

- v. recommended setbacks from the toe and top of the slope;
 - vi. recommended mitigation measures; and
 - vii. recommended 'no-build' areas.
- d. Development in steep slopes should avoid:
- i. cutting into a slope without providing adequate mechanical support;
 - ii. adding water to a slope that would cause decreased stability;
 - iii. adding weight to the top of a slope, including fill or waste;
 - iv. removing vegetation from a slope;
 - v. creating steeper slopes; and
 - vi. siting Type 1, 2 and 3 septic systems and fields within steep slopes.
- e. A Covenant may be registered on title identifying the hazard and remedial requirements as specified in the geotechnical or engineering reports for the benefit and safe use of future owners.
- .6 Registration of a Covenant on title identifying hazards and restrictions regarding construction, habitation or other structures or uses on slopes of 30% and greater.

For construction of, addition to or alteration of a building or other structure:

Compliance with and submission of the relevant geotechnical sections of Schedule B-1, B-2 and C-B of the BC Building Code by an Association of Professional Engineers and Geoscientists of British Columbia (APEGBC) registered professional with experience in geotechnical engineering. A Covenant may be registered on title identifying hazards and restrictions regarding construction, habitation or other structures or uses on slopes of 30% or greater.

12.2 Foreshore and Water Development Permit Area

.1 Purpose

The Foreshore and Water Development Permit Area is designated under the *Local Government Act* for the protection of the natural environment, its ecosystems and biological diversity.

.2 Justification

The Foreshore and Water Development Permit Area arises from the growing impact that structures, including (but not limited to) docks, swimming platforms, and private mooring buoys, are having on the lakes in the Electoral Area. Evidence of these impacts is documented in the Shuswap Watershed Mapping Project, which was completed in conjunction with Fisheries & Oceans Canada, the BC Ministry of Environment and environmental consultants.

The intent of the Foreshore and Water Development Permit Area is to:

- .1 Allow for the proper siting of structures on the foreshore and swimming platforms in the water to prevent or minimize negative impacts on lake ecology, including fish habitat; and,

- .2 Complement the Riparian Areas Regulation (RAR) and Shuswap Lake 100 m Development Permit Areas, recognizing the important and sensitive interrelationship of these shoreline areas.

.3 Area

The Foreshore and Water Development Permit Area extends from the lake's natural boundary across the entire area of Shuswap Lake, White Lake and Little White Lake. In the case of Shuswap Lake, the DPA extends to the Electoral Area 'C' boundary.

.4 Exemptions

A Foreshore and Water DPA is not required for the following:

- .1 Structures and works associated with a public park use;
- .2 Installation and maintenance of utilities and utility corridors;
- .3 Subdivision;
- .4 Commercial and multi-family moorage facilities, including marinas and strata moorage structures, requiring Provincial tenure. (*Rationale: these facilities undergo Provincial review and are referred to other government agencies, including Fisheries and Oceans Canada, through that process, thus satisfying the intent of this Development Permit Area*);
- .5 Maintenance and alterations of existing structures, except:
 - a. alterations which increase the size of the existing structures;
 - b. removal and reconstruction of existing structures; or
 - c. replacement docks and swimming platforms, as defined by the guidelines below; or,
- .6 Land alterations that will demonstrably increase environmental values (e.g. creation of additional fish habitat).

.5 Guidelines

For all relevant guidelines, the Shuswap Watershed Atlas, based on the Shuswap Watershed Mapping Project, will be referenced to determine an area's Aquatic Habitat Index Rating, known fish rearing and spawning areas, natural features such as stream deltas and vegetation, etc.

.1 For new and replacement docks and for new and replacement swimming platforms

These guidelines apply to the first-time placement of a dock or to the replacement of an existing dock or swimming platform. Docks will be considered 'replacement docks' and 'replacement swimming platforms' if more than 75% of the materials will be replaced within a 3 year period.

Docks and swimming platforms shall:

- a. minimize impact on the natural state of the foreshore and water whenever possible;
- b. not use concrete, pressure-treated wood (i.e. creosote), paint or other chemical treatments that are toxic to many aquatic organisms, including fish, and severely impact aquatic environments;
- c. use untreated materials (e.g. cedar, tamarack, hemlock, rocks, plastic, etc.) as supports for structures that will be submerged in water. Treated lumber may contain compounds that can be released into the water and become toxic to the aquatic environment;
- d. use only treated lumber that is environmentally-friendly for structures that are above water;
- e. be made by cutting, sealing and staining all lumber away from the water using only environmentally-friendly stains. All sealed and stained lumber should be completely dry before being used near water;
- f. have plastic barrel floats that are free of chemicals inside and outside of the barrel before they are placed in water;
- g. avoid the use of rubber tires as they are known to release compounds that are toxic to fish;
- h. be sited in a manner which minimizes potential impacts on fish spawning and rearing habitat areas;
- i. be sited in a manner which minimizes potential impacts on water intakes and other utilities; and,
- j. avoid aquatic vegetation and minimize disturbance to the lakebed and surrounding aquatic vegetation by positioning the dock or swimming platform in water deep enough to avoid grounding and to prevent impacts by prop wash in the case of docks. A minimum 1.5 m (4.92 ft) water depth at the lake-end of the dock is recommended at all times.

.2 For new private mooring buoys

These guidelines apply to the first-time placement of a private mooring buoy, including its anchoring system.

Private mooring buoys shall:

- a. avoid aquatic vegetation and minimize disturbance to the lakebed and surrounding aquatic vegetation;
- b. use helical (versus block) anchors whenever possible;
- c. use only materials intended for boat moorage, such as rigid plastic foam or rigid molded plastic, which do not contain chemicals that are toxic to aquatic organisms;
- d. be sited in a manner which minimizes potential impacts on fish spawning and rearing habitat areas; and,
- e. be sited in a manner which minimizes potential impacts on water intakes and other utilities.

.3 For other land alterations

Proposed land alterations not listed in the exemptions section and not including new and replacement docks and new private mooring buoys shall be accompanied by a written submission from a qualified environmental professional outlining the proposed alteration,

expected impacts on the foreshore or water environment and any mitigation efforts which should accompany the proposed alterations.

12.3 Lakes 100m Development Permit Area

.1 Purpose

The Shuswap Lake Development Permit Area (DPA) is designated under the Local Government Act for the protection of the natural environment, its ecosystems and biological diversity.

.2 Justification

The intent of the Shuswap Lake DPA is to prevent or mitigate potential negative impacts on the lake environment from larger-scale development (generally defined as development beyond a single-family residence and specifically defined in the Area section below) and Type 1 and 2 sewerage systems. Larger-scale development close to the lake has the potential to impact natural drainage patterns, disrupt stormwater infiltration and increase surface run-off into the lake. Involving a qualified professional who understands soil, drainage and hydrogeology before installing Type 1 and 2 sewerage systems close to the lake will reduce potential negative impacts improper effluent drainage may have on lake water quality.

.3 Area

The Lakes DPA applies to areas within 100 metres (328.1 feet) of Shuswap Lake, White Lake and Little White Lake. For the purposes of calculating distance from Shuswap Lake, White Lake and Little White Lake, the 1:5 year High Water Mark shall be used.

Where a development proposal involves multiple buildings, structures or phases, calculation of the size of the development shall include the entire build-out of the development.

.4 Exemptions

A Lakes DPA is not required for the following:

- .1 Removal, alteration, disruption or destruction of vegetation involving less than 1000 m² (10,763.9 feet²) of vegetation coverage area;
- .2 Construction or erection of buildings and structures with a sum total footprint less than 200 m² (2,152.8 feet²); or
- .3 Creation of non-structural impervious or semi-impervious surfaces less than 100 m² (1,076.4 feet²).

.5 Guidelines

- .1 Preservation of natural features, functions and conditions that support fish and animal habitat is the primary objective of the Lakes DPA;