



# Bouchie-Milburn Neighbourhood Plan Technical Background Report

## Parts 1-3 of 4, and Appendices A & B

*Part 1 – Report Overview*

*Part 2 – Bouchie-Milburn Community Overview*

*Part 3 – Demographic & Development Analysis*

*Part 4 – Current Land Use Analysis (to be released at later date)*

*Appendix A - Quesnel Fringe Area OCP Relevant Policies*

*Appendix B - Maps*

Cariboo Regional District

Development Services Department

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# 1 REPORT OVERVIEW

## 1.1 Introduction

Development of a neighbourhood plan for the Bouchie Lake area is identified as an objective in the 2019 Planning division business plan. The general intent of the plan is to develop a detailed long range planning document for the area. The Bouchie-Milburn Neighbourhood Plan (BMNP) will identify a strategic approach to future development, environmental issues and other land use related priorities that may be identified by the community.

## 1.2 Project Management

The project is being undertaken by planning staff at the CRD and guided by the Bouchie-Milburn Steering Committee. The Steering Committee is made up primarily of Electoral Area B Advisory Planning Commission members, Electoral Area B Director Barb Bachmeier, plus additional community members from the Bouchie-Milburn neighbourhood. The steering committee provides advice to CRD staff on the overall direction and focus of the project.

## 1.3 Project Timeline & Public Engagement

A project workplan, including public engagement strategy was developed in spring of 2019. The project is scheduled to run from spring 2019 through to completion in early 2020. Community engagement will occur over the summer and fall of 2019. Project timelines are tentative and subject to change. A robust engagement program is outlined in the project workplan and includes public surveys, project newsletters, public meetings and hearings. Various stakeholder groups (citizen groups and government agencies) are identified and will be consulted based on plan priorities identified through initial public engagement.

## 1.4 Report Objectives

This report compiles background research and data analysis of the project study area (Map 1). The primary objective of the report is to establish a base of factual information to rely upon during development of the neighbourhood plan. Objectives of this report are to:

- Estimate study area population, projected growth rates, projected housing demand.
- Summarize information regarding area economy, natural environment, social and cultural aspects.
- Summarize existing policy direction for the study area in the Quesnel Fringe Area OCP.
- Provide initial mapping and analysis of current land use patterns.
- Identify matters recommended for policy focus during plan development.

## 2 BOUCHIE-MILBURN COMMUNITY OVERVIEW

### 2.1 Project Area

The project study area initially covered lands surrounding Bouchie Lake and south to the intersection of Blackwater Rd and Nazko Rd. At the advice of the project steering committee, the area was expanded to include neighbourhoods around Milburn Lake and south of Nazko Rd (Map 1). The study area is 4,950 ha in size, with an estimated population of 1,916 people (see Part 3 for population discussion).

Nearly the entirety of the study area falls within the boundaries of the Quesnel Fringe Area OCP. The BMNP study area covers 20 percent of the Quesnel Fringe Area OCP (see Map 1).

### 2.2 Quesnel Fringe Area OCP

The BMNP Study Area is located within the Quesnel Fringe Area Official Community Plan (QFOCP) area. The Quesnel Fringe Area OCP was adopted in 2014. Relevant OCP policies are compiled in Appendix A of this report. The Quesnel Fringe Area OCP also addresses environmental protection, natural hazards, and other infrastructure (sewer, water, transportation) discussion and policies. Depending upon community feedback and priorities established in the BMNP, relevant policies in the QFOCP may need to be amended, removed, or reference to the BMNP may be required. The BMNP development allows an opportunity to build from and/or work toward implementing applicable policies in the QFOCP.

The intent of the BMNP is to focus on neighbourhood specific development topics. Topics of concern that apply uniformly across the entirety of the Quesnel Fringe Area OCP will be noted and addressed at the time of future OCP updates. An example would be policies addressing wildfire risk, as this risk exists across the regional district, and not specific to the Bouchie-Milburn neighbourhood.

### 2.3 First Nations

The study area is within the traditional territories of Nazko First Nation, Lhatko Dene First Nation, and the Tsilhqot'in Nation. The Quesnel Fringe OCP provides a brief overview of the history of these nations.

The current best practice is to engage with First Nations when dealing with long range land use planning exercises. Staff have informed the area First Nations of the project and offered for their participation. Staff have yet to receive a response and will continue to reach out.

### 2.4 Heritage

There are 11 archaeological sites within the plan area. The Provincial Government recognizes the importance of archaeological sites through the Heritage Conservation Act. Under this Act, the Archaeology Branch is responsible for maintaining and distributing archaeological information and deciding if permits can be issued to allow development to take place within protected sites.

Location and information regarding archeological sites is made confidential by the province to ensure protection. The existence of these sites should be kept in mind when assessing development potential in the area, as there could be other unidentified sites in the vicinity. The provincial archaeological database (RAAD) provides details regarding archaeological potential of areas.

Bouchie Lake was named after William (Billie) Boucher, the first known permanent settler in the area. There is a strong history underpinning the identity of this community with First Nations and European settler influence. There is an opportunity to offer a non-profit group such as Friends of Bouchie-Milburn

Society or Quesnel and Area Museum & Archives staff to provide a brief write-up of the history of the community for use in the BMNP.

The Collins Overland / Yukon Telegraph Trail is a locally registered CRD heritage site. A portion of the Telegraph Trail traverses through the northeast portion of the study area (see Map 2). The Telegraph Trail primarily traverses through private property, and roughly parallels the Blackwater Rd.

## 2.5 Natural Environment

The Bouchie-Milburn study area is within the Sub-Boreal Spruce Biogeoclimatic Zone. The following excerpts from the Ministry of Forests outlines the general characteristics and climate of this environment.

*“The Sub-Boreal Spruce Zone satisfies a familiar image of interior British Columbia as a place of cold winters and warm summers, deep snow cover and dense forests, varied wildlife, and clear lakes and rivers. Outdoor activities such as fishing, hunting, and cross-country skiing flourish here, alongside lowland cattle ranching and intensive logging in upland areas.*

*“Because of its northern interior location, the Sub-Boreal Spruce Zone has a continental climate with characteristic extremes of temperature. Summers are short but warm and moist, with daytime temperatures that occasionally reach into the 30s. Winters can be severe, with extended periods below -10°C and extremes that can reach -40°C or colder. Though drier than the coast, the Sub-Boreal Spruce Zone is wetter than areas such as Williams Lake to the south. Most of the zone is under snow for four to five months, from November to March. In summer, frequent thunderstorms sweep through the area, creating a fire hazard which is somewhat moderated by the moist climate.*

*“Seen from an airplane, the terrain in the Sub-Boreal Spruce Zone appears as a vast, rolling landscape covered with dense coniferous forests. The upland forests of the Sub-Boreal Spruce Zone contain a distinctive combination of tree species. Here, the dominant coniferous species are hybrid white spruce, subalpine fir, and occasionally, black spruce, along with lodgepole pine, a pioneer species in the drier parts of the zone. Douglas-fir also occurs on dry, warm, rich sites. Together with the moist climate, deep snows, and heavier precipitation, this combination of species results in a highly productive forest with a distinctive understorey that includes abundant lilies, ferns, blueberries, and Devil’s club.*

*“Trembling aspen, which regenerates primarily from underground roots, is a common pioneer deciduous species on moist to dry upland sites. Paper birch is another pioneer species on moist, rich sites. Forests of black cottonwood with small numbers of spruce occur occasionally on active floodplains of major streams and rivers. On moist, moderately well-drained sites, the shrub layer includes black huckleberry, thimbleberry, highbush-cranberry, and Sitka alder under spruce and subalpine fir forests. Spruce and fir also appear as shrubs under lodgepole pine. Black huckleberry, velvet-leaved blueberry, and kinnikinnick frequent many drier sites under lodgepole pine. Black gooseberry, black twinberry, bunchberry, thimbleberry, Devil’s club, oak fern, and Queen’s cup are among the shrubs and herbs that occur in wetter areas, usually under a canopy of spruce and subalpine fir.*

*“Marshes occur around lakes and streams, usually with horsetails and sedges, but also with stands of cattail, bulrush, and spikerush in the warmer parts of the zone. Swamps with trees and tall shrubs occur mostly along stream courses or the edges of lakes. Reedgrass and*

horsetails are common, along with interior spruce and shrubs such as tall Bebb's, MacKenzie's, or Barclay's willows.

*"Since the 1970s, forest harvesting has become the primary resource in the Sub-Boreal Spruce Zone, which abounds in large tracts of mature, productive forests. The presence of a variety of wildlife, particularly furbearing animals, make hunting and trapping significant resources, in addition to logging. Agricultural activity in the zone is limited both by the cold climate and the terrain, which is often either hilly, stony, or poorly drained. A few dairy and cattle operations find forage at lower elevations along the major rivers, and cereal and grain crops also grow on more propitious, warmer sites."* ("The Ecology of the Sub-Boreal Spruce Zone" (Ministry of Forests, 1998, <https://www.for.gov.bc.ca/hfd/pubs/docs/Bro/bro53.pdf>)

## 2.6 Climate Change

The Fraser Basin Council (FBC), with funding from Natural Resources Canada, supported the BC Regional Adaptation Collaborative (BCRAC) to conduct research and community adaptation projects throughout BC between 2009 and 2012. As part of this project, the FBC and BCRAC developed the Cariboo-Chilcotin Climate Change Adaptation Strategy. This study predicts the following outlook on climate change impacts in the Cariboo region:

***"Increasing Air Temperature*** - Pacific Climate Impacts Consortium (Dawson, Werner and Murdock, 2008) projections for the Cariboo-Chilcotin indicate an increase in the annual average temperature by an average of 1.8°C by the 2050s, and by an average of 2.6°C by the 2080s, compared to baseline data from 1961-1990. It is anticipated that winter temperatures will increase more than summer temperatures.

***Changes in Precipitation*** - Pacific Climate Impacts Consortium (Dawson, Werner and Murdock, 2008) projections for the Cariboo-Chilcotin indicate a decrease in precipitation as snow by 9% in winter and 55% in spring by the 2050s, and by 11% in winter and 75% in spring by the 2080s, compared to baseline data from 1961-1990. Overall precipitation patterns are mixed for the region, but less precipitation as snow and more as rain is the most significant change projected."

([https://www.fraserbasin.bc.ca/Library/CCAQ\\_BCRAC/bcrac\\_fbc\\_cs\\_crd.pdf](https://www.fraserbasin.bc.ca/Library/CCAQ_BCRAC/bcrac_fbc_cs_crd.pdf))

The most relevant impacts of climate change within the Bouchie-Milburn study area will relate to water quality and quantity and the potential for increased wildfire risk due to reduced snowpack and reduced precipitation. These are likely to be larger scale challenges better suited to OCP updates, however, specific policies around protection of water values in the study area will likely result from the BMNP process.

## 2.7 Lake Water Quality

Water quality of both Bouchie and Milburn Lakes has been an ongoing community concern. The Quesnel Fringe Area OCP discusses water quality concerns, quoted below.

*"Lakes and streams are prominent features of the Quesnel fringe plan area and are valued recreation, aesthetic and economic resources. The condition of the area's lakes, wetlands and watercourses has been well researched and these documents provide recommended strategies for the management of the area's water resources.*

*Milburn Lake:*

*Milburn Lake is located approximately 16 km west of Quesnel and is relatively small (perimeter 6.1 km) with a mean depth of 7.6 m. Similar to Bouchie Lake, 100% of the shoreland is privately owned; however, only approximately 6% of shoreline is considered suburban development with small residential parcels. The remaining lakeshore parcels are still in larger holdings with approximately 78% forested. Recent studies of Milburn Lake have indicated that the lake is stable, however, the small size of the lake and the shallow depth make this lake very susceptible to additional nutrient inputs and susceptible to changes within the watershed. Milburn Lake is rated as highly sensitive to future land development and MoE does not recommend any further lakeshore development.*

*Bouchie Lake:*

*Bouchie Lake is a small relatively shallow eutrophic lake. Owing to its close proximity to Quesnel (13 km by paved roads) it is an attractive rural settlement area where 100% of the shoreline is owned privately. Some of the shoreline properties are still in large agricultural or rural holdings but the majority of the lakeshore has been subdivided for small lot residential use. The Ministry of Transportation and Infrastructure (MOTI), through the subdivision approval process, has required some right-of-way dedications that provide public access to the lake. The lake is shallow (mean depth 4.2 m) and with a slow flushing or turnover period (approximately 3-4 years) the lake is very susceptible to activities within the watershed*

*The Ministry of Environment advises that there are many background studies on Bouchie Lake that contribute to our understanding of lake conditions. Studies of the Bouchie Lake sediment have shown that the lake water quality was stable for 450 years and began to decline around 1950 with significant decreases since the 1970 -1980's. Studies of the lake show that it is receiving nutrient loading from the upland watershed area, as well as from within the lake itself. In particular it is noted that there is an over-abundance of phosphorus in the lake already and as septic fields around the lake reach saturation, the nutrient loading to the lake will increase. Bouchie Lake has been classified as having a high water quality sensitivity rating, reflecting a high sensitivity to further development in the watershed. The Bouchie Lake studies suggest that management strategies are required for both shoreline development and the upland watershed." (Quesnel Fringe Area OCP, section 3.2.2, Pg. 22-25).*

The Bouchie Lake Stewardship Committee, Baker Creek Enhancement Society, and the BC Ministry of Environment collaborated to develop the Bouchie-Milburn Watershed Management Plan (2009). The primary concern is high levels of phosphorous entering the lake, which is contributing to the poor water quality. The largest contributors to phosphorous loading are agriculture and lakeshore septic systems. It is anticipated that lakeshore septic systems will continue to increase their proportion of loading as septic systems continue to age. Internal phosphorous loading from existing lake sediment is contributing an estimated 52% of loading in 2005. The Bouchie-Milburn Watershed Management Plan recommends numerous actions to be undertaken by various stakeholders.

In June of 2016 a public information meeting was held between CRD Staff and the community regarding the creation of a taxable service applicable to waterfront lots on Bouchie Lake in an effort to improve the environmental quality of the lake. No further action or Board direction resulted from this meeting.

It is very likely that water quality will be a common concern during the engagement portion of BMNP development. Additional policy considerations and liaison with Ministry of Environment and Northern

Health Authority will likely need to be addressed. Further consideration with respect to the viability of a liquid waste treatment facility may need to occur. The Bouchie-Milburn Watershed Management Plan will contribute to policy direction in the BMNP.

## **2.8 Sewerage Concerns**

The 2009 Bouchie-Milburn Watershed Management Plan and the QFOCP both identify the development of a feasibility study for the potential development of a community sewage treatment system for the Bouchie Lake area. Given the topography and dispersed nature of development, it is unlikely to be financially feasible. It is likely the public engagement process will identify lake water quality and potential sewer system as community concerns. If this is the case, the BMNP should focus on development of policies to further address this issue.

## **2.9 Natural Hazards**

Natural hazard mitigation is primarily addressed through the Quesnel Fringe Area Official Community Plan (QFOCP), addressing geotechnical hazards, flood hazards, wildfire hazard, and riparian protection areas. These hazards and mitigation measures are briefly discussed in this section.

### **2.9.1 Geotechnical Hazards**

Section 3.7 of the QFOCP addresses Development Permit requirements for areas identified as having moderate and high geotechnical hazard potential. These areas are based on the AMEC report completed in 2009. There are areas of known active instability, mostly bordering the eastern boundary of the study area. As part of a Development Permit submission, areas within the high or moderate geotechnical hazard areas require a report by a qualified professional addressing the risk and ensuring that any proposed use of the land is appropriate. Maps provided for analysis in Part 4 of this report identify the known hazard areas. It is recommended that the BMNP assume that the high hazard areas do not have potential for further development.

### **2.9.2 Flood Hazards**

Few areas within the CRD have been studied for flood risk. Historical mapping was undertaken by the provincial government in 1992. The areas mapped are specific to the Fraser and Quesnel River floodplains in the vicinity of Quesnel. The Zoning Bylaw provides for flood protection setbacks of 7.6 m from waterbodies and 30 m from watercourses. The study area is not known to have a history of overland flooding, however, the frequency and intensity of rainstorms has been increasing in the Cariboo area.

### **2.9.3 Wildfire**

Policies 3.4.49 through 3.4.57 of the Quesnel Fringe Area OCP address requirements for development within areas identified as having moderate or high wildfire probability. Subdivision or rezoning for the creation of four or more lots in these areas requires a Wildfire Hazard Mitigation Report with any wildfire mitigating prescriptions to form part of a restrictive covenant to be registered on the title of the property. For subdivision or rezoning in these areas where less than four lots are created, a covenant recommending FireSmart mitigation measures is required on the title of the properties.

After intense fire seasons in the Cariboo in 2017 and 2018, there is an increased public interest in FireSmart principles. The Bouchie-Milburn area also falls within the Quesnel and Surrounding Area Community Wildfire Protection Plan, endorsed by City of Quesnel Council in January 2018.

## 2.10 Community Quality of Life

Research and discussion with community members to date reflects a highly involved community, supporting a quality of life centred around rural, outdoor living. Bouchie Lake residents identify the community as distinct from Quesnel. The community involvement and history of Bouchie Lake helps to drive a strong community spirit and quality of life.

### 2.10.1 Community Core

The community core, surrounding the Blackwater and Nazko Road intersections, is served by a number of community facilities including:

- Community Hall
- Bouchie Lake Volunteer Fire Department
- Centennial Park – Outdoor ice rink, two equestrian riding arenas, and baseball diamonds
- Bouchie-Milburn Community Park
- Bouchie Lake Elementary School

There are also two commercial stores and a neighbourhood pub within the core area. There is also one service commercial, and one light industrial property near the core. There are numerous off-highway vehicle (OHV) desire paths crossing the highway and interconnecting various points within this core area. Blackwater Road/Nazko Road runs through this centre with frontage roads on both sides. There is an uncontrolled intersection with no pedestrian crosswalk and a flashing yellow warning light. Nazko Road (also known as Nazko Hwy 59) is the principal arterial route for the interior region running west from Quesnel. Nazko Road and Blackwater Road have a large amount of industrial traffic, which passes through the community on route to various points west and north.

### 2.10.2 Community Recreation

Preliminary public engagement to date indicates that Bouchie-Milburn residents highly value the recreation opportunities throughout the community.

The Bouchie Lake Recreation Commission is responsible for operating and maintaining the Bouchie Lake Hall (including its various facilities: outdoor ice rink, riding arenas, ball park), the Claymine property, and the Bouchie-Milburn Community Park. The commission's budget is reviewed and approved annually by the CRD Board of Directors.

A section of the Blackwater road shoulder was paved, creating a pedestrian/bicycle link between the Bouchie-Milburn Community Park and the Claymine Property, however, it appears that road lines have been repainted partially covering this shoulder, making the shoulder area too narrow and unsafe in areas.

A network of informal (and in some cases unlawfully trespassing) trails connect various dead-ends and community points of interest via undeveloped road right of ways and sometimes cutting through undeveloped private land. These trails are used for walking, off-highway vehicle (OHV), and equestrian use. Also, OHV desire paths can be found along the ditches and side shoulders of many of the developed road right of ways.

The Bouchie-Milburn Stewardship Society has improved one of the lake accesses on Bouchie Lake, and in 2019 is actively working to complete the necessary environmental permitting and fundraising to improve the main access at Milburn Lake. These improved facilities are valued by the community and extensively used, however this also affects immediately neighbouring properties with parking and other nuisances.

Hangman Springs Recreation Site is a provincially approved recreation area in the southwest corner of the study area, and includes an extensive network of motorized and non-motorized trails. Various stakeholder groups are responsible for maintenance.

Just outside the west boundary of the plan area, located on Nazko Road, is the Quesnel Rod and Gun Club.

### 2.10.3 Community Stakeholder Groups

There is strong community involvement in the area. The following community and recreation groups are identified as project stakeholders. As the BMNP project progresses, stakeholders will be engaged in particular topics relevant to their group.

- Bouchie Lake Recreation Commission
- Bouchie Lake Volunteer Fire Department
- Bouchie Lake Elementary PAC
- Bouchie Lake Stewardship Society
- Bouchie Lake Community Association
- Quesnel Rod & Gun Club
- Back Country Horseman Association – North Cariboo Chapter
- Quesnel & District Riding Club
- Bouchie Lake Gymkhana Club
- BC Pet Safe Coalition
- Bouchie Lake Rural Crime Watch

## 2.11 Housing Needs Assessment

Urbanics Consulting is presently working on a housing needs assessment for the North Cariboo subregion (Electoral Areas A, B, C, I, and City of Quesnel). The Housing Needs Assessment project timeline anticipates completion of a housing needs assessment in September 2019, and a housing action plan completed by October 2019. Depending on timing, there should be opportunity to integrate applicable recommendations from the affordable housing needs assessment and action plan into the BMNP.

## 2.12 Economic Overview

Primary economic land uses within the area include agriculture and forestry.

Within the study area are two retail commercial businesses and a restaurant/pub. A windshield tour indicates numerous home-based businesses and home industries. Bouchie Lake elementary school is also an employment generator. A few small service commercial/light industrial business also support the area. The Quesnel Golf Club is also within the plan area, offering public access to an 18 hole course.

The 2016 Census indicates that within the Bouchie Dissemination Areas (see Map 3), 1290 people are in the labour force, with 175 unemployed, resulting in a 13.6% unemployment rate, compared with 11.9% and 10.5% unemployment rates for Electoral Area B and the CRD, respectively.

Census Canada (2016) estimates 795 people within the Bouchie Dissemination Areas commute to regular places to work. Of these, only 40 work within their census subdivision (Electoral Area B); all others commute to somewhere outside the electoral area. An additional 125 people are estimated to work from home. This indicates, as is generally known, that the Bouchie-Milburn area is primarily rural residential in nature and not a significant employment generator itself.

It is important to continue to support and encourage existing commercial businesses and home occupations. Maintaining support for agriculture and forestry land uses is also important. Continued support for recreational and institutional land uses, including the elementary school, will also support the residential desirability of the area.

## 3 DEMOGRAPHIC & DEVELOPMENT ANALYSIS

### 3.1 Population Estimates & Projections – Community Profile

An important part of understanding the community context is determining current and future population and resultant housing needs. As the area is mainly rural in nature, making an accurate determination of future population poses a challenge. Census data is available at the Provincial, Regional District, Electoral Area, and Census Dissemination Area scales.

A census dissemination area is a small, relatively stable geographic area composed of one or more census dissemination blocks. The dissemination area is the smallest standard geographic area for which census data are disseminated. The Bouchie-Milburn study area straddles five census dissemination areas (see Map 3). Census 2016 data for the Bouchie-Milburn dissemination areas was compiled for analysis against Electoral Area B data. Electoral Area B data is generally representative of the Bouchie-Milburn area, although, between the 2011 and 2016 censuses the Bouchie-Milburn dissemination areas indicate a smaller population decline than Area B (-2.8% vs. -4.1% respectively).

#### 3.1.1 Bouchie-Milburn Current Population Estimate

Average 2016 Census household population within the Bouchie-Milburn dissemination areas varies from 2.2 to 2.4. Averaging the household populations across dissemination areas results in 2.3 people per household. This is consistent with the 2016 average household size of 2.3 in both Electoral Area B and the entirety of the CRD, and compares to the BC average of 2.4. Accordingly, planning staff have strong confidence in estimating the Bouchie-Milburn study area population based on an average household size of 2.3.

Current CRD data as of May 2019 indicate 833 house points within the study area. Multiplied by an average household size of 2.3 produces a 2019 population estimate of 1,916 people.

Note that “house points” in the CRD’s GIS (Geographic Information System) data do not necessarily guarantee representation of a populated dwelling. In rare cases, house points are issued to undeveloped properties where owners require a civic address for reasons other than dwelling on the property (i.e. future construction, work site, or need for civic address). Some discrepancy in the population estimate should be anticipated, although a comparison against mailing addresses on CRD record, and population of the combined dissemination areas, provides staff with confidence that the population estimate is reasonable.

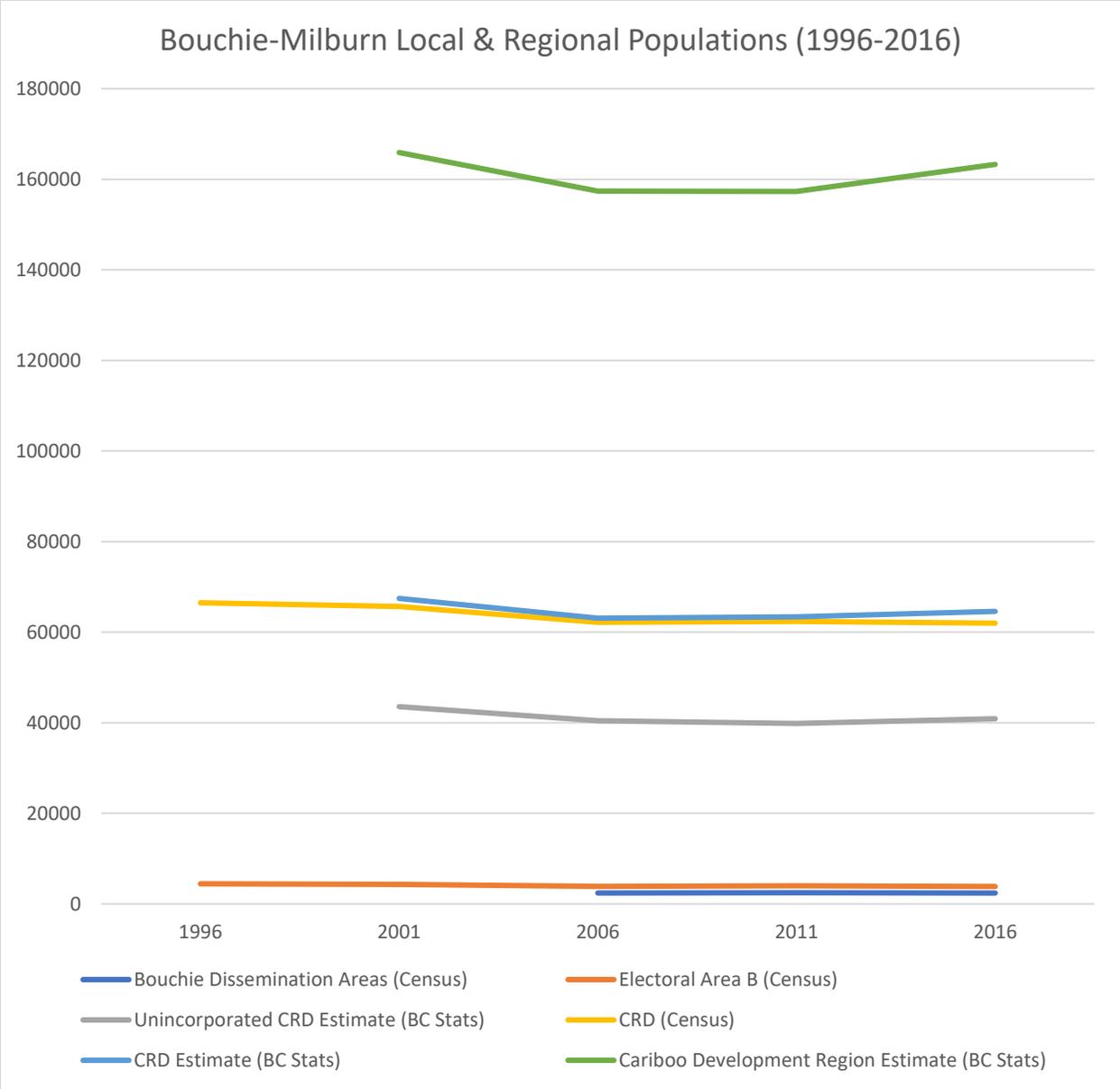
#### 3.1.2 Population Trends

Historical population data (Table 3.1) indicates a fluctuating, but relatively stable population for all geographic levels in the region. Although percentage change between census periods (Table 3.2 & Figure 3.2) may appear large, averaged annual population changes across all area geographic levels (ranging from -2.2% to +1.0%) indicates overall a highly stable population (See Figure 3.1 and Table 3.3). Electoral Area B appears to have the most volatile population variation, with both total CRD and Bouchie-Milburn dissemination areas indicating more modest variation than Electoral Area B.

It is important to note that census counts generally underrepresent populations. BC Stats takes this underrepresentation and other economic data into account in their population estimates.

**Table 3.1 - Local & Regional Populations 1996 to 2016**

|   | <b>1996</b> | <b>2001</b> | <b>2006</b> | <b>2011</b> | <b>2016</b> |
|---|-------------|-------------|-------------|-------------|-------------|
| Bouchie Dissemination Areas (Census)  |             |             | 2,438       | 2,466       | 2,397       |
| Electoral Area B (Census)   | 4,432       | 4,338       | 3,858       | 4,006       | 3,842       |
| Unincorporated CRD Estimate (BC Stats)  |             | 43,548      | 40,446      | 39,834      | 40,897      |
| CRD (Census)  | 66,475      | 65,659      | 62,190      | 62,392      | 61,988      |
| CRD Estimate (BC Stats)   |             | 67,443      | 63,087      | 63,355      | 64,590      |
| Cariboo Development Region Estimate (BC Stats)^   |             | 165,895     | 157,360     | 157,304     | 163,297     |
| ^Cariboo Development Region is an amalgamation of Cariboo and Fraser-Fort George Regional Districts |             |             |             |             |             |



**Figure 3.1 - Bouchie-Milburn & Regional Populations (1996-2016)**

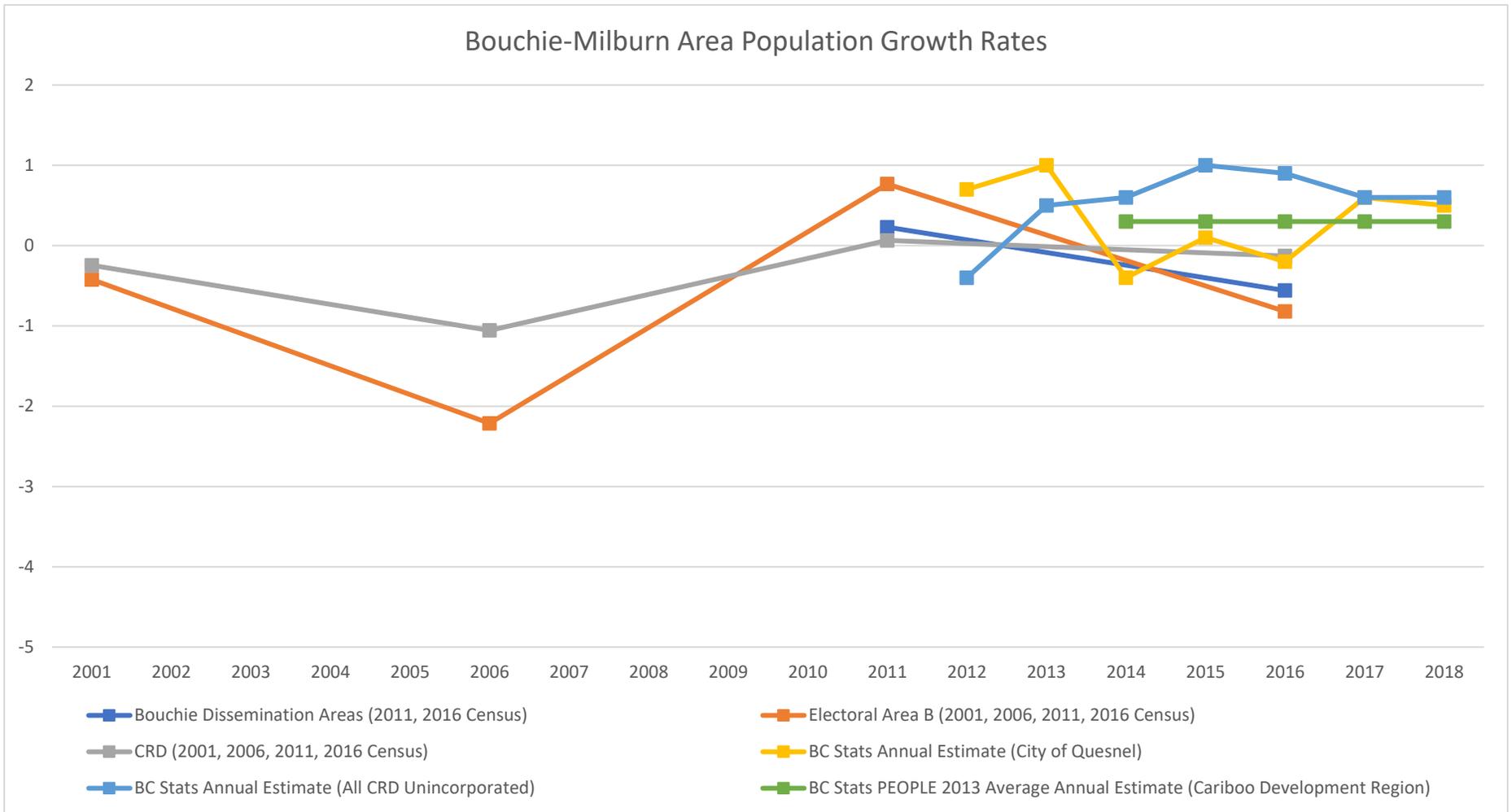
**Table 3.2 - Local & Regional Populations with Percent Change 1996 to 2016**

|  | 1996<br>Population | Percent<br>Change<br>(1996 to<br>2001) | 2001<br>Population | Percent<br>Change<br>(2001 to<br>2006) | 2006<br>Population | Percent<br>Change<br>(2006 to<br>2011) | 2011<br>Population | Percent<br>Change<br>(2011 to<br>2016) | 2016<br>Population |
|--|--------------------|--|--------------------|--|--------------------|--|--------------------|--|--------------------|
| Bouchie Dissemination Areas (Census)           | N/A                |  | N/A                |  | 2,438              | 1.1%                                   | 2,466              | -2.8%                                  | 2,397              |
| Electoral Area B (Census)                      | 4,432              | -2.1%                                  | 4,338              | -11.1%                                 | 3,858              | 3.8%                                   | 4,006              | -4.1%                                  | 3,842              |
| Unincorporated CRD Estimate (BC Stats)         |                    |  |                    |  | 40,446             | -1.5%                                  | 39,834             | 2.7%                                   | 40,897             |
| CRD (Census)                                   | 66,475             | -1.2%                                  | 65,659             | -5.3%                                  | 62,190             | 0.3%                                   | 62,392             | -0.6%                                  | 61,988             |
| CRD Estimate (BC Stats)                        |                    |  | 67,443             | -6.5%                                  | 63,087             | 0.4%                                   | 63,355             | 1.9%                                   | 64,590             |
| Cariboo Development Region Estimate (BC Stats) |                    |  | 165,895            | -5.1%                                  | 157,360            | 0.0%                                   | 157,304            | 3.8%                                   | 163,297            |

**Table 3.3 - Annual Growth Rates (%) for Representative Geographic Areas**

| Census Year | Bouchie Dissemination Areas (2011, 2016 Census)^ | Electoral Area B (2001, 2006, 2011, 2016 Census) | CRD (2001, 2006, 2011, 2016 Census)* | BC Stats Annual Estimate (City of Quesnel) | BC Stats Annual Estimate (All CRD Unincorporated) | BC Stats PEOPLE 2013 Average Annual Estimate (Cariboo Development Region)+ | Average |
|-------------|--|--|--------------------------------------|--|---|--|---------|
| 2018        |  |  |                                      | 0.5  | 0.6   | 0.3  | 0.5     |
| 2017        |  |  |                                      | 0.6  | 0.6   | 0.3  | 0.5     |
| 2016        | -0.6   | -0.8   | -0.1                                 | -0.2                                       | 0.9   | 0.3  | -0.1    |
| 2015        |  |  |                                      | 0.1  | 1.0   | 0.3  | 0.5     |
| 2014        |  |  |                                      | -0.4                                       | 0.6   | 0.3  | 0.2     |
| 2013        |  |  |                                      | 1.0  | 0.5   |  | 0.8     |
| 2012        |  |  |                                      | 0.7  | -0.4  |  | 0.2     |
| 2011        | 0.2  | 0.8  | 0.1                                  |  |   |  | 0.4     |
| 2006        |  | -2.2   | -1.1                                 |  |   |  | -1.6    |
| 2001        |  | -0.4   | -0.2                                 |  |   |  | -0.3    |

\*Note Census growth rates shown are annual averages based on 5-year census interval  
^See Map 3 for Bouchie Dissemination Boundaries  
+BC Stats Cariboo Development Region is an amalgamation of CRD and RDIFFG



**Figure 3.2 - Bouchie-Milburn Growth Rates (note, census points are averaged over 5 year census intervals)**

### 3.1.3 Projected Growth Rates and Population

Based on historical population trends discussed above, and development trends within the study area (discussed in Section 3.2), three projected linear growth rate scenarios are selected for use in the BMNP (Table 3.4, Figure 3.3). Rationale for each of the rates is discussed below.

A moderate growth rate scenario of 0.5% represents an average of two estimated 2018 BC Stats rates (City of Quesnel, CRD Unincorporated Areas) and the projected BC Stats growth rate projection (2013-2018 PEOPLE estimate for the Cariboo Development Region. (The Cariboo Development Region is a BC Stats amalgamation of the Cariboo Regional District and Regional District of Fraser-Fort George.) An average of the three rates was selected given the location of the study area is likely impacted by economic trends in all three areas.

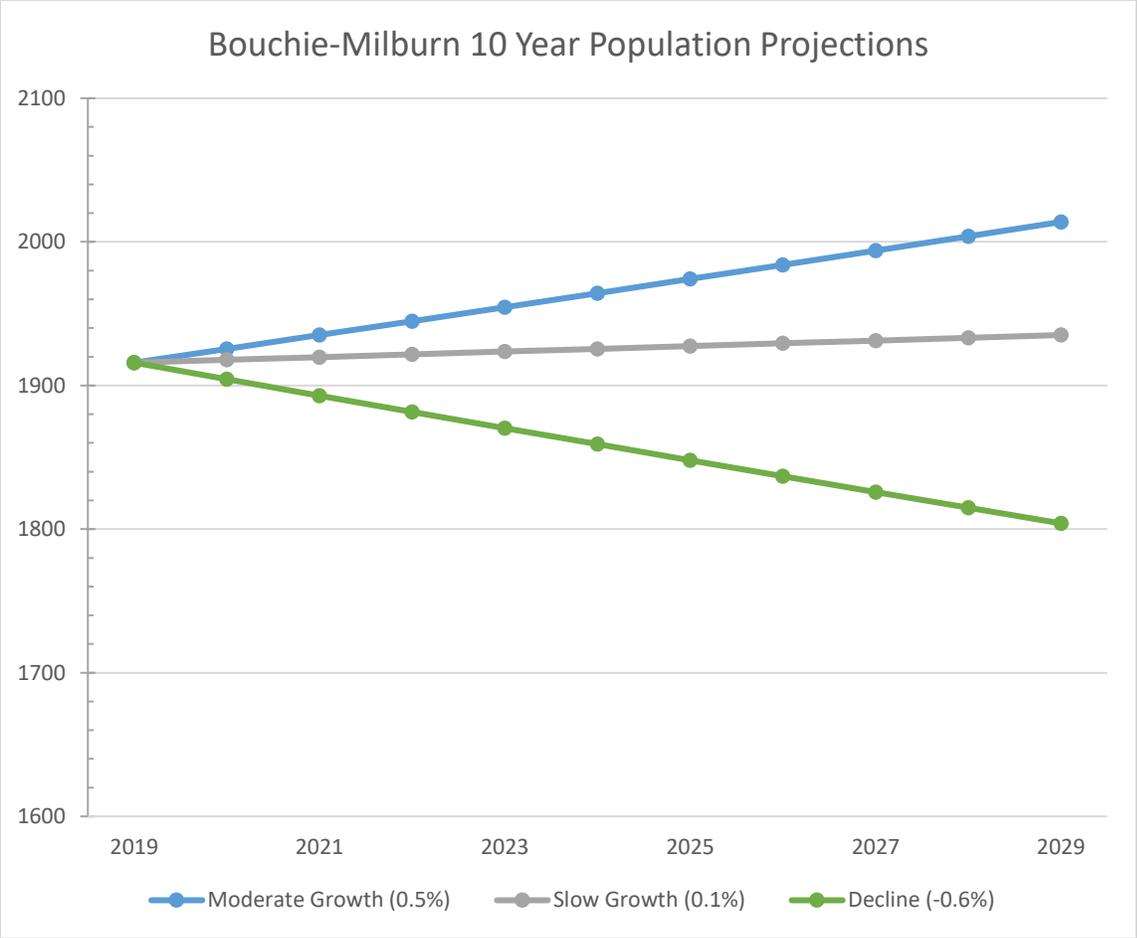
A slow growth rate scenario of 0.1% most closely represents growth based on CRD building permit data from 2011 to 2018. The rate is based on net new dwelling starts (see Section 3.2.2), indicating an average annual net increase of one dwelling unit per year during years 2011 to 2018, inclusive. Based on an average household size of 2.3 people and an estimated study area population of 1,916, this represents an approximate 2.3 person, or 0.1% annual growth rate.

The 0.6% annual decline scenario is shown, representing the population change of the combined 2016 Bouchie Area census dissemination areas, averaged equally over the five years between censuses. Given the current decline of the forest industry in the Quesnel area, and considering the cyclical population trends indicated by the 2001, 2006, and 2011 censuses, it is important to show a population decline scenario, which may occur based on the current short-term economic outlook for the area.

Table 3.4 summarizes projected five and ten year population change based on each of the three growth rate scenarios. The ten year population change indicates a continued, relatively stable population, with projected population change varying from +98 to -112.

**Table 3.4 - Bouchie-Milburn Area Projected Growth Rates**

|                 | Annual Rate | 5 Year Population Change | 10 Year Population Change |
|-----------------|-------------|--------------------------|---------------------------|
| Moderate Growth | 0.5%        | 48                       | 98                        |
| Slow Growth     | 0.1%        | 10                       | 19                        |
| Decline         | -0.6%       | -57                      | -112                      |



**Figure 3.3 - Bouchie-Milburn 10 Year Population Projections**

**3.1.4 Residential Demand**

Based on the three projected growth rates and an average household size of 2.3 people, dwelling unit demand is projected at five and ten-year instances (Table 3.5). Five-year dwelling unit demands range from a demand for 21 new dwelling units under the moderate growth scenario to an excess of 25 dwelling units under the population decline scenario. The slow growth scenario projects a demand of four new dwelling units over five years. The ten-year projection ranges between a demand for 43 new units (moderate growth) to 49 excess units (population decline), and a demand for 8 new units under the slow growth projection. It is most likely these needs would be addressed through a mix of single-family dwellings (including manufactured homes), secondary suites, and carriage houses.

In May 2015, the CRD Board adopted zoning bylaw amendments to permit secondary suites, carriage houses, and second dwellings on various residential and rural zoned properties.

There may be some demand for smaller, medium density residential development such as row housing in a rural setting for seniors or young families. Part of the neighbourhood plan engagement process will attempt to gauge community demand for such a development.

The *Local Government Act* requires that Official Community Plans indicate approximate location, amount, type and density of residential development required to meet housing needs over a period of at least five years. Upon completion, the Bouchie Milburn Neighbourhood Plan will likely be appended to the Quesnel Fringe Area OCP, and as such should meet the legislative requirements for OCPs. Part 4 of this report will assess vacant lots and the BMNP will discuss land availability to meet residential demand.

**Table 3.5 - Five and Ten Year Projected Dwelling Unit Demand**

| Growth Rate Projections |       | 5 Year<br>Population<br>Change | 5 Year<br>Dwelling Unit<br>Demand | 10 Year<br>Population<br>Change | 10 Year<br>Dwelling Unit<br>Demand |
|-------------------------|-------|--------------------------------|-----------------------------------|---------------------------------|------------------------------------|
| Moderate<br>Growth      | 0.5%  | 48                             | 21                                | 98                              | 43                                 |
| Slow Growth             | 0.1%  | 10                             | 4                                 | 19                              | 8                                  |
| Decline                 | -0.6% | -57                            | -25                               | -112                            | -49                                |

### 3.1.5 Population Profile

The age distribution of the population of Electoral Area B is consistent with the expected distribution of a rural residential area of Interior BC, being overall older than the provincial average. Of note in Area B, the 45-74 age ranges are higher than the provincial proportions, and the 20-44 age ranges are lower than the provincial proportions. Although the study area consists of a higher proportion of older residents, it is interesting to note the child to youth age group (0-19 years) is comparable to or slightly exceeds the provincial proportion. With an elementary school, affordable property values, and general close proximity to Quesnel, the Bouchie-Milburn area has attractive qualities for raising a young family which may be attributed to this indicator.

Area B has a similar age profile to the entire CRD, although the discrepancies with the provincial profile are more distinct in Area B. The highest age brackets (75-100+ years) in Area B taper off more quickly than the CRD profile, indicating a lower proportion of the most elderly population residing in Area B. This is likely due to the distance to care services in Quesnel, and large rural lot sizes which require more maintenance than is usually desired or feasible for older population groups.

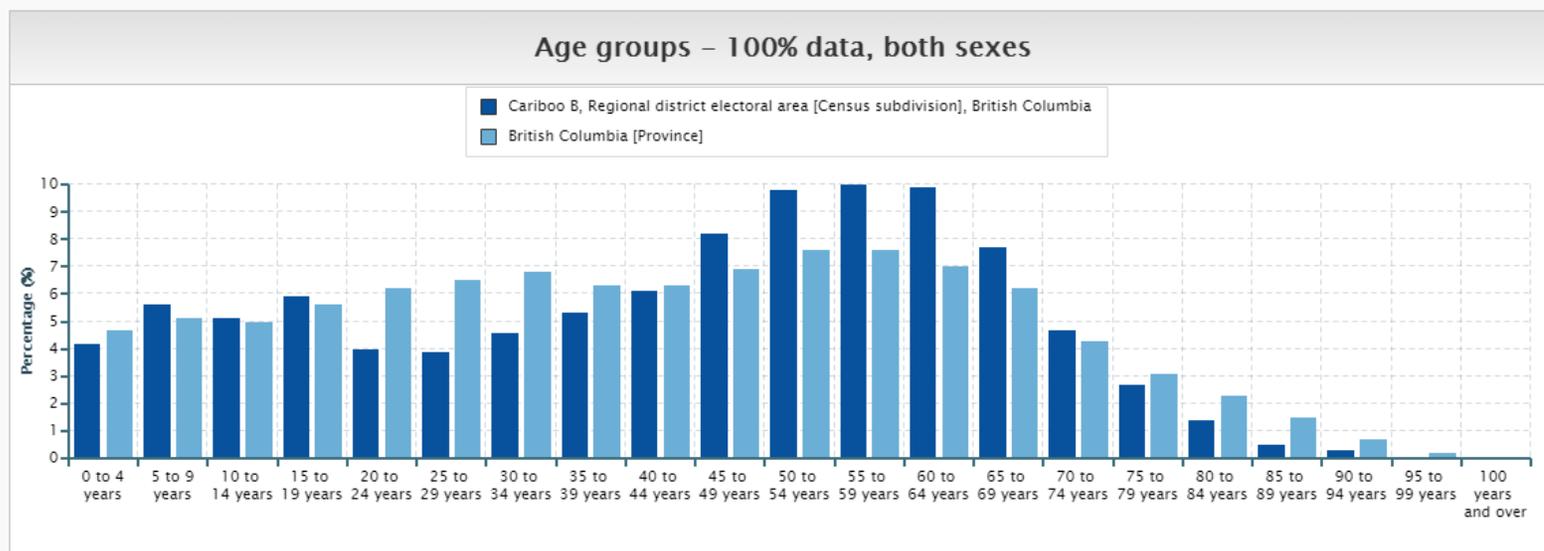


Figure 3.4. Electoral Area B Population Age Distribution against Provincial Distribution (2016 Census – Statistic Canada Image – accessed July 15, 2019)

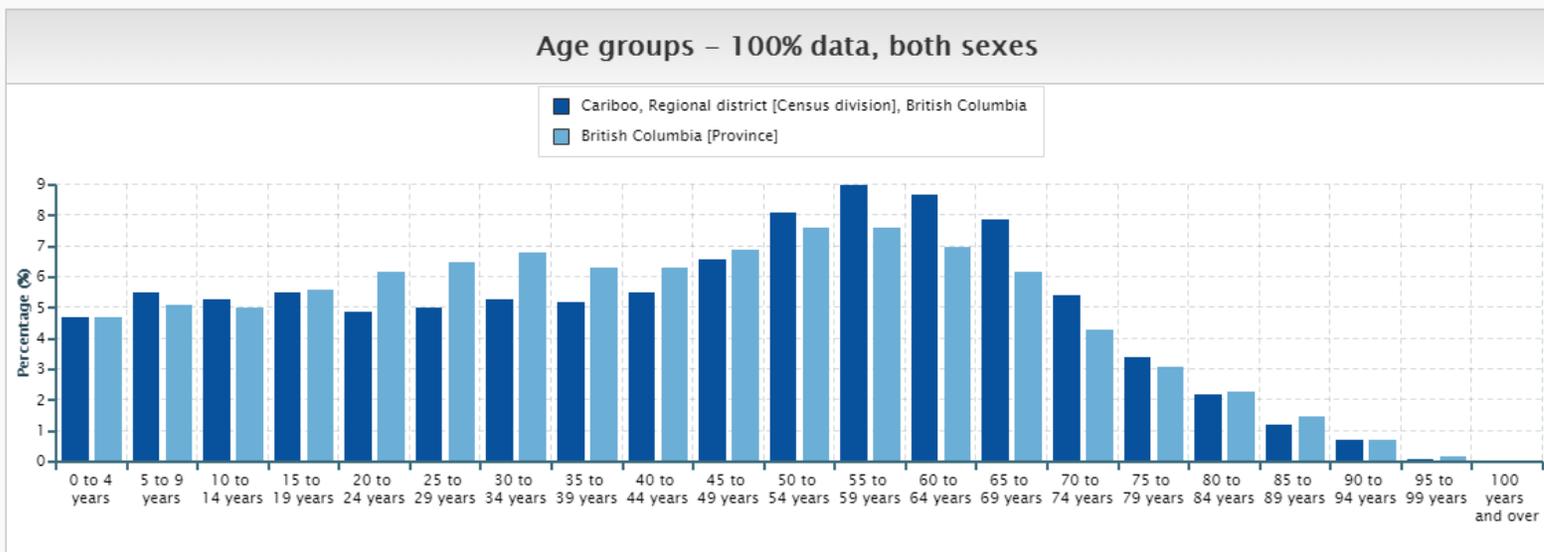


Figure 3.5. Cariboo Regional District Population Age Distribution against Provincial Distribution (2016 Census– Statistic Canada Image – accessed July 15, 2019)

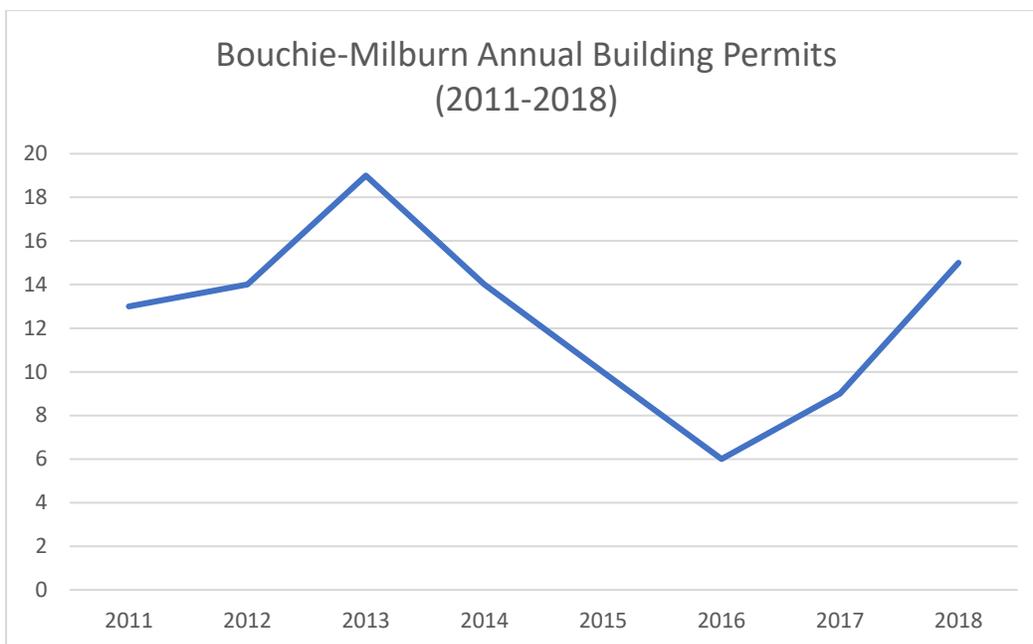
## 3.2 Development Data

This section analyzes Building Permit and Development Applications for the study area. The information reflects that of the population trends discussed above, showing a stable community with a gradual pace of development.

### 3.2.1 Building Permits Overview

Building Permits from 2011 to 2018 are assessed based on CRD data. A starting point of 2011 is selected based on data availability as data entry practices are more detailed beginning in 2011. Building permit renewals are excluded from the analysis. The original permit issuance dates are used in the annual counts, and not the date of construction completion.

Annual building permits within the study area range from six to 19 per year. Annual permits issued may show a cyclical trend, increasing from 2011 to 2013, with a steady decrease from 2013 to 2016, and showing an upward trend again from 2016 through 2018 (Figure 3.6). It is unknown whether the current decline in the forest industry in Quesnel will again place downward pressure on building permits in the Bouchie-Milburn area.



**Figure 3.6. Total Annual Building Permits (2011 to 2018)**

**Table 3.6 - Building Permits by Type (2011 to 2018)**

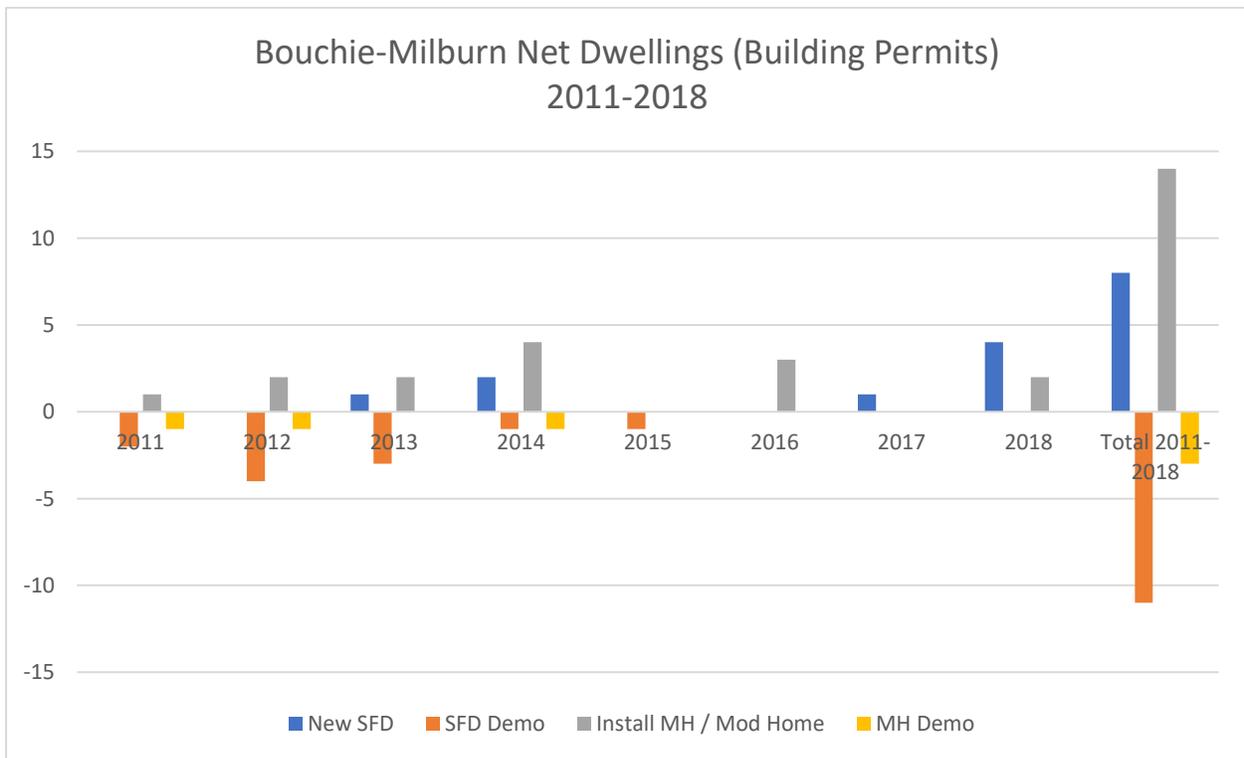
| <b>Year</b>   | <b>2011</b> | <b>2012</b> | <b>2013</b> | <b>2014</b> | <b>2015</b> | <b>2016</b> | <b>2017</b> | <b>2018</b> | <b>Total<br/>2011-<br/>2018</b> |
|---|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|---------------------------------|
| Reno's / Improvements /<br>Accessory Demo's               | 6           | 5           | 9           | 5           | 6           | 1           | 4           | 2           | 38                              |
| New SFD   | 0           | 0           | 1           | 2           | 0           | 0           | 1           | 4           | 8                               |
| SFD Demo  | 2           | 4           | 3           | 1           | 1           | 0           | 0           | 0           | 11                              |
| Install MH / Mod Home                                     | 1           | 2           | 2           | 4           | 0           | 3           | 0           | 2           | 14                              |
| MH Demo   | 1           | 1           | 0           | 1           | 0           | 0           | 0           | 0           | 3                               |
| New Accessory Building                                    | 3           | 3           | 4           | 2           | 3           | 2           | 4           | 7           | 28                              |
| Annual Total*   | 13          | 14          | 19          | 14          | 10          | 6           | 9           | 15          | 100                             |
| *Totals may differ from counts due to combination permits |             |             |             |             |             |             |             |             |                                 |

### 3.2.2 Dwelling Unit Construction

A total of 22 permits for new dwellings (including SFD, mobile homes, modular homes) were constructed/installed over the eight year period of 2011 through 2018, representing an average 2.75 new dwellings per year. However, over the same period, a total of 14 dwellings were demolished, representing an average of 1.75 dwelling units demolished. This trend results in a net average increase of 1.0 dwelling units per year within the study area. These numbers show a general trend of renewal of an older building stock and are supported by the generally stable total population. It also indicates that there will likely be limited demand for new subdivision.

**Table 3.7 - Total and Net New Dwelling Units 2011-2018**

| Year                    | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | Total 2011-2018 |
|-------------------------|------|------|------|------|------|------|------|------|-----------------|
| New SFD                 | 0    | 0    | 1    | 2    | 0    | 0    | 1    | 4    | 8               |
| SFD Demolition          | -2   | -4   | -3   | -1   | -1   | 0    | 0    | 0    | -11             |
| Install MH / Mod Home   | 1    | 2    | 2    | 4    | 0    | 3    | 0    | 2    | 14              |
| MH Demolition           | -1   | -1   | 0    | -1   | 0    | 0    | 0    | 0    | -3              |
| SFD Net                 | -2   | -4   | -2   | 1    | -1   | 0    | 1    | 4    | -3              |
| MH / Modular Net        | 0    | 1    | 2    | 3    | 0    | 3    | 0    | 2    | 11              |
| Total Dwelling Unit Net | -2   | -3   | 0    | 4    | -1   | 3    | 1    | 6    | 8               |



**Figure 3.7 - Bouchie-Milburn Net New Dwelling Units 2011-2018**

### 3.2.3 Development Applications

Development applications can provide insight into the level of development interest in a particular area. As development applications often precede construction, they can provide a somewhat longer-range view of future development trends when compared to building permit trends. In this analysis development applications include: rezoning, OCP amendments, Agricultural Land Reserve (ALR) applications, Development Variance Permits, and Development Permits. Subdivision applications were not assessed as this process is managed by the Ministry of Transportation and Infrastructure (MOTI).

Development applications are presented in Figure 3.8 for years 2012 through 2018. These years are selected as data entry in CityView is more robust beginning in 2012. Overall, development applications are relatively low (approximately one per year), mostly to resolve inconsistencies with current land use patterns (i.e. downzone, resolve encroachments, boundary adjustment). There does not appear to be a high demand for development. Intensive development is generally driven by opportunity for profit. Low land values assist in providing affordable living, but often reduce the demand for new development. Accordingly, development trends in the area are more likely driven by the personal desire of individual land owners, rather than private sector developers.

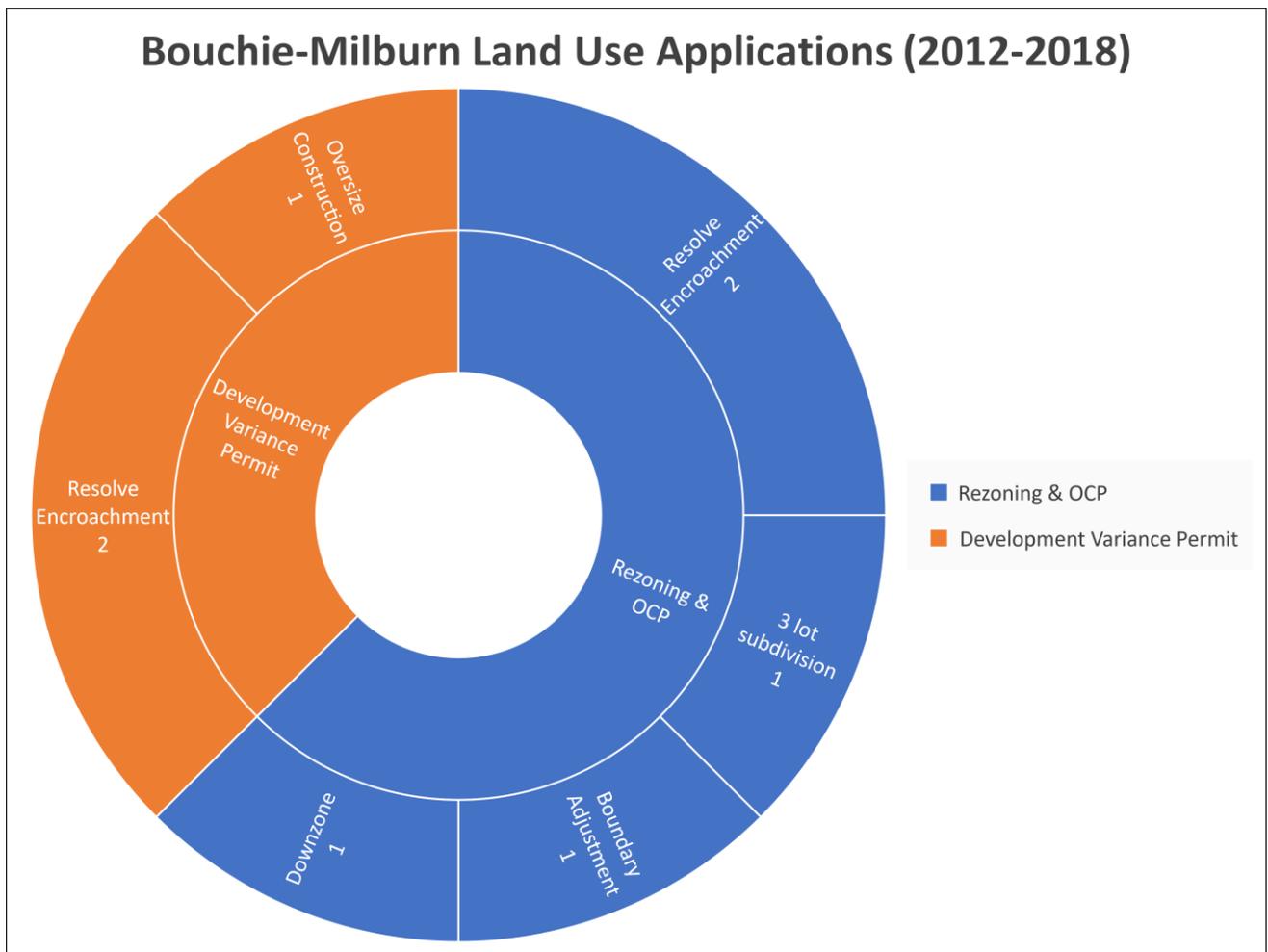


Figure 3.8 - Land Use Applications by Reason for Application 2012-2018

## APPENDIX A – QUESNEL FRINGE AREA OCP RELEVANT POLICIES

Appendix A provides a summary of policy statements within the current Quesnel Fringe Area Official Community Plan (adopted 2014) which relate to the Bouchie-Milburn Neighbourhood Plan study area.

| Policy # | Policy Wording   |
|----------|--|
| 3.4.9    | Encourage federal and provincial agencies to continue monitoring issues of environmental importance, particularly water quality in local lakes (e.g. Bouchie, Dragon, 10 Mile and Milburn Lakes).  |
| 3.4.45   | Support the development of a Liquid Waste Management Plan for the Bouchie Lake area, recognizing that MoE recommends the development of a sewer system for the area. The CRD would require an expression of interest, from the majority of residents to establish a local service area, before the planning process is launched.   |
| 3.4.46   | Do not support any further lakeshore development on Milburn Lake.  |
| 6.3.4    | <p>Single Family Residential (Unserviced)</p> <p>The single family residential (unserved) lot designation was developed for areas where there was a demand for higher densities (i.e. Bouchie Lake, Quesnel Fringe Area – west of the city). The original objective of this designation was to concentrate development into a desired residential area where future densities could potentially warrant servicing systems. However, given current economic, social and environmental conditions, it is unlikely that these areas will be either incorporated into Quesnel and/or fully serviced for the term of this plan. In the interim, it is recommended that minimum parcel sizes be of sufficient size to discourage further sprawl and accommodate on-site servicing over the long term. The minimum parcel size for this designation is 4000 square meters unless the Medical Health Officer requires a larger minimum parcel size to accommodate safe disposal systems.</p> <p>In the Bouchie Lake area, where management of ground discharge is recommended to improve water quality, no further subdivision is supported unless connections to a community sewer system is also provided.</p> |
| 7.3.15   | Neighbourhood commercial designations are appropriate in the Bouchie areas in the vicinity of the junction of the Blackwater and Nazko roads;  |
| 7.3.16   | <p>The plan area is crossed by numerous highway corridors including the Nazko Highway, Barkerville Highway and Highway 97 corridors. There is opportunity for limited highway commercial development along these corridors to cater to highway traffic; however locations near Quesnel are preferred as more sustainable choices. If new rural locations are considered, they should:</p> <ul style="list-style-type: none"> <li>• minimize impacts on neighbouring land uses;</li> <li>• contribute to a local activity space (e.g. recreation park) or community focal point (e.g. community hall). A new restaurant, for example, could complement recreation space by providing local opportunities for food services.</li> </ul>  |

| Policy # | Policy Wording   |
|----------|--|
| 9.3.7    | Consult with the Lhtako and Nazko Indian Band on any sites or locations of special interest thought to be of importance to their cultural identity and history.  |
| 9.3.16   | Work with the Bouchie Lake Recreation Commission and the Bouchie Lake Recreation Society to review and clarify working relationships and partnerships. There are clear benefits to the co-existence and collaboration of these two groups.   |
| 10.4.2   | Support the development of a Liquid Waste Management Plan for the Bouchie Lake area, recognizing that MoE recommends the development of a sewer system for the area, if supported by the residents.  |
| 11.3.3   | Work with the Ministry of Transportation and Infrastructure (MoTI) to consult the “Quesnel and Area Walking and Cycling Trail Guide” published jointly by Kickstart Quesnel, the City of Quesnel and the Cariboo Regional District when approving new subdivisions or upgrading roads in the plan area. Many of the routes listed in the trail guide incorporate portions of the area’s roads. Where roads are identified in the trail guide, it would be beneficial to review safety and design considerations for multi-use corridors.   |
| 11.3.13  | <p>The Regional District may take a lead role in coordinating multi-party discussions where there is conflict regarding use patterns on transportation corridors. These discussions may include: members of the community, representatives of the trucking industry, MOTI and the City of Quesnel. Two specific areas of conflict that were identified during the OCP consultation process were:</p> <ul style="list-style-type: none"> <li>• Drummond Road – concerns from the local residents about conflicts between industrial truck traffic and rural residential use.</li> <li>• Nazko Highway – concerns from truckers about limitations on their use of engine brakes when descending into Quesnel.</li> </ul> |
| 11.3.15  | Work with the community to develop an inventory of trail networks within the plan area.  |
| 11.3.16  | Consider options for developing a Trails Master Plan. The plan should consider trail options outside the plan area as shown on Schedule F and will include consultation with the City of Quesnel.  |