

5.0 Environmental Management

5.1 Introduction

The Lac La Hache OCP region includes the Cariboo Plateau of the Fraser Plateau ecoregion. To the south are the lower, drier hills of the Thompson-Okanagan, and to the north is the central Cariboo, extending into the vast forests of Northern BC. At the 1000 metre elevation, there are four distinct seasons – cold snowy winters, warm summers, and cool weather in the spring and fall. The beautiful natural setting includes numerous lakes and rivers, rolling hills, and forests of Douglas fir, lodge pole pine, aspen and birch.

The majority of the soils in the Lac La Hache plan area have quite slow percolation rates and are poor soils in terms of septic tank sewage disposal. The soils are predominantly clay which restricts the downward penetration of water. As a result, the soils are easily saturated with water in the spring and after heavy rainfalls. The rolling topography also produced additional water problems by holding runoff water in numbers surface depressions.

Mule deer are common in the Cariboo region, and they are of considerable recreational and economic importance for wildlife viewing, recreational hunting, and the guiding industry. In the Cariboo, mature Douglas fir forests provide critical habitat for mule deer during winter months. Mule deer in the Cariboo are particularly stressed during the winter, as they are exposed to deep snow and cold conditions. Their survival during that time is dependent on old growth or mature Douglas fir stands with well-developed canopies that intercept the snow, provide security and thermal cover, and provide food through litterfall. A large majority of the Lac La Hache OCP area consists of winter range for mule deer as documented on Schedule 'D': Endangered Species and Ecosystems. This includes all the area north of Lac La Hache and west of Timothy Lake Road and most of the area south of Lac La Hache. A majority of the mule deer winter range land is on forested Crown land.

Climate Change and GHG emissions

As one of 182 local governments that are signatory to the B.C. Climate Action Charter, the Cariboo Regional District is committed to reducing greenhouse gases (GHGs) and has agreed to take actions to achieve certain goals. In order to address growing concerns regarding climate change, B.C.'s *Local Government Act* was amended in 2008 to require all OCPs to set targets for the reduction of greenhouse gases, as well as policies and actions to achieve the targets set.

Under the *Greenhouse Gas Reduction Targets Act*, B.C.'s GHG emissions are to be reduced by at least 33% below 2007 levels by 2020. A further emission-reduction target for the year 2050 is 80% below 2007 levels. The three areas where local government can play a role in reducing greenhouse gas emissions are in the transportation, waste management and building sectors.

While GHG emissions inventories for area communities is not available, information for the Cariboo Regional District indicate that the sources of GHG emissions are similar to the BC average, with on-road transportation accounting for 64% of emissions, and buildings accounting for 32%. In 2015, the CRD's corporate GHG emissions were 1,187 tonnes of CO₂ equivalent plus 457 tonnes of CO₂ from contracted services.

Water Resources

Water is at the base of healthy communities and a balanced ecosystem. The importance of proper land use practices is essential to maintain this equilibrium. Improper land use practices impact both surface water and entire watershed systems, whatever their size, and consequently the human communities and fish and wildlife habitat they support. The OCP area includes the San Jose River watershed. The San Jose River flows north towards Williams Lake.

5.2 Environmental Objectives

General Environmental Objectives

- 5.2.1 Pursue an approach to land use development which recognizes watersheds as a critical component to the long-term viability of the Lac La Hache plan area.
- 5.2.2 Avoid development on and protect environmentally sensitive areas including critical fish habitat and spawning areas.
- 5.2.3 Ensure land use activities in the Lac La Hache plan area do not adversely impact on fish and wildlife and their habitats.
- 5.2.4 Recognizes that the community values the natural lands including lakes, streams and forested lands in the plan area and is engaged in maintaining these values.

Energy & Conservation

- 5.2.5 Encourage energy conservation through higher efficiencies, reduced household demand, and reduced transportation needs.

Climate Change

- 5.2.6 Recognize the likely impacts and vulnerabilities of regional climate change within the Plan Area and plan for resiliency.
- 5.2.7 Reduce GHG emissions within the Lac La Hache plan area as per the B.C. Climate Action Charter reduction targets.

- 5.2.8 Promote and provide community outreach and education related to climate change and reduction of GHG emissions.

Natural Hazards

- 5.2.9 Minimize risk to people and property damage as a result of natural hazards such as steep slopes, floodplains and soils subject to erosion.
- 5.2.10 Ensure development does not occur in areas subject to hazardous conditions unless the hazard has been sufficiently addressed and mitigated by a Qualified Professional Engineer or Geoscientist.

Water Resource Management

- 5.2.11 Safeguard the quantity and quality of ground and surface water.
- 5.2.12 Ensure that land use planning contributes to the protection, maintenance, and enhancement of water and related resources and aquatic ecosystems, riparian habitat and related terrestrial ecosystems.

5.3 Environmental Policies

The Cariboo Regional District Regional Board will:

General Environmental Policies

- 5.3.1 Endeavour to preserve and protect Environmentally Sensitive Areas by avoiding development or minimizing the impact of development on lands with endangered species or ecosystems as shown on Schedule 'D': Endangered Species and Ecosystems.
- 5.3.2 Recommend through the Development Approval process (e.g. subdivision referral or rezoning application) the use one or more of the following tools to direct development away from areas with Endangered Species and Ecosystems and areas with Slope and Drainage Constraints:
- i Conservation Agreement through a priority covenant registered under Section 219 of the *LTA* with the CRD as a party to the agreement, to protect sensitive areas, provide environmental protection or enhance recreation including trails, interpretive signs, and benches that are a public benefit to the community without compromising the environmental sensitivity of the area;

- ii common property in a bare land strata subdivision to allow flexibility in conserving the feature or area;
 - iii voluntary stewardship through a contract, lease or trust to protect the feature or area, in favour of and managed by land trusts or conservation organization.
 - iv The foregoing recognizes the CRD does not have an administrative park function and is not obligated to take responsibility for lands used for conservation or passive recreation purposes.
- 5.3.3 Support the use of conservation agreements and voluntary conservation covenants on land where owners enjoy the benefits of private land ownership but provide access in the covenanted area for trails, interpretive signs, benches and other recreation purposes; restrict land use for conservation or environmental management purposes; or offer some other public benefit to the community that does not compromise the environmental sensitivity of the area.
- 5.3.4 Encourage federal and provincial agencies to monitor issues of environmental importance, particularly water quality on Lac La Hache.
- 5.3.5 Encourage farmers to ensure that soil conservation, pest management, and water management are conducted in a manner that protects Environmentally Sensitive Areas by referring to Provincial and federal guidelines.
- 5.3.6 Recognizes that the information on water quality for Lac La Hache is known and measures are in place to prevent impacts that may negatively impact water quality in the future.
- 5.3.7 Actively support and promote through educational activities and staff resources the removal of invasive plants on private and public lands in partnership with provincial agencies and other stakeholders.
- 5.3.8 Require that where an environmental report has been requested by the CRD, the report must be prepared by a relevant Qualified Environmental Professional (QEP) (e.g., Registered Professional Biologist, Registered Professional Forester, certified arborist, member of the BCSLA).

Energy & Conservation

- 5.3.9 Encourage collaboration with other levels of government, First Nations, regional districts and utilities to address energy and emissions management and promote best practices in energy efficiency.

- 5.3.10 Encourage developers 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.).
- 5.3.11 Encourage and support initiatives to upgrade wood-burning appliances through programs such as the woodstove exchange program.
- 5.3.12 Improve energy efficiency and reduce energy consumption through lighting, door, window and HVAC equipment upgrades in public buildings such as the community hall and arena.
- 5.3.13 The Lac La Hache water system has low vulnerability to a changing climate and is underutilized at this time. However, as a general good practice water conservation measures will be encouraged to reduce consumption and operating costs for the Lac La Hache Townsite community water system.
- 5.3.14 Support innovative building technology that improves energy conservation such as the installation of energy efficient appliances and alternative energy systems, alternate siting of buildings and the use of solar panels to maximize possible solar gain.
- 5.3.15 Request that subdivision orientation and building design maximize their solar power potential.
- 5.3.16 Continue to support recycling through a variety of measures including public education, in-house programs to increase e-documents that reduce waste and new initiatives such as composting.

Climate Change

- 5.3.17 Endeavour to participate in senior government programs and initiatives that address climate change impacts, target the reduction of GHG emissions and improve energy efficiency within the Plan area.
- 5.3.18 Will take steps, as a signatory to the Climate Action Charter, to address and support the goals of the Charter including becoming and maintaining carbon neutrality in respect of its corporate operations.
- 5.3.19 Strongly encourage that the burning of brush be minimized and that composting and chipping, where feasible, be a priority of residents of the Plan area.
- 5.3.20 Encourage a “lead by example” approach to energy and emissions planning and will commit to setting corporate targets, by:

- i seeking funding support for measuring the Cariboo Regional District’s carbon footprint by mapping operations, collecting emissions data and calculating a corporate footprint, and
 - ii identifying best carbon reduction opportunities and setting specific reduction targets.
- 5.3.21 Incorporate strategies to reduce greenhouse gas emissions when engaged in major infrastructure planning and design projects or new facility construction.
- 5.3.22 Support a land use strategy that encourages, infill and compact development patterns, where appropriate, as a means of providing sustainable development and addressing greenhouse gas emissions.
- 5.3.23 Continue to support opportunities to directly address climate change and energy sustainability through such projects as:
 - i trails and bike paths that support alternative transportation options.
 - ii pilot transit projects and/or expansions of existing transit systems that would support rural residents travelling to District of 100 Mile House and/or Williams Lake for work or services;
 - iii supporting Smart Growth planning principles that are applicable to rural areas; and
 - iv protection of ecosystems that perform essential ecosystem services such as cleaning air and purifying water.
- 5.3.24 Encourage local production of goods and commercial stores in the townsite to reduce the need for movement of goods and commuting of local residents.

Slope and Drainage Constraints

- 5.3.25 Avoid development in Slope and Drainage Constraints as shown on Schedule 'E': Slope and Drainage Constraints, unless the risk can be satisfactorily mitigated by a Qualified Professional Engineer or Geoscientist.
- 5.3.26 Strive to prevent development on lands that may be susceptible to a potential natural hazard, or have been identified as hazardous by the CRD or other agencies having jurisdiction, unless the applicant can prove the land can be safely used for the use intended.
- 5.3.27 Rezoning or subdivision of lands with a slope in excess of 30%, drainage constraints or any other natural hazard will require the proponent to first obtain site-specific hydrology and/or

geotechnical study by a Qualified Professional Engineer or Geoscientist, establishing that the site is suitable for development and specifies conditions under which development may be carried out.

- 5.3.28 Require a site specific geotechnical report prepared by a Qualified Professional registered by the Association of Professional Engineers and Geoscientists of British Columbia if a building inspector considers that construction would be on land that is subject to or is likely to be subject to flooding, mud flows, debris flows, debris torrents, erosion, land slip, rockfalls, subsidence or avalanche as per Section 56 of the *Community Charter*.
- 5.3.29 Require that where a site specific geotechnical report has been provided by a Qualified Professional Engineer or Geoscientist indicating conditions under which the property can be safely developed, that report should be registered in a Section 219 covenant on title to ensure safe use for all subsequent owners as per Section 86 (1)(d) of the *Land Title Act*.
- 5.3.30 Does not support the development of land susceptible to flooding for habitable use except in accordance with the Flood Hazard Area Land Use Management Guidelines of Ministry of Forests, Lands and Natural Resource Operations (MFLNRO), as amended.

Water Resource Management

- 5.3.31 Co-operate with senior governments to provide a coordinated strategy for the stewardship of lakes and watercourses to ensure that no harmful alteration, disruption and/or destruction of fish habitat occurs.
- 5.3.32 Strongly encourage the Ministry of Environment to establish a regular testing program to monitor water quality of Lac La Hache.
- 5.3.33 Discourage actions or activities which may reduce the water quality of any lake, stream or waterbody and shall encourage private landowners to follow Ministry of Environment guidelines for watershed management when logging or developing their land.

5.4 Aquatic Habitat Development Permit Area

Designation

The Aquatic Habitat Development Permit Area (AHDPA) is designated under Section 488 (1) (a) of the *Local Government Act*, and applicable provisions of the *Community Charter* for the protection of the natural environment, its ecosystems and biological diversity. It is not the intent of this section to supersede Provincial and/or Federal regulations. Note that works in or around a stream as defined by the *Water Sustainability Act* require Provincial permitting and approvals. For the purposes of the AHDPA, a watercourse means 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 two square kilometers or more upstream of the point of consideration as per the CRD's Shoreline Management Policy. It is recommended that this document be consulted, particularly Section 1 – Onsite Effluent Disposal Guidelines, and Section 2 – Riparian Buffer Zone Guidelines.

According to the *Fish Protection Act*, "Wetland" means land that is inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal conditions does support vegetation typically adapted for life in saturated soil conditions, including swamps, marshes, bogs, fens, estuaries and similar areas that are not part of the active floodplain of a stream.

According to the CRD's Shoreland Management Policy, 2004:

"Watercourse" means 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 kilometers or more upstream of the point of consideration, or as required by a designated official from the Ministry responsible for the *Water Act*.

"Lake" means body of water, typically freshwater, which can be formed by glaciers, river drainage, surface water runoff, or ground water seepage. Lakes can range in size from a small pond to a larger reservoir, many miles long.

"Pond" means a body of water encircled by vegetation, and generally shallow enough for sunlight to reach the bottom, i.e. a small lake.

"Natural Boundary" means the visible high watermark of a lake, stream, river, or other body of water where the presence and action of the water is so common, usual, and long continued in all ordinary years as to mark upon the soil of the bed of the lake, stream,

"Sensitive Fish Habitat Areas" are areas critical for fish, either because of species distribution, feeding area, spawning, rearing or resting areas (shade, deep pools). Schedule D, for example, shows Critical Fish

Habitat that includes the sensitive spawning and rearing habitat areas identified by DFO. Additional areas may be identified by a QEP during the site assessment stage.

Area

The Aquatic Habitat Development Permit Area (AHDPA) applies to the shoreline of Lac La Hache and other watercourses and wetland areas as shown on Schedule 'F': Aquatic Habitat Development Permit Area. The AHDPA applies to a 15 metre horizontal distance from a watercourse and is based on large scale Provincial TRIM map series at 1:20,000. An increased setback of 30 metres applies to areas with Critical Fish Habitat based on the documentation provided on Schedule 'D': Endangered Species and Ecosystems.

Justification

The primary objective of the Aquatic Habitat Development Permit Area designation is to regulate development activities on Lac La Hache and in other wetlands and watercourses and their riparian areas in order to preserve natural features, functions and conditions that support natural processes.

Development impact on aquatic habitat can be minimized by careful project examination and implementation of appropriate measures to preserve environmentally sensitive riparian areas.

Development Requiring a Permit

- 5.4.1 A Development Permit is required, except where exempt under Exemptions Section 5.4.4, for any of the following activities associated with or resulting from residential, commercial or industrial activities within a riparian assessment area:
- i removal, alteration, disruption or destruction of vegetation within 15 metres of a lake, wetland or watercourse;
 - ii disturbance of soils within 15 metres of a lake, wetland or watercourse;
 - iii construction or erection of buildings and structures, including decks within 15 metres of a lake, wetland or watercourse;
 - iv creation of nonstructural impervious or semi-impervious surfaces within 15 metres of a lake, wetland or watercourse;
 - v flood protection works within 15 metres of a lake, wetland or watercourse;
 - vi construction of roads, trails, docks, wharves and bridges within 15 metres of a lake, wetland or watercourse;
 - vii provision and maintenance of sewer and water services within 15 metres of a lake, wetland or watercourse;

- viii sewage disposal system within 30 metres of a lake, wetland or watercourse;
- ix development of drainage systems within 15 metres of a lake, wetland or watercourse;
- x development of utility corridors within 15 metres of a lake, wetland or watercourse; and
- xi subdivision as defined in the *Land Title Act*, and including the division of land into 2 or more parcels within 15 metres of a lake, wetland or watercourse. In Sensitive Fish Habitat Areas, the riparian assessment area is increased from 15 metres to 30 metres.

5.4.2 Riparian assessment area is defined as:

- i for a stream, the 15 meter strip on both sides of a stream, measured from the natural boundary,
- ii for a lake or wetland, the 15 meter strip around the periphery of the lake or wetland, measured from the natural boundary,
- iii for a stream, lake or wetland with Critical Fish Habitat, the 15 meter strip is increased to 30 meters, measured from the natural boundary.

5.4.3 For any development within a riparian assessment area, an Assessment Report must be submitted in respect of the proposed development by a Qualified Environmental Professional (QEP) under contract to the development applicant, including:

- i certification that the QEP is registered to practice in the Province of B.C. by the appropriate regulatory body, qualified to undertake the assessment. and has used the appropriate assessment methods;
- ii description and map of all pertinent aspects of the proposed development;
- iii confirmation of the boundaries of the riparian assessment area,
- iv description of the natural features, functions and conditions in the riparian assessment area that support fish life processes;
- v recommended measures necessary for conserving, restoring or enhancing the integrity of the riparian area; and
- vi professional opinion that either the development as proposed would not result in serious harm to fish as defined under the Fisheries Act.

5.4.4 A Development Permit may be issued once the following guidelines have been met.

- i The minimum setback of a sewage disposal from any lake, wetland or watercourse is 30 metres. If a property owner plans to install a septic system and field with a setback of less than 30 metres from a lake, wetland or watercourse, the property owner must engage an appropriately qualified engineer or geoscientist to review the proposed siting of the sewage disposal system (e.g. septic system and field) to ensure there will be no detrimental impacts on the adjacent water body. Lesser setbacks will only be considered in exceptional cases where a new system replaces or improves an existing failing one and only with the written approval of the Health Authority or the Ministry of Environment. All setbacks must abide by the recommendations of the Sewerage System Standard Practices Manual with regard to reduction in critical horizontal setback distances.
- ii Vegetated leave or buffer strips of a minimum of 15 metres from the natural boundary of a lake, wetland or watercourse are required. The buffer or leave strips are for the protection of riparian ecosystems and may have a maximum of only 25% in a disturbed state, based on QEP recommendations. In Critical Fish Habitat areas, a vegetated leave or buffer strip of a minimum of 30 metres is required.
- iii The perimeter of leave strips may be required to be identified prior or during all phases of construction, using brightly coloured materials such as snow fencing, to prevent any accidental disturbances. Construction materials generated by construction activities such as excavation operation, demolition of existing structures and stockpiling operations shall be stored outside the 15 metre setback or as per the QEP mitigation plan.
- iv Where shoreline vegetation has been removed from the property leading to erosion or other damages, or damage to the leave strips occurs during construction, a development permit will require an assessment from a qualified professional on the damage and a report on recommendations for rehabilitation. A replanting scheme may be required based on the qualified professional's recommendations. Local or native riparian species are to be used in the replanting scheme. Note that shoreline damage is required to be reported to the Provincial Ministry of Forests, Lands, and Natural Resource Operations (MFLNRO) and rehabilitation will require permitting under the *Water Sustainability Act*.

- v Notification from the QEP that the proposed setback development will not negatively affect the functioning of a watercourse or riparian area.
- vi Written confirmation from the QEP that the proposed riparian setback and design does not conflict with other federal, provincial and/or local government requirements, including that of other development permit areas, building permits, flood covenants, federal or provincial authorization.
- vii For any topics not addressed in this section, the Province's *Develop with Care: Environmental guidelines for Urban and Rural Land Development in British Columbia* are to be followed.

Exemptions

5.4.5 The AHDPA does not apply to the following:

- i The construction, alteration, addition, repair, demolition and maintenance of farm buildings and farm fences and normal farm practices that are subject to the *Farm Practices Protection (Right to Farm) Act*;
- ii Reconstruction, renovation or repair of a legal permanent structure if the structure remains on its existing foundation in accordance with provisions of the relevant section of the *Local Government Act*. Only if the existing foundation is moved or extended into a riparian assessment area would an AHDPA be required. However, as per Provincial Legislation, a building that is damaged by fire, decay, or otherwise to an extent greater than 75% of its determined value above its foundations, as determined by a Building Official, would require a Development Permit;
- iii An area where the applicant can demonstrate that the conditions of the AHDPA 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; or
- iv Removal of noxious weeds or invasive plants as defined by provincial government legislation.
- v Construction of an access point to a water body is permitted subject to:
 - a) i) the access point is restricted to providing an access point for a dock, a pathway to a lake, wetland or watercourse, or a water intake;

- b) ii) the access point is not established in an area subject to bank erosion (unless mitigative measures are undertaken;
- c) iii) an access trail shall have a pervious/permeable surface, such as gravel, or soil, that allows the passage of water;
- d) iv) construction of a new access point will be restricted if an existing access point is already established on the property. In any case, the total width of all access point shall be limited to 25% of the lot's water frontage, to a maximum of 15 metres;
- e) if shoreline vegetation has been removed, construction of a new access point shall be directed to that area in order to protect and maintain the required buffer areas;
- f) relevant authorizations obtained from provincial or federal agencies.

Expedited Development Permit Process

- 5.4.6 To expedite the Development Permit approval process the CRD has delegated approval authority to designated staff.