Regional District of Kitimat-Stikine

Lakeshore Development Guidelines for Lakelse Lake

June 2014

Regional District of Kitimat-Stikine

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INTRODUCTION

Lakelse Lake is located in the Lakelse River Watershed, about 20 kilometers south of the city of Terrace in the Regional District of Kitimat-Stikine (RDKS). It is the warmest and most popular recreational lake in the district and is used both by residents and visitors to northwest BC. The watershed provides extremely valuable habitat and is home to a diversity of wildlife and fish, including trout, char, and all five species of Pacific salmon.

The cumulative effects of development and other human activities at Lakelse Lake have degraded habitat over the years. Government bodies, stakeholders, First Nations and volunteer groups have become active in managing development, activities and behaviours around lakeshore areas to protect and preserve water quality and habitat. The most significant watershed management challenge is to find a balance between the needs and desires of all users without compromising the Lake's ecological health.

Over the past 50 years, the area has sustained a series of linear developments including Highway 37, First Avenue, miscellaneous logging roads, PNG pipelines, and BC Hydro transmission lines. In addition, forest harvesting, residential development, tourism, public access and utilization have all contributed to long-term negative impacts on the Lake and its surroundings. The RDKS and its partners have acknowledged the need for a more refined management system and have begun working together in a collaborative process which needs the awareness, inclusion and commitment of others.

Lakes are a public resource. Everyone is responsible to make themselves aware of the sensitivity of the ecosystems around them. Adopting responsible behaviors, making environmentally friendly lifestyle decisions, and taking on a stewardship role will help ensure the Lake maintains its value for future generations. To assist the public in achieving this aim for Lakelse Lake, the RDKS has initiated the development of these Lakeshore Development Guidelines.

PURPOSE AND GOALS OF THE GUIDELINES

The purpose of these Guidelines is to help ensure the Lake and water resources in the Lakelse Watershed will be available for the use and enjoyment of future generations. They should be viewed as an informative guide on how to manage future development in an environmentally sustainable manner, and as a way of creating awareness about activities taking place on individual properties and the area in general.

This guide is a compilation of governing acts, regulations and policies which are already in place. The Guidelines refer to current best management practices, legislation, policies, regulations and by-laws that apply to activities, planning, and development at the Lake.

The goals of these Guidelines are two-fold:

- To condense information for the public from a number of agencies who have jurisdiction and regulatory responsibility within the Lakelse area.
- To provide educational information and conservation guidelines for those intending to develop land adjacent to lakeshore areas.

GUIDING PRINCIPLES

Four *guiding principles* are inherent throughout this document and inform the guidelines and direction provided within it:

Protect the Environmental Quality of Lakes
The Regional District of Kitimat-Stikine and its watershed partners recognize the environmental importance of our lakes. All are committed to seeking ways to protect riparian areas, visual/scenic, and water quality values by working together with various levels of government, First Nations and the public.

Develop and Implement Clear and Appropriate Guidelines for Immediate Application
Implementation of guidelines should assist Lakelse residents, developers, real estate agents and others to understand the Lake environment. The guidelines highlight existing provincial and federal regulations, regional district by-laws, and associated best management practices which have been created for the protection of the watershed.

Protect Lake Users and Developments from Hazards
Steep slopes, unstable soils, fires and floods can threaten developments and personal property, impact the environment, and compromise safety. Approval processes may help to minimize exposure to hazardous conditions and provide residents with resources to consult before undertaking a project.

Promote Sustainable Lake Management Practices through Stewardship and Awareness Programs
Understanding the importance of our lake and ways to preserve all lakes will be important to the ongoing stewardship of this valuable resource. To that end, RDKS and others will promote awareness about shoreline-friendly practices and lake preservation, in an effort to help residents become more informed.

PARTNERS AND RESOURCES

Local Government Level

At the local government level, regional districts have traditionally been responsible for adopting and administering subdivision, zoning and development permit regulations, pursuant to the provisions of the Local Government Act. With the introduction of Bill 26 - the Local Government Statutes Amendment Act (1997), the powers of regional districts to protect, restore and enhance the natural environment, its ecosystems and bio-diversity have been broadened.

The Regional District of Kitimat-Stikine has passed the Lakelse Lake Zoning By-Law No. 57, providing governance for all aspects of land use and development on private lands at Lakelse Lake.

Senior Government Level

Several **Provincial agencies** have significant involvement in the management of the lake and the Lakelse Watershed:

- BC Ministry of Environment (MoE) – regulates all in-stream works and development adjacent to the high water mark, as well as compliance and enforcement related to fresh water fisheries and wildlife. Further, MoE regulates all discharge of domestic sewage, except that under the Sewerage System Regulation.
- BC Ministry of Forests, Lands and Natural Resource Operations (FLNRO) – oversees many activities on Crown land including forest licensees and logging and land tenure administration.
- Northern Health – regulates sewage disposal and public water utilities.
- Provincial Agricultural Land Commission – regulates development activities on lands within the Agriculture Land Reserve (ALR).

- Ministry of Transportation and Infrastructure (MoTI) – agency responsible for road maintenance, and the final approving authority for all subdivision proposals and, subsequently, the requirements for public access to water.
- FrontCounter BC – regulates all development activities on Crown lands, including foreshore leases and permanent dock construction as well as lands 'underneath' the water.

Three **Federal agencies** also have relevant jurisdiction with respect to the Lake:

- Fisheries and Oceans Canada (DFO) – has several divisions such as Conservation and Protection (Fishery Officers), and the Habitat Monitoring Branch, which regulate fish habitat, stocks, and regulatory compliance.
- Environment Canada (EC) – regulates and enforces environmental protection and deleterious substances.
- Transportation Canada (NAVCAN) – oversees transportation on or over the Lake, enforces the Navigable Waters Protection Act, and reviews projects that may have an effect on navigation.

THE GUIDELINES

Lake residents, recreational users and developers can use these Guidelines to ensure that the integrity of the shoreline and natural features of the lake will be preserved through the works and practices they undertake.

- The Guidelines are meant to be an informative resource to assist the public in navigating the complexities associated with lakeshore development.
- It is likely that the information the public requires is contained in the Guidelines or will direct them to the appropriate expertise and/or agency.

These Guidelines are not intended to conflict with existing provincial or federal legislation: In the case of such a conflict, the Guidelines shall be superseded by those acts, regulations, or policies. The RDKS has done its best to ensure the most recent and applicable information has been included in these Guidelines. It is ultimately the responsibility the owners and developers to be compliant with, and to make themselves aware of, all levels of government legislation relating to their works.

A Word about "Due Diligence"

A proponent has numerous responsibilities when working in and around water:

- be familiar with the local government, provincial, and federal legal requirements;
- recognize and address the potential impacts to aquatic and riparian habitats, water quality and quantity, fish and wildlife populations, public safety and property as a result of proposed works;
- recognize and address the need to avoid, mitigate or lessen those impacts or risks;
- ensure the protection of fish and wildlife populations and their habitats, including species at risk;
- ensure the protection of property and the protection of human health;
- obtain the appropriate permits and authorizations from all applicable regulatory agencies before proceeding with activities;
- conduct works in a manner that complies with the regulations and avoids, mitigates or lessens potential impacts to aquatic and riparian habitats, water quality and quantity, fish and wildlife populations, and public safety and property.

Residents and developers interested in undertaking works at the Lake must abide by all government regulations, legislation, and best management practices. Common types of works undertaken by lakeshore residents and developers are found in Table 1, along with the associated regulations and best management practices (for more detailed information on a specific type of work, refer to section headings following Table 2). The information provided in these Guidelines is as current as possible; however, laws and regulations are subject to change without notice. Contact applicable government agencies to ensure all appropriate permits are obtained and best management practices followed.

Table 1. Types of work commonly undertaken by residents, and associated government legislation, regulations, and best management practices to be taken into consideration when undertaking a project*.

Type of Work	Associated Regulations and Best Management Practices
1. Boating	Shipping Act (Vessel Operations Restriction Regulations 2 (7)) National Pleasure Craft Operator Competency Program
2. Docks and Moorings	Water Act Approval / Notification Forms DFO Working Near Water Site Private Moorage Best Management Practices – Provincial Government Best Management Practices - Wharf, Pier, Dock, Boathouse and Mooring General BMP and Standard Project Considerations for In-stream Works (MoE) Standards and Best Management Practices for In-stream Works (MoE: note section 7.7) Navigable Waters Protection Program - Docks and Boat Houses Dock Primer Lakelse Lake Zoning By-law No. 57 (Regional District Kitimat-Stikine)
3. Beaches	Water Act Approval / Notification Forms DFO Working Near Water Site
4. Riparian Areas	Water Act Approval / Notification Forms DFO Working Near Water Site Standards and Best Management Practices for In-stream work General Best Management Practices for In-stream Works (MoE) Land Development Guidelines for the Protection of Aquatic Habitat Stream Keeper's Module 07 - Streamside Planting Shore Primer
5. Shoreline Erosion	Water Act Approval / Notification Forms DFO Working Near Water Site Standards and Best Management Practices for In-stream work General Best Management Practices for In-stream Works (MoE) Marine Guide to Preventing Shoreline Erosion (Informative)
6. Other In-stream Works	Water Act Approval / Notification Forms DFO Working Near Water Site Water Act Section 9 Terms and Conditions Kitimat-Stikine Region (BC Gov) Skeena Region- Reduced In-stream Work Windows and Measures Standards and Best Management Practices for In-stream Works General Best Management Practices for In-stream Works (MoE) Standards and Best Practices - Bank Stabilization Standards and Best Practices - Channel Maintenance Standards and Best Practices - Miscellaneous Works Stream Keeper's Module 06 - Stream Cleanup
7. Bridges	Water Act Approval / Notification Forms DFO Working Near Water Site Standards and Best Practices for In-stream Works - Bridges General Best Management Practices for In-stream Works (MoE)
8. Culverts	Water Act Approval / Notification Forms DFO Working Near Water Site Standards and Best Practices for In-stream Works - Culverts General Best Management Practices for In-stream Works (MoE)

Type of Work	Associated Regulations and Best Management Practices
9. Beaver Dam Removal	Water Act Approval / Notification Forms DFO Working Near Water Site Standards and Best Practices for In-stream Works (Section 7.6; MoE) Skeena Region Reduced In-stream Work Windows and Measures (MoE) Wildlife Act Section 9
10. Property Development	Water Act Approval / Notification Forms DFO Working Near Water Site RDKS Building Declaration Process/ Approvals Land Title Survey Authority Electronic Services General Best Management Practices for In-stream Works (MoE) Lakelse Lake Zoning By-law No. 57 Regional District Kitimat-Stikine
11. Use of Crown Land – Trails and Recreation, Parks, Personal Firewood Collection	Water Act Approval / Notification Forms Free Use Permit for Coast Mountains Resource District Park Use Permit DFO Working Near Water Site Recreation Sites and Trails BC (FrontCounter BC) Forest and Range Practices Act Forest and Range Practices Act: Forest Recreation Regulation Free Use Permit Information
12. Sewerage Systems	Water Act Approval / Notification Forms DFO Working Near Water Site Onsite Wastewater Consumer Information Centre Site (Registered Practitioners) Registered Professionals for Sewerage System Regulation Northern Health Sewerage Systems Information Public Health Act for Sewerage System Regulation Sewerage System Standard Practice Manual Municipal Wastewater Regulation- Environmental Management Act (MoE) Lakelse Lake / Jackpine Flats Liquid Waste Management Plan (RDKS)
13. Pesticide / Chemical Use	Cosmetic Use of Pesticides BC Citizen's Guide to Pesticide Use and the Law Pesticide Alternatives The Living by Water Project Pest Management
14. Drinking Water Program	Drinking Water Protection Act (BC Gov) Drinking Water Safety (Northern Health) Approved Drinking Water Testing Facilities

***Mandatory documents in red; those in black are for additional information or reference.**

For most projects undertaken in and around water, proponents will be required to submit notifications and approval/authorization forms to MoE and/or DFO. Table 2 provides information and links for the most commonly required forms that need to be completed for projects in and around water.

Table 2. Notification, authorization and approval forms*.

Organization	Submission / Form	Approximate Processing Time
DFO	Request for Review	60 days for review; 90 days (from date of completed review) for an authorization
MoE	Water Act Approval / Notification Forms	45 days (Notification); 140 days (Approval)

***DFO Review and/or Authorization required for those works not exempt (see DFO's** Projects Near Water website). Wa**ter Act approval and /or notification is needed for any work in or about a stream.**

1. Boating

Power-driven vessels cannot exceed ten kilometers per hour within 30 meters of the shore in BC lakes and Rivers (Canada's *Shipping Act*).

Proof of competency (such as a Pleasure Craft Operator's Card) is required of anyone operating a pleasure craft fitted with any type of motor. For additional information – including a list of accredited course providers – visit the National Pleasure Craft Operator Competency Program site.

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2. Docks and Moorings

Docks

The building of docks is regulated by the *Private Moorage* regulations, and may need approval through MoE under the *Approvals and Notifications for "Changes In and About a Stream."* Go to Best Management Practices - Wharf, Pier, Dock, Boathouse and Moorings to see if your proposed dock needs approval. Docks are exempt from federal review under the DFO Projects Near Water Site, but Measures to avoid harm must be incorporated wherever applicable. If your project falls outside of the scope of "docks" – as per DFO's description of project activities that do not require a review – you must send in a request for review to DFO. Refer to Table 2 for DFO and MoE authorization, approval, and notification forms.

As part of your application to MoE, you will be asked how your project might affect the legal rights of downstream water licensees, and how you will address stability and flood levels, as well as fish and wildlife resource values. It is important that you plan your project in advance to provide detailed designs and specifications to accompany your application. Contact your local FrontCounter BC office to see if the project you are planning will require provincial approval.

Floating docks are generally preferred because they have reduced impacts on the aquatic environment, and they tend to be simpler and more economical to build. Floating docks can also be removed during winter to avoid being damaged by ice. Reference the *Marine Guide to Small Boat Moorage* and the *Dock Primer* for further information on reducing the environmental impacts of docks and moorings. Building a more environmentally friendly dock can be as simple as not using metal barrels (as they can rust and become unwanted debris in the lake), and by using natural wood products (such as cedar) or plastic as an alternative to pressure-treated wood.

Moorings

A small mooring is used to anchor a boat in open water away from the shore, and uses concrete anchor blocks secured by chains and ropes to floats: They lessen lake and river bed damage by reducing the need for boats to set anchors. It is important to have a properly sized mooring, as undersized moorings can damage substrates and aquatic habitats by dragging or shifting along the lake or river bed.

Moorings are exempt from review under the DFO Projects Near Water Site, but Measures to avoid harm must be incorporated as applicable. If your project falls outside of the scope of "moorings" – as per DFO's description of project activities that do not require a review – you must submit a request for a DFO review. Refer to Table 2 for DFO and MoE authorization, approval, and notification forms.

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3. Beaches

The clearing away of natural foreshore and adding of material below the High Water Mark are activities that may be contrary to multiple regulations, including both the *Water Act* and the *Fisheries Act*. However, depending on the scope of the project, beach creation (installation or replenishment) may be possible and be exempt from review (see the DFO Projects Near Water Site) as long as all sand is isolated and contained above the High Water Mark such that sand cannot wash into the water. Refer to Table 2 for DFO and MoE authorization, approval, and notification forms.

Using a swimming platform instead of creating an artificial beach may prove a good option for private land owners. Alternatively, using existing community beaches enables private shorelines to remain vegetated, thus providing a greater riparian area to protect the health of the lake.

Shoreline vegetation sometimes interferes with a landowner's use of beaches, boats or other recreational pursuits: DFO does not require a review for removal of aquatic vegetation at the shoreline for swimming areas and private boat access, so long as removal is limited to no greater than a four meter wide swath, removed mechanically or by hand (see DFO's Projects Near Water website): Unless the removal meets these criteria, approval will be needed for any vegetation removal below the High Water Mark.

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4. Riparian Areas

Riparian areas act as a buffering zone between a waterway and an upland environment, and are important for fish habitat, providing shade, cover and food. Riparian areas also prevent erosion of banks and soils, and even improve water quality.

A riparian "leave strip" is left around waterways including wetlands, streams and rivers to help maintain the integrity of the waterway and the riparian area. This leave strip must extend from the High Water Mark *or* from the top of bank, horizontally, to a minimum 15 meters (in low density residential areas) and up to 30 meters (in high density or commercial areas).

The *Stream Keeper's Module 07 - Streamside Planting* provides further information on riparian areas. Any works in and around water may be subject to the *Water Act* and the *Fisheries Act*: Refer to Table 2 for DFO and MoE authorization, approval, and notification forms. Visit the DFO Projects Near Water Site to determine if a project requires DFO approval.

A limited amount of thinning of trees and vegetation is permissible to provide a view or access to a water body: A maximum three meter-wide trail to the water is acceptable – preferably not in a straight line. The simplest and best means of maintaining your shoreline is to leave the natural riparian vegetation – including reeds and foreshore shrubs and trees – undisturbed and intact.

Figure 1. Illustration of riparian leave strip around various streams, side-channels and wetlands.

*Leave strip must be a minimum of 15 meters from natural boundary of waterway.
(Source: DFO http://www.pac.dfo-mpo.gc.ca/habitat/reveg/index-eng.htm)

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5. Shoreline Erosion

Erosion of the shoreline – often due to wind and water – can result in significant land losses for property owners along waterways. Erosion may also be detrimental to the health of a waterway owing to the increase in sediment in the water, which can negatively affect fish health and survival. Although it's a natural process, erosion can be accelerated by disturbance. Erosion control can be approached in many ways including use of natural breakwater devices, retaining walls, rock armouring (e.g. rip-rap), and riparian vegetation.

Erosion prevention methods such as armouring (typically rock or rip-rap) or retaining walls typically result in transfer of erosive forces to neighbouring properties. In addition, they may create barriers for amphibious species, and may impact fish habitat. The *Marine Guide to Preventing Shoreline Erosion* supplies further information. The use of artificial materials – including rip-rap or logs – in the lake to protect against shoreline erosion requires approval from the Ministry of Environment, under Section 9 of the *Water Act: Approvals and Notifications for "Changes In and About a Stream"*, and any works within 30 meters of the water may require a DFO authorization (unless they meet the criteria for projects that do not require DFO review: See DFO's Projects Near Water website). Refer to Table 2 for DFO and MoE authorization, approval, and notification forms. If other breakwater devices (such as logs) are to be used that could affect navigation or safety, then approval under the *Navigable Waters Protection Act* or the *Navigation Protection Act* (anticipated in April 2014) may be needed.

Natural breakwater devices located in the shallow margins of a waterbody prevent waves from causing shoreline erosion. Cattails, sedges, and rushes are common types of natural vegetation that function as breakwaters, and can be encouraged for shoreline protection.

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6. General In-stream Works

Many projects undertaken by a resident of Lakelse may require approval under the BC Ministry of Environment *Water Act*. Works "in and about a stream" include many activity types:

- *any modification to the nature of the stream including the land, vegetation, natural environment or flow of water within the stream, or*

- *any activity or construction within the stream channel that has or may have an impact on a stream.*

Several projects that fall under this "general in-stream works" category are briefly outlined in this section. For any in-stream work, one of the simplest approaches to reducing impacts to an aquatic resource is to schedule work within a least-risk timing window. Timing windows for the Skeena region can be found at *Skeena Region- Reduced In-stream Work Windows and Measures*. In-stream works may require approval by DFO; refer to Table 2 for DFO and MoE authorization, approval, and notification forms, and visit DFO's Projects Near Water website to determine if a project requires DFO review or authorization.

Private Stream Crossings – Residents who wish to install a driveway that requires a culvert or clear-span bridge to cross a stream must have prior approval under the *Water Act* and may require a DFO authorization if the stream is fish-bearing stream. This applies to all works including a new crossing, replacing a crossing or enlarging a crossing.

Stream Channel Maintenance – No legal approvals are required for cleanup activities on the **banks** of a watercourse (e.g. the removal of man-made garbage); however, you must receive the approval of the landowners along any watercourse you wish to clean up. Note that removal of debris from a lake or stream (i.e. debris below the High Water Mark) may require both DFO and MoE approval. Refer to *Stream Keeper's Module 6 - Stream Cleanup* for additional information, and contact your local DFO Community Advisor (250-615-5350) for approval for in-stream cleanup.

Other stream channel maintenance activities fall under the responsibility of local and provincial government and their agents.

Stream Bank and Lakeshore Stabilization – Works are permitted under the *Water Act* only if done by the local government, or to repair or maintain an existing dyke or erosion protection work.

Habitat Restoration and Management – Any works that fall under this category need approval under the *Water Act* as well as DFO, and may also require local government approval. Contact the local DFO Community Advisor (250-615-5350) for information on how to proceed with any habitat management or restoration projects.

Emergency Works – Emergency works can only be undertaken by the provincial or local government or its agents: Such works relate to construction of emergency flood protection and erosion protection works, and to the removal of bridge obstructions that may threaten structures during flood conditions (as described and designated under the provincial *Water Act*).

Other Types of In-stream Works Requiring an Approval Application under the *Water Act* – In addition to obtaining approval under the *Water Act*, many of these works require DFO authorization under the *Fisheries Act*. These works include anything that results in the alteration of a stream path, flow or direction. Works include stream channel realignment; construction of a dam, weir or sediment pump; creation of a pond or lake; permanent flow diversions; and any works not permitted under the *Water Act* regulation. Such activities require approval under Section 9 of the *Water Act*, since these works usually involve harmful alteration, disruption or destruction of habitat.

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7. Bridges

Clear-span bridge works may include bridge construction, maintenance or removal, and often do not cause harm to fish or fish habitat if undertaken using best management practices. Any works associated with bridges that could involve harmful alteration, disruption or destruction to a watercourse will require authorization through DFO, as well as *Water Act* approval through MoE. Refer to Table 2 for DFO

and MoE authorization, approval, and notification forms. Visit DFO's Projects Near Water website to determine if a project requires DFO review or authorization.

Clear-span bridges should not involve any works below the High Water Mark, removal of riparian vegetation, alteration or infilling of the stream channel. Ministry of Environment has developed bridge-specific best management practices that should be followed. Keep in mind the Skeena Region timing windows to lessen negative impacts on fish populations. Clear-span bridges are preferred over culverts, as such bridges do not involve any alteration to the natural stream channel.

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8. Culverts

Works involving culverts include installation, removal, and maintenance. Any works associated with the installation and removal of culverts will require authorization through DFO and *Water Act* approval through Ministry of Environment. Refer to Table 2 for DFO and MoE authorization, approval, and notification forms. Some culvert maintenance does not require DFO authorization, as outlined in DFO's Projects Near Water website.

The Ministry of Environment has developed specific best management practices for culverts that should be followed and are a helpful guide for the approval process. If the culvert will be located in a fish stream or fish sensitive area take the Skeena Region timing windows into account to reduce the risk of impact to fish.

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9. Beaver Dam Removal

Beaver dams or impoundments can cause flooding and limit upstream fish access. Landowners wishing to remove beaver dams must first receive a *Water Act* approval from the Ministry of Environment. A Wildlife Sundry Permit under Section 9 of the *Wildlife Act* will also be needed – unless the beaver dam removal is to protect the landowner's property from flooding, or if the licensed area trapper is contracted to remove the beavers. If you remove a beaver dam, you are obliged to notify any downstream water users who may be affected by its removal. DFO approval is required only if the stipulations identified in DFO's Projects Near Water website cannot be met. Refer to Table 2 for DFO and MoE authorization, approval, and notification forms.

Currently there are four separate traplines in the Lakelse area: Refer to Figure 2 and Table 3 to see which individual trapline services each area, and contact the Ministry of Forests, Lands and Natural Resource Operations (250-847-7260) for a current listing of registered trapline holders.

Table 3. Registered traplines in the Lakelse Area (2014).

Trapline Number
TR0610T001
TR0611T001
TR0609T043
TR0609T044

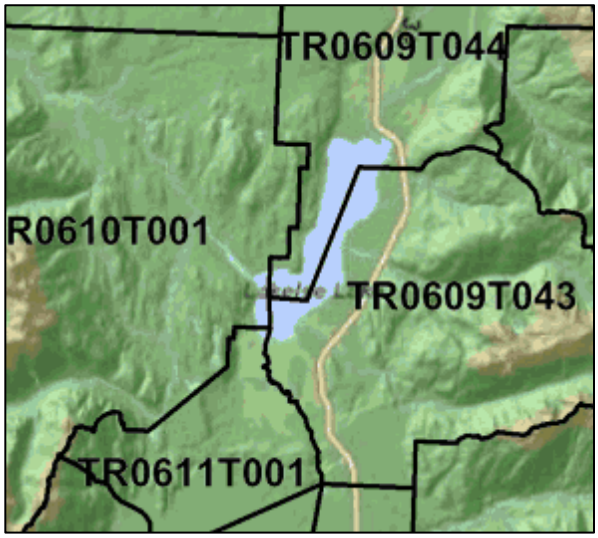

Figure 2. Trapline boundaries in the Lakelse Lake Area (Lakelse Lake at center).

Beaver dams must be lowered slowly – no more than 20 centimeters a day – to ensure downstream flooding and erosion do not take place. If there is a series of dams to be removed, work from the most downstream dam first and continue upstream. Measures to prevent harm to fish and fish habitat must be incorporated into your work, and must include working within appropriate regional timing windows.

Dam removal on its own is generally not an effective beaver management technique. It is important to remember that beavers provide valuable off-channel habitat and support ecological diversity. Dam removal should be undertaken only after trying all other management tools, or in emergency situations, and must only be undertaken in conjunction with measures to prevent harm to fish and fish habitat. The most comprehensive best management practices can be found in the BC Ministry of Environment's *In-stream Works-Beaver Dam Removal* website, which also guides the approval process. Another useful reference is the *Standards and Best Practices for In-stream Works* (Section 7.6).

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10. Property Development

Before undertaking any project, property owners should first consult the RDKS *Lakelse Lake Zoning Bylaw No. 57*, and reference all regulatory agencies to ensure ALL standards and requirements are met. Homeowners, developers and contractors are strongly encouraged to contact the RDKS office and speak with staff to ensure that all aspects of their project fully comply with the bylaw.

Any new construction – whether a garden shed, boat house or new residential dwelling – must comply with regulations and permitted uses detailed in the by-law. Some of the issues addressed by the bylaw include (but are not limited to) the items bulleted below:

- Setback of the structure from lot lines.
- Setback of the structure from the Natural Boundary of the lake.
- Elevation of area used for habitation above the recognized flood plain.
- Setback of structure from streams, creeks or other watercourses.
- Number of permitted dwelling units.
- Size of ancillary structure or guest cabins.

For any new construction in excess of ten square meters, or for any addition to an existing building, an application must be made to the RDKS for a Building Declaration Siting Approval prior to the start of construction. A Surveyor's Certificate will also be required for all new dwelling units, ancillary structures greater than 20 square meters, and for additions within two meters of the required setback from a

property line. Contact the Regional District's Planning Department (250-615- 6100) for further information.

Residents will want to consider the ideas suggested in the FireSmart program relating to building construction materials, methods, site preparation techniques, and homeowner practices, to lessen the risk of potential loss and property damage from wildfire. When incorporating these ideas, you must be sure not to compromise riparian or foreshore areas.

Works within 30 meters of water may require a DFO review, and may also require a Water Act approval through MoE. The setbacks from waterways requirements included in the RDKS Zoning Bylaw No. *57* are included only for construction and flood purposes, and do not take into account potential impacts to the environment. Where there is any conflict between them, the Bylaw is superseded by DFO and MoE regulations; these environmental agencies should be consulted prior to property development. Refer to Table 2 for DFO and MoE authorization, approval, and notification forms. Visit DFO's Projects Near Water website to determine if a project requires DFO review or authorization.

Finally: Properties may be subject to covenants that can restrict development on a property. Do a Land Title Search to see if a property has a covenant and to see what it means. Information on Land Title Searches in BC can be found at Land Title Survey Authority Electronic Services Online.

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11. Use of Crown Land

Crown land borders many properties around Lakelse Lake, and recreational use by residents and visitors to the area is popular – especially within the designated provincial parks. Several considerations should be made when using crown land for recreational use or firewood cutting.

Trails and Recreation

Recreational use of Crown land include**s** use by ATVs, mountain bikers, and hikers. Before undertaking these activities you should ensure the trails and recreation sites are intended for your specific use. Any persons interested in building, maintaining or rehabilitating a trail or recreation facility require authorization in writing from the Minister (such activities are otherwise prohibited on Crown land under Section *57* of the *Forest and Range Practices Act*). Unauthorized construction, maintenance, or rehabilitation of trails may cause soil erosion, affect stream quality, and may pose safety issues to the general public. Applications can be made through FrontCounter BC. Depending on the trail location, notifications or approvals under the *Water Act* and through DFO may be necessary. Refer to Table 2 for DFO and MoE authorization, approval, and notification forms. Visit DFO's Projects Near Water website to determine if a project requires DFO review or authorization.

Provincial Parks

Approximately 1576 hectares of the area around Lakelse Lake is designated and governed by the province as Provincial Park under the *Park Act* and the *Protected Areas of British Columbia Act*. There are two distinct provincial parks on Lakelse Lake: Lakelse Lake Provincial Park, and Lakelse Lake Wetlands Provincial Park (Figure 3).

Under Section 13 of the *Park Act*, a person must not construct, install, erect, or place any structure, improvement or work of any nature in

Figure 3. Provincial Parks on Lakelse Lake: Lakelse Lake Provincial Park and Lakelse Lake Wetlands Provincial Park.

***Map is for informative purposes only and does not represent legal boundaries. Sourced from BC Parks location map.**

the park, conservancy, or recreation area unless they possess a valid and subsisting Park Use Permit or Resource Use Permit. Natural resources within park boundaries are protected under section 9(1) of the *Park Act* and must not be sold, removed, destroyed, damaged, disturbed, or exploited except as authorized by a valid and subsisting Park Use Permit.

Lakelse Lake Provincial Park is 362 hectares in size, and is divided into two parcels. This park encompasses old growth forests and valuable fish spawning habitat, and is used by residents and visitors for various recreational purposes. Legal boundary lines for this park can be found in the *Protected Areas of British Columbia Act, Chapter 17, Schedule C*.

Lakelse Lake Wetlands Provincial Park is located at the southern end of the Lake. This park is 1214 hectares in size and protects salmonid spawning habitat, important over-wintering and migratory habitat for waterfowl, and habitat for large mammals such as grizzly bears and moose. Legal boundary lines can be found in the *Protected Areas of British Columbia Act, Chapter 17, Schedule C*.

Firewood Collection

Collection of firewood for personal use is permitted on vacant Crown land only within areas designated for cutting by the Ministry of Forests, Lands and Natural Resource Operations. A Free Use Permit is required and is subject to the *Forest and Range Practices Act* and its regulations. Information on designated firewood cutting areas, including maps of the areas, can be found on the Coast Mountains Resource District site.

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12. Sewerage Systems

Owners and non-approved contractors are not authorized to design, repair, construct, or do maintenance on a sewerage system without the assistance from an authorized person. An authorized person is either a registered practitioner for onsite sewage installations (Types 1& 2) or a professional engineer who is authorized to undertake onsite sewage installations (Types 1, 2, & 3). A list of authorized persons in the Terrace area can be found on the Onsite Wastewater Consumer Information Center site or on the APEG website for registered engineers.

Sewerage systems are classified based on their ability to treat effluent to the minimum standards. The three types of systems (as defined by Northern Health) are defined in Table 4.

Table 4. Definitions of Type 1, 2 & 3 sewerage systems, as defined by Northern Health.

System Type	Specifications
Type 1	Treatment by septic tank only.
Type 2	Treatment that produces an effluent consistently containing less than 45 mg/L of total suspended solids and having a five-day biochemical oxygen demand of less than 45 mg/L.
Type 3	Treatment that produces an effluent consistently containing less than 10 mg/L of total suspended solids, and having: -A five day biochemical oxygen demand of less than 10mg/L; -A median fecal coliform density of less than 400 Colony Forming Units per 100ml.

Setback values for sewerage systems are defined under the *Public Health Act for Sewerage System Regulation* and the *Sewerage Systems Standard Practice Manual*. The Act also defines the responsibility of the owner for installation, maintenance, and permitting of the sewerage system. Setback values noted in the Standard Practice Manual and can be seen in Table 5. Any discharge of

domestic sewage not regulated by the *Sewerage System Regulation* is regulated by the MoE in the *Municipal Wastewater Regulation.*

Table 5. Horizontal setback distances for sewerage systems*.

Distance to:	**From dispersal system**		
	Type1/2 Gravity Dist.	**Type1/2 Pressure Dist.**	**Type 3 Pressure Dist.**
Source of drinking water, well or suction lines	30 m		
High pumping rate Water Supply System Well	60 m		
High pumping rate Water Supply System Well in unconfined aquifer	90 m		
Break-out point of downslope drain (including perimeter drain)	15 m	7.5m	7.5 m
Fresh Water	30 m		15 m
Fresh Water Seasonal (source incapable of contaminating a drinking water source)	30 m	15 m	
Property Lines	3 m		1.5 m

***as defined by Table2-6 Horizontal Setback Distance for other setbacks and Table 2-6 Horizontal Setback Distances for Critical Setbacks in the *Sewerage Systems Standard Practice Manual V2* (2007). Additional setback requirements can be found in these tables. Consult local Registered Professionals for details associated with sewerage system installation, maintenance and repair.**

Lakelse has unique problems associated with sewerage systems: Of most concern are those systems in low-lying areas, especially where the water table is close to the surface and are thus prone to contamination of ground and surface waters. Additionally, many residences have transitioned from being used seasonally to being used as permanent homes, and there are concerns that the sewerage systems are not sufficient for the shift to year-round use. RDKS is responding to these concerns by developing a Liquid Waste Management Plan for the area.

Depending on where the work is being done, reviews, notifications or approvals under the *Water Act* and through DFO may be necessary. Refer to Table 2 for DFO and MoE authorization, approval, and notification forms. Visit DFO's Projects Near Water website to determine if a project requires DFO review or authorization.

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13. Pesticide/Chemical Use

The use of pesticides is regulated at all levels of government:

Federal – Regulates which pesticides can be used in Canada.
Provincial – Regulates use, sale, storage, transport and disposal of approved pesticides.
Municipal – Regulates use through bylaws.

Cosmetic use of pesticides is now strongly discouraged. Pesticides and chemicals – including fertilizers – are motile, meaning they cannot be confined to a single area and can have effects on non-target species. They are easily washed away from lawns and gardens, sending the chemicals into lakes and waterways and affecting water quality. Fertilizers can cause algal blooms in aquatic areas, resulting in low oxygen levels and subsequent harm to aquatic life and water quality. The presence of riparian

vegetation can help abate chemical runoff. Consider using the tips for home and lawn care provided by The Living by Water Project, and also consider using pesticide alternatives. Additional information on pest management can be found in Chapter 5 of the BC Environmental Farm Plan: Reference Guide.

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14. Drinking Water Program

The Drinking Water Protection Act (*DWPA*) and *Regulation* provide the framework for the Northern Health Drinking Water Program. The *DWPA* strengthens and clarifies the overall accountability and oversight in providing safe drinking water to the public. It recognizes that safety of drinking water is a public health issue. Health Authorities have been given greater powers in protecting drinking water, from source to tap, allowing them to provide improved education, advice, assistance and direction to water suppliers.

The Drinking Water Program is administered locally by drinking water officers, public health engineers and medical health officers, who are collectively responsible for direct service delivery in BC's Health Authorities.

Drinking water officers provide surveillance and monitoring of drinking water systems that may affect the public's health. They also administer and enforce the *Drinking Water Protection Act*, the *Drinking Water Protection Regulation,* and the *Health Act*, and provide interventions to minimize health and safety hazards.

Prior to creating or altering drinking water systems, drinking water officers and public health engineers should be contacted. Drinking water systems require construction permits and operating permits to ensure that they are created and maintained to safeguard the drinking water supplied to customers.

According to the *DWPA*, permits (Construction/Operating) are required for all water supply systems: This includes those systems supplying water to more than one residence on a property *or* to a neighbouring property. *Shared* common drinking water systems require permitting under the *DWPA*; domestic water systems that only serve one family residence are excluded. For any questions regarding whether your drinking water system requires a permit, contact an Environmental Health Officer (250-631-4222).

Residents interested in private water sampling can obtain a free sample kit from a water bottling depot. Terrace depots include Acadia Northwest Mechanical, Aqua Clear Bottlers, Aqua Plumbing, and Suretech. Samples can be dropped off at Public Health Protection on Mondays and Tuesdays before 2:30 pm for shipping to Northern Labs. Residents are responsible for arranging payment through Northern Labs (the costs of drinking water testing currently ranges from $42.00 to $252.00). Contact the local environmental health office (250-631-4222) for further instructions on Drinking Water Package sampling.

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Glossary of Terms

A

Amphibious Species – Coldblooded vertebrates that spend part of their life in both water and on land, such as frogs and toads.

Approval – An approval of the comptroller, regional water manager, or an engineer under Sections 8 or 9 of the *Water Act*.

Aquatic – Of or relating to water

Armouring – Formation or application of various materials to protect the banks and shores of waterbodies from erosion.

Authorization – If proposed works have the potential to result in the harmful alteration, disruption or destruction (HADD) of fish habitat, DFO must be contacted to determine if an authorization under subsection 35(2) of the *Fisheries Act* is necessary.

B

Bank stabilization – Any works undertaken to protect or amour a bank or shore from erosion.

Best Management Practice – A recommended technique that has been demonstrated to be an effective and practical means of preventing or limiting harmful impacts to the environment. Best Management Practices include any program, technology, process, siting criteria, operating method, measure, or device that controls, prevents, removes, or reduces pollution.

Bylaw – A rule made by a local authority for the regulation of its affairs or management of the area it governs

C

Clear-span Bridge – A stream crossing structure that spans the stream's bankfull channel and does not involve the construction or installation of any structure within the stream's banks.

Crown Land – Land owned by the government

Culvert – A drain or channel used to allow water movement under a road, embankment, etc. Often made from corrugated metal.

E

Erosion – A natural process of sediment movement as a consequence of water currents, rainfall runoff, or wind, which may be considered beneficial or detrimental depending upon the associated environmental concerns.

F

Foreshore – Part of the shore between the upper limit of wave-wash at high tide and the ordinary low water mark.

H

Habitat – The natural home of a plant or animal within an ecosystem, which provides food and shelter and other elements critical to an organism's health and survival.

Hectare – 1 hectare is equivalent to 0.01 square kilometer (or approx.. 2.47 acres).

High Water Mark – Refers to the highest level reached by a body of water that has been maintained for a sufficient period of time to leave evidence on the landscape. It may be indicated by destruction of terrestrial vegetation, the presence of marks on trees or debris deposits. It is usually the point at which natural vegetation shifts from predominately hydrophytic (water-dependent) species to terrestrial species.

L

Littoral zone – The zone of a lake from the surface of the water to the maximum depth of light penetration.

Leave strip – The minimum area of vegetation left around a waterway as riparian vegetation.

M

Mooring – An anchorage typically comprised of concrete anchor blocks, chains, rope and floats, anchored to the bottom of a water body in open water and away from the shoreline and used to secure a boat or to hold a channel marker in place as a navigational aid.

N

Natural boundary – High Water Mark or top of bank of a waterway.

Natural breakwater – A natural barrier in the water, such as vegetation, that reduces the erosive effects of waves on the shore.

P

Pesticides – Substances or devices used to kill, suppress, or repel pests. They may be natural or chemically derived and work by disrupting a vital process in the target organism, such as photosynthesis in plants.

Proponent – A person who advocates a theory, proposal, or project.

R

Restoration – The treatment or cleanup of fish habitat that has been altered, disrupted, or degraded, for the purpose of increasing its capability to sustain fish production.

Riparian areas – Vegetated areas located next to, and affected by, a watercourse. They can broadly be described as the upland areas adjacent to and nearby a watercourse.

Riprap – Rock or stone placed on earth surfaces for protection of the soil against the erosive action of flowing water or precipitation.

S

Sediment – Particulate matter that is entrained within, or settled out from, water.

Sewerage systems – Systems used for the treatment of raw wastes, including septic tanks.

Stewardship – Caring for the land and associated resources so that healthy ecosystems can be passed on to future generations.

T

Timing window – A period of reduced risk during which a particular type of works (i.e., in-stream works or vegetation clearing) is permitted. Referred to by various terms including "reduced risk window" and "window of least risk." Timing windows vary on a site-specific basis, depending on which species may be present and the sensitivity of habitat.

U

Upland environment – Area of land inland from the High Water Mark.

W

Watershed – An area of land that contributes runoff to a specific delivery point, such as the mouth of a river. Large watersheds may be composed of many smaller sub-watersheds, each contributing runoff to various streams and rivers that ultimately combine at a common delivery point.

Water quality – Water quality is defined in terms of the chemical, physical, and biological content of water.

Water table – The level below which the ground is completely saturated with water.

Acronyms

DFO – Department of Fisheries

FLNRO – Ministry of Forests, Lands and Natural Resource Operations

MoE – Ministry of Environment

MoTI – Ministry of Transportation and Infrastructure

RDKS – Regional District of Kitimat-Stikine

Resources

A

Approvals and Notifications for "Changes In and About a Stream" (Water Act Section 9)
http://www.env.gov.bc.ca/wsd/water_rights/licence_application/section9/index.html
Approved Drinking Water Testing Facilities
http://www.phsa.ca/NR/rdonlyres/5B077C99-9015-42AC-943F-32F74E9968B6/0/831PHOApprovedLaboratoryList20110615.pdf

B

BC Parks
http://www.env.gov.bc.ca/bcparks/explore/parks/#l1
BC Parks Location Map
http://www.env.gov.bc.ca/bcparks/explore/map.html
Beaver Dam Removal- Sundry Permit (MoE)
http://www.env.gov.bc.ca/pasb/applications/process/wildlife.html#beaver-dam
Best Management Practices-Wharf, Pier, Dock, Boathouse and Mooring
http://www.env.gov.bc.ca/wld/instreamworks/downloads/Docks.pdf

C

Citizen's Guide to Pesticide Use and the Law
http://wcel.org/sites/default/files/publications/Citizen%27s%20Guide%20to%20Pesticide%20Use%20and%20the%20Law%20in%20BC.pdf
Cosmetic Use of Pesticides BC
http://www.env.gov.bc.ca/epd/ipmp/regs/cosmetic-pesticides/consultation.htm

D

Dock Primer (DFO)
http://www.kawarthaconservation.com/pdf/TheDockPrimer.pdf
DFO Project Review Process
http://www.pac.dfo-mpo.gc.ca/habitat/know-savoir-eng.htm
Drinking Water Protection Act (BC Government)
http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/00_01009_01
Drinking Water Safety (Northern Health)
http://www.northernhealth.ca/YourHealth/EnvironmentalHealth/DrinkingWaterSafety.aspx

E

F

Fisheries Act
http://laws-lois.justice.gc.ca/eng/acts/F-14/
FireSmart Manual
http://embc.gov.bc.ca/ofc/interface/pdf/homeowner-firesmart.pdf
Forest and Range Practices Act
http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/00_02069_01#part5_division3
Forest and Range Practices Act: Forest Recreation Regulation
http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/16_2004
Free Use Permit- Coast Mountains Resource District
http://www.for.gov.bc.ca/dkm/FUP/FREE_USE_PERMIT.pdf
Free Use Permit Information
http://www.for.gov.bc.ca/dkm/FUP/FUP.htm#top

G

General Best Management Practices for In-stream Works (MoE)
http://www.env.gov.bc.ca/wld/instreamworks/generalBMPs.htm

H

I

J

K

L

Lakelse Lake/Jackpine Flats Liquid Waste Management Plan (RDKS)
http://www.rdks.bc.ca/content/lakelse-lakejackpine-flats-liquid-waste-plan
Lakelse Lake Zoning By-law No. 57 (Regional District of Kitimat-Stikine)
http://www.rdks.bc.ca/sites/default/files/docs/bylaw_no._57_-_lakelse_lake_consolidated_-_2008-08-11.pdf
Lakelse Watershed Society
http://www.lakelsewatershedsociety.com/
Land Development Guidelines for the Protection of Aquatic Habitat
http://www.dfo-mpo.gc.ca/Library/165353.pdf
Land Title Survey Authority Electronic Services
https://www.bconline.gov.bc.ca/land_titles.html

M

Marine Guide to Preventing Shoreline Erosion (DFO Info)
http://www.dfo-mpo.gc.ca/Library/281618.pdf
Marine Guide to Small Boat Moorage
http://www.dfo-mpo.gc.ca/library/281614.pdf
Municipal Wastewater Regulation- Environmental Management Act (MoE)
http://www.env.gov.bc.ca/epd/mun-waste/regs/mwr/

N

Navigable Waters Protection Act
http://laws-lois.justice.gc.ca/eng/acts/n-22/
Northern Health Sewerage Systems Information
http://www.health.gov.bc.ca/protect/lup_index.html

O

Onsite Wastewater Consumer Information Center site. (Registered Practitioners)
http://owrp.asttbc.org/c/finder.php

P

Park Act
http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/00_96344_01#section13
Park Use Permit
http://www.env.gov.bc.ca/bcparks/permits/#Apply
Pest Management
http://www.bcac.bc.ca/sites/bcac.localhost/files/Ardcorp_Program_Documents/EFP/EFP%20Reference%20Guide%20Chapter%205.pdf
Pesticide Alternatives
http://www.terrace.ca/images/uploads/banners/Cosmetic_Pesticides_-_PESTICIDE_ALTERNATIVES.pdf
Private Moorage Land Use Operational Policy
http://www.for.gov.bc.ca/Land_Tenures/documents/policies/private_moorage.pdf
Private Moorage Provincial Information
http://www.for.gov.bc.ca/Land_Tenures/tenure_programs/programs/privatemoorage/index.html
Protected Areas of British Columbia Act
http://www.bclaws.ca/EPLibraries/bclaws_new/document/LOC/freeside/–%20P%20–/Protected%20Areas%20of%20British%20Columbia%20Act%20SBC%202000%20c.%2017/00_Act/00017_04.xml
Public Health Act for Sewerage System Regulation
http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/22_326_2004

Q

R

Registered Engineers
http://www.apeg.bc.ca/members/sewerageprolist.html

Recreation Sites and Trails BC
http://www.sitesandtrailsbc.ca/about/trail-or-facility-authorization.aspx
RKDS Building Declaration Process/ Approvals
http://www.rdks.bc.ca/sites/default/files/building_in_the_regional_district_of_kitimat-stikine-07.01.12.pdf

S

Shipping Act (Vessel Operations Restriction Regulations 2 (7))
http://laws-lois.justice.gc.ca/eng/regulations/sor-2008-120/FullText.html#h-3
Sewerage Systems Standard Practice Manual
http://www.health.gov.bc.ca/protect/pdf/SPM_V2_2007.pdf
Shore Primer
http://cdn.cottagelife.com.s3.amazonaws.com/files/2011/06/ShorePrimer-English.pdf
Skeena Region Reduced In-stream Work Windows and Measures(MoE)
http://www.env.gov.bc.ca/wsd/regions/ske/wateract/work_windows_measures_030205.pdf
Skeena Region- Reduced In-stream Work Windows and Measures
http://www.env.gov.bc.ca/wsd/regions/ske/wateract/terms_conditions.html#timing_windows
Species At Risk Act
http://www.sararegistry.gc.ca/involved/you/privland_e.cfm
Standards and Best Management Practices for In-stream Work
http://www.env.gov.bc.ca/wld/documents/bmp/iswstdsbpsmarch2004.pdf
Standards and Best Practices -Bank Stabilization
http://www.env.gov.bc.ca/wld/instreamworks/downloads/BankStabilization.pdf
Standards and Best Practices for In-stream Works-Beaver Dam Removal (MoE)
http://www.env.gov.bc.ca/wld/instreamworks/downloads/BeaverDamRemoval.pdf
Standards and Best Practices for In-stream Works- Bridges
http://www.env.gov.bc.ca/wld/instreamworks/downloads/Bridges.pdf
Standards and Best Practices- Channel Maintenance
http://www.env.gov.bc.ca/wld/instreamworks/downloads/ChannelMaintenance.pdf
Standards and Best Practices-Culverts
http://www.env.gov.bc.ca/wld/instreamworks/downloads/Culverts.pdf
Standards and Best Practices- Miscellaneous Works
http://www.env.gov.bc.ca/wld/instreamworks/downloads/MiscellaneousWorks.pdf
Stream Keeper's Module 06- Stream Cleanup
http://www.pskf.ca/publications/Module06.pdf
Stream Keeper's Module 07- Streamside Planting
http://www.pskf.ca/publications/Module07.pdf

T

The Living By Water Project
http://www.livingbywater.ca/yard.html

U

V

W

Water Act Section 9 Terms and Conditions Kitimat-Stikine Region (BC Gov)
http://www.env.gov.bc.ca/wsd/regions/ske/wateract/terms_conditions_skr.pdf
Water Act Approval/ Notification Form
http://www.env.gov.bc.ca/wsd/water_rights/licence_application/section9/application_sec9_june2010_v2revised.pdf
Wildlife Act Section 9
http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/00_96488_01#section9

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