low areas, water bodies, and ditches as integral elements of the rainwater and stormwater drainage system. Stormwater management must have mosquito abatement or control as part of the plan.

17.11 Encourage improvements to and expansion of telecommunications coverage, and provision of natural gas to 70 Mile House.

17.12 Encourage new developments to generate some of their own energy with methods such as solar hot water, wind or geothermal energy.

17.13 Support the establishment of small scale green energy development projects that use water, wind, sunlight, biomass or geothermal energy when those facilities comply with local zoning and:

a) Have been properly evaluated and are shown to be technically sound, environmentally sensitive and socially acceptable;

b) Are located, designed, constructed and operated in a manner that is consistent with the overall vision for the region and do not negatively impact on its primary economic activities, e.g. tourism;

c) If electrical energy, it should be connected into the existing transmission and distribution infrastructure, have minimal impact, and should not require the development of significant new major transmission corridors; and

d) Provide tangible community benefits.

18.0 EMERGENCY PREPAREDNESS

Context

The plan area is susceptible to several types of disasters and emergencies. Telephone 911 service is available to direct emergency calls. Fire departments are connected with telephone service and satellite back-up.

The TNRD has a fully functional Emergency Management Program, an Emergency Operations Centre, and fully trained staff to respond to emergency planning and response needs. The TNRD's Emergency Management Evacuation Plan for the Green Lake / 70 Mile House area identifies the potential risks, along with the frequency of occurrence, severity of impact, and relevant details. The risks with frequencies greater than "unlikely or improbable" are as follows:

Risk	Frequency of Occurrence	Severity of Impact
Severe Weather	Moderate or Likely	High
Dangerous Goods Spill	Occasional or Slight Chance	High
Fire – Interface and Wildfire	Occasional or Slight Chance	High
Transport Accident – Road	Occasional or Slight Chance	High
Infrastructure Failure	Occasional or Slight Chance	High
Epidemic - Human	Occasional or Slight Chance	High

The Provincial Emergency Program (PEP) provides an "all hazards" planning framework to deal with major emergencies by regular assessment of the area's hazards, efforts to mitigate risk, and promoting public preparedness and disaster resiliency through public awareness initiatives, including a website. PEP maintains emergency plans to respond to and recover from disasters, kept current with frequent training and exercising of the plans by government, agencies, public and non-government organizations (NGOs), along with an annual evaluation. PEP can also be activated to assist emergency responders at a site if the incident exceeds their capacity and capabilities. The PEP program shifts responsibilities to local government where they have capacity, as they do in this region.

The TNRD and CRD have functioning emergency operations centres with trained personnel. Emergency responders in the plan area include: the RCMP in Clinton, Ashcroft and 100 Mile House; Ministry of Forests; and three volunteer fire departments: 70 Mile House, Watch Lake (and North Green), and South Green Lake. Each of the fire departments has a fire hall, and all of the organizations have mutual aid agreements. An urban interface forest fire that occurred in 70 Mile House in May of 2009 destroyed a number of local homes and at least one local business.

The British Columbia Emergency and Health Service Commission provides ambulance service to this area. Ambulance and First Responders and Rescue Services stations are located in Clinton and 100 Mile House. There is

no hospital located in the area; patients must travel to a health centre in Clinton, or hospitals in Ashcroft, 100 Mile House, Williams Lake, or Kamloops.

Objectives

1. Encourage the community to be suitably equipped and prepared to deal with emergency situations.

2. Encourage adequate levels of fire suppression to the various settled areas.

3. Improve awareness of the Emergency Forest Fire Response Program.

4. Encourage the provision of adequate policing for residents to lead safe and secure lives.

5. Encourage emergency response to health-related calls that is quick and efficient.

6. Encourage the development and maintenance of emergency access routes.

Policies

18.1 Continue to work within the Provincial Emergency Program (PEP) on emergency planning, education, and recruitment and training of volunteers.

18.2 Convey to the organizations responsible that cell phone reception and roads in good condition are important for emergency response.

18.3 Continue to consult with the RCMP regarding the policing services needed to provide adequate protection.

18.4 Encourage improvement of roads, e.g., Old Cariboo Highway, and construction of alternate emergency escape routes, e.g. for the south shore of Green Lake, as outlined in Section 16.0 Transportation.

"We are thankful for our volunteer fire department here."

-Resident

SECTION E: IMPLEMENTATION

19.0 GENERAL PLAN IMPLEMENTATION

General Plan Implementation

This OCP will be implemented by the TNRD and CRD, other government bodies, businesses, and the public. The following will be the primary implementation strategies:

1. The TNRD and CRD will approve the OCP as a bylaw and implement the plan directly through zoning, building permits, development permits, and fiscal programs that support appropriate and affordable land acquisition, capital works, and operations. The zoning bylaws of both regional districts will require amendments based on this OCP.

2. The TNRD and CRD will encourage and support other levels of government in advancing the goals, objectives and policies of this plan.

3. The TNRD and CRD will communicate and form partnerships with community groups and the public to advance the goals, objectives and policies of this plan.

4. The TNRD and CRD will work with IHA to ensure that implementation of sewage systems is in compliance with OCP expectations.

5. Simple amendments to the OCP, such as boundary adjustments with an adjoining OCP, that do not involve policy amendment or property densification are permitted. In these cases, the other regional district

would be notified of the amendment by referral and would be welcome to attend the public hearing, but there would be no need for a joint public meeting or hearing.

Development Approval Information

Through the authority of Section 920.01 of the *Local Government Act,* the TNRD and CRD may specify circumstances or designate areas (or both) in which development may not proceed until information about potential impacts is provided and assessed. This information will be required for:

- Applications for amendments to an adopted Zoning Bylaw,
- Applications for amendments to this OCP Bylaw,
- Applications for a Development Permit, and
- Applications for temporary use permits.

The entire CRD Electoral Areas 'G' and 'L' and TNRD Electoral Area 'E' will be established as Development Approval Information Areas (DAIA). A DAIA Bylaw will be adopted in both regional districts, setting out the procedures and terms of reference for applicants with respect to development approval information.

The TNRD and CRD will determine what information is required for each application, and this will be conveyed to the applicant. Where necessary, the information will be collected and analyzed by a certified professional in the appropriate disciplines.

Unless otherwise determined, the applicant will be expected to provide information, where applicable, regarding the type, magnitude and significance of impacts on and measures to address:

- Sustainability checklist, including a water assessment report for larger developments,
- Transportation patterns and traffic flow,
- Water, wastewater, stormwater, and rainwater management, erosion control, and impacts on existing infrastructure and resources, including any existing covenants on the property,
- Community services and facilities, including schools, parks, recreation and culture,
- Natural resources, including fish and wildlife, habitat; riparian and environmentally sensitive areas; quality of water, air and soil; steep slopes; wildfire urban interface,
- Archaeology and heritage resources,
- Affordable, rental and year-round housing,
- Emergency access, energy flows, and water conservation,
- Parks and schools.

Where a proposal is deemed to be of interest to the public, as determined by TNRD and CRD planners, a public consultation process must be undertaken, with measures including: notice signs in high-profile locations, advertisement in the 100 Mile Free Press (or equivalent), and public meetings and hearings when appropriate with reasonable advance notification.

OCP Amendments

The following factors must be taken into account when considering amendments to this OCP:

- The OCP represents the community's vision at the time it was created and the OCP is intended to remain relatively consistent between reviews and updates.
- The community expects that changes will generally be undertaken as part of periodic reviews (approximately every two years with one public meeting) and updates (approximately every eight years with multiple public meetings),
- Where changes are proposed outside of the periodic reviews, they should be limited to those that correct errors or omissions; otherwise, if they are agreed to be significant changes by the CRD and TNRD, they should be subject to at least one community meeting in addition to a joint TNRD and CRD public hearing.
- The 83 Mile drainage is larger than the planning team had originally estimated and includes the Bullock Lake, Davis Lake, Big Meadow and Flat Lakes Provincial Park areas and associated southerly water movement/water body linkages with the existing plan area. When the OCP is updated, consider this area for possible inclusion into the OCP area, conditional upon proper funding and environmental assessment, to determine the area's impact on water flows and water levels in Green Lake.

20.0 Development Permit Areas

The *Local Government Act* (Section 919) provides the TNRD and CRD with the authority to establish Development Permit areas for the protection of riparian and environmentally sensitive areas; avoiding development in hazardous locations; setting out expectations regarding the form and character of commercial, industrial and higher density residential development, and setting objectives to promote energy conservation, water conservation, and reduction of greenhouse gases. When a Development Permit area is established, the local government sets out the goals for the designation, guidelines to achieve those goals, and the information to be provided by the applicant. When an owner applies to the local government for a Development Permit to alter the site, buildings or structures, the guidelines in the Plan will direct what conditions, if any, are placed on the proposed development.

This section sets out the following Development Permit Areas for the plan area and provides the justification for their designation:

- Riparian Development Permit Area
- Environmentally Sensitive Development Permit Area
- Hazardous Lands Development Permit Areas

Where land is subject to more than one Development Permit Area designation, a single Development Permit is encouraged. The application will be subject to the requirements of all applicable Development Permit Areas, and any Development Permit issued will be in accordance with the guidelines of all such Areas.

20.1 Riparian Development Permit Area

Purpose

The Riparian Development Permit Area (RDPA) is established for the protection of the natural environment, its ecosystems, and biological diversity, through the *Local Government Act*.

The RDPA will assist the TNRD in implementing the Provincial Riparian Areas Regulation, which applies to all streamside protection and enhancement areas in the TNRD. It will also help the CRD to meet comparable standards for protection.

Area

The RDPA is comprised of a riparian protection area for fish habitat and shall include the following lands:

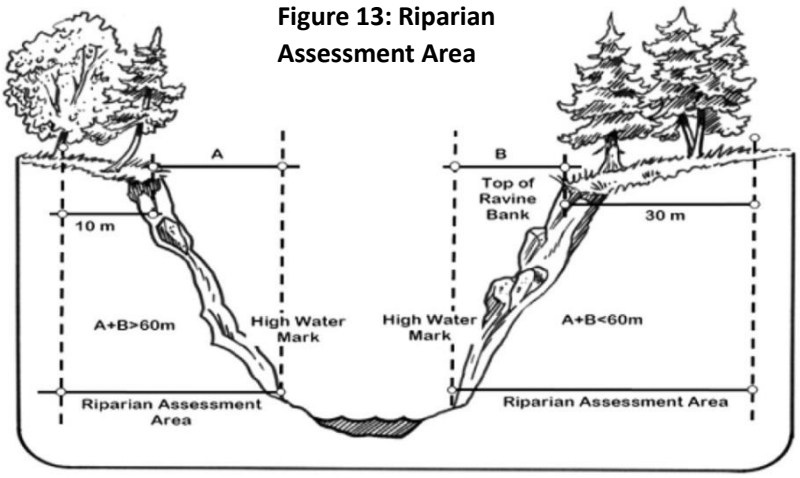
a) all watercourses as shown on Provincial TRIM map series at 1:20,000 and adjacent lands, and any other watercourses as determined by a qualified environmental professional;

b) in the case of Green, Watch and Pressy Lakes, and all other lakes over 16 ha, the RDPA shall comprise land within 100 metres of the natural boundary of the lake;

c) for other watercourses, including small lakes, rivers, creeks and wetlands, the RDPA area comprises:
   i. lands within 30m of the natural boundary of the watercourse;
   ii. lands within 30m of the top of the ravine bank in the case of a ravine less than 60m wide; and
   iii. lands within 10m of the top of a ravine bank 60 metres or greater in width that link aquatic and terrestrial ecosystems that exert an influence on the watercourse (see Figure 13).

The Regional District may require a survey and/or QEP evaluation to accurately determine if an RDP application is required.

Figure 13: Riparian Assessment Area



Justification

The primary goal of the RDPA designation is to regulate development activities in the riparian areas adjacent to watercourses in order to preserve natural features, functions and conditions that support fish life processes, for example: 1) reducing or eliminating erosion, 2) maintaining tree canopy, and 3) protecting ground and surface water from contamination. Development impact on watercourses can be minimized by careful project examination and implementation of appropriate measures to preserve environmentally sensitive riparian areas.

Guidelines

1. Undertakings requiring a Development Permit shall include, but may not be limited to, any of the following activities associated with or resulting from residential, commercial, institutional or industrial activities:
   a) removal, alteration, disruption or destruction of vegetation within 30m of a watercourse;
   b) disturbance of soils such as driveway construction within 30m of a watercourse;
   c) construction or erection of buildings and structures within 30m of a watercourse;
   d) creation of non-structural impervious or semi-impervious surfaces within 30m of a watercourse;
   e) flood protection or utility works within 30m of a watercourse;
   f) construction of roads, trails, docks, wharves and bridges within 30m of a watercourse;
   g) construction or replacement of sewer and water services within 30m of a watercourse or 100m of Green, Watch, or Pressy Lake, and all other lakes over 16 ha;
   h) drainage system work within 30m of a watercourse, or 100m of Green, Watch, or Pressy Lake, and all other lakes over 16 ha; and
   i) subdivision as defined in the Land Title Act, including the division of land into 2 or more parcels within 30m of a watercourse or 100m of Green, Watch, or Pressy Lake, and all other lakes over 16 ha, except where the subdivision does not result in an increase in density or is for road, park, utility, or other similar purposes.

2. A Development Permit may be issued once the following guidelines have been met:
   a) a Type 1 septic system and field are setback a minimum of 100 metres from any watercourse; or

      Lesser setbacks may be considered for Type 1 systems in some cases where a new system replaces or improves an existing failing one. All setbacks must abide by the recommendations of the Sewerage System Standard Practices Manual with regard to reduction in critical horizontal setback distances.

   b) in the case of a septic system and field with a setback of less than 100 metres from a watercourse, the owner must engage an appropriately qualified professional engineer or geoscientist to review the proposed siting of the septic system and field to ensure there will be no detrimental impacts on the adjacent water body.

   AND for other development in areas within 30m of a watercourse:

c) TNRD: Assessment by a Qualified Environmental Professional (QEP) in accordance with the Riparian Areas Regulation;

d) CRD: equivalent assessment by a QEP;

e) TNRD: Provincial notification that a QEP has submitted a report certifying that he or she is qualified to carry out the assessment, that the assessment methods have been followed, and provides in their professional opinion that a lesser setback will not negatively affect the functioning of a watercourse or riparian area and that the criteria listed in the Riparian Areas Regulation has been fulfilled, including acceptance by DFO and MOE where required;

f) CRD: Notification that the proposed setback will not negatively affect the functioning of a watercourse or riparian area; and

g) TNRD: Written confirmation from the QEP that the Riparian Areas Regulation implemented through the RDPA does not supersede other federal, provincial and/or local government requirements, including that of other development permit areas, building permits, flood covenants, federal or provincial authorizations.

h) CRD: Written confirmation from the QEP that the proposed riparian setback and design does not supersede other federal, provincial and/or local government requirements, including that of other development permit areas, building permits, flood covenants, federal or provincial authorization.

AND FINALLY, for areas within 100m of Green, Watch, or Pressy Lake and all other lakes over 16 ha:

i) submission of completed application form(s), relevant supporting documentation (i.e. site plans, photographs/illustrations, environmental studies, professional certifications, etc.) and fees.

3. For any environmental and riparian matters not addressed in this section, the guidelines in the TNRD's *Lakeshore Development Guidelines*, 2004, and the CRD's *Shoreland Management Policy*, 2004 are to be followed in the respective regional district.

Exemptions

A Riparian Development Permit is not required under the following circumstances:

a) construction, alteration, addition, repair, demolition and maintenance of farm buildings;

b) reconstruction, renovation or repair of a legal permanent structure if the structure remains on its existing foundation in accordance with s. 911 of the Local Government Act, provided this foundation is not moved, extended, or development results in a further encroachment into a riparian assessment area (in that case a RDPA is required);

c) minor ground disturbance such as hand digging for installation of fencing, services, or similar works not closer than 7.6 m to the natural boundary of the watercourse;

d) cases where an applicant can demonstrate that the conditions of the RDPA have already been satisfied, or a Development Permit for the same area has already been issued and the conditions in the Development Permit have all been met, or the conditions addressed in the previous Development Permit will not be affected;

e) a letter is provided by a QEP confirming that there is no visible stream as defined in the RAR;

f) activities a, b, c, d, and f listed in Guideline 1, on non-waterfront parcels (across a road dedication), provided they are clearly outside the Riparian Habitat.

20.2 Environmentally Sensitive Development Permit Area

Purpose

The Environmentally Sensitive Development Permit Area (ESDPA) is designated under the Local Government Act for the purpose of protecting environmentally sensitive areas from inappropriate development. Some environmentally sensitive areas are not covered by the RDPA, e.g., unique vegetation or forest communities, wildlife features (e.g., raptor nests, wildlife corridors, waterfowl habitat), habitat supporting rare or endangered species.

Area

All environmentally sensitive areas are designated as a Development Permit Area (see Schedule I). Since some of these are not currently mapped, identification of these areas will be undertaken based on existing maps, new mapping as it becomes available, and identification by proponents, the federal or provincial governments, TNRD or CRD.

Justification

The justification for this designation is to establish conditions on developments such that rare, endangered, and sensitive ecosystems and wildlife are protected from inappropriate development and, where appropriate, development impacts are mitigated. The goals of this designation are to:

- Preserve and enhance the sensitive ecosystems whenever possible; and
- Preserve and enhance general habitat, biodiversity and natural environment regimes.

Guidelines

1. A Development Permit is required on land identified as an environmentally sensitive area. Development requiring a Development Permit shall include, but may not be limited to, any of the following activities associated with or resulting from residential, commercial, institutional or industrial activities or ancillary activities, subject to local government powers under the *Local Government Act*:
   - Removal, alteration, disruption or destruction of vegetation;
   - Disturbance of soils;
   - Construction or erection of buildings and structures;
   - Creation of non-structural impervious or semi-impervious surfaces;
   - Flood protection works;
   - Construction of roads, trails, docks, wharves and bridges;
   - Provision and maintenance of sewer and water services;
   - Development of drainage systems;
   - Development of utility corridors; and
   - Subdivision as defined in the Land Title Act, including the division of land into 2 or more parcels, except where the subdivision does not result in an increase in density.
2. A Development Permit may be issued once the following guidelines have been met:

- Assessment by a QEP, with recommendations for protecting the environmentally sensitive area through siting of buildings, structures and utilities, or through mitigation measures.

Exemptions

The ESDPA does not apply to the following:

- Construction, alteration, addition, repair, demolition and maintenance of farm buildings;
- Reconstruction, renovation or repair of a legal permanent structure if the structure remains on its existing foundation in accordance with Section 911 of the *Local Government Act*. Only if the existing foundation is moved, extended, or the development results in a further encroachment into an environmentally sensitive area would an ESDPA be required;
- An area where the applicant can demonstrate that the conditions of the ESDPA have already been satisfied, or a Development Permit for the same area has already been issued in the past and the conditions in the Development Permit have all been met, or the conditions addressed in the previous Development Permit will not be affected; and
- A letter is provided by a QEP confirming that there is no environmentally sensitive area.

20.3 Hazardous Lands Development Permit Areas

Purpose

The Hazardous Lands Development Permit Area is designated under the Local Government Act for the purpose of protecting development from hazardous conditions. One hazardous lands category has been established under this permit area: steep slopes.

Area

All areas with slopes in excess of 30% are designated as Hazardous Lands Development Permit Area (Steep Slopes). Schedule H identifies some, but not necessarily all of these areas. These are referred to as 'steep slopes' below. The TNRD and CRD require an assessment of slope conditions as a condition of development permit issuance. Provincial 1:20,000 TRIM mapping, using 20m contour information, may provide preliminary slope assessment, however a more detailed site assessment will be required for slopes in the vicinity of 30% or more.

Justification

The justification and goals of this designation are to:

- Ensure that people and property are safe from steep slopes;
- Ensure that development in steep slope areas is designed and engineered to provide a high level of protection from ground instability and/or slope failure; and
- Ensure that drainage near steep slopes is managed in a way that does not negatively impact the community or downslope lands, resources or uses.

Guidelines

1. To protect against the loss of life and to minimize property damage associated with ground instability or slope failure, the TNRD and CRD discourages development on steep slopes.
2. Where steep slopes are required for development, development permits addressing steep slopes shall be in accordance with the following:
   - Prior to construction of, addition to or alteration of a building or other structure or prior to subdivision approval, the applicant shall submit a report prepared by a professional engineer or geoscientist with experience in geotechnical engineering. The report, which the Regional District will use to determine the conditions and requirements of the development permit, must certify that the “land may be used safely for the use intended” as provided under the Local Government Act.
3. The report should include the following types of analysis and information:
   - site map showing area of investigation, including existing and proposed: buildings, structures, septic tank and field locations, drinking water sources, watercourses and other natural features;
   - strength and structure of rock material, bedding sequences, slope gradient, landform shape, soil depth, soil strength and clay mineralogy;
   - surface and subsurface water flows and drainage;
   - vegetation: plant rooting, clearcutting, vegetation conversion, etc.
   - recommended setbacks from the toe and top of the slope;

- recommended mitigation measures; and recommended 'no-build' areas.

4. Development in steep slopes should avoid:
   - cutting into a slope without providing adequate mechanical support;
   - adding water to a slope that would cause decreased stability;
   - adding weight to the top of a slope, including fill or waste;
   - removing vegetation from a slope; and
   - creating steeper slopes.
   - siting Type 1, 2 and 3 septic systems and fields within steep slopes. Exceptions will only be considered in cases where a new system replaces or improves an existing failing one. All practices must abide by the recommendations of the Sewerage System Standard Practices Manual, which requires system design by a Professional Engineer on sites exceeding 25% slope.

5. A Covenant may be registered on title identifying the hazard and remedial requirements as specified in the geotechnical or engineering reports for the benefit and safe use of future owners.