

SHORELINE PROTECTION

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Shoreline Protection! Why?

- Water Quality
- Enhanced Property Values
- Superb Recreational Experiences
- Protection of Fish and Wildlife
- Quality of Life
- Benefits us All



SHORELINE PROTECTION—YOU CAN MAKE A DIFFERENCE

Over time, land development activities within the Christina Lake Watershed have significantly altered valuable habitat both in terrestrial and aquatic environments. Unless serious consideration is given to lessening further potential impacts both the quality of life we enjoy and the many wildlife species that also rely on these habitats will be in jeopardy. What effects some species will eventually effect us.

Christina Lake and the surrounding area looks beautiful! Residents love the quality of life that the area provides. Tourists enjoy its pristine qualities and bountiful outdoor recreational opportunities.

Economic development will and must occur to make us



Christina Lake — Yours to Preserve and Protect

sustainable and viable as a community.

The environmental qualities that have drawn us all here can be maintained with environmental awareness, proper planning, and a stewardship ethic. A great deal of information is available from a variety of sources on how to minimize impacts of

proposed development. However, some may find the large volume of information daunting or frustrating to access. This information bulletin has been designed to streamline the process and provide guidance in accessing information for your development activities.

RIPARIAN HABITAT—NATURES FILTER

Riparian vegetation is the fringe of vegetation that encompasses the shores of lakes, wetlands, and streams. The riparian area is the transition zone between the aquatic environment and the drier upland environment. Moisture loving plants within the riparian zone are distinctly different than aquatic vegetation and from plants that grow in drier grasslands and open

forest areas. Riparian vegetation can consist of species like Trembling Aspen, Cottonwood, Red-Orsier Dogwood, Willows, and in forested areas conifers such as Western Redcedar and Hemlock. The roots of riparian vegetation help to stabilize shorelines and streambanks thus helping to prevent erosion and potential impacts to fish habitat. Riparian vege-

tation also reduces pollutants such as phosphorus and nitrates by filtering these compounds and binding them to the soil. Riparian vegetation is essential to water quality, soil conservation, and fish and wildlife habitat. A diverse riparian zone provides food, nesting sites, and shelter for a variety of mammals, birds, amphibians, and reptiles.

RESOURCES AND CONTACTS

The following table contains information on a variety of key topics pertaining to shoreline and riparian protection.

Topic	Resource	Contact
Agriculture -crops -livestock, fencing -range use -zoning/ALR status -Associations -Commission	BC Certified Organic Association Ministry of Agriculture and Lands Ministry of Forestry & Range Regional District of Kootenay Boundary Grand Forks Stockbreeders Assoc. BC Cattleman's Association Agricultural Land Commission	www.certifiedorganic.bc.ca 250-426-1537 or www.gov.bc.ca/al/cont/ 250-442-5426 1-800-355-7352 or rdkb.com 250-442-5372 www.bccattlemans.com www.alc.gov.bc.ca
Algal Blooms -general information -environmental water quality -drinking water quality	Christina Lake Stewardship Society Ministry of Environment - Environmental Protection Division Interior Health Authority (Public Health Inspector)	250-447-2504 250-490-8200 1-877-221-3388
Aquifers -maps etc. groundwater/aquifers/wells	Ministry of Environment - Water Stewardship Division Nelson Interior Health Authority	250-354-6333 or www.env.gov.bc.ca/wsd/plan_protect_sustain/ 1-877-221-3388
Best Management Practices	Ministry of Environment Okanagan Region	wlapwww.gov.bc.ca/okr/esd/bmp.html or www.env.gov.bc.ca/wld/BMP/bmpintro.html or 250-490-8200
Boating -safety -speed restrictions, regulations -green boating	Boating Safety Infoline Transport Canada Boat Operator Card Online Transport Canada	1-800-267-6687 or www.tc.gc.ca/boatingsafety/menu.htm 604-775-8867 or www.tc.gc.ca/act_regulations/menu.htm www.boaterexam.com www.tc.gc.ca/marinesafety.TP/TP511/environment.htm
Building Regulations -bylaws -best management practices	Regional District of Kootenay Boundary Grand Forks Building Department Ministry of Environment - Best Management Practices for Urban and Rural Land Development in BC	250-442-2708 wlapwww.gov.bc.ca/okr/esd/bmp.html or 250-490-8200
Buoys	Transport Canada	604-775-8867 or www.tc.gc.ca/act_regulations/menu.htm
Burning Permit/Restrictions -yard waste	Ministry of Forests & Range Burn Registration Line	1-888-797-1717
Cleaning Products (Information)	Christina Lake Stewardship Society	250-447-2504 or lakesteward.ca
Conservation Covenants	The Land Conservancy of BC (TLC) Land Trust Alliance of BC	250-492-0173 250-538-0112 or www.landtrustalliance.bc.ca

RESOURCES AND CONTACTS CONT'D

Topic	Resource	Contact
Ditches -applications under the water act -maintenance/installation	Ministry of Environment - Water Stewardship Division Ministry of Transportation Emcon	"See Front Counter BC or www.env.gov.bc.ca/wsd/water_right/licence_application/section9/index.html 250-442-4384 250-442-2025
Docks -application -best management practices -bylaws	Integrated Land Management Bureau Ministry of Environment - Environmental Stewardship Division—Best Management Practices for Small Boat Moorage Regional District of Kootenay Boundary	250-426-1766 or www.lwbc.bc.ca (under revision), "see Front Counter BC" wlapwww.gov.bc.ca/okr/esd/bmp.html or 250-490-8200 1-800-355-7352 or rdkb.com
Emergency (Environmental) -Provincial -Regional	Provincial Emergency Program (Flooding etc) Environmental Contaminants (Environmental Protection Officer) Regional District of Kootenay Boundary	1-800-663-3456 *Emergency Only pep.bc.ca 250-490-8200 1-800-355-7352 or rdkb.com
Enquiry BC	Toll free service of basic provincial government information; assistance in identifying the program or person the caller needs to speak to; toll free transfer	1-800-663-7867 or enquirybc.gov.bc.ca
Erosion Problems -roads, ditches, culverts, road right-of way -best management practices shoreline/streamline	Ministry of Transportation Emcon Ministry of Environment - Environmental Stewardship Division - Best Management Practices for Lakeshore Stabilization	250-442-4384 250-442-2025 wlapwww.gov.bc.ca/okr/esd/bmp.html or 250-490-8200, "also see Front Counter BC"
Eurasian Watermilfoil	Regional District of Kootenay Boundary Christina Lake Stewardship Society	1-800-355-7352 or rdkb.com 250-447-2504 or lakesteward.ca
Fire Preparedness Program	Firesmart—Protecting your Home/Community from Wildfire	780-435-7283 or www.partnersinprotection.ab.ca/downloads/index.shtml or www.for.gov.bc.ca/protect
Fire Reporting -forest fires -local fire department	*Emergency Only Christina Lake Fire Department	1-800-663-5555 or *555 on cell phone 911

RESOURCES AND CONTACTS CONT'D

Topic	Resource	Contact
Fish and Fish Habitat -presence -lake -streams -best management practices -federal fisheries	Christina Lake Stewardship Society Fish Wizard Ministry of Environment - Environmental Stewardship Division Standards and Best Practices for In-stream Works Department of Fisheries and Oceans—Habitat Technician	250-447-2504 or lakesteward.ca www.fishwizard.com wlapwww.gov.bc.ca/okr/esd/bmp.html or 250-490-8200 250-804-7008
Fish Regulations	Provincial Freshwater Regulations	Fish License Vendors
Flood Protection -information -*emergency only -drinking water	Regional District of Kootenay Boundary Ministry of Environment—Flood Hazard Management—BC hazard links to wild-land fires, flooding, drought, water supply Provincial Emergency Program Interior Health Authority	1-800-355-7352 or rdkb.com pep.bc.ca 1-800-663-3456 1-877-221-3388
Forest Regulations -crown land -private land	Arrow Boundary Forest District Ministry of Forest and Range—BC Timber Sales Private Forest Landowner Association	250-442-5429 1-888-634-7352 or www.pfla.bc.ca
Forest Health - Mountain Pine Beetle etc.	Southern Interior Region—Forest Entomologist	604-828-4131
Front Counter BC -working in and around water -all land applications	Single window service for Clients of provincial natural resources Kamloops Cranbrook	www.frontcounterbc.gov.bc.ca 250-372-2127 250-426-1766
Gardening	RDKB Local Composting Program Naturescape BC— Caring for wildlife habitat at home Organic Landscape Alliance	1-800-355-7352 or rdkb.com 1-800-387-9853 or www.hctf.ca/naturescape/resources.htm 1-866-824-7685 or www.organiclandscape.org
Hazardous Material Disposal (“also see spills”) -paints, flammables, gasoline -pesticides -protection	RDKB (information) Grand Forks Regional Landfill Product Disposal Recycling Hotline Ministry of Environment - Environmental Protection Division	1-800-355-7352 or rdkb.com www.productcare.org 1-866-824-7685 250-490-8200
Health Concerns -environmental -drinking and recreational water quality, hot tubs, sewage)	Ministry of Environment Interior Health Authority—Public Health Inspector	250-490-8200 1-877-221-3388

RESOURCES AND CONTACTS CONT'D

Topic	Resource	Contact
High Water Mark -elevation benchmark -zoning bylaws -locating	Regional District of Kootenay Boundary Registered Land Surveyor	1-800-355-7352 or rdkb.com See yellow pages
Invasive Plants -terrestrial -aquatic -best management practices	Christina Lake Stewardship Society Boundary Weed Management Committee Weeds of BC Regional District of Kootenay Boundary Ministry of Environment - Environmental Stewardship Division - DFO Operating Statements - Aquatic Vegetation Removal	250-447-2504 250-446-2232 www.weedsbc.ca 1-800-355-7352 or rdkb.com wlapwww.gov.bc.ca/okr/esd/bmp.html
Lake Information	Christina Lake Stewardship Society Lakekeepers	250-447-2504 or lakesteward.ca www.stewardshipcentre.bc.ca
Marina -commercial -zoning	Integrated Land Management Bureau Regional District of Kootenay Boundary	“see Front Counter BC Cranbrook” or www.lwbc.bc.ca (under revision) 1-800-355-7352 or rdkb.com
Native Plants	Christina Lake Stewardship Society Living by Water Project Naturescape BC Plant Hardiness Zones Native Plant Society of BC	250-447-2504 or www.lakesteward.ca 250-832-7405 or www.livingbywater.ca 1-800-387-9853 or www.hctf.ca/naturescape/resources.htm www.gardenwise.bc.ca 604-255-5719 or www.npsbc.org
Naturalists Clubs	Federation of BC Naturalists Boundary Naturalists Association Boundary Young Naturalists Club	604-737-3057 or www.naturalists.bc.ca 250-442-0447 or www.kootenaynaturalists.org 250-447-6167
Noxious Weeds	See “Invasive Plants”	
Outhouses -suspected health hazard	Regional District of Kootenay Boundary (topic under review and revision) Interior Health Authority	1-800-355-7352 or rdkb.com 1-877-221-3388
Parks	BC Parks Regional District of Kootenay Boundary	250-490-8200 1-800-355-7352 or rdkb.com
Permits -development permits -work above or below high water mark	Front Counter BC Regional District of Kootenay Boundary Ministry of Environment—Permit and Authorization Service Bureau	“see Front Counter BC” 1-800-355-7352 or rdkb.com www.env.gov.bc.ca/pasb/index.html or Government Agents Office Grand Forks

RESOURCES AND CONTACTS CONT'D

Topic	Resource	Contact
Pesticide Free Gardening	Organic Landscape Alliance	1-866-824-7685 or www.organiclandscape.org
	Ministry of Environment—Integrated Pest Management Manuals for Home and Garden Pests in BC Garden Wise IPM	www.env.gov.bc.ca/epd/epdpa/ipmp/ipm_manuals.htm www.gardenwise.bc.ca/gardenwise/pestmanagement.lasso
Poaching	Conservation Officer Services RCMP	250-442-4355 250-442-4355 911 *Emergency Only
Pollution —general info. -spills on water -land based	Pollution Watch See “Spills”	www.pollutionwatch.org
	Ministry of Environment—Environmental Protection Officer	250-490-8200
Recycling	Regional District of Kootenay Boundary	1-800-355-7352 or rdkb.com
Sani-Dump	Pleasure Craft Sewage Pollution Prevention Regulations—Prohibited on Christina Lake—Closest facilities listed	City of Grand Forks—Public Works Sani Dump Location: 2020 Central Avenue (behind Recreation Centre)
Septic Systems -general enquiries -authorized person	Interior Health Authority On-site wastewater registration program (on-site wastewater practitioner’s listing) Engineer	1-877-221-3388 http://owrp.asttbc.org/owrp_practitioners.pdf see yellow pages
Service Canada	Federal Government Services Telephone Directory	1-800-667-3355
Shoreline Monitoring and Enhancement	Front Counter BC Best Management Practices Christina Lake Stewardship Society Ministry of Environment Streamkeepers Lakekeepers/Wetlandkeepers	“see Front Counter BC” “see Best Management Practices” 250-442-2504 or lakesteward.ca 250-490-8200 www.pskf.ca or 1800-723-7753 www.bcwf.ca or 604-533-2293
Shoreland Restoration Information	Christina Lake Stewardship Society Ministry of Environment	250-442-2504 or lakesteward.ca 240-490-8200
Soils surveys	BC Soils Information—Ministry of Agriculture and Lands Kelowna	1-888-332-3352 or www.gov.bc.ca/al
Species at Risk	Species at risk in BC, also see “Best Management Practices”	www.env.gov.bc.ca/atrisk
	Conservation Data Centre Ministry of Environment—Wildlife Biologist	www.env.gov.bc.ca/cdc/ 250-490-8200
Spills (fuel, oil) (for enquiries “see Hazardous Material Disposal)	Provincial Emergency Program Ministry of Environment (land based origin) and Environment Canada	1-800-663-3456 250-490-8200 604-666-6100
	Canadian Coast Guard (Navigable Waters) (example: boat sinks)	1-800-889-8852

RESOURCES AND CONTACTS CONT'D

Topic	Resource	Contact
Streams -monitoring, restoration -best management practices	Front Counter BC Christina Lake Stewardship Society Streamkeepers Ministry of Environment- Environmental Stewardship Division - Standards and Best Practices for Instream Works	"see Front Counter BC" 250-442-2504 or lakesteward.ca www.pskf.ca or 1800-723-7753 Wlapwww.gov.bc.ca/okr/esd/bmp.html
Subdivisions	Ministry of Transportation Regional District of Kootenay Boundary Interior Health Authority	250-442-4311 1-800-355-7352 or rdkb.com 1-877-221-3388
Swimming Platforms -permit	Canadian Coast Guard (Navigable Waters)	1-800-889-8852
Tree Removal -best management practices	Ministry of Environment - Environmental Stewardship Division - Best Management Practice for Hazardous and Non-Hazardous Tree Removal	wlapwww.gov.bc.ca/okr/esd/bmp.html
Water -conservation -environmental water quality -drinking and recreational water quality -working in and around water -surface water license -best management practices	Christina Lake Stewardship Society Environment Canada Ministry of Environment—Environmental Protection Division Interior Health Authority and Individual Water Districts Ministry of Environment - Water Stewardship Division, also Best Management Practice for Installation and Maintenance of Water Line Intakes	250-442-2504 or lakesteward.ca www.env.gov.ca/wat/ 250-490-8200 or www.env.gov.bc.ca/ 1-877-221-3388 "see Front Counter BC" wlapwww.gov.bc.ca/okr/esd/bmp.html
Watershed Planning and Restoration	Christina Lake Stewardship Society	250-442-2504 or lakesteward.ca
Wells	"See Aquifers"	
Wetlands Information and Education	Christina Lake Stewardship Society Wetlandkeepers BC Wildlife Federation Handbook Wetkit: Tools for Working with Wetlands in Canada Ducks Unlimited	250-442-2504 or lakesteward.ca www.bcwf.ca or 1-800-667-3355 www.wetkit.net 1800-665-DUCK or www.duck.ca
Wildlife Habitat Protection and Enhancement	Ministry of Environment Department of Fisheries and Oceans—Habitat and Enhancement Branch Naturescape	250-490-8900 1-800-667-3355 1-800-387-9853
Wildlife Habitat Monitoring	Ministry of Environment Christina Lake Stewardship Society	250-490-8200 250-442-2504 or lakesteward.ca
Wildlife Injured	Conservation Officer Services Ministry of Environment—Wildlife Biologist Wildlife Rescue Association of BC	250-442-4355 250-490-8200 604-526-7275 or www.wildliferescue.ca
Work Window	Ministry of Environment - Environmental Stewardship Division	wlapwww.gov.bc.ca/okr/wateract/workwindows.html or 250-490-8200

Christina Lake Stewardship Society

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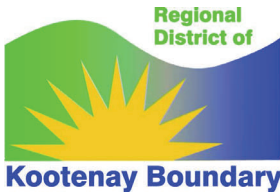
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THE REAL ESTATE
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OF BRITISH COLUMBIA



Christina Lake Stewardship Society - (250) 447-2504



The Christina Lake Stewardship Society (CLSS) is a non-profit charitable organization which was established in January of 2001. Previously they were a Committee for four years. Over the years the Society has been involved in several projects such as the Christina Lake Tributary Study and Fish and Fish Habitat Inventory. Our most ambitious project to date has been the Christina Lake Watershed Management Plan which is now in its first year of implementation. The Society officially opened their office in January of 2001—the Community Stewardship Resource Centre (CSRC). The Centre houses a public resource library, which has all relevant reports, maps and data for the Christina Lake Watershed to date. Several programs have been developed through the Centre such as the Young Stewards of the Boundary, the annual Lake Cleanup Day, and Lake Awareness Day. As well, workshops such as Boundary Fisheries Night, H₂O, Noxious and Invasive Plants, and Riparian Awareness just to name a few. The Society also monitors Sutherland, McRae and Sandner Creeks and performs annual enumerations for stream and shore spawning kokanee. The Christina Lake water quality monitoring and sampling program is performed in partnership with the Ministry of Environment.

BEST MANAGEMENT PRACTICES—(BMP'S) AND GUIDELINES

Best Management Practices (BMP's) and Guidelines are approaches based on known science that, if followed, should allow the client to meet the required standard(s) or achieve the desired objective(s).



Being a Steward of our Environment helps to ensure the continuance of the quality and health of our watershed!

BMP and Guideline documents exist to help you to act as a steward of the environment. The information that is contained in these documents will help to ensure that your proposed development activities are planned and carried out in compliance with the various legislation, regulations, and policies that

apply to your activity. By understanding the standards that activities must meet, you can choose an appropriate set of best practices and guidelines to help carry out your activities to achieve the required standards and objectives. BMP's and Guidelines can have a

provincial and/or regional context. Provincial documents apply to the entire province but may contain region specific sections. Regional documents have been developed for a specific purpose and may not be applicable to other regions. (www.env.gov.bc.ca/wld/BMP/bmpintro.html)

BMP's and Guidelines are available in an array of topics; from Standards and Best Practices for Instream Works, Beaver Dam Removal, Dock Construction, Aquatic Vegetation Removal, and Practices to control Non-Point Source Water Pollution.

Disclaimer

This booklet has been provided to offer you basic information pertaining to shoreline protection. Each shoreline property has unique qualities that require individual assessments and advice. Readers are advised to obtain competent expert help for any work relating to topics discussed in this booklet including shoreline erosion, bank stability, retaining walls, docks, construction plans and approvals, septic systems, tree condition and removal, or any other actions described. It is recommended that any alterations or corrective measures be carried out with due care and attention to human safety and to the structural integrity of buildings and landscape. Readers are advised to undertake further research prior to making major expenditures, and to discuss with manufacturers, contractors, or other professionals the various alternatives available. The Christina lake Stewardship Society, its partners, agents, staff, contractors, authors and associate authors, reviewers or sponsors cannot accept responsibility for any work carried out as a result of the actions recommended in this booklet. The contents of this booklet do not necessarily reflect the views and policies of our sponsors or partners of the Christina Lake Stewardship Society.