

7.3 Non-Traditional Land and Resource Use

7.3.1 Introduction

This section of the Environmental Assessment Certificate (EAC) Application/Environmental Impact Statement (EIS) (hereafter referred to as the EA) has been prepared by Golder Associates Ltd. (Golder). It addresses the effects of the Proposed BURNCO Aggregate Project (hereafter referred to as the 'Proposed Project') identified in the construction, operation, reclamation and closure phases on VCs related to Non-Traditional Land Use. Consideration has been given to mitigation measures proposed to mitigate any identified effects to acceptable levels and any residual effects have been characterized. Additionally consideration has also been given to cumulative effects of other reasonable foreseeable future projects in combination with the residual effects of the Proposed Project.

7.3.2 Regulatory and Policy Setting

This section provides a summary of the regulatory and policy setting of the Proposed Project as it relates to Non-Traditional Land Use.

7.3.2.1 BC Government and Local Government Land Use Designations

Strategic land use planning is a provincial process that defines the goals, objectives and strategies for the management of Crown land and resources. The Ministry of Forest, Lands and Natural Resource Operations (MFLNRO) is responsible for regional land use planning, including new plan development to manage Crown land and resources. The *Forest and Range Practices Act* (FRPA; 2002) and the *Land Act* (1996) establish a legal framework for plan implementation.

At the municipal level, governments are required under the *Local Government Act* (1996) to develop an Official Community Plan (OCP), which outlines the broad objectives and policies to guide planning and land use management. Within an OCP, development permit areas may be used to designate protected lands and to guide development. Within a development permit area, a property owner must obtain a development permit before subdividing land or constructing, adding to, or altering a building. However, zoning bylaws are the primary tool used to regulate development of property on both public and private property.

7.3.2.2 Forestry

Crown forest regulation and management is regulated under the *Forest Act* (1996) and the *Forest and Range Practices Act* (2002), and is the responsibility of the Ministry of Forests, Lands and Natural Resource Operations (MFLNRO). Forest tenures are the mechanism by which the government transfers specific rights to use Crown, or public, forest and resources. The *Forest Act* identifies two broad categories of tenures for harvesting Crown timber:

- Area-based tenures that give exclusive rights to harvest a specified annual volume of Crown timber from a defined area, which may comprise Crown and private lands; and
- Volume-based tenures that entitle the holder to harvest a specified annual volume of Crown timber within a Timber Supply Area (TSA).

Access to Crown land for approved logging operations is also the regulatory responsibility of the MFLNRO. Roads may be constructed and maintained on Crown land by forestry companies and BC Timber Sales under road permits provided in accordance with the *Forest Act* (1996).

7.3.2.3 Harvesting Fish and Wildlife

7.3.2.3.1 Hunting, Guiding and Trapping

Hunting is regulated through the *Wildlife Act* (1996) and administered by the Fish and Wildlife Branch of MFLNRO. Hunting management is based on wildlife management units (WMU), with hunting seasons and bag limits based on these boundaries. Within a WMU, MFLNRO may use limited entry hunting (LEH) restrictions to limit the number of hunters, the number of animals that may be taken, or the harvest to a certain "class" of animal. Within a LEH, permission to hunt is allocated via a lottery.

Three broad categories of hunters are recognized in BC: residents, non-resident (guided outfitting), and Aboriginal. In order to hunt big game in BC, non-residents must be accompanied by either a licensed guide or a resident holding a Permit to Accompany. A Guiding Territory Certificate provides exclusive control over guiding privileges within a guiding territory. A valid BC Guide Outfitter License or an Assistant Guide Outfitter Licences is also required to legally guide hunters within a specific guiding territory. Guide outfitter licences and certificates are issued under the *Wildlife Act* (1996).

In addition to WMUs and guiding territories, BC is divided into registered traplines. Under the provisions of the *Wildlife Act* (1996), trappers are required to purchase exclusive trapping rights within trapline areas. A Trapping Licence is also necessary to trap on a registered trapline or on private property.

7.3.2.3.2 Fishing and Marine Harvesting

Fisheries resources in Canada, including the protection and management of fish and fish habitat, are regulated through the federal *Fisheries Act* (1985) and administered by the Fisheries and Oceans Canada (DFO). DFO is responsible for First Nation fisheries, commercial and recreational fisheries in tidal waters, salmon fisheries in non-tidal waters and has primary responsibility for fish habitat protection (MFLNRO n.d.).

The Province exercises delegated authority, under the *Fisheries Act* (1985), for the management of non-salmon freshwater fisheries. The licensing of freshwater recreational fishing is enabled under the Province's *Wildlife Act* (1996). Anglers must be licenced by either DFO (tidal and salmon) or by BC (non-tidal). A provincial Non-Tidal Angling Licence is also required to fish for salmon recreationally in freshwater. Angling guides must be licensed by the Province and are subject to provisions of the *Wildlife Act* (1996).

7.3.2.4 Recreation and Tourism

The Ministry of Jobs, Tourism and Skills Training is responsible for carrying out duties and powers in relation to tourism policy, tourism services and infrastructure, industry support and tourism marketing under the *Tourism Act* (1996). The administration and allocation of Crown land for recreation uses, resorts and guided commercial recreation activities is managed by MFLNRO, under the *Land Act* (1996), the *Ministry of Lands, Parks and Housing*

Act (1996), and related regulations. The allocation of rights through the *Land Act* can include leases, licences, investigative permits, and notations.

The following regulatory and non-regulatory mechanisms are used to manage public and commercial recreational use on provincial Crown lands:

- The *Land Act* (1996) specifies requirements for commercial recreation uses set out through tenure agreements developed with individual tenure holders. These agreements can restrict the types of uses allowed within a certain tenure area or require specific activities be undertaken by the tenure holder. While guide outfitters and angling guides are tenured under the *Wildlife Act* (1996), permanent improvements such as cabins are tenured under the *Land Act* (1996);
- A number of organizations hold commercial outdoor recreation tenures or community and institutional tenures issued under the *Land Act* (1996), or partnership agreements to manage established recreational sites and trails under the *Forest and Range Practices Act* (2002). These tenures provide access to and exclusive use of an area of Crown land (e.g., for a cabin, research or instructional purposes) but activities are not undertaken for profit;
- Interpretive forest sites, recreation sites and recreation trails may be formally established and managed through Section 56 of the *Forest and Range Practices Act* (2002);
- Legal orders can be developed to restrict or prohibit specific uses on Crown land (e.g., motorized recreational use); and
- Non-commercial (public) recreation is generally managed through non-regulatory approaches such as the encouragement of voluntary compliance through education, signage, and other communication means.

7.3.2.5 Minerals and Aggregates

The *Mineral Tenure Act* (1996) is the primary statute that authorizes the registration of mineral and placer titles with the Province and provides the policy framework for Mineral Titles administration. Subsurface rights on Crown land and most private property belong to the Province. As a result, private property owners do not own minerals under their property, and free miners¹ have the right to access explore for minerals or placer minerals on private lands. However, the right of entry does not extend to land occupied by buildings. Recorded holders of mineral and placer claims may need rights of way to construct and maintain mining facilities and to transport minerals or equipment and supplies to and from their mining property. The *Mining Right of Way Act* (1996) provides for the right of a recorded holder to use existing roads whether on Crown land or private land for the purpose of gaining access to the mineral title. Where there is a deemed owner of such a road, the owner may require a reasonable payment for the maintenance costs of the access road (Ministry of Energy and Mines 2013).

¹ In order to acquire mineral tenure in British Columbia you must be a free miner. The *Mineral Tenure Act and Regulations* sets out the conditions for who can acquire a free miner certificate.

7.3.3 Assessment Methodology

This section provides a description of the assessment methodology used in preparing the EA related to Non-Traditional Land Use.

Please refer to Volume 2, Part B - Section 4.0: Assessment Methods of this EA for a full description of the assessment methodology and scope including: selection value components, establishing boundaries, describing existing conditions, identification of Proposed Project Valued Component (VC) interactions, identifying mitigation measures, evaluating residual effects and assessing cumulative effects.

7.3.3.1 Valued Component (VC) Selection and Rationale

This section describes the VCs and measureable indicators for the assessment of Non-Traditional Land Use. The VCs identified reflect issues and guidelines, potential Aboriginal concerns, issues identified by BC EAO and CEA Agency, First Nations, other stakeholders, professional judgment and key sensitive resources, species or social and heritage values. All identified candidate non-traditional land a resource use VCs were carried forward in the effects assessment (e.g. no non-traditional land a resource use VCs were excluded from the assessment). Additional details regarding the methods used to select VCs is provided in Part B, Volume 2 – Section 4.2.4.

Table 7.3-1 provides a summary of identified VCs, rationale for their inclusion in the assessment, and measurable Indicators that will be considered.

Table 7.3-1: Valued Components and Measurable Indicators: Non-Traditional Land and Resource Use

Valued Component	Rationale	Measurable Indicators
Forestry	The Proposed Project may affect opportunities for forestry via effects on forestry tenures and private forest lands and access to timber harvesting areas.	<ul style="list-style-type: none"> ▪ Forestry tenures; ▪ Access to forestry tenures; and ▪ Forestry activity.
Harvesting Fish and Wildlife	The Proposed Project may affect opportunities for hunting and fishing via effects on hunting and fishing areas, access to these areas, fish and seafood productivity, and wildlife productivity. Certain environmental conditions (noise, air, and visual quality) may also be affected and therefore may impact recreational hunters and anglers.	<ul style="list-style-type: none"> ▪ Hunting and angling areas and streams ▪ Hunting and angling activities and use levels (including seasonal nature of activities); ▪ Access related to recreational and tourism harvesting of terrestrial and marine resources; ▪ Recreational and tourism harvesting of terrestrial wildlife and marine resources; ▪ Environmental setting (noise, air, and visual quality conditions) in areas used for recreational and tourism harvesting of terrestrial wildlife and marine resources; and ▪ Productivity of recreational and tourism harvested terrestrial wildlife and marine resources.

Valued Component	Rationale	Measureable Indicators
Recreation and Tourism	The Proposed Project may affect recreational and tourism areas, amenities, sites and access to recreational and tourism areas. The Proposed Project may also affect certain environmental conditions (noise, air, and visual quality) and therefore may affect recreational and tourism users.	<ul style="list-style-type: none"> ▪ Recreation and tourism areas, features, amenities and sites; ▪ Recreation and tourism activities, location and use levels (including seasonal nature of activities); ▪ Access related to recreational and tourism locations and activities; and ▪ Environmental setting (noise, air, and visual quality conditions) in areas used for other recreational and tourism activities.
Minerals and Industrial Development	The Proposed Project may affect opportunities for energy and mineral development via effects on tenures and private lands and access to these areas.	<ul style="list-style-type: none"> ▪ Mineral and industrial tenures; ▪ Access to mineral and industrial tenures; and ▪ Mineral development activity.

7.3.3.2 Assessment Boundaries

7.3.3.2.1 Spatial Boundaries

The spatial boundaries for the EA have been selected to take into account the physical extent of the Proposed Project, Physical extent of Proposed Project-related effects and the physical extent of any key environmental systems. The specific study areas for all Non-Traditional Land Use VCs are provided in Table 7.3-2. LSA and RSA figures for the Non-Traditional Land Use VCs are presented in Figure 7.3-1.

For a full description of the temporal boundaries of the Proposed Project please refer to Volume 2, Part B - Section 4.0 of this EA.

Table 7.3-2: Spatial Boundaries: Non-Traditional Land and Resource Use

Study Area	Description
Local Study Area (LSA)	<p>The LSA includes the Proposed Project footprint and the terrestrial land and marine areas within 1.5 km of the boundary of the Proposed Project footprint (refer to Figure 7.3-1). The LSA was established to encompass the area within which the Proposed Project is expected to interact with and potentially have an effect on non-traditional land use.</p> <p>A buffer of 1.5 km was selected as it is consistent with the LSA for the noise discipline, which is anticipated to be the key effect on the majority of local user groups, and also encompasses any access limitations through the Property that may result from the Proposed Project. The LSA also includes areas of use identified by outdoor recreation and tourism representatives adjacent to the Proposed Project, such as the mouth of McNab Creek and the shoreline and nearby marine waters.</p>
Regional Study Area (RSA)	<p>The RSA includes the western portions of Howe Sound within the Sunshine Coast Regional District, Islands Trust areas of Gambier and Anvil Island, southern portions of the Squamish-Lillooet Regional District and northwestern areas within Metro Vancouver (regional district) (refer to Figure 7.3-1).</p> <p>The RSA was established to provide a regional context for the assessment of Proposed Project effects. The RSA was informed by the terrestrial wildlife, marine resources, and visual resources disciplines, but was modified to include key outdoor recreation and tourism locations in and around Howe Sound, such as the Town of Gibsons, Bowen Island, Horseshoe Bay, and the Sea-to-Sky Highway.</p>

7.3.3.2.2 Temporal Boundaries

Based on the Proposed Project schedule, the temporal boundaries for the effects assessment for Land and Resource Use are as follows:

- Project construction – up to 2 years;
- Project operations – 16 years; and
- Project reclamation and closure – on-going and 1 year beyond operations.

For a full description of the temporal boundaries of the Proposed Project please refer to Volume 2, Part A - Section 4.0 of this EA.

7.3.3.2.3 Administrative Boundaries

Wildlife and fish harvesting data reporting structures present certain limitations for analyzing land use activities in the LSA and RSA. For example, MFLNRO reports hunting data by wildlife management unit (WMU) and trapline harvest by trapline tenure boundary. The LSA is contained within one trapline tenure (TR0205T024), one guide outfitting tenure (Coastal Inlet Adventures), and one WMU (WMU 2-5) while the RSA overlaps multiple traplines, guide outfitting tenures, and WMUs.

Similarly, DFO's fish and seafood harvesting data are publicly reported at the Pacific Fisheries Management Area (PFMA) and sub-area levels (sub-area). The marine portions of the LSA and RSA fall within PFMA 28. For commercial fishing and shellfish harvesting purposes, the RSA overlaps with sub-areas 28-1 through 28-5 (over 95% of these sub-areas are overlapped by the RSA) and the marine waters of the LSA are located within the northern portion of sub-area 28-3 (which includes the waters of Thornbrough Channel between Gambier Island and the western shore of Howe Sound). For recreational fishing and shellfish harvesting, DFO data are reported at the creel sub-area level, which do not estimate to PFMA sub-areas as with commercial fishing. The marine waters of the LSA are located within creel sub-area B (which includes the northern portion of Thornbrough Channel and Howe Sound waters around Anvil Island and Porteau Cove). The marine portion of the RSA overlaps sub-areas A/J², B, C, D, and E.

As the LSA only covers a portion of the MFLNRO and DFO data-reporting units, it is not possible to confirm the level of activity occurring only within the LSA. However, year-to-year trends and species harvested are assumed to be reflective of activity in the LSA. Harvesting data has also been supplemented with interview information from various user groups and regulators.

7.3.3.2.4 Technical Boundaries

Harvesting data for both fish and wildlife rely on different collection methods. Commercial shellfish harvest and vessel activity data are derived from logbooks, which are generally recognised as the most accurate commercial

² In 2011, sub-area structure was changed and sub-area A became sub-area J.

harvest data source. Shellfish harvest data from logbooks are provided in kilograms and available at the sub-area level. Commercial value data are drawn from fish slips, dockside monitoring, and estimated hail-in catch. It should be noted that fish slips tend to routinely underestimate catch levels, but are the primary source of information on catch value. Other limitations include suppression of commercial seafood harvest data when there are three or less vessels active on an annual basis in a sub-area.

Harvest and effort estimates for hunting, trapping, and guide outfitting rely on information collected through self-reporting by individuals, such as the Hunter Sample survey and the Guide Declaration, and may therefore misestimate harvesting activity. DFO estimates recreational angling catches in southern BC marine water using a creel survey that operates annually and provides catch estimates for all recreationally caught fin fish. Saltwater recreational fishing estimates in Howe Sound are collected under the South Coast Creel Survey, Strait of Georgia (SG) jurisdiction (DFO 2013a)³. Currently no data is publicly available for recreational marine invertebrates harvesting, including crab, prawn, and shrimp.

The prediction of effects on land and resource use depends in large part on the technical boundaries of several different discipline areas. For example, the technical boundaries for assessing Proposed Project -related effects on harvesting of fish and seafood by commercial and recreational fish and seafood harvesters is dependent on the technical boundaries of Volume 2, Part B - Section 5.3 Terrestrial Wildlife and Vegetation, while the harvesting of wildlife by recreational hunters, trappers, and guide outfitters is dependent on the technical boundaries of Volume 2, Part B - Section 5.1 Fisheries and Freshwater Habitat, Section 5.2 Marine Resources, and Section 7.2 Marine Transport. The technical boundaries for assessing Proposed Project -related effects on recreational (including fishing and hunting) and tourism activity also considered Volume 2, Part B - Section 5.7 Air Quality, Section 7.4 Visual Resources and Section 9.2 Noise. Similarly, the technical boundaries for assessing Proposed Project -related effects on outdoor recreation and tourism depend on the technical boundaries of Volume 2, Part B - Section 5.7 Air Quality, Section 7.4 Visual Resources and Section 9.2 Noise.

7.3.3.3 Assessment Methods

The overarching assessment method includes the following main steps:

- Identify aspects of the Non-Traditional Land and Resource Use that could be potentially affected by the Proposed Project, which informs the selection of VCs;
- Compile information on and characterize existing conditions for the Non-Traditional Land and Resource Use VCs;
- Identify and evaluate the potential pathways for effect between the Proposed Project and the VC; and
- Predict the residual effects of the Proposed Project and evaluate the extent to which adverse effects can be mitigated.

³ Creel surveys are active during the peak season of recreational angling and vary in duration depending on location. The South Coast Creel Survey combines angler survey and aerial boat counts to estimate recreational catch. Anglers are interviewed to provide average catch, species and average fishing times, while aerial counts record the number of recreational boats in the area. The daily estimate of species caught is calculated by multiplying the number of boats by the average catch. Estimates of catch per unit, total survey effort and catch by species are generated on a monthly basis from creel data.

7.3.3.3.1 Existing Conditions

The following information sources were used to formulate the baseline in the LSA and RSA:

- DataBC;
- British Columbia Marine Conservation Association (BCMCA);
- Commercial fishing statistics from DFO;
- Hunting and trapping statistics from MFLNRO;
- Wildlife and marine life harvesting regulations;
- Community, municipal and regional studies and reports;
- Environmental assessment certificate applications from other projects; and
- User group websites, including commercial tourism operators.

Phone-based interviews were conducted with key informants to obtain information on the historical, present, and future land uses of the area. Interviewees were selected based on their use of the area and their knowledge of different factors or variables that influence use patterns. Individuals who were interviewed or provided data for this report included representatives from recreational groups and tourism operators, as well as DFO and MFLNRO. Personal communications with key informants are referenced throughout the report and provided in Volume 4, Part G - Section 21.0.

Site visit and photo inventories were undertaken as part of the Visual Assessment and were considered in the Non-Traditional Land and Resource assessment. See Section Volume 2, Part B - Section 7.4.3.3.1 for details of the site program.

Spatial analysis was also undertaken to identify if and where there is overlap between the LSA and:

- Forestry tenures, licenses and roads;
- Wildlife management units, guide outfitting areas and traplines;
- Recreational areas and tenures;
- Mineral tenures, licences and roads; and
- Industrial and commercial tenures.

Data were geospatially represented using Geographic Information System (GIS) analysis. The GIS results were also used for figure preparation.

7.3.3.3.2 Identifying Project Interactions

A preliminary evaluation of identified interactions between the various physical works and activities and the selected VCs across all spatial and temporal phases of the Proposed was undertaken to characterize interactions as:

- a) Positive, none or negligible, requiring no further consideration; or
- b) Potential effect requiring further consideration and possibly additional mitigation.

This evaluation is presented in Section 7.3.5. A rationale is provided for all determinations when there is no or negligible interaction and no further consideration is required. For those Proposed Project-VC interactions that may result in potential effects requiring further consideration, the nature of the effects arising from those interactions is described.

Potential interactions between the Proposed Project and the Non-Traditional Land and Resource Use VCs are generally associated with the potential to directly change or alter features of an area or rights to use an area of Crown or public land and/or resources and to change or alter access to an area of Crown land or resources. Changes to the rights to use an area of Crown land and/or resources or access to them often result in either temporary or permanent displacement of certain activities (such as recreation activities or timber harvesting activities). There are also potential indirect effects (i.e., noise, air, and visual disturbances) of a project that can affect land and resource use activities. Identification of Proposed Project interactions is based on the experience of technical specialists supported by existing information and data collected from interviews.

7.3.3.3.3 Evaluating Residual Effects

Potential Project-related residual effects were characterized as the basis for determining the significance of potential residual adverse effects for each VC. The characterization of effects was undertaken following application of appropriate mitigation measures.

Potential residual effects were characterized using the following standard residual effects criteria:

- **Context** – This refers to the resilience of an area, including its bio-physical resources and human environment, to Proposed Project imposed stresses.
- **Magnitude** – The amount of change in a key indicator or variable relative to baseline case.
- **Extent** – Spatial scale over which the residual effect is expected to occur.
- **Duration** – Length of time over which the residual effect is expected to persist.
- **Reversibility** - Whether or not the residual effect can be reversed once the physical work or activity causing the effect ceases.
- **Frequency** – How often the residual effect is expected to occur.

The criteria defined in Table 7.3-3 are used to characterise and determine the significance of potential effects of Non-Traditional Land and Resource Use VCs.

Where possible, definitions have taken into account the technical guidance that has been produced. Please refer to Volume 2, Part B - Section 4.0: Assessment Methods of this EA for a description of the criteria used to characterise potential effects for all disciplines.

The likelihood of potential residual effects occurring was also characterized for each VC using appropriate quantitative or qualitative terms. To derive a likelihood rating that indicates the probability of a certain effect to occur, implementation of mitigation measures were considered. For example, the likelihood of a certain effect is low, if there is a low potential of the event leading to the effect to occur, or if there are effective controls in place that can eliminate or reduce the magnitude or frequency of the effect. The following criteria were used to define likelihood:

- Low - likelihood of occurrence (0 to 40%) – Residual effect is possible but unlikely;
- Medium - likelihood of occurrence (41 to 80%) - Residual effect may occur, but is not certain to occur; and
- High - Likelihood of occurrence (81% to 100%) - Residual effect is likely to occur or is certain to occur.

7.3.3.3.4 Evaluating Significance of Residual Effects

The significance of potential residual adverse effects are determined for each VC based on the residual effects criteria and the likelihood of a potential residual effect occurring (Section 7.3.3.3.3) a review of background information and available field study results, consultation with government agencies and other experts, and professional judgement.

The rationale and determinations of the significance of potential residual effects on VCs are provided in Section 7.3.5.

7.3.3.3.5 Level of Confidence

The level of confidence for each predicted effect is discussed to characterize the level of uncertainty associated with both the significance and likelihood determinations. Level of confidence is typically based on expert judgement and is characterized as:

- Low - judgement hampered by incomplete understanding of cause-effect relationships or lack of data;
- Moderate - reasonable understanding of cause-effect relationships and adequate data; or
- High - good understanding of cause-effect relationships and ample data.

Prediction confidence for direct effects on parks and protected areas, trapping and guide outfitting tenures, linear infrastructure, energy and mineral development, and forestry is generally high as BC Government awarded tenures are firmly established and there is a high probability that the Proposed Area would proceed as described.

Prediction confidence for effects on recreational hunting and angling and other recreational activities depends on the level of uncertainty about how people use the LSA, Proposed Project related in-migration, and indirect effects on abundance of wildlife and fish and on noise, air, and visual quality. There is moderate confidence (based on a level of uncertainty) on the determination of the extent and type of hunting, angling and other recreational activities in the LSA. There is high confidence that local user groups interviewed for this assessment represented the most common outdoor recreation uses in the LSA and high confidence in their provided information. Knowledge about less prominent activities, such as berry picking or backcountry hiking, is less certain but the uncertainty in regard to the less prominent activities does not influence the ability to make decisions regarding the overall significance of effects on land and resource uses as the main pathways of effects relate to Project associated changes in areas, resources and access rather than the level of participation in these activities. Overall prediction confidence is also based on experience with similar projects.

Table 7.3-3: Criteria for Characterizing Potential Residual Effects: Non-Traditional Land and Resource Use VCs

VC	Context	Magnitude	Geographic Extent	Duration	Reversibility	Frequency
Forestry	Resilient: The area and its resources are resilient to change and can respond appropriately to imposed stresses or because new agreements, infrastructure and opportunities can replace the existing ones;	Negligible: Proposed Project will have no measurable change;				
Harvest of Fish and Wildlife	Moderately Resilient: The area and its resources have moderate resilience to change and would resist imposed stresses moderately or new agreements, infrastructure and opportunities may not overcome changes to the baseline; or	Low: Effect cannot be distinguished from baseline case conditions;	Local: Effect restricted to LSA;	Short-term: <1 years;	Fully reversible: Effect reversible with reclamation and/or over time;	Infrequent: Occurs once;
Recreation and Tourism		Moderate: Effect would result in demonstrable change, but remain within historic norms or	Regional: Effect extends beyond the LSA into the RSA; or	Medium-term: 1 year to life of Proposed Project; or	Partially Reversible: Effect can be reversed partially; or	Frequent: Occurs at irregular intervals; or
Mineral and Industrial Development	Sensitive: The area and its resources have little resilience to change and would resist imposed stresses poorly or new agreements, infrastructure and opportunities could not overcome changes to the baseline.	High: Effect results in changes that are beyond historic norms.	Beyond Regional: Effect extends beyond the RSA.	Long-term: >life of Proposed Project.	Irreversible: Effect irreversible and cannot be reversed with reclamation and/or over time.	Continuous: Occurs on a regular basis and at regular intervals.

7.3.4 Baseline Conditions

7.3.4.1 Introduction

The Proposed Project will be located on a 320 ha private property and associated foreshore tenure (240515) (the Property) which has been owned since 2008 by 0819042 BC Ltd. and BURNCO Rock Products Ltd. The Property is located on the west side of Howe Sound across Thornbrough Channel from the north end of Gambier Island.

The Property is currently accessible only by boat, float plane or helicopter, and a dock is currently located on the west side of the Property. The marine foreshore of the Property includes an intertidal sand and gravel beach that extends 150 to 300 m outward from the high tide line. The western 500 m of the foreshore area is overlapped by the foreshore lease, which was historically used as a log booming and log dump area.

7.3.4.2 Traditional Ecological and Community Knowledge Incorporation

TEK/CK information was gathered from a Project-specific study undertaken by *Skwxwú7mesh* (Squamish Nation) and from publicly-available sources.

TEK/CK sources were reviewed for information that could contribute to an understanding of non-traditional land and resource use by Aboriginal Groups. The main sources of this information include:

- Occupation and Use Study (OUS) undertaken by *Skwxwú7mesh* (Traditions 2015 a,b)
- An expert report produced on behalf of Tsleil-Waututh Nation for another project (Morin 2015)
- Regulatory documents for other projects in close proximity to the Proposed Project Area (e.g., Eagle Mountain – WGP 2015 a,b; PMV 2015; WLNG 2015).

TEK/CK sources available at the time of writing provided no specific information on non-traditional land use in the RSA. For a full summary of Aboriginal Group use of lands and resources for traditional purposes and occupancy of Howe Sound refer to Part C of this Application

7.3.4.3 BC Government, and Local Government Land Use Designations

Information in this section covers land use planning at the provincial, regional and community level.

7.3.4.3.1 Provincial Planning

There is no Land and Resource Management Plan (LRMP) covering the western side of Howe Sound, including the LSA.

Sea to Sky LRMP overlaps part of the RSA, to the northeast of the LSA. The Sea to Sky LRMP designates the northern end of Howe Sound as 'Frontcountry Area' within an 'All Resource Uses Permitted Resource Management Zone'. The Frontcountry Area is considered the gateway through which all visitors to the region pass and where the majority of residents make their home, and is as a result, an area of intensive public and commercial recreational use. Visual quality and recreation values are the primary focus for the management of the

Frontcountry Area, and all resource users are strongly encouraged to consider visual management as an important aspect of development (Minister of Agriculture and Lands 2008).

7.3.4.3.2 Regional and Community Planning

The LSA lies within Electoral Area F of the Sunshine Coast Regional District. While there are three OCPs in Electoral Area F, none of them overlap with the LSA. The closest OCP is for the Hillside-Port Mellon Area, located 7.4 km southwest of the Proposed Project footprint by boat. The Hillside-Port Mellon Area is designated to accommodate a major industrial employment base for the Sunshine Coast Regional District, as well as provide for resource activities such as a demonstration forest. Port Mellon includes a small rural residential neighbourhood (Sunshine Coast Regional District 1995). Regional zoning for the LSA is discussed in Volume 2, Part B - Section 6.0: Sustainable Economy.

The RSA overlaps with nine different community planning areas across Howe Sound (Figure 7.3-2). A full description of each plan is provided in Volume 4, Part G – Section 22.0: Appendix 7.3-A, but common elements include emphasis on the protection of the environment, development of a sustainable economy, and creation of opportunities for outdoor recreation.

7.3.4.4 Forestry

Forestry has historically been an important economic driver in Howe Sound. The original Port Mellon mill produced BC's first wood fibre based paper in 1909, and the local mill now operating as Howe Sound Pulp and Paper Ltd. is BC's longest running pulp and paper mill (Sunshine Coast Canada n.d.). Within the McNab Valley, logging activity has occurred since 1900. Canfor began large-scale logging operations in the valley in the 1970s and established a logging camp, warehouse and maintenance facilities near the beach. Canfor also established a water licence on Harlequin Creek (within the LSA) that is now held by BURNCO and ran a log dump and storage area in proximity to the camp until the late 1990s. In 2006 Canadian National Investments (CNI) purchased the Property and undertook forest harvesting across more than 90% of it during their period of site ownership.

The LSA lies within the Sunshine Coast TSA and is administered by the Sunshine Coast Forest District. The Sunshine Coast TSA includes a total area of approximately 1.56 million ha that extends from Howe Sound in the south to the head of Bute Inlet in the north. Approximately 426,000 ha or 27% of the Sunshine Coast TSA land base is considered productive Crown forest land, of which 222,894 ha is available for timber harvesting (MFLNRO 2012a, b).

The western side of Howe Sound, including the LSA, contains productive growing sites that are valuable as year-round opportunities for timber harvesting (MFLNRO 2012c). Major tree species include Douglas-fir, hemlock and balsam. Western red-cedar, yellow-cedar, spruce, pine, red alder, cottonwood and maple species also occur. Most of the forest stands are younger than 150 years, with some older stands between the ages of 150 and 350 years (MFLNRO 2011). See Volume 2, Part B - Section 5.0, Section 5.3 for more information on habitat and vegetation.

There is recent timber harvest activity within the McNab Valley north of the Property. Timber harvested within the valley is transported along the McNab Creek forest service road (FSR) and through the Property, as per BURNCO's access agreement with MFLNRO (which expires in 2016). In March 2013, BC Timber Sales (BCTS)

accepted tenders from proponents to bid on Forest Licence A90229 to harvest approximately 118,532 m³ over a term of 32 months (BCTS 2013a). The tenure was awarded to Black Mount Logging Ltd. (Black Mount Logging), and harvesting has occurred in four separate areas to the west and north of the Property, the closest of which is within the LSA. Black Mount Logging completed logging in March 2014. This company also holds a road permit (R19253) for some spur roads off of the McNab Creek FSR (MFLNRO 2014a, pers. comm.). In the area north of the Property, roads east of the McNab FSR are expected to be deactivated as Black Mount Logging has harvested the area. It is anticipated that roads on the western side of McNab FSR will be activated in support of new logging activities (MFLNRO 2014b, pers. comm.).

In December 2013, Forest License A79510 was sold to Brotherston Logging Co. Ltd. (Brotherson) to harvest approximately 64,530 m³ (BCTS 2013b). The tenure expires on October 29, 2016 (MFLNRO 2014a, pers. comm.). Harvesting under this licence has occurred at the northern edge of the LSA and further-up the McNab Valley.

Box Canyon Hydro Corporation holds a licence to cut (L49769), located 0.9 km north of the Proposed Project footprint, an area that partially overlaps with the LSA. A decked timber sale⁴ from this licence occurred earlier in 2014 (MFLNRO 2014a, pers. comm.). Canfor Corporation's Timber Licences are located within the LSA, but have expired.

The RSA includes portions of three TSA's, the Sunshine Coast TSA, Soo TSA and Fraser TSA. There are several different types of forest tenures or licenses within the RSA, including Forest Licence Cutting Permit, Licence to Cut, Timber Licence Cutting Permit, Timber Sale Licence, and Wood Lot Licence Cutting Permit, as shown in Figure 7.3-3. Within the RSA, there are two new proposed woodlots⁵ (W2068 and W2069) which are located behind Ekins Point and Douglas Bay on Gambier Island. Woodlot W2069 is located closest to Ekins Point and Douglas Bay and covers 652.6 ha of Crown land, while woodlot W2068 is located further south and covers 672.9 ha of Crown land. The AAC for both woodlots is approximately 3,000 m³ (Forest Service of British Columbia 2014a, b). An active woodlot is located on the west side of the island, and together these three woodlots cover approximately 25% of Gambier Island (Islands Trust 2014 pers. comm.).

The waters of Howe Sound have a history of use for transport, sorting, booming and storage of logs. There are 48 log handling/storage tenures within the RSA, with a total area of over 475.7 ha (Environment and Land Use Committee Secretariat 1980). As indicated in Figure 7.3-3, the majority of log tenures are located between the west side of Gambier Island and the mainland. The only log dump tenure to overlap the LSA is owned by BURNCO (212251). Access to the log dump for forestry activities in the McNab Valley is also covered by the access agreement with MFLNRO.

Old Growth Management Areas (OGMAs) are spatially defined areas of old growth forest that are used to achieve biodiversity targets⁶ (Figure 7.3-3). No OGMAs are located within or adjacent to the LSA. There are several OGMAs located within the RSA, mainly in its northeast and southwest areas.

⁴ Operations such as clearing for roads, RoW or other operations on Crown land may result in timber being cut that must be disposed of by MFLNRO. These decks of timber are sold through a competitive tender sale.

⁵ Woodlots are small area based tenures, which include Crown land and contributed private land.

⁶ Forest licensees are required to maintain legally established OGMAs when preparing forest stewardship plans.

7.3.4.5 *Harvesting Wildlife and Fish*

7.3.4.5.1 *Hunting, Guiding and Trapping*

The LSA is located within WMU 2-5, while the RSA overlaps with portions of WMU 2-5, WMU 2-8 and WMU 2-16 (Figure 7.3-4). WMU 2-5 is 3,454 square kilometres (km²) in size, and the LSA represents approximately 0.4% of its total area. Wildlife in WMU 2-5 includes large game (deer, Roosevelt elk, black bear), and small game (coyote, raccoon, muskrat, and squirrel).

There are five Limited Entry Hunting (LEH) zones for Roosevelt elk within WMU 2-5, one of which covers the LSA (McNab Creek 2-05 F). By the turn of the twentieth century, Roosevelt elk populations had declined to the point of extirpation from the southern mainland coast of BC (Hobbs 2013). In response, elk were relocated from Vancouver Island to the Sunshine Coast from 1987 to 1993, and by 2010 there were approximately 1,000 elk in the Sunshine Coast (Silviculture Working Group and Coast Forest Region FRPA Implementation Team 2011). Prior to 2001, only a handful of hunters were granted the right to hunt elk, but between 2001 and 2013 the number of hunters whose applications have been approved increased 10 fold in the Lower Mainland (Hobbs 2013). The regular hunting season and LEH season for WMU are provided in Volume 4, Part G – Section 22.0: Appendix 7.3-B.

7.3.4.5.1.1 *Trapping*

The LSA overlaps approximately 12% of trapline TR0205T024, which is 8,393 ha in size. Records kept by the Fish and Wildlife harvest database, which date back to 1984, show no harvest for this trapline⁷ (MFLNRO 2013).

The RSA overlaps with nine trapline tenure areas including TR0205T018, TR0205T030, TR0205T024, TR0208T002, TR0208T001, TR0205T013, TR0205T017, TR0205T016, and TR0205T014. The only traplines within the RSA with registered activity after 1990 were TR0208T002, near Britannia Beach, and TR0205T018, near Woodfibre. Between 2002 and 2010, TR0208T002 recorded 1,239 animals trapped, including 974 Beaver and 174 muskrat. The harvest recorded for TR0205T018 was much lower, with only 36 animals recorded between 1990 and 2002 (MFLNRO 2013).

7.3.4.5.1.2 *Guide Outfitting*

The LSA is contained within one guiding territory tenure held by Coastal Inlet Adventures, which covers a total area of 964,680 hectares (ha). The guiding territory overlaps three WMUs, including WMU 2-5 (and the LSA) (Figure 7.3-4). The LSA represents 0.14% of the total territory held by Coastal Inlet Adventures. Coastal Inlet Adventures focuses on hunting black bear and elk but also arranges hunts for black-tailed deer, mountain goat and cougar as well as freshwater and saltwater fishing excursions (Coastal Inlet Adventures 2013). Approximately six visits to the LSA and the Property were made by Coastal Inlet Adventures in spring of 2014 and another six were planned for fall 2014. Coastal Inlet Adventures sought and received permission to access the BURNCO property (Coastal Inlet Adventures 2014, pers. comm.).

To avoid over-harvesting in a given area, Coastal Inlet Adventures distributes its hunting activities throughout the guide outfitting area. Use of a landing craft capable of carrying ATVs allows Coastal Inlet Adventures to access

⁷ First Nations trapline holders are not required to report trapline harvests if used for food, social or ceremonial purposes.

backcountry areas. Coastal Inlet Adventures accesses the LSA by using its landing craft to reach forestry roads from Salmon Inlet, and then using ATVs to reach the western side of Howe Sound (Coastal Inlet Adventures 2014, pers. comm.). In previous years, Coastal Inlet Adventures has received permission to traverse the Property. Coastal Inlet Adventures has float camps located in Narrows Inlet and Salmon Inlet, both located north of the RSA (Coastal Inlet Adventures 2014, pers. comm.).

The number of non-resident hunters⁸ hunting within WMU 2-5 averaged 12.5 per year between 2002 and 2012, but ranged from a high of 17 in 2003 to a low of eight in 2004. Hunting days saw greater annual fluctuation than the number of hunters, reaching a high of 82 days in 2007 and a low of 34 days in 2010. On average, there were 47.5 hunting days per year, for 3.8 hunting days per hunter (MFLNRO 2012d).

Approximately 12 animals per year (on average) were harvested by non-resident hunters between 2002 and 2012, with annual harvests fluctuating between 10 and 15 animals. Black bear were the largest harvested species, comprising an annual average of 77.5% of all kills and 62.7% of hunter days. However, the relative popularity of black bear declined between 2008 and 2012, falling from 100% of kills to approximately a third. Elk were the next most heavily harvested species, with 15.5% of total kills but close to a third of all days between 2002 and 2012. Elk have constituted more than 20% of all kills since 2010. Hunts for mule deer are only recorded between 2010 and 2012, representing approximately a third of all kills in 2012. Cougar kills were only recorded in 2012 (MFLNRO 2012d). Guided hunts start at approximately \$5,000 for a five day hunt targeting black-tailed deer, and can reach to \$8,000 for a seven day mountain goat hunt (Coastal Inlet Adventures 2013). See Volume 4, Part G – Section 22.0: Appendix 7.3-C for non-resident hunting data for WMU 2-5. Within the remainder of the guide outfitting tenure, the harvest in WMU 2-16 between 2010 and 2012 was limited to two mule deer in 2012. However, in WMU 2-12, approximately five animals were harvested per year on average between 2002 and 2012 (predominately bear and elk), representing approximately 20 hunting days per year (MFLNRO 2012d).

7.3.4.5.1.3 Resident Hunters

The Property is the most convenient access point for recreational hunters accessing the LSA from the shoreline, and illegal access by hunters into the Property has been recorded. Fall is the peak hunting season in Howe Sound, and between two and three hunters are predicted to typically be using the LSA (primarily the Property) at a given time (Don's Water Taxi 2014, pers. comm.). Access to the northern end of the LSA may be possible from the McNab Strata, which connects to the Potlatch FSR via two spur roads (see Figure 7.3-7 for roads). The number of resident hunters within WMU 2-5 averaged 232 per year between 2002 and 2012, but ranged from a high of 323 in 2008 to a low of 173 in 2005.⁹ On average, there were 1,719 hunting days per year within WMU 2-5 between 2002 and 2012, for 7.4 hunting days per hunter. Hunter days peaked in 2011 with 2,884 hunting days, but fell to 1,781 in 2012. Mule deer is the main harvested species in WMU 2-5, comprising approximately 80% of all kills and 78% of all hunting days between 2002 and 2012. Black bear were the next most heavily harvested species, comprising 10.3% of total kills and 13.6% of hunter days. While black bear kills have seen a relative increase since 2010, the total resident hunter days is generally lower than it was before 2006. Elk is the third most

⁸ In order to hunt big game in BC, non-residents must be accompanied by either a licensed guide or a resident holding a Permit to Accompany. It is assumed the majority of non-resident hunters have used a guide.

⁹ Hunters targeting more than one species will be double-counted (i.e. a hunter targeting three different species will be counted as three hunters). Therefore this is an overestimation of the number of hunters active within WMU 2-16.

popular species, comprising 8.8% of total kills and 5.3% of hunter days. Harvesting of wolf was recorded in 2011 and harvesting of goat was recorded in 2012 (MFLNRO 2012d). See Volume 4, Part G – Section 22.0: Appendix 7.3-D for non-resident hunting data for WMU 2-5.

Within the RSA, Gambier Island was also identified as a popular hunting location (Don's Water Taxi 2014, pers. comm.). Within the RSA, there was an average of 215 resident hunters in WMU 2-8 and 461 in WMU 2-16 between 2002 and 2012. The number of hunter days was also highest in WMU 2-16 with an average of 2,160 over the same time period, while WMU 2-8 had the lowest average in the RSA at 1,075 days. In WMU 2-16, mule deer were the most heavily targeted species, followed by black bear. No other species were recorded as hunted in WMU 2-16. In WMU 2-8, mule deer and black bear were also popular, but cougar were also regularly hunted. Hunters targeting elk were only recorded in WMU 2-8 in 2012, but none were killed (MFLNRO 2012d).

7.3.4.5.2 Fish and Shellfish Harvest

7.3.4.5.2.1 Recreational Fishing

7.3.4.5.2.1.1 Freshwater

The LSA and RSA fall within Region 2 (Lower Mainland) for non-tidal (freshwater) fisheries, and the daily quotas in Region 2 vary by species. For trout/char, four fish may be kept with the condition that all wild trout/char from streams be released. Similar conditions apply to Kokanee, with a daily limit of five fish but no retention from streams. Data for freshwater angling activity in the LSA, including McNab and Harlequin Creeks, are not available (Ministry of Environment 2013, pers. comm.). However, the Howesound Landscape Unit Sustainable Resource Management Plan states that McNab Creek “has low angling effort” and that “angling for stream resident fish is limited since resident fish are quite small” (MFLNRO 2012c).

7.3.4.5.2.1.2 Saltwater

The marine portion of the LSA is located within PFMA 28 sub-area B, which includes the northern portion of Thornbrough Channel and Howe Sound waters around Anvil Island and Porteau Cove (Figure 7.3-5). Most recreational fisheries are open year-round in Howe Sound, although the recreational fishery for lingcod and rockfish is currently closed. The LSA has no area-based recreational fishing closures, but there are several within the RSA.

The marine portion of the RSA overlaps sub-areas A/J¹⁰, B, C, D, and E. Rockfish conservation areas throughout Howe Sound are closed to all recreational fishing except crab by trap, shrimp/prawn by trap and invertebrates by hand picking or dive. There are five rockfish conservation areas within the RSA located along the eastern side of Howe Sound that include Domett Point, Pam Rocks, Lions Bay, Bowyer Island, and Passage Island (DFO 2014a).

In addition, the waters around Porteau Cove, Point Atkinson and Whytecliff Park are closed to the harvest of all marine life year-round for the preservation of unique underwater habitat (DFO 2014a). Fishing for fin fish is also closed in Mannion Bay (Deep Bay) on Bowen Island between September 1 and December 31 and between

¹⁰ In 2011, sub-area structure was changed and sub-area A became sub-area J.

Britannia Creek, along with the southern tip of Minaty Bay between May 30 and August 15 (DFO 2014a). See Volume 4, Part G – Section 22.0: Appendix 7.3-E for full information on recreational saltwater fishing regulations.

7.3.4.5.2.1.3 Fin Fish Harvest

In relation to the LSA, salmon fishing was identified as occurring in Thornbrough Channel including the McNab Creek area and around Anvil Island (Squamish Yacht Club 2014, pers.comm.). One fishing charter indicated that the LSA was used approximately 20% of the time when guiding on Howe Sound for salmon, but noted that heavy rains precluded the use of the area as sedimentation from McNab Creek made the waters too murky (Sunshine Kayaking 2014a, pers. comm.). Information from the BC Marine Conservation Analysis (BCMCA) also indicates that while recreational salmon fishing does occur within the LSA, groundfish harvesting is to the east of the LSA (Figure 7.3-6) (BC Marine Conservation Analysis 2010).

In the RSA, the northern half of Howe Sound, Defence Islands and Gambier Island were identified as popular fishing locations by user groups (Squamish Yacht Club 2014, pers.comm.; Thunderbird Yacht Club 2014, pers. comm.; Sunshine Kayaking 2014a, pers. comm.; Sewell's Marina 2014, pers.comm; Gambier Island Local Trust 2014, pers.comm). Gower Point (near Gibsons), Keats Island, Collingwood Channel, Grace Islands, around Bowen Island (Hutt Islands, Tunstall Bay, Curtis Point), and Hole in the Wall (approximately 1 km north of the Horseshoe Bay ferry terminal) are other popular fishing locations in the southern half of the RSA (Sunshine Kayaking 2014a, pers. comm.; Sewell's Marina 2014, pers. comm.). Within Howe Sound fin fishing effort is generally highest in the summer, between April and October (Sunshine Kayaking 2014a, pers. comm.).

Within sub-area B (which overlaps the LSA) the recreational catch between 2003 and 2013 averaged approximately 145 salmon, 45 rockfish, and 265 groundfish (see Volume 4, Part G – Section 22.0: Appendix 7.3-F for detailed data). However, the recreational catch data shows considerable year-to-year fluctuations. For example, in 2013 a total of 451 salmon were caught in sub-area B, but in the preceding year only 55 salmon were recorded. In 2008 groundfish catch peaked at 638 fish, but reached a low of 15 in 2010. Rockfish catch has been low since 2010, with no recorded catch in 2010 and 2011 and only 6 and 16 fish recorded caught in 2012 and 2013 respectively (DFO 2014b).

In 2004, fishing effort and catch levels across species in the RSA saw a substantial decline and have not rebounded to similar levels since.¹¹ No rockfish catch was reported in 2011 and relatively low catches in 2012 and 2013 of less than 50 fish. In contrast, the salmon catch in the RSA in 2013 was the highest recorded since 2003, with close to 1,000 fish, while groundfish reached a low of 446 fish. Overall, sub-area A/J was the most intensively fished area within the RSA. Between 2003 and 2013, sub-area A/J averages approximately 1,700 effort days, or four times higher than sub-area B which had the second highest number of days with 436 effort days on average per year. Occasionally, sub-area B has produced similar or higher catch results on an annual basis than sub-area A/J (DFO 2014b).

¹¹ Fishing catch and effort estimates have not been completed by DFO for sub-area C, as effort and catch has been observed to be very low.

7.3.4.5.2.1.4 Shellfish Harvest

Recreational shellfish harvesting data are not available from DFO. BCMCA data do not specify the level of fishing intensity, such as harvest levels or boat days, but do show that crab, prawn and shrimp harvesting occurs throughout the LSA and RSA. Geographic data from the BCMCA shows that recreational fishing for crab and prawn occur within the LSA (Figure 7.3-6) (BC Marine Conservation Analysis 2010).

Thornbrough Channel is considered to be a lower use area for recreational shellfish harvesting relative to the rest of Howe Sound (DFO 2014c, pers. comm.). However, the McNab Creek area is popular with users located in or near the LSA and is considered to be a good prawn and crab harvesting area in Howe Sound for boaters and anglers (Squamish Yacht Club 2014, pers. comm.). Among the yacht clubs at Ekins Point, it was estimated that approximately 50% of the Thunderbird Yacht Club and 15% of the Burrard Yacht Club members fish for prawn and crab in the McNab Creek area, with crab traps set at about depths of 100 feet and prawn traps at about depths of 350 to 450 feet (Thunderbird Yacht Club 2014, pers. comm., Burrard Yacht Club 2014, pers. comm.). The Squamish Yacht Club also identified the area as being heavily used by members, and noted that it was a particularly productive area for prawn harvesting (Squamish Yacht Club 2014, pers. comm.).

Beyond the LSA, recreational prawn and crab harvesting occurs throughout Howe Sound, particularly near the islands and bays around the Town of Gibsons and Gambier Island (DFO 2014c, pers. comm.; Sewell's Marina 2014, pers. comm.). Shellfish harvesting can occur year round in Howe Sound, but the peak prawn and crab season is between June and September in Howe Sound (see Volume 4, Part G – Section 22.0: Appendix 7.3-E) (Don's Water Taxi 2014, pers. comm.).

7.3.4.5.2.2 Commercial Fishing

As indicated in Figure 7.3-5, the marine portions of the LSA and RSA fall within PFMA 28. The marine waters of the LSA are located in the northern portion of sub-area 28-3 (which includes the waters of Thornbrough Channel between Gambier Island and the western shore of Howe Sound). The RSA overlaps with sub-areas 28-1 through 28-5.

7.3.4.5.2.2.1 Fin Fish Harvest

In response to the high pink salmon run in 2013, a commercial pink salmon fishery was opened in Howe Sound for the first time since 1962. The opening lasted three days and was operated on a quota system, allowing only two commercial seine boats at any given time. Commercial salmon fishing was concentrated between Woodfibre and Squamish. A commercial pink salmon fishery was not open in 2014 in Howe Sound, but on peak year cycles DFO may choose to open the commercial pink salmon fishery again (DFO 2014d, pers. comm.). In total, 282,400 pink salmon were caught in PFMA 28 during the opening (DFO 2014e). No other commercial fin fish fishery exists in Howe Sound.

7.3.4.5.2.2.2 Shellfish Harvest

Small commercial harvests of prawn (trap), shrimp (trawl) and crab (trap) occur in Howe Sound, but in general, Howe Sound is a secondary location for commercial harvesting of seafood on the south coast of B.C. Within that

context, Thornbrough Channel is considered an average harvesting activity or use area for the commercial shellfish fishery relative to the rest of Howe Sound (DFO 2014c, pers. comm.). Commercial shellfish harvesting has been observed within the marine waters of the LSA, particularly close to the McNab Strata dock (Squamish Yacht Club 2014, pers.comm.). See Volume 4, Part G – Section 22.0: Appendix 7.3-G for detailed commercial fishing data.

There are 250 coast wide licences in BC for the prawn trap fishery, which are valued around \$684,000 each (DFO 2014f). The commercial prawn fishery starts no earlier than May and generally runs until the end of June. Seasonal closures are managed based on the Spawner Index Model, which helps to ensure a minimum number of female spawners are available at time of egg hatch (DFO 2014f). Howe Sound is a Special Management Area for prawn, in which only half of a vessel's allowed prawn traps may be set.

Sub-area 28-3 (which overlaps the LSA) averaged an annual catch of 9,722 kilograms (kg) of prawns between 2003 and 2013, or about 17% of the harvest in the RSA. The prawn catch in sub-area 28-3 has varied since 2003, with a low of 5,390kg in 2004 and a high of 21,899kg of prawn in 2011 (DFO 2014e).

The prawn trap fishery occurs throughout Howe Sound (DFO 2014g). An annual average of 57,600kg of prawns was caught between 2003 and 2013 in the RSA and 2011 saw a particularly large harvest of over 118,000kg of prawn. Over 60% of the recorded catch between 2003 and 2013 was concentrated in sub-areas 28-1 and 28-2, with an average annual catch of approximately 37,000kg of prawn. Catch value statistics generally reflect that prawn catch value is concentrated in sub-areas 28-1 and 28-2. The recorded value for the RSA in 2012, not including sub-area 28-5, was close to \$300,000, but this is likely an underestimation of the true value (DFO 2014h).

Although there are 242 shrimp trawl licences in BC, participation declined to 50 vessels in 2012 due to poor profitability (DFO 2013b). The fishery is coast wide and opens in June, but its duration is dependent on the quota set for that year. A secondary opening may also occur in November (DFO 2014c, pers. comm.).

Within the LSA and RSA, only pink and sidestripe shrimp harvest was recorded. In sub-area 28-3, 1,354kg was harvested per year on average between 2003 and 2013, with between 2 to 4 vessels recorded. Shrimp harvesting peaked in sub-area 28-3 in 2013 with a catch of 3,211kg (DFO 2014e). The only recorded catch value data for sub-area 28-3 was in 2011 and was \$6,375.15 (DFO 2014h).

Generally, the commercial shrimp trawl is focused on the southern end of Howe Sound (DFO 2014c, pers. comm.). The pink and sidestripe shrimp catch averaged approximately 16,300kg in the RSA between 2003 and 2013, with a high of over 23,000kg in 2009 and 2013, and a low of less than 10,000kg in 2005. Sub-area 28-1 represented approximately 63% of the shrimp catch in the RSA between 2003 and 2013, followed by sub-area 28-2 with 20% and sub-area 28-4 at 11.4%.

The marine portions of the LSA and RSA fall within Crab Management Area I, which extends from Howe Sound along the coast southwards to the Canada-U.S. Border at Point Roberts. Within Crab Area I, there are currently 32 licences over Sound (DFO 2014i). The commercial crab fishery starts June 15 and goes until the end of November.

Most harvesting of crabs in Crab Management Area I occurs outside the RSA. No commercial crab harvest was recorded in sub-area 28-3 between 2003 and 2013 (DFO 2014e).

7.3.4.6 Recreation and Tourism

7.3.4.6.1 Recreation

Outdoor recreation (commercial and non-commercial) is an important activity in the RSA, and is a contributor to both the local and regional economy. The natural features of the South Coast region provide a diverse range of opportunities for water and land-based outdoor recreation activities, including sailing, power boating, paddling, diving, fishing, camping, hiking, backpacking, mountain biking, rock climbing, bird watching, and nature observation (Lions Gate Consulting 2013).

7.3.4.6.1.1 Sailing and Motor Boating

Recreational boating routes are found throughout Howe Sound (Figure 7.3-7). Motor boating was identified as a key activity in Thornbrough Channel and within the marine waters of the LSA (Sunshine Kayaking 2014a, pers. comm.; Sewell's Marina 2014, pers. comm.; Gambier Island Local Trust 2014, pers. comm.). Winds in Thornbrough Channel are considered to be not conducive to sailing, and sail boats traversing the area tend to be under motor (Burrard Yacht Club 2014, pers. comm.). The protected and relatively calm waters in Thornbrough Channel, particularly between Latona Passage, McNab and Ekins Point, create good conditions for waterskiing and wakeboarding however (Burrard Yacht Club 2014, pers. comm.; Squamish Yacht Club 2014, pers. comm., Sewell's Marina 2014, pers. comm.).

The anchorage area in front of the Property is the largest available within Thornbrough Channel (Thunderbird Yacht Club 2014, pers. comm.). Christie Cove (to the west of the LSA) and McKinley Bay (near Ekins Point) are also popular anchorages, both accommodating between two and three boats. Two or three boats are generally anchored in the marine area in front of McNab Creek on a given weekend during peak season, with more at Christie Cove and other locales in Thornbrough Channel (Thunderbird Yacht Club 2014, pers. comm.; Burrard Yacht Club 2014, pers. comm.; Squamish Yacht Club 2014, pers. comm.). There is an extensive sand intertidal area in front of the Property that extends from McNab Creek to the jetty area (see (Figure 7.3-7). The McNab Strata has a private dock located on the eastern side of the LSA, but no other docks, anchorages, or marinas are located within the LSA.

Outside of the LSA, several user groups identified the areas around Gibsons, Langdale, Keats Island, Bowen Island, and the southern and eastern sides of Gambier Island as popular for boating within Howe Sound (Thunderbird Yacht Club 2014, pers. comm.; Sunshine Kayaking 2014a, pers. comm.; Sewell's Marina 2014, pers. comm.; Don's Water Taxi 2014, pers. comm.; Gambier Island Local Trust 2014, pers. comm.). Collingwood Channel, Plumpers Cove (Keats Island), Snug Cove (Bowen Island), and Centre Bay (Gambier Island) are other areas of interest for boaters within the RSA (Sunshine Kayaking 2014a, pers. comm.; Sewell's Marina 2014, pers. comm.; Thunderbird Yacht Club 2014, pers. comm.; Burrard Yacht Club 2014, pers. comm.). Marinas and boat launches are primarily concentrated around the southern end of Howe Sound, particularly near Horseshoe Bay, Bowen Island, Gibsons and the southern bays of Gambier Island. Key marinas identified by user groups within the RSA are outlined in Table 7.3-4. The waters in front of Gibsons were also identified as a popular anchorage in summer (Don's Water Taxi 2014, pers. comm.).

Table 7.3-4: Key Marinas in the RSA

Marina Name	Location Within RSA	Description
Lions Bay Marina	Lions Bay	Provides dry stack storage for power boats up to 32 feet in length (Lions Bay Marina 2014).
Bowen Island Marina	Bowen Island	Provides annual and overnight moorage (Bowen Island Marina 2014).
Union Steamship Co. Marina	Bowen Island	Provides annual and overnight moorage (Union Steamship Co. Marina 2014).
Gibsons Landing Harbour Authority	Gibsons	Gibsons Landing Harbour Authority provides moorage for pleasure and commercial craft (Gibsons Landing Harbour Authority 2013).
Sewell's Landing Inc. (Sewell's Marina)	Horseshoe Bay	Provides 350 annual and seasonal moorage slips (Sewell's Marina 2014, pers. comm.).
Sunset Marina	West Vancouver	110 wet/water spots available during spring, summer and fall, and 68 houses during winter (Sunset Marine Ltd. 2014).
Thunderbird Marina	West Vancouver	Over six hundred slips ranging from 20 to 70 feet in length (Thunderbird Marina 2014).

Either ten yacht clubs or yacht outstations¹² are located within Howe Sound. Five of these clubs are located on Gambier Island and another three are located on Bowen Island (Figure 7.3-7). Volume 4, Part G – Section 22.0: Appendix 7.3-H outlines the yacht clubs and some of the key boating events in the RSA. The closest outstations to the LSA are located approximately 2.7 km away at Ekins Point on Gambier Island and belong to the Thunderbird Yacht Club and Burrard Yacht Club. As of early 2014, the Squamish Yacht Club was in the process of obtaining approval for a new outstation at Right Angle Bay on north Gambier Island. The Ekins outstations are popular due to their secluded nature and proximity to Vancouver and Squamish, with peak activity occurring between April and October. Hiking, swimming, camping, paddle boarding, kayaking and water skiing occur at the outstations. Moorage at the outstations is on a first-come, first-serve basis, and there are no technical limits on length of stay (Burrard Yacht Club 2014, pers. comm.; Thunderbird Yacht Club 2014, pers. comm.; Squamish Yacht Club 2014, pers. comm.).

The Ekins outstation is the primary holding and most popular destination for the Thunderbird Yacht club due to its secluded nature and proximity to both Vancouver and Squamish. As the Thunderbird Yacht Club does not provide permanent moorage, members are located in Squamish (approximately 20%), Vancouver, Lions Bay and Bowen Island (approximately 15%), Gibsons (approximately 4%), and the Lower Mainland (approximately 51%). While the average stay at the outstation during peak season is two nights, approximately 10% of the club's members will stay for around a month at a time and half will stay for a minimum of a week during the summer. During the off-season (November to March), approximately 10% of Thunderbird Yacht Club members continue to use the outstation. Members based in Squamish will travel from the north end of Howe Sound when accessing the outstation, while members from Gibsons will travel through Thornbrough Channel. Members from Vancouver, Lions Bay and the rest of the Lower Mainland will normally travel up the eastern side of Howe Sound. The

¹² Property owned by yacht clubs to provide a destination for their members to travel too, often providing amenities such as a club house, campsites, barbecues washrooms, etc.

Thunderbird Yacht Club normally holds a spring and fall cruise, which is attended by between 40 and 45 boats, as well as other smaller events (Thunderbird Yacht Club 2014, pers. comm.).

The Ekins outstation is the most heavily used of the Burrard Yacht Club's seven outstations. The level of usage at Ekins has increased over the last decade as facilities were improved and transit times have fallen due to increases in boat speed. There are approximately 600 member days per year at its Ekins outstation. While the heaviest use occurs between April and October, its members use the outstation throughout the year, including the annual New Year's Eve party. Use is highest on weekends, although retired members frequent the outstation during the weekdays. A typical length of stay for its members at the outstation is between three and five days (Friday to Monday or Sunday to Thursday). The maximum capacity of the outstation was estimated to be 30 to 35 boats if boats were rafted together. An estimated 80% of members travel up the eastern side of Howe Sound when accessing the outstation. The remaining 20% travel on the west side of Howe Sound, and this route would primarily be used by those travelling towards Vancouver Island, the Gulf Islands or further north (Burrard Yacht Club 2014, pers. comm.).

If the Squamish Yacht Club establishes a new outstation at Right Angle Bay, moorage capacity is planned for 16 boats. Christie Cove has been identified as an alternate location for a new outstation located to the west of the LSA on the mainland (Squamish Yacht Club 2014, pers. comm.). Members of the Squamish Yacht Club use the western route through Thornbrough Channel approximately 70% of the time when leaving Howe Sound, as they head west or further north. The remaining 30% are typically headed to Vancouver for boat repairs or other errands (Squamish Yacht Club 2014, pers. comm.).

The Thunderbird, Burrard and Squamish Yacht Clubs all indicated that they use the beach and waters in front of the Property for anchorage, picnics, and prawn and crab harvesting (Burrard Yacht Club 2014, pers. comm.; Squamish Yacht Club 2014, pers. comm.; Thunderbird Yacht Club 2014, pers. comm.). Approximately 10% of the members from the Thunderbird Yacht Club and 15% of the Burrard Yacht Club anchor in the marine waters of the LSA (Burrard Yacht Club 2014, pers. comm.; Thunderbird Yacht Club 2014, pers. comm.).

7.3.4.6.1.2 Kayaking, Canoeing and Paddle Boarding

Kayaking, canoeing, and stand-up paddle boarding (paddling) are popular activities around Howe Sound. With the exception of crossing channels or larger bodies of water, paddlers tend to keep close to coastlines (McKeever 2014). These activities occur in Thornbrough Channel near the yacht clubs on Gambier Island, summer camps and McNab Strata residences (Thunderbird Yacht Club 2014, pers. comm.; Squamish Yacht Club 2014, pers. comm.). Occasionally kayakers, canoeists, paddle boarders and McNab Strata residents use the sandy intertidal area in front of the Property.

Popular paddling launch locations outside of the LSA include Snug Cove on Bowen Island, Horseshoe Bay, and the Town of Gibsons. Porteau Cove Provincial Park, Halkett Bay Marine Provincial Park on Gambier Island, and Plumper Cove Marine Provincial Park on Keats Island all have water accessible campsites on Howe Sound (McKeever 2014). Paddling activities are popular around Keats Island, Bowen Island and the Pasley Islands, as well as from Porteau Cove to Anvil Island or the Defence Islands (Sunshine Kayaking 2014a, pers. comm.; Sewell's Marina 2014, pers. comm.; Squamish Yacht Club 2014, pers. comm.).

The Sea to Sky Trail Society (which includes Trans Canada Trail, Trails BC, BC Parks, Recreation Sites and Trails BC, and the communities of Squamish, Pemberton and Whistler), proposes to establish seven new seaside recreation sites in Howe Sound as part of the Sea to Sky Marine Trails concept plan. These sites would provide a rustic, camping experience for sea kayaking (McKeever 2014; Recreation Sites and Trails BC 2014, pers. comm.). The Sea to Sky Marine Trails would be an addition to the current land-based Sea to Sky trail running between Squamish and Pemberton. The proposed sites are waiting to be legally designated, and any identified site improvements would take place after approval is provided (Recreation Sites and Trails BC 2014, pers. comm.). The LSA is located between proposed sites at Thornbrough Channel and Bain Creek (Table 7.3-5).

Table 7.3-5: Proposed Sea to Sky Marine Trails Recreational Sites in the RSA

Site Name	Description
Thornbrough Channel - REC169898	This site is located on the west shore of Howe Sound, north of Gambier Island and to the east of the LSA. Limited potential to develop camping sites due to steep upland, and will likely only have one or two camp sites.
Bain Creek - REC169900	Bain Creek Recreation site is located on the west shore of Howe Sound between Port Mellon and the LSA. It features a rocky approach with good upland for clearing camping sites.
Latona Passage - REC169902	This site is located on the north-west shore of Gambier Island in the sheltered McEnry Cove. Good potential to develop camping sites in the upland.
Ramillies Channel - REC169906	Located on the eastern shore of Gambier Island this is the most centrally located site. Of all the sites, this is expected to be one of the most popular.
Islet View - REC169896	The beach is rough but there is an excellent cleared area for camping and is the most accessible site from Porteau Cove.
Zorro Bay - REC169894	Located on the western shore of Howe Sound this site includes the public wharf at Zorro Bay and the shoreline for approximately 300 metres to the north. Good opportunities to clear camp sites in the upland.
Friday Night - REC169890	The purpose of this site is to create an entry to the Sea to Sky Marine Trail network from the Squamish access point. It is within an hour or so of paddling time from Squamish.

Source: McKeever 2014

7.3.4.6.1.3 Youth Camps

A youth camp was not identified in the LSA, however there are seven youth camps located within the RSA in total (Volume 4, Part G – Section 22.0: Appendix 7.3-1).

Camp Latona is in the RSA and the closest camp to the Property, located at the northern end of Gambier Island and approximately 3.2 km from the Proposed Project (Figure 7.3-7). Camp Latona, Camp Potlatch, Daybreak Point Bible Camp and Camp Sunrise in the RSA reportedly use Thornbrough Channel for water based activities such as water skiing and canoeing (Squamish Yacht Club 2014, pers. comm.; Burrard Yacht Club 2014, pers. comm.; Gambier Island Local Trust 2014, pers. comm.).

Members of Camp Fircom (located on the southern end of Gambier Island) will hike trails up towards the northern end of the Island (Gambier Island Local Trust 2014, pers. comm.). Both Camp Elphinstone and Camp Fircom are used by the Sea to Sky Outdoor School, which provides sustainability learning programs to over 2,000 students and adults annually (Lions Gate Consulting 2013).

7.3.4.6.1.4 Diving

Diving was not identified within the LSA, however a number of dive sites are found within the RSA.

The BCMCA identifies several dive sites clustered around Porteau Cove Park, Anvil Island, and West Vancouver in the RSA (Figure 7.3-7). Britannia Beach, Porteau Cove, and Pam Rocks provide other diving opportunities (Tourism Squamish n.d.; Vancouver Scuba Diving School 2014). There are two separate, unmarked dive sites at Britannia Beach; one site with three shallow wrecks and the other along an ancient retaining wall known as the Britannia Wall (Vancouver Scuba Diving School 2014).

The dive site at Porteau Cove was established in 1982 as the first underwater park in BC, complete with a man-made reef, a cliff dive and three sunken ships. Pam Rocks is well known for its large marine species, such as the three foot plumose anemones. Both of these areas are suitable for divers of all levels (Tourism Squamish n.d.). Other identified sites include Worlcombe Island, Bowyer Island, Gambier Island, Bowen Island, Passage Island, Kelvin Grove (near Lions Bay) and Lookout Point (near Horseshoe Bay) as diving sites (BC Scuba 2014; Sea Dragon Charters 2014).

7.3.4.6.1.5 Provincial Parks and Nature Reserves

No municipal, regional, provincial or federal parks or protected areas are located within the LSA.

Several provincial parks and other protected areas are located within the RSA (Volume 4, Part G – Section 22.0: Appendix 7.3-J). Cypress Park is the most heavily used park in the RSA at over a million day user visits per year. Porteau Cove Park had the next highest level of use, varying around 400,000 visitors per year, including day users, campers and boaters (Volume 4, Part G – Section 22.0: Appendix 7.3-J). Murrin Provincial Park was the third most heavily visited park with just over 100,000 users per year. When combined, these parks represent close to 10% of the total park attendance in BC between 2010 and 2012, with Cypress Park alone represents over 7% (BC Parks 2012).

The Islands Trust Fund was established in 1990 by the Province of BC to protect land in nature reserves within the Islands Trust Area, which includes islands stretching from Denman Island to South Pender. The Islands Trust Fund protects land through voluntary measures, with donated land and money owned and managed by the land trust. While the primary purpose of the Island Trust Fund is conservation, some of the reserves do provide light recreational activities, such as hiking and nature appreciation (Island Trust Fund 2013). None of the Island Trust Fund reserves are located within the LSA. Allowable activities in the reserves within the RSA are outlined in Volume 4, Part G – Section 22.0: Appendix 7.3-J. See Figure 7.3-7 for the location of parks and reserves in the RSA.

7.3.4.6.1.6 Recreational Features Inventory

The Recreational Features Inventory (RFI) identifies areas of land and water encircling a recreation feature or combination of features that support, or have the potential to support, one or more recreation activities. These areas are rated for their significance or importance to recreation and for their sensitivity to alteration¹³.

Within the LSA, the Proposed Project footprint is located in an area rated 'Moderate Significance' and 'Low Sensitivity' (Figure 7.3-8). On the northern side of McNab Creek, a portion of the LSA is rated as 'High Significance' and 'Low Sensitivity'.

There are only two areas within the RSA with a rating of 'High Significance' and 'High Sensitivity'; they are located near the Town of Gibsons and on the southeast end of Gambier Island. The closest area to the LSA rated as 'High Significance' and 'Moderate Sensitivity' was Mt. Wrottesley, followed by sites on Gambier Island (Figure 7.3-8).

7.3.4.6.2 Tourism

Outdoor activities are a primary tourism draw in the Sunshine Coast, followed by arts and culture activities such as the annuals arts crawl and writer's festival in Sechelt (Gibsons Chamber of Commerce 2014, pers. comm.). A 2007 tourism study for the Sunshine Coast found that the most popular primary activity for overnight non-business travellers were water (42%) or land (28%) based recreational activities, and over a quarter of all respondents participated in land-based recreational activities such as biking, camping, cycling, golf, hiking, walking and general outdoor activities (Tourism British Columbia 2009). Peak season for the tourism industry in Howe Sound occurs between April and October (Sewell's Marine 2014, pers. comm.; Sunshine Kayaking 2014a, pers. comm.).

Tourism is an important economic opportunity for Gibsons and Howe Sound due to its proximity to Vancouver, but its full potential has not been realized. Tourism activity appears to be growing, as the Gibsons Visitor centre saw 11,000 visitors in 2013, an increase of 2.0% from 2012 and 37.5% from 2003 (Gibsons Chamber of Commerce 2014, pers. comm.). In 2007, daily expenditures by tourists were approximately \$153 per party, although there were significant differences in daily expenditures based on traveller origin, purpose of trip, primary accommodation, party size and age (Tourism British Columbia 2009).

7.3.4.6.2.1 Motorized Boat Tours

Sewell's Landing Inc. (Sewell's Marina) is a large marine-based tour operator based at Horseshoe Bay marina in the RSA, and has a fleet of 38 rental boats and three tour boats. Tours are generally conducted using two boats, each with a capacity of 12 people, although three boats will be used when there is demand.

During peak season, Sewell's Marina runs three scheduled tours per day, each of which is two hours long (Sewell's Marina n.d.). The Sea Safari tours, leaving twice per day, travel up the eastern side of Howe Sound, coming within or close to the LSA, and then return back down the eastern side of Gambier Island, through Collingwood Channel and back to Horseshoe Bay. A new tour route for 2014, Sea Safari Deep Fjord runs once per day and heads along

¹³ RFI significance is rated subjectively on a scale of low importance to very high importance. Used to indicate the relative importance of an area to recreation, the rating is based on different factors, including uniqueness, scarcity, scenic value, current recreational use, potential to attract recreational use and accessibility. RFI sensitivity is also rated subjectively on a scale of low to high, and is used to show the relative vulnerability of the recreation features to potential alterations caused by resource development. A higher the sensitivity indicated a greater likelihood a given alteration may negatively impact the recreation resource and/or cause public concern.

the eastern side of Gambier Island up to the Defence Islands, and then crosses to Britannia Beach where it travels back to Horseshoe Bay along the eastern coastline of Howe Sound. In addition to Sea Safari tours, Sewell's Marina also organizes marine-based scavenger hunts (Sea Quest) within the eastern side of Howe Sound for large groups. Most boat rentals are estimated to stay on the eastern side of Howe Sound between Point Atkins and Anvil Island approximately 60% of the time (Sewell's Marina 2014, pers. comm.).

7.3.4.6.2.2 Paddling and Sailing Tours

Sunshine Kayaking established in 1991, is based in Gibsons Landing Harbour and operates primarily in the southern portion of the RSA. Services offered include kayaking tours and rentals, with a rental fleet of approximately 30 kayaks (plus 15 in inventory for sale) and one sail boat. Sunshine Kayaking sees approximately 2,000 clients for kayak rentals and 500 clients for sailing and kayaking tours annually (between 2 and 4 clients per tour). Approximately 50 guided kayak tours are conducted per year. Sailing and kayaking tours vary from half day tours, full day tours and multiday tours and also include full moon paddles and evening tours. Shorter length kayak tours usually travel around Keats Island, while multiday tours will often travel around Gambier Island (Sunshine Kayaking 2014a, pers. comm.). The beach at McNab Creek is sometimes used by the kayaking tours headed around Gambier Island, but the frequency of this use is unknown (Sunshine Kayaking 2014a, pers. comm.).

7.3.4.6.2.3 Guided Fishing

Sunshine Kayaking conducts approximately 50 fishing charters per year, with a maximum of four anglers per trip (Sunshine Kayaking 2014a, pers. comm.; Sunshine Kayaking 2014b). Sunshine Kayaking estimated that the marine waters of the LSA were used for fishing approximately 20% of the time, and that the area is used primarily when the weather is fair as rain will wash sedimentation from the creek into Howe Sound, resulting in murky waters that hinder fishing opportunities (Sunshine Kayaking 2014a, pers. comm.).

Sewell's Marina runs close to 200 fishing charters per month during peak season in Howe Sound. Fishing charters are owner-operated, with Sewell's Marina providing administrative and advertising support. While the guided fishing fleet has decreased by one boat over the last ten years, it was reported that the remaining boats are busy with a steady stream of clients during the salmon fishing seasons. Key guided fishing areas within Howe Sound include Hole in the Wall (near Horseshoe Bay), Lions Bay, Collingwood Channel, Point Atkinson, Hutt Island, Tunstall Bay, Keats Island, Gambier Island, Thornbrough Channel, the Grace Islands, southern end of Bowen Island, and Gower Point (Sewell's Marina 2014, pers. comm., Sunshine Kayaking 2014a, pers. comm.).

Key fishing areas change from year to year, and in addition to Howe Sound, Sewell's Marina-based charters travel to the Strait of Georgia along the Sunshine Coast, Capilano River, Fraser River and Gabriola Island. Approximately 85% of guided fishing associated with Sewell's Marina's was estimated as taking place at least partly in Howe Sound waters (Sewell's Marina 2014, pers. comm.).

7.3.4.6.3 Land Based Tourism

Land-based tourism was not identified as occurring within the LSA, however it occurs within the RSA.

Tourists make day trips to Gambier Island for hiking and outdoor recreational activities on Gambier Island but there is no tourism infrastructure on the island. Bowen Island offers a range of tourism accommodation and features, including restaurants, cultural activities, and hiking and biking opportunities. Gibsons is also a popular tourism location, and offers similar land-based activities as Bowen Island. The Sea-to-Sky corridor is also important for tourists travelling between Vancouver and Whistler, and provides several view-point opportunities along Highway 99.

7.3.4.7 Mineral and Industrial Development

Metal mining and the extraction of aggregate resources have a long history in Howe Sound and their development have been an important part of the regional economy (Environment and Land Use Committee Secretariat 1980). Rock quarrying in the McNab Valley began in 1941 through the establishment of a small rock quarry near the river mouth to supply material for the construction of logging roads. AJB Investments Ltd (AJB), a division of the Surespan Group of Companies, owned the Property between 2004 and 2006, and sought the development of a sand and gravel pit in the lower portions of the Property. Canadian National Investments (CNI) purchased the site in 2006 and undertook preliminary planning for a rail depot, deep-sea container port, along with a sand and gravel quarry on the Property. These project proposals did not proceed beyond the planning stage. On April 4, 2008, 0819042 BC Ltd, BURNCO's sister company, purchased the Property.

Currently there are no active mines within the LSA. BURNCO holds all mineral tenures and mining claims on the entire Property, and no other mineral tenures overlap with the LSA.

Not including the mineral tenures on the Property, there are 12 mineral claims within the RSA as shown in Figure 7.3-9 and Table 7.3-6. Kelly Brent Funk holds a mineral claim directly adjacent to a BURNCO claim, but no other claims are close to the LSA.

Table 7.3-6: Mineral Leases, Claims and Tenures within the RSA

Owner	Tenure Number	Distance from Project (km)	Land Area (ha)
BURNCO Rock Products Ltd.	697726	0.00	690.9
BURNCO Rock Products Ltd.	831580	0.00	21.0
Funk, Kelly Brent	882290	1.62	21.0
Durfeld, Rudolf Mateo	882290	4.38	114.7
Durfeld, Rudolf Mateo	258265	4.70	25.0
Durfeld, Rudolf Mateo	258264	5.18	25.0
Durfeld, Rudolf Mateo	258252	5.32	275.0
Houle, Brian Leon	258266	7.31	21.0
Tamburri, Christopher Thomas	1018691	11.22	41.8
Jervis Explorations Inc.	919169	14.25	188.1
McCinnis, Grant Lewis	1014631	14.56	66.0
Tamburri, Christopher Thomas	373666	14.57	125.4
McCinnis, Grant Lewis	922129	15.13	20.9
McCinnis, Grant Lewis	1015051	15.39	62.7

An application for a waterpower licence of occupation by the Box Canyon Hydroelectric Project¹⁴ overlaps with the northern end of the LSA (Figure 7.3-10). The Box Canyon Hydroelectric Project has been approved and will include a diversion weir and intake structure on each of three tributaries to McNab Creek (Box Canyon Creek, Marty Creek, and Cascara Creek), as well as several minor tributary diversions, a water conveyance system, and a tailrace conveying water back to McNab Creek (Sunshine Coast Regional District 2013; Box Canyon Hydro Corp. and Sound Energy Inc. 2012). The powerhouse will release into McNab Creek at a point upstream of the junction between Box Canyon Creek and McNab Creek (Box Canyon Hydro Project in association with FSCI Biological Consultants 2013). Box Canyon Hydro Corporation has a statutory right-of-way across the Property for a transmission line and is permitted to access the Property as required. Figure 7.3-10 shows the water licences nearest to the Proposed Project Area, including those referred to in Section 7.3.4.5.2.1.1.

A BC Hydro 138kV transmission line, constructed in 1965, also runs across the southern end of the Property for approximately 2 km. There are currently no access agreements with BC Hydro, but BURNCO does accommodate access to the existing transmission line right-of way.

A utility right-of-way, which is part of an existing FortisBC pipeline that services Squamish, Whistler, the Sunshine Coast and Vancouver Island (Figure 7.3-11), is located adjacent to but outside of the LSA. FortisBC is proposing to construct and operate a new pipeline following the existing pipeline route between Metro Vancouver and the former Woodfibre pulp mill site. This project would be operated in parallel with the existing pipeline to increase the overall transmission capacity in order to meet the requirements of the proposed Woodfibre liquefied natural gas (LNG) facility (Fortis BC 2013). The pipeline and LNG facility projects are currently undergoing environmental assessments.

The Woodfibre LNG project, located 13.9 km from the Proposed Project, would include the development and operation of a LNG production, storage and marine carrier LNG transfer facility. The Woodfibre LNG facility would have a production capacity of between 1.5 and 2.1 million tonnes per annum (MMTPA) of LNG, depending on the quantity of gas available for liquefaction from the pipeline.

A water power tenure located near Rainy River (approximately 6.4 km from the Proposed Project) is associated with the proposed Rainy River Hydroelectric Project, a 15 MW run of river generation project in the Rainy River drainage basin. The environmental assessment was terminated on September 24, 2008 because the proponent had withdrawn the Proposed Project (CEAA 2012).

Appendix 7.3-K shows all other major projects with a capital cost of at least \$20 million each that are proposed, planned or underway within the RSA. Of the 19 projects listed, 13 of the projects involve some form of residential development in Vancouver, Squamish or along the Sea to Sky Highway.

7.3.5 Effects Assessment

The following sections summarize the potential effects of the Proposed Project on Non-Traditional Land and Resource Use during the construction, operation, and remediation closure phases.

¹⁴ The SCRD passed a bylaw to rezone the Box Canyon project area to allow for a powerhouse at the site. As well this project has a water licence from the BC Government and a 40 year Electricity Purchase Agreement with BC Hydro. Owned and operated by Elemental Energy, the Box Canyon project started commercial operation in January 2016.

7.3.5.1 Project-VC Interactions

A preliminary evaluation of identified interactions between the various physical works and activities and the selected VCs across all spatial and temporal phases of the Proposed Project is presented in Table 7.3-7: through Table 7.3-10. Potential Project-VC interactions are characterized as:

- Positive, none or negligible, requiring no further consideration; or
- Potential effect requiring further consideration and possibly additional mitigation.

Rationale is provided for all determinations for which there is no or negligible interaction and no further consideration is required.

Effects on land and resource use are largely in response to the totality of the Proposed Project, and not to individual Proposed Project works and activities. As a result, this assessment focuses on Proposed Project phases rather than specific Proposed Project activities. In most cases, effects during construction and operations phases are anticipated to be similar and where this occurs, are discussed together. Decommissioning will have a different effect than construction or operations and is discussed separately. There are four key pathways through which the Proposed Project may interact with land and resource use sub-components:

- **Area** (direct effect) – The Proposed Project could temporarily or permanently change features or resources of a Crown or public area (land or water) and/or rights to use an area. A primary effect of a change in area may be temporary or permanent displacement of activities from an area;
- **Access** (direct effect) – The Proposed Project could result in changes to access to a Crown or public area of land and resource use activity and could interfere with harvesting equipment. The affected Crown or public area could be land or waters and the resources found thereto;
- **Harvest Quantities** (indirect effect) – The Proposed Project could result in effects on harvest levels as a result of Proposed Project-induced changes in sustainability of populations of harvested wildlife, fish and seafood species; and
- **Quality of Environmental Setting** (indirect effect) – The Proposed Project could result in changes in environmental conditions (noise levels, air quality, and visual resources) which affect the quality of recreational and tourism experiences and ultimately affect use and visitation levels.

Table 7.3-7: Project-VC Interaction Table: Forestry

Project Activities	Description	Forestry	
		Potential Interaction (See Notes)	Potential Effect / Rationale for Exclusion
Construction			
All Proposed Project construction activities and works	All marine and land based activities during construction	○	Access through the Property is and would continue to be allowed for forestry purposes during construction. The amount of private land and associated timber temporarily withdrawn from forestry use would have negligible effects on the regional forestry industry. Forestry activities are assumed to resume on the Property after closure is complete. Therefore, Proposed Project effects are not anticipated and forestry is not carried forward.
Operations			
All Proposed Project operation activities and works	All marine and land based activities during operations	○	Access through the Property is and would continue to be allowed for forestry purposes during operations. The amount of private land and associated timber temporarily withdrawn from forestry use would have negligible effects on the regional forestry industry. Forestry activities are assumed to resume on the Property after closure is complete. Therefore, Proposed Project effects are not anticipated and forestry is not carried forward.
Reclamation and Closure			
All Proposed Project reclamation and closure activities and works	All marine and land based activities during reclamation and closure	○	Access through the Property is and will continue to be allowed for forestry purposes. Forestry activities are assumed to resume on the Property after closure is complete. Therefore, Proposed Project effects are not anticipated and forestry is not carried forward.

Notes:

- = Potential effect of Proposed Project activity on VC is positive, none or negligible; no further consideration warranted.
- = Potential effect of Proposed Project activity on VC that may require mitigation/benefit enhancement; warrants further consideration

Table 7.3-8: Project-VC Interaction Table: Harvesting Wildlife and Fish

Project Activities	Description	Harvesting Wildlife and Fish	
		Potential Interaction (See Notes)	Potential Effect / Rationale for Exclusion
Construction			
All Proposed Project Construction activities and works	All marine and land based activities during construction	●	<p>No displacement or other effects on freshwater fishing or recreational hunting is anticipated because the primary access to the LSA is through the Property, and public access has never been permitted. No effect is anticipated and is not carried forward.</p> <p>Proposed Project construction would prevent saltwater fishing activities around the jetty. As the jetty is located within an existing log boom tenure and fishing and shellfish harvesting is concentrated on the eastern side of the LSA, generally in front of the mouth of McNab Creek, this effect is considered to be negligible and not carried forward.</p> <p>Displacement on the water would also occur on an intermittent basis as a result of Proposed Project-related vessel traffic, which would require users to alter direction and/or speed when navigating at the same time as water taxis or barges (Volume 2, Part B - Section 7.2). These navigational challenges are present in the LSA due to forestry activity. BURNCO will develop and implement an Access Management Plan which will communicate relevant access restrictions for public safety and security.¹⁵ Any resulting effects on angling and fishing activities due to potential interactions of angler vessels and equipment and construction-associated vessels are not detectable or not measureable, so potential effects of the Proposed Project on access matters in the construction phase are determined to be negligible.</p> <p>Guide outfitter will continue to be able to access the LSA through forestry roads from Salmon Inlet. No reported harvest has been recorded on the trapline overlapping the LSA. Hunting and trapping on the Property will be prohibited. Displacement and access effects on guide outfitting and trapping are considered to be negligible and not carried forward.</p> <p>The effects of the Proposed Project on Roosevelt elk and grizzly bear are not expected to exceed ecological thresholds and compromise the resilience of regional populations (Volume 2, Part B - Section 5.3). As a result, the effect on harvest quantities is considered negligible and is not carried forward.</p> <p>The effects on salmon in the marine environment were rated negligible, as potential effects were deemed not measurable or detectable (see Volume 2, Part B - Section 5.2). The effects</p>

¹⁵ As part of this Access Management Plan, BURNCO will develop and implement strategies, best management practices and guidelines to avoid and minimise Project-related disruption of marine-based recreational activities during construction and operations. As part of the development of this plan, BURNCO will consult with key marine user groups (e.g., McNab Strata, yacht clubs, camps, and kayaking operators) to identify the routes of all Proposed Project-associated marine traffic (e.g., ferries and water taxis) and discuss strategies to manage the interaction of Project vessel traffic with recreational and tourism areas during the high season months.

Project Activities	Description	Harvesting Wildlife and Fish	
		Potential Interaction (See Notes)	Potential Effect / Rationale for Exclusion
			<p>on freshwater habitat for salmon are anticipated to be negligible, with more new and notably improved fish habitat (instream and riparian) being created than will than will be lost or disrupted by the Proposed Project (see Volume 2, Part B - Section 5.1). As such potential effects on fishing and seafood harvesting quantities were considered to be negligible and this effect is not carried forward.</p> <p>Proposed Project would affect quality of recreational saltwater fishing and seafood experiences through noise, air, and visual changes that affect the quality of the environmental setting (Volume 2, Part B - Sections 5.7, 7.4 and 9.2). This effect is carried forward.</p>
Operations			
All Proposed Project operation activities and works	All marine and land based activities during operations	●	<p>No displacement or other effects on freshwater fishing or recreational hunting is anticipated because the primary access to the LSA is through the Property, and public access has never been permitted. No effect is anticipated and is not carried forward.</p> <p>Proposed Project construction would prevent saltwater fishing activities around the jetty. As the jetty is located within an existing log boom tenure and fishing and shellfish harvesting is concentrated on the eastern side of the LSA, this effect is considered to be negligible and not carried forward.</p> <p>Displacement on the water would also occur on an intermittent basis as a result of Proposed Project-related vessel traffic, which would require users to alter direction and/or speed when navigating at the same time as water taxis or barges (Volume 2, Part B - Section 7.2). These navigational challenges are present in the LSA due to forestry activity. Any resulting effects on angling and fishing activities due to potential interactions of angler vessels and equipment and operations-associated vessels are not detectable or not measureable, so potential effects of the Proposed Project on access matters in the operations phase are determined to be negligible.</p> <p>The guide outfitter will continue to be able to access the LSA through forestry roads from Salmon Inlet. No reported harvest has been recorded on the trapline overlapping the LSA. Hunting and trapping on the Property will be prohibited. Displacement and access effects on guide outfitting and trapping are considered to be negligible and not carried forward.</p>

Project Activities	Description	Harvesting Wildlife and Fish	
		Potential Interaction (See Notes)	Potential Effect / Rationale for Exclusion
			<p>The effects of the Proposed Project on Roosevelt elk and grizzly bear are not expected to exceed ecological thresholds and compromise the resilience of regional populations (Volume 2, Part B - Section 5.3). As a result, the effect on harvest quantities is considered negligible and is not carried forward.</p> <p>The effects on salmon in the marine environment were rated negligible, as potential effects were deemed not measurable or detectable (see Volume 2, Part B - Section 5.2). The effects on freshwater habitat for salmon are anticipated to be negligible, with more new and notably improved fish habitat (instream and riparian) being created than will be lost or disrupted by the Proposed Project (see Volume 2, Part B - Section 5.1). As such potential effects on fishing and seafood harvesting quantities were considered to be negligible and this effect is not carried forward.</p> <p>Proposed Project would affect quality of recreational saltwater fishing and seafood experiences through noise, air, and visual changes that affect quality of environmental setting (Sections 5.7, 7.4 and 9.2). This effect is carried forward.</p>
Reclamation and Closure			
All Proposed Project reclamation and closure activities and works	All marine and land based activities during reclamation and closure	○	All Proposed Project effects identified in construction and operations would cease. Over time, reclamation is expected to return wildlife habitat to at least a capability equivalent to baseline conditions. Therefore, effects during reclamation are not carried forward.

Notes:

- = Potential effect of Proposed Project activity on VC is positive, none or negligible; no further consideration warranted.
- = Potential effect of Proposed Project activity on VC that may require mitigation/benefit enhancement; warrants further consideration

Table 7.3-9: Project-VC Interaction Table: Recreation and Tourism

Project Activities	Description	Recreation and Tourism	
		Potential Interaction (See Notes)	Potential Effect / Rationale for Exclusion
Construction			
All Proposed Project construction activities and works	All marine and land based activities during construction	●	<p>As public use of and access to the Property has been prohibited, no displacement of recreational and tourism activity from the Property is anticipated.</p> <p>Proposed Project construction would prevent marine-based recreational and tourism activities around the jetty. As the jetty is located within an existing log boom tenure and recreational and tourism activities are concentrated on the eastern side of the LSA, this effect is considered to be negligible and not carried forward.</p> <p>Displacement on the water would also occur on an intermittent basis as a result of Proposed Project-related vessel traffic, which would require users to alter direction and/or speed when navigating at the same time as water taxis or barges (Volume 2, Part B - Section 7.2). These navigational challenges are present in the LSA due to forestry activity. Any resulting effects on tourism and recreation activities due to potential interactions of tourism and recreation vessels and equipment and construction-associated vessels are not detectable or not measureable, so potential effects of the Proposed Project on access matters in the construction phase are determined to be negligible.</p> <p>Concerns regarding the impact of wake from Proposed Project-related barge traffic on docks and vessels at the yacht clubs have been raised. However, wake resulting from Proposed Project-related vessels are anticipated to have negligible effects on community resources such as marinas, boats and docks. As a result, this effect is not carried forward.</p> <p>Proposed Project would affect quality of recreational and tourism experiences through noise, air and visual changes that affect quality of environmental setting (Volume 2, Part B - Sections 5.7, 7.4 and 9.2). This effect is carried forward.</p>
Operations			
All Proposed Project operation activities and works	All marine and land based activities during operations	●	<p>As public use of and access to the Property has been prohibited, no displacement of recreational and tourism activity from the Property is anticipated.</p> <p>Proposed Project operations would prevent marine-based recreational and tourism activities around the jetty. As the jetty is located within an existing log boom tenure and recreational and tourism activities are concentrated on the eastern side of the LSA, this effect is considered to be negligible and not carried forward.</p>

Project Activities	Description	Recreation and Tourism	
		Potential Interaction (See Notes)	Potential Effect / Rationale for Exclusion
			<p>Displacement on the water would also occur on an intermittent basis as a result of Proposed Project-related vessel traffic, which would require users to alter direction and/or speed when navigating at the same time as water taxis or barges (Volume 2, Part B - Section 7.2). These navigational challenges are present in the LSA due to forestry activity. Any resulting effects on tourism and recreation activities due to potential interactions of tourism and recreation vessels and equipment and operations-associated vessels are not detectable or not measureable, so potential effects of the Proposed Project on access matters in the operations phase are determined to be negligible.</p> <p>Concerns regarding the impact of wake from Proposed Project-related barge traffic on docks and vessels at the yacht clubs have been raised. However, wake resulting from Project-related vessels are anticipated to have negligible effects on community resources such as marinas, boats and docks. As a result, this potential effect is not carried forward.</p> <p>Proposed Project would affect quality of recreational and tourism experiences through noise, air and visual changes that affect quality of environmental setting (Sections 5.7, 7.4 and 9.2). This effect is carried forward.</p>
Reclamation and Closure			
All Proposed Project reclamation and closure activities and works	All marine and land based activities during reclamation and closure	○	All Proposed Project effects identified in construction and operations would cease. Reclamation during decommissioning would have beneficial effects on recreational and tourism activities. Therefore, effects during reclamation are not carried forward.

Notes:

- = Potential effect of Proposed Project activity on VC is positive, none or negligible; no further consideration warranted.
- = Potential effect of Proposed Project activity on VC that may require mitigation/benefit enhancement; warrants further consideration

Table 7.3-10: Project-VC Interaction Table: Mineral and Industrial Development

Project Activities	Description	Mineral and Industrial Development	
		Potential Interaction (See Notes)	Potential Effect / Rationale for Exclusion
Construction			
All Proposed Project construction activities and works	All marine and land based activities during construction	○	Proponent holds all mineral tenures and mining claims within the Property, and the Proposed Project would have a positive effect on mining activity. No negative effect is identified on mineral development. Therefore effects on mineral development are not carried forward. Access through the Property is and will continue to be allowed for industrial users, such as BC Hydro, Fortis BC, and Box Canyon. Therefore, Proposed Project effects are not anticipated and effects on industrial uses are not carried forward.
Operations			
All Proposed Project operation activities and works	All marine and land based activities during operations	○	Proponent holds all mineral tenures and mining claims within the Property, and the Proposed Project would have a positive effect on mining activity. No negative effect is identified on mineral development. Therefore effects on mineral development are not carried forward.
Reclamation and Closure			
All Proposed Project reclamation and closure activities and works	All marine and land based activities during reclamation and closure	○	Reclamation and closure will cease gravel production. Effect on mineral development is neutral. Access through the Property is and will continue to be allowed for other mineral and industrial users, such as BC Hydro, Fortis BC, and Box Canyon.

Notes:

○ = Potential effect of Proposed Project activity on VC is positive, none or negligible; no further consideration warranted.

● = Potential effect of Proposed Project activity on VC that may require mitigation/benefit enhancement; warrants further consideration

7.3.5.2 Potential Project-Related Effects

7.3.5.2.1 Harvesting Fish and Wildlife

Although Proposed Project construction and operations would prevent saltwater fishing activities around the jetty¹⁶, the jetty would be primarily located within an existing log boom tenure that has been used by forestry operators in the McNab Creek valley. Recreational and commercial marine fishing was reported to be concentrated on the eastern side of the LSA, near the mouth of McNab Creek. Since the jetty area is already used for industrial purposes and the eastern side of the LSA is more heavily used, the displacement effect from the Proposed Project footprint on recreational and commercial marine fishing is considered to be negligible.

Over the construction phase eight barges per year and a daily water taxi service for is anticipated, resulting in a total of 32 barge movements and 520 water taxi movements per year. During operations, a total of 380 tug/barge movements per year, for 7.3 per week, are anticipated. Water taxis will continue to operate daily (on average two water taxis to site per day) for a total of 520 movements per year. In the RSA, this would result in a 2.5% increase in large vessel traffic during operations (Volume 2, Part B - Section 7.2). Proposed Project-related vessel traffic would increase the frequency with which commercial and recreational fishers must change speed or direction to avoid collision when traversing the LSA. These navigational challenges are already present in the LSA due to forestry activity. Any resulting effects on angling and fishing activities due to potential interactions of angler and fishing vessels and equipment and Proposed Project-associated vessels are not detectable or not measureable, so potential effects of the Proposed Project on access matters in the construction and operations phase are determined to be negligible.

Salmon are targeted recreationally in the LSA, and for there to be an adverse effect on the availability of salmon that would affect harvesting levels, there would need to be an adverse population-level effect (i.e., productivity). However, all residual effects on salmon in the marine environment were identified to be negligible, such that no measurable effect is predicted, while the effects on freshwater habitat for salmon are anticipated to be negligible, with more new and notably improved fish habitat (instream and riparian) being created than will than will be lost or disrupted by the Proposed Project (see Volume 2, Part B - Section 5.1 and 5.2). Therefore, the adverse effect on salmon harvesting levels is anticipated to be negligible.

Indirect effects on recreational fishing activities include changes in environmental setting, such as changes to noise, air, and visual quality:

- The baseline noise level recorded within the LSA near the McNab Strata was 40 decibels (dBA) without logging and 43 dBA with logging. In year 1 of operations, noise effects generated by the Proposed Project could reach between 50 and 60 dBA on the eastern side of McNab beach and nearby marine waters, and over 60 dBA on the western side. In years 10 and 12, noise on the eastern side is expected to be between 40 and 50 dBA and over 50 dBA on the western side of the LSA. These predicted noise levels reflect barge loading, which requires approximately two to three hours and is anticipated to occur once every day of operation (Volume 2, Part B - Section 9.2)¹⁷.

¹⁶ Signs warning to maintain a distance of 150 m will be posted on the jetty during operations.

¹⁷ A change of approximately 3 dBA to a 5 dBA is considered to be perceptible to the human ear (Minnesota Pollution Control Agency 1999). Fifty dBA is comparable to background noise in a suburban area while 60 dBA is similar to a busy office environment (Cowan 1994).

- The air quality assessment predicts that emission rates from the Proposed Project (when coupled with a background particulate concentration) would exceed ambient air quality objectives for particulate matter near the facility's fence-line. However, model predicted concentrations, coupled with background concentrations, at the McNab Strata (less than 0.37 km from the facility's fence-line) show that particulate matter predicted concentrations do not exceed ambient air quality standards (Volume 2, Part B - Section 5.7).
- The Proposed Project is also anticipated to be partially visible and alter the existing scenic character of the landscape setting, through introduction of industrial structures including the load out jetty, barges, ancillary land-based and marine based infrastructure and security lighting (Volume 2, Part B - Section 7.4).

The change in the quality of the environmental setting of recreational fishing activities is carried forward.

7.3.5.2.2 Recreation and Tourism

Recreational and tourism activity was reported to occur along the shoreline and waters of the LSA, including guided fishing, kayaking, and recreational boating and anchoring. Although Proposed Project construction and operations would prevent recreational and tourism activities around the jetty, the jetty would be primarily located within an existing log boom tenure that has been used by forestry operators in the McNab Creek valley. While both guided and self-directed kayakers would need to traverse around the jetty when travelling through the LSA, guided fishing and recreational boating was identified to be concentrated near the mouth of McNab Creek on the eastern side of the LSA. Since the jetty area is already used for industrial purposes and the eastern side of the LSA is more heavily used, the displacement effect from the Proposed Project footprint on recreation and tourism activities is considered to be negligible.

Proposed Project-related vessel traffic would increase the frequency with which recreation and tourism user groups must change speed or direction to avoid collision when traversing the LSA. These navigational challenges are already present in the LSA due to forestry activity. Any resulting effects on tourism and recreation activities due to potential interactions of tourism and recreation vessels and equipment and Proposed Project -associated vessels are not detectable or not measureable, so potential effects of the Proposed Project on access matters in the construction and operations phase are determined to be negligible.

Indirect effects on recreation and tourism user groups from changes in the environmental setting of their activities in the LSA would be consistent with those outlined for recreational fishing in the above section. The change in the quality of the environmental setting of recreational and tourism activities is carried forward.

7.3.5.3 Mitigation

Mitigation measures are proposed to avoid, minimise, control, restore on-site conditions or offset potential adverse environmental effects to different kinds of land and resource uses. Mitigation measures are any practical means taken to manage potential adverse effects. Mitigation measures can be used alone or in combination to avoid, minimise, or control the potential adverse effects on land and resource use. These measures are described below and summarised in Table 7.3-11.

The mitigation strategy outlined below forms the basis for the commitments that the Proposed Project is making with respect to non-traditional land and resource use. A detailed list of all commitments of the Proposed Project are provided in Volume 3, Part F – Section 19.

Mitigation measures proposed in other sections of the EIS relevant to this assessment include:

- Air Quality (Volume 2, Part B - Section 5.7) includes the establishment of a dust control management, which would detail control measures that must be in place to control fugitive particulates. A continuous air quality and meteorological monitoring program would allow data comparison between pre-construction and construction activities to better determine the impact of the construction activities, while on-site meteorological monitored data may also be used to determine during high wind events when construction activities would be discontinued. Other mitigation during construction and operation include watering exposed areas and spraying of stock piles, use of a wet extraction technique, construction of a Processing Area Dirt Berm to act as a wind barriers, and enclosure of aggregate transfer points, crushers and screens (see Figure 2-3 in Volume 2, Part G – Section 2.0).
- Marine Transport (Volume 2, Part B - Section 7.2) includes the development of a Marine Transport Management Plan, which would include a procedure for marine stakeholders to consult with BURNCO regarding special events such as yacht races, regattas and marine based festivals to ensure that additional passage planning and scheduling can be reviewed. Prior to operations, BURNCO would also consult with stakeholders investigate further passage routing options to avoid busy recreational waters and BC Ferries routes, particularly during the summer months.
- Visual Resources (Volume 2, Part B - Section 7.4) proposes that a minimal amount of vegetation and topsoil be removed during construction and that additional and/or maintenance planting be considered. In addition, the scale and size of infrastructure components and processing area layout would be concentrated to avoid visibility. During operations, natural screening would be maintained and the height of stockpiles kept low to decrease the visibility of extraction and processing activity. The aggregate pit would be shaped where possible, so that the final profile of the opening emulates natural contours and form with the surrounding landscape. Re-contouring and re-vegetating would occur through-out operation phase where possible, including planting of berms and dykes and temporary planting.
- Noise (Volume 2, Part B - Section 9.2) includes scheduling significant noise-causing activities to reduce disruption to nearby residents. During construction, heavy equipment muster points would be established at least 500 m from any receptor and acoustical screening from existing on-site barriers would be used. During operations, the Processing Area Dirt Berm would be constructed to serve as noise screens and dry screens and crusher in the processing plant would be housed in fabric enclosures (see Figure 2-3 in Volume 2, Part G – Section 2.0).

In addition to the above measures, the following measures are also planned and would have mitigative effects on recreation and tourism activities in the LSA:

- Barge movements would occur mostly during weekdays from Monday to Friday, but there may be infrequent movements during weekends depending on the operational requirements of the mine. However, loading of barges during operations would not occur on weekends when peak recreational activity occurs.

- As part of the Marine Transport Management Plan outlined in Marine Transport (Volume 2, Part B - Section 7.2), BURNCO would also develop and implement strategies, best management practices and guidelines to avoid and minimise Proposed Project -related disruption of marine-based recreational activities during construction and operations. As part of the development of this plan, BURNCO would consult with key marine user groups (e.g., McNab Strata, yacht clubs, camps, and kayaking operators) to discuss strategies (including but not limited to routing options) to manage the interaction of Proposed Project vessel traffic with recreational and tourism areas during the high season months.
- BURNCO has also developed a Reclamation and Effective Closure Plan (Volume 4, Part G – Section 22.0: Appendix 4) as part of the EAC Application, and describes the proposed measures and commitments to remove surface facilities and reclaim areas and develop a functional ecosystem. Input on the Reclamation and Effective Closure Plan would be sought from other user groups.

Table 7.3-11: Summary of Potential Effects and Mitigation Measures

Valued Component	Project Phase	Potential Effect	Mitigation Measures	Residual Effect (yes/no)
Harvesting Fish and Wildlife	Construction	Change in Quality of Environmental Setting	<ul style="list-style-type: none"> Measures outlined in noise, air quality, and visual resource sections. Measures outlined in Marine Transport section. 	Yes
	Operations	Change in Quality of Environmental Setting	<ul style="list-style-type: none"> Barges will be loaded only on weekdays. Measures outlined in noise, air quality, and visual resource sections. Measures outlined in Marine Transport section. 	Yes
Outdoor Recreation and Tourism	Construction	Change in Quality of Environmental Setting	<ul style="list-style-type: none"> Measures outlined in noise, air quality, and visual resource sections. Measures outlined in Marine Transport section. 	Yes
	Operations	Change in Quality of Environmental Setting	<ul style="list-style-type: none"> Barges will be loaded only on weekdays. Measures outlined in noise, air quality, and visual resource sections. Measures outlined in Marine Transport section. 	Yes

7.3.5.4 Residual Effects Assessment

Potential Proposed Project-related residual effects have been characterized using the criteria for each VC identified in Table 7.3-3. The characterization of potential residual effects (i.e., following application of appropriate mitigation measures) is described below and presented in Table 7.3-12.

As specified in Table 7.3-11 above, residual effects have been identified with respect to quality of environmental setting for the Harvesting Fish and Wildlife VC and Outdoor Recreation and Tourism VC in the construction and

operation phases. There are no anticipated interactions related to harvesting fish and wildlife and tourism VCs during the reclamation and closure phase.

7.3.5.4.1 Harvesting Fish and Wildlife

7.3.5.4.1.1 Construction and Operations – Change in Quality of Environmental Setting

After mitigation, a residual adverse effect is identified on the quality of environmental setting for recreational harvesting of fish and shellfish due to Proposed Project associated changes in noise, air quality and visual resources (Reference Table 7.3-12). The context of the effect is considered resilient as there have been long-term forestry activities in the LSA and RSA. As a result, recreational fishers and shellfish harvesters who visit the marine waters of the LSA are familiar with forestry's land- and water-based activities and locations and with adjusting their fishing and harvesting activities, including locations and timing, to minimize or avoid interactions and conflicts with forest industry activities and participants. In addition to the marine-based portion of the LSA, recreational fishers can access many other recreation and tourism use areas in the RSA.

Magnitude of the effect is rated moderate as the Proposed Project would be incremental compared to forestry activities occurring in the LSA, including on the Property, which generate industrial noises and visual disturbances. Changes are considered to be within historical norms.

Extent is local, as the primary driver of the effect is construction and operations of the conveyor and jetty. Duration is medium term as the effects would continue throughout the construction and operations phases. These effects are reversible, however.

While noise effects associated with the Proposed Project would be variable throughout the construction and operations phases, frequency of the change in quality of environmental setting is rated continuous as Proposed Project associated visual effects would be ongoing.

Likelihood of this effect is high because confidence levels in Proposed Project associated changes in noise, air quality and visual resources are all rated high (Table 7.3-14).

7.3.5.4.2 Recreation and Tourism

7.3.5.4.2.1 Construction and Operations – Change in Quality of Environmental Setting

After mitigation, a residual adverse effect is identified on the quality of environmental setting for tourism and other recreational activities due to Proposed Project associated changes in noise, air quality and visual resources (Table 7.3-13). The context of the effect is considered resilient as there have been long-term forestry activities in the LSA and RSA. As a result, recreationists and tourism operators who visit the marine waters of the LSA are familiar with forestry's land- and water-based activities and locations and with adjusting their recreation and tourism activities, including locations and timing, to minimize or avoid interactions and conflicts with forest industry activities and participants. In addition to the marine-based portion of the LSA, recreationists and tourists can access many other recreation and tourism use areas in the RSA.

Magnitude of the effect is rated moderate as the Proposed Project would be incremental compared to forestry activities occurring in the LSA, including on the Property, which generate industrial noises and visual disturbances. Changes are considered to be within historical norms.

Extent is local, as the primary driver of the effect is construction and operations of the conveyor and jetty. Duration is medium term as the effects would continue throughout the construction and operations phases. These effects are fully reversible, however.

While noise effects associated with the Proposed Project would be variable throughout the construction and operations phases, frequency of the change in quality of environmental setting is rated continuous as Proposed Project associated visual effects would be ongoing.

Likelihood of this effect is high because confidence levels in Proposed Project associated changes in noise, air quality and visual resources are all rated as either high or certain (Table 7.3-14).

Table 7.3-12: Characterization of Potential Project-Related Residual Effects: Harvesting Fish and Wildlife

Project-Related Effect	Residual Effect Assessment Criteria					
	Context	Magnitude	Extent	Duration	Reversibility	Frequency
Construction						
Change in Quality of Environmental Setting	R	M	L	MT	FR	C
Operations						
Change in Quality of Environmental Setting	R	M	L	MT	FR	C
Reclamation and Closure						
None						

Table 7.3-13: Characterization of Potential Project-Related Residual Effects: Recreation and Tourism

Project-Related Effect	Residual Effect Assessment Criteria					
	Context	Magnitude	Extent	Duration	Reversibility	Frequency
Construction						
Change in Quality of Environmental Setting	R	M	L	MT	FR	C
Operations						
Change in Quality of Environmental Setting	R	M	L	MT	FR	C
Reclamation and Closure						
None						

Assessment Criteria:
 Context: R – Resilient, MR – Moderately Resilient; S – Sensitive;
 Magnitude: N – Negligible, L – Low, M – Moderate, H – High;
 Geographic Extent: L – Local, R – Regional;
 Duration: ST – Short-term, MT – Medium-term, LT – Long-term;
 Reversibility: FR – Fully Reversible, PR - Partially Reversible, IR – Irreversible;
 Frequency: I- Infrequent; F – Frequent, C - Continuous

Table 7.3-14: Likelihood of Occurrence of Potential Residual Effects: Non-Traditional Land and Resource Use

VC	Residual Effect	Likelihood	Rationale
Construction			
Harvesting Fish and Wildlife	Change in Quality of Environmental Setting	High	Reflects the likelihood for the air quality (high), noise (high) and visual resources (high) disciplines.
Recreation and Tourism	Change in Quality of Environmental Setting	High	Reflects the likelihood for the air quality (high), noise (high) and visual resources (high) disciplines.
Operations			
Harvesting Fish and Wildlife	Change in Quality of Environmental Setting	High	Reflects the likelihood for the air quality (high), noise (high) and visual resources (high) disciplines
Recreation and Tourism	Change in Quality of Environmental Setting	High	Reflects the likelihood for the air quality (high), noise (high) and visual resources (high) disciplines.
Reclamation and Closure			
None			

7.3.5.5 Significance of Residual Effects

The significance of potential residual adverse effects will be determined for each VC based on the residual effects criteria and the likelihood of a potential residual effect occurring, a review of background information and available field study results, consultation with government agencies, First Nations, and other experts, and professional judgement. The level of each residual effect has been rated as negligible-not significant, not significant, or significant, as follows:

- **Negligible-Not Significant:** Effects determined to be negligible are those that are generally not detectable. Negligible effects are not carried forward to the residual effects characterisation or significance section or the cumulative effects assessment;
- **Not significant:** An adverse effect that is greater than negligible and that does not meet the definition of significant. Not-significant effects are carried forward to the cumulative effects assessment; or
- **Significant:** An adverse effect of high magnitude that occurs over the long-term in a context where the local area and its resources are deemed to be not resilient. Significant effects are carried forward to the cumulative effects assessment.

As per the ratings outlined in Section 7.3.5.4 and the above definition of significance, the changes in quality of environmental setting for each of the Harvesting Fish and Wildlife VC and Recreation and Tourism VC were rated as not significant after mitigation because these adverse Project residual effects would be perceptible but within historic norms (moderate magnitude) and would occur within a resilient context. The adverse changes in quality of environmental setting for the Harvesting Fish and Wildlife VC and Recreation and Tourism VC are seen as likely to occur and to occur over the medium-term. A summary of significance determinations is presented in Table 7.3-15.

Table 7.3-15: Significance of Potential Residual Effects: Non-Traditional Land and Resource Use

VC	Residual Effect	Significance	Rationale
Construction			
Harvesting Fish and Wildlife	Change in Quality of Environmental Setting	Not-significant	Magnitude of effect is considered moderate and the duration is medium-term.
Recreation and Tourism	Change in Quality of Environmental Setting	Not-significant	Magnitude of effect is considered moderate and the duration is medium-term.
Operations			
Harvesting Fish and Wildlife	Change in Quality of Environmental Setting	Not-significant	Magnitude of effect is considered moderate and the duration is medium-term.
Recreation and Tourism	Change in Quality of Environmental Setting	Not-significant	Magnitude of effect is considered moderate and the duration is medium-term.
Reclamation and Closure			
None			

7.3.5.6 Level of Confidence

The level of confidence in the prediction of the residual effects assessment for each VC is based on professional judgement and effectiveness of mitigation and is rated as either High, Moderate, or Low.

The predictions of the level of confidence in the assessments of the quality of environmental setting for the Harvesting Fish and Wildlife VC and Recreation and Tourism VC were informed by the level of confidence predictions for the assessments reported in Volume 2, Part B – Section 5.7 Air Quality, Section 7.4 Visual Resources and Section 9.2 Noise (as outlined in Table 7.3-16). To be conservative, the lowest confidence rating across these three discipline areas was used as the basis for the confidence rating for the residual effects assessment for quality of environmental setting for the Harvesting Fish and Wildlife VC and Recreation and Tourism VC.

Table 7.3-16: Level of Confidence in Potential Residual Effect Predictions: Non-Traditional Land and Resource Use

VC	Residual Effect	Level of Confidence (LOC)	Rationale
Construction			
Harvesting Fish and Wildlife	Change in Quality of Environmental Setting	Moderate	Reflects the LOC for the air (bounded by operational effects), noise (High) and visual (Moderate) disciplines.
Recreation and Tourism	Change in Quality of Environmental Setting	Moderate	Reflects the LOC for the air (bounded by operational effects), noise (High) and visual (Moderate) disciplines.
Operations			
Harvesting Fish and Wildlife	Change in Quality of Environmental Setting	High	Reflects the LOC for the air (High), noise (High) and visual (High) disciplines.
Recreation and Tourism	Change in Quality of Environmental Setting	High	Reflects the LOC for the air (High), noise (High) and visual (High) disciplines.
Reclamation and Closure			
None			

7.3.5.7 Cumulative Effects Assessment

Cumulative effects result from interactions between Proposed Project-related residual effects and incremental effects of reasonably foreseeable projects and activities. Potential effects from past and present projects were assessed as part of the baseline conditions. Cumulative effects assessment methodology is described in Volume 2, Part B - Section 4.6.

7.3.5.7.1 Cumulative Effects Assessment Boundaries

As described in Section 7.3.3.2, the spatial boundary of the cumulative effects assessment for Non-traditional Land and Resource Use is defined the same as the RSA and includes the western portions of Howe Sound within the Sunshine Coast Regional District, Islands Trust areas of Gambier and Anvil Island, southern portions of the Squamish-Lillooet Regional District and northwestern areas within Metro Vancouver (regional district).

Projects that overlap with the cumulative effects assessment boundary are shown on Figure 4-6 in Volume 2, Part B – Section 4.0.

7.3.5.7.2 Residual Effects Considered in Cumulative Effects Assessment

While no cumulative effects on air quality or noise are predicted, there is a potential for cumulative visual effects to create a cumulative effect on the quality of environmental setting for the Harvesting Fish and Wildlife and Recreation and Tourism VCs.

Negligible residual effects were not carried through to the cumulative effects assessment as they are not considered measurable or are within natural variability and are therefore unlikely to interact cumulatively with other reasonably foreseeable projects. The residual effect for the Harvesting Fish and Wildlife and Recreation and Tourism VCs in the cumulative effects assessment and the basis for this adverse effect are presented in Table 7.3-17.

Table 7.3-17: Residual Effects Considered in Cumulative Effects Assessment

VC	Residual Effect	Considered in Cumulative Effects Assessment	Rationale
Harvesting Fish and Wildlife	Change in quality of environmental setting	Yes	Due to a cumulative adverse effect on visual resources there is a potential cumulative adverse effect on the quality of environmental setting.
Recreation and Tourism	Change in quality of environmental setting	Yes	Due to a cumulative adverse effect on visual resources there is a potential cumulative adverse effect on the quality of environmental setting.

7.3.5.7.3 Effects of Other Projects and Activities

A list of certain and reasonably foreseeable projects and activities with potential effects that could interact temporally and/or spatially with Proposed Project-related residual effect are provided in Table 4-5 in Volume 2, Part B - Section 4.5.5. Those that have potential to result in cumulative effects on the quality of environmental setting are provided in Table 7.3-18. All other projects were not considered to interact with this residual effect because they are not anticipated to create a cumulative effect on the visual resources enjoyed by users of residences located within the RSA (Volume 2, Part B – Section 7.4 Visual Resources).

Table 7.3-18: Potential Incremental Effects of Other Project and Activities on Non-traditional Land and Resource Use VCs

Project	Timeline	Phase of the project overlaps with the Proposed Project ¹⁸	Project Description	Rationale
Reasonably Foreseeable Future Projects				
Box Canyon Hydro (Box Canyon Hydro Corp. (Sound Energy Inc.))	Proposed start in 2017.	Construction and Operations	<ul style="list-style-type: none"> ▪ Temporary Use Permit issued in February of 2014 to construct concrete batch plant relating to the construction project. ▪ Planned future run-of-river hydroelectric project with a capacity of 15 MW and proposed start of 2017. ▪ Total project footprint will be 64.5 ha ▪ Electricity Purchase Agreement obtained from BC Hydro 2010 Clean Power Call ▪ Multiple water intakes in three McNab drainages: Box Canyon, Marty, and Cascara creeks are planned with total penstock length of 7,847 m. ▪ All intake water delivered to a powerhouse located on the Banks of McNab Creek ~1250 m upstream in existing cut block. ▪ A 2.8 km 138 kV timber pole overhead line will connect powerhouse to BC Hydro 1L31 138 kV transmission line along the McNab Ck FSR. ▪ Habitat compensation is planned for Box Canyon Creek (possibly Marty and Cascara) in the form of rearing habitat for juvenile Coho salmon and cutthroat trout <p>Website: http://www.elementalenergy.ca/projects/</p>	There is a potential cumulative effect on the quality of environmental setting in the RSA due to cumulative effects on visual resources from activities related to the Box Canyon Hydro project during its construction and operations.

¹⁸ When timelines are uncertain it was assumed that the Proposed Project would overlap with both construction and operations.

Project	Timeline	Phase of the project overlaps with the Proposed Project ¹⁸	Project Description	Rationale
Woodfibre LNG (Woodfibre Natural Gas Ltd.)	<p>Construction to start in 2015</p> <p>Operations in the second quarter of 2017</p> <p>Assumes permit issuance in 2015/early 2016</p>	Operations	<ul style="list-style-type: none"> ▪ Development of the former Western Forest Products Woodfibre Mill; an LNG facility has been proposed. ▪ Three to four times per month an LNG carrier will travel through well-established shipping lanes to the Woodfibre LNG terminal. Each carrier will travel at 8 to 10 knots in Howe Sound, be accompanied by at least three tugboats, at least one of which will be tethered to the carrier, and have two BC Coast Pilots on board, who are experts on BC's coast. ▪ Website: http://a100.gov.bc.ca/appsdata/epic/html/deploy/epic_project_home_408.html 	<p>There is a potential cumulative effect on the quality of environmental setting in the RSA due to cumulative effects on visual resources from activities related to the Woodfibre LNG project during its construction and operations.</p>
Woodfibre Substation (BC Hydro)	<p>Selecting a preferred alternative in 2015. Have assumed same timeline as Woodfibre LNG Project.</p>	Operations	<ul style="list-style-type: none"> ▪ BC Hydro is constructing a new substation and connection to the 138 kilo volt (kV) transmission line. The purpose of the new substation would be to deliver electricity to the Woodfibre LNG Project. ▪ Website: https://www.bchydro.com/energy-in-bc/projects/woodfibrelng/whats-being-done.html 	<p>There is a potential cumulative effect on the quality of environmental setting in the RSA due to cumulative effects on visual resources from activities related to the Woodfibre substation during its construction and operations.</p>

Project	Timeline	Phase of the project overlaps with the Proposed Project ¹⁸	Project Description	Rationale
Porteau Cove Residential Development (Concord Pacific)	Unknown.	Assumed Construction and Operations.	<ul style="list-style-type: none"> Under a partnership between Squamish Nation and Concord Pacific, this residential development proposes 1,400 homes, lots, and commercial space, located on the east side of Howe Sound, 12.3km south of the project. This work includes 6 water reservoirs, water source development/treatment, sewage treatment plant, ocean discharge, stormwater systems and Best Management Practices. The development includes 18km of roads including a new highway interchange. Website: http://www.pwlpартnership.com/our-portfolio/planning-urban-design/porteau-cove 	There is a potential cumulative effect on the quality of environmental setting in the RSA due to cumulative effects on visual resources from activities related to the Porteau Cove Residential Development during and after its construction.
Britannia Beach (MacDonald Development)	Zoning is in place. No details on timeline available.	Unknown. Assume construction and operations.	<ul style="list-style-type: none"> Zoning is in place for a new commercial and retail development incorporating many renovated historic buildings. The development is located approximately 6 km southeast of the Proposed Project. 	There is a potential cumulative effect on the quality of environmental setting in the RSA due to cumulative effects on visual resources from activities related to the Britannia Beach Development during and after its construction.
South Britannia (Taicheng)	No details on timeline available.	Unknown. Assume construction and operations.	<ul style="list-style-type: none"> South Britannia is a 200-ha development located on the Makin lands at Britannia Beach proposing a mix of 3,000 residences, as well as retail and light industrial land uses. South Britannia is 6.5 km southeast of the Proposed Project on the east side of Howe Sound. 	There is a potential cumulative effect on the quality of environmental setting in the RSA due to cumulative effects on visual resources from activities related to the South Britannia Development during and after its construction.
Reasonably Foreseeable Future Activities				
Active and Pending Forest Tenures (Various)	Several. Exact timelines for tenures are unknown.	Construction and operations.	<ul style="list-style-type: none"> Crown component of Timber Harvesting Forestry Land Base in Howe LU is 11,285 of 52,209 total gross hectares. 	There is a potential cumulative effect on the quality of environmental setting in the RSA due to cumulative effects on visual resources from forestry activities.

7.3.5.7.4 Potential Interactions with Other Projects

Interactions between adverse effects from certain or reasonably foreseeable project activities and Proposed Project residual adverse effects that could result in cumulative adverse effects to the Harvesting Fish and Wildlife and Recreation and Tourism VCs are summarized in Table 7.3-19.

Table 7.3-19: Activities Considered in the Cumulative Effects Assessment for Non-traditional Land and Resource Use VCs

Activities	VC	Potential Effect	Potential for Interaction of Effects	Rationale
Box Canyon Hydro (Box Canyon Hydro Corp. (Sound Energy Inc.))	<ul style="list-style-type: none"> ▪ Harvesting Fish and Wildlife ▪ Recreation and Tourism 	Change in quality of environmental setting	Y	Potential cumulative adverse effects on visual resources identified (Volume 2, Part B – Section 7.4: Visual Resources), which could create effects on the quality of environmental setting.
Woodfibre LNG (Woodfibre Natural Gas Ltd.)	<ul style="list-style-type: none"> ▪ Harvesting Fish and Wildlife ▪ Recreation and Tourism 	Change in quality of environmental setting	N	No potential cumulative visual effects identified (Volume 2, Part B –Section 7.4: Visual Resources) that could create effects on environmental setting.
Woodfibre Substation (BC Hydro)	<ul style="list-style-type: none"> ▪ Harvesting Fish and Wildlife ▪ Recreation and Tourism 	Change in quality of environmental setting	N	No potential cumulative visual effects identified (Volume 2, Part B –Section 7.4: Visual Resources) that could create effects on environmental setting.
Porteau Cove Residential Development (Concord Pacific)	<ul style="list-style-type: none"> ▪ Harvesting Fish and Wildlife ▪ Recreation and Tourism 	Change in quality of environmental setting	N	No potential cumulative visual effects identified (Volume 2, Part B –Section 7.4: Visual Resources) that could create effects on environmental setting.
Britannia Beach (MacDonald Development)	<ul style="list-style-type: none"> ▪ Harvesting Fish and Wildlife ▪ Recreation and Tourism 	Change in quality of environmental setting	N	No potential cumulative visual effects identified (Volume 2, Part B –Section 7.4: Visual Resources) that could create effects on environmental setting.
South Britannia (Taicheng)	<ul style="list-style-type: none"> ▪ Harvesting Fish and Wildlife ▪ Recreation and Tourism 	Change in quality of environmental setting	N	No potential cumulative visual effects identified (Volume 2, Part B –Section 7.4: Visual Resources) that could create effects on environmental setting.
Active and Pending Forest Tenures (Various)	<ul style="list-style-type: none"> ▪ Harvesting Fish and Wildlife ▪ Recreation and Tourism 	Change in quality of environmental setting	Y	Potential cumulative adverse effects on visual resources identified (Volume 2, Part B – Section 7.4: Visual Resources), which could create effects on the quality of environmental setting.

No interaction or not likely to interact cumulatively (N), Yes, Potential cumulative effect (Y),

7.3.5.7.5 Cumulative Effects Related to Risk to Change in Land Use

The Project is not anticipated to have a cumulative effect on either air quality or noise levels with other projects and activities identified in the RSA, but cumulative effects on visual resources may occur for some recreational users near the Proposed Project thereby creating a potential cumulative adverse effect on environmental setting.

As identified in Volume 2, Part B –Section 7.4: Visual Resources, the Box Canyon Hydro Project is located approximately 1,200m northwest of the Proposed Area and may be visible from some receptor sites within Thornbrough and Ramilles Channel. Visible features are expected to be small in scale relative to the landscape due to potential viewing angles and distances. Measures described for Proposed Project decommission would likely address potential visual effects related to vegetation clearing with a temporary and negligible adverse change to visual quality. In addition, ongoing forestry activities would create visual effects as a result of removing vegetated land cover during the development of cut blocks and forestry roads and re-planting through the cycles of forest management. The dominant adverse effects would last for approximately 15 to 30 years, until the visual impact of changes to the forest cover is lessened over time through re-planting and natural regrowth of the disturbed areas. The visual effects of log storage tenures are expected to remain consistent with existing activity related to log storage and booming and be confined to the current tenure area (212251), which is located near the Proposed Project.

7.3.5.7.6 Mitigation of Cumulative Effects

No mitigation measures have been identified to address cumulative interactions between the Proposed Project effects and other certain or reasonably foreseeable project activities on either visual resources (Volume 2, Part B –Section 7.4) or environmental setting.

7.3.5.7.7 Residual Cumulative Effects and their Significance

Potential residual cumulative effects and their significance were characterized using the same methods that were used to characterize residual effects (see Table 7.3-3) and summarized in Table 7.3-20.

A driver of the residual cumulative effect on environmental setting would be visual disturbance generated through forestry activities. However, forestry is a pre-existing, intermittent activity dating back to the early 1900s in the McNab Valley, and changes in forest cover in the RSA over time through forestry activities is in keeping with the current visual character of the RSA. The context within which the cumulative adverse effect would take place is rated as moderate, as the effect occurs in a remote environment where some human development and landscape disturbance has previously occurred and is evident, indicating resiliency with respect to the overall magnitude of environmental setting.

The magnitude of the effect on environmental setting for both VCs is determined to be moderate as no cumulative effects on noise or air quality are anticipated and visual disturbances through forestry activities are a longstanding effect in the RSA. Although cumulative effects on visual resources due to forestry activities are anticipated during the Project's construction and operations stages, the overall visual character of the forest cover landscape in the RSA would be sustained. The cumulative residual effect is

regional in extent, and medium-term in duration as the effects would continue throughout the construction and operations phases. The effect is fully reversible through removal of build features and natural regrowth, replanting and greenup. Frequency of the change in the quality of the environmental setting is rated as continuous as the Proposed Project associated visual effects would be ongoing. Likelihood of the occurrence of this effect is high due to level of knowledge about the historical and planned forestry activities in the RSA. The confidence level in the anticipated changes in visual resources is rated as moderate based on available information for reasonably foreseeable projects, the use of spatial data and desktop landscape analysis, primarily qualitative assessment of visual impacts and professional knowledge of visual impact assessment.

Overall, the cumulative adverse effect on the Harvesting Fish and Wildlife and Recreation and Tourism VCs was rated as not significant after mitigation based on the following:

- The adverse effect is expected to be of moderate magnitude, and possibly less;
- Context is viewed as moderately resilient; and
- The cumulative effect is fully reversible.

Table 7.3-20: Summary of Residual Cumulative Effects Characterization for Harvesting Fish and Wildlife

Project-Related Residual Effect	Residual Cumulative Effect Assessment Criteria						Significance	Likelihood	Level of Confidence
	Context	Magnitude	Extent	Duration	Reversibility	Frequency			
Construction									
Change in quality of environmental setting	R	M	R	MT	FR	C	NS	H	M
Operations									
Change in quality of environmental setting	R	M	R	MT	FR	C	NS	H	M
Reclamation and Closure									
None									

Table 7.3-21: Summary of Residual Cumulative Effects Characterization for Recreation and Tourism

Project-Related Residual Effect	Residual Cumulative Effect Assessment Criteria						Significance	Likelihood	Level of Confidence
	Context	Magnitude	Extent	Duration	Reversibility	Frequency			
Construction									
Change in quality of environmental setting	R	M	R	MT	FR	C	NS	H	M
Operations									
Change in quality of environmental setting	R	M	R	MT	FR	C	NS	H	M
Reclamation and Closure									
None									

Assessment Criteria:

Context: R – Resilient, MR – Moderately Resilient; S – Sensitive;

Magnitude: N – Negligible, L – Low, M – Moderate, H – High;

Geographic Extent: L – Local, R – Regional;

Duration: ST – Short-term, MT – Medium-term, LT – Long-term;

Reversibility: FR – Fully Reversible, PR - Partially Reversible, IR – Irreversible;

Frequency: I- Infrequent; F – Frequent, C - Continuous

7.3.6 Conclusions

The Proposed Project is occurring on private property owned by BURNCO that has allowed access into and through the Property for the purposes of forestry and industrial development and will continue to do so during construction and operation. As a result, no negative effects on forestry, mining or industrial development in the LSA are identified.

Coastal Inlet Adventures, the guide outfitter with a tenure that overlaps the LSA, has the ability to access Crown lands in the LSA via forestry roads in the north using a landing craft capable of carrying ATVs. Access to the LSA via forestry roads from Salmon Inlet would not be restricted by the Proposed Project.

Neither use of the BURNCO property nor access through it by members of the public for recreational purposes, including hunting, has been permitted by BURNCO.

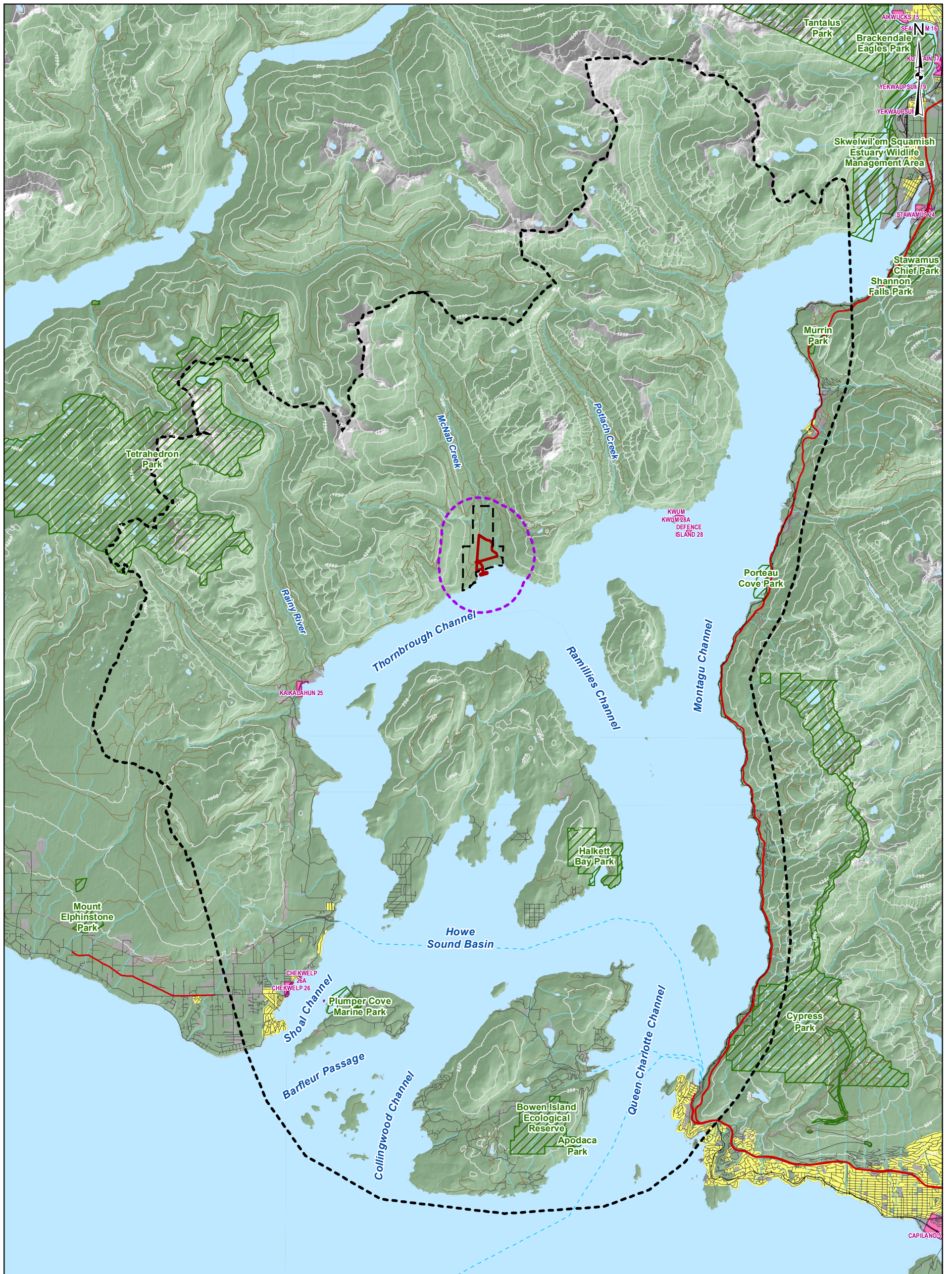
Planned management of Proposed Project construction and operations would prohibit non-Project marine-based activities, such as recreational fishing, in and around the footprint of the Project's jetty. Historically there has been intermittent displacement of recreational activities from this marine area due to log booming activities.

The eastern side of the LSA (outside of the Property), both in the marine waters and below the high tide mark on the beach near the mouth of McNab Creek is considered to have higher recreational use activity than the jetty area on the other side of the Property but, during construction and operation, this area would remain available for public use, along with access to it, so no displacement of recreation due to the Project is expected in this area.

On an intermittent basis, the vessels and other watercraft of fishers and recreational marine-users are anticipated to have to make minor alterations in direction and/or speed when navigating in the LSA at the same time as Project associated water taxis and barges. These temporary displacement effects due to the Proposed Project are considered to be negligible.

Changes in noise levels, air quality and visual resources due to the Proposed Project are expected to adversely affect the environmental setting of recreation and tourism activities carried out in the marine waters of the LSA. Specific mitigation measures are put forth by BURNCO and outlined in Volume 2, Part B –Section 5.7 Air Quality, Section 7.4 Visual Resources and Section 9.2 Noise. After mitigation, a residual adverse effect on the quality of the environmental setting in the LSA for recreational harvesting of fish and shellfish and tourism and other recreational activities is anticipated. The residual adverse effects are considered to be not-significant however as there are established forest industry activities in the area, recreational and tourism activities are not expected to be displaced from the LSA and the effect is expected to be limited to the medium-term (i.e., the life of the Project).

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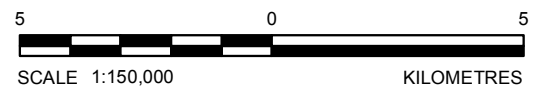


LEGEND

- Project Area
- Regional Study Area
- Local Study Area
- BURNCO Property Boundary
- Park / Protected Area
- Vegetation
- Residential Area
- Indian Reserve
- Highway
- Road
- Resource Road
- Railway
- Ferry
- Contour (250m)

REFERENCE

Parks/protected areas from the Province of British Columbia. All rights reserved. Elevation and indian reserves from Geobase. Base data from CanVec. Projection: UTM Zone 10 Datum: NAD 83

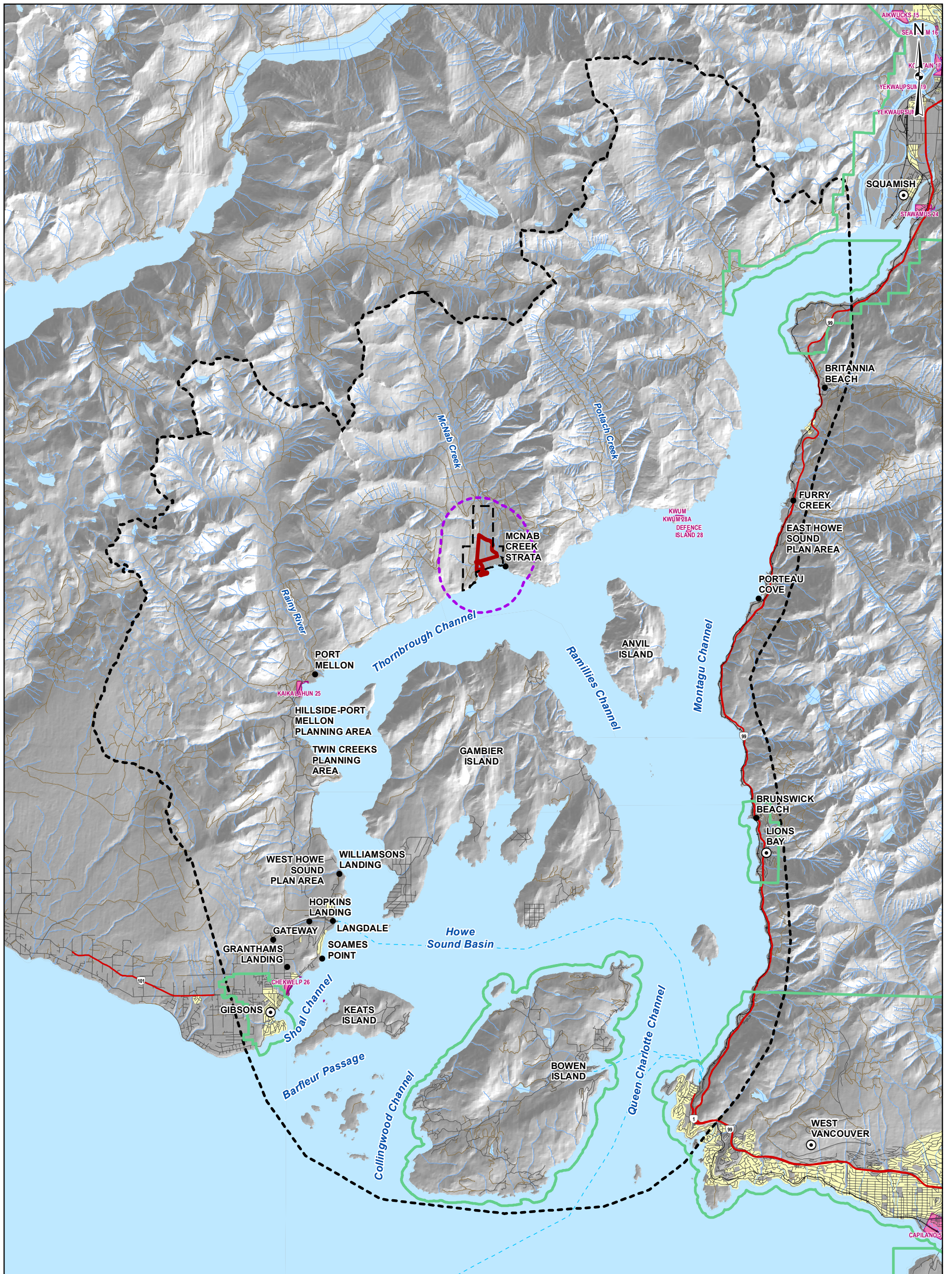


BURNCO ROCK PRODUCTS LTD.
BURNCO AGGREGATE PROJECT, HOWE SOUND, B.C.

TITLE
**NON-TRADITIONAL LAND AND
RESOURCE USE STUDY AREAS**



PROJECT NO. 11-1422-0046			PHASE No.	
DESIGN	MD	14 May. 2014	SCALE AS SHOWN	REV. 0
GIS	DL	09 Mar. 2016	FIGURE 7.3-1	
CHECK	DDB	09 Mar. 2016		
REVIEW	DDB	09 Mar. 2016		



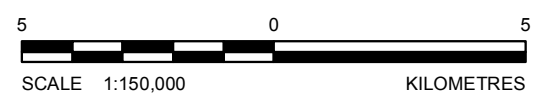
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LEGEND

- Project Area
- Land and Resource Use RSA
- Land and Resource Use LSA
- BURNCO Property Boundary
- Municipal Boundary
- Indian Reserve
- Residential Area
- Waterbody
- Highway
- Road
- Resource Road
- +— Railway
- - - Ferry
- Watercourse
- Incorporated Community
- Other Community

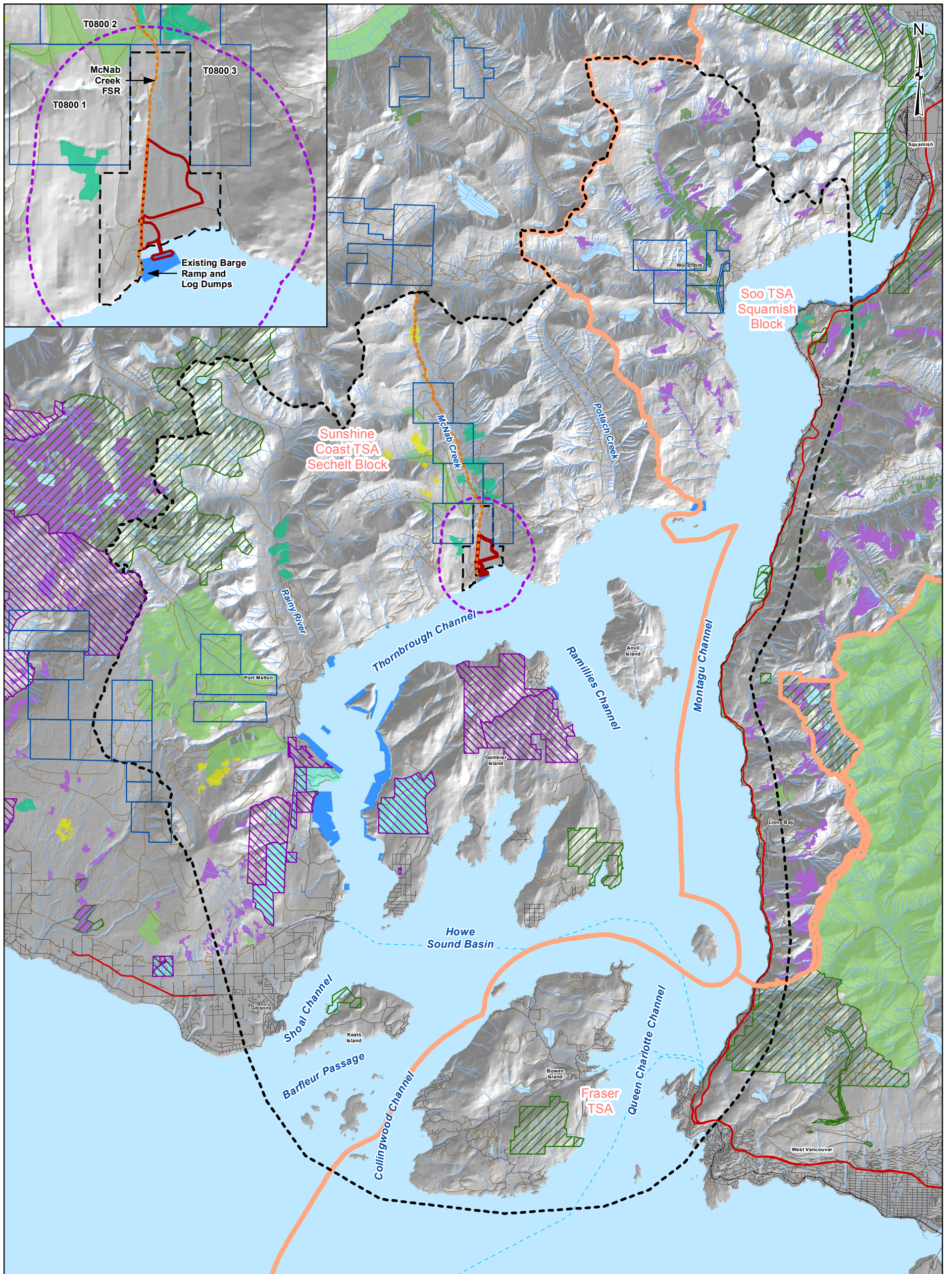
REFERENCE

Communities, municipalities and landscape units from the Province of British Columbia. Indian reserve and elevation data from Geobase. Base data from CanVec. Projection: UTM Zone 10 Datum: NAD 83



PROJECT		BURNCO ROCK PRODUCTS LTD. BURNCO AGGREGATE PROJECT, HOWE SOUND, B.C.			
TITLE		COMMUNITY LOCATIONS			
PROJECT NO. 11-1422-0046		PHASE No.			
DESIGN	SR	15 Aug. 2013	SCALE AS SHOWN	REV. 0	
GIS	DL	09 Mar. 2016	FIGURE 7.3-2		
CHECK	DDB	09 Mar. 2016			
REVIEW	DDB	09 Mar. 2016			





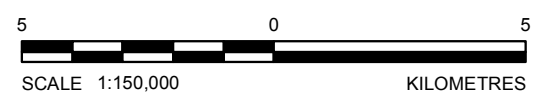
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LEGEND

- | | | |
|--|----------------------------------|-------------------------------|
| Project Area | Timber Supply Area (TSA) | Pending Forest Tenures |
| Land and Resource Use RSA | Forest Tenure Management Licence | Timber Sale Licence Minor |
| Land and Resource Use LSA | Timber Licence Map Block | Forest Licence Cutting Permit |
| BURNCO Property Boundary | Active Forest Tenures | Licence to Cut |
| Park / Protected Area | Timber Licence Cutting Permit | Other Tenures |
| Waterbody | Timber Sale Licence Minor | Log Handling / Storage Tenure |
| Highway | Wood Lot Licence Cutting Permit | Old Growth Management Area |
| Road | Forest Licence Cutting Permit | |
| Resource Road | Licence to Cut | |
| Mc Nab Creek Forest Service Road ID# 10209 | | |
| Railway | | |
| Ferry | | |
| Watercourse | | |

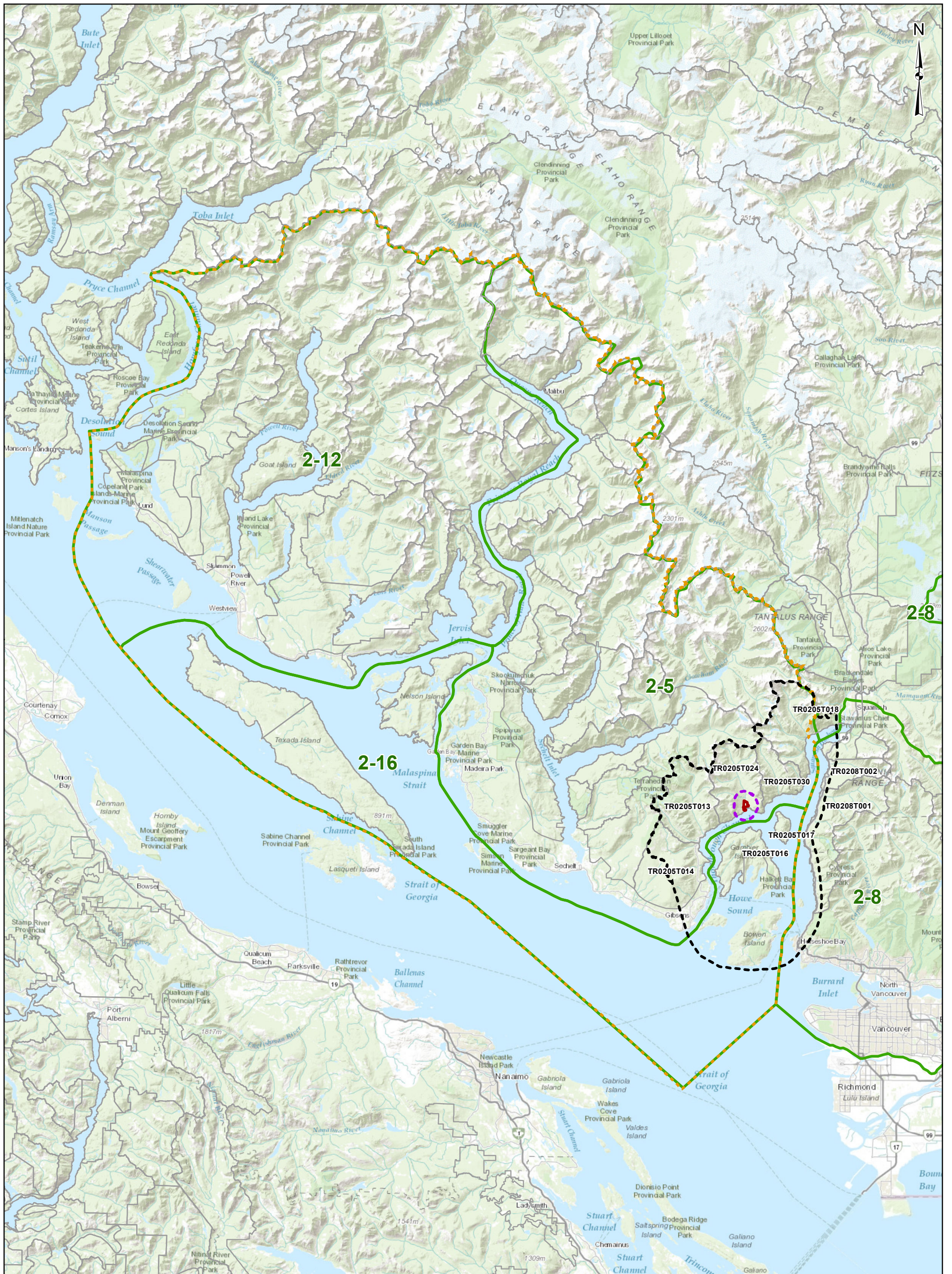
REFERENCE

Forest tenure harvesting authority polygon, tenures, old growth areas and parks/protected areas from the Province of British Columbia. All rights reserved. Elevation from Geobase. Base data from CanVec. Projection: UTM Zone 10 Datum: NAD 83



PROJECT				
BURNCO ROCK PRODUCTS LTD. BURNCO AGGREGATE PROJECT, HOWE SOUND, B.C.				
TITLE				
FORESTRY ACTIVITY				
PROJECT NO. 11-1422-0046		PHASE No.		
DESIGN	SR	15 Aug. 2013	SCALE AS SHOWN	REV. 0
GIS	DL	09 Mar. 2016	FIGURE 7.3-3	
CHECK	DDB	09 Mar. 2016		
REVIEW	DDB	09 Mar. 2016		





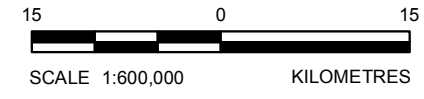
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LEGEND

- Project Area
- Land and Resource Use RSA
- Land and Resource Use LSA
- Selected Wildlife Management Trapline Areas (ID #)
- Wildlife Management Guide Outfitter Area Certificate #200696
- Selected Wildlife Management Units (ID#)

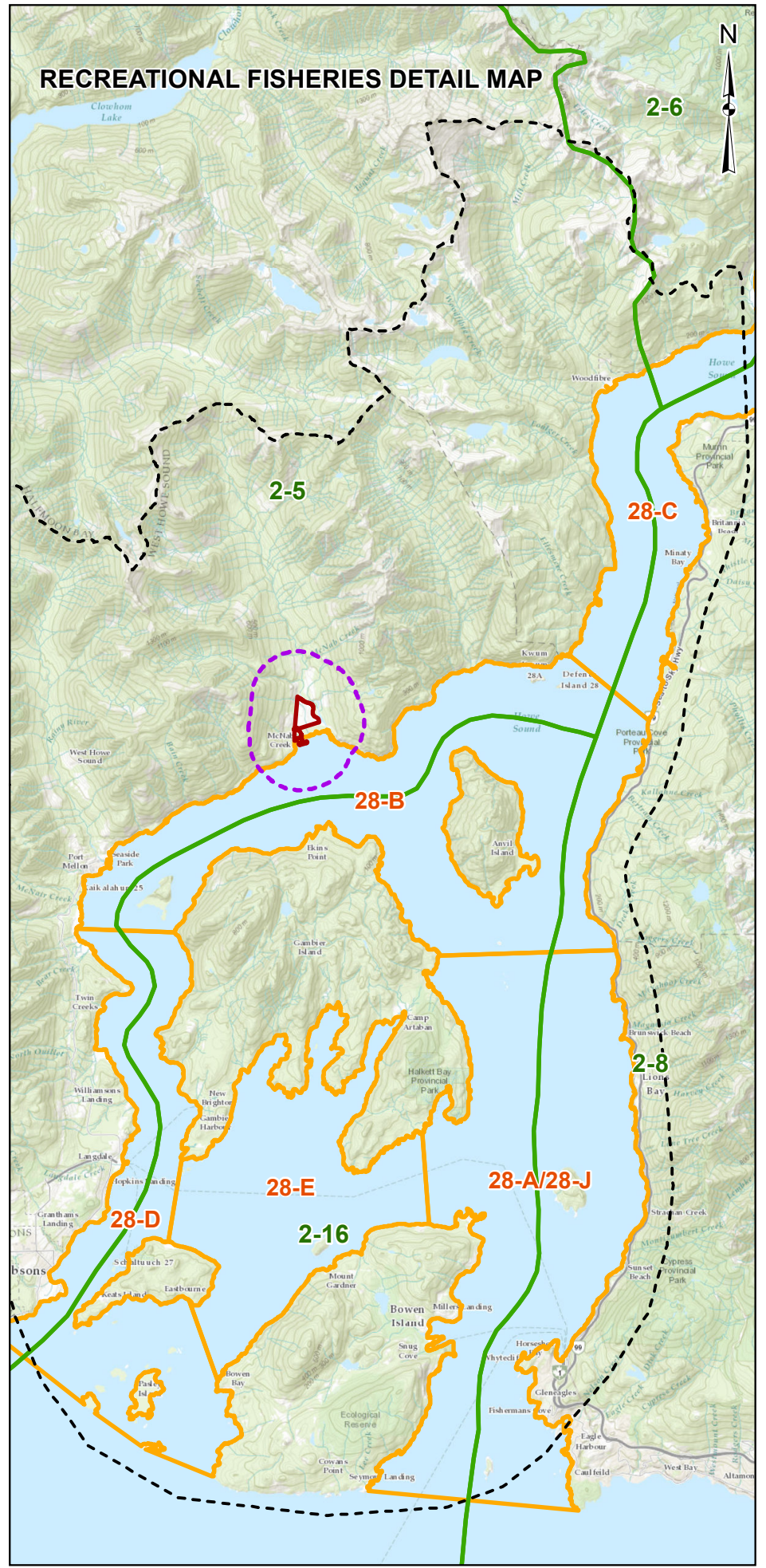
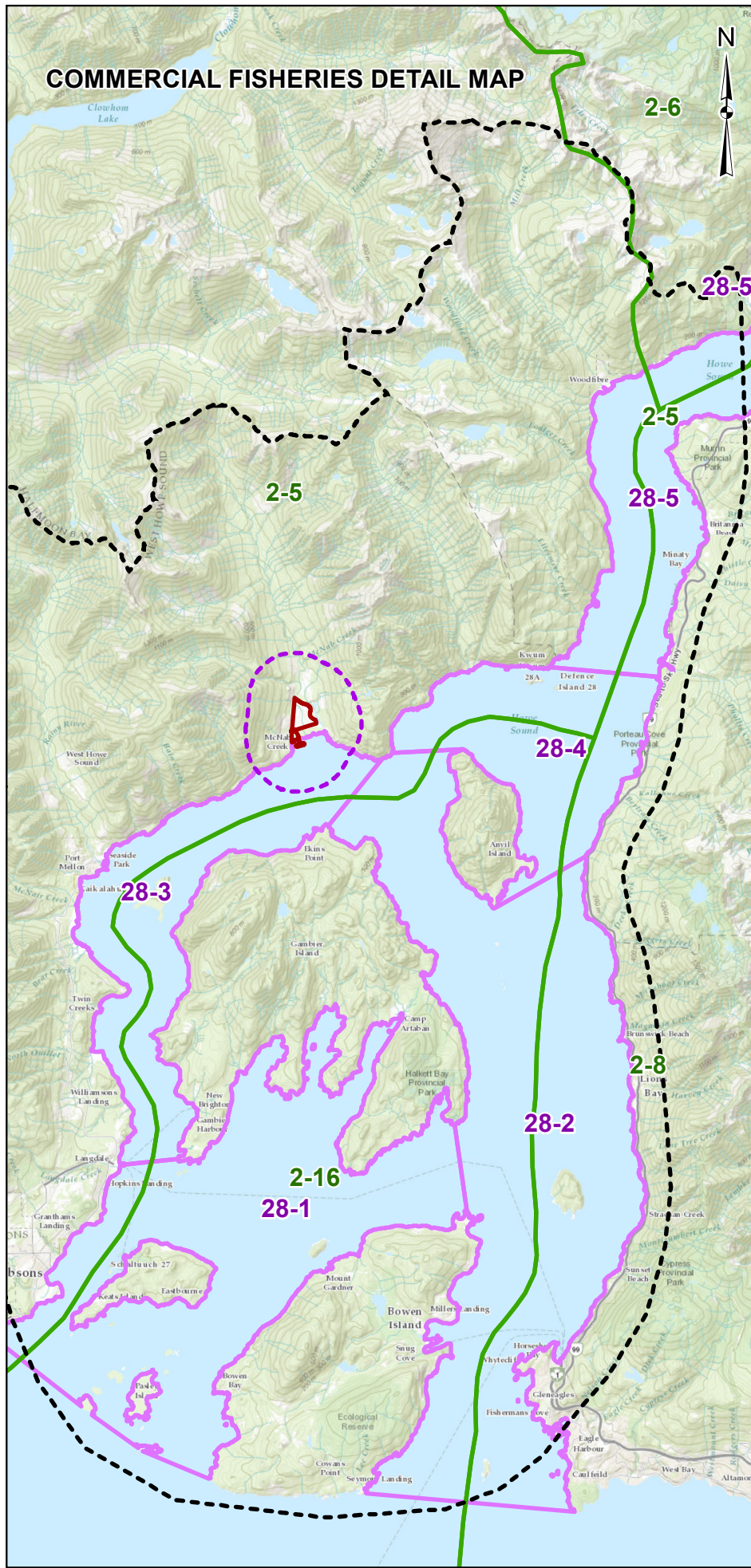
REFERENCE

Wildlife management units, trapline areas and outfitter areas from the Province of British Columbia. All rights reserved. Elevation data from Geobase. Base map from ESRI. Projection: UTM Zone 10 Datum: NAD 83



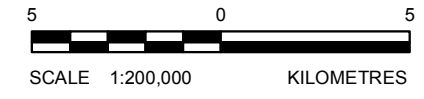
PROJECT	BURNCO ROCK PRODUCTS LTD. BURNCO AGGREGATE PROJECT, HOWE SOUND, B.C.			
TITLE	HUNTING, TRAPPING AND GUIDE OUTFITTING AREAS			
	PROJECT NO. 11-1422-0046		PHASE No.	
	DESIGN	SR	15 Aug. 2013	SCALE AS SHOWN
	GIS	DL	09 Mar. 2016	REV. 0
	CHECK	DDB	09 Mar. 2016	FIGURE 7.3-4
REVIEW	DDB	09 Mar. 2016		

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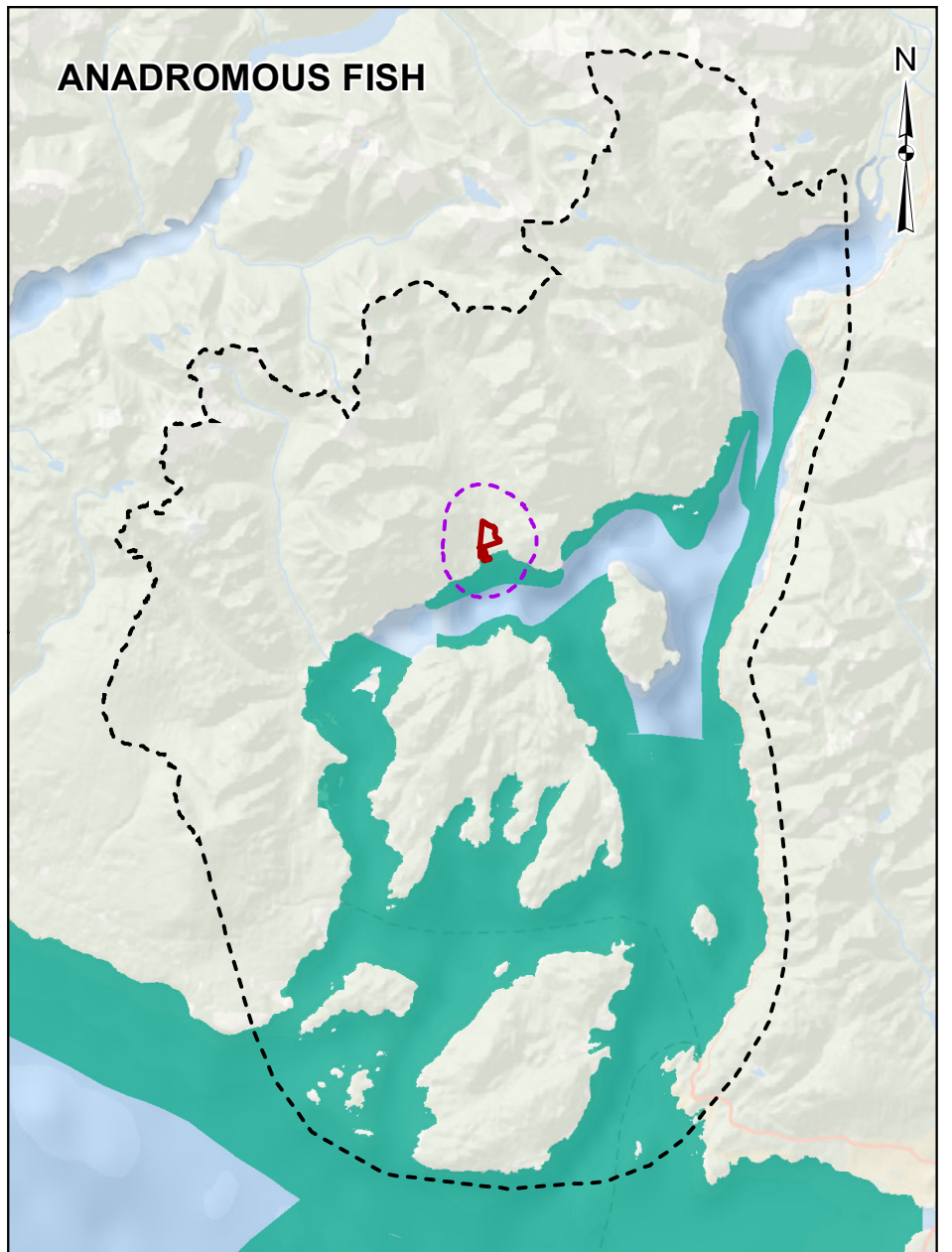
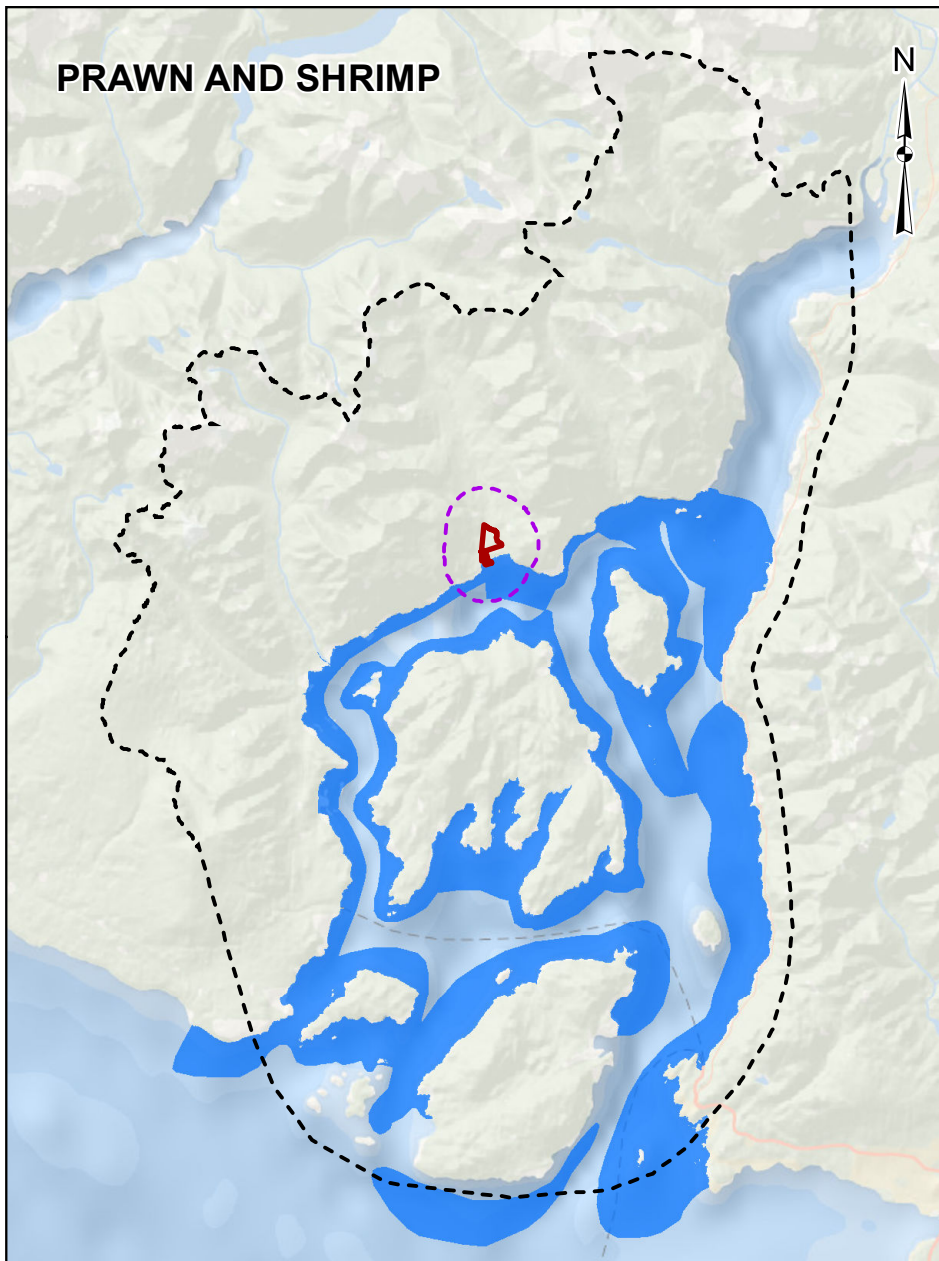
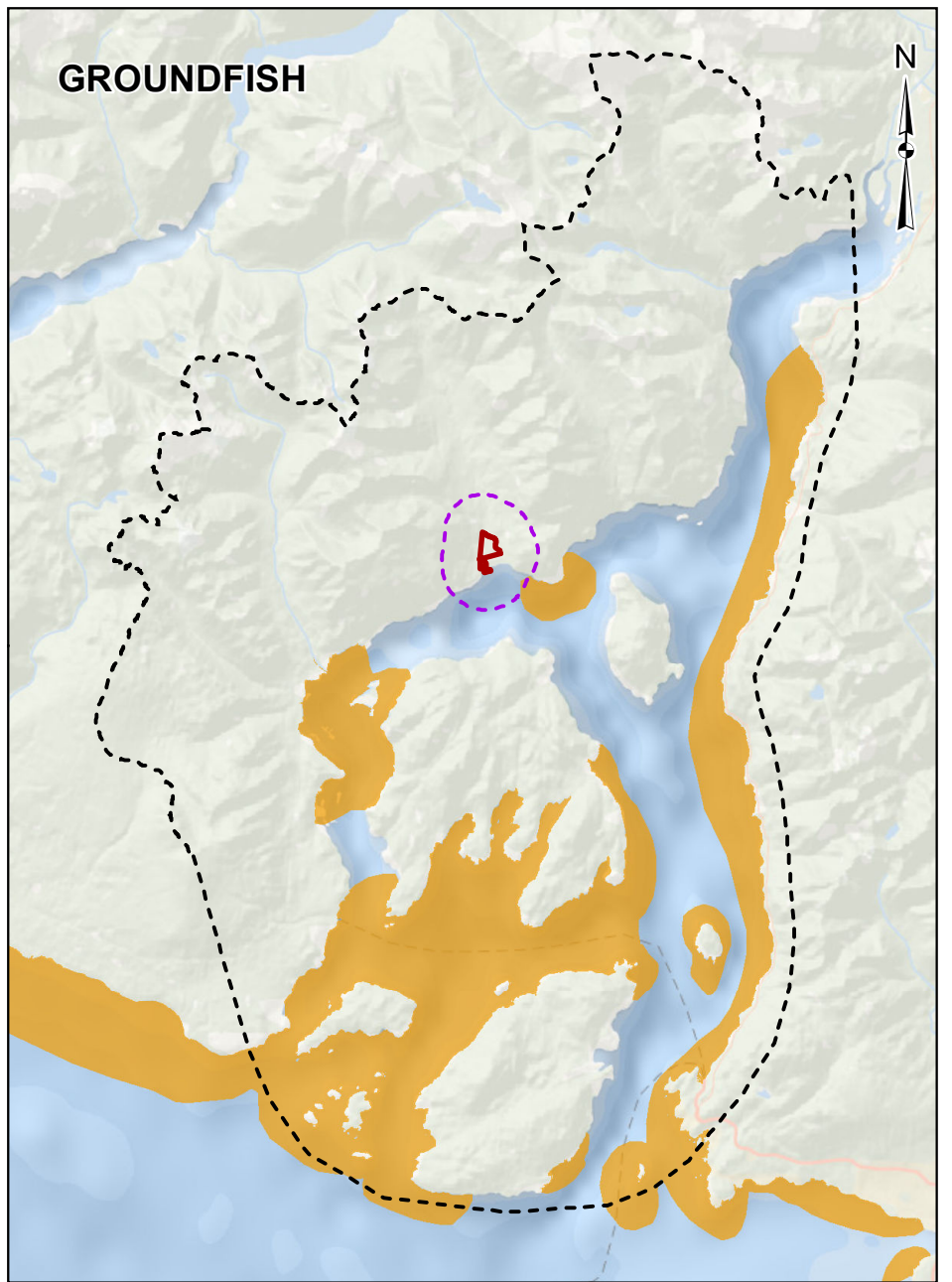
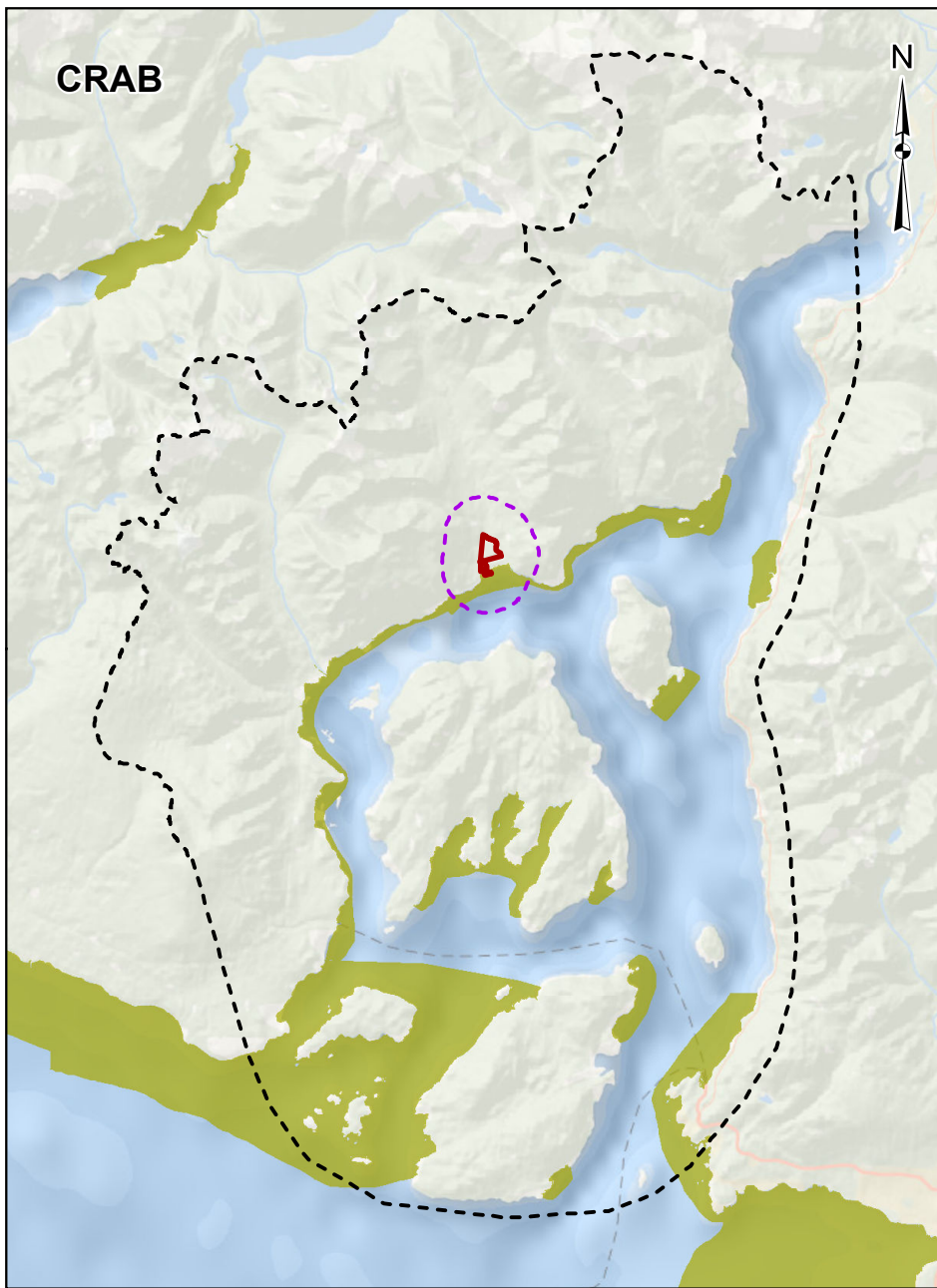
- LEGEND**
- Project Area
 - Land and Resource Use RSA
 - Land and Resource Use LSA
 - Recreational Fisheries Sub-areas
 - Commercial Fisheries Sub-areas
 - DFO Management Unit

REFERENCE
 Fisheries management data digitized based on maps provided by the federal DFO. BC Fisheries data based on wildlife management units from the Province of British Columbia. Elevation data from Geobase. Base map from ESRI. Projection: UTM Zone 10 Datum: NAD 83



PROJECT		BURNCO ROCK PRODUCTS LTD. BURNCO AGGREGATE PROJECT, HOWE SOUND, B.C.	
TITLE		COMMERCIAL AND RECREATIONAL FISHERIES MANAGEMENT AREAS	
	PROJECT NO.	11-1422-0046	PHASE No.
	DESIGN	SR 15 Aug. 2013	SCALE AS SHOWN
	GIS	DL 09 Mar. 2016	REV. 0
	CHECK	DDB 09 Mar. 2016	FIGURE 7.3-5
REVIEW	DDB 09 Mar. 2016		

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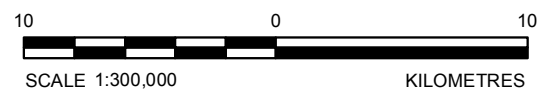


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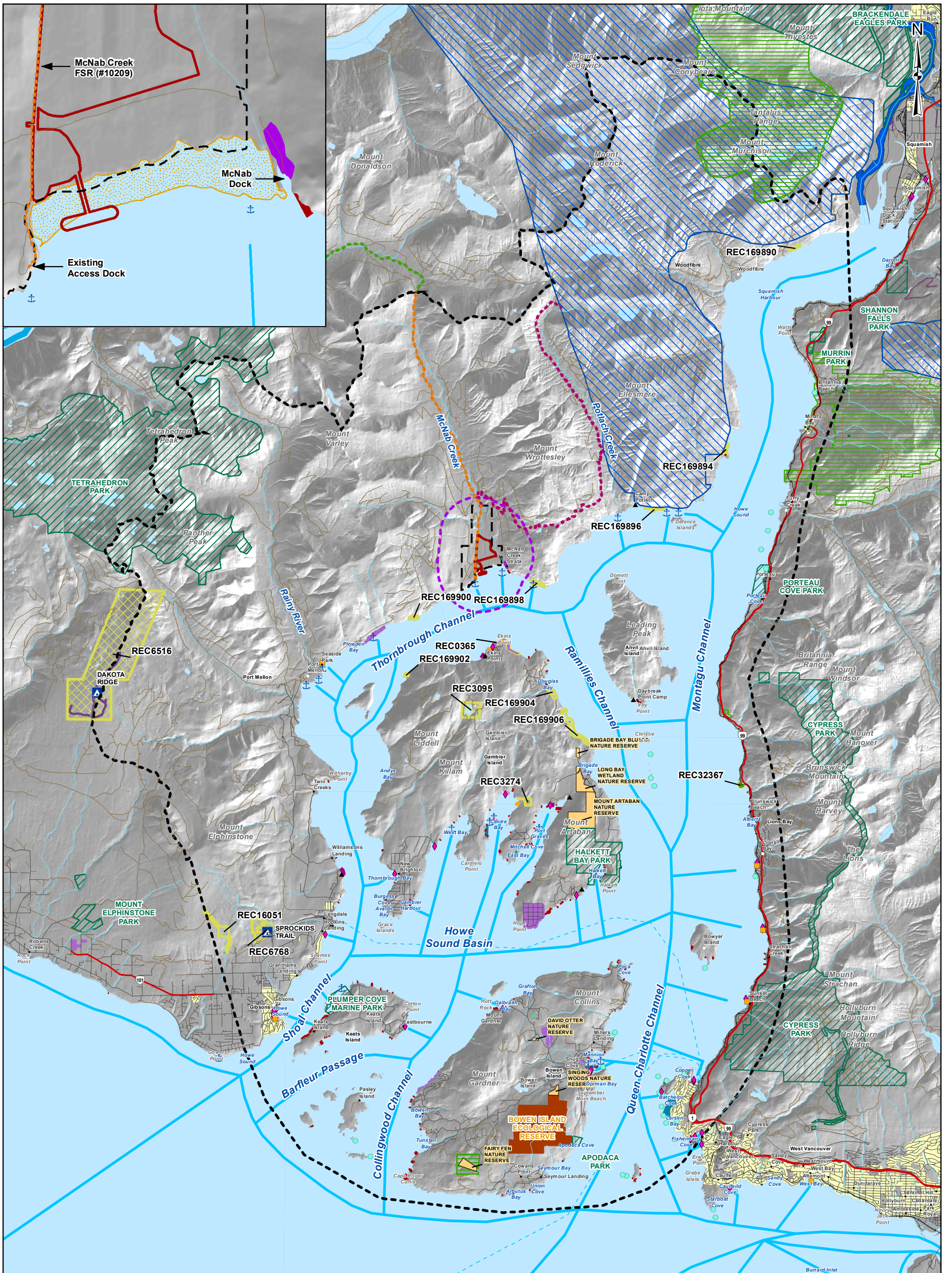
- | | |
|---------------------------|------------------------------------|
| Project Area | Recreational Fishing Areas
Crab |
| Land and Resource Use RSA | Groundfish |
| Land and Resource Use LSA | Prawn and Shrimp |
| | Anadromous |

REFERENCE

Fishing data from BCMCA feature layers. For more information visit [HTTP://BCMCA.CA/MAPSDATA/ANALYSIS/](http://bcmca.ca/mapsdata/analysis/)
Base map from ESRI. Projection: UTM Zone 10 Datum: NAD 83



BURNCO ROCK PRODUCTS LTD. BURNCO AGGREGATE PROJECT, HOWE SOUND, B.C.			
TITLE RECREATIONAL FISHING AREAS			
	PROJECT NO. 11-1422-0046		PHASE No.
	DESIGN	SR	15 Aug. 2013
	GIS	DL	09 Mar. 2016
	CHECK	DDB	09 Mar. 2016
	REVIEW	DDB	09 Mar. 2016
			SCALE AS SHOWN REV. 0
			FIGURE 7.3-6

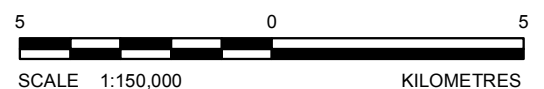



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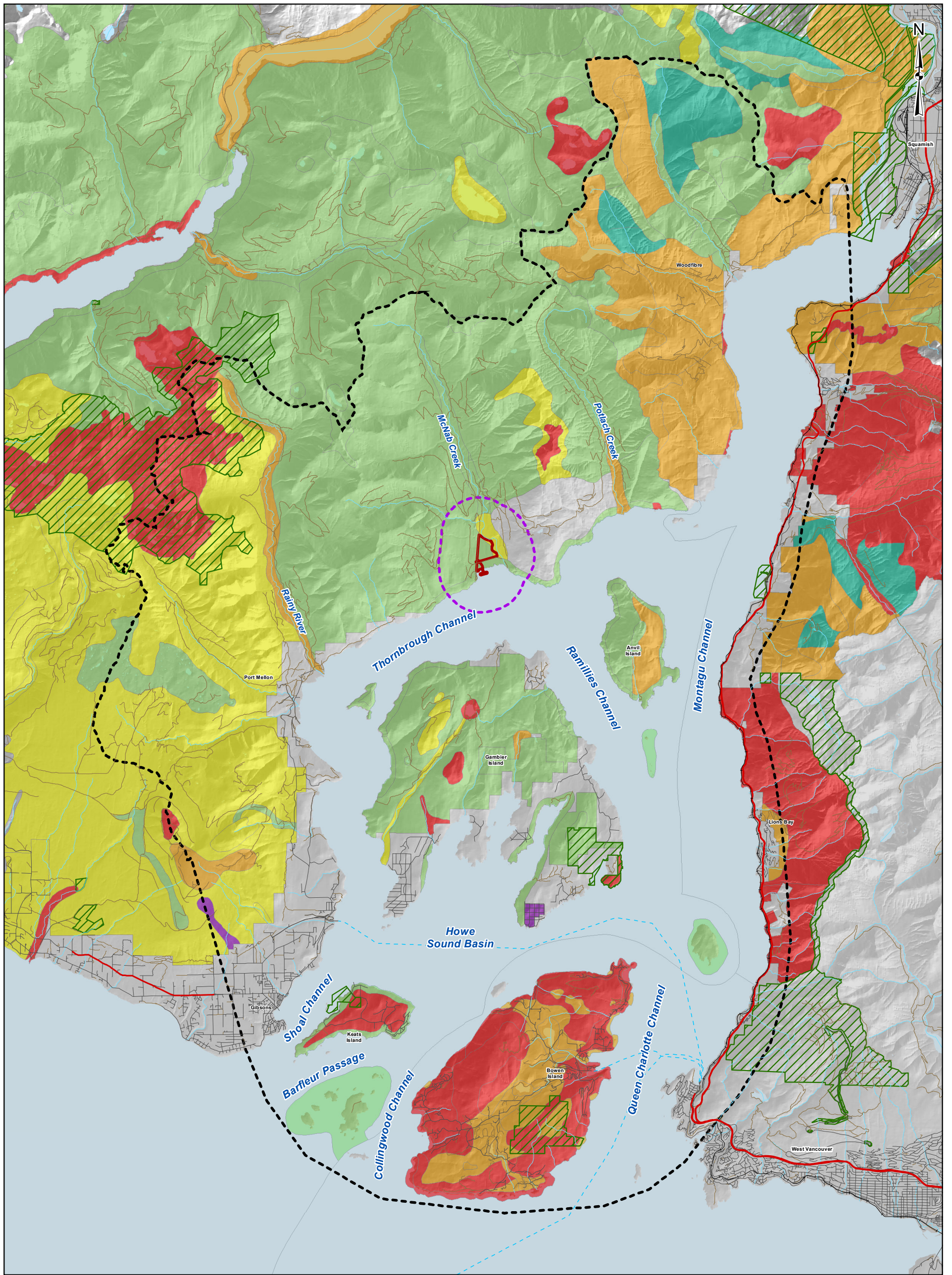
- | | | | |
|--|---|---|--|
| <ul style="list-style-type: none"> Project Area Land and Resource Use RSA Land and Resource Use LSA BURNCO Property Boundary McNab Creek Strata (Approximate) Provincial Park - Class A Island Trust Nature Reserve Residential Area Intertidal Zone Highway Road Resource Road Railway | <p>RECREATIONAL TENTURES BY SUBPURPOSE</p> <ul style="list-style-type: none"> BOAT HAVEN COMMUNITY OUTDOOR RECREATION ECOLOGICAL RESERVE ENVIRONMENT PROTECTION/CONSERVA... GUIDED FRESHWATER RECREATION GUIDED SALTWATER RECREATION HELI SKI | <ul style="list-style-type: none"> MARINA MULTIPLE USE PRIVATE MOORAGE PRIVATE YACHT CLUB RECREATIONAL RESIDENTIAL STRATA MOORAGE TRAPLINE CABIN URBAN RESIDENTIAL UREP/RECREATION RESERVE | <ul style="list-style-type: none"> Active Recreation Polygon Forestry Recreation Site (Name) Camp Anchorage Boat Launch Marina Diving Site Ferry Recreational Boating Routes Potlatch FSR McNab Creek FSR Sechet Creek FSR |
|--|---|---|--|

REFERENCE

Crown land tenures, forestry recreation reserves, provincial parks, anchorages, boat launches, marinas, and diving sites from the Province of British Columbia. Recreational boating routes from BCMCA. Elevation data from Geobase Base data from CanVec. Projection: UTM Zone 10 Datum: NAD 83



PROJECT		BURNCO ROCK PRODUCTS LTD. BURNCO AGGREGATE PROJECT, HOWE SOUND, B.C.		
TITLE		RECREATION AREAS AND TENTURES		
	PROJECT NO. 11-1422-0046	PHASE No.		
	DESIGN SR 15 Aug. 2013	SCALE AS SHOWN	REV. 0	
	GIS DL 09 Mar. 2016	<p style="font-size: 2em; margin: 0;">FIGURE 7.3-7</p>		
	CHECK DDB 09 Mar. 2016			
REVIEW DDB 09 Mar. 2016				



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LEGEND

- Project Area
 - Land and Resource Use RSA
 - Land and Resource Use LSA
 - Park / Protected Area
 - Highway
 - Road
 - Resource Road
 - Railway
 - Ferry
- Recreational Features Inventory**
- High Sensitivity, High Significance
 - Moderate Sensitivity, High Significance
 - Moderate Sensitivity, Moderate Significance
 - Low Sensitivity, High Significance
 - Low Sensitivity, Moderate Significance
 - Low Sensitivity, Low Significance
 - Unclassified Area

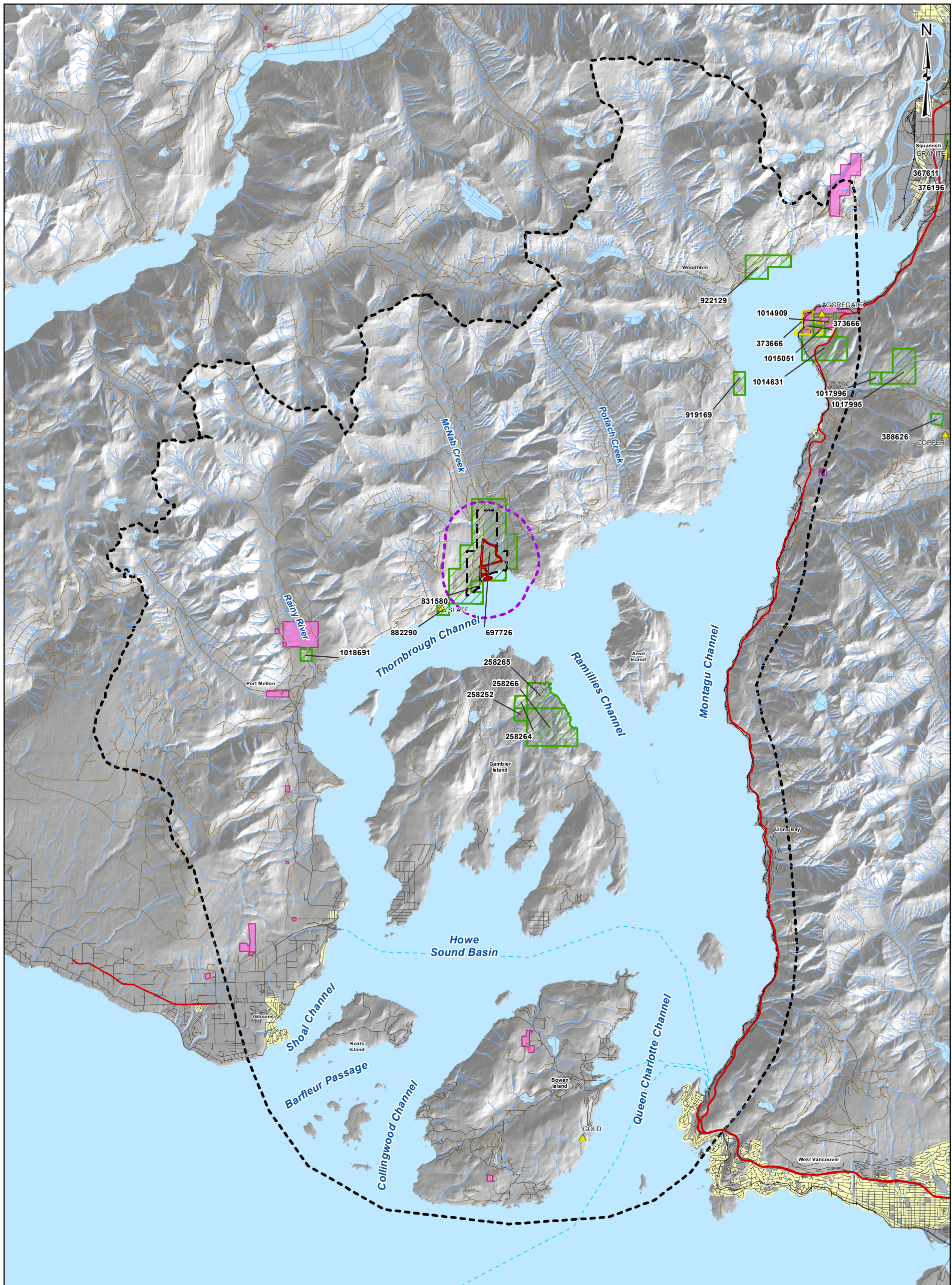
REFERENCE

Recreational features inventory and parks/protected areas from the Province of British Columbia. Elevation from Base data from CanVec10. Projection: UTM Zone 10 Datum: NAD 83



PROJECT		BURNCO ROCK PRODUCTS LTD. BURNCO AGGREGATE PROJECT, HOWE SOUND, B.C.	
TITLE		RECREATIONAL FEATURES INVENTORY	
PROJECT NO. 11-1422-0046	PHASE No.		
DESIGN JL 27 Feb. 2013	SCALE AS SHOWN	REV. 0	
GIS DL 09 Mar. 2016			
CHECK DDB 09 Mar. 2016	FIGURE 7.3-8		
REVIEW DDB 09 Mar. 2016			



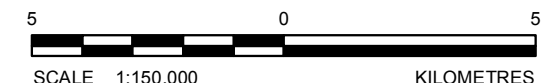


LEGEND

- | | |
|--|---------------|
| Project Area | Waterbody |
| Land and Resource Use RSA | Watercourse |
| Land and Resource Use LSA | Highway |
| BURNCO Property Boundary | Road |
| Mineral and Placer Tenure - Lease (ID #) | Resource Road |
| Mineral and Placer Tenure - Claim (ID #) | Railway |
| Residential Area | Ferry |
| QUARRYING TENURE | |
| Past Mineral Producer (Type) | |

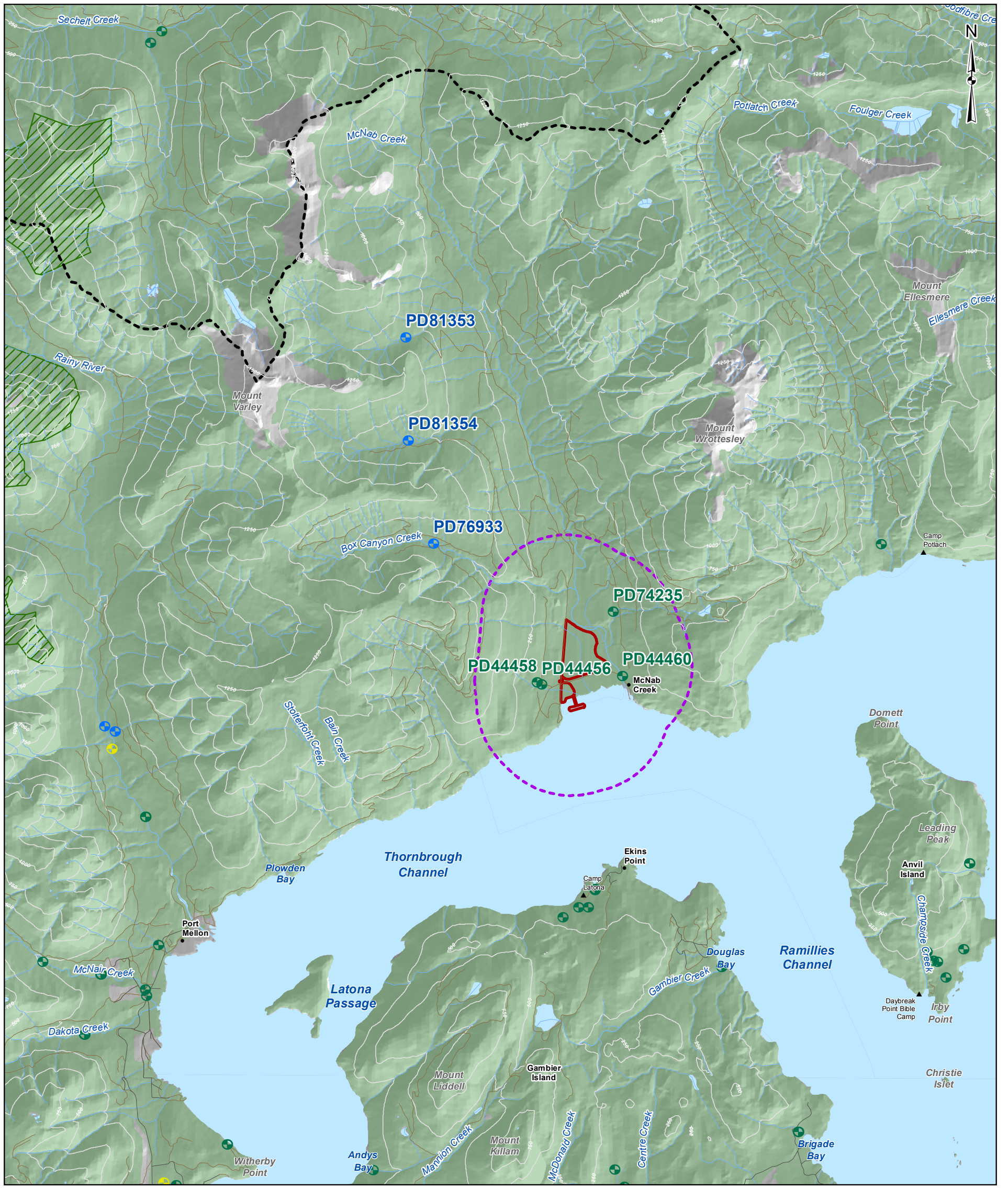
REFERENCE

Mineral and placer claim tenures from the Province of British Columbia. Elevation from Geobase. Base data from CanVec.
 Projection: UTM Zone 10 Datum: NAD 83



PROJECT		BURNCO ROCK PRODUCTS LTD. BURNCO AGGREGATE PROJECT, HOWE SOUND, B.C.	
TITLE			
MINING AND MINERAL EXPLORATION			
PROJECT NO. 11-1422-0046		PHASE No.	
DESIGN	SR	15 Aug. 2013	SCALE AS SHOWN
GIS	DL	09 Mar. 2016	REV. 0
CHECK	DDB	09 Mar. 2016	FIGURE 7.3-9
REVIEW	DDB	09 Mar. 2016	





POINT OF DIVERSION WATER LICENCE IN PROJECT WATERSHED					
TPOD TAG	LICENCE NO	STRM NAME	LIC STATUS	PURPOSE	LICENSEE
PD76933	Z117326	Box Canyon Creek	ACTIVE APPL.	POWER-GENERAL	SOUND ENERGY INC
PD81353	Z117326	Cascara Creek	ACTIVE APPL.	POWER-GENERAL	SOUND ENERGY INC
PD81354	Z117326	Marty Creek	ACTIVE APPL.	POWER-GENERAL	SOUND ENERGY INC
PD44460	C063713	McNab Creek	CURRENT	WATERWORKS (OTHER)	STRATA CORPORATION VR 850
PD44456	C044938	Harlequin Creek	CURRENT	ENTERPRISE	0819042 BC LTD INC.
PD44458	C121728	Harlequin Creek	CURRENT	CONSERV.-USE OF WATER	FISHERIES & OCEANS CANADA
PD74235	C113852	Lost Lake Creek	CURRENT	FIRE PROTECTION	STRATA CORPORATION VR 850

LEGEND

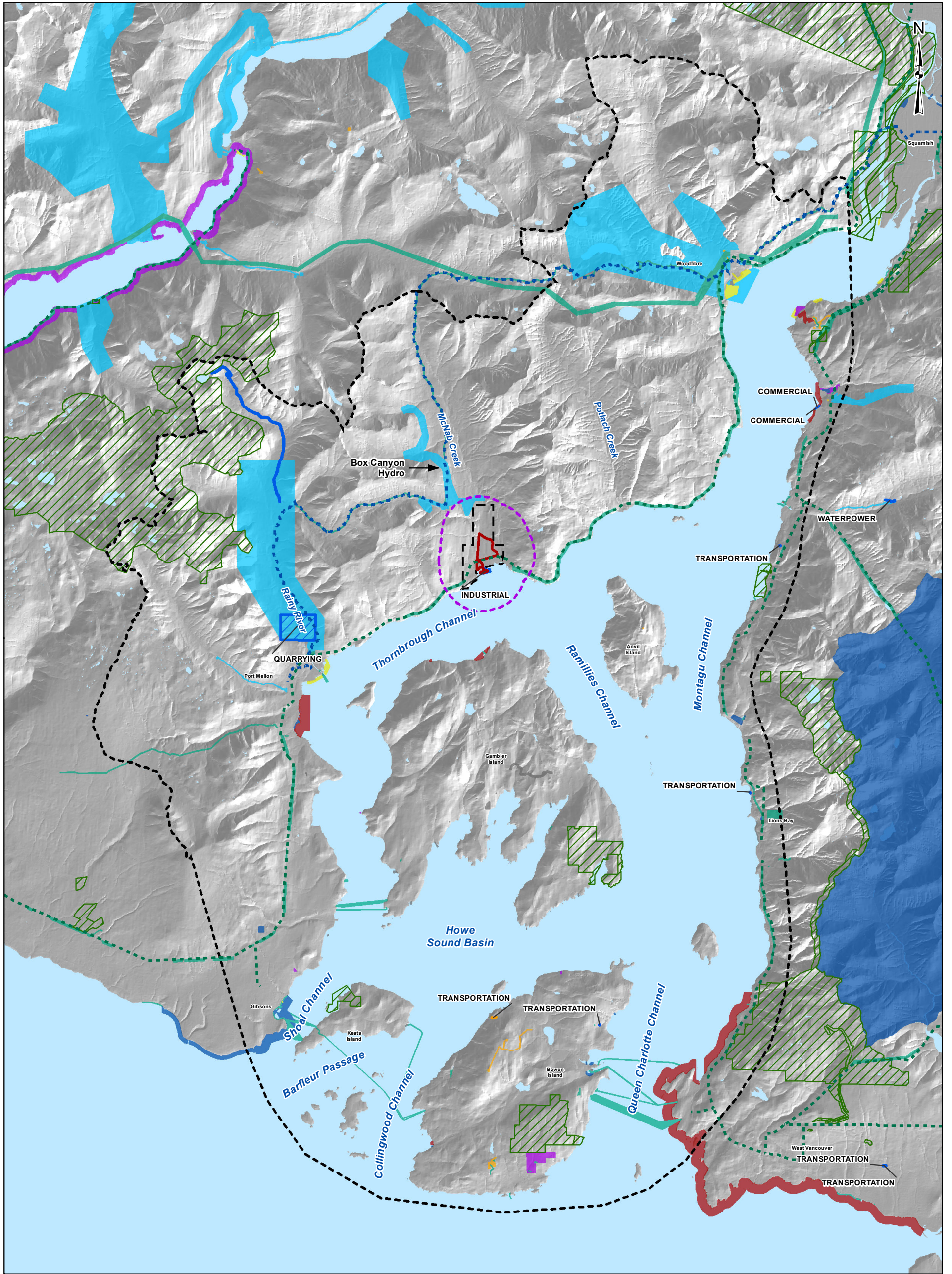
Land and Resource Use LSA - Project Area	Water Licence Status
Land and Resource Use RSA	Active
Park / Protected Area	Current
Vegetation	Abandoned
Waterbody	
Watercourse	
Road	
Resource Road	
Contour (250m)	
Camp	

REFERENCE

Water licenses, parks/protected areas from the Province of British Columbia, Elevation from Geobase. Base data from CanVec.
 Projection: UTM Zone 10 Datum: NAD 83



PROJECT		BURNCO ROCK PRODUCTS LTD. BURNCO AGGREGATE PROJECT, HOWE SOUND, B.C.	
TITLE		WATER LICENCE INFORMATION	
PROJECT NO. 11-1422-0046		PHASE No.	
DESIGN	JL 27 Feb. 2013	SCALE AS SHOWN	REV. 0
GIS	DL 09 Mar. 2016	FIGURE 7.3-10	
CHECK	DDB 09 Mar. 2016		
REVIEW	DDB 09 Mar. 2016		



Path: X:\Project Data\BC\Nab\Figures\WDX\Land and Resource Use\BURNCO_LAND_USE_Figure_7_3_11_Industrial_and_Commercial_Tenures.mxd

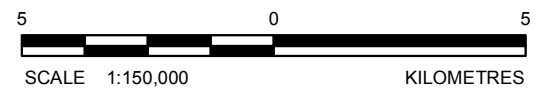
LEGEND

- Project Area
- Land and Resource Use RSA
- Land and Resource Use LSA
- BURNCO Property Boundary
- Park / Protected Area
- Crown Land Act Permit - Tenure (Purpose)
- Crown Land Act Permit - Application (Purpose)
- Power Transmission Line
- Natural Gas Pipeline

- TENTURES BY PURPOSE**
- COMMERCIAL
 - COMMUNICATION
 - INDUSTRIAL
 - INSTITUTIONAL
 - MISCELLANEOUS LAND USES
 - TRANSPORTATION
 - UTILITY
 - WATERPOWER

REFERENCE

Selected tenures, crown land act permits and parks/protected areas from the Province of British Columbia. Elevation from Geobase. Base data from CanVec. Natural gas pipeline from the City of Squamish. Projection: UTM Zone 10 Datum: NAD 83



PROJECT		BURNCO ROCK PRODUCTS LTD. BURNCO AGGREGATE PROJECT, HOWE SOUND, B.C.			
TITLE		INDUSTRIAL AND COMMERCIAL TENURES			
PROJECT NO. 11-1422-0046		PHASE No.			
DESIGN	SR	15 Aug. 2013	SCALE AS SHOWN	REV. 0	
GIS	DL	09 Mar. 2016			
CHECK	DDB	09 Mar. 2016	FIGURE 7.3-11		
REVIEW	DDB	09 Mar. 2016			

