DPA 3 – Marine, Foreshore and Shoreline Areas

Location

DPA 3 applies to all land and water areas extending 15 metres upland of the highest high water mark (HHMW) to 15 metres below the low tide line of all shoreline and foreshore areas along Georgia Strait and Sechelt Inlet as shown on Map Schedules D1-D3.

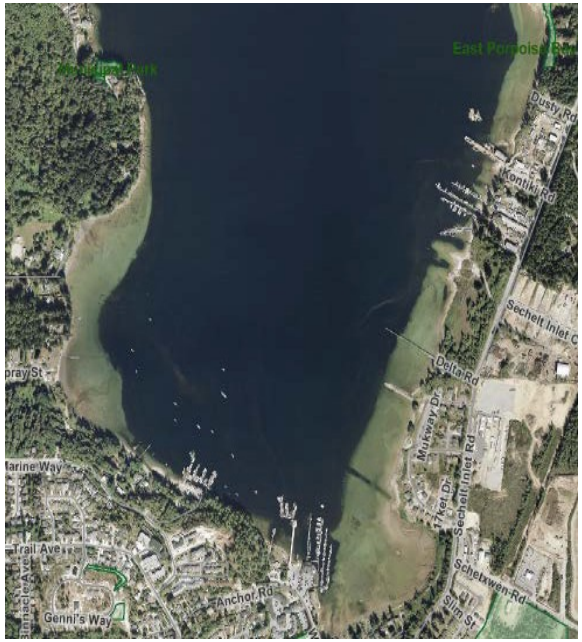
Category

- Protection of natural environment, its ecosystems and biodiversity.
- Protection of development from hazardous conditions.

Justification

The marine shoreline and foreshore areas of Georgia Strait and Sechelt Inlet are highly important features of the District of Sechelt. These ecosystems provide habitat for young fish, shorebirds and shellfish, seals, sea otters and many other marine organisms, as well as visual and recreation resources that define the character of the community. Estuaries and shallow protected waters in Sechelt Inlet provide particularly rich and diverse habitats.

Development within all shoreline areas results in damage to fragile ecosystems and impairs the visual quality of the coastline.



× *Shallow protected waters of Sechelt Inlet have high habitat values and are sensitive to disruption.*

Structural intrusions interrupt the natural shoreline processes that provide materials for the development of sand bars and beach areas, and may also alter habitat along rocky shorelines. Hard surfaced structures such as retaining walls cause loss of the riparian vegetation and break the habitat connectivity between the upland and the productive habitat that occurs along a natural shoreline edge. Works which modify natural transport processes not only damage the natural ecosystems, but can also accelerate

✓ *Trails set back from shoreline allow habitat to remain or re-establish*

× *Hard surfaced retaining walls result in loss of habitat and upland connectivity, and may increase erosion/wave action on adjacent*
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erosion of adjacent properties. Discharge of materials within shoreline and foreshore areas also damages these ecosystems. Filling of marshy areas along shallow shorelines can be particularly harmful to fragile estuary ecosystems, which provide highly important rearing habitat and food supply for many marine organisms. Removal of vegetation and alteration of the land along the marine foreshore, both above and below the "natural boundary" and the high high water mark (HHMW) may be considered a violation under the federal *Fisheries Act*.

Portions of the Sechelt waterfront have been altered over the years with retaining walls, docks and other structures. DPA 3 guidelines are intended to reduce future alterations and improve habitat conditions on the marine shoreline.

Properties along the Sechelt waterfront may also be subject to coastal flooding/storm wave erosion hazards, which should be evaluated and mitigated (where necessary) as part of any development permit application.

Objectives

- To protect and enhance the ecological health of the marine waters, foreshore and adjacent upland;
- To protect properties from effects of storm wave erosion and coastal flooding, while preserving the integrity and connectivity of coastal processes.

Exemptions

General exemptions for natural hazard/environmental protection DPA's 1-5 apply.

Guidelines

1. No buildings, structures or other uses of land, clearing or removal of soil, trees or vegetation, or other alteration of the land, is permitted in DPA 3 except in accordance with a Development Permit issued by the District of Sechelt.
2. Development within DPA 3 should be avoided. Any necessary development should be located to create the least impact on the ecology of the foreshore, upland and water areas, and to protect development from potential coastal flooding or storm wave erosion hazards.
3. New upland uses or additions should be sufficiently set back to avoid the need for shoreline protection works such as retaining walls or other measures during the life of the structure. Buildings and structures, including accessory buildings or impervious surfaces such as patios or decks, should be located a minimum of 15 metres landward of the high high water mark (HHWM). This setback may be increased on erosion prone lands or slopes.
4. New lots created by subdivision should ensure that safe building envelopes are provided without the need for shoreline protection works.

✓ *Uninterrupted shoreline allows natural transport of sand and cobble materials along beaches.*

× *Alteration of natural shorelines should be avoided.*

✗ *Clearing adjacent to the shoreline should be avoided and upland vegetation retained.*

✓ *Soft shoreline protection approaches can restore habitat values as well as protect upland property from wave action and erosion (Roberts Creek)*

5. Natural riparian vegetation, including woody debris, should be retained within the area 15m upland of the high high water mark (HHWM) in order to supply food and nutrients to the marine habitat, shade for temperature regulation, protection of intertidal species, reduce wave energy, control stormwater runoff, and preserve water quality.
6. Natural beach transport processes of erosion and accretion along shorelines should be preserved uninterrupted unless no alternative is possible.
7. Placement of fill upland of the high high water mark (HHMW) will be considered only where it necessary for restoration or enhancement or restoration of shoreline processes and ecological functions. Removal of sand or other native materials within DPA 3 is not supported.
8. Stormwater drainage or runoff from rooftops or hard surfaces should not be directed over the edge of a bluff or shore bank, and should incorporate water quality/quantity and erosion control features to avoid impacts on slope stability and shoreline habitat.
9. Septic systems and drainage fields must be located and maintained to ensure there is no direct drainage to the foreshore. Weakening of bluffs and steep banks by over-saturation must be avoided.
10. Shoreline protection works will not be allowed for the purpose of extending lawns or gardens, or to provide space for additions to existing structures or new buildings.
11. New shoreline protection measures may be considered to protect existing structures if a report provided by a Qualified Professional with expertise in geotechnical engineering and coastal processes provides conclusive evidence that the structure is at risk from shoreline erosion caused by tidal actions. Evidence of normal sloughing or erosion does not necessarily demonstrate the need for structural protection.
12. No structures are permitted seaward of the high high water mark (HHMW) except where permitted by zoning, and in accordance with Development Permit conditions and required federal or provincial agency approvals.
13. Where approved by zoning, docks, wharves or marinas should be located in areas which are least environmentally sensitive (such as previously disturbed areas), and be designed to minimize impacts to water quality, fisheries habitat and public shoreline access. Habitat compensation for any disturbed areas may be required as a permit condition.

14. All proposed development in DPA 3 should be in accordance with the guidelines contained in the 2003 Federal/Provincial publication *Coastal Shores Stewardship: A Guide for Planners, Builders and Developer*[10], and the Green Shores[11] principles for protecting coastal environments.

Assessment Report

15. An environmental assessment report is required prior to any proposed development or alteration of the land, marine or foreshore areas within DPA 3, including but not limited to:

(a) Shoreline protection works such as retaining walls;
(b) Clearing or removal of existing riparian vegetation[12];
(c) Construction of impervious surfaces such as patios or beach access steps with more than ten (10) sq.m. total site coverage;
(d) Any proposed buildings or structures, including accessory buildings, wharves, piers or other moorage facilities;
(e) Placement of fill or removal of fill in the foreshore or upland areas.

16. The environmental assessment shall be completed by a Qualified Professional(s) with experience in assessing marine shoreline impacts. This may include a registered professional engineer with expertise in geotechnical engineering (for geotechnical and coastal processes) and a qualified environmental professional (for habitat/biological assessment).

17. The assessment report(s) shall identify:

(a) impacts of the proposed development on the marine ecosystem and shoreline erosion, transport and deposition processes, including any impacts to surrounding properties or public use areas;
(b) areas to remain undeveloped and any special steps to ensure protection of these areas;
(c) remediation measures required to mitigate the impacts or restore habitat conditions;
(d) details of any works required to address legislative requirements or approvals from any provincial or federal government agencies;
(e) confirmation of the long-term safety of the proposed building or shoreline protection works in relation to erosion, landslip or wave action, including any anticipated impacts due to climate change and sea level increases.

✓ *Boardwalks may be suitable for some shorelines, allowing vegetation and water flow to remain underneath (photos above and below).*

Permit Conditions

18. Proposed works that that have potential to adversely affect fish habitat require review and approval by appropriate federal and provincial agencies before a permit is issued by the District.

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[10] http://www.stewardshipcentre.bc.ca/cdirs/st_series/index.php/17

[7] Green Shores is a project of the Stewardship Centre for British Columbia, http://www.greenshores.ca/

[12] Clearing of existing vegetation is not permitted without authorization from DFO.

19. In addition to those approvals, a Development permit issued for lands in DPA 3 will:

(a) Specify areas of land that must remain free of development, except in accordance with permit conditions;

(b) Specify natural features or areas to be preserved, protected, restored or enhanced;

(c) Require construction of works or other protection measures, including planting or retaining vegetation or trees, in order to control drainage, control erosion, or to protect banks or aquatic habitat;

(d) Require in any area that the permit designates as containing unstable soil, or water that is subject to degradation, that no septic or drainage systems be constructed;

(e) Establish conditions and requirements that vary the permitted use and density of land that may be subject to hazard, but only as they relate to health, safety or protection of property from damage.

(f) Impose conditions on the sequence and timing of construction;

(g) Require security to ensure completion of landscaping or other works required to address damage to the natural environment or unsafe conditions.

20. Portions of the shoreline may also be within DPA 4 (Rocky Beach Front, Upland Slope, Beach Front Escarpments) and guidelines for both DPA's apply. Estuary areas are also within DPA 2 (Watercourse Habitat) and guidelines for both DPA 2 and DPA 3 apply.

× *Numerous individual docks can interfere with shoreline processes and habitat, as well as reduce public access along the shoreline.*

✓ *Setbacks for buildings and structures must consider storm and flooding potential. Low intensity uses such as parks and open space are more appropriate for flood prone areas.*