CROWN LAND:
Indicators & Statistics Report

2010

Ministry of Forests, Lands and Natural Resource Operations
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Thank you all for your efforts.
Crown land is a public asset that is highly valued by the citizens of BC. Crown land supports a diverse range of species and ecosystems, provides opportunities for recreational activities, and is a foundation of the province’s economy. The 2010 *Crown Land: Indicators and Statistics Report* presents a wide range of new and refined indicators and statistics related to Crown land and its management.

The allocation and management of Crown land plays a key role in promoting the health and well-being of British Columbians, sustaining the environment, and expanding and diversifying the economy. The Province has a responsibility to ensure that Crown land is managed to maximize and sustain the flow of benefits to all British Columbians. To meet this responsibility, government provides policy and legislative direction for Crown land allocation and management, and delivers many regional land programs.

The last provincial report to provide an inventory of the Crown land base and land use activities was the 1996 *BC Land Statistics* report. The 2010 *Crown Land: Indicators and Statistics Report* provides updated information and a more comprehensive analysis of the current Crown land base and the issues involved in Crown land management. Analysis focuses largely on those management activities authorized under the *Land Act*. The report draws together information on the Crown land base, its resources, demographics, and management regime. In addition, information is included on the legislation and policies that affect the management of Crown land, including how Crown land is allocated and how land use decisions are made.

With publication of the 2010 *Crown Land: Indicators and Statistics Report*, a new baseline of information has been established, including benchmarks for future Crown land reporting. This report will be a valuable resource for those interested in the allocation and management of Crown land in BC.
Land and Resources

There are four broad types of land ownership in BC: private land, First Nations treaty settlement land, provincial Crown land, and federal Crown land. In BC, the majority of the land base is provincial Crown land. Relative to other provinces, BC has the second highest percentage of provincial Crown land at 94%. BC also has the second largest area of provincial Crown land in Canada with 88.7 million hectares.

This vast land base is highly diverse. Vegetative cover varies significantly between types of land ownership. Forest cover makes up 67% of Crown land, but just 22% of private land. Between sub-regions, variations are also apparent: the Cariboo sub-region has the highest proportion of forest cover at almost 80%, while the Skeena sub-region has the highest proportion of alpine areas at 21%. Economic uses of land also vary according to ownership type: 33% of private land is covered by agriculture and range land compared with less than 1% for Crown land.

Socio-Economic Activity

BC’s population has been gradually increasing over the past century and population projections indicate moderate growth will continue. Population growth has been concentrated in urban centres in the southwest of the province where a diverse economic base exists (e.g. South Coast +6.7%, 2001 to 2006). Population declines in parts of northern BC (e.g. Skeena -7.1%, 2001 to 2006) are partly a result of less economic diversity in the north coupled with declining economic activity in the dominant natural resource sectors such as forestry. With the exception of the Peace sub-region, unemployment rates in 2006 also tended to be highest in the north (e.g. Skeena 12.4% compared to 5.6% on the South Coast).

Many economic sectors rely on provincial Crown land to support their activities. In 2006, over 9% of provincial GDP was produced on Crown land; with 5% directly on Land Act tenured Crown land. Overall, the forestry, utilities, energy and mining sectors are most heavily dependent on Crown land: just over 80% of their GDP is produced on Crown land and in 2006 they accounted for 8.1% of the Province’s total GDP. Some economic activities, such as mining and agriculture, require exclusive use of Crown land. Other economic activities, such as public recreation and tourism, are compatible with non-exclusive use of land. The most economic output generated on Land Act tenured Crown land is from (in order) energy, utilities and pipelines, mining, tourism, and agriculture and aquaculture.

On average, between 2000 and 2009, provincial government revenue from natural resources accounted for about 13% of total annual provincial government revenue (mainly from petroleum, natural gas, minerals, forestry and water resources). Revenues from Land Act tenures and sales averaged 2% of total natural resource revenues (60% from tenures and 40% from land sales). In 2008/09 government revenue was $75 million, with 70% from tenure rents and royalties, 28% from sales, and 2% from fees. From 2003 to 2009, Crown land tenure revenue has come mainly from: energy and mining (38%), agriculture (11%), manufacturing and commercial (11%), tourism and accommodation (9%), and utilities and pipelines (9%). Crown land sales revenue has mainly come from: residential (51%), agriculture (22%), and manufacturing and commercial (15%).

Land Use Direction and Objectives

Many positive outcomes have been realized through strategic land and resource planning in BC: ecological features identified and preserved; unique cultural values protected; economic diversity increased; land-based conflicts resolved; and First Nations interests recognized. During the planning process, the interests and needs of stakeholders are identified, land use policies are defined, resource management strategies and zones are developed, and legal land use objectives are established.

Strategic land and resource plans can encompass large regions, sub-regions or landscape-unit-sized
Crown Land: Indicators and Statistics Report

areas of BC. There are currently 138 approved strategic land and resource plans in the province, including 24 regional-level plans that cover 85% of BC’s land base. All regional plans have used some form of land-use zoning to identify priorities for the use and management of Crown land and resources, and to establish policy direction.

Land use planning has contributed significantly to the identification of Crown lands to be set aside as parks and protected areas. Parks and protected areas cover 14.2% of the total BC land base. To regulate forestry activities, additional legal direction is established under Section 93.4 of the Land Act. Eighty of the 138 plans in BC (58%) have one or more Section 93.4 legal orders established.

The identification of Old Growth Management Areas (OGMA) is one particular focus of planning. OGMA can be established either as policy or as legal land objectives. In BC, there are 34,844 non-legal OGMA that encompass 1,396,707 hectares, and 15,512 legal OGMA that encompass 1,386,200 hectares.

Crown Land Allocation

Crown land is allocated by the Province through the issuance of a tenure or a grant to a client. Between 2000 and 2009, the vast majority of Crown land allocated under the Land Act was disposed of through the issuing of tenures. Tenures include leases, licences, rights-of-way and permits. For the purposes of this report, reserves, notations and transfers of administration and control have been included in the analysis of tenures.

Between 2000 and 2009, just over half of the 59,533 tenures issued were in the Peace sub-region, while the Skeena and Cariboo sub-regions tenured 48% of the total 34,396,136 hectares tenured. During this same period, 2,943 grants were issued, which accounted for 5% of the total number of dispositions. A total of 65,736 hectares were granted, which accounted for 1% of the total area. The residential sector accounted for over half of the number of grants issued, and agriculture and related activities accounted for over 85% of the area granted.

Currently, the energy, utilities and residential sectors account for 58% of the 48,548 tenures on Crown land, while the tourism and accommodation sector account for approximately 45% of the area tenured. Tenures and grants are also issued for community and institutional purposes (at less than market value) through the Community and Institutional Land Use Program. Between 2000 and 2009, public sector bodies, regional governments and community organizations received 124 Sponsored Crown Grants and 1,571 Nominal Rent Tenures for health, education, community infrastructure and public facilities.

Conclusion

Accurate information on BC’s land base, demographics, and Crown land allocation and management activities is important for engaging in discussions on managing the Crown land base. The 2010 Crown Land: Indicators and Statistics Report provides baseline information critical to making informed decisions, and for measuring the progress made in achieving balanced outcomes.
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Introduction
Crown land is a public asset that is highly valued by the citizens of BC. It provides an economic foundation for the province’s natural resource sectors. It supports a diverse range of species and ecosystems, and provides for a diverse range of uses and activities.

Management and Administration of Crown Land

The management and administration of Crown land plays a pivotal role in expanding and diversifying the economy, sustaining the natural environment, and promoting the health and well-being of residents and communities. The extent and significance of Crown land in BC means that every community in the province has an interest in how the Crown land base is managed. Over 20 sectors in the provincial economy directly depend upon the continued use of Crown land. Economic growth for many local economies can only occur if access to Crown land and resources is secured. To achieve economically prosperous, socially responsible and environmentally sustainable use of Crown land the Province must balance the needs of the public, investors and stakeholders, while acknowledging Aboriginal rights and title, and promoting reconciliation with First Nations in BC.

Government provides policy and legislative support for Crown land management, including land use planning, Crown land tenure and sales, Crown land remediation, and front-line delivery of many Crown land programs. Accurate information on Crown land is an essential tool for making effective decisions about Crown land allocation and management that address the needs and concerns of stakeholders and the citizens of BC.

Information on Crown Land

Making accurate information on Crown land available to government staff and decision-makers is important so that government can continue to engage citizens in an effective dialogue on how to best manage the province’s Crown land base.

Since the mid-1990s, the State of BC’s Forests reports and the State of the Environment reports (since 1998 called Environmental Trends in BC reports) have provided valuable information that has touched on Crown land issues. However, since the publication of the BC Land Statistics report in 1996 there has been no direct reporting on BC’s Crown land.


With the publication of the 2010 Crown Land: Indicators and Statistics Report a new baseline of information has been established, including benchmarks for future Crown land reporting.
Legislation Governing Crown Land Management

The *Land Act* is an important part of the legislative and regulatory framework that guides the allocation and management of Crown land in BC.¹ The Act largely governs the acquisition, disposition, management, administration, transfer and surveying of Crown land in BC.² The Act is the main legislation used by the government to convey land to the public by granting land or by issuing Crown land tenures in the form of leases, licences, permits and rights-of-way. Important decision-making powers authorized under the Act include:

- Determining if a disposition of Crown land is in the public interest;
- Temporarily reserving Crown land from disposition;
- Designating Crown land for a particular use; and
- Prohibiting certain uses of Crown land.

Following this introductory chapter, the remainder of the report is organized into four main parts. Each part provides an overview, followed by sections detailing key indicators and statistics. Each section begins with a brief discussion of why the indicator is important, followed by key statistics and finally a broader discussion and analysis of the data (see Figures 1 and 2 for illustrations of the report structure and reporting framework).

¹ The other key Acts and Regulations are summarized in the *Summary of Crown Land Administration Division Acts and Regulations, 2008*, (see Additional Information for details).

² In addition, dispositions sometimes occur under the *Ministry of Lands, Parks and Housing Act*. These dispositions are also discussed in this report (see Section 5.4, Grants by Sector).
• Part 3, Socio-Economic Activity: provides regional information on economic activity that Crown land supports, and socio-economic information on the people that live there.
• Part 4, Land Use Direction and Objectives: focuses on the strategic land and resource planning process that results in the setting of direction and objectives for Crown land management.

Table 1 summarizes the key indicators and statistics that are presented in each section of this report.

Table 1 Summary of Key Statistics and Indicators

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<td>• Unemployment rates</td>
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<td>3.5 Sector dependence on Crown land</td>
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<td>• Area covered by exclusive and non-exclusive tenures</td>
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<td>3.7 Economic activity on Crown land</td>
<td>• Gross domestic product (GDP) generated by activities on Crown land</td>
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<td>3.8 Government resource revenue</td>
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<td>• Number and regional distribution of approved strategic land and resource plans</td>
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<td>• Percentage of province covered by policy-based planning zones and designations</td>
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<td>• Number of plans in province covered by legal land use objectives</td>
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<td>4.5 Old growth management areas</td>
<td>• Hectares and percentage of province covered by legal and non-legal old growth management areas</td>
</tr>
<tr>
<td>4.6 Provincial protected areas</td>
<td>• Hectares and percentage of protected area by type • Percentage of protected areas by sub-region • Ecological zones within protected areas</td>
</tr>
</tbody>
</table>
### Data Aggregation

Wherever possible, data in this report have been aggregated and applied to the eight natural resource sector sub-regions (Map 1).\(^3\) Primary data sources for this report are the GeoBC Geographic Warehouse, Tantalis database, BC Stats, Hectares BC, Statistics Canada, and Environment Canada.

\(^3\) A recent initiative has reconciled the sub-regional boundaries across natural resource agencies and established eight sub-regions. The main difference with the reconciled boundaries and the retired Integrated Land Management Bureau boundaries is that the Thompson-Okanagan and Cariboo sub-regions have been merged into one region, called Thompson-Okanagan, and the Robson Valley has been removed from the Omineca and included in the new Thompson-Okanagan sub-region.
Additional Information

- Key Acts and Regulations are summarized in the *Summary of Crown Land Administration Division Acts and Regulations*, 2008.
  
  Available: [http://icw.agf.gov.bc.ca/g/clad/slpb/CLAD_acts_regs.pdf](http://icw.agf.gov.bc.ca/g/clad/slpb/CLAD_acts_regs.pdf)

- Land Act related *Legislative Summaries*.
  
  Available: [http://www.al.gov.bc.ca/ministry/legsum/LAND.stm](http://www.al.gov.bc.ca/ministry/legsum/LAND.stm)
Land and Resources
In BC, Crown land, as defined by the Land Act, is "land, whether or not it is covered by water, or an interest in land, vested in the government." BC has one of the largest provincial Crown land bases in Canada. The vast majority of land in BC is Crown land, and the Province has a responsibility to ensure that it is managed to maximize and sustain the flow of benefits to British Columbians. Responsibility for the management of Crown land and resources is shared by many agencies in the province.

Part 2 presents an inventory of BC’s land base. The land base is analyzed by indicators such as ownership type, land cover, resources, and land use activities, with a focus on Crown land. New data are presented on provincial land ownership and provincial land use. Part 2 provides the context for a more detailed examination of Crown land management in Parts 3, 4 and 5.

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4 BC’s Land Act, R.S.B.C 1996, ch.245. Crown land can be vested in either the federal or provincial governments but this report focuses on provincial Crown land, both narrowly and broadly defined. The narrow definition only applies to land owned by provincial ministries. The broad definition includes all land owned by ministries, provincial Crown corporations and other agencies established under provincial statutes such as universities, school boards and health authorities (the so-called SUCH sector), but does not include public lands owned by local governments.
2.2 Crown Land Ownership by Province

Why is this Important?
Provincial Crown land ownership varies significantly between Canadian provinces. Relative to other provinces, BC has a high proportion of provincial Crown land. As such, Crown land management plays an important role in the operation of the province. Crown land management decisions can have a profound effect on the goal of maximizing and sustaining the flow of benefits from this public resource to all British Columbians.

Key Statistics
Figure 3 shows the total area in hectares of provincial Crown land in each Canadian province and the amount of Crown land as a percentage of total land for each province.

Figure 3 Provincial Crown Land in Each Canadian Province

Discussion

Nationally, about 90% of Canada’s land base is federal and provincial Crown land. The remaining 10% is privately held. Approximately 56% of Crown land is provincially owned, and 44% is owned federally. Unless otherwise indicated in this report “Crown land” refers to provincially owned Crown land in BC.

The vast majority of federal Crown land (89%) is in the three territories. The remaining 11% of federal Crown land, held in the provinces, is primarily located within national parks, Indian reserves, national defence lands and federal harbours.

The percentage of provincial Crown land varies significantly across the 10 Canadian provinces. BC has the second highest percentage of provincial Crown land in Canada, surpassed only by Newfoundland and Labrador. BC also has the second largest area of Crown land, surpassed only by Quebec. Having such a vast area of Crown land affects how government manages natural resources and the environment.

The proportion of Crown land in BC is also high compared to other international jurisdictions. In Australia, for example, 23% of land is public Crown land (179.8 million hectares), while an additional 42% is Crown leasehold land (323.5 million hectares). Leasehold lands are regarded as privately owned, because many of the leases are perpetual and are mainly leased for the purposes of raising and herding livestock.

Comparatively, in the United States, federal public lands are managed by various bureaus under the Department of the Interior, including the National Park Service, the Bureau of Indian Affairs and the Bureau of Land Management. The Bureau of Land Management is responsible for the management and conservation of 103.6 million hectares of federal public land, which makes up approximately 13% of the total area of the United States and represents more than 40% of the land managed by the federal government. There is an additional 78 million hectares of public land in the National Forest, which is managed by the United States Forest Service.

Individual states also manage some public lands, which are referred to as state public land. The total area of state public land and its percentage of the total United States land base is significantly less than the corresponding area and percentage figures for federal public land.

Table 2 shows state and federal government ownership of public lands (including parks and forests) in a selection of western states.

<table>
<thead>
<tr>
<th>Jurisdiction</th>
<th>Total Public Land (State and Federal)</th>
<th>Public Land Owned by Federal Government</th>
<th>Public Land Owned by State Government</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Area (million ha)</td>
<td>% of State Area</td>
<td>Area (million ha)</td>
</tr>
<tr>
<td>Alaska</td>
<td>131.8</td>
<td>89%</td>
<td>89.0</td>
</tr>
<tr>
<td>California</td>
<td>17.1</td>
<td>42%</td>
<td>16.2</td>
</tr>
<tr>
<td>Oregon</td>
<td>7.8</td>
<td>32%</td>
<td>6.6</td>
</tr>
<tr>
<td>Utah</td>
<td>14.9</td>
<td>70%</td>
<td>13.4</td>
</tr>
<tr>
<td>Washington</td>
<td>6.3</td>
<td>36%</td>
<td>4.8</td>
</tr>
<tr>
<td>Wyoming</td>
<td>13.7</td>
<td>55%</td>
<td>12.2</td>
</tr>
</tbody>
</table>


**Additional Information**

- Information on Australian land tenure is provided by the Australian Government, on the Geoscience Australia website.
  

- Information on American public land management is provided by the United States Department of the Interior, on the Bureau of Land Management website.
  

  
2.3 Land Ownership in British Columbia

Why is this Important?
There are four broad types of land ownership in BC: private land, First Nations treaty settlement land, provincial Crown land, and federal Crown land (which includes Indian reserves). Effective land and resource management requires an understanding of how land ownership is distributed across the province, and how key resources are impacted within each ownership type.

The different types of land ownership require different types and levels of regulatory oversight. They also offer different investment options. Public expectations about appropriate land use activities may vary for the different land ownership types.

Land ownership can be analyzed at different geographic scales: provincial, regional, landscape unit, even down to individual land parcels. This section discusses land ownership at the provincial and regional scales.

Key Statistics
The total provincial land base is 94,646,000 hectares (including fresh water); and, another 8,856,000 hectares of marine areas are under some level of provincial jurisdiction. Together, the total land base and marine area under some level of provincial jurisdiction is 103,502,000 hectares. The majority of the land base calculations made within this report exclude these provincial marine areas and use the land base figure of 94,646,000 hectares.

Figure 4 breaks down the total BC land base into the four broad ownership types.

<table>
<thead>
<tr>
<th>Ownership Type</th>
<th>Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private (excluding treaty settlement areas)</td>
<td>4,608,000 ha</td>
</tr>
<tr>
<td>Treaty settlement lands</td>
<td>228,000 ha</td>
</tr>
<tr>
<td>Provincial</td>
<td>88,740,000 ha</td>
</tr>
<tr>
<td>Federal</td>
<td>1,070,000 ha</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>103,502,000 ha</strong></td>
</tr>
</tbody>
</table>

Source: Crown Land Registry

Private lands are owned under fee simple title, and include not only land owned by private individuals and corporations, but also lands owned by independent provincial Crown corporations and agencies, and lands owned by federal and local governments. These lands may have been granted by the Province to the owners, or sold by the province to the owners. The total area of private lands in BC is approximately 4,608,000 hectares.

There is some uncertainty concerning the exact area of private land. Much of this uncertainty concerns

5 The marine areas under provincial jurisdiction are comprised of the following:
1. The foreshore intertidal zone (along the whole coast, in the seabed of inland coastal waters, and waters within the jaws of land).
2. The seabed of inland coastal waters and waters within the jaws of the land.
3. The foreshores, seabed and subsoil of the Strait of Georgia, Juan de Fuca Strait, Johnstone Strait, and Queen Charlotte Strait.

6 This definition of “private lands” is based on a narrow Land Act definition of Crown land which includes “almost all lands owned by provincial ministries”, excluding lands owned by provincial Crown corporations such as BC Hydro, and education, health and other provincial agencies. Under the broader definition referred to in Section 2.1, Overview (Footnote 5) the lands owned by provincial Crown corporations such as BC Hydro, educational, health and other provincial agencies would be considered provincial Crown land. For a list of the agencies potentially included in Crown land calculations see the Crown Agency Registry at the Crown Agencies Resource Office, (see Additional Information for details).
how much of the lands in some of the early Crown grants have reverted to the Crown, particularly in some of the railway grants made in the early 1900s in the Kootenays.\(^7\) When considered at the provincial level however, this level of uncertainty is quite small.

**Federal lands** are Crown lands, the administration of which has been transferred to the Federal government by the provincial government. These lands are effectively owned by the federal government and, in most cases, can be sold by them. The total area of federal lands in BC is approximately 1,070,000 hectares.

**Treaty settlement lands** are transfers of land by the provincial government to First Nations under the terms of specific treaties. The total area of treaty settlement lands in BC is approximately 227,000 hectares.

\(^7\) The initial grants were recorded, as were the survey details on the land titles for land parcels which reverted to the Crown; however summary statistics for reversions were not always recorded. Some miscellaneous categories of federal lands also have associated uncertainty.

**The provincial Crown land base** is 88,740,000 hectares, which constitutes approximately 93.8% of the BC land base. Again, there is a small amount of uncertainty when estimating this figure due to the inconsistent historical records of private lands that reverted to the Crown.\(^8\)

Table 3 shows the distribution of the four land ownership categories by natural resource sector ministry sub-region. Private land is not distributed evenly across the province: the highest proportions of private land ownership are in the West Coast (9.4%), Kootenay (8.7%) and Thompson-Okanagan (7.9%) sub-regions.

\(^8\) Varying estimates of the percentage of provincial Crown land (between 92% and 95%) have been reported by various provincial agencies over the last fifteen years. Most of this variation is due to differences in the definition of the BC land base, and whether or not some marine and freshwater areas were included in the denominator of the estimate calculations. For the purposes of this report, marine areas have been excluded and freshwater areas have been included in the estimate.

Table 3 Regional Distribution of Land Ownership in British Columbia (hectares)

<table>
<thead>
<tr>
<th>Category</th>
<th>Sub-Region</th>
<th>Cariboo</th>
<th>Thompson-Okanagan</th>
<th>Kootenay</th>
<th>Omineca</th>
<th>Peace</th>
<th>Skeena</th>
<th>South Coast</th>
<th>West Coast</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal</td>
<td></td>
<td>43,000</td>
<td>159,000</td>
<td>449,000</td>
<td>22,000</td>
<td>23,000</td>
<td>47,000</td>
<td>99,000</td>
<td>228,000</td>
</tr>
<tr>
<td>Provincial</td>
<td></td>
<td>7,750,000</td>
<td>6,636,000</td>
<td>7,091,000</td>
<td>15,367,000</td>
<td>16,591,000</td>
<td>23,825,000</td>
<td>3,833,000</td>
<td>7,647,000</td>
</tr>
<tr>
<td>Treaty</td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>201,000</td>
<td>1,000</td>
<td>25,000</td>
</tr>
<tr>
<td>Private</td>
<td></td>
<td>458,000</td>
<td>656,000</td>
<td>689,000</td>
<td>413,000</td>
<td>887,000</td>
<td>227,000</td>
<td>308,000</td>
<td>970,000</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>8,251,000</td>
<td>7,451,000</td>
<td>8,229,000</td>
<td>15,802,000</td>
<td>17,501,000</td>
<td>24,301,000</td>
<td>4,241,000</td>
<td>8,870,000</td>
</tr>
</tbody>
</table>

1. Includes long term transfers of administration and control to the federal government under the *Land Act* (see Section 5.2, Historical Tenures and Grants).
3. Calculated by subtracting federal, private land and treaty settlement lands from the total land base in each region.
4. Source: GeoBC Geographic Warehouse.
5. Source: Crown Land Registry.
Map 2 shows the distribution of land ownership in BC.

Map 2 British Columbia Land Ownership Based on Primary Survey Divisions

Source: Crown Land Registry
Private (fee simple title) lands are more difficult to estimate and map because of the uncertainty with early record keeping on lands reverting to the Crown, referenced above. During the course of non-aboriginal settlement, Crown land has been converted to fee simple title in close to 100,000 primary survey divisions,\(^9\) which vary greatly in size. The map shows the percentage of lands converted to fee simple title in each primary survey division.

Provincial Crown land consists of the balance of land in BC. The inset map (Map 2) expands on the Lower Mainland and southern Vancouver Island because of the concentration of private land in these areas and the pockets of predominantly provincial Crown land and Indian reserves located among the private land.

**Discussion**

The federal government administers 1.1% of BC’s land base: 57% of that land base is in national parks (615,000 hectares), 34% is in Indian Reserves (360,000 hectares), and the remaining 9% is primarily in national defence lands, and federal harbours and airports (95,000 hectares).

Currently, treaty settlement lands account for only 0.2% of BC’s land base. These treaty settlement lands are owned by the Nisga’a, Tsawwassen and Maa-nulth First Nations.

A majority of private land is located in river valleys and riparian areas. These are the most attractive areas for human settlement and therefore most Crown grant applications in the past have been for valley land. Generally, there is a higher percentage of private land in the south of the province; in population centres; and/or near transportation routes.

Historically, settlement patterns and government policy decisions have been driven by opportunities for natural resource extraction and the transport and processing of these resources. Early in the province’s history, transportation of forest, fish and mineral resources took place along BC’s extensive waterways. Export centres were located along the coast, resulting in increased economic development in these areas.

Agriculture also influenced settlement patterns. Lands favoured for agriculture have been fertile valleys with prolonged growing seasons and close proximity to population and export centres. The Lower Mainland and southern Vancouver Island, both of which are prime agricultural locations, have the highest density of private land, while other notable concentrations of private land are in the Peace, the Okanagan and Chilcotin.

The large portion of private land on southeast Vancouver Island is largely the result of railway grants, issued between the years 1875 and 1925 to the E&N Railway Company. These grants initially involved “a strip of land twenty miles (32.2 kilometres) in width along the eastern coast of Vancouver Island between Seymour Narrows (north of Campbell River) and the harbour of Esquimalt”\(^{10}\) (Victoria), along with water and subsurface rights (excluding gold and silver). Over time, this strip of granted land was expanded in size to the area indicated in Map 2. The extra land was awarded to the company as compensation for

\(^9\) When land is surveyed, primary survey divisions are first established and then secondary divisions are established within these. Individual parcel surveys are referenced to these divisions. The approximate 100,000 primary survey divisions cover only a small percentage of the province. For an explanation of survey methods see Additional Information: Taylor (1975b).

\(^{10}\) BC Gazette, July 18, 1874, p.139.
the disposition of lands to settlers who had previously occupied and improved land in this corridor, as authorized under the *Settlement Act, 1884* and the *Vancouver Island Settler’s Rights Act, 1904*.

Large areas of land were also granted for future railway construction, or as a result of existing railway construction in the interior of the province. These grants included two land grants to the Dominion of Canada:

The Railway Belt Grant of 1884 was comprised of a 20-mile (32.2 kilometre) corridor on either side of a proposed railway route in the Kootenays.

The Peace River Block Grant of 1907 was made to the Dominion of Canada in lieu of land within the Railway Belt that had already been granted to other private interests.

Large grants were also made in the southern Okanagan and Kootenay regions to railway companies. Much of these lands are now held by a variety of private interests.

**Additional Information**

  

  

  

- For a list of the agencies potentially included in Crown land calculations, see the Crown Agency Registry at the Crown Agencies Resource Office.
  
  Available: [http://www.gov.bc.ca/caro/attachments/crown_agency_registry.pdf](http://www.gov.bc.ca/caro/attachments/crown_agency_registry.pdf)
2.4 British Columbia Land Use and Land Cover

Why is this Important?

The BC land base is vast and highly diverse, ranging from high mountain tops to marine estuaries and from dense forests to glaciers. The different types of ecosystems that exist throughout the province can result in dramatically different land use management and resource considerations.

Key Statistics

In this section Provincial Baseline Thematic Mapping (BTM) is used to determine coverage of land use and land cover types across BC (Map 3). BTM data is derived from aerial photographs, biogeoclimatic data, and satellite imagery. Land use refers to the economic use, such as mining or urban development, while land cover refers to vegetation and other features that cover the land, such as forests and water.

Map 3 British Columbia Land Use and Cover Type

Sources: Provincial Baseline Thematic Mapping (GeoBC Geographic Warehouse); and Hectares BC
Table 4 shows how Crown land and private land are broken down by the nine major BTM categories of land use and cover type.

### Table 4 Percentage of Crown and Private Land by Land Use and Cover Type

<table>
<thead>
<tr>
<th>Land Use/Cover Type</th>
<th>Total BC</th>
<th>Crown land</th>
<th>Private land</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forests</td>
<td>65%</td>
<td>67%</td>
<td>22%</td>
</tr>
<tr>
<td>Barrens, Glaciers, Alpine</td>
<td>24%</td>
<td>25%</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Estuaries and Wetlands</td>
<td>4%</td>
<td>3%</td>
<td>17%</td>
</tr>
<tr>
<td>Freshwater</td>
<td>2%</td>
<td>2%</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Agriculture and Range</td>
<td>2%</td>
<td>&lt;1%</td>
<td>33%</td>
</tr>
<tr>
<td>Shrubs</td>
<td>2%</td>
<td>&lt;1%</td>
<td>18%</td>
</tr>
<tr>
<td>Urban</td>
<td>&lt;1%</td>
<td>&lt;1%</td>
<td>8%</td>
</tr>
<tr>
<td>Mining</td>
<td>&lt;1%</td>
<td>&lt;1%</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Recreation</td>
<td>&lt;1%</td>
<td>&lt;1%</td>
<td>&lt;1%</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>100%</strong></td>
<td><strong>100%</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Sources: BC Stats census data, BC Assessment Authority, Hectares BC, and provincial Land Act tenures database

**Discussion**

Since BTM data are derived from aerial photographs, biogeoclimatic data and satellite imagery, they often result in different figures than data derived from provincial designations such as Provincial Forest, or Agricultural Reserve Land. This is because BTM data measure actual land use and cover, whereas provincial designation data may include intended land use and cover. These variations in data are illustrated in the following analysis of forest and agriculture designations:

**Forests:**

BTM analysis shows that 65% of the province is covered by forests of various sub-types; however, the Provincial Forest, as designated under the Forest Act, (and utilized for timber production, forest recreation, fisheries, and wildlife resources, and other purposes) measures forest at 77% of the total land base. The Timber Harvesting Land Base designation (land on which timber harvesting is feasible and permitted) measures forest at just 23% of the province’s total land base.

**Agriculture and Range:**

BTM analysis shows that 2% of the province is either agriculture or range land; however, the Agricultural Land Reserve (ALR) designation, which is comprised of land deemed suitable for agriculture, covers 5% of BC’s land base. When the ALR land is overlaid on the BTM data, approximately 60% of the ALR land appears as forests, 24% as agriculture, 9% as range, and the remaining 7% mostly as freshwater, wetlands or urban areas.

By overlaying BTM data with the land ownership data presented in Section 2.3, it is shown that the distribution of land uses and cover types varies substantially between Crown and private land in BC.

- Forest cover makes up 67% of the Crown land base, and 22% of the private land base;
- Agriculture and range land make up 33% of private land, and less than 1% of Crown land;
- Barrens, glaciers and alpine areas primarily occur on Crown land, accounting for 25% of the Crown land base; and
- Urban areas make up 8% of the private land base, and less than 1% of the Crown land base.
The distribution of land uses and cover types also varies across the natural resource sector sub-regions.

- The Cariboo sub-region has the highest proportion of forested land, with forests covering almost 80% of the sub-region’s total land base;
- The Thompson-Okanagan sub-region has the highest proportion of rangeland;
- The highest proportion of permanent human uses are found in the West Coast sub-region (dominated by urban development) and the Thompson-Okanagan sub-region (dominated by agriculture);
- The Peace sub-region has the highest proportion of wetlands, at 12% of the sub-region’s total land base; and
- The Skeena sub-region contains almost 40% of BC’s total alpine area land base. Alpine areas make up 21% of the Skeena sub-region’s land base.

**Additional Information**

Socio-Economic Activity
3.1 Overview

The continued well-being of BC’s citizens and economy is supported by the availability and productivity of Crown land. Effective stewardship and allocation of Crown land and Crown land resources will ensure sustainable benefits for future generations.

The vast majority of land in BC is Crown land managed by the provincial government. The government is responsible for efficiently allocating Crown land and resources in a manner that balances social, environmental and economic objectives, and maximizes the welfare of British Columbians. Effective management relies on good information. Regional socio-economic data provide important information about the province’s citizens and economy that is used to inform Crown land management.

Part 3 presents an overview of the socio-economic activity taking place on BC’s Crown land. The indicators measured include: regional populations; regional economic diversity and income; regional unemployment; sectors using Crown land; GDP produced on Crown land; and the contribution of Crown land to government revenues.
3.2 Population

**Why is this Important?**

Population and demographic data provide contextual information on the social environment of the province and its sub-regions. When aligned with other types of indicators, population data can be used to determine coinciding trends as well as underlying factors driving wider regional changes. Population movements tend to be closely correlated with measures of economic development. This is because sub-regions with high business potential and employment opportunities tend to attract more people. Population considerations add an important social dimension to land management planning.

**Key Statistics**

The population of BC was estimated at 4,113,487 persons in the 2006 Census. This marked a 5.3% increase since 2001, which was almost the same as the 5.4% population increase experienced by Canada.

While the total population of BC grew over the 2001 to 2006 period, the direction and rate of population change varied considerably across sub-regions, as illustrated in Figure 5. Most of the population growth was concentrated in the main urban centres in the southwest sub-regions of the province: the South Coast increased by 6.7%, the West Coast by 5.9%, and the Thompson-Okanagan by 5.9%. Population declines were most significant in the northern interior sub-regions of BC: the Skeena declined by 7.1%, the Cariboo by 5.2%, and the Omineca by 4.2%.

![Figure 5 Sub-region Population Levels and Growth Rates, 2001 to 2006](image)

Sources: Statistics Canada and BC Stats census data
First Nations are an important part of BC’s population, and their rights and title play an important role in provincial land and resource management, policy and decision-making. Census data provides insight on citizens declaring aboriginal identity. In 2006, approximately 4.8% of the total BC population was estimated to be of aboriginal identity, comprised of over 200 unique First Nation groups.

Figure 6 illustrates the proportion of the population in the eight sub-regions that self-identified as aboriginal in the 2006 Census. The sub-region with the largest ratio of aboriginal population to the total population is the Skeena at 27%, while the South Coast reported the smallest ratio, at 2%.

**Figure 6 Percentage of Population with Aboriginal Identity, 2006**

<table>
<thead>
<tr>
<th>Sub-region</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skeena</td>
<td>27.6%</td>
</tr>
<tr>
<td>Peace</td>
<td>11.8%</td>
</tr>
<tr>
<td>Omenica</td>
<td>12.0%</td>
</tr>
<tr>
<td>Cariboo</td>
<td>12.8%</td>
</tr>
<tr>
<td>West Coast</td>
<td>5.7%</td>
</tr>
<tr>
<td>Thompson-Okanagan</td>
<td>6.1%</td>
</tr>
<tr>
<td>Kootenay</td>
<td>4.8%</td>
</tr>
<tr>
<td>South Coast</td>
<td>2.4%</td>
</tr>
</tbody>
</table>

Sources: Statistics Canada, *2006 Census*; and BC Stats census data

It is also useful to look at the total distribution of the aboriginal population across the province (Figure 7). The highest percentage of aboriginal people live in the South Coast, accounting for 32% of the total aboriginal population, followed by the West Coast, with 22%. At the other end of the spectrum, the Peace and Cariboo sub-regions each only have 4% of the total aboriginal population in BC.
Discussion

The population in BC has been increasing over the last decade and is projected to continue to increase at a moderate pace. Population movements within the province are more variable and difficult to measure. Whereas economic growth can fuel population growth, a lack of economic activity can have the opposite effect. Development of land and resources in areas dependent on natural resource sectors impacts local populations. The Skeena, Cariboo and Omineca sub-regions experienced population declines in recent years, paralleling a decline in the forest industry. These sub-regions are relatively more dependent on land and natural resources for their livelihoods than sub-regions in the south west of the province; therefore, land use management decisions in these sub-regions can have a greater impact on local economies and populations (see Section 3.3, Regional Economic Diversity and Income Dependency for more information).

Populations that have undergone significant declines often experience socio-economic challenges, including higher unemployment and greater dependency on social programs. Smaller communities may face additional challenges in supporting high levels of socio-economic activity, which can exacerbate population pressures and adversely impact quality of life.

Increased socio-economic activity tends to support higher employment rates, as do areas with stable population bases. It is therefore important to consider the implications that Crown land management can have in terms of supporting socio-economic activity, employment opportunities, and long-term community stability.

Additionally, it is important to consider the distribution and relative proportion of the aboriginal population in sub-regions around the province. First Nations throughout the province have consistently advocated their rights and title interests regarding BC’s land and natural resources in such forums as land and resource use plans, treaty negotiations, environmental assessments, and many others. Their input has a direct and substantive impact on land management decisions.
The sub-region with the greatest number of aboriginal people is the heavily populated South Coast; however, aboriginal people account for a greater proportion of the populations in less populated sub-regions, such as the Cariboo and Skeena. While some First Nation groups experience higher levels of socio-economic well-being than other First Nation groups, when taken as a whole, census data indicates that the aboriginal population has poorer average socio-economic outcomes than non-aboriginal populations. The proximity of many First Nation communities to Crown land offers potential opportunities that can positively contribute to socio-economic opportunities for aboriginal people.

**Additional Information**

- Statistics Canada provides access to census data.
- BC Stats provides a variety of regional statistics.
3.3 Economic Diversity and Dependency

Why is this Important?
Measuring economic diversity and regional income dependency resulting from Crown land activity provides insight into the social and economic resilience of the province and its diverse regional landscape. The more diversified a community’s economic base, the more likely it will sustain itself through volatile economic times. By contrast, less diverse areas are more vulnerable to volatility and are often disproportionately “hard hit” during challenging economic times. Indicators of economic diversity are the number and diversity of economic sectors that produce employment and income in the region. Indicators of income dependency are comparative measures that show the reliance of regions on resource-based industries and Crown land.

Key Statistics
Historically, the BC economy has been heavily reliant on natural resource sectors; however, over time the economy has diversified significantly and become increasingly service sector based. This is particularly true in the south of the province.

Generally, the less populated interior regions of the province tend to be less economically diversified. This is illustrated in Map 4, which expresses diversity based on the distribution of local income and employment (direct, indirect, and induced) generated or supported across economic sectors. The maps are broken down by forest district to better show some of the variation in diversity within the natural resource sector sub-regions (to view the data by natural resource sector sub-region see the BC Stats link under Additional Information).

Map 4 Regional Economic Diversity, 2006

Source: BC Stats
Map 5 illustrates the dominant income sources by forest district, as well as the level of dependency on: the forestry and wood processing sector; the “underground resource” (or subsurface) sector; and the tourism sector.

**Map 5 Basic Income Sources and Sector Dependence, 2006**

Source: BC Stats
When allocating Crown land it is useful to understand which sectors are the dominant income sources in the various regions of BC, so that regional diversity issues can be taken into account in land use management and planning.

The public sector\(^\text{11}\) was the dominant source of basic income\(^\text{12}\) for a majority of the forest districts in BC. The forestry, subsurface (underground) and tourism sectors were dominant in other regions. All of these sectors rely on Crown land and resources to varying degrees (see Section 3.5, Sector Dependence on Crown Land).

In the northeast of the province the dominant sector generating basic income was the subsurface (underground) resources sector. In large stretches of the interior (e.g. the Omineca) the largest source of basic income was derived from forestry and wood processing activities. There were also small pockets of the province that derived the largest share of their basic income from tourism.

**Discussion**

The BC interior is more forestry dependent than other regions, with forestry accounting for between 27% and 70% of regional income. Dependence on forestry is lowest in the south (including the South Coast sub-region and southern Vancouver Island) and the Peace sub-region.

The Peace and Skeena sub-regions are most dependent on subsurface resources which account for between 7% and 27% of income. Dependence on subsurface resources is lowest in the Omineca, South Coast and West Coast sub-regions.

Areas with a relatively high reliance on tourism, at 17% to 34% of income, are located mainly in the south of the province. By contrast, the Omineca is minimally dependent on tourism.

The province’s economy is constantly evolving, and has become increasingly diverse over the past decade. The most pronounced diversification has been in the southwest of the province which has the best access to export markets, and a large population base that demands a wide range of goods and services. By contrast, the less diverse areas of the province are found in the interior where forestry has historically been the dominant sector.

The regional economies of BC vary considerably in their size, structure and economic dependencies. In most areas of BC, basic income is derived predominantly from the public sector; however, subsurface (underground), forestry, and tourism sectors are also important in certain regions, and these sectors are relatively more reliant on Crown land.

The interior of the province is highly dependent on forestry. This lack of diversity makes the region more susceptible to the risk of unemployment and economic decline when economic downturns reduce demand for forestry products.

From a land management perspective, it is important to recognize trends and ensure that economic opportunities in growing sectors are facilitated. Land use decisions need to support economic growth and balance competing interests, while also considering economic diversification.

**Additional Information**

- BC Stats provides information on local area dependencies in, *British Columbia Local Area Economic Dependencies: 2006*:
  
Brownfields are abandoned, vacant, derelict or underutilized commercial or industrial properties where past actions have resulted in actual or perceived contamination and where there is an active potential for redevelopment. Left as they are, brownfield sites are of little economic value and can pose human health and environmental risks.

In 2008, the Province introduced the BC Brownfield Renewal Strategy to encourage more brownfield redevelopment across BC by addressing policy, regulatory, tax, and funding issues, and removing information barriers to brownfield renewal. The strategy:

- Creates a more effective public policy regime for liability and risk;
- Applies strategic public investments to encourage redevelopment;
- Develops a number of approaches to build capacity and awareness of redevelopment opportunities; and
- Leads by example through the development of key Crown brownfield sites.

Current estimates are that there are between 4,000 and 6,000 brownfield sites across BC, often in or near communities. Sites include closed service stations, former drycleaners, abandoned mines, old industrial waterfronts, and former rail yards.

At present there are eight brownfield sites on Crown land at various stages of management, including New Westminster Gas Works, a 0.4-hectare site less than a kilometre from the Fraser River. This site was part of a large coal gasification plant from 1887 to 1929. It is believed that the coal gasification operation was the primary source of site contamination. Government is completing a detailed site investigation to determine the precise level of contamination and the best way to clean it up.

The redevelopment of brownfield sites in BC gets land back to productive use and can provide many social, environmental and economic benefits:

- Re-use of infrastructure such as roads and utilities;
- Increased tax base from lands that would otherwise sit vacant;
- Enhanced quality of life through neighbourhood revitalization;
- Increased economic development and job creation;
- Increased preservation of farmland and green space;
- Reduced urban sprawl pressures; and
- Reduced risks to the natural environment and human health and safety.

Redevelopment options to preserve the former Gas Works building on the site are being reviewed by the City of New Westminster, with the potential to turn the site into a park or construct a new fire hall on the property. Redevelopment will yield social, economic and environmental benefits for the City by removing contamination and revitalizing an unused parcel of land with a use that benefits the community.

For additional information on brownfield redevelopment visit the BC Brownfield Renewal website.


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3.4 Unemployment

Why is this Important?
Unemployment rates provide important insight into the state of a region’s economy and socio-economic well-being. Unemployment typically arises from a lack of job opportunities, an economic downturn, or a mismatch in the skills sought by employers and those available in the local population. On a broad scale, the rate of unemployment tends to be inversely related to a region’s rate of economic growth, the diversity of its economy, and the economic health of its key sectors. For many BC regions their key economic sectors are natural resource-based, largely operating on Crown land.

Key Statistics
The 2006 Census recorded an unemployment rate of 6.0% for BC, compared to 6.6% for Canada. These rates were down from 2001, when BC had an unemployment rate of 8.5%, which exceeded the national rate of 7.4%.

Figure 8 illustrates the 2006 unemployment rates of the province’s sub-regions. The Skeena sub-region reported the highest unemployment rate of 12.4%, followed by the Cariboo at 9.9% and Omineca at 8.1%. The sub-regions with the lowest rates of unemployment were the Peace at 5.4%, the South Coast at 5.6% and the West Coast at 5.7%.

Sources: Statistics Canada, 2006 Census; and BC Stats census data
Discussion

Unemployment levels tend to vary over time, peaking during economic downturns and falling during periods of greater economic activity. As the provincial economy has become more diversified and increasingly service sector oriented, economic variability and unemployment fluctuations have been reduced. In general, the more economically diverse a region is, the more likely that it will sustain a stable population and avoid high and persistent unemployment. More economically diverse regions reported some of the lowest unemployment rates in the province (e.g. the South Coast).

An increase to a region’s unemployment rate generally cause a decline in average incomes, a greater reliance on social assistance, an increase in out-migration, and a decrease in consumption. These negative events hinder a region’s ability to generate and sustain economic growth. Regions with high employment and falling incomes tend to face a number of social challenges which adversely affect quality of life. By contrast, low rates of unemployment signal both high economic and social viability. The rate of unemployment is therefore indicative of both a region’s economic standing and its socio-economic well-being.

Regional economies which exhibit a heavy reliance on natural resources sectors are typically more susceptible to the effects of commodity market fluctuations. Provincially, the forest sector has suffered a sustained downturn with significant workforce reductions. In 2008, there were 17,400 people working in forestry, only two-thirds the level (26,300) in 1990. This decline is a key reason why the Skeena, Cariboo and Omineca sub-regions have some of the higher unemployment rates in the province in 2006. Meanwhile, the success of other natural resource sectors (the oil and gas industry in particular) helped the Peace sub-region to achieve the lowest unemployment rate of any sub-region.

The average unemployment rate among the aboriginal population (as reported in the 2006 Census) is 15%, significantly higher than the overall provincial unemployment rate of 6%. The proportionately larger aboriginal populations in the Skeena and Cariboo sub-regions statistically contribute to the sub-regions’ higher overall unemployment rates (see Section 3.2, Population).

Employment opportunities are an important consideration in regional land use planning and land management. Many regional land use plans have a formal, public socio-economic assessment that evaluates the social and economic impacts of the proposed plan compared with the status quo (or base case).

Additional Information

- BC Stats provides a wide range of social statistics for various types of regions throughout BC.
- BC socio-economic and environmental assessment guidelines, and links to many past socio-economic assessments:
3.5 Sector Dependence on Crown Land

Why is this Important?

Many economic sectors rely on provincial Crown land to support their activities but the degree of dependence varies considerably. Knowledge of sector dependence on Crown land is fundamental to analyzing the impacts of changes to Crown land allocation policies and administration. The importance of a parcel of Crown land to an economic sector depends on several factors, including the land’s location and characteristics, its uses, the type of investment proposed, and the security and length of the tenure.

Sectors can be directly or indirectly dependent (or both) on Crown land.

Direct dependence occurs when a sector uses Crown land for the production or extraction of goods or services (e.g. oil and gas extraction, agricultural production, adventure tourism).

Indirect dependence can occur in either, or both of these two ways:

1) An indirectly dependent sector may produce key inputs for a sector that is directly dependent on Crown land (e.g. machinery manufacturers supply logging equipment to forest companies that operate on Crown land)

2) An indirectly dependent sector may require key inputs from a sector that is directly dependent on Crown land (e.g. a slaughterhouse receives cattle from ranchers who operate on Crown land).

Although the focus of this section is on direct dependence, where appropriate, some estimates and discussion are also provided on indirect dependence.

Key Statistics

The measure of sector dependence on Crown land used in this section is: the estimated proportion of the sector’s total market value that is directly dependent on provincial Crown land, compared to the proportion of market value directly dependent on private land and federal Crown land.

Estimates are based, in most cases, on the contributions of sub-sectors to provincial Gross Domestic Product, or GDP (see Section 3.7, Economic Activity on Crown Land for more information on the estimation and characteristics of GDP associated with Crown land by sub-sector). The starting point in developing many of these estimates has been a data analysis on the proportion (by area and/or utilization) of Crown land versus private land used in each sector that utilizes Crown land. Adjustments were then made to reflect the differing dollar values for using Crown and private land. A number of other factors were taken into account in making these adjustments.

While individual firms can be directly dependent on Crown land for all their land needs, it is more common for firms to use both private and Crown land as joint inputs for their production of goods and services (e.g. Crown rangeland as well as private homestead land in cattle ranching; Crown ski hills as well as private valley land for accommodation in ski resorts; and reservoirs and transmission lines on Crown land as well as dam walls and power stations on private land in the case of hydro-electricity producers).

In some sectors, firms that are directly dependent on Crown land require exclusive use of the land and services provided by the land, to the exclusion of other firms (e.g. generally, exclusive land use is required in cropping, intensive animal agriculture, aquaculture, mining, oil and gas extraction, and rail and port services). In other sectors, firms are able to share use of Crown land with firms and consumers from other sectors and even from the same sector (e.g. the use of roads on Crown land by both the adventure tourism and transportation sectors).

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14 The focus of this report is on surface land. Businesses may require surface land access to support the use or extraction of surface resources or to gain access to sub-surface resources.
There are times when particular attributes and services of Crown land can be shared by both consumers and producers of goods and services. Examples include road space, and environmental services such as scenic areas, public recreation areas, water filtration and nutrient recycling. In most of these cases, there are no direct charges for the services provided on Crown land; yet, it is important to recognize that some economic sectors in BC, such as tourism and residential, are highly dependent on the scenic areas, public recreation and other environmental services predominantly provided by Crown land.

The estimated dependencies on Crown land in the public services, utilities and pipeline, and transport and communications sectors are contingent on the definition used for Crown land. Because of the significant role provincial Crown agencies play in these sectors, it is important to recognize that Crown land allocated for Crown agencies is often defined as fee simple (private) land.\(^{15}\)

\(^{15}\) Under the principal definition of private land used throughout this report (see Section 2.3, Land Ownership in British Columbia), the land owned in fee simple by independent provincial Crown agencies is considered private land. Alternatively, if one considers this as provincial Crown land then the dependence on Crown land in these three sectors is higher because of the significant private land holdings of School Boards of Trustees, Universities and Colleges and Health Districts, Health Organisations (the SUCH sector), BC Hydro, Columbia Power Corporation and a number of transport agencies and commissions.

The estimates in this section are based on information from a variety of data sources, and expert estimates from ministry and industry data sources. Detailed data on the areas of private land used compared to total land used are only available for the agriculture, forestry and energy sectors.\(^{16}\) and \(^{17}\)

Table 5 shows an estimated range of the proportion of each sector\(^{18}\) that is directly dependent on all provincial Crown land (including Crown land allocated under the Land Act); and the proportion of each sector that is directly dependent on Crown land specifically allocated under the Land Act.\(^{19}\)

\(^{16}\) Data on the agricultural sector was obtained from the Statistics Canada Agricultural Census and BC Assessment Authority (BCAA); forestry data from the Ministry of Forests, Lands and Natural Resource Operations (including The State of British Columbia’s Forests report) and BCAA; energy sector data was obtained from the Oil and Gas Commission and GeoBC Geographic Warehouse; and, utilities and pipeline sector data from GeoBC Geographic Warehouse, BC Hydro and industry sources.

\(^{17}\) Many estimates of sector dependence on Crown land have been obtained at the sub-sector level; for example, coal mining and metal mining rather than mining as a whole. In most of these cases, the dependence of each sector on Crown land versus private land has been weighted by the relative value of these land areas in contributing to the GDP or the gross returns of the sector; however, in some cases, such as transportation, environment and public recreation, area-based estimates are utilized.

\(^{18}\) The sector categories used here are largely aggregations of categories in the North American Industry Classification System (NAICS) that are intended to be consistent with the classifications of purpose and sub-purpose in the Land Act policies (and the Tantalis database). However, the “environment and public recreation” sector is not a market valued industry sector in the NAICS system and traditional national accounts measures (see Appendix 2).

\(^{19}\) Particular pieces of legislation such as the Forest Act, the Water Act, the Mining Act and the Parks Act provide for specific land surface rights that allow clients access to the tenured resources covered by the legislation. Other tenured surface uses of Crown land are largely made under the Land Act. Where businesses require land surface tenures under both the Land Act and other provincial legislation for the same area of land, this land is first considered to be associated with the Land Act. Where businesses only require land surface tenures under other provincial legislation, such as the Forest Act, then this is not included in the Land Act estimates.
<table>
<thead>
<tr>
<th>Sector</th>
<th>Land Act</th>
<th>All Crown Land</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture and related activities</td>
<td>10% – 15%</td>
<td>10% – 15%</td>
</tr>
<tr>
<td>Energy</td>
<td>80% – 85%</td>
<td>80% – 85%</td>
</tr>
<tr>
<td>Environment and public recreation</td>
<td>35% – 45%</td>
<td>90% – 95%</td>
</tr>
<tr>
<td>Forestry</td>
<td>1% – 5%</td>
<td>88% – 96%</td>
</tr>
<tr>
<td>Manufacturing and commercial</td>
<td>&lt;1%</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Mining</td>
<td>8%-35%</td>
<td>85% – 95%</td>
</tr>
<tr>
<td>Public services</td>
<td>&lt;1%</td>
<td>4% – 8%</td>
</tr>
<tr>
<td>Residential</td>
<td>&lt;1%</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Tourism and accommodation</td>
<td>5% – 17%</td>
<td>10% – 22%</td>
</tr>
<tr>
<td>Transportation and communication</td>
<td>30% – 50%</td>
<td>30% – 50%</td>
</tr>
<tr>
<td>Utilities and pipelines</td>
<td>20% – 30%</td>
<td>40% – 70%</td>
</tr>
</tbody>
</table>

Sources: Statistics Canada and BC Stats; Baseline Thematic Mapping (see Section 2.4, BC Land Use and Cover); Crown land tenure data; GIS data from GeoBC Geographic Warehouse, the Oil and Gas Commission and BC Hydro; land valuation data from the BC Assessment Authority; industry associations; and expert estimates from ministry and industry data sources.

1. In most cases the ranges given here are weighted averages of the estimated ranges for Crown land dependence of each of the GDP sub-sectors that are detailed in Section 3.7, Economic Activity on Crown Land. The weighting factors are the GDP’s of each of these sub-sectors.

2. These numbers assume the definition of provincial Crown land given in Section 2.3, Land Ownership in BC whereby land owned in fee simple by provincial Crown agencies is treated as private land.
Discussion

Industries directly associated with the forestry, utilities and pipelines, energy, and mining sectors are the most heavily dependent on Crown land. Public recreation and environmental management activities also occur primarily on Crown land, but are not typically treated as economic sectors. Most of the sectors that are highly dependent on Crown land utilize a mixture of land tenured under the Land Act and rights authorised under other acts. These sectors include forestry, mining, environment, public recreation, and agriculture and agriculture-related activities. For the energy sector and a few others, all land tenures are issued exclusively under the Land Act. Variations in sector dependence on Crown land are detailed below:

Agriculture sector and related activities

Approximately 10% to 15% of agriculture, aquaculture, fishing, hunting and trapping activity is directly dependent on Crown land; however, there is significant variability between the sub-sectors of these activities. For instance, approximately 9% of intensive crop production, 3% of extensive crop production, and 8% of animal production occurs on provincial Crown land.

Within animal production, the beef sub-sector is moderately dependent on Crown land at around 40%, but others such as dairying and hogs utilize much less Crown land. Meanwhile aquaculture is almost completely dependent on Crown land (through ocean floor tenures). Freshwater fishing, hunting and trapping rely on a mix of Land Act tenures, along with licensing requirements for fishing and wildlife management issued under the Wildlife Act.

Overall, around 12% of the sector’s activity relies on Land Act and other Crown land tenures.

Forestry sector

In BC, 98% of forest land and 96% of the timber harvesting land base are on Crown land. Approximately 95% of forest production and 40% of log handling and storage activities (prior to milling activities), occur on Crown land. Log handling and storage account for 2% of forestry sector activity and consequently around 90% of overall sector activity is directly dependent on Crown land (see Section 3.7, Economic Activity on Crown Land for more information on these sub-sector shares).

Most forest production occurs on Crown land tenured under the Forest Act, while most log handling and storage sites on Crown land are tenured under the Land Act.

21 Such as pome, stone, berry and other fruit crops and floriculture.
22 Such as cereal crops.
23 Salt water fishing also relies on Land Act tenured docks and marinas but these are covered under the Transportation and Communications sector.
Environment and public recreation sectors

This sector is very highly dependent on Crown land both in terms of environmental management and public recreation. A high proportion of environmental services, such as the provision of clean water and refuge for wildlife, are provided by Crown land (notwithstanding that private lands also make a significant contribution to the conservation of wildlife habitat and biodiversity).

Energy sector (oil and gas extraction)

Oil and gas extraction involves geophysical exploration work over large areas followed by the construction of roads, the drilling of wells, the construction of well site processing facilities and the connection of these facilities (via collector pipelines) to long distance transmission pipelines. 

Approximately 80% of wells are on Crown land and these well sites also contain most of the processing and storage facilities in the province. Of the processing and storage facilities not located directly at the well sites, 70% are located on Crown land. Approximately 98% of the public roads built for development of the oil and gas operations are on Crown land.

Compared to the related sectors of utilities and mining, a slightly lower proportion of oil and gas extraction activity takes place on Crown land (around 2 to 7 percentage points lower). For virtually all the oil and gas activity taking place on Crown land, access is tenured rather than granted.

Mining sector

Approximately 90% of the surface land utilized by all mines in BC is provincial Crown land; however, only an estimated 15% of this surface land is on Crown land administered under the Land Act.

Although mines are accessing subsurface resources they still require significant land surface areas for ore processing, tailing ponds, and other operational activities. Most of these surface lands are accessed through the provisions of mining leases issued under the Mineral Tenures Act, but in a small percentage of cases, tenures are secured under the Land Act.

Approximately 65% of quarries are estimated to be on Crown land and these are all tenured under the Land Act.

24 In NAICS, long distance transmission pipelines are placed under the transportation sector but local distribution networks for natural gas and water are under the utilities sector. We have re-grouped the GDP for oil, gas and other pipeline transportation, under utilities.
Manufacturing and commercial sector

Less than 1% of this sector is directly dependent on Crown land; although a slightly higher proportion of this sector is indirectly dependent on Crown land through the wood manufacturing, food processing and waste management sub-sectors.

Public services sector

Approximately 6% of the public services sector is directly dependent on Crown land (as defined in Section 2.3, Land Ownership in BC). In this case a high dependence on Crown land is mainly confined to provincial ministries. Federal and local governments have only a minimal requirement for provincially tenured Crown land. The vast majority of buildings and other facilities, used in the supply of public services, are located on private land.25

Grants or tenures of Crown land to provincial or municipal authorities, for use in delivering public services, are made under the Community and Institutional Land Use Program (see Section 5.5, Sponsored Crown Grants and Nominal Rent Tenures).

Residential sector

Only around 0.1% of residential dwellings are estimated to be on Crown land. These dwellings tend to be in more isolated locations and are often recreational homes. Nonetheless, the values of residential dwellings in the province are often positively influenced by scenic viewscapes and a relatively unspoiled natural environment, most of which is provided by Crown land.

Tourism and accommodation sector

Around 16% of the province’s tourism and accommodation sector is estimated to be directly dependent on Crown land.

A high proportion of downhill skiing facilities are on Crown land; and virtually all marinas require Crown land for their docks and in some cases utilize Crown land for their onshore facilities. Infrastructure for adventure tourism activities is often situated on private land although the activities may occur predominantly on Crown land, (e.g. a heli-skiing operation, with a storefront located in a privately

25 Under the alternative definition of Crown land (see Section 2.3, Land Ownership in British Columbia) that includes all land owned in fee simple by provincial Crown agencies, the dependence of the public sector on Crown land would increase markedly from 6% to around 55%.
owned building on private land, has tenured access to Crown land for skiing activities).

In the accommodation sub-sector, backcountry lodges, hunting and fishing camps, and various forms of industrial accommodation on remote sites are almost totally dependent on Crown land.

Around 35% of all recreational vehicle sites and campground sites are located on Crown land. Some of these sites are on Crown land tenured to private operations, and others are run by BC Parks. While the percentage of the tourism and accommodation sector that is directly dependent on Crown land is just 16%, the tourism sector is nonetheless heavily dependent on the scenic areas and the natural environment provided, in large part, by Crown land.

**Transport and communications sectors**

The transportation and communications sector is significantly dependent (possibly as high as 30% to 50%) on provincial Crown land, principally in the form of provincial highways and forest roads. Provincial Crown land also contributes in a minor way to this sector through providing land for the construction of infrastructure for sea, air and rail transportation and telecommunications, which are all tenured under the *Land Act*.

Because there are no charges for road space, its value isn’t measured in GDP terms; thus, it is hard to assess and compare its value to other transportation infrastructure on Crown land. However, approximately 45% to 50% of transportation GDP in the province is derived from road transportation of various kinds.

All major port facilities in the province are on federal Crown land. Around one-third of smaller commercial wharves are on provincial Crown land while two-thirds are on private land. Many public wharves in small coastal and inland lakeside communities are on provincial Crown land. A small number of ferry terminals are also on provincial Crown land.

For airports, the role of provincially tenured Crown land is confined to a number of small regional airfields operated principally by local governments, aero clubs, resource companies and lodges. The majority of airports, including large ones in main urban centres, are either on federal Crown land or private land.

The major rail companies, some community rail groups, and several mining and other resource companies, have a number of small railway statutory rights-of-way; however, the vast majority of railway rights-of-way are on private land, much of it granted during early settlement in BC (see Section 2.3, Land Ownership in BC).

In the telecommunications sub-sector, Crown land tenures are provided on mountain tops and other important locations for wireless transmission towers. Road rights-of-way on Crown land are also used for servicing various wired communications infrastructure; however, overall only a small proportion of transmission facilities are on Crown land.

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26 If public recreation sites operated by the Ministry of Forests, Lands and Natural Resource Operations were included in this analysis, the percentage of operations on Crown land would rise to 43%. For reasons given in Section 3.7, Economic Activity on Crown Land, these sites are not included under the tourism and accommodation sub-sector GDP estimates.

27 The seabed of harbours are provincial Crown land and the provincial government either leases this land to the federal Crown authorities operating the ports (e.g. Vancouver, Nanaimo and Port Alberni) or has transferred ownership of this land to the federal government. The leased areas make up a small proportion of the total port lands.

28 These terminals are operated by BC Ferries, municipalities and private operators. While some of these terminals are large, (e.g. Swartz Bay and Duke Point), they account for only a small proportion of the total number of provincial ferry passengers and volume of freight.

29 The province has also provided sponsored Crown grants to many municipalities and regional districts for airports (see Section 5.5).

30 Under the alternative definition of Crown land, that includes land owned in fee simple by provincial Crown agencies (see Section 2.3, Land Ownership in British Columbia), the former BC Rail corridor lands and Vancouver wharf lands now managed by the BC Railway Company and leased to private operators, would be considered Crown lands.
Utilities and pipelines sector

Approximately 60% of the land utilized for electricity generation, other utilities, electricity transmission and distribution lines, and oil and gas pipelines is Crown land, and approximately 25% of this is tenured under the Land Act.

Around 89% of the electricity produced in BC is hydroelectric power. The majority of the hydroelectricity (95%) is generated by five producers utilizing large reservoirs. The remaining 5% of hydroelectricity is generated by independent power producers (IPPs) generally utilizing run-of-river or small storage hydroelectric generation facilities.

The five major hydroelectric producers own the land on which their dam walls and power stations are located, however, around 95% of the land under the impounded water in their reservoirs is Crown land tenured under the Water Act. In the provincial electricity grid, approximately 85% of transmission lines (over 60 kilovolts), and approximately 15% of distribution lines (under 60 kilovolts) are on Crown land tenured under the Land Act.

Independent power producers (IPPs) rely almost exclusively on Crown land for their power generation operations. The proportion of Crown land used by IPPs is estimated at 95%, with most tenures issued under the Land Act. The transmission lines these IPPs use to access the provincial transmission and distribution grid are virtually all located on Crown land.

Of the 11% of electricity produced by non-hydro means, a small amount (around 6%) is thermal power produced by BC Hydro on land they privately own. The balance of electricity is produced by a multitude of small producers. Much of this electricity is co-generated in manufacturing and other industrial or commercial facilities and fed directly into the distribution grid. All of the power generated by these small, non-hydro producers has been assumed to be produced on private land.

In the pipeline sub-sector, around 80% of natural gas transmission pipelines, 70% of crude oil and other transmission pipelines and 10% of distribution pipelines for natural gas, water, and other commodities are located on Crown land.

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32 For more information on independent power producers see Additional Information.
33 Under the alternative definition of Crown land (see Section 2.3, Land Ownership in British Columbia) that includes all land owned in fee simple by provincial Crown agencies, the private land owned by BC Hydro and the Columbia Power Corporation would be classified as provincial Crown land and the dependence of the utilities and pipelines sector on Crown land would increase to around 80%.

Additional Information

- See Section 3.7, Economic Activity on Crown Land for more detailed data and discussion on how sector dependencies relate to the economic activity generated on Crown land.
- See Sections 5.3, Tenures by Sector and Section 5.4, Grants by Sector for a more detailed discussion of Crown land tenures and grants under the Land Act.
- See Appendix 1 for a detailed description of each of the sectors used throughout this report.
3.6 Exclusive and Non-Exclusive Use of Crown Land

Why is this Important?
As discussed in Section 3.5, many economic sectors rely on access to Crown land. Section 3.6 identifies the extent of exclusive versus non-exclusive use of Crown land in different sectors. Some businesses, such as mining, and residential development, require exclusive-use tenures. Other businesses can utilize multiple-use (or non-exclusive) tenures, which can overlap with other tenures, typically held by different types of businesses. Exclusive-use tenures have no overlap, and the tenure holder has exclusive rights to utilize the land and surface resources for the purpose permitted by the tenure. Exclusive-use tenures generally cover a much smaller area than multiple-use tenures; involve capital investment; and have longer tenure periods. Exclusive-use tenures also have to be surveyed, and have a higher annual rental rate compared to non-exclusive tenures.

The amount of Crown land used by each sector, and whether they have exclusive or non-exclusive use, are important indicators for determining the potential impacts of any changes in Crown land use and management.

Key Statistics
Table 6 presents the amount of Crown land currently tenured by various sectors for exclusive use (leases) and non-exclusive use (licences, permits, permissions and rights-of-way). Lands protected under various designations are included.34

34 Reserves and notations have not been included here except in so far as some of the protected areas fall into this category when reserved for environmental purposes (see Section 4.6, Provincial Protected Areas). Reserves and notations are explained in greater detail in Section 5.3, Tenures by Sector.
## Table 6 Crown Land Tenured or Protected for Exclusive and Non-exclusive Use

<table>
<thead>
<tr>
<th>Sector</th>
<th>Exclusive</th>
<th>Non-Exclusive</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture and related activities</td>
<td>345,000</td>
<td>6,300</td>
<td>351,300</td>
</tr>
<tr>
<td>Energy</td>
<td>200</td>
<td>18,700</td>
<td>18,900</td>
</tr>
<tr>
<td>– Land Act</td>
<td>0</td>
<td>45,300</td>
<td>45,300</td>
</tr>
<tr>
<td>– Petroleum and Natural Gas Act</td>
<td>13,414,700</td>
<td>0</td>
<td>13,414,700</td>
</tr>
<tr>
<td>Environment and public recreation¹</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forestry</td>
<td>0</td>
<td>72,824,000</td>
<td>72,824,000</td>
</tr>
<tr>
<td>– Forest Act²</td>
<td>4,300</td>
<td>4,700</td>
<td>9,000</td>
</tr>
<tr>
<td>Manufacturing &amp; commercial</td>
<td>9,600</td>
<td>12,100</td>
<td>21,700</td>
</tr>
<tr>
<td>Mining</td>
<td>18,600</td>
<td>9,900</td>
<td>28,500</td>
</tr>
<tr>
<td>Other</td>
<td>3,000</td>
<td>0</td>
<td>3,000</td>
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<tr>
<td>Public services</td>
<td>49,800</td>
<td>15,200</td>
<td>65,000</td>
</tr>
<tr>
<td>Residential</td>
<td>1,000</td>
<td>1,000</td>
<td>2,000</td>
</tr>
<tr>
<td>Tourism &amp; accommodation</td>
<td>1,000</td>
<td>17,307,500</td>
<td>17,308,500</td>
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<tr>
<td>Transport and communications</td>
<td>600</td>
<td>10,900</td>
<td>11,500</td>
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<tr>
<td>Utilities</td>
<td>0</td>
<td>1,763,100</td>
<td>1,763,100</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>13,847,800</strong></td>
<td><strong>92,018,700</strong></td>
<td><strong>105,866,500</strong></td>
</tr>
</tbody>
</table>

Sources: Baseline Thematic Mapping (BTM); Statistics Canada Agricultural Census; Tantalis; The State of the British Columbia's Forests, 2006; Hectares BC; and other sources.

Notes: Calculations include all area-based surface tenures (including volume-based forestry tenures) as at May 2009. All estimates are rounded to the nearest hundred hectares.

¹ These tenures represent protected areas (see Section 4.6, Provincial Protected Areas). The environment and public recreation sector is not one that appears in traditional national accounts measures like GDP, but it provides largely unpriced ecological goods and services and is an important driver of government policy and administrative effort with respect to Crown lands.

² Within the Provincial Forest, area-based licences total around 9 million hectares, and volume-based licences make up the balance.
Discussion

BC has developed a number of planning and administrative processes to manage the use of Crown land. Land-use decisions have tended to favour multiple uses of Crown land, rather than exclusive uses. Historically, the province’s development began with harvesting activities (e.g. furs, timber, range grazing), and later extended to activities requiring exclusive use (e.g. intensive agriculture, mining). Exclusive use areas have tended to be confined to small areas where specific resources are available (e.g. arable land, coal and mineral deposits).

At present, the total area allocated to provincial Crown land tenures and protected areas (105.9 million hectares) is 119% of the total provincial Crown land base of 88.7 million hectares. This percentage indicates that many tenures are non-exclusive and allow for overlapping uses. Exclusive tenures and protected areas occupy only 16% of the provincial Crown land base.

Three sectors account for 98% of the total tenured and protected areas: forestry; tourism and accommodation; and environment and public recreation.

Forestry accounts for 69% of the total tenured and protected areas of the province (based on the 72.8 million hectares designated as Provincial Forest, which is the area officially managed for forestry activities by the Province). Largely because of the mountainous topography throughout much of the 72.8 million hectares of Provincial Forest, the actual area of forest within this land area is only 53.0 million hectares, with the balance consisting of a mix of mainly high altitude shrubs, barrens, lakes, glaciers and alpine areas along with some wetlands at lower altitudes.35

Commercial forestry within the Provincial Forest is managed through the allocation of tenures to forest licensees. Tenure types include a mix of area-based tenures, amounting to approximately 9 million hectares, and volume based tenures, which account for the balance. The area of Crown forest that can be commercially utilized is much less than the forested area of 53.0 million hectares because of a range of forest quality and access issues. The current timber harvesting land base (the area of economically harvestable forest) is estimated at 24.5 million hectares.

Tourism and accommodation makes up 16% of the total tenured and protected areas (17.3 million hectares). These tenures are almost completely non-exclusive. Heli-ski and multi-purpose tenures dominate the tenured area, followed by heli-hiking, guided nature viewing, rock-climbing and mountaineering. Businesses with these tenures tend to operate in various locations within their tenured area, which may vary according to seasonal conditions, client interests and other factors.

Agriculture and related activities make up just 0.3% of the tenured and protected areas in the province (0.4 million hectares), and are predominantly exclusive tenures.

Energy and mining tenures together make up less than 0.1% of the tenured and protected areas of the province and virtually all of these tenures are non-exclusive, largely due to the high number of energy production operations, such as wind power, that do not require exclusive access to operate.

35 The Baseline Thematic Mapping estimated area of forest is 61.7 million hectares (See Section 2.4, BC Land Use and Cover); while the The State of the British Columbia’s Forests, 2006 report estimates the area of forest at 59.1 million hectares. HectaresBC data indicates that of the BTM total area of forest of 61.7 million hectares, 53.0 million is within the designated Provincial Forest, 6.6 million hectares are within National, Provincial and Regional Parks and the balance is in other areas, (see Additional Information for details on Hectares BC BTM data).
Protected areas, which support the environment and public recreation sector, total 13.4 million hectares, which accounts for 12.7% of the total tenured or protected areas in the province, and 14.2% of the BC land base.

Protected areas are themselves a form of exclusive tenure, and account for 97% of the total area of all exclusive tenures in the province. Protected areas consist of a variety of designations discussed in Section 4.6, Provincial Protected Areas. Virtually all protected areas have been classified as exclusive since they prohibit most economic activities, with the exception of recreation.

Additional Information

- See Section 4.6, Provincial Protected Areas for data and discussion concerning protected areas.
- See Section 5.3, Tenures by Sector and Section 5.4, Grants by Sector for a more detailed discussion of Crown land that has been tenured and granted under the Land Act for all sectors.
- See the State of the Forest Report for more detailed information on forest areas and the management of the provincial forest.
  
- Hectares BC provides BTM data on forested areas.
  
  Available: [http://hectaresbc.org](http://hectaresbc.org)
3.7 Economic Activity on Crown Land

Why is this Important?

Gross Domestic Product (GDP) is the measure most often used to assess the size and trends of the economy. It is a national accounting measure, and although it can be estimated in different ways, it is commonly understood to be the market value of goods and services produced by the selected industry sectors during the specified year, i.e. total revenue less the costs of materials and purchased services consumed in the process of production.\(^{36}\)

GDP provides a standardized measure for assessing a number of economic issues, including strategic land management issues such as:

- the relative importance of Crown land to different sectors and how this changes through time;
- the relative significance of Crown land allocation to different sectors compared to other functions of government; and
- the relative importance to different sectors of Crown land versus private land, and thus the impact of government policy decisions impacting Crown land allocation and usage.

Key Statistics

GDP data are compiled by Statistics Canada using the North American Industry Classification System (NAICS). These data have been used to estimate the GDP associated with Crown land using the method described in the following paragraphs.

GDP estimates reported here are for sectors directly dependent on Crown land; that is, sectors that use Crown land for the production of goods or services (e.g. oil and gas extraction, agriculture, adventure tourism). Estimates have not been developed for sectors indirectly utilizing Crown land by virtue of supplying inputs to sectors directly utilizing Crown land (e.g. manufacturers supplying logging equipment to forestry companies); nor for sectors indirectly using Crown land by virtue of receiving inputs from sectors directly utilizing Crown land, (e.g. sawmills supplying lumber to manufacturers (see Section 3.5, Sector Dependence on Crown Land).

The estimates of GDP produced on Crown land have been derived from provincial GDP data at the most detailed sub-sector level for the period 2002 to 2006. The proportion of economic activity produced on provincial Crown land by each sector and sub-sector was estimated using the sector dependency estimates for the sub-sector level, summarized in Section 3.5, Sector Dependence on Crown Land. “High”, “low” and “most likely” measures were established for each sub-sector estimate of GDP produced on Crown land.\(^{37}\) All figures in this section use the “most likely” measure, unless otherwise indicated.\(^{38}\)

For each sector, separate estimates are provided for the GDP generated on Land Act Crown land, and for all types of provincial Crown land (including Land Act Crown land). For example, for the forest and logging sector, Crown land used for some log handling and storage sites is tenured under the Land Act. These

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\(^{36}\) Note that GDP measures the market value of goods and services and does not include the value of non-priced economic goods and services. As a consequence the economic value of (free) public services that utilize Crown land, such as environmental benefits, public recreation, water catchment services, some waste management services, public wharves, and roads are not included in GDP.

\(^{37}\) This has been done to reflect the degree of confidence of the estimators in these figures, based as they are on incomplete and sometimes inconsistent data sets and/or the subjective estimates of different sector experts. See Section 3.5, Sector Dependence on Crown Land for an explanation of data sources.

\(^{38}\) These estimates are also based on the principal definition of Crown land used throughout this report and discussed in Section 2.3, Land Ownership in British Columbia and Section 3.5, Sector Dependence on Crown Land, namely that the land owned in fee simple by independent provincial Crown agencies is considered private land (see Section 2.3). Alternatively, if one considers this as provincial Crown land then the dependence on Crown land is higher because of the significant private land holdings of provincial Crown agencies like School Boards of Trustees, Universities and Colleges and Health Districts, Health Organizations (the SUCH sector); and to a lesser extent, others like BC Hydro, Columbia Power Corporation and a number of transport agencies and commissions.
Crown land sites occupy around 50% of the area of all such sites in the province (not including mill sites). However, this sector is directly dependent on a vastly larger area of Crown land that is administered under the Forest Act and which accounts for around 96% of the province’s total timber harvesting land base.

Sectors that do not use a significant amount of land or Crown land, relative to other inputs, have been excluded from GDP calculations in this section (e.g. manufacturing, retailing, wholesaling, banking and finance). While some businesses in these sectors are located on Crown land under Land Act tenures, they form only a small fraction of the sector’s total economic activity.

Table 7 presents 2006 BC GDP generated by sectors that significantly utilize Crown land. In total, these sectors accounted for almost 40% of provincial GDP. The sectors producing the largest percentage of GDP were public services and residential, followed by energy, and then transport and communications.

Table 7 also distinguishes between the provincial GDP produced on all provincial Crown land and the GDP produced on Crown land tenured under the Land Act. The economic activity of the energy and utilities sectors are very dependent on Land Act tenures, while outputs of the forestry and mining sectors are highly dependent on Crown land more generally. For other sectors, less than a third of their economic activity occurs on Crown land.

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39 That is, this estimate includes all log handling and storage sites within the forest or between the forest and mills, but not those at mill sites. Log handling and storage facilities at mill sites are considered under NAICS to be part of the manufacturing sector rather than forestry and logging.

40 A valuation dilemma arises in cases where Crown land is used jointly with private land in the production of GDP. For example, the water bodies of large BC Hydro dams are largely on Crown land while the land on which the dams and power houses are located is owned by BC Hydro in fee simple. Similar issues arise in oil and gas extraction where wells can be on private land but many of the access roads, processing facilities and pipelines can be on Crown land. Likewise in adventure tourism, accommodation and the principle facilities of operators are very often on private land but the operational areas such as back country trails and river rafting sections are on Crown land. Valuation options include: 1. Using the value of the private and Crown land in their next best alternative use (i.e. their “opportunity cost” in economic terms); 2. The relative value of the land plus investments on each; or 3. to ascribe the whole value to either the private land or the Crown land. In this report, the range is based on the first and second options while the most likely figure is based on the first option.
Table 7 Estimated British Columbia GDP Produced on Crown Land, 2006

<table>
<thead>
<tr>
<th>Sector</th>
<th>Total BC GDP (on all private and Crown land)</th>
<th>BC GDP Associated with all Provincial Crown Land ¹</th>
<th>BC GDP Associated with Land Act Crown Land ¹</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$ (million)</td>
<td>% of Total BC GDP</td>
<td>$ (million)</td>
</tr>
<tr>
<td>Agriculture and related activities</td>
<td>1,265</td>
<td>0.8%</td>
<td>226</td>
</tr>
<tr>
<td>Energy</td>
<td>6,330</td>
<td>3.8%</td>
<td>5,191</td>
</tr>
<tr>
<td>Forestry</td>
<td>3,123</td>
<td>1.9%</td>
<td>2,890</td>
</tr>
<tr>
<td>Mining</td>
<td>3,765</td>
<td>2.3%</td>
<td>3,385</td>
</tr>
<tr>
<td>Public services</td>
<td>23,327</td>
<td>13.9%</td>
<td>1,343</td>
</tr>
<tr>
<td>Residential services</td>
<td>16,320</td>
<td>9.8%</td>
<td>2</td>
</tr>
<tr>
<td>Tourism and accommodation</td>
<td>2,722</td>
<td>1.6%</td>
<td>450</td>
</tr>
<tr>
<td>Transport and communications</td>
<td>5,203</td>
<td>3.1%</td>
<td>73</td>
</tr>
<tr>
<td>Utilities and pipelines</td>
<td>3,679</td>
<td>2.2%</td>
<td>2,107</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td><strong>65,734</strong></td>
<td><strong>39.4%</strong></td>
<td><strong>15,667</strong></td>
</tr>
<tr>
<td>Other Sectors Not Utilizing Crown Land</td>
<td>101,606</td>
<td>60.6%</td>
<td></td>
</tr>
<tr>
<td><strong>Total Provincial GDP</strong></td>
<td><strong>167,340</strong></td>
<td><strong>100%</strong></td>
<td></td>
</tr>
</tbody>
</table>

Sources: Statistics Canada, BC Stats

1 All estimates are “most likely” estimates. These GDP data are in current or nominal dollars (i.e. without adjustment for inflation). The 2006 data are the latest available data at time of publication.

Figure 9 shows the estimated percentage of GDP produced on Land Act Crown land and on all provincial Crown land from 2002 to 2006. The low and high measures give a sense of the uncertainty in the estimates, with this uncertainty greater for the Land Act Crown land estimates.

In 2006, 4.5% of provincial GDP was produced on Land Act Crown land while 9.4% of provincial GDP was produced on all provincial Crown land.⁴¹

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⁴¹ If the alternative definition of Crown land is used that includes the Crown land holdings of provincial Crown agencies, the figure for all Crown land increases from 9.4% to 16.6%, principally because of the size of the land holdings of the provincial Crown agencies associated with the health and education sectors. The estimate for the proportion of GDP associated with Land Act Crown land is unaffected.
Figure 9 Percentage of GDP Produced on Crown Land

**Land Act Crown Land**

**All Crown Land**

Sources: Statistics Canada, BC Stats

Figure 10 shows how the “most likely” GDP estimates for each sector have evolved between 2002 and 2006.

Figure 10 Economic Activity (GDP) on Land Act Crown Land by Sector

Sources: Statistics Canada, BC Stats
Discussion

In recent years, the energy (oil and gas) sector has been the largest driver of economic activity on both Land Act Crown land and on all provincial Crown land. In 2006, the energy sector generated 69% of the economic activity occurring on Land Act Crown land, followed by utilities and pipelines at 14%, mining at 8%, tourism and accommodation at 4%, and agriculture and related activities (such as aquaculture, fishing, hunting and trapping) at 3%. The energy sector generated 33% of GDP on provincial Crown land, followed by mining at 22%, utilities and pipelines at 13%, agriculture and related activities at 1%. This indicates a significant economic shift in BC, as prior to 2003, forestry produced the most GDP in the province.

Overall, the four sectors of energy, utilities, mining and forestry accounted for 92% of GDP produced on Land Act Crown land and 86% of GDP on all Crown land.

The contribution of the various sectors to provincial GDP generated on Crown land depends both on their overall sector size and their dependence on Crown land (as discussed in Section 3.5). The following discussion provides detail on individual sectors’ contributions to GDP.

Energy sector (oil and gas extraction)

The total energy sector contribution to provincial GDP in 2006 was $6.3 billion. As noted in Section 3.5, Sector Dependence on Crown Land, the proportion of oil and gas extraction facilities on Crown land varies from 70% to 98%, depending on the type of facility. Since most of the production and employment occurs at well sites (approximately 80% of which are on Crown land), it is estimated that 82% of GDP is produced on provincial Land Act Crown land and all Crown land. In 2006, this amounted to a contribution of $5.2 billion to GDP.

The Crown land GDP generated from the energy sector has fluctuated considerably between 2002 and 2006, and has also been the main source of growth in the overall GDP estimated to be produced on Crown land. The fluctuations have been principally due to fluctuations in energy prices rather than fluctuations in production levels.

Mining sector

The total mining sector contribution to provincial GDP in 2006 was $3.8 billion. The mining sector consists of three sub-sectors: coal mining, accounting for 40% to 60% of mining GDP; metal ore mining, accounting for 35% to 55%; and, non-metallic mineral mining and quarrying, accounting for 5%. Almost all mines in BC are on Crown land. Overall, it is estimated that 18% of mining GDP is produced on Land Act Crown land, and 89% of mining GDP is produced on all Crown land. In 2006, this amounted to GDP contributions of $0.7 billion and $3.4 billion, respectively.

Mining sector GDP increased significantly between 2002 and 2006, mainly due to increasing prices of coal and most minerals. There was little change in the sector’s dependence on Crown land.

Forestry sector

The total forestry sector contribution to provincial GDP in 2006 was $3.1 billion. Forestry sector GDP has two components: forestry and logging contributed 85% of forestry GDP in 2006 ($2.6 billion); and, support services for forestry and logging contributed 15% ($0.5 billion) of forestry GDP.

Approximately 96% of forestry and logging GDP is produced on Crown land; thus, in 2006, forestry and logging on Crown land contributed $2.5 billion to the provincial GDP. It is estimated that 17% of the

42 Source: 2009 data from the Oil and Gas Commission (see Additional Information for details); and GeoBC.

43 Support services for forestry and logging consist primarily of activities like reforestation and other silviculture activities, fire and pest control, timber hauling (other than that included in logging contracts), and log storage and handling prior to delivery to mills.
GDP produced by forestry support services occurs on Land Act Crown land and 72% occurs on all Crown land; thus, in 2006, forest support services on Crown land contributed $0.3 billion to the provincial GDP.

When the two forest sector components of GDP are combined, the proportion of the forestry GDP produced on Land Act Crown land in 2006 was 2%, or $0.1 billion. The proportion of forestry GDP produced on all Crown land was 93%, or $2.9 billion. The forestry sector’s GDP contribution declined from 2002 to 2006.

Utilities and pipelines sector

The total utilities and pipelines sector contribution to provincial GDP in 2006 was $3.7 billion. The utilities and pipelines sector is a grouping of four NAICS sub-sectors: electricity power generation, transmission and distribution accounts for 50% to 60% of the sector GDP; pipeline transportation of natural gas accounts for 20% to 40%; pipeline transportation of crude oil and other products accounts for 4% to 7%; and distribution systems for natural gas, water and other substances accounts for 5% to 20%.

Based on the sector dependence on Crown land it is estimated that 11% of the GDP produced by the electricity generation, transmission and distribution sub-sector is produced on Land Act Crown land and 63% on all Crown land.  

Estimates for the pipelines sub-sector are as follows: 83% of major natural gas pipelines’ GDP is produced on provincial Crown land; and 66% of major oil and other product pipelines’ GDP is produced on provincial Crown land. For the distribution networks for natural gas, water and other products, the figure is around 12%.

Overall, the proportion of the utilities and pipelines sector GDP produced on Land Act Crown land is estimated at 27%, while the estimate for all Crown land is 57%. In 2006, this amounted to a GDP contribution of $1.0 billion for Land Act Crown land and $2.1 billion for all Crown land. There have only been small fluctuations in utility sector GDP from 2002 to 2006.

Public service sector

The total public service sector contribution to provincial GDP in 2006 was $23.3 billion. The sector is made up of five principle sub-sectors: education sub-sectors contributing around 35% of sector GDP; health sub-sectors contributing around 29%; the federal government contributing around 14%, the provincial government contributing 11%; and local government contributing 11%.

Under the definition of Crown land used in this report (excluding the areas of land held in fee simple by independent Crown agencies), only the Crown land utilized by the provincial government is considered here. This includes land owned in fee simple by the provincial government (other than independent agencies). The share of provincial government GDP attributable to public service sector activities on all Crown land is estimated at 55% or $1.3 billion; only a minor fraction of this is attributable to Land Act Crown land. 

If the alternative definition of Crown land is used and the land held in fee simple by the independent provincial educational and health agencies are included as Crown land then the proportion of GDP from this sector that is produced on Crown land rises to 57% and the GDP attributable to Crown land rises from $1.3 billion to $11.9 billion.

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44 Source: BC Hydro GIS data on the footprint of reservoirs, facilities and buildings and distribution lines; BC Transmission Corporation GIS data on transmission lines. Estimates of the proportions of Crown and private ownership by Bob Penney, BC Hydro, pers.comm. March 2010 and MFLNRO authors. If the alternative definition of Crown land is used and the land held in fee simple by BC Hydro and the Columbia Power Corporation are included as Crown land then the proportion of GDP from this sector produced on Crown land rises slightly to 58%.

45 If the alternative definition of Crown land is used and the land held in fee simple by the independent provincial educational and health agencies are included as Crown land then the proportion of GDP from this sector that is produced on Crown land rises to 57% and the GDP attributable to Crown land rises from $1.3 billion to $11.9 billion.
Tourism and accommodation sector\textsuperscript{46}

The total tourism and accommodation sector contribution to provincial GDP in 2006 was $2.7 billion. The proportion of the total GDP contributed by the sector’s three sub-sectors are as follows: amusement, gambling and recreation industries (includes downhill skiing, adventure tourism and boating) at around 30%; accommodation at around 55%; and recreational vehicle parks, recreational camps, rooming and boarding houses at around 15%.

Approximately 80% of the value of land and investments in skiing facilities, and 95% for adventure tourism, are estimated to be on Crown land.\textsuperscript{47} The docks of all saltwater marinas and a very high proportion of freshwater marinas are on Crown land while the on-shore operations in most cases are on private land. A “most likely” Crown land proportion estimate of 50% has been assumed for marinas.\textsuperscript{48} Golf courses also provide a significant proportion to the amusement, gambling and recreation industries GDP but less than 1% of these are located on Crown land.\textsuperscript{49}

Only around 1% of accommodation is accounted for by lodges and resorts on Crown land.\textsuperscript{50} By contrast, in the sub-sector category of recreational vehicle parks, recreational camps, and rooming and boarding houses, around 50% of the accommodation establishments utilize Crown land.

The 2006 GDP produced on Land Act Crown land by the tourism and accommodation sector is estimated to be $0.3 billion; and, the GDP produced on all Crown land by the tourism and accommodation sector is estimated to be $0.5 billion. The percentage of GDP produced on Land Act Crown land and all Crown land was 10% and 17%, respectively, of the total BC tourism and accommodation sector GDP, both in 2006, and on average between 2002 and 2006. Between 2002 and 2006 the sector’s GDP grew steadily. There was no significant change in sector dependence on Crown land over this period.

Agriculture and related activities sector

The total contribution of the agriculture and related activities sector to provincial GDP in 2006 was $1.3 billion: around 75% was generated by intensive and extensive crop production and animal production; 7% aquaculture; 10% fishing, hunting and trapping; and the remaining 8% by support activities for these sub-sectors.

\textsuperscript{46} The definition of the tourism and accommodation sector used in this report is much narrower than the tourism GDP measure published by BC Stats. The definition used here is restricted to two sub-sectors at the NAICS 2-digit level, compared to fourteen subsectors in the BC Stats measure. Three of the other NAICS 2-digit sub-sectors not considered under the Tourism and Accommodation sector are considered in this report under Public Services; two are considered under Transportation, and the remainder have only a minor use of land and/or Crown land.

\textsuperscript{47} This does not include ski resort accommodation. On most ski hills, particularly the larger ones, the province has leased Crown land to ski resort operators for ski runs and lift rights of way, base facilities and car parks. It has granted land for accommodation but this is considered under the second GDP sub-category. Almost all adventure tourism facilities, along with operational areas like backcountry trails and river rafting sections, are on Crown land.

\textsuperscript{48} BC Ministry of Sustainable Resource Management, Public Marine Structures, 2002, (see Additional Information for details).

\textsuperscript{49} In 2009 there were 7 golf courses on Crown land and around 340 golf courses in the province. See Tourism British Columbia, Golf Product Overview, 2009, (see Additional Information for details).

\textsuperscript{50} Those with fixed roofs and at least 4 beds pay the provincial hotel bed tax. Around 10% to 15% of all establishments in this NAICS category are on tenured Crown land but they tend to be small, regionally located businesses and only account for around 1% of the rooms provided by this group.
The proportion of 2006 GDP produced by agriculture and related activities on both Land Act Crown land and all Crown land was 12%, or $0.2 billion. The sector’s GDP has fluctuated over the 2002 to 2006 period due to price and production changes but its dependence on Crown land did not change significantly over the same period.

**Transport and communications sector**

The total transportation and communications sector contribution to provincial GDP in 2006 was $5.2 billion. Provincial Crown land makes only a minor direct contribution to the transport and communications sector’s GDP. Although all provincial highways and associated rights-of-way are on provincial Crown land, since road use in BC is not charged for directly, there is no direct contribution to GDP.\(^{51}\) GDP values generated from activities on Crown land are roughly equal for sea, air and rail transportation, and telecommunications. All the activities involved are tenured under the Land Act.

In the transportation sub-sector, all major port and airport facilities are on federal Crown land, while most of the railways are on private land. In the telecommunications sub-sector, despite the importance of Crown land mountain top locations for wireless communications, and road rights-of-way for wired communications, only a small proportion of transmission facilities are on Crown land. Overall, only 1.3% of the transport and communications sector’s GDP (or $0.1 billion) was produced on Crown land. The GDP of telecommunications and the support activities for transportation both grew strongly from 2002 to 2006. The sector’s dependence on Crown land remained relatively stable over that period.

**Other sectors**

Crown land is tenured for use in two other sectors: the manufacturing and commercial sector; and, the residential sector. Each is a large sector in the BC economy; however, the contribution of Crown land to the GDP in these sectors is minor (although in some regional economies, Crown land does play a larger role in contributing to GDP in these sectors).

In the residential sector, the total land value of residential properties on provincial Crown land in the province, as estimated by the BC Assessment Authority (BCAA), represented 0.03% of the total land value of all residential properties in the province. The proportion of GDP produced on Crown land in the manufacturing and commercial is likely less than the GDP produced on Crown land in the residential sector.

**Additional Information**

- See Section 3.5, Sector Dependence on Crown Land for an overview of each sector’s dependence on Crown land.
- See Appendix 1 for a detailed description of each of the sectors used throughout this report.

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\(^{51}\) “Highways” is the generic legal term in BC for highways and roads. Provincial highways include arterial highways in municipalities, while outside of municipalities they include rural and forestry roads. Roads in parks and other protected areas are provincial highways whether within or outside municipalities. All provincial highways are provincial Crown land.
### 3.8 Government Resource Revenue

#### Why is this important?

Provincial government revenue supports government operations, the delivery of important social services, regional economic development, environmental management, and a wide range of activities that are essential to public health and wellness. Government revenues from Crown resources contribute to overall provincial consolidated revenue. Examining the sources of resource revenues highlights the contributions made by different economic sectors to the funding of public services. Examining the sources of resource revenue also provides an indication of the health of provincial resource sectors.

Many resource activities occur outside of the province’s main population centres. As shown in Section 3.3, regions vary in their resource dependence. Overall, BC is still a relatively resource-dependent economy, and economic growth in the province tends to be correlated with demand for natural resources. As a result, it is important to understand the impacts of natural resource management on government revenue; and the potential impacts of fluctuations in demand for natural resources on government revenue.

#### Key Statistics

Government resource revenue in the 2008/2009 fiscal year was approximately $3.8 billion, an increase of 1.9% over 2007/2008 (in 2009 dollars). From the 2000/2001 fiscal year to the 2008/2009 fiscal year, natural resource revenue has represented, on average, 13% of total annual government revenue (Figure 11). The primary source of revenue for the provincial government is taxation revenue.

![Figure 11 Government Revenue, Annual Average, 2000/2001 to 2008/2009](image)


The contribution of different industries to provincial natural resource revenue has varied over time, as illustrated in Figure 12. The four most important sources of natural resource revenue are: forestry; petroleum and natural gas; water; and minerals.
Revenue from Crown land tenure rents, royalties and land sales averaged $70 million annually (in 2009 dollars) between 2000/2001 and 2008/2009. That figure represents nearly 2% of the $3.9 billion in total revenues generated from the natural resource revenue category over this same period.

**Discussion**

Natural resources are an important part of the provincial economy and support employment and prosperity in many regions of the province. Natural resource revenues contribute, on average, 13% to provincial government revenues, which makes natural resource revenues the third largest contributor. The top two contributors to government revenues are taxation revenue at 55%, and transfers from the federal government at 15%.

Resource rents, royalties, or similar charges are paid to the province for the use of Crown-owned land and resources. A number of different regulatory and pricing structures are administered by the province to ensure that British Columbians receive an appropriate rate of return for the use of land and resources. Examples of natural resource charges levied by the provincial government include: mineral taxes, natural gas royalties, water licence fees, Crown land rents, quarrying royalties and forestry stumpage fees.

Since 2001, forestry's per annum contribution to natural resource revenue has decreased, from $1.3 billion (29%) to $540 million (14%). Over the same period, per annum petroleum, natural gas and
mineral royalties have increased from $1.3 billion (48%) to $2.6 billion (69%). Resource revenue is somewhat volatile due to highly variable market forces influencing international commodity prices on the demand side; and affecting provincial production on the supply side.

**Additional Information**

- More information on provincial revenue and expenditure can be found in the Government of BC’s *BC Budget 2010*. Available: [http://www.bcbudget.gov.bc.ca](http://www.bcbudget.gov.bc.ca)
- See Section 5.6 Government Land Revenues for more detailed indicators and a discussion of revenue obtained from *Land Act* tenures and grants
Land Use Direction and Objectives
Throughout BC, government has coordinated with First Nations, government agencies and stakeholders to develop and implement Strategic Land and Resource Plans (SLRPs), which are used to establish land use direction and objectives. The planning direction flowing from land use planning serves to inform natural resource sector decision-makers when they are making operational policy and land use decisions, including the issuing of Land Act tenures and grants. Some of the significant outcomes of strategic land and resource planning include:

- protecting unique and important ecological and cultural values;
- increasing regional economic diversity;
- improving business investment certainty;
- resolving land based conflicts; and,
- providing meaningful engagement to address First Nations’ interests.

Strategic land and resource plans have been developed for large regions, sub-regions, or landscape unit sized areas of the province, with their scale depending on the area-specific needs. Through the planning process, the interests and needs of stakeholders are identified, land use policy direction is defined, resource management strategies and zones are developed, and legal land use objectives are established under the authority of the Land Act, as required.

Part 4 presents a range of statistics and indicators related to strategic land and resource planning, focusing on the variability and distribution of SLRPs in the province, as well as some of the important outputs of these planning processes. These outputs include: the development of policy-based land use zones and designations that are a primary outcome of most strategic planning exercises; the establishment of legal land use objectives; the establishment of Old Growth Management Areas; and the creation of parks and other protected areas which in many cases are a result of land use planning processes.
4.2 Strategic Land and Resource Plans

Why is this Important?

Strategic Land and Resource Plans (SLRPs) establish direction and objectives for land and natural resource management on BC’s Crown land. SLRPs cover a significant portion of the province. Their focus can range from comprehensive (i.e. taking into account both the geography and resources considered in the plan area) to quite specific (e.g. focusing only on old growth retention). The variety and extent of SLRPs gives some indication of the range of policy and legal direction provided to decision-makers.

Key Statistics

There are 138 approved SLRPs in BC (Table 8), including:

- 24 regional scale SLRPs that are comprehensive in scope and cover areas up to several million hectares in size;
- 44 sub-regional scale SLRPs that vary in scope and cover areas up to several thousand hectares; and,
- 70 landscape scale SLRPs that have a more focused scope and may only cover the area of a single watershed or landscape unit.

Table 8 describes the different types of plans established at the regional, sub-regional and landscape scale, including the total number and hectares coverage of each plan type.
### Table 8 Approved Strategic Land and Resource Plans in British Columbia

<table>
<thead>
<tr>
<th>Plan Theme</th>
<th>Plan Theme Description</th>
<th>Number</th>
<th>Hectares</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Regional Scale</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Land and Resource Management Plan (LRMP)</td>
<td>Provides broad strategic direction for the management of Crown land and natural resources, and integrates a diverse suite of values to reflect a balanced vision of how the land will be managed.</td>
<td>17</td>
<td>52,189,150</td>
</tr>
<tr>
<td>Regional Land Use Plan (RLUP)</td>
<td></td>
<td>5</td>
<td>20,329,032</td>
</tr>
<tr>
<td>Coast Land Use Decision(^1)</td>
<td>Represents regional level commitments through agreements with First Nations, stakeholders and communities to provide direction for the management of Crown land and natural resources and establish an ecosystem-based management (EBM) framework.</td>
<td>1</td>
<td>6,486,643</td>
</tr>
<tr>
<td>Haida Gwaii Strategic Land Use Agreement</td>
<td></td>
<td>1</td>
<td>1,006,411</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>24</td>
<td>80,011,236</td>
</tr>
<tr>
<td><strong>Sub-Regional Scale</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biodiversity/FRPA</td>
<td>Focused on forestry activities and considers a range of forest values including old growth retention, access management, biodiversity, and wildlife.</td>
<td>6</td>
<td>3,845,277</td>
</tr>
<tr>
<td>Coastal and Marine</td>
<td>Five multiple opportunity plans, three shellfish aquaculture plans, one estuary management plan.</td>
<td>9</td>
<td>913,333</td>
</tr>
<tr>
<td>Comprehensive</td>
<td>Considers a broad range of land and resource use activities, including forestry, mining, tourism, recreation access, agriculture, and biodiversity.</td>
<td>9</td>
<td>8,720,132</td>
</tr>
<tr>
<td>Crown Land</td>
<td>Established agriculture development and settlement reserve areas (in Prince George, Vanderhoof, Mackenzie, Fort St James, Robson Valley forest districts) to address mountain pine beetle harvesting activities.</td>
<td>5</td>
<td>Not available</td>
</tr>
<tr>
<td>Recreation Access Management</td>
<td>Addresses conflicts, protects resource values, and provides increased certainty for public and commercial recreation.</td>
<td>6</td>
<td>6,165,748</td>
</tr>
<tr>
<td>Regional Old Growth Retention Targets</td>
<td>Establishes regional non-spatial old growth retention targets, old growth management areas, and associated biodiversity measures.</td>
<td>3</td>
<td>12,797,369</td>
</tr>
<tr>
<td>Pre-tenure Oil and Gas</td>
<td>Guides environmentally responsible development of oil and gas resources in Muskwa-Kechika Management Area.</td>
<td>6</td>
<td>975,846</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>44</td>
<td>31,667,350</td>
</tr>
<tr>
<td><strong>Landscape Scale</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Landscape Unit</td>
<td>Focused on forestry activities regulated under the <em>Forest and Range Practices Act</em> and primarily the establishment of old growth management areas.</td>
<td>59</td>
<td>4,220,594</td>
</tr>
<tr>
<td>Watershed</td>
<td>Guides forest planning in Clayoquot Sound watersheds through identification of reserve and special management areas, and rate-of-cut limits in harvest areas.</td>
<td>11</td>
<td>203,948</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>70</td>
<td>4,424,542</td>
</tr>
</tbody>
</table>

Source: GeoBC Geographic Warehouse

\(^1\) The Coast Land Use Decision encompasses what were originally the North and Central Coast and South Central Coast LRMP areas.
In BC, 85% of the land base (80,011,236 hectares) is covered by 24 approved regional scale SLRPs (Map 6). Regional scale SLRP projects not yet finalized in Atlin-Taku, Dease Liard and Nass South account for an additional 6.4% (6,083,700 hectares) of the land base (Map 6).

Map 6 Regional Scale Strategic Land and Resource Plans

The Tatshenshini-Alsek Park Management Plan area is not an SLRP, but would contribute an additional 0.7% (985,000 hectares) to the total planned area. It is included in the map as it is not encompassed by a regional scale SLRP and no additional regional level planning will be undertaken within the park.

Source: GeoBC Geographic Warehouse

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52 The Tatshenshini-Alsek Park Management Plan area is not an SLRP, but would contribute an additional 0.7% (985,000 hectares) to the total planned area. It is included in the map as it is not encompassed by a regional scale SLRP and no additional regional level planning will be undertaken within the park.
Figure 13 shows the progression of approved regional scale plan coverage from 1993 to 2009. By 2001, over 70% of the BC land base was captured within an approved plan. After this period, sub-regional and landscape scale planning intensified, resulting in a slower rate of regional scale planning approvals.

**Figure 13 Percentage of BC with Approved Regional Scale Strategic Land and Resource Plans, 1993 to 2009**

Boundaries for SLRPs at sub-regional and landscape scales are usually contained within the boundaries of regional scale SLRPs (Map 7). Many of these sub-regional and landscape scale plans provide detailed direction that builds on and is consistent with the broader direction provided in a regional scale SLRP. Exceptions are the landscape scale plans in the Merritt, Chilliwack, and Sunshine Coast forest districts, where there are no SLRPs at the regional scale.
Map 7 Approved Sub-regional and Landscape Scale Strategic Land and Resource Plans

Source: GeoBC Geographic Warehouse

Note: Shape files for Crown Land Plans not available at time of publication, and therefore they are not reflected on the map.
Discussion

Strategic land and resource planning has evolved considerably since its inception in the early 1990s. Many variations of land use plans have been used to provide direction for the management and allocation of public land and resources. Some of the most recently approved regional scale SLRPs include the Sea-to-Sky Land and Resource Management Plan (LRMP), the Morice LRMP, the Haida-Gwaii Strategic Land Use Agreement, and the Central and North Coast Land Use Decision.

In earlier regional scale strategic land and resource planning processes, efforts were made to consult and accommodate First Nations, but the more recent regional scale planning processes have had a much higher level of meaningful First Nations engagement. Negotiations with First Nations during the planning process have resulted in government-to-government strategic land use agreements and partnerships. For example, the Morice LRMP is the result of the Province’s collaborative partnerships with the Office of the Wet’suwet’en, Lake Babine Nation, Nedo’ats Hereditary Chiefs, and Yekooche First Nation, as well as industry, local communities and interest groups. Another example is the Sea-to-Sky LRMP, which is built upon recommendations of a public planning forum, and the outcomes of government-to-government agreements with the In-SHUCK-ch, Lil’wat, Squamish, and Tsleil-Waututh Nations.

Additional Information

- A complete list of SLRPs in the province and links to plan home pages.
- SLRP policies and guidelines.
- GeoBC Geographic Warehouse publishes SLRP spatial data.
4.3 Land Use Policy Direction

Why is this Important?

A primary outcome of strategic land and resource planning processes is land and resource-management direction that is approved as government policy but is not legally established. Frequently SLRP policy direction is in the form of zones and designations, which along with their associated goals, objectives and strategies, are used to identify priorities for the use and management of Crown land and resources. Their focus is often on areas of high ecological or economic value, or on areas with potential for conflict between users of the land and resources.

Key Statistics

All SLRPs have some form of resource management zones or designations that identify the recommended management direction for a specific area. These resource management zones and designations can be developed for any resource value or use that is within the scope of the land use planning process.

For example, the types of resource management zones that exist for SLRPs at the regional scale include:

1. General Resource Management Zones: support a variety of resource uses.
2. Enhanced Resource Management Zones: focus on intensive resource development, typically forestry.
3. Agricultural Development and Settlement Reserve Areas: focus on sensitive ecological, recreational, or cultural values.
5. Protected Areas: provide for environmental protection and recreation use (protected areas are legally established, and are the focus of Section 4.6, Provincial Protected Areas).
6. Area-Specific Zones:\footnote{53} have general resource management direction covering all Crown land, plus additional smaller zones within the plan area that have objectives and strategies for certain values beyond those described in general management direction.

Within the 24 approved SLRPs at the regional scale, approximately 27.9% of the total area covered by the plans is allocated to general resource management, 19.7% to enhanced resource management, 17.4% to special management, 14.2% to protected areas,\footnote{54} 2.5% to agricultural development and settlement reserve areas, and 9.4% to area-specific zoning. The remainder of the land area is allocated to: ecosystem-based management\footnote{55} (6.5%); private land, municipal land and First Nations reserves (2.2%); and major river corridors (0.2%).

\footnote{53} SLRPs utilizing area-specific zoning include the Cassiar-Ikut Stikine, Morice, and Okanagan-Shuswap LRMPs. A unique feature of area-specific zoning designations is that they can overlap each other for different resource values (e.g. water, wildlife, cultural heritage features); other policy-based zoning designations in SLRPs are all non-overlapping.

\footnote{54} This figure also includes protected areas in SLRPs with area-specific zoning and ecosystem-based management.

\footnote{55} Management direction in plan areas with ecosystem-based management (EBM) is all legalized. SLRPs with ecosystem-based management frameworks include the Coast Land Use Decision and the Haida Gwaii Strategic Land Use Agreement. EBM and the establishment of legal direction under the Land Act are discussed in greater detail in Section 4.4.
Map 8: Policy-Based Planning Zones and Designations in Dawson Creek, Okanagan-Shuswap, Kalum, and Fort Nelson Land and Resource Management Plan Areas

Source: GeoBC Geographic Warehouse
Map 8 shows examples of resource management zones for four SLRPs at the regional scale, Dawson Creek, Okanagan-Shuswap, Kalum, and Fort Nelson LRMPs. SLRPs are shaped and influenced by many factors such as: the physical landscape and important ecological features; the diversity and types of resource uses that are being considered; and the priorities of First Nations, stakeholders, the general public and the government. The examples in Map 8 reflect the diversity of factors to be considered that result in the establishment of a range of policy-based zones and designations in each plan area that are quite unique.

**Discussion**

Non-binding policy-based zones, designations and related objectives that emerge from SLRP processes are utilized by a variety of natural resource sectors and levels of government when making land and resource allocation decisions. Many of the resource management zones or designations defined in approved plans were designed in collaboration with the majority of key stakeholders present during the planning process. The development of these zones and designations is intended to reduce conflict on the land base and increase certainty for investment. These zones and designations can also be used as a policy tool to manage important ecological values.

Several First Nations have developed their own land use plans, with similar resource management zoning frameworks that reflect their own values and expectations. Recent planning processes involving First Nations recognize partnerships and government-to-government agreements as an important component in the creation of SLRPs.

It is a challenge in any SLRP process to keep policy direction up-to-date and consistent with new developments. While in some planning areas in BC there has been a consistent effort to keep the policy direction current, this is not the case in all planning areas. To ensure the direction remains current, in many cases policy-based planning direction related to forestry activities is legalized as land use objectives under Section 93.4 of the Land Act. Section 4.4 explores these legal land use objectives in more detail.

**Additional Information**

- GeoBC Geographic Warehouse publishes resource management feature spatial data.
  Available: [https://apps.gov.bc.ca/pub/geometadata/home.do](https://apps.gov.bc.ca/pub/geometadata/home.do)
Box 2 Landscape Units

Landscape units are an important component of strategic land and resource planning in BC. They are primarily used in biodiversity conservation planning, but may also be used in recreation, wildlife, fisheries, and water use planning.

Landscape units are areas delineated on the basis of topographic or geographic features. Typically, they cover a watershed or series of watersheds, and range in size from 5,000 to 100,000 hectares. Landscape units originated with the 1999 Landscape Unit Planning Guide. They were developed to provide a spatial unit for use in biodiversity planning at the landscape level. They are particularly helpful in the effort to ensure adequate conservation of biodiversity within timber supply areas, and to establish permissible harvesting levels which are set by the provincial government.

BC is divided into 1,231 landscape units (Map 9). Each landscape unit is assigned a biodiversity emphasis option (BEO). The BEO is a risk management classification used to guide biodiversity conservation (particularly old growth forest retention). The classification is based on the potential risk of losing elements of natural biodiversity. Biodiversity emphasis options are classified as high emphasis, intermediate emphasis, low emphasis, multiple biodiversity emphasis, and specific target.

In BC, 443 landscape units have a low risk BEO classification, 494 have an intermediate risk classification, 154 are classified as high risk, and 90 landscape units have been assigned multiple BEOs. Two landscape units have BEOs with specific targets. There are 48 landscape units for which no BEO has been assigned; these landscape units are primarily located within provincial and/or federal protected areas.

Landscape unit data is available in the GeoBC Geographic Warehouse:

Available: [https://apps.gov.bc.ca/pub/geometadata/home.do](https://apps.gov.bc.ca/pub/geometadata/home.do)
4.4 Land Use Objectives Established under the Land Act

Why is this Important?

Strategic land and resource planning processes may result in the establishment of legally binding objectives and designations, including: Parks and Protected Areas (see Section 4.6, Provincial Protected Areas); designations established under the Environment and Land Use Act (e.g. “biodiversity, mining and tourism areas”); and legal land use objectives enabled under the Land Act.

This section focuses on legal land use objectives established under the Land Act. Understanding the scope and spatial distribution of these land use objectives is important because forest licensees are required to develop strategies and deliver results that are consistent with this legal direction.

Key Statistics

This section includes only legal land use objectives under Section 93.4 of the Land Act; and legal land use objectives grandfathered under Section 181 of the Forest and Range Practices Act (FRPA). All of these land use objectives are only legally binding for forestry activities regulated under FRPA.

Land use objectives are established through legal orders that can apply to landscape units, sub-regions, regions, or the entire province. Each legal order is tailored to meet the needs of a particular area. A legal order is often used as a mechanism to legally establish previously approved policy-based planning direction. Some legal orders can have a single outcome, such as the restriction of forest harvesting in specified areas. Other legal orders can aim for multiple outcomes, and can have many different objectives identified within them to guide a range of forestry related activities.

Table 9 describes the main types of legal land use objectives established under the Land Act.

<table>
<thead>
<tr>
<th>Objective Type</th>
<th>Objective Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture Development and Settlement Reserve Area</td>
<td>Establishes forest harvesting restrictions in agriculture and settlement reserve areas in the Prince George, Vanderhoof, Mackenzie, Fort St James, Robson Valley forest districts.</td>
</tr>
<tr>
<td>Ecosystem Based Management (EBM)</td>
<td>Establishes cedar stewardship areas and objectives, grizzly management zones, non-spatial old growth retention targets, biodiversity objectives for red and blue listed species, landscape unit classifications, riparian and aquatic objectives in Coast Land Use Decision.</td>
</tr>
<tr>
<td>Multiple Value</td>
<td>Includes SLRPs at the regional or sub-regional scale where more than one aspect of resource management direction is legalized. Objectives may include non-spatial and spatial old growth retention, scenic areas, visual quality objectives, vegetation cover, special management zones, wildlife habitat, migration corridors, access management, non-timber foraging areas, aquatic stewardship, etc.</td>
</tr>
<tr>
<td>Old Growth Management Areas (OGMA)</td>
<td>Establishes spatial OGMA and associated measures. Also used to protect unique or important forest stands (e.g. Interior Cedar Hemlock OGMA).</td>
</tr>
<tr>
<td>Provincial Non-Spatial Old Growth Order</td>
<td>Establishes non-spatial old growth forest objectives across the province, based on biodiversity emphasis option (BEO) and Biogeoclimatic Ecosystem Classification (BEC) variant within landscape units.</td>
</tr>
<tr>
<td>Regional Non-Spatial Landscape Biodiversity</td>
<td>Establishes regional non-spatial old growth forest and biodiversity objectives at the landscape unit level.</td>
</tr>
</tbody>
</table>

56 EBM objectives for Haida Gwaii Strategic Land Use Agreement are currently under development and are expected to be completed in fiscal year 2010/11.

57 “Non-spatial” refers to the identification of target amounts for old growth retention without identifying specific areas to be retained through “spatially” describing old growth management areas, or OGMA. The Provincial Non-Spatial Old Growth Order applies across the province; however, any legal orders defining either spatial OGMA, or regional non-spatial old growth targets, take precedence over the provincial order.
Of the total 138 approved SLRPs in BC, 80 SLRPs (58%) have one or more legal land use objectives established (Map 10). Of these 80 SLRPs, 16 are at the regional scale, 5 at the sub-regional scale, and 59 at the landscape scale.

Map 10 Strategic Land and Resource Plans with Legal Land Use Objectives

As an example of land use objectives established at the regional scale, the Central and North Coast and the South Central Coast Land Use Objective Orders support the implementation of ecosystem-based management (EBM) for the Coast Land Use Decision area.

Map 11 shows the legal land use objective areas established under the *Land Act*, plus the 115 conservancies, and 21 biodiversity, mining and tourism areas. All these areas were implemented as part of the Coast Land Use decision. The land use objectives established under the *Land Act* include cedar stewardship areas, grizzly management zones, Kermode stewardship areas, non-spatial old growth retention targets, objectives for red and blue listed species, and aquatic objectives such as identification of fisheries sensitive watersheds, and stream and lake buffer zones.
Map 11 Coast Land Use Decision Ecosystem-Based Management (EBM) Legal Objectives

Legend
- Central and North Coast Order Boundary
- South Central Coast Order Boundary
- Biodiversity, Mining and Tourism Areas
- Conservancy Area

Land Act Land Use Objectives
- Cedar Stewardship Area
- Creek or Lake Buffer
- Fisheries Sensitive Watershed
- Grizzly Bear Habitat
- Kermode Stewardship Area

Source: GeoBC Geographic Warehouse
Discussion

Land use objectives established under Section 93.4 of the Land Act are only one component of the legal framework that forest licensees are required to adhere to under FRPA. Other agencies have legal authority to establish spatial areas and associated objectives and measures that provide direction for forestry activities. For example, the Ministry of Environment has authority to establish Wildlife Habitat Areas and Winter Ungulate Ranges under FRPA using the Government Actions Regulation (GAR).

Land use objectives are enabled through the Land Use Objectives Regulation (LUOR). The LUOR regulation has specific requirements that must be met when establishing land use objectives. The requirements include a mandatory public review and comment period and tests that the Minister (or delegate) uses to ensure requirements are met, including tests that indicate whether the objectives provide an appropriate balance of social, economic and environmental benefits. First Nations are also engaged during development and establishment of land use objectives.

Additional Information

- A list of legal orders established under Section 93.4 of Land Act.
- BCLaws.ca publishes the “Land Use Objectives Regulation”.
- Land Use Objectives Regulation Policy and Procedures” document.
4.5 Old Growth Management Areas

Why is this Important?

Old Growth Management Areas (OGMAs) are a designation established to ensure that old growth forest is retained as a primary element of forest biodiversity. OGMAs are often designated at the landscape unit scale through a land use planning process. OGMAs and associated objectives may either be given legal effect as land use objectives under the Land Act or they may remain as non-binding policy direction. Forest licensees are required to include legalized OGMAs within their Forest Stewardship Plans. Licensees are not required to utilize non-legal OGMAs, but since OGMAs are often developed collaboratively with stakeholders, many licensees do include non-legal OGMAs in their Forest Stewardship Plans.

Key Statistics

A total of 15,512 legal OGMAs (1,386,200 hectares) and 34,844 non-legal OGMAs (1,396,707 hectares) have been established in BC (Table 10). The legal OGMAs are contained within approximately 50 separate legal orders. The distribution of legal and non-legal OGMAs varies across sub-regions.

The Provincial Non-Spatial Old Growth Order\(^{58}\) applies across the province; however, any legal orders defining either spatial OGMAs or regional non-spatial old growth targets, take precedence over the provincial order. The term “non-spatial” refers to the identification of target amounts for old growth retention without identifying specific areas to be retained through “spatially” describing OGMAs. Currently, the provincial order is applicable to approximately 50% to 60% of the province where other spatial objectives for old growth have not been established.

The Cariboo and South Coast regions have 7,782 and 3,797 legal OGMAs, respectively, which represents over 74% of all legal OGMAs established in the province. The Kootenay and Thompson-Okanagan sub-regions do not have any legal OGMAs established, but they do have 31,558 non-legal OGMAs, which account for 86% of the total number of non-legal OGMAs established in the province. The Peace and Cariboo sub-regions do not have any non-legal OGMAs.

\[^{58}\text{Effective June 30, 2004, the Provincial Non-Spatial Old Growth Order establishes non-spatial old growth retention targets across the province. The purpose of the Order is to confirm the extent of timber harvesting opportunities, while also taking clear action to conserve biodiversity values and species associated with old growth forests, particularly in those areas where more detailed non-spatial or spatial old growth retention planning has not taken place.}\]

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Table 10 Legal and Non-legal OGMAs by Natural Resource Sector Ministry Sub-region

<table>
<thead>
<tr>
<th>Sub-Region</th>
<th>Legal OGMAs</th>
<th>Non-legal OGMAs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Quantity</td>
<td>Hectares</td>
</tr>
<tr>
<td>Peace</td>
<td>240</td>
<td>250,471</td>
</tr>
<tr>
<td>Skeena</td>
<td>1,822</td>
<td>204,156</td>
</tr>
<tr>
<td>Omineca</td>
<td>644</td>
<td>58,640</td>
</tr>
<tr>
<td>West Coast</td>
<td>1,227</td>
<td>51,341</td>
</tr>
<tr>
<td>South Coast</td>
<td>3,797</td>
<td>110,128</td>
</tr>
<tr>
<td>Thompson-Okanagan</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Cariboo</td>
<td>7,782</td>
<td>711,464</td>
</tr>
<tr>
<td>Kootenay</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>15,512</strong></td>
<td><strong>1,386,200</strong></td>
</tr>
</tbody>
</table>

Source: GeoBC Geographic Warehouse
Map 12 shows the distribution of legal and non-legal OGMAs in BC. As shown in the inset map, each OGMA is assigned a unique identifier number that is used for tracking purposes.

Map 12 Legal and Non-legal OGMAs

Source: GeoBC Geographic Warehouse
Discussion

Although the original intent of the 1999 Landscape Unit Planning Guide was to create legally established OGMAs throughout the province, several factors have resulted in a mix of legal and non-legal OGMAs. Plan areas that do not have any spatial OGMAs identified (or regional non-spatial orders) are covered by the Provincial Non-Spatial Old Growth Order.

Work is underway in the province to legalize some of the OGMAs that are currently non-legal. It is anticipated that the Fort St. John and Mackenzie LRMP areas may have legally established OGMAs in place by 2012.

Legally established OGMAs provide protection for critical old growth habitat. Where no legally established OGMAs exist, licensees can establish their own OGMAs, as long as they comply with the Provincial Non-Spatial Old Growth Order, or other regional orders that supersede the provincial order. In many cases, non-legal OGMAs are created collaboratively between licensees and government, and are included in Forest Stewardship Plans.59

Presently, legally established OGMAs are only applicable to forestry activities regulated under FRPA. However, Sections 103 and 104 of the newly passed Oil and Gas Activities Act provide authority for government to establish OGMAs for the purposes of oil and gas activities.

59 In areas with more frequent natural forestry stand-replacing events, such as a beetle infestation or wildfire, establishing a legal reserve at the landscape scale may not serve their intended purpose over time. Planners and practitioners may choose instead to establish a non-area-specific old growth retention strategy to manage for biodiversity.

Additional Information

• Landscape Unit Planning Guide (1999).
• GeoBC Geographic Warehouse publishes data on legal and non-legal OGMAs.
4.6 Provincial Protected Areas

Why is this Important?

This section presents data on the area of Crown land in BC that is within designated protected areas. Many of the newer protected areas have been created as a result of recommendations to government from SLRP processes. The Province’s Protected Areas Strategy was a key driver for many early planning exercises.

Protected area designations afford legal protection to many of the significant natural, recreational and cultural features in BC. Protected areas provide many benefits. They contribute to the maintenance of ecosystems by providing climate regulation, flood protection and erosion control functions; protecting biodiversity and rare natural features; providing access to recreational opportunities; and contributing to the overall maintenance of human health and wellness.

Key Statistics

Provincial Parks and Conservancies are two of the more well-known protected area designations. This report uses the definition of “protected areas” from the Ministry of Environment’s report, *Environmental Trends in British Columbia, 2007*. This definition includes the designations listed in Table 11.
<table>
<thead>
<tr>
<th>Designation</th>
<th>Purpose</th>
<th>Level of Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ecological Reserves (Ecological Reserve Act)</strong></td>
<td>Reserve Crown land for ecological purposes. May include: areas that are representative examples of BC’s natural ecosystems; or rare or endangered native plants and animals that rely on natural habitats.</td>
<td>All extractive activities (e.g. tree cutting, hunting, fishing, mining) are prohibited. This designation offers the highest level of protection and is least subject to human influence.</td>
</tr>
<tr>
<td><strong>Provincial Parks (Park Act)</strong></td>
<td>Protect representative examples of BC’s environment, including: rare, endangered, or sensitive species or habitats; unique or outstanding features; or, areas for scientific research and education.</td>
<td>Class A parks – park use permits not issued unless necessary to preserve or maintain recreational values. Class B parks – park use permits not issued for an interest in land or natural resources unless the activity is not detrimental to recreational values of the park. Class C parks – requirements for management are identical to Class A parks.</td>
</tr>
<tr>
<td><strong>Protected Areas (Environment and Land Use Act)</strong></td>
<td>Protect representative examples of terrestrial and marine diversity, recreational and cultural heritage.</td>
<td>Site-specific management direction.</td>
</tr>
<tr>
<td><strong>Conservancies (Park Act or Protected Areas of BC Act)</strong></td>
<td>Conservancies are set aside to: • protect and maintain biological diversity and natural environments; • preserve and maintain First Nations’ social, ceremonial and cultural uses; • protect and maintain recreational values; • ensure development or use of natural resources is conducted in a sustainable manner.</td>
<td>Park use permits are only issued if the use or activity will not hinder, restrict, prevent or inhibit the development, improvement or use in accordance with the purposes for which it was set aside. Commercial logging, mining and hydroelectric power generation (other than local run-of-the-river projects) are prohibited.</td>
</tr>
<tr>
<td><strong>Recreation Areas (Park Act)</strong></td>
<td>Reserve land for public recreational use.</td>
<td>Greater discretion in issuing park use permits than in provincial parks designations.</td>
</tr>
<tr>
<td><strong>Wildlife Management Areas (Wildlife Act)</strong></td>
<td>Reserve land to conserve and manage critical habitat for the benefit of regionally, nationally and internationally significant fish and wildlife species.</td>
<td>Allowable activities are outlined within an applicable legal agreement (e.g. a lease), strategic plan, or other management plan. Sustainable resource development is sometimes accommodated, and for this reason, WWMAs are sometimes not considered to be part of the formal “protected areas”.</td>
</tr>
</tbody>
</table>

Map 13 shows the parks and protected areas (includes all the designations included in Table 11) of BC, as of mid-2009. Parks and protected areas cover 14.2% of the total BC land base.

Source: GeoBC Geographic Warehouse
Figure 14 shows the amount and proportion of land designated as protected area, between 1900 and 2009.

**Figure 14 Amount of Provincial Protected Area, 1900 to 2009**

![Bar chart showing the amount of provincial protected area from 1900 to 2009.](image1)

Source: GeoBC Geographic Warehouse

Note: The percentage refers to the portion of the total provincial land base in protected areas.

Figure 15 illustrates the distribution of protected areas by designation category: 77% of protected areas are designated as provincial parks; 16% are designated as conservancies; and, the remaining 7% are designated as protected areas, recreation areas, wildlife management areas and ecological reserves.

**Figure 15 Distribution of Protected Areas by Designation Category**

![Pie chart showing the distribution of protected areas by designation category.](image2)

Source: GeoBC Geographic Warehouse
The percentage of each sub-region that falls within a protected area is shown in Figure 16.

Figure 16 Percentage of Natural Resource Sector Sub-region within Protected Areas

In BC, protected areas are intended to protect representative examples of the major terrestrial, marine and freshwater ecosystems, as well as important natural, recreational, and cultural features. The Biogeoclimatic Ecological Classification (BEC) system delineates ecological zones by vegetation, soils and climate. Sixteen BEC ecological zones have been identified in BC.

Figure 17 breaks down protected areas by BEC zone. The percentage of BEC zones within protected areas ranges from a low of 5% for the Ponderosa Pine BEC zone, to a high of 25% for the Coastal Mountain–Heather Alpine BEC zone.
Figure 17 Percentage of BEC Zone in Protected Areas

Source: GeoBC Geographic Warehouse

**Discussion**

The term “protected area” can indicate varying levels of protection: from complete restriction of human access to identifying allowable resource use activities that are compatible with conservation and recreation objectives.

The primary drivers for the creation and expansion of parks and other protected areas have changed over the years in BC. In the late 1930s and 1940s park expansion was used to encourage tourism. In the 1970s and 1980s park creation was motivated by the desire to protect unique natural environments and cultural features. In the 1990s, the objective was for parks to represent BC’s biological and cultural diversity, provide recreational resources, and to protect habitat.

During the 1990s, the creation of new protected areas became a focal point of the land use planning processes. SLRPs were the primary mechanism for delivering on the Protected Areas Strategy target of increasing the amount of provincial land base in protected areas from 6.3% to 12% by 2000. This target was achieved and exceeded.

Since 2000, an additional 2.2% of BC’s land base has been set aside in protected areas. Recent additions to the protected areas system include the May 2008 designation of 70 new conservancies and 11 new Class A parks, along with the expansion of 5 existing parks and 2 existing conservancies. The new conservancies and parks placed more than 1.4 million additional hectares under protected areas status, and were largely a result of the North Coast, Central Coast, Morice, Sea-to-Sky, Haida Gwaii and Okanagan-Shuswap land use planning processes.
Additional Information

- BC Parks website.
  Available: http://www.env.gov.bc.ca/bcparks/


- A Protected Areas Strategy for BC, 1993:

- Biogeoclimatic Ecosystem Classification Program.
Crown Land Allocation
Crown land is an important public asset, which accounts for the vast majority of BC’s land base. With virtually every sector and community in the province having some reliance on Crown land, allocation decisions play a pivotal role in contributing to the economic well-being of the province, its environmental sustainability, and the health of its communities and citizens.

The process of allocating Crown land has legislative, policy and operational components. At the legislative level, Acts and regulations, including the Land Act, provide the overall legislative framework governing Crown land. At the policy level, strategic Crown land policies guide allocation decisions. At the operational level, procedures, practices and decisions determine how land is allocated.

Part 5 presents a range of indicators and statistics of Crown land allocation, focusing on Crown land dispositions under the Land Act.
5.2 Historical Tenures and Grants

Why is this Important?

By looking at past Crown land allocation, trends can be observed and insight gained on the state of industry and the priorities of government. This information is foundational for understanding the demand and supply of Crown land, and is useful for ministries engaged in strategic planning, policy development, business planning, and operational management.

Key Statistics

Dispositions of Crown land are made by issuing a tenure or a grant. The term “tenure” refers to the leases, licences, rights-of-way, and permits that are provided by the Province to a client (e.g. individual, company, or government agency). Tenures are provided for a temporary period, typically up to 30 years. The permanent allocation of Crown land is referred to as a “Crown grant”, and is defined in the Land Act as the instrument which conveys Crown land under fee simple title. Often a grant takes the form of a sale at market value.

The vast majority of Crown land allocated annually under the Land Act is disposed of through issuing tenures. From 2000/2001 to 2008/2009, tenures accounted for 99% of the Crown land area allocated and 95% of the total number of all Land Act dispositions. Over this period, a total of 59,533 new and replacement tenures were issued, and 2,943 grants made, for a variety of purposes.

Figure 18 shows the annual number of tenures issued (both new and replacement) and the area of the tenures (in hectares) issued over the 2000/2001 to 2008/2009 period.

![Figure 18 Annual Tenures Issued, 2000/2001 to 2008/2009](image)

Source: Tantalis

Note: Includes both new and replacement tenures
From 2000/2001 to 2008/2009, grants accounted for 1% of the Crown land area allocated and 5% of the total number of all Land Act dispositions. Figure 19 shows the annual number of grants issued and the area of the grants (in hectares) issued during the same period.

**Figure 19 Annual Grants Issued, 2000/2001 to 2008/2009**

Source: Tantalis

There are various types of tenures and grants issued for different uses (Table 12). Different types of tenures and grants also confer different rights. In addition to leases, licences, rights-of-way, and permits, the Province may also withdraw Crown land from disposition through the establishment of a Reserve, or, may transfer the administration and control of Crown land to the Federal Government in perpetuity or for a specified period.
### Table 12 Tenure and Grant Types

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tenures</strong></td>
<td></td>
</tr>
<tr>
<td>Lease</td>
<td>Issued where long-term tenure is required, substantial improvements are proposed and/or where definite boundaries are required in order to avoid land use and property conflicts.</td>
</tr>
<tr>
<td>Licence</td>
<td>Issued when minimum improvements are proposed, or where short-term tenure is required. May also be used to allow high demand areas or parcels to be used by numerous users.</td>
</tr>
<tr>
<td>Right-of-Way</td>
<td>Used to authorize linear uses of Crown land for transportation, communication, energy production and utility developments.</td>
</tr>
<tr>
<td>Reserves and Notations</td>
<td>Reserves: Established by application, from federal and provincial government agencies and government corporations, over high value sites required for public purposes including research and education. Notations: Records an interest in Crown land by another provincial ministry or agency.</td>
</tr>
<tr>
<td>Permit</td>
<td>Authorizes the right to carry out a specified activity for a short period, but does not allow the construction of any improvements on the land.</td>
</tr>
<tr>
<td>Transfer of Administration and Control</td>
<td>Transfers administration and control of Crown land to the federal government for purposes such as Indian Reserves, National Parks, public wharves or airports. Transfers administration of Crown land to another provincial agency when it is in the public interest to have the land administered by an agency with more specialized interest or resource management mandate.</td>
</tr>
<tr>
<td><strong>Grants</strong></td>
<td></td>
</tr>
<tr>
<td>Direct Sales</td>
<td>Crown land sold in fee simple to one or more interested parties without public offering.</td>
</tr>
<tr>
<td>Sponsored Crown Grant</td>
<td>Transfers of Crown land from the province to public sector organizations at less than market value (Section 5.5).</td>
</tr>
<tr>
<td>Lease to Purchase</td>
<td>Conversion of <em>Land Act</em> tenures to private ownership (permitted under some Crown land programs).</td>
</tr>
<tr>
<td>Land Exchange</td>
<td>A transfer of land between the province and other parties.</td>
</tr>
</tbody>
</table>
Figure 20 shows the distribution of grants and tenures by type issued between 2000/2001 and 2008/2009.

**Figure 20** Total Grants and Tenures by Type, 2000/2001 to 2008/2009

<table>
<thead>
<tr>
<th>Tenures</th>
<th>32.5%</th>
<th>21.0%</th>
<th>9.0%</th>
<th>6.6%</th>
<th>0.2%</th>
<th>0.2%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grants</td>
<td>82.0%</td>
<td>13.5%</td>
<td>4.4%</td>
<td>0.2%</td>
<td>0.2%</td>
<td>0.0%</td>
</tr>
</tbody>
</table>

Source: Tantalis

Table 13 shows the number and area of tenures and grants issued by natural resource sector sub-region.

**Table 13** Total Tenures and Grants by Sub-region, 2000/2001 to 2008/2009

<table>
<thead>
<tr>
<th>Sub-region</th>
<th>Tenures</th>
<th>Grants</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Area (ha)</td>
</tr>
<tr>
<td>Peace</td>
<td>30,354</td>
<td>3,424,071</td>
</tr>
<tr>
<td>Thompson-Okanagan</td>
<td>7,584</td>
<td>2,511,278</td>
</tr>
<tr>
<td>Cariboo</td>
<td>1,933</td>
<td>7,982,444</td>
</tr>
<tr>
<td>Kootenay</td>
<td>2,288</td>
<td>3,768,614</td>
</tr>
<tr>
<td>Omineca</td>
<td>2,007</td>
<td>1,660,298</td>
</tr>
<tr>
<td>South Coast</td>
<td>6,249</td>
<td>3,408,870</td>
</tr>
<tr>
<td>West Coast</td>
<td>6,641</td>
<td>2,944,734</td>
</tr>
<tr>
<td>Skeena</td>
<td>2,477</td>
<td>8,695,827</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>59,533</strong></td>
<td><strong>34,396,136</strong></td>
</tr>
</tbody>
</table>

Source: Tantalis

---

60 In Part 5 of this report, sub-regions have been identified based on the regional office administering the tenure and/or grant. In some instances this may skew the reporting of the number and area of tenures and grants by sub-region as there are some regional offices such as Kamloops (Thompson-Okanagan sub-region) and Prince George (Omineca sub-region) that administer a number of tenures and grants on behalf of other offices in the provinces for specific programs areas. For example, the Kamloops office in the Thompson-Okanagan sub-region handles all tenures and grants in the province for all season resorts and alpine skiing. This will impact regional breakdowns presented throughout Part 5 of this report.
Discussion

Just over half (51%) of the total number of tenures issued between 2000 and 2009 were in the Peace sub-region, and 90% of the tenures issued in the Peace sub-region during this period were for the energy, and utilities and pipelines sectors. The Skeena and Cariboo sub-regions tenured the greatest total area (Table 13).

The Omineca and Thompson-Okanagan sub-regions accounted for almost half of the total number of grants issued between 2000 and 2009, at 22.6% and 22.3%, respectively. The Peace sub-region accounted for 49.1% of the total area granted (32,262 hectares).

Annual tenure and grant dispositions peaked between 2003 and 2006, and subsequently declined. A variety of factors contributed to these trends, including:

- Strong economic growth in a number of sectors, notably energy and mining, agriculture and tourism in the 2001 to 2006 period;
- Major efforts by the former Land and Water BC (LWBC) government agency, between 2001 and 2003, to eliminate a backlog of tenure and grant applications;
- An LWBC emphasis (based on government direction and priorities at the time) to proactively seek out and promote land tenure and grant opportunities that would yield economic benefits;
- Campaigns by LWBC to encourage tenure by commercial recreation businesses that had, prior to becoming legal tenure holders, been effectively trespassing on the land;
- Campaigns by the government to expand resorts and encourage new resort developments, particularly in the 2001 to 2004 period, and the establishment of targets to double tourism in BC by 2015;
- Increased First Nations concerns related to issuing tenures and grants within traditional territories, and the outcome of court decisions reconfirming First Nations’ land rights.

Some of these factors will likely re-emerge in the future and produce similar fluctuations in demand. Over the past five years, the government’s priority to establish a New Relationship with First Nations, including the completion of treaties and the establishment of other agreements that recognize aboriginal interests, has influenced the number of tenure and grant dispositions made.

Additional Information

- General information on Crown land administration in BC.

- Detailed information on forms of tenures and grants is provided in the policy document, Land Policy: Form of Crown Land Allocation.
Crown land uses and Crown land management practices have changed over time as a result of new environmental regulations. In earlier times, when little or no environmental regulation was in place, it was not uncommon for industrial practices in sectors such as oil and gas, forestry and mining to result in contamination (or potential contamination) of Crown land.

If not addressed, contaminated sites have the potential to affect human health and the environment through the release of substances that may contaminate ecosystems. Managing, and cleaning up contaminated sites has positive environmental, social and economic outcomes and shows a commitment to the protection and stewardship of provincial lands and water.

Section 53 of the Environmental Management Act defines a “contaminated site” as an area of land in which the soil or any ground water lying beneath it, or the water or the underlying sediments, contains:

(a) a hazardous waste, or
(b) another prescribed substance

in quantities or concentrations exceeding prescribed risk-based or numerical criteria or standards or conditions.

The Crown Contaminated Sites program, administered by the Ministry of Forests, Lands and Natural Resource Operations, is responsible for the management of provincial contaminated sites to ensure the protection of human health and the environment.

The Program was established in 2003 in response to a report called “Managing Contaminated Sites on Provincial Crown Lands”, issued by the Auditor General. The report estimated that there were 2,000 known or potential contaminated sites in BC. As of 2008/2009, remediation was underway or completed at 67 sites on Crown land. A total of 19 of these sites have been identified as priority sites for cleanup based on potential high risks to human health and the environment.

There are numerous examples of the benefits that result from remediation of contaminated sites, not only for the environment, but also for the social and economic well-being of British Columbians:

- Britannia Mine: once the largest copper producer in the British Commonwealth and the largest source of metal pollution in North America, this site is now being reclaimed and turned into a waterfront community providing employment opportunities and housing, while protecting public and environmental health.
- Pacific Place: once an 82-hectare contaminated industrial site in downtown Vancouver, this site has been transformed into a healthy and vibrant community of almost 13,000 residents, with parkland, residential housing, community centres and commercial zones.
- Musqueam First Nation parkland: once a contaminated area, 3.14 hectares of Crown land on this site was remediated before transfer to the Musqueam First Nation in 2007 for use as an urban park.

For additional information, visit the Crown Land Restoration Branch website.
5.3 Tenures by Sector

Why is this Important?

The provision of effective strategic planning, policy setting and management for Crown land requires a clear accounting of the current tenure inventory, tenure applications, and an understanding of the management requirements for tenures issued under the Land Act.

This section looks at the current inventory (or stock) of active Land Act tenures in BC, and also examines the tenure applications received from 2000 to 2009. Tenures and tenure applications are analyzed by sector and application type (new or replacement). Analysis of tenure and application data provides insight into the dynamics of demand and supply, which can be used to help predict future demand for Crown land.

Tenures and grants are issued for a variety of land use purposes. These purposes have been grouped into more general economic sectors (see Appendix 1).

Key Statistics

This section presents all current Land Act tenures in good standing as of April 2009, and the growth in the tenure portfolio from 2000 to 2009 (i.e. tenure application rates).

Tenure Applications

The tenure application process allows individuals and organizations to apply for Crown land tenures under specific land use programs, subject to specific requirements. A total of 59,117 applications for tenures under the Land Act were received between fiscal years 2000/2001 and 2008/2009.

Applications are classified into three categories: (1) new applications; (2) replacement applications (to renew an existing tenure); and, (3) pre-renewal applications (which are received before a tenure term expires).

Figure 21 shows the number of applications received between 2000/2001 and 2008/2009 by application category. On average, 56% of applications are new applications, 43% are replacements, and 1% are pre-renewals.

Figure 21 Annual Tenure Applications, 2000/2001 to 2008/2009

Source: Tantalis
The number of applications made by different sectors varies significantly. The size of area applied for also varies significantly by sector (Figure 22). For example, applications in the utilities and pipelines sector accounted for 36% of the total number of applications received, while applications for environment and public recreation accounted for only 2% of the total received. The total area of Crown land applied for was 40,122,472 hectares. Applications in the tourism and accommodation sector accounted for 66% of the area applied for, while applications in the public services sector accounted for only 0.6% of the area applied for.

Figure 22 Annual Tenure Applications by Sector, 2000/2001 to 2008/2009

Looking at averages, or totals over a period of time, can mask significant year-to-year variation in tenure demand. Figure 23, for example, shows the variation in the number of tenure applications made, and the area of land requested, by the manufacturing and commercial sector for each year between 2000 and 2009.
Tenure applications also vary by sub-region. Table 14 shows the sector with the largest proportion of applications received between 2000 and 2009 for each sub-region.\(^{61}\)

**Table 14 Sector with Largest Share of Applications by Sub-region, 2000/2001 to 2008/2009**

<table>
<thead>
<tr>
<th>Sub-region</th>
<th>Sector</th>
<th>Percentage of Total Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thompson-Okanagan</td>
<td>Residential</td>
<td>44.0%</td>
</tr>
<tr>
<td>Cariboo</td>
<td>Transportation and Communication</td>
<td>18.7%</td>
</tr>
<tr>
<td>Kootenay</td>
<td>Utilities and Pipelines</td>
<td>21.0%</td>
</tr>
<tr>
<td>Omineca</td>
<td>Utilities and Pipelines</td>
<td>19.2%</td>
</tr>
<tr>
<td>Peace</td>
<td>Utilities and Pipelines</td>
<td>51.9%</td>
</tr>
<tr>
<td>Skeena</td>
<td>Utilities and Pipelines</td>
<td>24.4%</td>
</tr>
<tr>
<td>South Coast</td>
<td>Residential</td>
<td>24.7%</td>
</tr>
<tr>
<td>West Coast</td>
<td>Residential</td>
<td>26.4%</td>
</tr>
</tbody>
</table>

Source: Tantalis

\(^{61}\) Table 13 (in Section 5.2) indicates the number of tenures and their area by sub-region.
Applications in the residential sector accounted for 44.0% of all tenure applications received in the Thompson-Okanagan sub-region. Applications in the utilities and pipelines sector accounted for 51.9% of all tenure applications in the Peace sub-region. These figures represent the sector with the highest proportion of applications received by the sub-regions. The other sub-regions (Cariboo, Kootenay, Omineca, Skeena, South Coast and West Coast) tend to receive applications from a more evenly distributed and wider range of sectors.

**Current Tenures**

There are currently 48,548 *Land Act* tenures, which apply to approximately 26.4 million hectares of Crown land; however, the estimated 26.4 million hectares is an aggregate of the tenure areas, and since some tenures overlap, the actual amount of land that this applies to is less than stated (see Section 3.6, Exclusive and Non-exclusive Use of Crown Land). Figure 24 shows the total number and area of current tenures by sector.

![Figure 24 Current Tenures by Sector](chart)

Together, tenures in the energy, utilities and pipelines, and residential sectors comprise 58% of the total number of tenures in the current portfolio. While there are a high number of tenures in these three sectors (28,139 tenures when combined), the total area covered by the tenures (2,925,684 hectares) is relatively small compared to the area of tenures held by other sectors. For example, the tourism and accommodation sector has a small
number of total tenures issued at 940, but represents a significant portion of the total area tenured, exceeding 11,951,660 hectares.

Tourism and accommodation tenures account for 45.3% of the total area currently tenured in BC. These tenures have the largest average area per tenure at 12,893 hectares, while tenures in the energy sector (2 hectares) and the residential sector (2 hectares) have the smallest average area per tenure (Figure 25).

![Figure 25 Average Area of Current Tenures by Sector](image)

Source: Tantalis

The number of tenures that are active varies at any given time. The number of active tenures is determined by the number of approved tenures minus the tenures which are cancelled or expired. Changes in tenure status are often driven by market forces.

62 While tenures in the tourism and accommodation sector encompass large areas, often only a small area of the tenure is used for a specific activity. For example, a heli-skiing operator’s tenure may cover 7,000 hectares, but the tenured activity will only occur on a portion of specific slopes within that larger area.
Figure 26 illustrates the annual tenure portfolio for each sector from 2000 to 2009.

Source: Tantalis
Discussion

Overall, the total number of tenure applications received has remained relatively constant between 2000/2001 and 2008/2009, with a peak occurring in 2003/2004 (see Section 5.2, Historical Tenures and Grants for more details). In some sectors, such as manufacturing and commercial, there have been significant variations in year-to-year demand for tenures (Figure 23).

There is also significant variation in sub-regional demand for tenures. Some sub-regions are dominated by demand in one or two sectors, such as the Peace sub-region where 52% of tenure applications were in the utilities and pipelines sector, and 38% of applications were in the energy sector. Demand in other sub-regions is more evenly distributed across sectors.

The variation in demand is also reflected in the composition of the tenure portfolio (Figure 26). The energy, and utilities and pipelines sectors had a significant increase in the number of active tenures from 2000 to 2006, after which tenures in the utilities and pipelines sector dropped off. Meanwhile, tenures in the energy sector continued to climb in 2007, before levelling off in 2008.

It is important to note that not all tenures convey exclusive rights to Crown land; the area of some tenures may actually overlap. Leases and reserves both grant exclusive use of the area. Tenure types such as licences of occupation, permits and rights-of-way do not provide exclusive use, and can therefore overlap with other tenures.

In addition to overlapping tenures, the total number of tenures in each sector may be somewhat misleading because for some sector activities, several tenures may be required for one project. For example, a single project in the energy sector may require multiple tenure approvals for drill sites, flare sites, processing plants, staging areas, roadways and pipelines.

Additional Information

- Information on Crown land allocation policies and applying for tenures and grants in BC.
Box 4 Roads and Corridors on Crown Land

The length and density of roads and corridors provide measures of the degree to which Crown land has been affected by human activity, since roads are constructed to provide access for urban and industrial development.

There are a total of 821,848 kilometres of roads and corridors (including railways, transmission lines, pipelines and seismic lines) throughout BC, on both Crown and private land. Table 15 shows the length and density of roads and corridors, and seismic lines, in each sub-region.

Increasing road and corridor length and density may have the following social, economic and environmental outcomes:

- Providing access to resources;
- Providing access to rural communities;
- Fragmenting and altering wildlife habitat;
- Isolating wildlife populations;
- Changing water quality in nearby water bodies; and/or
- Increasing the widespread distribution of exotic species.

<table>
<thead>
<tr>
<th>Sub-region</th>
<th>Road &amp; Corridor Length (km)</th>
<th>Seismic Line Length (km)</th>
<th>Road &amp; Corridor Density (km/km²)</th>
<th>Seismic Line Density (km/km²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peace</td>
<td>118,348</td>
<td>162,029</td>
<td>0.7</td>
<td>0.9</td>
</tr>
<tr>
<td>Thompson-Okanagan</td>
<td>99,838</td>
<td>0</td>
<td>1.3</td>
<td>0</td>
</tr>
<tr>
<td>Cariboo</td>
<td>93,184</td>
<td>0</td>
<td>1.1</td>
<td>0</td>
</tr>
<tr>
<td>West Coast</td>
<td>92,368</td>
<td>0</td>
<td>1.0</td>
<td>0</td>
</tr>
<tr>
<td>Omineca</td>
<td>88,090</td>
<td>2,411</td>
<td>0.6</td>
<td>0</td>
</tr>
<tr>
<td>Kootenay</td>
<td>73,776</td>
<td>418</td>
<td>0.9</td>
<td>0</td>
</tr>
<tr>
<td>Skeena</td>
<td>47,000</td>
<td>2,028</td>
<td>0.2</td>
<td>0</td>
</tr>
<tr>
<td>South Coast</td>
<td>42,356</td>
<td>0</td>
<td>1.0</td>
<td>0</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>654,960</strong></td>
<td><strong>166,886</strong></td>
<td><strong>0.7</strong></td>
<td><strong>0.2</strong></td>
</tr>
</tbody>
</table>

Source: Hectares BC

Table 15 makes the distinction between roads and corridors, and seismic lines, because seismic lines are more temporary. Seismic lines are linear clearings in forested areas that facilitate a method of oil and gas exploration that uses small explosive charges or seismic vibrators to create a pattern of shock waves that are reflected by the underground geology. The interpretation of the reflected shockwaves can identify petroleum-bearing geological zones. Seismic lines are generally used once and then allowed to revert back to the natural landscape (as much as possible).

The Peace sub-region has the largest number of roads, corridors and seismic lines in the province, and also the greatest density. In the Peace, 58% or 162,029 kilometres of these linear features are seismic lines.

Under the Land Act, tenures are issued for a variety of linear uses, including railways, roadways, power lines, transmission lines, and gas and oil pipelines.

Between 2000 and 2009, roads and corridors accounted for 15,843 tenures, or 27% of all tenures issued in BC. These tenures encompass 255,980 hectares of Crown land, or 1% of all Crown land tenured during this period.
Why is this Important?

Crown grants are sales (or fee simple dispositions) of Crown land to private individuals, organizations, or other public agencies. They include sales at fair market value, lease to purchase agreements, and Sponsored Crown Grants (see Section 5.2, Historical Tenures and Grants, Table 12). All grants are made under the Land Act or the Ministry of Lands, Parks and Housing Act.

This section presents data on which sectors have received Crown grants since 2000. Trends in the demand for Crown land have implications for government and ministry strategic planning, policy development and business planning, including workload management.

Key Statistics

A total of 2,943 Land Act Crown grants were issued between April 2000 and April 2009, encompassing approximately 65,736 hectares of land (Figure 27). Crown grants to the residential sector make up 53.3% of the total number of grants issued. Agriculture and related activities account for 23.6%. The sale of Crown land is not permitted for some uses such as grazing, log handling, roadways or utility purposes.

Figure 27 Grants Issued by Sector, 2000/2001 to 2008/2009

Source: Tantalis
While there have been a large number of grants issued in the residential sector, the actual area of land granted is relatively small. Between 2000/2001 and 2008/2009, the average area of grants for the residential sector was 2.7 hectares.

In the agriculture and related activities sector, a large number of grants are also issued, but in this sector the area granted is also large, and accounts for 85.5% of the total area granted in the province. The average area of grants for agriculture and related activities is 81 hectares.

Most residential grants are competitive sales (through Multiple Listings Service), while agriculture grants are often through a lease to purchase agreement.

The sectors that require Crown grants vary by sub-region. Table 16 shows the sector with the largest proportion of Crown grants issued between 2000 and 2009 for each sub-region, and the sector with the largest percentage of Crown land area granted between 2000 and 2009 for each sub-region.


<table>
<thead>
<tr>
<th>Sub-region</th>
<th>Sector</th>
<th>Percentage of Grants Issued</th>
<th>Sector</th>
<th>Percentage of Area Granted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thompson-Okanagan</td>
<td>Residential</td>
<td>70.9%</td>
<td>Residential</td>
<td>26.4%</td>
</tr>
<tr>
<td>Cariboo</td>
<td>Residential</td>
<td>48.3%</td>
<td>Agriculture and related activities</td>
<td>90.8%</td>
</tr>
<tr>
<td>Kootenay</td>
<td>Residential</td>
<td>78.6%</td>
<td>Public Services</td>
<td>61.2%</td>
</tr>
<tr>
<td>Omineca</td>
<td>Residential</td>
<td>55.4%</td>
<td>Agriculture and related activities</td>
<td>81.7%</td>
</tr>
<tr>
<td>Peace</td>
<td>Agriculture &amp; related activities</td>
<td>70.7%</td>
<td>Agriculture and related activities</td>
<td>97.6%</td>
</tr>
<tr>
<td>Skeena</td>
<td>Residential</td>
<td>41.6%</td>
<td>Agriculture and related activities</td>
<td>85.7%</td>
</tr>
<tr>
<td>South Coast</td>
<td>Residential</td>
<td>58.6%</td>
<td>Residential</td>
<td>43.0%</td>
</tr>
<tr>
<td>West Coast</td>
<td>Residential</td>
<td>40.1%</td>
<td>Residential</td>
<td>36.0%</td>
</tr>
</tbody>
</table>

Source: Tantalis
**Discussion**

The residential, agriculture and related activities, and manufacturing and commercial sectors accounted for 88.7% of the total Crown grants issued between 2000/2001 and 2008/2009. Agriculture and related activities accounted for 85.5% of the area granted.

While the permanent disposition of Crown land through Crown grants is common in certain sectors, it is uncommon in other sectors, such as energy, mining, forestry, and utilities and pipelines. Together these three sectors accounted for only 1% of the number of grants issued, and 0.5% of the area granted.

Crown grants for the residential sector, and agriculture and related activities sector, make up the majority of both the number and the area of grants issued in the majority of sub-regions.

Crown land sales may be initiated by a client-driven application or by the identification of opportunities by authorizing agency staff, or by the direction of government where it serves a strategic initiative. Due to the transfer of rights that accompany a grant, the benefits that accrue from awarding a grant must be weighed against the loss of public control of the land and the scarcity of the resource. When evaluating a proposal to sell Crown land, the following factors are considered:

- Direct and indirect benefits;
- Compatibility of the intended use with the results of provincial and other planning processes;
- Impact of the sale on adjacent land and resources;
- Support for emerging or strategic priorities; and
- The costs and benefits of potential future opportunities associated with the land.

First Nations are consulted prior to proceeding with any proposal to grant or tenure Crown land. Crown land may be considered unavailable for grant (or tenure) based on the nature and extent of interests, and the nature and extent of impacts that are identified through consultations with affected First Nations.

**Additional Information**

5.5 Sponsored Crown Grants and Nominal Rent Tenures

Why is this Important?

The Community and Institutional Land Use Program serves to support the community, social and economic goals of the province by making parcels of Crown land available for community and institutional uses through tenures or grants. This program enables the use and disposition of Crown land for health, education, public safety, community infrastructure, transportation and public facilities that benefit the public-at-large.

Under this program, Sponsored Crown Grants (SCGs) are made as transfers of Crown land from the Province to public sector bodies (such as regional governments and transportation authorities), for less than market value. Nominal Rent Tenures (NRTs) are leases and licences of occupation of Crown land that are provided to eligible organizations, such as local governments and public sector and community organizations, for a token or nominal amount of rent.

Key Statistics

A total of 124 SCGs, and 1,571 NRTs (570 new and 1,001 replacement) were issued between 2000/2001 and 2008/2009. Local governments were the major recipients of these grants and tenures.

Figure 28 shows the sectors which received land awarded by SCG or NRT.

![Figure 28 Sponsored Crown Grants and Nominal Rent Tenures by Sector, 2000/2001 to 2008/2009](image)

An average of 14 SCGs and 174 NRTs were issued per fiscal year between 2000/2001 and 2008/2009. Figure 29 shows the number of SCGs and NRTs issued annually during this period.
Between 2000/2001 and 2008/2009, the Province transferred 1,699 hectares to public sector bodies through SCGs. Of that, 69% of the SCGs were granted to the public services sector for purposes such as fire halls, local or regional parks, school or outdoor education facilities, and waste disposal sites. The average size of SCGs for the public services sector was 14 hectares.

Between 2000/2001 and 2008/2009 a total of 17,896 hectares were tenured to eligible organizations through NRTs. Tenures for public services accounted for 66% of the total area tenured. The average size of NRTs for the public services sector was 11 hectares.

The highest numbers of SCGs and NRTs have been awarded in the South Coast and West Coast sub-regions. In terms of the amount of land tenured or granted by SCGs or NRTs, the Kootenay sub-region received the largest total area at 509 hectares. The West Coast sub-region received the largest area of land for community and institutional purposes, at 4,750 hectares.

**Discussion**

Grants of Crown land at less than market value have been authorized by BC’s Cabinet since 1888. The Province also has a long history of providing nominal rent tenures to public sector organizations and non-profit societies. The current program responsible for awarding SCGs and NRTs is the Community and Institutional Land Use Program, which has been in place since 2004.

Examples of recently completed Sponsored Crown Grants and Nominal Rent Tenures include:

- **2008 – SCG to the District of Oak Bay for the management of Tod House**
  - Tod House was completed in 1851 and is the oldest house in Western Canada.
  - This 0.15 hectare grant allows the District to manage the house on behalf of the community.

- **2008 – SCG to Islands Trust Fund Board for regional park purposes**
• 107 hectares of land on Gambier Island that will complete a natural areas network on the island totalling 525 contiguous hectares.

• 2008 – NRT to the Regional District of Nanaimo for regional park purposes
  • 1,300 hectares of land on Mt. Arrowsmith to create a new regional park that encompasses the summits of Mt. Arrowsmith and Mt. Cokely in an area that is popular for year-round recreation.
  • 2005 – SCG to the Provincial Rental Housing Corporation for an assisted living facility
  • Led to the development of Tweedsmuir House, the first assisted living facility in Burns Lake, with 17 spaces for senior citizens.

**Additional Information**
Information on the Community and Institutional Use program.

5.6 Government Land Revenue

Why is this Important?
Revenue derived from Land Act tenures and grants (i.e. land revenue) is a component of government’s natural resource revenue, which, in turn, contributes to overall provincial consolidated revenue. The government receives revenue from a range of activities conducted on Crown land. This section focuses on two major categories: annual tenure rents and royalties; and land sales revenue from Crown grants.

Key Statistics
Government land revenue was approximately $74.5 million in 2008/2009 (Figure 30), 70% of this land revenue came from tenure rents and royalties; 28% from land sales; and, 2% from other revenue such as application fees.

Between 2000/2001 and 2008/2009, government land revenue has averaged $70 million per year. Rents, royalties and other income accounted for 60% of land revenues, while land sales accounted for the remaining 40%. Grant revenue from land sales does not include the imputed value of free Crown grants, which in 2008/2009 were valued at $7.6 million.

Note that all data in this section are presented in real 2009 dollars, and all revenue figures are net of specific land management costs.\(^{63}\)

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\(^{63}\) These costs consist largely of land sale costs, and do not include salaries and other costs of provincial natural resource ministries.
Figure 31 shows the annual tenure revenue generated by sector over the 2003 to 2009 period. The energy and mining sector has contributed the largest share of tenure revenue, averaging 38% of revenue over the six-year period. The agriculture and related activities sector, and the manufacturing and commercial sector also contributed a significant share of total tenure revenue, averaging 11% each. The tourism and accommodation sector and the utilities and pipelines sector also made substantial contributions to total tenure revenue, averaging 9% each. The energy and mining sector has increased its share of tenure revenue from 32% in 2003/2004 to 44% in 2009.

Figure 31 Share of Tenure Revenue by Sector (2009 dollars), 2003/2004 to 2008/2009

Source: Crown Land Account resource revenue data

Note: The shares of revenue presented for different sectors and regions in BC are derived from gross revenue.

Figure 32 shows the annual percentage share of revenue generated by Crown land sales to different sectors over the 2003/2004 to 2008/2009 period. The residential sector yielded the largest share of land sale revenue, averaging 51% over the 2003/2004 to 2008/2009 period, followed by the agriculture and related activities sector, which averaged 22%. Agricultural and related activities’ share of revenue declined from a peak of 34% in 2004/2005 to only 9% in 2008/2009.

Figure 32 Share of Land Sale Revenue by Sector (2009 dollars), 2003/2004 to 2008/2009

Source: Crown Land Account resource revenue data

Note: The shares of revenue presented for different sectors and regions in BC are derived from gross revenue.

64 This revenue represents surface activities, such as quarrying and site construction. Subsurface revenues, such as those from oil and gas resources, are not accounted for in these figures.
The manufacturing and commercial sector has also been a significant source of land sale revenue, averaging 15% over the period. The contribution of public services to land sale revenue has been small, apart from a major contribution in 2004/2005 and resulted from major land sales to municipalities in the Lower Mainland and Okanagan, which were likely to have been largely for real estate development.65

Figure 32 Share of Sales Revenue by Sector (2009 dollars), 2003/2004 to 2008/2009

Source: Crown Land Account resource revenue data

Note: The shares of revenue presented for different sectors and regions in BC are derived from gross revenue.

65 Any reclassification of these sales would likely increase the share of the residential and manufacturing and commercial sectors.
Figure 33 shows tenure revenue by sub-region over the 2003/2004 to 2008/2009 period. The Peace sub-region generated the largest share of revenue (primarily from oil and gas revenue), averaging 37%. Other sub-regions, such as the South Coast, West Coast and Thompson-Okanagan, also contributed significantly to tenure revenue at 21%, 17%, and 14%, respectively.

**Figure 33 Tenure Revenue by Sub-region (2009 dollars), 2003/2004 to 2008/2009**

Source: Crown Land Account resource revenue data

Note: The shares of revenue presented for different sectors and regions in BC are derived from gross revenue.
Figure 34 shows the sub-regional distribution of land sales revenue over the 2003/2004 to 2008/2009 period. The South Coast sub-region generated the largest average share of land sales revenue over the period, at 31%.

In recent years, contributions have increased substantially from the Thompson-Okanagan, at 38% in 2008/2009, and Omineca at 27% in 2008/2009. The South Coast’s share of revenue has declined from a peak of 59% in 2004/2005 to only 7% in 2008/2009.

*Figure 34 Sales Revenue by Sub-region (2009 dollars), 2003/2004 to 2008/2009*

Land values in the Lower Mainland and along the Georgia Strait (South Coast), as well as the Central Okanagan (Thompson Okanagan), are substantially higher than in other parts of the province. This affects these statistics because more revenue can be earned from a smaller area of land.

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66 Land values in the Lower Mainland and along the Georgia Strait (South Coast), as well as the Central Okanagan (Thompson Okanagan), are substantially higher than in other parts of the province. This affects these statistics because more revenue can be earned from a smaller area of land.
**Discussion**

Between 2003/2004 and 2008/2009 land revenue accounted for 1.7% of total natural resource revenue (1.0% tenures; 0.7% sales). The energy and mining sector has been the largest contributor to tenure revenue while the residential sector has been the largest contributor to sales revenue. In terms of tenure revenue changes over time, energy and mining revenue has increased significantly, due largely to increased royalty revenue resulting from higher energy prices and production. By contrast, utilities and pipelines revenue has fallen significantly.

From a sub-regional perspective, the Peace sub-region has led the way in generating tenure revenue. The South Coast sub-region has led the way in generating Crown land sales revenue. In the last few years, other sub-regions (primarily the Thompson-Okanagan) have experienced increased demand for Crown lands, which has resulted in higher government revenue. The growth in the Thompson-Okanagan has been driven largely by growth in the residential sector, and the tourism and accommodation sectors.

There are a number of interesting contrasts between the sector shares of tenure revenue versus sales revenue. For instance, the residential sector made a much smaller contribution to average tenure revenue (8%) over the 2003/2004 to 2008/2009 period, than it did to average sales revenue (50%) over the same period. Similarly, agriculture and related activities contributed 11% to tenure revenue and 21% to land sales revenue.

By contrast, the energy and mining sector accounts for a very small proportion of sales revenue at less than 1%, but contributes a much larger average of 39% to tenure revenue.

Over the 2003/2004 to 2008/2009 period, 88% of average sales revenue is concentrated in three industries: residential at 51%, agriculture and related activities at 22%, and manufacturing and commercial at 15%. Tenure revenue is spread more evenly across economic sectors, with the top three industries accounting for 60% of average yearly revenue.

The contrasts between the composition of tenure and sales revenue can be explained by the differing land needs of sectors and sub-sectors of the economy. For instance, sectors such as agriculture and related activities and residential tend to require exclusive use of most of their land, while other sectors do not (see Section 3.6, Exclusive and Non-exclusive Use of Crown Land). Sectors also differ on the length of time for which the land is required. In general, sectors that require the exclusive use of land for long periods of time have a stronger interest in purchasing the land.

**Additional Information**

- Policy documents outlining the rent and royalty structure for various sectors:
Appendix 1 Sector Descriptions

Tenures and grants are issued for a variety of land use purposes. For the sake of making comparisons, the land use purposes and sub-purposes have been grouped under broader economic sectors.

The table below defines the sectors used in this report; and shows the mapping used between the categories of the Tantalis purposes and sub-purposes, and the North American Industrial Classification System (NAICS) categories. (This table does not show the detailed mapping at the Tantalis sub-purpose and NAICS four- and five-digit code level).

Mapping Tantalis and NAICS Classifications

<table>
<thead>
<tr>
<th>Sector</th>
<th>Tantalis Purposes</th>
<th>Tantalis Sub-purposes</th>
<th>NAICS 2 and 3 digit code and name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture and related activities</td>
<td>Agriculture, Aquaculture</td>
<td>All</td>
<td>All of “11 Agriculture, forestry, fishing and hunting” except “113 Forestry and logging” and “1153 Support activities for forestry”</td>
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<tr>
<td></td>
<td>Commercial</td>
<td>Trapline Cabins</td>
<td></td>
</tr>
<tr>
<td>Energy</td>
<td>Energy Production</td>
<td>All except Refineries</td>
<td>“21 Mining and oil and gas extraction”, “211 Oil and gas extraction”</td>
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<tr>
<td>Environment and public recreation</td>
<td>Environment, Conservation and Recreation</td>
<td>All</td>
<td>No applicable NAICS code. Not included in GDP calculations in section 3.7</td>
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<td></td>
<td>Community</td>
<td>Trail Maintenance</td>
<td>No applicable NAICS code. Not included in GDP calculations in section 3.7</td>
</tr>
<tr>
<td>Forestry</td>
<td>None (Forestry and logging are tenured under the Forest Act)</td>
<td>None</td>
<td>“113 Forestry and logging”</td>
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<tr>
<td></td>
<td>Industrial</td>
<td>Log Handling and Storage</td>
<td>“1153 Support activities for forestry”</td>
</tr>
<tr>
<td>Manufacturing and commercial</td>
<td>Commercial</td>
<td>Commercial A&amp;B, General, Miscellaneous</td>
<td>“3A Manufacturing”, “41 Wholesale trade”, “4A Retail trade”, “5A Finance, insurance, etc”. Not included in GDP calculations in section 3.7</td>
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<tr>
<td></td>
<td>Industrial</td>
<td>All except Log Handling and Storage and Mineral Production</td>
<td>Mix of “23 Construction”, “3A Manufacturing”, “493 Warehousing and “72 Accommodation and food services”. Not included in GDP calculations in section 3.7</td>
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<tr>
<td></td>
<td>Energy Production</td>
<td>Refinery</td>
<td>“3A Manufacturing”, “32411 Petroleum Refineries” Not included in GDP calculations in section 3.7</td>
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<tr>
<td>Mining</td>
<td>Industrial</td>
<td>Mineral production</td>
<td>“212 Mining (except oil and gas)” – Codes other than quarrying codes below</td>
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<tr>
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<td>Quarrying</td>
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<td>“21 Mining and oil and gas extraction”, “21231 Stone mining and quarrying” and “21232 Sand, gravel, clay, and ceramic and refractory minerals mining and quarrying”</td>
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<tr>
<td>Other</td>
<td>Miscellaneous Land Uses</td>
<td>All</td>
<td>5A03 Lessors of real estate. Not included in GDP calculations in section 3.7</td>
</tr>
<tr>
<td>Sector</td>
<td>Tantalis Purposes</td>
<td>Tantalis Sub-purposes</td>
<td>NAICS 2 and 3 digit code and name</td>
</tr>
<tr>
<td>--------------------------------</td>
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<td>---------------------------------------------------------------------------------------------------</td>
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<tr>
<td>Public services</td>
<td>Institutional</td>
<td>All</td>
<td>Mix of “61 Education”, “62 Health care and social assistance” (except “6211 Offices of physicians” and “6212 Offices of dentists”, “624 Social assistance”), and “91 Public administration” Also some minor contributions to “562 Waste management and remediation services” which have not been included in the GDP calculations in section 3.7</td>
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<tr>
<td>Community</td>
<td>All except Trail maintenance</td>
<td></td>
<td>“91 Public administration”</td>
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<tr>
<td>Residential</td>
<td>Residential</td>
<td>All</td>
<td>“5A0400 Owner-occupied dwellings”</td>
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<tr>
<td>Tourism and accommodation</td>
<td>All Seasons Resorts, Alpine Skiing, Commercial Recreation</td>
<td>All</td>
<td>“713A Amusement and recreation industries”, “7211 Traveller accommodation”, “721A RV parks, recreational camps, rooming and boarding houses”</td>
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<tr>
<td>Commercial</td>
<td>Back Country Recreation, Golf Courses, Hunting/Fishing Camp, Mechanized Ski Guiding, Private Yacht Clubs, Resort Hunt/Fish Camps and Wharves</td>
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<td></td>
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<tr>
<td>Transportation and communication</td>
<td>Transportation</td>
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<td>“488 Support activities for transportation”</td>
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<tr>
<td>Commercial</td>
<td>Film production</td>
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<td>“51211 Motion picture and video production”. Not included in GDP calculations in section 3.7</td>
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<tr>
<td>Commercial</td>
<td>Commercial wharf, Marina</td>
<td></td>
<td>“488 Support activities for transportation”</td>
</tr>
<tr>
<td>Communications</td>
<td>All</td>
<td></td>
<td>“517 Telecommunications”</td>
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<tr>
<td>Utility</td>
<td>Telecommunication Line</td>
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<td>“517 Telecommunications”</td>
</tr>
<tr>
<td>Utilities and pipelines</td>
<td>Utility</td>
<td>All except Telecommunication Line</td>
<td>Mix of “22 Utilities”, “2211 Electric power generation, transmission and distribution” and “486 Pipeline transportation of natural gas”, “486A Crude oil and other pipeline transportation” and “22B Natural gas distribution, water and other systems”</td>
</tr>
<tr>
<td>Ocean Energy</td>
<td>All</td>
<td></td>
<td>“22 Utilities”, “2211 Electric power generation, transmission and distribution”</td>
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<tr>
<td>Waterpower</td>
<td>All</td>
<td></td>
<td>“22 Utilities”, “2211 Electric power generation, transmission and distribution”</td>
</tr>
<tr>
<td>Windpower</td>
<td>All</td>
<td></td>
<td>“22 Utilities”, “2211 Electric power generation, transmission and distribution”</td>
</tr>
</tbody>
</table>