



GREEN SHORES

Policy and Regulatory Tools for Local Governments:

A survey of shoreline management in bylaws, plans and policies

Revised May 2016



STEWARDSHIP CENTRE
FOR BRITISH COLUMBIA

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The Stewardship Centre for BC

This report has been prepared to provide background information for the Green Shores™ program of the Stewardship Centre for BC. SCBC was created to help governments, businesses, conservation and environmental organizations, and citizens carry out stewardship activities in the most efficient, effective, and rewarding ways. A leader in promoting stewardship values as the foundation for sustainability, the SCBC wants to help make “shared stewardship” – the voluntary adoption of environmentally sustainable practices by all sectors of society – a reality in British Columbia.

For more information about the Stewardship Centre, visit our website at

www.stewardshipcentrebc.ca

Cover Photo: Jericho Beach restoration project, City of Vancouver, a Green Shores Gold-rated project.

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1.0 INTRODUCTION

1.1 What is Green Shores?

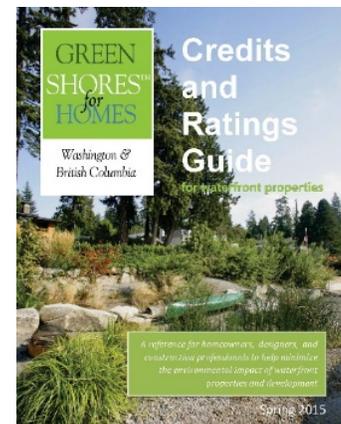
Green Shores™ encourages the sustainable use of shoreline ecosystems through the development and delivery of educational workshops, seminars, and resources as well as research on shoreline issues and management. Green Shores also provides associated science-based tools and best practices for shoreline property owners and managers to minimize the impacts of new developments and restore shoreline ecosystem function of previously developed sites. Green Shores is a trademarked program of the Stewardship Centre for British Columbia (SCBC).

Green Shores is based on four guiding principles:

- Preserve the integrity or connectivity of shoreline processes
- Maintain or enhance habitat diversity and function
- Minimize or reduce pollutants to the environment
- Reduce cumulative impacts to the shoreline environment.

The key components of Green Shores in British Columbia are:

- **Education and Outreach** – To expand awareness of Green Shores by providing to educational workshops and training seminars to property owners, local governments, the professional community, and the general public
- **Green Shores Resources and Technical Information** – Based on current research, these resources can be used to protect and conserve shoreline ecosystem values and services. Key resources include:
 - Credits and Ratings Guides – Based on the four Green Shores principles, these guides are intended for use by designers, builders, contractors, and property owners/managers to guide Green Shores project design and assess design performance. Two guides are



available: *Green Shores for Coastal Development* (GSCD) for municipal parks, mixed-use residential, and institutional shoreline properties and *Green Shores for Homes* (GSH) for residential shoreline properties. Both guides use a credit and rating system that focuses on positive steps to reduce the impact of development on shoreline ecosystems and to help restore natural shorelines.

- Research reports and resources relating to Green Shores on topics such as shoreline management, best practices, local government shoreline policies and bylaws, case studies, and project reports.

In addition, the Stewardship Centre offers support to BC communities and local governments to facilitate implementation of Green Shores through its **Green Shores for Local Government Working Group**, and to youth, through its **Green Shores for Youth** initiative. Both primarily focus on education and outreach to these audiences.

1.2 Report Overview

This report responds to the requests of the local government partners who are working to implement Green Shores in their communities. It outlines a framework (including Shoreline Classification, Official Community Plan policies and objectives, Development Permit Area guidelines, and Zoning provisions) to organize local government action, and provides examples of language for local government policies and bylaws for shoreline development and protection that incorporate Green Shores principles. More information about Green Shores credits may be found in Appendix B. Most attention is given to Official Community Plans (OCPs) and Development Permit Areas (DPAs), with some reference to zoning bylaws.

This report provides examples of language that could be used to support Green Shores principles in local government law and policy tools, but it is not a ‘model bylaw.’

Reflecting our evolving understanding of climate change impacts, this version of the report also contains a section on climate change and coastal impacts, and includes examples of how sea level rise and other impacts have been addressed to date in local regulations.

This report does not cover the jurisdiction of other levels of government and the ways that this could impact or limit the effect of local government regulations. Before adopting new bylaws or policies, local governments should seek relevant professional and legal advice.

1.3 Methodology

Legislation and guidelines pertaining to marine shores and from a variety of coastal jurisdictions were examined to see what aspects of shoreline management were covered and how they were addressed. (Although Green Shores is also applicable to freshwater shorelines, this report looks only at marine shores.) In British Columbia, we looked specifically at tools and wording in bylaws - particularly OCPs, DPAs, and zoning bylaws - of coastal communities.

In the U.S., particularly Washington State, we looked at federal, state and county policy directives used by coastal jurisdictions that could be used in B.C.

A summary of the policies and bylaws of jurisdictions that were examined is provided in the “Local Governments Policies/ Regulations Scan” attached as Appendix A. The research is not intended to be comprehensive, but rather to help identify planning and regulatory tools and wording that could support a Green Shores approach to shoreline management by local governments.

This report suggests how a Green Shores approach could be incorporated in OCPs, DPAs and potentially other bylaw tools. The report is structured to provide a ‘menu’ of topics in the main text, and sample wording in sidebars or text boxes, from which a local government could pick elements that are applicable to the shoreline situations that it wishes to manage. The ‘menu’ is not exhaustive and can be expanded and revised over time as more options are found.

1.4 Sea level rise and other climate change impacts

Our changing climate is causing sea level rise, as the oceans warm and expand, and as melting glaciers and polar ice sheets add water. Currently, provincial guidance advises BC communities to prepare for 0.5 m of sea level rise by 2050, 1.0 m by 2100, and 2.0 m by 2200. Sea level rise means relatively gradual, but steady and irreversible movement landward of the natural boundary of the sea. In addition, more frequent extreme weather events will increase the impacts of storm surge in coastal areas.

Possible responses to sea level rise and related impacts in developed areas range from protection (through hard or soft shoreline armouring that either keeps water out or buffers wave energy and lessens its impact), accommodation (allowing water in and living with its impact through landscape design and modifications to buildings) to retreating landward over time. Avoiding development in vulnerable coastal areas is also a possible response.

Incorporating Green Shores approaches into sea level rise responses may offer cost-effective opportunities to increase climate resilience in coastal areas, as an alternative to hard shoreline armouring. A report commissioned by the Stewardship Centre for Green Shores (2014 Lamont) looked at three different shoreline properties and compared the effectiveness of soft shoreline protection measures consistent with Green Shores approaches versus hard armouring for the subject properties. Prepared by leading coastal engineers, the report modelled hard and soft shoreline protection measures in three locations, and found that Green Shores-consistent measures, i.e. soft shoreline protection,

could be equally effective as hard armouring approaches in addressing up to 1 metre of sea level rise, while costing 30-70% less and protecting or enhancing the ecological resilience of the shoreline.

There is a growing recognition of the multiple benefits for communities in protecting and restoring coastal ecosystems in a changing climate. Hard armouring, such as dikes or sea walls, may be appropriate in some locations, but using these measures means loss of valuable shoreline habitat, restricted or no public access to the waterfront, loss of waterfront views (as sea levels rise and walls become higher) and significant investments in land acquisition and other capital costs. Incorporating Green Shores principles into local planning and policy tools may help increase climate resilience of coastal communities while at the same time protecting ecosystems and maintaining human connections with the shoreline. Green Shores principles can also be used as guidance when developing specific sea level rise responses.

Examples of policies that support Green Shores approaches to managing sea level rise and other climate change impacts have been included in the sections below.

2.0 SHORELINE CLASSIFICATION

Some jurisdictions classify their shorelines as a way of assisting them in defining land use policies and regulatory requirements. This classification can be used to provide the basis for developing policies and regulations with appropriate management objectives for different types of shorelines. Mapping can provide the basis for shoreline classification. Coarser scale mapping can identify drift cells and sediment transport mechanisms. Finer scale mapping can show variations in vegetation, soil, and slopes. Existing uses and land development patterns are also relevant.

Example Shoreline Classifications

See Appendix A for details

Salt Spring Island OCP:

- Conservation
- Recreation
- Development
- Aquaculture
- Marine

Washington Shoreline Master Program:

- Natural environment
- Rural conservancy
- Aquatic environment
- Urban conservancy
- Shoreline residential
- High intensity uses

Metchosin (M) and North Saanich (N):

- Rocky shores
- Drift-sector beaches
- Pocket beaches
- Low-energy shores (M)
- Lagoon (M)
- Mudflats, marsh and deltas (N)

Classification schemes may be based on:

- a) Shoreline use, ranging from conservation to recreation to low- intensity/high-intensity development. Examples include shoreline classes defined in Salt Spring Island’s OCP and Land Use Bylaw and the Washington State Shoreline Management Guidelines.
- b) Shoreline biophysical type, such as rocky shores, drift sector and pocket beaches, mudflats, estuaries, etc. Examples of this type of classification include the OCPs of the Districts of Metchosin and North Saanich, where different policies are defined based on the ability of each type of shoreline to support different land uses.
- c) Ecological sensitivity, where ecological parameters and vulnerability to human activities are used to rate shoreline segments. An example is the Victoria and Esquimalt Harbours Atlas (see text box below). In this case, the classification is intended to aid land use and water decisions, support actions to protect against further habitat degradation and improve the effectiveness of restoration and enhancement efforts (www.harboursatlas.ca). In the Lower Mainland, the former Fraser River Estuary Management Program created a habitat inventory for shoreline areas in the Fraser River delta and the Burrard Inlet and mapped the information. This included shoreline colour coding for the Fraser River indicating ecological productivity and recommended restrictions on development (red, yellow, green). FREMP was dissolved in 2013 but the shoreline classification information is available online at: http://www.cmnbc.ca/atlas_gallery/frempe-bieap-habitat-atlas

SHORELINE CLASSIFICATION

A shoreline classification system could be used to assist local governments in designating DPAs. For instance, a local government may wish to designate “sensitive” shorelines for environmental protection or commercial/developed shorelines for form and character.

VICTORIA AND ESQUIMALT HARBOURS ATLAS

([HTTPS://WWW.CRD.BC.CA/ELSI/RESOURCE-LIBRARY/CRD-REGIONAL-MAP](https://www.crd.bc.ca/ELSI/RESOURCE-LIBRARY/CRD-REGIONAL-MAP))

Created through a partnership of the Capital Regional District, BC Ministry of Environment, Environment Canada, Fisheries and Oceans Canada, Department of National Defense and Transport Canada, the Harbours Atlas was initiated to improve the management of Victoria and Esquimalt Harbours. Along with identifying land and water uses, the Atlas divides the harbour shoreline into shore units and rates each unit for:

- Ecological value: based on interpretation of species diversity, habitat diversity, naturalness, and importance to key lifecycle activities of major species that use the unit.
- Vulnerability to development: potential for proposed development to affect the ecological value of the shore unit.
- Priority for action: shore units of high priority for protection have a high ecological value; in units rated as a priority for remediation, substantial improvements in ecological characteristics could be obtained at reasonable cost.

The ratings and the data associated with each unit are not intended to identify ‘development/no development’ zones, but rather assist users in determining the sensitive features of a site and design, limit or regulate land use and development accordingly.

INTERTIDAL AND BACKSHORE RATINGS	
Ecological Value	Priority for:
Very Low	Protection
Low	Remediation
Medium	Limits of Intertidal Area
High	
Very High	



3.0 OFFICIAL COMMUNITY PLANS

Official Community Plans (OCPs) are long-term policy guides for local land use planning and decision-making. Authority to develop OCPs is provided ss. 471-2 of the *Local Government Act*, which defines an OCP as “a

Example OCP Objectives

Salt Spring Island:

To protect the most significant ecological and physical processes of tidal shorelines.

To avoid shoreline uses that impede public access...

To identify those shoreline areas that are most uniquely suited or traditionally used for specific purposes...

To avoid conflicts between shoreline uses and adjacent upland uses.

North Saanich:

To protect and enhance the marine, intertidal and upland habitats of the District.

To preserve the beauty of an unspoiled shoreline for future generations of the District's residents.

To reduce physical obstructions into the foreshore, and restrict such developments to the least environmentally and visually sensitive areas.

To support public access to the shoreline, systematic development of beach access points is required.

statement of objectives and policies to guide decisions on planning and land use management, within the area covered by the plan, respecting the purposes of local government.” Once an OCP is adopted as a bylaw, the municipal council or regional district board is not obliged to act on each and every element of the OCP, but all future land use decisions made by the council or board or delegated authority within the local government must be generally consistent with the objectives and policies outlined in the OCP.

OCPs may contain a series of broad community goals, but all contain objectives and policies around specific topics of community interest within local government jurisdiction, e.g., the natural environment, land use and development, transportation, services and utilities, economic development, parks and open space, social planning, etc.

3.1 Shoreline Objectives

Many local governments recognize the significance of their shorelines with respect to environmental values, public use and access, land use and economic development, and risks associated with natural hazards (erosion, land slumping, flooding, hurricane, tsunami, etc.). Goal statements in OCPs reflect this significance.

Most jurisdictions attempt to seek a balance among sometimes conflicting shoreline management values, depending on the range of uses that occur. In areas with primarily residential or rural uses environmental values, protection from natural hazards and/or public access are likely to be emphasized. Where there is waterfront commercial or industrial activity, support for these activities will be balanced with public access, environmental and natural hazard considerations.

Example OCP Objectives (cont'd)

RD Nanaimo, Area H:

The shore zone must be recognized as a finite resource.

Recognize the foreshore and waterfront areas as an integral part of the community, and as a major destination for leisure, commercial and recreational pursuits.

Support the development of shellfish aquaculture in appropriate locations... in a manner that does not conflict with residential and recreational uses of the coastal zone.

Discourage development, which would alienate the foreshore from public access or impact on the natural environment.

Advance public ownership and stewardship of the waterfront.

Advocate cooperation and coordination among agencies responsible for the use and management of marine foreshore and upland resources.

Powell River RD, Electoral Area A

To preserve the integrity of coastal processes, maintain habitat diversity and function and reduce cumulative impacts to the foreshore and coastal environment.

To support management objectives of the Malaspina/ Okeover Coastal Plan which seek to balance the interests of stakeholders including the local aquaculture industry, tourism industry and owners of residential property.

To foster public ownership and stewardship of the foreshore.

Green Shores principles focus on the protection of natural features and processes, but this does not preclude recognition of the economic and social significance of shorelines. Objectives for marine shores can reflect Green Shores principles while still supporting socio-economic development and activities. The context of designating land uses and approving development activities provides opportunities for a local government to:

- Preserve the integrity or connectivity of shoreline processes;
- Maintain or enhance habitat diversity and function;
- Minimize or reduce pollutants to the shoreline environment;
- Reduce cumulative impacts to the shoreline environment.

3.2 Shoreline Policies

General OCP policies for shoreline management could address such topics as:

- The biological and physical characteristics of the shoreline.
- The nature of future development.
- Protection of sensitive shoreline features and processes during development.
- Shoreline types and policies specific to each type.
- Public access.
- Future studies improve planning and management in shoreline areas.
- The need to assess climate change impacts such as sea level rise and take steps to ensure long-term resilience for coastal ecosystems and shoreline development.

Example OCP Policies for Marine Shores (drawn from various sources – see Appendix A for more ideas)

Shoreline types:

- *Marine shorelands shall be managed in a manner compatible with the biological and physical processes acting on and within them.*
- *Use of marine shorelands should be consistent with the suitability of each shore type for the proposed use.*
- *The use and management of Drift-Sector Beaches should be based on the maintenance of the present natural system of erosion, transport and buildup of beach material along the length of the Drift-Sector.*
- *No building or structure shall be located and no fill shall be placed or removed from any site within 15 horizontal meters of mean high water adjacent to Class I and Class II pocket beaches except where engineering and resource management studies indicate that a lesser setback is acceptable.*

Future uses:

- *Major new structures and other forms of development should be directed away from areas:*
 - *known to have a high value as fish or wildlife habitat.*
 - *where the adjacent foreshore is known to be unstable.*
 - *frequently used by the public for recreation.*
 - *known to have a high potential for aquaculture or recreational shellfish harvesting.*
- *Future water-dependent or water-related uses should be directed to shoreline areas with existing compatible uses or to shoreline areas that can support those uses without loss of fish or wildlife habitat or negative impacts on recreational or shellfish aquaculture uses or potential uses.*
- *Where multi-family, commercial, or industrial uses are now located in shoreline areas that are more suited to less intensive uses, expansion of such uses will not be supported.*

Environmental protection:

- *Shoreline areas are designated Development Permit Areas for {environmental protection, protection from natural hazard and/or form and character}.*
- *All applications for development of shorelines and use of public waters shall be assessed for their impact on the aquatic environment.*
- *Structures, filling, and other development activities shall be set back X meters landward from the natural boundary or high water mark (15 or 30 m are typical setbacks).*

Example OCP Policies for Marine Shores (drawn from various sources – see Appendix A for more ideas)

Climate change:

- *To support climate resilience in shoreline areas, opportunities to protect and restore coastal ecosystems that can buffer waterfront areas from rising sea levels and storm surge should be considered in development and redevelopment applications.*
- *Vulnerability of existing natural shorelines to climate change should be assessed and measures to protect natural shorelines from coastal squeeze, coastal erosion and other negative impacts of sea level rise and increased storm surge should be considered.*
- *Climate change impacts should be considered and addressed in coastal restoration projects.*
- *Setbacks should be measured from projected natural boundaries taking into account sea level rise, based on the lifespan of the proposed development.*

Public access:

- *Development shall be undertaken in a manner that will maintain existing public access to publicly owned shorelines and not interfere with the public use of water areas fronting such shorelines, nor shall it adversely affect aquatic habitat.*
- *Public access to shorelines shall be permitted only in a manner that preserves or enhances the characteristics of the shoreline that existed prior to establishment of public access.*
- *The acquisition of Crown accreted areas by adjacent upland property owners is discouraged, as these areas may have environmental or public use value.*

Future studies:

- *The {City/District/etc.} shall work to develop a coastal management plan. {Or} ... conduct a thorough field survey and mapping exercise to determine which lands and shorelines are environmentally sensitive and should be protected through a Development Permit.*
- *A climate change risk assessment for coastal areas should be undertaken.*

Precautionary approach:

- *Adopt a precautionary approach to use and management of coastal resources potentially vulnerable to effects from climate change, so that:*
 - (a) avoidable social and economic loss and harm to communities does not occur;*
 - (b) natural adjustments for coastal processes, natural defences, ecosystems, habitat and species are allowed to occur; and*
 - (c) the natural character, public access, amenity and other values of the coastal environment meet the needs of future generations.*

3.3 Shoreline Management Plans

Some local governments may also develop shoreline management or protection plans that set out goals and priorities for their communities. These plans are not legally binding, but they provide a common reference point for the community and a guide for decision- and policymaking and budget planning.

The District of West Vancouver has prepared a Shoreline Protection Plan (SPP). It was developed with significant input from citizens and community groups interested in environmental protection. The 2012-2015 plan identifies eight priority projects for shoreline protection and enhancement, and four long-term projects. According to the plan:

The ultimate goal of the SPP is to recreate a naturally self-sustaining shoreline to address the impacts of development, climate change, and sea level rise. [...]

While the SPP has a study component, initially involving detailed surveying of the biophysical conditions and modelling of geophysical processes, it is primarily a roadmap for projects to be delivered, evaluated and improved. To date, this strategy has allowed the identification of key goals, structural and ecological issues and areas for improvement, while providing the necessary flexibility for a dynamic and unpredictable environment.

The City of Campbell River commissioned a Marine Foreshore Habitat Assessment and Restoration Plan, intended to assist the City in developing a “proactive, pragmatic model of foreshore management that incorporates Green Shores methodology.” Using the information and analysis in this plan, the City has been restoring some beaches within its jurisdiction using gravel and driftwood cleared from public boat launches, and recontouring other beaches using native materials. The City also established a Foreshore Development Permit Area, referenced in Appendix A.

4.0 DEVELOPMENT PERMIT AREAS (DPAs)

When a local government designates a Development Permit Area (DPA), land within the DPA cannot be subdivided, altered or built upon without a development permit, which provides a local government some control over site-level modifications to a property. Under s.488(1), *Local Government Act*, DPAs can be designated under OCPs for several purposes relevant to shorelines:

- protection of the natural environment, its ecosystems, and biological diversity;
- protection of development from hazardous conditions; and
- establishment of objectives for the form and character of intensive (single-family) residential, commercial, industrial or multi-family residential development.

In designating one or more DPAs, an OCP must describe the special conditions or objectives that justify the designation, and specify guidelines for addressing those conditions or objectives. DPA guidelines may also be specified in a zoning bylaw.

For environmental DPAs, designated under s.488(1)(a), s.491 allows the following requirements relevant to shorelines in development permits (DPs):

- specifying areas that must remain free of development except in accordance with any conditions contained in the permit;
- requiring specified natural features or areas to be preserved, protected, restored or enhanced in accordance with the permit;
- requiring works to be constructed to preserve, protect, restore or enhance specific natural features;
- requiring protection measures, including that vegetation or trees be planted or retained in order to preserve, protect, restore or enhance fish habitat or riparian areas, control drainage, control erosion or protect banks;

For natural hazard DPAs, designated under s.488(1)(b), s.491 allows the following requirements relevant to shorelines in development permits (DPs):

- specifying areas that may be subject to flooding...erosion, landslip...subsidence, tsunami...as areas that must remain free of development, except in accordance with any conditions contained in the permit.
- requiring, in an area that the permit designates as containing unstable soil or water that is subject to degradation, that no septic tank, drainage and deposit fields or irrigation or water systems be constructed.
- It should be noted that development permits (DPs) can address certain aspects of development activities, but may not vary land use or density as set out in a zoning bylaw (except for requirements in a natural hazard DPA that relate to health, safety or protection of property).

DEVELOPMENT PERMIT AREAS

What shoreline DPAs can do

The range of development activities that could be regulated in shore-based DPAs include:

- Construction of or additions to buildings, docks, piers or other built structures. Exemptions can be defined for minor structures or additions (e.g., an addition to an existing dock or construction of a new dock that will result in a total float area greater than 35 m²).
- Construction of a breakwater, rock weir, groin, jetty, shoreline stabilization works, bulkheads, walkways, boat launch ramps or rails.
- Clearing, grading, trenching and/or installation of services
- Placing of fill.
- Dredging.
- Removal of trees and vegetation. Exemptions can specify tree size (e.g., trunk diameter greater than 20 cm measured 1.5 m above the ground) or the area of vegetation removal (e.g., more than 9 m² that will trigger the need for a DP).
- Installation of signs and light standards.
- The subdivision of parcels within the DPA.

How to apply shoreline DPAs

In applying the DPA tool to shoreline protection, local governments can take one of several approaches:

- Include marine shores among mapped environmentally sensitive areas (ESAs) and designate these areas as environmental DPAs subject to general environmental guidelines as well as guidelines specific to coastal areas, such as foreshore and estuary guidelines (e.g., Campbell River, Nanaimo).
- Designate marine shorelines collectively as a DPA (e.g., Lantzville) or give them separate treatment within a general environmental DPA (e.g., North Cowichan).
- Designate specific shore areas as DPAs, either on their own as subsets of more general DPAs (e.g., North Cowichan).
- Any combination of the above. For example, the District of North Cowichan has designated DPA 8 “Natural Environment” for the

DEVELOPMENT PERMIT AREAS

purpose of environmental protection, in which “shoreline protection areas” are included. It has also designated DPA 7 “Marine Commercial Waterfronts”, which provides development guidelines for these areas generally as well as for five specific waterfront areas.

Shoreline DPAs in more detail

The following sections discuss the typical components that are included in a DPA designation to meet the requirements of the *Local Government Act*. The sections follow the process for establishing a DPA: identifying a Designated Area, providing justification, setting out exemptions, and specifying guidelines.

4.1 Designating a Permit Area

Example DPA Designations for Marine Shores

District of North Cowichan - 30 m (upland) from the natural boundary

Salt Spring Island - 10 m upland and 300 m seaward of the natural boundary

Nanaimo - 15 m (upland) from the natural boundary

RDN Area H - 30 m upland and the water surface within 30 m of the natural boundary

Shoreline DPAs for environmental protection or natural hazard management may be designated on maps included in the OCP bylaw. Alternatively, their extent may be defined in text in the OCP as distances inland and/or seaward from a commonly used measuring point such as the high water mark or natural boundary, with these terms defined in the OCP or DPA designation.

Another way of designating DPAs is as a block area defined by property lines. This method is often used for defining DPAs for the purpose of regulating form and character.

DEVELOPMENT PERMIT AREAS

4.2 Justification / Objectives

A statement of justification or objectives usually reflects one or more of the purposes for which a DPA may be defined – e.g., environmental protection, natural hazard and/or form and character– and the features specific to that area that are of value or concern to the community. (See examples in the box.)

4.3 Exemptions

Section 488(4) of the *Local Government Act* allows local governments to identify activities or circumstances exempt from requiring a development permit within a DPA. Activities that are typically exempt include:

- Agricultural, aquaculture or forestry operations administered under the *Farm Practices Protection (Right to Farm) Act* or *Forest Practices Code of BC Act*. Operational activities in these areas are outside local government jurisdiction, though they may regulate ‘non-operational’ land uses such as the siting of houses and outbuildings that may be associated with these practices.
- Emergency works or procedures required to prevent, control or reduce flooding, erosion or other immediate threats to life or property, such as: clearing an obstruction from a bridge, culvert or drainage path; repairs to bridges or safety fences; and removal of hazardous trees that present immediate danger to people or public or private property, as determined by a certified arborist. It is usually required that emergency actions by anyone other than the local government or a senior government agency be reported immediately to the appropriate local government authority (e.g., bylaw officer or public works department).
- Habitat enhancement work or removal, planting and maintenance of native (indigenous) trees, shrubs or groundcover for the purpose of restoring or enhancing habitat Values and/or soil stability.
- Removal of invasive species. The exemption could be subject to a planting or vegetation removal plan approved by the local government, or to the planting being carried out in accordance with guidelines or directions provided by the local government.

Example DPA Justification/ Objectives

District of North Cowichan – DPA 3 Natural Environment:

The marine shoreline and adjacent coastal waters represent a highly productive marine environment for forage fish and other species. Careless development can have a cumulative detrimental impact on habitat within the sensitive marine riparian zone. Interruption of natural beach processes of longshore drift, for example, can displace erosion and deposition patterns, which can then affect other properties and marine habitat.

Healthy ecosystems enrich the quality of life or property owners and community members at large.

Some environmentally sensitive areas may also present hazards to development (e.g., sites with steep slopes or erodible soils or sites subject to flooding). These areas are therefore also designated under DPA- 4 – Hazard Lands.

Salt Spring Island - DPA 3 Shoreline:

Reasons: This Development Permit Area includes shoreline waters and natural fish and wildlife habitat that could be subject to degradation due to development. It also includes areas of land that lie adjacent to and influence the island's most sensitive shoreline environments. Shoreline areas and beaches may contain unstable slopes and soils subject to erosion, land slip and rock falls. There are also high aesthetic values along shoreline areas. They will be affected by the form and character of commercial and industrial development allowed by current zoning.

Objectives:

- *To protect the quality of the tidal waters that surround Salt Spring Island,*
- *To protect fish and wildlife habitat.*
- *To prevent erosion and hazardous conditions that could result from interrupting the natural geohydraulic processes along the shoreline.*
- *To protect development from hazardous conditions.*
- *To protect the natural beauty of the island's shoreline areas where commercial and industrial developments are allowed. To ensure such development is unobtrusive and contributes to the natural, public character of the Crown foreshore.*

DEVELOPMENT PERMIT AREAS

- In some cases, construction of trails on private property. Limitations on this exemption can be stipulated; e.g., trail design and location must minimize vegetation disturbance; the trail is for personal, non-vehicular use only; the trail is less than 1 meter wide; the trail is constructed of gravel, mulch, spaced wood deck or some other pervious surface and does not cause erosion.
- Subdivision of lands where no development activities related to the creation or servicing of the lots will occur in the DPA or its protected portions, and sensitive features are protected through dedication, restrictive covenant or other provisions acceptable to the local government.
- Construction, repair or maintenance of public services by the local government or its authorized agents and contractors, provided these meet or exceed the conditions of the DPA guidelines.

4.4 DPA Guidelines

As noted earlier, s. 488(2) of the *Local Government Act* requires that DPA designations be accompanied by guidelines “respecting the manner by which the special conditions or objectives [of the DPA designation] will be addressed”.

The purposes of guidelines include:

- a) Assisting an applicant in creating a development plan that meets the objectives of the DPA;
- b) Assisting the local government in considering and approving proposed land development activities; and
- c) Providing the basis for setting conditions in development permits, though not all guidelines will necessarily apply to every permit.

DPA guidelines provide a key opportunity for integrating Green Shores principles into development decisions. Guidelines for specific aspects of shoreline DPAs are discussed in the following sections:

Example DPA Justification/ Objectives (cont'd)

Oak Bay Shorelines DPA

Justification:

Oak Bay has an abundance of ocean shoreline. It is very diverse, including the long sandy Willows Beach, rocky headlands, offshore islands, and rich intertidal habitats at McNeill and Gonzales Bays. The shoreline offers biologically rich and diverse habitat for waterfowl, raptors, shellfish, marine mammals, and smaller marine creatures. In addition to its ecological importance to an array of aquatic species, the ocean shoreline has a key role in natural systems such as ocean processes, erosion control and flood management

Objectives:

1. *To preserve and protect aquatic and shoreline habitat in order to support species biodiversity and natural ecological function, as well as the economic vitality of fisheries*
2. *To guide development to occur in a manner that minimizes environmental impacts upon aquatic and shoreline habitat, fish and wildlife*
3. *To protect the integrity of the foreshore, shoreline and natural coastal and intertidal processes*
4. *To conserve and manage the foreshore as a public resource*
5. *To protect development from flooding associated with sea level rise*

DEVELOPMENT PERMIT AREAS

- Shoreline modifications – this includes stabilization measures, piers, docks, breakwaters, bulkheads, beach management, dredging, and filling, etc.
- Land development – subdivision, clearing, grading, construction, etc.
- Public access - trails and walkways.
- Information needs.

Note that the sample guidelines in the following sections are intended to illustrate the range of items that could be addressed under these topics, but that each local government will create guidelines for its particular needs and circumstances.

4.4.1 Shoreline Modification – General

Shoreline modification refers to the construction of physical structures, as well as modifications that mimic or restore natural shoreline functions, usually undertaken to support a shoreline use or to protect a use from erosion. Such structures include dykes, breakwaters, piers, docks, hard or soft shoreline protection measures, dredged basins and fill areas.

Guidelines for shoreline modifications in general could address the following management objectives:

- Criteria for allowing shoreline modifications; these may be related to the type of use (e.g., must be water-dependent uses) or the type of shoreline (e.g., developed versus natural).
- Limits on the number, size or density of modifications.
- Avoidance and mitigation for impacts on ecological and physical shoreline processes.
- Setbacks or buffer zones can be specified where natural vegetation must be retained.

Sample Guidelines for Shoreline Modifications (general)

(adapted from Washington State “Shoreline Master Program Guidelines” 2011)

- Allow structural shoreline modifications only where they are demonstrated to be necessary to support or protect an allowed primary structure or a legally existing or proposed shoreline use; or where they are necessary for reconfiguration of the shoreline for mitigation or enhancement purposes.
- As much as possible, limit shoreline modifications in number and extent.
- Allow only shoreline modifications that are appropriate to the specific type of shoreline conditions for which they are proposed. Prohibit shoreline modifications in conservation or critical habitat areas.
- Assure that shoreline modifications individually and cumulatively do not result in a net loss of ecological functions. This can be achieved by giving preference to those types of modifications that have a lesser impact on ecological functions but still “do the job”, and requiring mitigation of identified impacts resulting from modifications.
- Where applicable, base provisions on scientific and technical information and a comprehensive analysis of drift cells for marine shores.
- Plan for the enhancement of impaired ecological functions where appropriate while accommodating permitted uses. As shoreline modifications occur, incorporate all feasible measures to protect ecological shoreline functions and ecosystem-wide processes.

Specific types of shoreline modifications are addressed in the subsections that follow.

4.4.2 Shoreline Stabilization Measures

Shoreline stabilization includes actions taken to address erosion impacts to property and dwellings, businesses, or structures caused by natural processes, such as current, flood, tides, wind, or wave action. These actions include structural and nonstructural methods.

Nonstructural methods include building setbacks, relocation of the structure to be protected, ground water management, planning and regulatory measures to avoid the need for structural stabilization.

Structural methods are often referred to as “hard” and “soft”. “Hard” stabilization measures refer to those with solid, hard surfaces, such as concrete bulkheads, while “soft” structural measures rely on less rigid materials, such as biotechnical vegetation measures or beach enhancement. There is a range of measures varying from soft to hard that include:

DEVELOPMENT PERMIT AREAS

- Vegetation enhancement.
- Upland drainage control.
- Biotechnical measures.
- Beach enhancement.
- Anchor trees.
- Gravel placement.
- Rock (rip rap) revetments.
- Gabions.
- Concrete groins.
- Retaining walls or bulkheads.
- Seawalls.

SOFT



HARD

In general, *the harder the construction measure, the greater the impact on shoreline processes* - including sediment transport, geomorphology, and biological functions. Negative impacts may be increased as a result of sea level rise and increased storm surge. For example, onsite coastal erosion and scouring may worsen. There may also be impacts on adjacent properties. Structural shoreline stabilization also often results in vegetation removal and damage to near-shore habitat and shoreline corridors.

Guidelines for shoreline stabilization may address:

- Preferences regarding size and type of measures.
- Non-structural requirements for new development to avoid the need for stabilization measures.
- Criteria for permitting stabilization measures in existing development - e.g., only to protect existing, legal primary structures where a need has been proven through a satisfactory geotechnical analysis.
- Criteria for considering the replacement of existing stabilization measures.
- General mitigation and restoration requirements.

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As a general note, where marine shorelines and their sediment conveyance systems cross jurisdictional boundaries, local governments should try to coordinate shoreline management efforts to provide comprehensive mitigation for the adverse impacts of individual erosion control measures.

Sample Guidelines – Shoreline Stabilization

(adapted from Washington State “Shoreline Master Program Guidelines” 2011, Salt Spring Island DPA 3, Parksville Coastal Protection DPA 11 and Rural Comox Valley DPA 18)

General:

- Shoreline stabilization should be limited to that necessary a) to prevent damage to existing structures or established uses on adjacent upland; or b) to prevent damage to a proposed public land use.
- New upland structures or additions should be located and designed to avoid the need for shoreline stabilization.
- Shoreline stabilization should not interrupt natural processes solely to reduce erosion of undeveloped land, except agricultural land in some cases.
- Apply the ‘softest’ possible stabilization measure that will still provide satisfactory protection.
- Limit the size of necessary stabilization measures to the minimum necessary.
- All structural stabilization measures must be installed within the property line and/or upland of the “natural boundary”.
- Soft shoreline stabilization measures that provide restoration of previously damaged ecological functions may be permitted waterward of the natural boundary, subject to permitting from other levels of government.

New development:

- Using geotechnical analysis of the site and shoreline characteristics, subdivision applications must ensure that the lots created will not require shoreline stabilization for at least 50 years in order for reasonable development to occur.
- New development on steep slopes or bluffs shall be set back sufficiently to ensure that shoreline stabilization is unlikely to be necessary during the life of the structure, taking into account projected sea level rise, as demonstrated by a geotechnical analysis.
- New development that would require shoreline stabilization that causes negative impacts to adjacent or down-current properties is not supported.
- Shoreline stabilization structures will not be allowed for the purpose of providing a sufficient setback to meet zoning requirements.

Sample Guidelines – Shoreline Stabilization (continued)

- Structural stabilization measures will be considered in support of new water-dependent development when a geotechnical analysis provides conclusive evidence that:
 - The erosion is not being caused by upland conditions, such as the loss of vegetation and drainage. The geotechnical analysis should evaluate on-site drainage issues and address drainage problems away from the shoreline edge before considering structural shoreline stabilization.
 - Nonstructural measures, planting vegetation, or installing on-site drainage improvements, are not feasible or not sufficient.
 - The erosion control structure will not result in a net loss of shoreline ecological functions.

Existing development:

- Shoreline stabilization structures will not be allowed for the purpose of extending lawns or gardens, or to provide space for additions to existing structures or new outbuildings.
- New structural stabilization measures along the shoreline shall be considered for the protection of existing primary structures, or to protect habitat restoration projects or hazardous substance remediation projects, if the following criteria are met:
 - A geotechnical report provides conclusive evidence that the structure is in danger from shoreline erosion caused by tidal action, currents, or waves. Evidence of normal sloughing, erosion of steep bluffs, or shoreline erosion itself, without a scientific or geotechnical analysis, is not sufficient demonstration of need.
 - The erosion is not being caused by upland conditions, such as the loss of vegetation and drainage. The geotechnical analysis should evaluate on-site drainage issues and address drainage problems away from the shoreline edge before considering structural shoreline stabilization.
 - Nonstructural measures, such as placing the development further from the shoreline, planting vegetation, or installing on-site drainage improvements, are not feasible or not sufficient.
 - The erosion control structure will not result in a net loss of shoreline ecological functions.
- An existing shoreline stabilization structure may be replaced with a similar structure if the existing structure can no longer adequately serve its purpose.
 - The replacement structure should be of the same size and footprint as the existing structure. Additions to or increases in size of existing shoreline stabilization measures shall be considered new structures.
 - The replacement structure should be designed, located, sized, and constructed to assure no net loss of ecological functions.

Sample Guidelines – Shoreline Stabilization (continued)

- Replacement walls or bulkheads shall not encroach waterward of the ordinary high-water mark or existing structure unless the structure being protected is older than X years, and there are overriding safety or environmental concerns. In such cases, the replacement structure shall abut the existing shoreline stabilization structure.
- Where impacts to critical marine habitats would occur by leaving the existing structure, it can be removed as part of the replacement measure.
- Soft shoreline stabilization measures that provide restoration of shoreline ecological functions may be permitted waterward of the ordinary high-water mark.

Public Access

- Ensure that shoreline stabilization measures do not restrict appropriate public access along the shoreline except where such access is determined to be infeasible because of incompatible uses, safety, security, or harm to ecological functions.
- Where feasible, incorporate ecological restoration and public access improvements into the project. Application requirements:
- Applications for shoreline stabilization/modification shall include a report, prepared by a Qualified Professional with experience in geotechnical engineering, which presents:
 - the need for the proposed stabilization to protect existing or new structures, including an estimation of the time frame and rates of erosion to indicate the urgency of shoreline protection;
 - for protection of new structures, locations on the property where those structures could be built and not require shoreline modification, including setbacks;
 - if any natural hazards, erosion, interruption of geohydraulic processes or impacts on sediment conveyance systems may arise from the proposed modification, including at sites on other properties or foreshore locations, and measures to mitigate these effects. A map showing the movement of sediment and any possible changes that development may have must be submitted;
 - the cumulative effect of shoreline stabilization works along the drift sector where the works are proposed;
 - whether there will be any degradation of water quality or loss of fish or wildlife habitat because of the modification; and
 - what conditions should be incorporated into the permit to achieve short- and long-term compliance with the objectives of this DPA.

Sample Guidelines – Shoreline Stabilization (continued)

Design:

- Materials used for shoreline stabilization should consist of inert materials. Stabilization materials should not consist of debris or contaminated material that could result in pollution of tidal waters.
- Revetments (rip rap slopes) and Bulkheads (retaining walls) should only be constructed if no other alternative exists.

Where revetments are proposed:

- They should not result in the loss of riparian vegetation or fish habitat.
- The size and quantity of materials used should be limited to that necessary to withstand the estimated energy of the location's hydraulic action and prevent collapse.
- Filter cloth should be used to aid drainage.

Where bulkheads are proposed:

- They should not to be located where geohydraulic processes are critical to shoreline conservation. Feeder bluffs, marshes, wetlands, spits or hooks should be avoided.
- They should be located parallel to and landward of the natural boundary of the sea, as close to any natural bank as possible.
- They should allow the passage of surface or groundwater without causing ponding or saturation.
- They should be constructed of stable, non-erodible materials that preserve natural shoreline characteristics. Adequate toe protection including proper footings and retention mesh should be included. Beach materials should not be used for fill behind bulkheads.

4.4.3 Docks, Piers and Ramps

The requirement for a development permit can apply to the construction of docks, piers and ramps whether they are proposed by commercial operations for public use, or by private interests for restricted or personal use. Guidelines for piers, docks and ramps could address:

- Criteria for considering these types of structures – e.g., associated with a water-dependent use such as access to watercraft, and not for patio use. Preference is to be given to the placement of mooring buoys and floats instead of docks.

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- New shoreline residential development of two or more dwellings should provide joint use or community dock facilities rather than individual docks for each residence.
- Construction of a private dock on an individual residential lot or parcel is discouraged if a publicly accessible dock exists within X (e.g., 500) meters.
- Construction of a private ramp on an individual residential lot or parcel is discouraged. Owners are urged to seek opportunities to use public ramps or to share existing private ramps.

Sample Guidelines – Docks, Piers and Ramps

(adapted from Washington State “Shoreline Master Program Guidelines” 2011 and Salt Spring Island DPA 3)

- New piers, docks and ramps shall be allowed only for water-dependent uses or for public access.
- New piers, docks and ramps should be permitted only when the applicant has demonstrated that a specific need exists to support the intended water-dependent uses. This may be in the form of a needs analysis or master plan approved by the local government and consistent with these guidelines.
- Proposals for new piers, docks and ramps are subject to review and approval by the appropriate provincial and federal authorities.
- Piers on pilings and floating docks are preferred over solid-core piers or ramps.
- New pier and docks shall be restricted to the minimum size necessary to meet the needs of the proposed water-dependent use.
- Piers, docks and ramps shall be designed and constructed to avoid or, if that is not possible, to minimize and mitigate impacts to critical areas such as eelgrass beds and fish habitats, and processes such as currents and littoral drift.
 - They should not be located over shellfish beds or kelp or eelgrass beds.
 - They provide for the thorough flushing of all enclosed water areas and should not restrict the movement of aquatic life or interfere with natural shoreline processes.
- Boat launch ramps are the least desirable of all water access structures, and will be considered only if they can be located on stable, non-erosional banks where a minimum amount of substrate disturbance or stabilization is necessary. Ramps should be kept flush with the slope of the foreshore to minimize interruption of natural geo-hydraulic processes.
- All work that takes place below the natural boundary of the sea should be done in a way that minimizes degradation of water quality and disturbance of the substrate.
- Structures in contact with the water should be constructed of stable materials, including finishes and preservatives that will not degrade water quality.
- All docks should be constructed so that they do not rest on the bottom of the foreshore at low water levels.

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- Any plastic foams or other non-biodegradable materials used in construction of floats and docks should be well contained to prevent escape into the natural environment.
- Piers should use the minimum number of pilings necessary, with preference to large spans over more pilings.
- Piers should be constructed with a minimum clearance of 0.5 m above the elevation of the natural boundary of the sea.

Private and/or residential docks and ramps

- No more than one facility for mooring boats is to be located on any single parcel.
- Residential docks should be located and designed to avoid the need for shore defense works or breakwaters.
- Residential docks should not extend from shore any further than necessary to accommodate a small pleasure craft. Residential docks should not accommodate boats with a draft greater than 2.2 m or have floats more than 35 sq.m. total surface area unless more than two parcels have legal access to the dock.
- Avoiding critical habitats and impacts to shoreline processes; this may require an environmental assessment to identify such features and processes on the site in question.
- Limits on the size and/or number of structures; e.g., encouraging private landowners to share docks or use local public facilities.
- Criteria for replacing existing docks, piers or ramps.
- Design preferences for these types of structures.

Piers, docks and ramps are subject to Provincial approval as a foreshore use, as well as review and potentially approval by Federal fisheries authorities as a potential impact on fish habitat.

The Stewardship Series publication “Shoreline Structures Environmental Design Guidelines”¹ provides detailed guidance on designing pile-supported foreshore structures, covering design considerations related to size, footprint, materials, location and roughness.

4.4.4 Fill

Like docks and piers, filling should be considered only to support water-dependent uses and should avoid sensitive features and interference with shoreline processes. Guidelines may distinguish between filling above versus below the natural boundary or high water mark. Filling below or waterward of the natural boundary typically requires approval from the Province as a foreshore use and/or approval from DFO as a potential impact on fish habitat.

Sample Guidelines - Fill:

- The shoreline should not be filled in to create additional land, except minor areas of fill necessary to.. {e.g., complete an existing port facility or boardwalk}.
- Fills below (waterward of) the natural boundary shall be considered only when necessary to support:
 - water-dependent uses;
 - cleanup and disposal of contaminated sediments as part of an approved environmental clean-up plan;
 - disposal of dredged material approved by authorizing agencies;- and then only upon a demonstration that alternatives to fill are not feasible, and appropriate mitigation and environmental restoration actions are taken.
- Fills upland of the natural boundary greater than X cubic meters in volume shall be considered only to support water- dependent uses. Such fills shall be located, designed, and constructed to protect shoreline ecological functions and ecosystem-wide processes, including channel migration.
- All fill proposals below the natural boundary are subject to review and approval by the appropriate provincial and/or federal authorities.
- No parking areas should be located over the surface of the water, on land created by fill or on accretion shore forms.

¹Adams, M.A. 2002. *Shoreline Structures Environmental Design Guidelines: A Guide for Structures along Estuaries and Large Rivers*. Fisheries and Oceans Canada and Environment Canada, Vancouver, B.C. 75 p + appendices.

4.4.5 Breakwaters, jetties, groins, and weirs

A breakwater is a protective structure usually built offshore to protect harbour areas, moorage, navigation or beaches from wave action. Breakwaters may be fixed, open pile or floating. A jetty, groin or weir are structures usually built singly or in pairs perpendicular to the shore to prevent shoaling or accretion of sediment drift.

Local governments can regulate these structures. However, being located waterward of the natural boundary or high water mark, approval from the Province as a foreshore use and/or approval from DFO as a potential impact on fish habitat is usually required.

The Stewardship Series publication “Shoreline Structures Environmental Design Guidelines” provides detailed guidance on designing pile- and fill-based foreshore structures, covering design considerations related to size, footprint, materials, location and roughness.

Sample Guidelines - Breakwaters, Jetties, Groins and Weirs

- Breakwaters, jetties, groins, and weirs located waterward of the ordinary high-water mark shall be allowed only where necessary to support water-dependent uses, shoreline stabilization, or other specific public purpose and with the approval of senior agencies.
- Open pile or floating breakwater designs are preferred.
- Solid rock or fill-based weirs, groins and jetties should not be constructed unless it can be demonstrated that they are part of a larger system that will reduce the need for overall shoreline modification and that they are intended to prevent damage to existing structures. They should not be proposed to protect new structures.

4.4.6 Dredging

Dredging activities are typically administered by port authorities in compliance with senior agency requirements. However, where local governments define DPAs that extend into the foreshore, requirements regarding dredging can be included if it is defined as a form of “development”.

Sample Guidelines - Dredging:

- (option) There should be no dredging to create new facilities.
- Maintenance dredging of existing facilities should be limited to the minimum area necessary to maximize the capacity of the existing facility.
- Dredging should be done with the use of silt curtains to prevent siltation of adjacent areas.

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4.4.7 Land Development - General

“Development” typically refers to the range of land use activities that local governments can regulate under Part 14 of the *Local Government Act*, including clearing, grading, subdivision, service provision, construction, etc. The sample guidelines in this section relate to development associated with all types of land use activities – residential, commercial and industrial.

Sample Guidelines – Development

Subdivision

- When land containing a shoreline DPA is to be subdivided, all lots must provide minimum lot areas/dimensions required under the Zoning Bylaw exclusive of the DPA.
- Applicants are encouraged to dedicate the shoreline DPA/protected area for conservation purposes.
- New roads and septic systems should not be located in the shoreline DPA. If such a location cannot be avoided, then the design and construction of the road or septic system should be supervised by a qualified professional to ensure that the objectives and guidelines of this Area are met and to minimize harmful effects on the coastal environment.
- Stormwater outflows shall have water quality and water quantity/erosion control features installed satisfactory to the local government, so as to minimize impacts on slope stability and fish habitat and to comply with stormwater management policies. Multiple discharge points should be considered.
- Where this area includes unique native species dependent on a marine shoreline habitat that have been identified by a qualified professional as worthy of particular protection, their habitat areas should be left undisturbed. If development is permitted in these areas, it should be undertaken only under the supervision of a professional who is qualified in environmental protection, with advice from applicable senior environmental agencies.

Construction

- Erosion control: All development within this DPA is to be undertaken and completed in such a manner as to prevent the release of sediment to the shore or to any watercourse or storm sewer that flows to the marine shore. An erosion and sediment control plan, including actions to be taken prior to land clearing and site preparation and the proposed timing of development activities to reduce the risk of erosion, may be required as part of the development permit application.
- Monitoring: The implementation of required environmental mitigation, restoration or enhancement measures approved under a development permit shall be monitored by a qualified professional.

DEVELOPMENT PERMIT AREAS

Security

Security shall be taken as a condition of issuance of a development permit to ensure that the conditions of the permit and these DPA Guidelines are met. For example, security may be required, and applied against, erosion control works, site grading, phased clearing, barrier fence installing, habitat restoration works, post-development success of revegetation and restoration works, or any other requirements of a development permit.

Vegetation management, restoration and enhancement

- Existing, native vegetation is to be retained wherever possible to minimize disruption to habitat and to protect against erosion and slope failure.
- To ensure their long-term health, existing trees and shrubs that are retained shall be clearly marked prior to development, and temporary fencing installed at the drip line to protect them during clearing, grading and other development activities.
- If the area has been previously cleared of native vegetation, or is cleared during the process of development, replanting shall be required in accordance with these guidelines or requirements specified in the development permit. Areas of undisturbed bedrock exposed to the surface or natural sparsely vegetated areas shall not require planting.
- Vegetation species used in replanting, restoration or enhancement shall be selected to suit the soil, light and groundwater conditions of the site, should be native to the area, and be selected for erosion control and/or fish and habitat wildlife habitat values as needed.
- Replanting requirements will be set out in plans developed as part of the development permit application and will form part of the development permit.
- All replanting shall be maintained by the property owner for a minimum of 2 years from the date of completion of the planting. This may require removal of invasive, non-native weeds (e.g., blackberry, Scotch broom, English ivy) and irrigation. Unhealthy, dying or dead stock will be replaced at the owner's expense within that time in the next regular planting season.
- Views and Aesthetics
- Protection of the view of the shoreline from the water surface should be considered in development design. Over water construction should be minimized, visual compatibility with the surroundings is encouraged and scenic views should not be obstructed.
- Development should not detract from shoreline scenic and aesthetic qualities that are derived from natural or cultural features, such as shoreforms, natural vegetative cover, scenic vistas, diverse landscapes, historic structures, and rural and wilderness-like shores. These and other valuable features should be conserved or enhanced by development and utilized as appropriate for open space, fish and wildlife habitat, public access or recreation purposes.

4.4.8 Commercial and Industrial Development

DPA's associated with commercial and industrial development are often defined for "form and character" to regulate the design of development. However, despite the high-intensity use of land and foreshore by these types of development, there are still measures that can be taken to protect the marine environment.

Sample Guidelines - Commercial/Industrial Development

- New boating facilities that provide transient moorage shall not be constructed unless access is available to adequate and convenient facilities for pump-out, holding and treating of sewage from boats.
- New boating facilities shall be designed, located, and operated in a way that ensures there will be no discharge of toxic material from boats (fuels, oils, maintenance by-products, etc.).
- Lighting of commercial and industrial developments built over the water surface should be kept to the minimum necessary for safety and visibility. Light fixtures on such sites should be simple and unobtrusive in design. They should be carefully chosen to focus light on the area to be illuminated and avoid spillage of light into other areas. Fixtures should not result in glare when viewed from areas that overlook the sea. Low-glare fixtures with a high cut-off angle should be used. Full-spectrum fixtures are preferred. Neon lighting should not be used outside buildings.
- Signs on commercial and industrial developments built over the water surface should not exceed the size or total area allowed by local bylaw. Signs on such sites should not move or be audible and should not incorporate lighting that moves or flashes or gives the impression of doing so.

4.4.9 Public Access

Public trails along shorelines are typically commissioned or built by the government agency that has jurisdiction. Public trails may also be built by a private developer as a community amenity associated with the new development. In either case, trail design guidelines would likely be a separate policy/procedural document that may be referenced by a development permit or DPA guidelines.

Sample Guidelines – Public Access

- At the site level, public access in the form of trails or walkways should be developed as part of a comprehensive access, transportation and/or recreation network plan.
- Public access improvements shall not result in a net loss of shoreline ecological functions. Public access development in extremely sensitive areas should be restricted or prohibited.
- All forms of recreation or access development should be designed to protect the resource base upon which such uses in general depend.
- In general, trails paralleling the shore shall be constructed upland of the DPA (or designated buffer), with shore access trails running perpendicular to the shoreline at designated points that minimize damage to environmentally sensitive features or processes.
- Fill at or below the natural boundary/high watermark for the purposes of providing a trail or walkway is not supported.
- Trails should be constructed using permeable materials to facilitate rainwater infiltration and groundwater recharge.
- Public access should be provided as close as possible to the waters' edge without adversely affecting a sensitive environment and should be designed where reasonably feasible with provisions for handicapped and physically impaired persons.
- Public access should be designed to provide for public safety and to minimize potential impacts to private property and individual privacy. There should be a physical separation or other means of clearly delineating public and private space in order to avoid unnecessary user conflict.
- Parking areas of sufficient size should be placed away from the shore, buffered or landscaped, and constructed so as to minimize erosion and water pollution by controlling storm runoff. Structural measures such as catch basins, oil separators, filtration trenches or swales, unpaved or permeable all weather surfaces should be considered for this purpose.
- All new waterfront development should contribute to the development of the seawalk portion of the public pathway system. Buildings built along or over the water surface in areas zoned for commercial and industrial use should accommodate continuous pedestrian passage along the waterfront. New sections of the seawalk should be built in a way that is consistent with existing portions, ensuring barrier-free access along the entire route.

4.4.10 Guidelines Specific to Shoreline Biophysical Type

DPA's have typically been defined for marine shorelines in general, or for specific shoreline areas that are of particular interest to a community for their environmental value, development potential or both. These latter DPAs may contain guidelines that reflect the type of shoreline in that particular DPA.

As mentioned in Section 2 on Shoreline Classification, a few local governments have identified different types of shorelines in their jurisdictions and established policies in their OCPs specific to those types (see Appendix A – District of Metchosis and District of North Saanich)

5.0 ZONING

Example Shoreline Zones

Lasqueti Island Land Use Bylaw No. 78, 2005

Shoreline zones M1-M9:

- Conservation
- General
- Commercial
- Mariculture
- Industrial
- Transportation
- Boat ramp
- Barge ramp
- Multi-use ramp

The ability of local governments under s. 479 of the *Local Government Act* to zone land for particular uses and regulate certain land use activities within those zones is another tool that can be used to support Green Shores principles.

5.1 Shoreline Zones

Some local governments – particularly in the Islands Trust – have zoned their shorelines for particular marine uses. These shoreline zones typically extend from the natural boundary to the near- or offshore legal boundary of the local jurisdiction.

Uses that are regulated within these zones may include all forms of moorage and docking, commercial activities, residential development, navigational purposes and aquaculture. “Conservation” may be included as a use to preserve specific marine features or processes. These zones may set out site requirements such as maximum lot coverage, number of size of buildings and units, maximum heights, etc.

5.2 Setbacks

Setbacks are common requirements of zoning bylaws used to define minimum distances between buildings and lot boundaries or other site features, such as natural boundaries of shores and watercourses.

From a Green Shores perspective, setbacks under a zoning bylaw can have an important role in establishing a basic rule for locating buildings away from sensitive shoreline features, functions, and processes. The review of existing bylaw language suggests that most building setbacks for shore areas are in the range of 15 to 30 m from the natural boundary. The provincial Flood Hazard Area Land Use Management Guidelines indicate that buildings should be set back at least 15 m from the natural boundary and that this setback should be increased if there are known erosion hazards. Note that as of February 2016, these Guidelines are being updated to account for sea level rise, and greater setbacks are likely to be recommended for coastal uses.

An advantage of zoning setbacks, or any other zoning requirements, is that they apply automatically to all land in that zone, and do not require a permitting process to administer and enforce as is the case with DPAs.

Example Shoreline Zones

District of West Vancouver, Zoning Bylaw, proposed amendment, not passed

To accommodate works in the foreshore aimed at ecosystem restoration lessening coastal erosion and providing storm protection, DWV has considered amending its marine zones (M1, M2 and M3) to allow the following uses:

- Shoreline protection works and structures including breakwaters, berms, reefs, tombolas and islets constructed of rock, boulders, cobbles, gravels, sand or other soil materials, but not including steel, concrete or masonry structures, gabions, groyne or revetments.
- Landscaping and pedestrian walkways provided in connection with shoreline protection works and structures; and
- Salt marshes and similar intertidal habitat enhancements not involving structures.

Bowen Island, Land Use Bylaw No. 57 (2002)

s. 4.13 Water Use Zones - Coastal

Any Community dock, private moorage facility or group moorage facility shall be located such that it will not impede pedestrian access along the beach portion of the foreshore, or negatively impact eelgrass meadows, kelp beds, clam beds or mussel beds.

However, a drawback of setbacks defined under a zoning bylaw, as compared to a setback or buffer defined in a DPA, is that they are limited to buildings or structures, and cannot be applied to regulate other land-based activities such as vegetation removal, paving or grading. As such, zoning bylaws are not a stand-alone tool for Green Shores purposes but need to be coupled with other bylaws that regulate soil removal/ depositing, landscaping, and other land use activities.

6.0 GREEN SHORES PARTNERS

Green Shores Technical Advisory Committee

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John Readshaw – SNC Lavalin

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Funding and In-kind Partners

Bridge Coastal Restoration Program

Real Estate Foundation of BC

Habitat Conservation Trust Fund

Ducks Unlimited

Department of Fisheries and Oceans

Climate Action Secretariat, BC Ministry of Environment

Comox/Strathcona Regional District

Sunshine Coast Regional District

District of Squamish

Sitka Foundation

Province of BC

Powell River Regional District

Cowichan Valley Regional District

District of West Vancouver

Islands Trust

**APPENDIX A: GREEN SHORES - SCAN OF LOCAL GOVERNMENT
POLICY/REGULATION**

Last Revised January - May 2016

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Jurisdiction	Campbell River, City of
Tool	OCP Bylaw No. 3475 (2012)
Policies	<p>Chapter 5 “Parks and Natural Environment”</p> <p>5.1.2 Implementation of the following plans will be maintained and supported through programming partnerships, and regulation: ... Marine Foreshore Habitat and Restoration Plan, Estuary Management Plan...</p> <p>5.3.11: City owned foreshore parks experiencing erosion will be protected using soft shore restorations and sediment nourishment wherever possible.</p>
DPAs	<p>OCP, Part 5, Section 21 “Foreshore Development Permit Area (outside of the Campbell River Estuary)”</p> <p>Includes areas designated by map 9 and 30m seaward and landward from the natural boundary of the sea</p> <p>Justification:</p> <ul style="list-style-type: none"> • Recognizes value of the shoreline for properties and ecological processes • Discourages the use of sea walls and rip rap • Recognizes that sea level rise is intensifying the risk of flooding and erosion <p>Guidelines:</p> <ul style="list-style-type: none"> • Requires a detailed description of the shoreline’s current physical and ecological condition shall be prepared by a Qualified Environmental Professional (QEP) • 30m setback, including fill other than beach nourishment, except where QEP determines that lesser setback is appropriate • If setback is reduced - recommendations for protection and restoration required for existing native vegetation to minimize disruption to habitat and to protect against erosion and slope failure • New upland structures & additions, as well as subdivision are designed to avoid the need for shore protection works • Includes mitigation for native plant species and communities ranging from some protection to leaving completely undisturbed, as well as restoration of vegetation • Requires stormwater management plan, and erosion and sediment control plan by a qualified professional prior to development • Environmental management plan required • Bluff shorelines must consider the risk of slope instability, with measures to prevent saturation of the bluff face, prevent excessive removal of backshore vegetation, prevent construction of excessive beach access structures and ensure appropriate setbacks from the top of bank – by geotechnical engineer • Specific shoreline measures that will be adhered to: <ol style="list-style-type: none"> 1. Shoreline protection measures are limited to those necessary to protect existing structures and established uses and only if all other options have been exhausted 2. Only softest possible measures will be approved 3. Should include addition of appropriately sized material to the upper beach 4. Seawalls and rip rap embankments generally not acceptable 5. Shoreline protection that causes down current erosion or damage will not be supported 6. May consider shoreline protection measures if QEP finds that cause is tidal action, currents, waves, erosion is not caused by upland conditions, non-structural measures are not sufficient, QEP finds that the work will not result in new loss of shoreline ecological function 7. Structural measures may be replaced, must be same size and footprint, if not QEP must determine if required and must be softest measure possible 8. Location of structural measures shall be furthest inland of property line or natural boundary, Soft measures may be seaward if appropriately approved 9. Inert materials should be used, materials should be free of contaminated materials • Restricts the building of beach access • Standards for building and re-building docks
Zoning	Zoning Bylaw No. 3250, 2006: S.4.3 & 4.4 of Schedule A require approval for development in the area within 30m of the high water mark (as well as DFO approvals) that includes an assessment for new development and proposals to improve or enhance riparian areas for modifications to existing developments.
Notes	Campbell River also has an Estuary Development Permit Area.

Jurisdiction	Cowichan Valley Regional District
Tool	OCP Bylaw No. 3605 (2013) Electoral Area D
Policies	<p>Part 1 – Policy Framework, 1.0 Plan Foundations</p> <p>1.4 Local Context</p> <p>CLIMATE CHANGE Projected impacts of climate change for south coastal BC include increasing sea levels, increased precipitation, increased year-round temperatures and more extreme weather events (e.g. summer droughts, heavy rains, winter storms). In the long term, these climatic changes are expected to impact social and economic systems, through:</p> <p style="text-align: right;">▫ Increased settlement from shoreline areas and re</p> <p>1.6 Guiding principles</p> <p>PRECAUTIONARY PRINCIPLE The CVRD will take a precautionary approach to ensure that public and environmental health and safety are afforded a high priority in land use decisions. When a proposed land use or activity raises threats of harm to human or environmental health, precautionary measures must be taken if some cause-and-effect relationships have not already been established scientifically, including the:</p> <p style="text-align: right;">▫ Duty to re</p> <p>harm;</p> <p>environmental impacts;</p> <p>Duty to consider the costs and benefits to the community when evaluating alternatives, and to select the alternative with the least potential impact.</p> <p>PLANNING FOR FUTURE GENERATIONS Decisions will be made so as to provide future generations with as many or more opportunities as Electoral Area D – Cowichan Bay residents currently enjoy. It is understood that a healthy natural environment is essential to a healthy living environment for community members and a healthy local economy.</p> <p>2.0 Process, Vision and Goals</p> <p>2.4 Community goals</p> <p>RESTORE, PROTECT & ENHANCE THE HEALTH OF THE COWICHAN ESTUARY & MARINE FORESHORE The Cowichan Estuary is recognized as one of the world's most biologically important areas for fish, waterfowl and wildlife. Yet land and water-based activities have threatened the estuary and its dependent species such as Chinook salmon, shellfish, waterbirds and eelgrass. The OCP seeks to restore, protect and enhance the Cowichan Estuary so that fish and shellfish can be safely harvested and the coastal environment can be enjoyed for social, cultural and recreational purposes.</p> <p>ENHANCE THE ENVIRONMENT, ECOSYSTEMS & BIODIVERSITY Intact, healthy natural areas provide habitat to support plant and wildlife biodiversity, they filter pollutants and sediments from air and water, and they provide protection against hazards such as erosion, flooding and sea level rise. These areas also provide significant recreational, social and cultural opportunities and landscape amenities, which are highly valued by residents. The OCP will enhance natural areas, ecosystems and species biodiversity while providing opportunities for human enjoyment.</p> <p>ENHANCE CONNECTIONS TO THE WATERFRONT The waterfront is a public asset that is highly valued by community members and particularly by the Cowichan Tribes First Nations who have historically relied on the coastal environment for food, social and ceremonial purposes. The OCP encourages linkages between neighbourhoods and the waterfront through public beach accesses, trail connections, and an unobstructed foreshore to ensure that all community members can enjoy this valuable public resource.</p> <p>3.0 Community Growth Framework</p> <p>3.3 General Objectives and Policies</p> <p>OBJECTIVE .3 To preserve and enhance the natural environment, support energy and water conservation, and reduce greenhouse gas emissions. POLICIES (a) The CVRD will encourage Marine and Natural Areas to be restored, protected, and enhanced. (b) The CVRD will through development guidelines, the implementing zoning bylaw, and rezoning processes encourage the retention and planting of native vegetation and other initiatives to restore, protect and enhance natural ecological function and site hydrology. (c) The implementing zoning bylaw will include requirements for native landscaping in accordance with Section 909 of the Local Government Act.</p> <p>5.0 Natural Environment</p> <p>5.2 Ecosystems & Biodiversity</p> <p>OBJECTIVE .2 To protect, restore and enhance the health of intertidal and marine environments.</p> <p>(a) The CVRD will, through the implementing zoning bylaw and development permit area guidelines: (i) Protect the integrity of the foreshore, shoreline and natural coastal and intertidal processes; (ii) Discourage inappropriate siting of structures such as docks, piers, seawalls, retaining walls, and septic systems, that disrupt natural features and processes; (iii) Allow for natural erosion and accretion processes, without endangering structures; (iv) Encourage and actively support owners of shoreline properties to retain, whenever possible, natural vegetation and natural features along and within the marine foreshore; and (v) Discourage filling, deposit, excavation or other disturbance to the upland environment; and (vi) Discourage filling, deposit, excavation, or removal of foreshore and seabed materials, except for maintenance of navigation and barge channels and existing facilities.</p>

Policies	<p>(b) The CVRD will only consider permitting structural modification of the shoreline, such as seawalls, where it can be demonstrated that such a modification is necessary to protect a permitted or existing use or structure and that a green shores approach to shoreline protection is not a practical alternative.</p> <p>(c) The CVRD will encourage the protection of sensitive habitat features and areas such as riparian and marine riparian areas through conservation covenants and other mechanisms.</p> <p>(d) The CVRD may establish a riparian tax exemption program consistent with Policy (c) as a financial incentive to private property owners to establish conservation covenants.</p> <p>(e) The CVRD will encourage that the Province of BC refrain from issuing new Crown tenures to prevent further disruption to marine shoreline and intertidal habitat. In the event that the issuance of a new Crown tenure is to be considered, the Province of BC is strongly encouraged to first conduct a community and First Nations consultation process.</p> <p>(f) The expansion or redevelopment of marinas or development of new structures within the marine environment will be designed to minimize their environmental impact including the overall footprint and the amount of shading resulting from the development.</p> <p>(j) Development within marine and marine foreshore areas including, but not limited to, marinas, floating homes, and live aboards will be encouraged to utilize non-toxic and green materials in their construction and operation.</p> <p>(l) New zones established through a rezoning process to permit additional density, should include a minimum setback of 30 m, measured horizontally, from the natural boundary of a drainage feature, watercourse or the ocean, unless it is demonstrated that a lesser setback would not be detrimental to natural hydrological or ecological function.</p> <p>(n) The CVRD recognizes the cultural significance of the Cowichan Estuary and foreshore to First Nations and will consult with Cowichan Tribes on development proposals and other land use matters concerning the estuary and foreshore.</p> <p>OBJECTIVE .3 To promote education and stewardship to enhance the natural environment, ecosystems and biodiversity. POLICIES (a) The CVRD will support community-based initiatives that contribute to the protection, restoration and enhancement of the natural environment, ecosystems and biodiversity, where feasible and appropriate, through letters of support for grant funding, grants-in-aid, in-kind support, or allocation and disbursement of community amenity contributions. Such initiatives may include, but are not limited to, community education and stewardship, habitat restoration and protection, pollution abatement and invasive species removal. (b) The CVRD will support projects such as interpretive signage programs and local nature festivals. (c) The CVRD will endeavor to compile and distribute to private property owners a guide to native plant landscaping. (d) The CVRD should recognize community members who are undertaking voluntary conservation activities and stewardship of public or private lands.</p>
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<p>DPAs</p>	<p>Aquatic Resource Protection Development Permit Area (AR)</p> <p>The Aquatic Resource Protection DPA, documented on Schedule D-1, applies to: □ Develo measured horizontally, landward and seaward of the natural boundary of the ocean;</p> <p>Justification: Marine Riparian Areas provide many ecological services including: slope and soil stability; sediment control; water purification; fish, bird and wildlife habitat; microclimate; nutrient input; and habitat structure in the form of large woody debris. Marine Riparian Areas are particularly important for forage fish spawning habitat in support of many fish and wildlife species. The construction of retaining walls and sea walls can disrupt marine riparian habitat and coastal geomorphological processes. Without proper engineering and maintenance, they may also pose a threat to development</p> <p>AR.7 Guidelines for Marine Riparian Areas</p> <ol style="list-style-type: none"> 1. A green shores approach will be used to stabilize shorelines where practical. 2. Shoreline hardening, pilings, floats, wharves and other structures which disrupt light penetration to the water column or obstruct public access to the foreshore are discouraged. If permitted, these should be consistent with the current operational statement of Fisheries and Oceans Canada. 3. Shoreline hardening is not supported on parcels that are not subject to active erosion nor are they supported on parcels that erode more rapidly as a result of vegetation removal that is not recommended or supervised by a Qualified Coastal Professional. Shoreline hardening may be acceptable where a Qualified Coastal Professional, has determined that a green shores approach to shoreline stabilization such as vegetation enhancement, upland drainage control, biotechnical measures, beach enhancement, tree anchoring or gravel placement are not appropriate given site specific conditions. 4. Where shoreline hardening is proposed, the CVRD will require the applicant, at his or her own expense, to supply a report prepared by a Qualified Coastal Professional which: (i) Assesses the risk of erosion on the subject property and the suitability of the subject property for a shoreline stabilization device; (ii) Analyses the potential impacts on coastal geomorphologic processes as a result of installing or not installing the device; (iii) Analyses the potential impacts on adjacent properties as a result of installing and not installing the device; (iv) Recommends measures to ensure that the subject property is protected while preventing negative impacts to marine riparian areas, coastal geomorphologic processes or neighbouring properties. 5. Where shoreline hardening is proposed, it will be integrated with native vegetation and natural features to the greatest extent possible and should not prevent public access along the foreshore. This will necessitate an integrated design and development process supervised jointly by 1) a Qualified Coastal Professional and 2) either a Registered Professional Biologist or Landscape Architect. 6. Subject to Crown approval, fallen trees or logs may be anchored within the Crown foreshore to absorb wave energy and protect banks and beaches from erosion. 7. Marine riparian areas negatively impacted by development or vegetation clearing will be subject to a vegetation restoration plan prepared by a Registered Professional Biologist or Qualified Landscape Architect. <p>Marine Village Development Permit Area (MV)</p> <p>MV.4 Objectives The Marine Village DPA is established with the following objectives: □ T character of development is compatible with and enhances maritime heritage character; □ T the shoreline and waterfront from both the water and from public land; □ T in Cowichan Bay Village, which contribute to the Village's role as a working harbour; □ To commercial services and amenities serving both residents and visitors; □ T moving through the marine village, along safe, accessible, and clearly marked pathways with opportunities to enjoy □ To the seaside setting and vistas of the ocean and mountains; □ To marine village by boat or seaplane with greater integration with and accessibility to marine commercial services and □ To ensu visitor amenities; □ To ensu productivity; □ To red redevelopment of properties occurs; and □ To red to protect marine assets from hazardous conditions, including, but not □ To red limited to, sea level rise, storm surge, flooding and fire.</p> <p>The MV DPA has guidelines regarding site & environmental design, overwater structures and landscaping that aim to protect the natural shoreline and minimize shoreline hardening.</p>
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Classification	<p>Among the planning areas designated by the OCP are included (excerpts from policies are provided here):</p> <p>4.12 Marine Village (MV): (f) The implementing zoning bylaw will include regulations to minimize the impacts of structures on views of the ocean environment and impacts to the natural environment by shading of the water column and ocean floor, through height, parcel coverage, and siting regulations. Adequate fire protection and provisions for privacy will also be addressed.</p> <p>4.14 Marine Residential (MR) OBJECTIVE .2 To ensure that the redevelopment of existing stilt homes occurs in a manner that complements the natural environment by supporting natural hydrological processes and natural ecological function within the marine foreshore. POLICIES (a) The addition or expansion of docks, piers or other features which would result in increased coverage of the water surface is discouraged. (b) Site or building features intended to complement the ecological function of the marine foreshore will be encouraged during redevelopment activities. (c) The expansion of Crown tenures to accommodate larger stilt homes or structures, which would increase the amount of shading of the sea floor, is not supported.</p> <p>4.15 Marine Resource (MAR) The Marine Resource (MAR) designation is intended to protect the health of marine ecosystems that provide ecological services in support of a healthy environment, a healthy economy and a healthy community. The designation encompasses water surfaces within the Plan Area, intertidal areas within the Plan Area including lands below the natural high water mark, and land areas within the Cowichan Estuary. OBJECTIVE .1 To protect the health of marine ecosystems which support fisheries, biodiversity, food self-sufficiency, marine and eco-tourism, and social and cultural activities. POLICIES (a) The implementing zoning bylaw will include zones consistent with the intent of the MAR designation to accommodate marine environmental protection, conservation, restoration and enhancement, research, education, tourism, and recreation. (b) The CVRD will discourage the development of buildings, docks, wharves, or other structures within the MAR designation. (c) The CVRD will discourage residential uses within the MAR designation. (d) The CVRD supports a green shores approach to stabilization of shoreline areas. The creation of bulkheads, seawalls with land fill, and similar engineering works will generally not be supported unless it can be demonstrated that such works would create a net positive environmental benefit. (e) The CVRD recognizes the role of the Cowichan Bay Harbour Authority to manage and maintain the public harbour facility in Cowichan Bay and supports expansion of the public harbour facility and corresponding Crown lease, operated by the Cowichan Bay Harbour Authority, for the purpose of enhancing public moorage, navigation and safety in Cowichan Bay.</p>
Notes	

Jurisdiction	Gibsons, Town of
Tool	OCP Bylaw No. 985 (2005)
Policies	<p>Ch.6“The Natural Environment” - sec. 6.4 “The Marine Environment”:</p> <ul style="list-style-type: none"> • Protection of the foreshore and other environmentally-sensitive areas was one of the top three issues identified by members of the public during the planning process. Marine habitat, eelgrass, herring spawning areas, the waterfront and foreshore areas, and beaches (including vehicle access to beaches) were identified as areas of concern. The waterfront and foreshore areas include all land and water areas extending 15 metres upland of the highest water mark and to 15 metres below the low tide line of all shoreline and foreshore properties. Goal: “Ensure that uses on the waterfront and harbour area do not negatively affect the marine ecosystem and is compatible with upland uses.” • A significant portion of the marine shoreline is designated as Greenbelt as indicated in Schedule B: Land Use Plan. Marine areas with this designation are intended to remain undeveloped, and provide for boating, fishing, swimming and other outdoor recreation uses. • Within the Greenbelt designation, do not allow any new foreshore structures for commercial uses. • Maintain the foreshore in a natural state wherever possible as this provides important habitat and also absorbs storm impacts better. • Restrict new pier, float or private wharf facilities associated with a single residential upland use within the Town’s foreshore lease boundary. • Improve and develop beach facilities in areas such as Armour’s Beach, Pebbles Beach and Georgia Beach, which are within walking distance of the Gibsons Landing area, and other areas which provide for neighbourhood beach access. • Complete and extend the seawalk from the breakwater at the bluff to the northern boundary of the Town past Armour’s beach without interruption, including the breakwater itself. • Discourage the purchase of fill areas located on the Crown foreshore located between the seawalk and the adjacent upland properties by the upland owners, as these areas may have value for increased public use along the seawalk, for benches, rest areas or other uses. • Continue to map and monitor the health of eelgrass beds and take action to ensure the health of these important marine habitats including preventing the shadowing of eelgrass beds by permanent structures or floats. • Work towards a Foreshore Strategy to coordinate water uses, harbour development, recreational use, impact of climate change and sea level rise, and renewal of sewer infrastructure located on the shoreline. These may incorporate of BC Stewardship “Greenhores Guidelines” where appropriate. <p>Section 6.8 “Sea Level Rise”</p> <p>6.8.1 Update development approval guidelines and requirements to ensure that any proposed development in coastal areas consider the implications of sea level rise and conform to the latest provincial flood protection guidelines.</p> <p>6.8.5 Using best management practices incorporate green infrastructure that can also serve as public park space along the foreshore.</p> <p>Ch. 13 Servicing & Infrastructure</p> <p>Nature is our most valuable infrastructure asset.</p> <p>Gibsons is one the first Canadian municipalities to explore managing the natural capital in our community, such as green space, aquifers, foreshore area and creeks, using infrastructure and financial management concepts that are systematically applied to managing engineered assets. Our rationale is that the natural services provided by these systems, in the form of rainwater management, flood control and water purification, add tangible value to the community as, or more, effective as engineered infrastructure.</p> <p>Bringing these natural assets into the same asset management system as engineered infrastructure recognizes the quantifiable value they provide to the community and integrates them into the municipal framework for operating budgets, maintenance and regular support.</p> <p>Many of us are unaware of the infrastructure role played by parts of our natural environment and so we may not take the kinds of precautions that preserve our natural municipal infrastructure in good working condition. Gibsons is blessed with many natural assets. The following examples provide direct municipal services:</p> <ul style="list-style-type: none"> o The Gibsons aquifer – water storage and filtration o Creeks, ditches, wetlands – rain water management o The foreshore area – natural seawall

DPAs - Chapter 14	<p>DPA No.1 - Geotechnical Hazards:</p> <ul style="list-style-type: none"> • Schedule C shows areas of low-medium and high probability of geotechnical hazard. • Lists geotechnical report requirements. • Recommends "horizontal setback of 30 m from top of the shoreline slopes" for high hazard areas and "precautionary setbacks of 15m to other shoreline areas" <p>DPA No. 2 - Environmentally Sensitive:</p> <ul style="list-style-type: none"> • Marine shore areas and eelgrass beds are general areas of environmental concern identified in Sched. D; DPA encompasses 15 m upland and 30 m seaward of natural boundary, designated for protection of significant fish habitat and marine environment. • "An appropriate setback/leave strip... should be left undisturbed and naturally vegetated and should be maintained in perpetuity".. • Requires environmental assessment for any new development, redevelopment or use, to be conducted by a Qualified Environmental Professional with experience in assessing environmental impacts on fish habitat with knowledge of Fisheries and Oceans guidelines for the protection of the marine environments..
Classification	<p>Schedule A "Land Use Plan" - general land use designations, includes 3 marine shoreline types/areas:</p> <ul style="list-style-type: none"> • Commercial harbour - To support a wide range of marine uses including recreational, visitor-oriented activities such as marinas and associated upland uses, boat sales, charters and marine fuel sales, as well as marine industrial/transportation uses. All uses need to be environmentally benign and compatible with surrounding land uses. • Marine recreation - To permit moorage buoys for the use of pleasure craft and seasonal swimming floats. • Greenbelt/open space – To restrict intensive development and to minimize detrimental impacts on land and water in these areas.
Notes	<p>The Harbour Area Plan has additional policies on marine and shoreline uses. Gibsons has recently developed an Eco-Asset Management Strategy that identifies the foreshore as an important natural asset.</p>

Jurisdiction	Lantzville. District of
Tool	OCP Bylaw no. 50 (2005)
Policies	<p>Goal 1: Protect the Natural Environment – sec. 4.2.4 The Waterfront</p> <p>“One of the important natural and recreational areas in Lantzville is the coastline. The approximately six-kilometer-long waterfront has been significantly altered with retaining walls and other erosion control structures, as well as by loss of large logs and other wood debris that historically provided protection. Approximately 70% of the shoreline has been “hardened.” It is also a fragile coastal ecosystem and habitat for fish, shellfish, seals, sea otters, sea birds and seasonal sea lions. To protect this ecosystem, and to provide opportunities for public use, the District adopts the following policies:</p> <ol style="list-style-type: none"> 1. The Plan designates the entire shoreline of the District as a Development Permit Area as indicated on Map No. 10 and includes guidelines for use of this area in Part Three, Section 11 of this Plan. 2. The District encourages users of the waterfront and ocean, and adjacent residents, to refrain from disturbing or polluting of marine and related terrestrial natural habitats, and from littering public areas. 3. Except where otherwise permitted in the Zoning Bylaw, buildings and accessory structures must be set back <u>at least 15 metres</u> from the property boundary adjacent to the Strait of Georgia. This 15 metre area will be limited to uses that have limited impact on the marine foreshore and bank. 4. The flood construction level will be an elevation at least 2.0 metres above the high water level of the Strait of Georgia. 5. The District encourages the retention and restoration of natural shoreline vegetation and naturally occurring driftwood and rocks. 6. The District will discourage armouring of the shoreline by retaining walls, cement blocks or other permanent structures unless erosion is threatening the permitted building. 7. The need for all erosion protection structures, and the design and materials of the erosion control features shall be determined by a qualified professional, and will be approved by appropriate federal and provincial agencies and the District of Lantzville. 8. Where protection is required, new and reconstructed protection structures should be constructed of riprap, large boulders, or large wood material, rather than concrete walls. 9. All erosion control features will be constructed on private lands. 10. The District will discourage the approval of any property accretion along the shoreline by relevant provincial authorities. 11. Over the longer term, the District will encourage current landowners, and may require new development to restore of the shoreline to a natural beach. The District will work with property owners and provincial and federal agencies to develop a restoration plan. Wave energy reduction may be considered as part of solution to erosion and restoration. 12. The District will co-operate with appropriate agencies, local stewardship groups and the community to enhance creek mouths as an aid to improve aquatic and riparian habitat. 13. The placing of fill within 15 metres of the top of bank will be discouraged. 14. The District will retain all publicly owned rights-of-way and work towards making them accessible to the public where feasible.”
DPAs	<p>DPA IV - Coastal Protection</p> <p>Designated area: entire shoreline 15 m upland from “property boundary or natural boundary”.</p> <p>Justification: Refers to construction and erosion control features accelerating shoreline erosion reducing stability in some areas, causing accretion in others, and degrading aesthetics and pedestrian movement; “to ensure that potentially hazardous conditions are avoided and that the integrity of the slopes and shoreline is maintained”.</p> <p>Guidelines:</p> <ol style="list-style-type: none"> 1. “Where possible, construction or alteration should be planned to avoid intrusion into DPA IV areas and to minimize the impact on these areas and to avoid any further erosion or accretion. 2. A development permit will be required for shoreline protection devices or works. 3. An assessment by a qualified professional and a British Columbia Land Surveyor’s certificate will be conditions of the development permit for shoreline protection devices or works. 4. Protection devices or works will be located within the property boundary. 5. No development or alteration of land will occur where the geotechnical engineering report indicates that a hazardous condition would result.”
Classification	none
Notes	An example of marine shoreline-specific DPAs oriented to protecting environmental values and natural processes. Virtually all the shoreline is residential – hence, no objectives relating to commercial or economic use against which environmental protection policies need to be ‘balanced’. However, much of shoreline is already altered, so it may be difficult to preclude shoreline manipulation in the few remaining areas of natural shoreline.

Jurisdiction	Lasqueti Island – Islands Trust
Tool	OCP Bylaw no. 77, 2005
Policies	<p>Section 3.6 Environmental Management</p> <p>Objectives include:</p> <ol style="list-style-type: none"> 3. "To encourage and promote the protection of foreshore and marine areas for public enjoyment, public access and conservation. 4. To promote the preservation of fresh and salt water purity." <p>Marine Coastal Policies (specific sub-section):</p> <ol style="list-style-type: none"> 9) "Native flora and fauna should be retained to protect natural habitats of local significance along the foreshore and in the intertidal areas. 10) The marine environment, including associated riparian areas, should be adequately protected from unreasonable adverse effects or inadequate mitigation measures resulting from development. 11) Special consideration should be taken to eliminate the possibility of pollution from sewage or from commercial and industrial wastes. 12) Designation and regulation of the foreshore and marine coastal areas should be designed to preserve and protect the natural environment and character and should recognize the need to dedicate areas of the foreshore for the following purposes: <ul style="list-style-type: none"> • to provide for access; • to protect existing mariculture uses; • to encourage low impact public uses on and along the foreshore; • to provide for public transportation services; • to maintain public access to shellfish; • to retain the undeveloped character of the marine coastal area; • to protect marine coastal habitats for conservation purposes; • to provide for commercial and industrial uses; and • to retain representative areas of natural foreshore. 13) The type and use-level of foreshore and coastal water areas can significantly influence the rural/marine character of Lasqueti Island. Uses of Crown foreshore and water areas must be authorized by the appropriate Provincial Ministry, comply with the provisions of the <i>Navigable Waters Protection Act</i> administered by the Coast Guard, and also comply with the bylaws of the Local Trust Committee. <p>Advocacy Policy 4 - to encourage the Ministry and the Coast Guard to regulate uses such that:</p> <ul style="list-style-type: none"> • marinas relate to the rural environment and be of small scale, providing sanitary facilities (and desirably sewage pump-out facilities for boats) for shore and water-based patrons; • marinas are situated away from existing mariculture areas, • mariculture does not take precedence over those areas traditionally used as year round moorage for local vessels; and, • site specific non-discharge zones should be located in the waters surrounding Lasqueti as per the recommendations for such sites which were forwarded to the Canadian Coast Guard by the Lasqueti Island Local Trust Committee. <p>Sec. 3.7. Community Servicing and Utilities - Boats and Maritime Vessel Policies</p> <p>"In order to reduce the overall number of private docks and boat ramps located along the foreshore and alleviate the ecological damage that can be caused by the proliferation of private docks and boat ramps, communal private docks and boat ramps are encouraged and may be considered on a site specific basis. The development of regulations to permit such joint co-operative facilities should ensure that the communal facilities would not have the effect of closing off access to any one bay and that environmental and social effects would be addressed." Policies 11-17 address:</p> <ul style="list-style-type: none"> • Community discussions to explore possible locations and means to establish a public barge ramp. • Applications for a barge ramp to address environmental and social effects and provide hours of operations. • Consideration of public boat ramps – must address environmental and social effects. • Consideration of private docks – must address environmental and social effects, not to be extended beyond 37 metres (120 feet) from the high water mark or natural boundary of the sea. • Consideration of private boat ramps to reduce the overall number of docks – must address environmental and social effects of both private docks and boat ramps "and the alternative with the least environmental impact chosen". Ramps not to be sited or extended more than 21 metres (70 feet) from the high water mark or natural boundary of the sea. • Consideration of a breakwater – criteria: not reduce the area available to the public for mooring buoys and/or anchorage; not close off public access to the affected bay; provides an environmental impact assessment; a qualified registered engineer attests to the design of the breakwater.
Classification	None
Notes	Bylaw available at http://www.islandstrust.bc.ca/lc/la/bylaws.cfm

Jurisdiction	Lasqueti Island – Islands Trust																				
Tool	Land Use Bylaw no. 78, 2005																				
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Jurisdiction	Metchosin, District of
Tool	OCP Bylaw no. 258 (1995)
Policies	<p>Part 2 Environmental Policies - sec. 2.6 “Marine Shorelands”</p> <ul style="list-style-type: none"> Contains general policies and policies specific to each of 5 shoreland types (see classification below) that address such things as: <ul style="list-style-type: none"> Setbacks for construction and material removal – from 15m (e.g., rocky shores) to 60m (e.g., class II and III drift sector beaches) measured horizontally landward from mean high water. Prohibitions on shore protection measures, docks, etc. in certain classes. <p>Part 5 – Parks: Objective: “To place a high priority on the acquisition and development of a marine park system.”</p> <p>Part 13 – Implementation – further studies:</p> <ul style="list-style-type: none"> Shoreland slope engineering and resource management studies. Beach stabilization feasibility program using natural non-structural techniques – by Council and MOE. Environmental impact assessment of low-energy shore at head of Pedder Inlet.
DPAs	<p>Sec 2.16 Shoreland Slopes DPAs:</p> <ul style="list-style-type: none"> Designated for hazard only, based on 1993 Hazard Land Management Plan that identified 3 shoreland slope classes based on slope instability and surface erosion potential. Guidelines: <ul style="list-style-type: none"> Basic setback of 60 m from edge of slope unless geotechnical engineering report says otherwise. Requirement for an Engineer’s Report, lists details to be addressed. Municipality “shoulds” – evaluate purchasing for park, forest reserve, greenbelt; monitor surface and groundwater changes; work with agencies to establish erosion and sloughing control measures.
Classification	<p>Section 2.6 - based on physical forms (excerpts p. 14-17):</p> <ul style="list-style-type: none"> Rocky Shores – stable shores comprised of exposed bedrock with an absence of unconsolidated material at extreme low tide. Relative to other types of shores, they are low in biological productivity but rich in biotic diversity and aesthetic quality and are characterized by lichens, snails, barnacles, mussels, seaweeds, anemones and sea stars. Drift-sector Beaches - an integrated and independently operating erosion beach system which may extend for many miles in length and be separated from adjacent drift-sectors by either natural or artificial boundaries. Metchosin contains one large drift-sector extending from Weir Beach to Witty’s Lagoon. A drift-sector generally contains 3 classes of beaches: <ul style="list-style-type: none"> Class III Beaches are erosional beaches located at the base of coastal bluffs or cliffs from which sand and gravel is provided for accretion of Class I beaches further along the drift-sector. Class III beaches are totally submerged at high tide with no dry backshore berm. Class II Beaches are marginal erosion beaches located at the base of coastal bluffs or cliffs from which sand and gravel is eroded providing a secondary source of beach material for accretion on Class I beaches further along the drift-sector. Class II beaches are largely submerged at high tide with only a limited amount of walkable dry backshore under such conditions. Class I Beaches are the accretion terminals of a drift-sector where material eroded from Class II and III beaches is deposited. Class I beaches remain dry and walkable at high tide and have a large backshore berm permitting ease of public access and use. They constitute the most important recreational beaches. Biotically, beach shores are of intermediate productivity and diversity relative to the other shore types. Pocket Beaches - a sand and gravel beach along which no lateral drift of beach material takes place because it is contained between two headlands. The Pocket Beach is formed by the onshore and offshore movement of material. Pocket beaches are generally between 30.5 metres (100 feet) and 91.5 metres (300 feet) in length. With Pocket Beaches, as with Drift-Sector Beaches, there are three classes. However, unlike the classes of Drift-Sector Beaches which are contained adjacent to one another within the Drift- Sector, each class of Pocket Beach exists independently. Low-Energy Shore Zone - estuarine shores that form part or all of a cove or inlet. They may be characterized by marshy shores, shallow and muddy foreshores, and generally having low banks. As with Pocket Beaches, there are three classes of Low-Energy Shores each existing independently. However, in Metchosin, there is only one Low-Energy Shore - entirely a Class III (erosional) located at the head of Pedder Inlet. Lagoon Ecosystem - central component of a Lagoon Ecosystem is a body of salt water, which has been cut off from the ocean by a barrier, or spit of land and which allows the formation of a sheltered biological environment. This unique environment frequently includes a salt-water marsh and estuarine area into which flows fresh water from upland creeks and streams. This combination of fresh and salt water has very high biological productivity and diversity. It offers significant aesthetic and habitat attributes.
Notes	An example of physical shore zone-based classifications and “green shore” oriented policies related to each class. Presumably the policies direct all forms of development applications and review. These policies could be translated into DPA guidelines.

Jurisdiction	Nanaimo, City of
Tool	OCP Bylaw No. 6500 (2008)
Policies	<p>Goal 2 Build a more sustainable community, section 2.9 Waterfront</p> <p>Objectives:</p> <ul style="list-style-type: none"> • To increase public waterfront access throughout the city. Maximize physical and visual public access to both marine and freshwater waterfront throughout the city while minimizing disturbance to waterfront vegetation and environmental features. • To build a waterfront trail. Over the long term, complete an uninterrupted waterfront trail from Departure Bay Beach to the Nanaimo River Estuary. • To protect maritime uses and employment. Protect waterfront lands for marine dependent uses such as marine industrial services and recreational boating facilities and services. • To achieve a mix of land uses on harbour front lands without compromising marine activity: Create a vibrant waterfront through a balance of marine-related enterprises, mixed residential development and other uses that invite public use and enjoyment without compromising marine employment. • To protect habitat. Balance economic and recreational use of the waterfront with the protection and enhancement of areas of natural foreshore habitat for fish and other aquatic life. Particular focus will be given to protecting the sensitive habitat found in the Nanaimo River Estuary • To preserve views of Departure Bay Newcastle Channel and the Inner Harbour: Protect the character and extent of existing views of the inner harbour and Newcastle Channel during development of harbour front lands. • To co-operate with the Nanaimo Port Authority and Snuneymuxw First Nation on waterfront planning: Work with these authorities on harmonizing the Nanaimo Harbour Master Plan and First Nations's plans with the objectives and policies of this Plan.. <p>Policy headings: Public waterfront access, Waterfront Trail, Waterfront Land Uses – North City Limits to Departure Bay Ferry Terminal, Departure Bay Ferry Terminal to Downtown, Protection Island, Downtown to Nanaimo Estuary, Duke Point to South City Limit, Cooperation with other Jurisdictions.</p>

DPAs	<p>DPA 2 Environmentally Sensitive Areas Justification:</p> <ul style="list-style-type: none"> • Specific shoreline areas, including the foreshore and coastal bluffs, are designated for environmental protection. • The marine foreshore is a critical environment that supports many native, rare and endangered species that rely on the specialized habitats found on the coast. Native vegetation promotes stable and biologically diverse areas that extend ecological support into the marine environment. These ecosystems also help in maintaining shoreline stability and minimizing erosion. This feature has a leave strip that is identified in Zoning Bylaw No. 4500 Schedule C. <p>Guidelines [selected]:</p> <ul style="list-style-type: none"> • Generally, ESAs are identified on Map 3 of the OCP as DPA2. The identification of ESAs is based on the Sensitive Ecosystem Inventory (SEI) for East Vancouver Island and the Gulf Islands, supplemented by local knowledge. New ESAs may be identified, and the location and boundaries of ESAs shown on Map 3 will be refined as site specific information becomes available. The riparian leave strip for isolated wetlands, marine foreshore areas, and non fish bearing watercourses, are included as identified on Map 3, and in Zoning Bylaw No. 4500 Schedule C • [No development allowed in leave strips], except for works and activities that comply with the laws, regulations and best management practices of the Federal Fisheries Act (Canada) and the Provincial Water Act (British Columbia). • Prior to any alteration of land within DPA2, an environmental assessment by a QEP shall be conducted to clearly identify ESAs and determine appropriate buffers or riparian leave strips to maintain them. The assessment should include mitigation measures to avoid impacts to any ESAs identified. For details on requirements for the environmental assessment, please refer to the OCP, section 7.6 for development approval information • An applicant for a development permit within DPA2 will be required to provide development approval information on the anticipated impact of all proposed development activity in relation to the natural environment for the lands within DPA2. Therefore, DPA2 is designated a Development Approval Information Area. See section 7.6 of the OCP for further information. • Revegetation and restoration may be required as mitigation regardless of when the damage or degradation occurred. Invasive vegetation listed in the following table, and as presented on the Coastal Invasive Plant Committee Priority Listing, must not be planted. <p>DPA 3 Natural Hazard Lands Justification Natural hazard lands are typically characterized by a relatively steep slope, unstable or eroding land extending along ravines, bluffs, rock faces and shorelines influenced by wave action. Leaning or curved trees, local slide and erosion scapes and accumulations of slide debris provide evidence of past land instability. Much of the past instability appears to have been associated with flowing water including surface water, ground water seepage and wave action. Any construction of buildings would have to take into consideration the stability of the soil and ensure ground slippage does not take place.</p> <p>Guidelines [selected]:</p> <ul style="list-style-type: none"> • No unnecessary disturbance to the steep slope / foreshore area shall be permitted. Existing vegetation shall be maintained in order to control erosion and protect banks. Any access improvements on the steep slope such as footpaths and stairways shall be constructed so as not to disturb the slope or other natural slope drainage. • Before issuing a development permit, the City may require the applicant to furnish, at the applicant's expense, a geotechnical report that conforms with the Guidelines for the Preparation of Geotechnical Reports, to assist in determining what conditions or requirements shall be imposed in this permit to render the development, and hence, the use of land able to withstand the effects of the known hazard.
Tool 2	Zoning Bylaw No. 4500 (2011), Schedule C
Provision	<p>"LEAVE STRIP" - means an area of land adjacent to the sea or on each side of a watercourse within which uses are restricted by this Bylaw."</p> <p>"6.3.1.2. The leave strip adjacent to the sea shall include that area between the water's edge and a perpendicular line inland 15 metres from the natural boundary."</p> <p>"6.3.2 No building, structure, road, parking lot, driveway, patio, games court or other impermeable surface shall be located within a leave strip.</p>
Classification	None for shorelines
Notes	<p>OCP policies attempt to balance environmental protection of marine shores with their use and importance for commercial, recreational and economic objectives. Waterfront land uses and public access appear to "win out" in many areas outside residential areas. Green shores design principles are not recognized.</p> <p>While marine shores are included in the DPA for environmentally sensitive areas and with watercourse riparian areas in the Zoning Bylaw, within the 15-m leave strip development is regulated to avoid impacts, etc.</p>

Jurisdiction	Nanaimo Regional District
Tool	OCP Bylaw No. 1620 (2011) Electoral Area A
Policies	<p>4.3 Coastal Zone Management</p> <p>Objectives:</p> <ul style="list-style-type: none"> - Maintain, enhance, and protect biodiversity, ecological function, aesthetic appeal and recreational value of the waterfront - Minimize impacts on public access and the natural environment - Foster public ownership and stewardship on the waterfront - Minimize the environmental and aesthetic impacts of boat houses, water access stairs and boat ramps <p>Policies:</p> <ul style="list-style-type: none"> - Discourage continued development on coastal foreshore - Preference for use of soft measures, and hard measures considered only if qualified professional determines soft measures are not appropriate - Access stairs must be built to minimize slope stability issues
DPAs	<p>12.1 Environmentally Sensitive Features DPA</p> <ul style="list-style-type: none"> - Minimize the impacts of development on environmentally sensitive areas including coastal areas - Includes coastal areas 15m upward from the natural boundary and 15m seaward - Specific guidelines for coastal areas (#18-22) includes shoreline erosion stabilization practices, preference for soft measures, opposition to impeding public access and retaining wall placement.
Classification	None
Notes	General policies recognize environmental sensitivity of marine shoreline in this Area. DPA guidelines are general to all types of ESAs covered, with perhaps more emphasis on freshwater ESAs, but assessment and plan development requirements are applicable to marine shorelines.
Tool	OCP Bylaw No 1540 (2008) Electoral Area G
Policies	<p>2.0 Protecting the Natural Environment</p> <p>2.3 Coastal Zone Management</p> <p>Objectives:</p> <ul style="list-style-type: none"> - Recognize the foreshore as a finite resource and an integral part of the community's character and as a major destination for leisure and recreational pursuits. - Encourage development which will not alienate the foreshore from public access or impact on the natural environment. - Advocate cooperation and coordination between agencies responsible for the use and management of marine, foreshore and upland resources in order to assure more comprehensive management of the coastal zone. - Foster the public ownership and stewardship of the waterfront. - Maintain, enhance, and protect the biodiversity, ecological functionality, aesthetic appeal and recreational value of the waterfront. <p>Policies:</p> <p>Owners should "avoid disturbance, pollution, or damage to the foreshore and intertidal areas", soft stabilization measures are supported and hard measures considered only where deemed necessary by a professional.</p>
DPAs	<p>10.2 Environmentally Sensitive Features DPA</p> <ul style="list-style-type: none"> - This section substantially follows the Environmentally Sensitive Features DPA for Area A OCP - Specific guidelines for coastal areas (#20-24) include shoreline erosion stabilization practices, preference for soft measures, opposition to impeding public access and to retaining walls.

Jurisdiction	North Cowichan, District of
Tool	OCP Bylaw No. 3450 (2011)
Policies	<p>1.4 North Cowichan's assets and challenges, 1.4.1 Oceanfront municipality North Cowichan's 40+ kilometres of oceanfront represents a substantial asset that requires special attention and management. Public shoreline access is limited, yet the oceanfront is of significant importance to all residents and to tourism businesses that depend on it as an attraction, as well as commercial fishing and the transportation network. This asset has competing values for recreation, commerce and conservation purposes. It is also vulnerable to the forces of nature (such as weather-related erosion) and to change through industrial, residential and other forms of development as well as sea level rise due to climate change.</p> <p>2.2 Ecosystem health, biodiversity and critical habitats Also of concern are North Cowichan's extensive oceanfront areas, which are extremely sensitive to interference or change, including rising sea levels. Many dynamic processes affect their condition, from wind, waves, tides and currents, to the natural cycles of marine life – as do human interactions with all of these processes for recreational and commercial purposes.</p> <p>Policies</p> <p>The Municipality will protect environmentally sensitive areas. The Municipality recognizes and will protect the unique and special characteristics of ocean foreshore and other waterfront areas.</p> <p>a) All areas along the marine waterfront are designated Development Permit Areas under Section 919.1 of the Local Government Act (see Development Permit Guidelines for Marine Waterfronts, DPA- 2 and Natural Environment, DPA- 3). [see also waterfront section 2.4.4]</p> <p>b) The Municipality will work to reduce conflicts between any use and environmental conditions generally, and in the Cowichan and Chemainus estuaries in particular.</p> <p>c) The Municipality will concentrate marine commercial uses in the communities of Chemainus,,Crofton and Maple Bay, as identified on Map 10.</p> <p>d) Development that would alienate the foreshore from public access or negatively impact on the natural environment will be discouraged. Public access to and along the waterfront is a priority consideration in all development proposals. Provision will be made for access through or around any structure that extends below the high watermark (except along industrially designated shorelines).</p> <p>e) The Municipality will advocate for cooperation and coordination among agencies responsible for marine foreshore and upland resources on such issues as establishing a 'no dumping zone' along the Municipality's waterfront and in particular Bird Eye Cove and Genoa Bay.</p> <p>f) The Municipality will cooperate with appropriate agencies to enhance or restore fish habitat.</p> <p>g) The infilling of foreshore is generally discouraged, but may be considered where erosion is an issue, or for projects that create a major public benefit.</p> <p>h) Applications for private moorage will be supported for upland residential developments that have water access only, i.e. no road access to the property. In other instances, the Municipality will encourage the use of marinas for boat storage/moorage or joint use structures. Alternatively, private docks may be permitted as long as correct zoning is in place and the dock is appropriately sized (and used solely) for private purposes.</p> <p>2.2.1.8 The Municipality will make decisions based on the best available information about the natural environment.</p> <p>2.2.3 Natural hazard areas Global climate change is anticipated to result in dramatically rising sea levels over the coming years. This will have implications for the placement of new developments along the waterfront, and it may have implications for the safety of existing structures. Coastlines are designated DPAs as hazard lands.</p> <p>2.4.4 Waterfront commercial and industrial development Recognizes that the waterfront provides industrial, commercial, and residential uses residential, as well as containing important natural features and environmentally sensitive areas. "The water's edge contains many important natural features including estuaries, stream mouths, salt-water marshes and intertidal areas, all of which are also fertile places for wildlife." Objective: Accommodate legitimate waterfront activity while reducing environmental impacts and reducing conflicts between land uses Policies aim to balance different uses and concentrate marine commercial and industrial uses. "...not all uses are appropriate to be located on the waterfront. The Municipality reduces conflict between uses by keeping incompatible uses separate from each other. There will be no attempt to provide for all uses in all parts of the waterfront. Policies for specific communities include: support for foreshore lease applications for private moorage primarily where limited or no public road access, support for public access to the waterfront new developments, but with care not to damage intertidal or foreshore areas, protection for the environmental features of the Chemainus estuary.</p>

DPAs	<p>DPA 2 – Marine Waterfront Includes commercial, industrial and multi-family marine properties and foreshore within 100 m above and 300 m below the natural boundary of the foreshore, designation for protection of the natural environment. Guidelines (in Zoning Bylaw, Schedule “J”) Aims to integrate development with site’s natural attributes to reduce negative impacts to coastal ecosystems, and to incorporate best practices to “protect and enhance the sensitive ecosystems located in this area and to respect the natural physical processes that occur in this dynamic environment.” 2.4.1 Plan with the environment – “modification to the foreshore should receive the same level of attention to design and detail as buildings/structures and open space.” Includes policies around protecting First Nations cultural sites, public views of waterfront, public access, landscaping and structures on the water.</p> <p>DPA 3 – Natural Environment Coastal areas: applies to 30 m horizontal distance upland from present natural boundary and 30 m seaward of the present natural boundary. Justification: The marine shoreline and adjacent coastal waters represent a highly productive marine environment for forage fish and other species. Careless development can have a cumulative detrimental impact on habitat within the sensitive marine riparian zone. Interruption of natural beach processes of longshore drift, for example, can displace erosion and deposition patterns, which can then affect other properties and marine habitat. Healthy ecosystems enrich the quality of life of property owners and community members at large. Greenspace provides recreational benefits, wildlife- and bird- viewing opportunities, and aesthetic settings for inhabitants. Healthy ecosystems provide important ecological services, such as rainwater management, oxygen production, atmospheric pollution absorption, and plant pollination. Guidelines (See Zoning Bylaw, Schedule “J”) (B) Marine Shoreline and Adjacent Coastal Waters 3.4.3 SHORELINE PROTECTION AREAS (A) Development in a Shoreline Protection Area is restricted generally only to those uses necessitating shoreline access, and then only with appropriate environmental assessment and mitigation measures. (B) The layout and design of development proposed within a Shoreline Protection Area DPA must strive to: i. minimize erosion, retain wildlife habitat and maintain water quality, slope stability and natural vegetation along shorelines; ii. avoid areas with poor slope stability and locate foreshore accesses/structures sensitively; iii. maintain existing marine habitat (e.g., eelgrass beds, shell fish beds) in their natural state to protect the resource; iv. establish water views selectively by pruning branches of shoreline trees instead of topping or removing healthy trees; and v. maintain public access. (C) Installation of hard structural shore protection measures (e.g., riprap structures, lock block walls, concrete walls) to address shoreline erosion is strongly discouraged. The use of non-structural options is preferred, such as using bio-engineering techniques, locating new buildings/structures farther from the shoreline, or installing on-site drainage improvements are preferred. (D) Before any shore protection measure is taken, an appropriate qualified coastal professional must provide conclusive evidence that the development structure is at risk from shoreline erosion caused by tidal action, currents, or waves. Evidence of normal sloughing, erosion of steep bluffs or shoreline erosion itself without a scientific or geotechnical analysis is not a sufficient demonstration of need. Confirmation is required that the erosion is not being caused by upland conditions, such as the loss of vegetation and drainage. (E) All shore protection measures must be designed by an appropriate qualified coastal professional. (F) Shore protection measures that could cause erosion or other physical damage to adjacent or downcurrent properties or that impedes public access are not supported. (G) The size of any shore protection device must be limited to the minimum size necessary. (H) All structural shore protection measures should be installed within the property line or upland of the natural boundary, whichever is farther inland. (I) Backfilling to extend the existing top of bank is not permitted unless it can be clearly demonstrated that the fill is necessary to prevent further erosion or sloughing of the bank that would potentially endanger existing buildings/structures. (J) A geotechnical assessment of the site and shoreline characteristics may be required to establish safe setbacks from the top of bank and to identify measures to ensure safe building site areas or usable lots. Such assessment must consider rising sea levels. [See also DPA 4 – Hazard Lands.] (K) Where a Shoreline Protection Area includes native plant species or plant communities that are identified as sensitive, rare, threatened or endangered, or have been identified by a Qualified Environmental Professional as worthy of particular protection, their habitat areas must be left undisturbed. If disturbance cannot be entirely avoided, development and mitigation/compensation measures must be undertaken under the supervision of the Qualified Environmental Professional and may require additional advice from applicable senior governmental agencies.</p>
Classification	None

Jurisdiction	North Saanich, District of
Tool	OCP Bylaw No. 1180 (2007)
Policies	<p>Part 4.0 Marine Areas Recognizes sensitivity of shoreline habitat and increasing demand for foreshore uses; mostly rugged, steep shoreline with a few small pocket beaches</p> <p>4.1 Objectives:</p> <p>4.1.1 To reduce physical obstructions into the foreshore, and restrict such developments to the least environmentally and visually sensitive areas, the District does not support development or structural improvements except those in conformity with the other policies in this section. (Policy 4.1.1 does not apply to any lands or foreshore areas within the jurisdiction of the Islands Trust.)</p> <p>4.1.2 To preserve the beauty of an unspoiled shoreline for future generations of the District's residents, natural features must be preserved and protected if any development is contemplated along the shoreline.</p> <p>4.1.3 To support public access to the shoreline, systematic development of beach access points is required.</p> <p>4.1.4 Public recreational use of marine shorelands should be consistent with the suitability of each shore type for the proposed use.</p> <p>4.1.5 The District supports the designation of Saanich Inlet as a marine park.</p> <p>4.1.6 In the development of uplands and adjacent foreshore areas for public use, the natural vegetation and wildlife must be preserved as much as possible.</p> <p>Specific policies for shoreline types - see below under "classification".</p>
DPAs	<p>DPA No. 1 – Marine Uplands and Foreshore Objective: To regulate development along the shoreline, foreshore and uplands to provide long-term protection for the ecological values of these areas and guard against their deterioration and contamination.</p> <p>14.3.2 Existing trees and vegetation on the upland area and adjacent to the foreshore must be retained in order to maintain the existing habitat and to control erosion.</p> <p>Modification of channels, banks or shores which could result in environmental harm or significantly alter local hydrological conditions will not be permitted.</p> <p>14.3.5 Development must be designed so as to maintain the quality of any storm water flowing toward or into the ocean and to prevent any increase in volume and peak flow of runoff.</p> <p>14.3.6 Proposed development must be designed to avoid any increase in runoff and to prevent any effluent or storm water discharge that could have a detrimental effect on the environment.</p> <p>14.3.7 Controls are required on surface-water drainage to prevent pollutants from entering water features.</p>
Classification	<p>4.2 Shoreline policies: Identifies 3 types of shores, sets out policies for each type.</p> <p>Rocky shores:</p> <p>4.2.1: To preserve the natural appearance of the rocky shoreline, no buildings or structures, or soil removal or deposit shall be permitted within <u>a minimum of 15 m of the natural</u> boundary, except where it can be demonstrated to the District's satisfaction that a lesser distance is acceptable.</p> <p>Beach shores - drift sector beaches: class II and III erosion beaches - limited walkable backshore.</p> <p>"4.2.2 The use and management of drift sector beaches in the District is to be based on the protection and maintenance of the natural process of erosion-transport-accretion of beach material throughout the entire length of the drift sectors designated in Figure 1."</p> <p>4.2.3 To ensure that material eroded from Class II and Class III beaches is transported the full length of the shoreline involved, public and private docking facilities, boat ramps and other structures that might impede the natural beach material transport process are discouraged.</p> <p>4.2.4 Due to active erosion of Class II and III beaches, building prohibitions and soil deposit and removal restrictions shall be placed over lands within a <u>15 m horizontal distance</u> of the natural boundary adjoining beach shores, except where it can be demonstrated a lesser distance is acceptable.</p> <p>4.2.5 To protect the beaches from active erosion, no bulkheading shall be permitted on any drift sector beaches, except where permitted by the District, which may request appropriate studies."</p> <p>Beach shores - pocket beaches: generally class II and III erosion or marginal erosion beaches; recreational value at low tide, sheltered environments for birds and shellfish.</p> <p>4.2.6 Building prohibitions and soil removal and fill restrictions shall be placed on lands <u>within 15 m horizontal distance</u> landward of the natural boundary adjacent to Class I or pocket beaches except where it can be demonstrated a lesser distance is satisfactory.</p> <p>4.2.7 No bulkheading or the placement of any shore protection structures shall be permitted on Class I, II or III pocket beaches except where permitted by the District, which may request appropriate studies.</p> <p>Mudflats, marsh and delta shores:</p> <p>The Tsehum Harbour area and lagoon is designated as a Development Permit Area for the protection of water fowl habitat, and all land and water areas shown on Schedule "D" shall be regulated by the criteria established in Section 15.0.</p> <p>No bulkheading or other shore protection devices shall be permitted on any mudflat, marsh or delta shore, unless permitted by the District, which may request appropriate studies.</p> <p>4.2.8 Development immediately adjacent to a mudflat, marsh or delta area shall be discouraged."</p>

Notes	North Saanich provides an example of physical shore zone-based classifications and "green shore" oriented policies related to each class. Ideally the policies direct all forms of development applications and review, supplemented in specific shoreline areas where DPAs are defined.
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Jurisdiction	Powell River, City of
Tool	Sustainable Official Community Plan Bylaw No. 2370 (2014)
Policies 2	<p>5.3 – Climate Change</p> <p>5.3.1 Objectives</p> <p>a) Proactively plan for climate change including adaptation to projected sea level rise, increased storm surges, increased coastal erosion, changes in vegetation and animal species</p> <p>5.3.2 – Policies</p> <p>c) Update minimum flood construction requirements to incorporate a projected sea level rise of one metre based on Provincial guidelines</p> <p>e) Develop a risk and vulnerability assessment of local impacts of climate change to inform policies, targets and actions for adaptation planning</p> <p>f) Make infrastructure, asset management and capital expenditure decisions with fundamental considerations for climate change mitigation and adaptation, and energy resiliency.”</p> <p>5.5 Tidal/ Salt Water Riparian Zones</p> <p>5.5.1 Objectives</p> <p>a) Protect the shoreline along Malaspina Strait through the use of measures that take natural processes into consideration and do not detrimentally impact adjacent properties.</p> <p>(b) Plan for long-term climate change including sea level rise and associated storm impacts.</p> <p>5.5.2 Policies</p> <p>(a) All development along the shoreline of Malaspina Strait must plan for a sea level rise of 1.0 metre and associated storm surge and coastal erosion.</p> <p>(b) Except for shoreline protection measures and marine based structures such as ferry terminals, aquaculture facilities, breakwaters and moorage facilities, new buildings must be located a minimum of 15 metres from the natural boundary.”</p>
DPAs	None relevant
Classification	None

Jurisdiction	Powell River Regional District – Electoral Area A
Tool	OCP, Schedule A to Bylaw No. 500 (2015)
Policies	<p>1.3.2 – The plan supports and aligns with the vision and principles of sustainability expressed in the regional sustainability charter</p> <p>2.2.2 Foreshore The Foreshore land use designation applies to lands below the natural boundary or visible high water mark of the ocean. Residents and stakeholders place a high value on the coastal marine environment for natural resources and for recreational, scenic and shoreline-protection benefits. In addition, First Nations place a high value on archaeological and cultural resources located along the foreshore. Preserving and enhancing the Foreshore and the sensitive marine ecosystem plays an important role in ensuring future natural resource potential within the planning area...The Foreshore land use designation applies to nearshore, foreshore and backshore areas along the coastline. Jurisdiction along BC’s coastal shores involves local government, provincial government, federal government and first nation government...many of the Foreshore policies in this plan are advisory in nature and require a collaborative approach working together with other levels of government.</p> <p><input type="checkbox"/> Avoid clearing, altering or developing the waterfront within 30 metres (98 ft. 3 in.) of the natural boundary of the sea as per the principles and guidelines contained in the provincial publications Coastal Shore Stewardship: A Guide for Planners, Builders and Developers and On the Living Edge: Your Handbook for Waterfront Living.</p> <p><input type="checkbox"/> Protect the integrity of the foreshore and its vital intertidal processes by encouraging the retention and restoration of natural shoreline vegetation and naturally occurring driftwood and rocks.</p> <p><input type="checkbox"/> Encourage owners of waterfront property to adopt the Green Shores for Homes approach (as described in Appendix 4) which utilizes a range of soft structural shoreline protection measures to enhance and restore natural shorelines making them more resilient from an environmental, recreational, scenic, and shoreline-protection perspective.</p> <p><input type="checkbox"/> Discourage armoring of the shoreline by retaining walls, riprap, concrete blocks or other hard structural shoreline protection measures or erosion control features unless erosion is threatening a permitted structure and shoreline protection is authorized by the appropriate federal and provincial agencies.</p> <p><input type="checkbox"/> Where unavoidable, hard structural shoreline protection measures will be supported when installed within the property, upland of the natural boundary. Soft structural shoreline protection measures that provide restoration of previously damaged ecological functions may be supported seaward of the natural boundary subject to obtaining necessary approvals from the provincial and federal governments.</p> <p>2.6.6 Climate Change Explicitly lists climate change impacts (increasing water temperatures, storms, sea level rise)</p> <p>Appendix 4 – Green Shores for Homes – describes the program and also expresses general support for naturalized shorelines as a way of adapting to sea level rise.</p>
DPAs	N/A
Classification	N/A

Jurisdiction	Saanich, District of
Tool 1	OCP Bylaw No. 8940 (2008) Appendix "C", Cadboro Bay Local Area Plan
Policies	<p>Part 6 "Environment", sec. "Ocean Shoreline":</p> <ul style="list-style-type: none"> • Recognizes 1978 "Shore Protection Analysis which detailed management strategies for all of Saanich's coastline... should continue to be considered when reviewing development application, creating development permit areas, and commenting on waterfront and foreshore lease referrals by the Provincial Government". • It is noted that a policy should be established to ensure that no variances of the zoning bylaw (which does not allow any structures along the shoreline in Saanich below the natural boundary along Cadboro Bay and Haro Strait) are allowed.
DPAs	<p>DPA 29 Environmental Development</p> <ul style="list-style-type: none"> • Includes "marine backshore", 15 m from natural boundary. • Requires development to protect the marine backshore, must demonstrate there will not be an adverse effect on the natural environment. • Revegetation and restoration may be required.
Classification	<p>Contains map of shoreline beach types. Saanich ESA Atlas - provides information for database of shoreline features.</p>
Tool 2	Zoning Bylaw 8200 (2003)
Provision	<p>5.16 Property Fronting the Ocean Notwithstanding any other provision in this bylaw, (a) No building or structure shall be constructed or located upon or over the land lying below the natural boundary of the ocean including Portage Inlet and Gorge Waterway. (b) No building, structure, retaining wall, screen, or fence in excess of 0.6 m (1.96 ft) in height shall be constructed or located on a lot within 7.5 m (24.6ft) of the natural boundary of the ocean excluding Portage Inlet and Gorge Waterway. (c) For purposes of calculating floor space ratio (R), only the area of the lot located above the mean high water mark shall be included.</p>
Notes	<p>Saanich has an Environmentally Significant Areas Atlas, which is being updated to include a marine layer. As well, Saanich has adopted <i>Saanich Green/Blue Spaces: A Framework for Action</i>, which is meant to ensure that the structure of natural systems is included in community planning. Ocean shorelines are included among the green/blue spaces identified.</p>

Jurisdiction	Salt Spring Island – Islands Trust
Tool 1	OCP Bylaw No. 434 (2008)
OCP Policies	<p>Part B “Land Use Objectives and Policies” Sec. B.9 “Shoreline and Aquatic Use Objectives and Policies” (vol.1)</p> <ul style="list-style-type: none"> • General objectives: <ul style="list-style-type: none"> “To protect the most significant ecological and physical processes of tidal shorelines. To identify those shoreline areas that are most uniquely suited or traditionally used for specific purposes.. To avoid conflicts between shoreline uses and adjacent upland uses.. To avoid shoreline uses that impede public access...” • Objectives and policies are established for <u>5 shoreline designations</u> (see classification 1 below) • B.9.2 Shoreline Conservation Designation • Objectives: to protect the island’s most environmentally sensitive shoreline areas such as tidal flats, fish and wildlife habitat, sensitive lake ecosystems, estuaries and wetlands that is not suitable for intensive development. • Policies: zoning should not result in negative impacts to sensitive natural habitat areas. If upland areas are being subdivided, AO is encouraged to provide viewing access rather than direct physical access to sensitive habitat areas. • Owners are encouraged to implement best practices for shoreline development, such as Green Shores.I
DPAs	<p>Part E “Development Permit Areas”, sec. E.3 “DPA 3 Shoreline” (vol.2)</p> <ul style="list-style-type: none"> • Designated for form and character for commercial and industrial, natural environment protection, and hazardous conditions protection. • DP area: 300 m seaward of natural boundary; 10 m upland of natural boundary. • Types of development/uses for which DP required (note exemptions): <ul style="list-style-type: none"> ○ Construction of buildings. ○ An addition to an existing dock or construction of a new dock in areas outside the Shoreline Conservation Designation that will result in a total float area greater than 35 m2. ○ An addition to an existing dock or construction of a new dock in areas within the Shoreline Conservation Designation. ○ Construction of more than one mooring facility next to a parcel. ○ Construction of a breakwater, a rock weir, a groin or a jetty. ○ Construction of shoreline stabilization works, bulkheads or walkways. ○ Placing of fill. ○ Dredging. ○ Construction of boat launch ramps and railways. ○ Removal of trees with a trunk diameter greater than 20 cm (measured 1.5 m above the ground) or the removal of other vegetation that results in the exposure of a total area of bare soil more than 9 m² in area within 10 m of the natural boundary of the sea. ○ Installation of light standards in commercial or industrial zones on the water surface. ○ Installation of signs in commercial or industrial zones that exceed the size allowed in local bylaws. ○ The subdivision of land parcels that creates additional new lots. • Objectives: <ol style="list-style-type: none"> 1. To protect the quality of the tidal waters that surround Salt Spring Island, 2. To protect fish and wildlife habitat. 3. To prevent erosion and hazardous conditions that could result from interrupting the natural geohydraulic processes along the shoreline. 4. To protect development from hazardous conditions. 5. To protect the natural beauty of the island's shoreline areas where commercial and industrial developments are allowed. To ensure such development is unobtrusive and contributes to the natural, public character of the Crown foreshore. • Guidelines - extensive

Classification 1	<p>OCP Designations:</p> <p><u>Conservation</u> "To protect the island's most environmentally sensitive shoreline areas such as tidal flats, fish and wildlife habitat, estuaries and wetlands that are not suitable for intensive development."</p> <p><u>Recreation</u> "To identify and protect ocean beaches that are especially suitable for public recreation."</p> <p><u>Development</u> "To identify adequate shoreline areas where the community's commercial, industrial, boat moorage and transportation requirements take place and where these uses could be further developed. To ensure that future shoreline development takes place in a way that reduces impacts on the environment, other shoreline users and adjacent properties."</p> <p><u>Aquaculture</u> "To identify and protect areas with existing aquaculture operations or a high potential for use by low impact, sustainable aquaculture operations. To incorporate the spirit and intent of the <i>Farm Practices Protection ("Right to Farm") Act</i> into local bylaws."</p> <p><u>Marine</u> "To accommodate the desire to construct private residential docks next to upland residential areas along the shoreline. To identify any areas that should be reserved for specific uses. To reduce the impact of zoning changes and development on the natural environment, other shoreline users and adjacent property owners."</p> <p>Policies set out for each designation; act as guidelines to Trust Committee when considering rezonings or proposed land uses in or adjacent to shorelines. E.g., from 'Undesignated': "If asked to comment on applications to use the foreshore in this area, the Trust Committee should request that the protection of especially sensitive areas be given consideration. In particular, the Committee should not support major new structures: a) in areas where the adjacent foreshore is known to be unstable; b) in areas frequently used by the public for recreation; c) in areas known to have a high potential for aquaculture or recreational shellfish harvesting; d) in areas known to have a high value as fish or wildlife habitat; e) next to lesser islands and islets around Salt Spring Island."</p>
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Tool 2	Land Use Bylaw No. 355 (1999) (equivalent to Zoning bylaw)
Provisions	<p>Section 5.14 Characteristics of Public Access to Water Bodies</p> <p>Provision of public access to sea is not required where access would lead to tidal shoreline areas identified as environmentally sensitive in the OCP.</p> <p>Section 9.11 Shoreline Zones:</p> <ul style="list-style-type: none"> • "Shoreline <i>zones</i> extend from the <i>natural boundary</i> of the sea to the boundary of Electoral Area "F" of the Capital Regional District, as indicated on Schedule A" (Sec.8.2.4); all of shore/foreshore of Island is covered except for Piers Island and Crown foreshore within 300 m of natural boundary of Vancouver Island. • Designates <u>8 zones</u> (S1 – S8): <ul style="list-style-type: none"> ○ By way of matrices, identifies which of 17 principal uses, buildings and structures and which of 5 accessory uses are permitted in each zone. Only accessory buildings are permitted in the Shoreline Zones. ○ For zones in which buildings/ structures are permitted, specifies lot coverage/maximum area, number of size of buildings and units, maximum height
Classification 2	Shoreline S1 – S8 (zones) s.9.11.2 provides a matrix illustrating the uses and accessory uses allowed in each shoreline zone.
Notes	One of the most comprehensive regulatory frameworks for marine shores among BC local governments.

Jurisdiction	Sechelt, District of
Tool 1	OCP Bylaw No. 492 (2010)
OCP Policies	<p>Land Use Policies - #4 Ocean and Shoreline Areas</p> <p>Objectives:</p> <ul style="list-style-type: none"> • Protection of shoreline habitat and coastline, and related natural processes. • Recognize the marine waters and waterfront as an integral community resource, and as a major destination for recreation and commercial activities. • Protect development from coastal flooding hazards. • Support and improve public access to and along the shoreline. • Protect the District's unique and diverse shoreline and ocean environments using an ecosystem based "Greenshores" planning approach to: • Preserve the integrity or connectivity of coastal processes; • Maintain or enhance habitat diversity and functions; • Minimize or reduce pollutants to the marine environment; • Reduce cumulative impacts to the coastal environment <p>Notable Policies:</p> <ul style="list-style-type: none"> • The natural shoreline environment will be protected to retain or enhance the habitat value in the water, foreshore and adjacent riparian areas shown as Shoreline Recreation and Conservation on Schedule C. • Structural intrusions not supported unless specifically zoned • Public access to waterfront is a priority in development • Hard armouring with retaining walls or other hard structure not supported unless erosion is threatening an existing building • Shoreline protection through natural vegetation, driftwood, logs and other methods that reduce wave energy is encouraged • New private wharf/ dock facilities are not supported, new community wharf/ dock facilities may be supported if they do not disrupt natural shoreline processes
DPAs	<p>DPA 3 – Marine, Foreshore & Shoreline Areas</p> <p>Applies to:</p> <ul style="list-style-type: none"> - Entire coastline, and - 15m upward from highest high water mark - 15m below the low tide mark <p>Objectives:</p> <ul style="list-style-type: none"> - 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 <ul style="list-style-type: none"> • Guidelines – extensive, including: • Natural beach transport processes of erosion and accretion along shorelines should be preserved uninterrupted unless no alternative is possible. • 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. • 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. • 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 principles for protecting coastal environments.

Jurisdiction	Sunshine Coast Regional District , Area F, West Howe Sound
Tool 1	OCP Bylaw No. 640 (2011)
DPAs	<p>DPA 5 – Shoreline Protection & Management</p> <p>Applies to:</p> <ul style="list-style-type: none"> - building permits for buildings, structure and shoreline protection works within 15 m landward of the natural boundary. <p>Objectives:</p> <ul style="list-style-type: none"> - To provide long term protection of the existing shoreline and adjacent foreshore and upland for their ecological values, and to guard against erosion and damage to existing and future buildings and structures. <p>Guidelines:</p> <p>An assessment prepared by qualified coastal professional(s) addressing any natural hazards and impacts on the marine environment shall be required for specified development activities within this development permit area, which extends 15 metres landward from the natural boundary of the ocean and includes any works below the natural boundary. Within this development permit area, the following types of development shall be confirmed, via a report(s) prepared by a qualified coastal professional(s), to not be subject to or cause erosion, flooding, landslip, or damage to the marine environment, and be in accordance with Provincial and Federal legislation. Such specified development, requiring certification, shall include:</p> <ul style="list-style-type: none"> o Shoreline protection works; o Beach access steps requiring footings on the natural boundary; o Dwellings; and o Other buildings or impervious surfaces with more than 10 square metres floor area or parcel coverage. <p>The required assessment prepared by the qualified coastal professional(s) shall, as a minimum, address the following as applicable to the proposed development activities:</p> <ul style="list-style-type: none"> - Existing shoreline processes, including erosion and deposition of land and beach materials; - Existing and anticipated shoreline processes, including erosion and deposition of land and beach materials, given projected environmental trends including climate change and sea-level rise; - The impacts of the proposed development activities, including shoreline protection works, on the shoreline abutting and within the vicinity of the subject parcel; - The impacts of the proposed development activities, including shoreline protection works, on the foreshore ecology abutting and within the vicinity of the subject parcel; - The long-term safety of the existing and proposed shoreline protection works, dwellings, and other buildings on the subject parcel from natural hazards including shoreline erosion, landslip, and flooding; and - Analysis of the mitigation options must consider the option of softening the shoreline rather than utilizing hard vertical retaining walls.
Classification	A 2007 West Howe Sound Classification of Shoreline Types Study helped provide the basis for the development permit area.

Jurisdiction	West Vancouver, District of
Tool	OCP Bylaw no. 4360 (2004)
Policies	<p>Policy section 6 “Natural Environment”</p> <p>Policy NE 3: Maintain, protect and enhance the shoreline and foreshore and, where feasible, provide for public access.</p> <ul style="list-style-type: none"> • Protect the natural and ecological functions of the shoreline and foreshore. • Regulate existing encroachments. • Prohibit new private encroachments into the foreshore, except where required for practical access to the property or to protect the upland property. New encroachments of a minor nature may be permitted if specifically approved by Council after consideration of the natural condition and public access. • Maintain Municipal docks and piers for short-term use by boaters and by permitted commercial operations, and enhance opportunities for pedestrian use. • Increase public awareness of the need to protect the foreshore and provision of the Head Lease.” <p>Policy NE 6: Recognize and manage environmentally sensitive areas.</p> <ul style="list-style-type: none"> • Avoid hazardous conditions and protect the natural environment in areas with steep slopes. • Consider designating the foreshore in the existing neighbourhoods as development permit areas to provide for their protection and to avoid hazardous conditions.” (p.92)
DPAs	Shoreline is included in general DPA designation NE6 for “difficult terrain” (p.92) but no Guideline provisions specific to shores.
Classification	None
Notes	West Vancouver also has a Shoreline Protection Plan (the most recent is 2012-15), which provided a prioritized plan of action for shoreline protection measures that are coordinated with local landowners and community groups.

United States

Jurisdiction	Washington State
Tool	Shoreline Management Act 1971; Shoreline Master Program Guidelines 1972 - updated 2000 but challenged by coalition of business and local governments; after mediation process, revised Guidelines adopted January 2004
Purpose (from "Introduction to Washington's Shoreline Management Act (RCW 90.58)" Dept. Ecology Publication 99-113, 2003)	<p>Shoreline Management Act:</p> <ul style="list-style-type: none"> • "to prevent the inherent harm in an uncoordinated and piecemeal development of the state's shorelines". • Applies to marine waters, streams (>20 cfs), water areas >20 acres, shorelands 200 ft from water edge, wetlands and some or all of 100-year floodplain. • Broad policy gives preference to uses that: protect quality of water and natural environment; depend on proximity to the shoreline ("water dependent uses"); and preserve and enhance public access or increase recreational opportunities along shorelines. • Cities and counties adopt shoreline master program (SMP) based on state guidelines; more than 200 cities and all 39 counties have adopted programs. • Dept. Ecology provides technical assistance in developing and amending master programs, grants (\$425,000/year) to coastal local governments, reviews SMPs for consistency with Act and Guidelines, and reviews local government permitting decisions (see below). <p>Guidelines:</p> <ol style="list-style-type: none"> 1. Assist local governments in developing shoreline master programs as required under the Act. 2. Serve as standards for regulating shoreline development in the absence of a master program, along with the policies of the Act. 3. Act as criteria for state (Dept. of Ecology) review of local master programs as required under the Act.
Guidelines - Components	<p>"Elements" to be addressed in master programs: Economic development, Public access, Recreation, Circulation, Use, Conservation, Historic, cultural, scientific and educational elements, Flood damage, Any other element</p> <p>"General provisions" to be included in master programs – Guidelines state principles and standards for:</p> <ul style="list-style-type: none"> • Archaeological and historic resources • Critical areas – includes "Critical saltwater habitats" • Flood hazard reduction • Public access • Shoreline vegetation conservation • Water quality, storm water and nonpoint pollution • Shoreline modifications – shoreline stabilization; piers and docks; fill; breakwaters, jetties, groins and weirs; beach and dune management; dredging and dredge material disposal; enhancement projects. • Shoreline uses – agriculture, aquaculture, boating facilities, commercial, forestry, industry, in-stream structures, mining, recreational, residential, transportation and parking, utilities.
Regulatory tool	<p>Act requires local governments to issue:</p> <ul style="list-style-type: none"> • "substantial development permits" for projects over \$5000 or that interfere with public use of water. Ecology has 21 days to review permits to determine if consistent with local master program and Act; can appeal issuance to Shoreline Hearings Board. • "conditional use or variance" permits to give flexibility to special circumstances. Dept. Ecology must approve all such permits; its decision can be appealed to Board.
Classification	<p>"Shoreline Environments" (tailored by individual local governments) designation criteria:</p> <ul style="list-style-type: none"> • Natural environment - to protect those shoreline areas that are relatively free of human influence or that include intact or minimally degraded shoreline functions intolerant of human use. These systems require that only very low intensity uses be allowed in order to maintain the ecological functions and ecosystem-wide processes. Consistent with the policies of the designation local should include planning for restoration of degraded shorelines within this environment. • Rural conservancy environment - to protect ecological functions, conserve existing natural resources and valuable historic and cultural areas in order to provide for sustained resource use, achieve natural floodplain processes, and provide recreational opportunities. Examples of appropriate uses include low-impact outdoor recreation uses, timber harvesting on a sustained-yield basis, agricultural uses, aquaculture, low-intensity residential development and other natural resource based low-intensity uses. • Aquatic environment - to protect, restore, and manage the unique characteristics and resources of the areas waterward of the ordinary high-water mark. • High-intensity environment - to provide for high-intensity water-oriented commercial, transportation, and industrial uses while protecting existing ecological functions and restoring ecological functions in areas that have been previously degraded. • Urban conservancy environment - to protect and restore ecological functions of open space, floodplain and other sensitive lands in urban and developed settings, while allowing a variety of compatible uses. • Shoreline residential environment - to accommodate residential development and appurtenant structures that are consistent with this chapter... {and} to provide appropriate public access and recreational uses.

Notes	Strong emphasis on public use and access along with balancing economic development with environmental protection. Give explicit direction regarding what state expects local government to do with respect to shoreline management, including detailed standards regarding uses and activities. Strong state presence in overseeing regulatory approvals by local governments. At the same time, strong direction comes with technical assistance and funding to local governments. There are few (if any) parallels in the Canadian context with respect to land use and environmental planning or regulation.
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Jurisdiction	Destin, Florida
Tool	Comprehensive Plan: 2010 Ch.6: Coastal Management Element (Comprehensive Plan):
Date	January 2005
Policies (The following are "Objectives" headings)	<p>1.1 Protect coastal resources, wetlands estuaries, living marine resources and wildlife habitats. "All development shall:</p> <ol style="list-style-type: none"> 1. Protect fish and wildlife habitat. 2. Prevent degradation of water quality and estuaries. 3. Manage surface water run-off. 4. Protect living marine resources. 5. Reduce exposure to natural hazards. 6. Ensure adequate public access. 7. Preserve White Sands." (p.6-2) <p>1.2 Reduce adverse impacts to water quality in coastal waters. - stormwater system improvements - no direct runoff into coastal water bodies</p> <p>1.3 Protect and enhance coastal shorelines - no removal of vegetation (native emphasized), control boat launching locations, control erosion, revegetation and renourishment programs.</p> <p>1.4 Criteria for prioritizing shoreline uses and providing public access to shorelines. First priority:</p> <ol style="list-style-type: none"> 1) Non-structural shoreline protection uses such as native shoreline revegetation programs. 2) Approved water-dependent shoreline uses such as pile supported access ways and duly permitted dock facilities and commercial marinas. All such facilities shall satisfy all provisions of the City's land development regulations and obtain requisite permits from all environmental permitting agencies prior to obtaining City approval. Priority directed to water dependent uses that are available for public use. 3) Non-water dependent uses, only upon a clear showing by the applicant that no feasible alternative to such use is available for that location. <p>2nd priority to:</p> <ol style="list-style-type: none"> 1) Parking facilities for shoreline access located outside wetlands and dune systems. 2) Residential structures that comply with the building code for structures within coastal building zone. 3) Recreational facilities that comply with applicable codes. <ul style="list-style-type: none"> • Public access - site design to avoid pedestrian access across dune systems, provide narrow accessways between land uses and beach areas. • Site design to promote coastal community character - "Building orientation, scale, mass, and architecture shall promote scenic vistas and open space connections from the beachfront side of a property to its boundaries abutting adjacent public streets." <p>1.5 Land use controls and construction standards for protecting the natural shoreline.</p> <p>1.6 Hazard mitigation and coastal high hazard areas avoidance.</p> <p>1.7 Limiting public subsidy of development in coastal high hazard areas (hurricane response) - funding directed when available to relocating, mitigating or replacing infrastructure.</p> <p>1.8 Direct population densities (further development or higher density redevelopment) away from coastal high hazard areas.</p> <p>1.9 Hurricane evacuation, emergency preparedness.</p> <p>1.10 Post disaster redevelopment.</p> <p>1.11 Land use policies to promote continuance of public access to public beaches and shorelines.</p> <p>1.12 Protect historic resources in coastal areas.</p> <p>1.13 Maintain public facility level to service standards.</p> <p>1.14 Intergovernmental coordination within the coastal area.</p> <p>1.15 Continuing evaluation of coastal management element (program).</p>
Classification	
Notes	As in Washington, emphasis appears to be on juggling environmental protection with public access. Also significant emphasis on managing/eliminating hazards posed by hurricane risk.

Tax Exemption/ Incentive Programs

Jurisdiction	Name	Highlights
Province of BC	<i>Community Charter, s.225</i> <i>Vancouver Charter, s.396C</i>	<ul style="list-style-type: none"> • This provision allows municipalities to create a property tax exemption for private property owners that protect riparian lands from development with a covenant, beyond what would otherwise legally be required. A tax break will not be granted if a landowner only does what is already required under existing regulation. • The riparian area must be subject to a conservation covenant (under section 219 of the <i>Land Titles Act</i>) to which a local government is party. • The municipality must have a riparian area property tax exemption bylaw authorized under this section in effect. There is also a requirement in the Community Charter that prior to establishing any tax exemptions, the municipality must have policies about the exemptions in its Financial Plan. As well, there are public notice provisions related to tax exemption bylaws. • The power to issue riparian property tax exemptions is permissive, not mandatory; i.e., municipalities are not obliged to offer these exemptions. Municipalities have flexibility in terms of whether to grant an exemption, the amount of any exemption, and the length of time for which the exemption applies, up to a maximum 10 years at a time (stipulated under the <i>Act</i>). • The "eligible value" of the exemption is the portion of the net taxable value represented by the ratio of the eligible riparian area to the total parcel area. Any exemption applies to municipal and other property taxes. • As the grantor of exemptions, municipalities determine which properties are significant riparian land. • Municipalities ensure that the covenant conditions are met, primarily through the development approval process. • Tax exemptions are granted for a specific period of time (between one and 10 years, depending on council approval), and do not have to be renewed. • If a covenant is broken or its conditions are not met, the local government has the authority to "clawback" the taxes exempted, plus interest. • The only example to date is Gibson's Bylaw no. 944 (see below).

Jurisdiction	Name	Highlights
Gibsons, Town of	Riparian Area Property Tax Exemption Bylaw no. 944, 2002	<ul style="list-style-type: none"> • Exempts eligible riparian property on Charman Creek from taxation for 2003-2013 inclusive; must have conservation covenant registered by Dec 31, 2002. • Exemption applies only to portion of property that is identified as riparian area in the covenant. • If conditions of covenant are contravened Council may by bylaw require owner to pay taxes plus interest.

Jurisdiction	Name	Highlights
Islands Trust	Natural Area Protection Tax Exemption Program (NAPTEP)	<ul style="list-style-type: none"> • Authorized under <i>Islands Trust Natural Area Protection Tax Exemption Regulation</i> passed in 2002 under Part 7.1 of <i>Islands Trust Act</i>. • Available Gulf Island landowners throughout the Islands Trust Area. • Islands Trust Council can issue "Tax Exemption Certificates" to property owners who voluntarily register a conservation covenant on their property that contains eligible natural areas. Eligible "natural area values and amenities" include: <ul style="list-style-type: none"> - Relatively undisturbed areas that are good examples of ecosystems listed in a Schedule (from Sensitive Ecosystem Inventory for Southeast Vancouver Island and Gulf Islands): forests over 80 years old, woodlands, water features, sparsely vegetated natural areas, coastal bluffs, etc. - key or critical habitat for rare plant species or communities, or for native animal species in relation to breeding rearing, feeding or staging. - Special geological features - historical features such as culturally modified trees and heritage orchards. - social or recreational features such as trails and viewpoints. • No minimum or maximum lot size requirements, but the program may not be beneficial for small properties with a low assessed value [due to costs of covenanting, administration, etc. relative to tax benefits]. • Extent of tax exemption = 65% x assessed value of portion of property subject to the covenant (i.e., 65% reduction in property taxes for that portion). • Application process: <ul style="list-style-type: none"> - Phase 1 - determine whether or not a landowner is eligible for NAPTEP. Fee: \$250 for area under 10 ha (24.7 acres); \$350 for area over 10 ha. - Phase Two - registration of NAPTEP covenant on title and issuance of Natural Area Exemption Certificate. Fee: \$125 for <10 ha; \$175 for >10 ha. • Following additional costs will vary depending on size of the covenant area and complexity of the covenant and survey: <ul style="list-style-type: none"> - Legal advice for developing and amending your covenant - Tax advice for reviewing individual situation to ensure the program is appropriate. - A survey of the proposed covenant area(s) - A report about the current state of the covenant area and its ecosystems, prepared by an approved Environmental Professional - Covenant registration costs • Ongoing cost: the Islands Trust Fund monitors its conservation covenants annually, at no cost to landowners. • As of September 2015, 23 properties encompassing about 75 ha have been covenanted under NAPTEP. <p>http://www.islandstrustfund.bc.ca/howtoprotectlands/naptep/naptep01.htm</p> <p>Note: A recent UBCM resolution called on the Province to develop a NAPTEP-like program for the rest of BC.</p>

Jurisdiction	Name	Highlights
Washington State (excerpts from Open Space Taxation Act", Dept. of Revenue, Nov 2005)	Open Space Taxation Act, RCW 84.34 and WAC 458-30.	<p>The Open Space Taxation Act, enacted in 1970, allows property owners to have their open space, farm and agricultural, and timber lands valued at their current use rather than at their highest and best use. The Act states that it is in the best interest of the state to maintain, preserve, conserve, and otherwise continue in existence adequate open space lands for the production of food, fibre, and forest crops and to assure the use and enjoyment of natural resources and scenic beauty for the economic and social well-being of the state and its citizens. "Open space land" includes:</p> <ol style="list-style-type: none"> 1. Any land zoned for open space by a comprehensive land use plan adopted by a city or county. 2. Any land area in which the preservation in its present use would:(a) Conserve and enhance natural or scenic resources; (b) Protect streams or water supply; (c) Conserve soils, wetlands, beaches or tidal marshes; (d) Enhance the value to the public of abutting parks, forests, wildlife preserves, nature reservations or sanctuaries or other open space; (e) Enhance recreation opportunities; (f) Preserve historic sites; (g) Preserve visual quality along highway, road, and street corridors or scenic vistas; (h) Retain in a natural state tracts of land >1 acre situated in urban areas and open to public use on conditions approved by the legislative authority granting the classification. 3. Any land meeting the definition of "farm and agricultural conservation land. <p>A property owner submits an application to the applicable county or municipal authority. If a comprehensive land use plan has been adopted and zoned accordingly, an application for classification or reclassification is acted upon in the same manner in which an amendment to the comprehensive plan is processed. If there is no comprehensive plan, a public hearing on the application is conducted: notice of the hearing must be published at least 10 days prior to the hearing.</p> <p>The granting authority approves or rejects the application in whole or in part within six months of receiving the application. The authority may require that certain conditions be met including the granting of easements. If the application is approved, the granting authority sends an Open Space Taxation Agreement to the applicant for signature showing the land classification and conditions imposed. The applicant may accept or reject the agreement.</p> <p>Within 10 days of receiving notice of classification from the granting authority, the assessor submits such notice to the county auditor for recording in the state tax liens on real property. Current use valuation begins on January 1 of the year following the year the application was filed. The owner of classified land must continue to meet the criteria established for classification, or the assessor may remove the land from the current classification.</p> <p>A county legislative authority may establish a public benefit rating system (PBRs) for the open space classification. The criteria contained within the rating system govern the eligibility of the lands filed for that classification and the method for determining current use valuation. See Pierce Co. example following. Also, King Co example - http://dnr.metrokc.gov/wlr/lands/incentiv.htm</p>

Jurisdiction	Name	Highlights
Pierce Co., Washington State	Public Benefit Rating System (PBRS) – Tax Program	<ul style="list-style-type: none"> Adopted under Pierce County Code 2.114, Ordinance 98-114s. Ranks (priorizes) and assigns a point-value to various open space features (listed below). A minimum of three (3) priority resources points is necessary to qualify for the program and a maximum of fifteen (15) priority points is allowed. The number of PBRS points correlates to a percent of market value reduction during the period of continued eligibility. Applications are made to Pierce County Planning & Land Services with application fee of \$1200 - \$1450. Any areas utilized for residential, or uses other than Open Space, such as, house, barn, backyard, garage, garden, business, etc., must be excluded in the application. Typically, at least one acre is excluded but could be more. Separate fee for advertising the final public hearing; fee varies depending on length of legal requirements, but is approximately \$50.00. Land is subject to a back-tax liability if the use changes after being declared Open Space. <p>https://www.co.pierce.wa.us/index.aspx?NID=686</p>

Priority Resources	
High Priority: Critical Salmon Habitat, Fish & Wildlife Habitat, Marine Waters, Streams, Wetlands, Estuaries & Tidal Marshes, Wooded Areas, Agricultural Lands, Prairie Lands	5 points each
Medium Priority: Aquifer Recharge Areas, Flood Hazard Areas, Lakes, Private Open Space Passive Recreation, Privately Owned and Operated Recreational Facilities, Private Trails & Corridors, Archaeological Sites, Historic Landmark Sites	3 points each
Low Priority: Landslide Hazard Areas (Steep Slopes), Private Parks & Private Golf Courses w/Developed Facilities, Scenic View Points & Corridors, Seismic Hazard Areas, Volcanic Hazard Area	1 point each
<i>Bonus Points</i>	
Public Access Granted (Note: Some priority resource categories require public access.)	5 points
Conservation/Historic Easement Granted in Perpetuity (forever)	10 points
Site Within a Designated Urban Growth Area (UGA) or the Comprehensive Urban Growth Area (CUGA)	5 points
Site is Adjacent to or Creates Linkage with Another Open Space Parcel	5 points
<i>Superbonus</i>	
Properties with at least five priority resource points and which allow a degree of public access appropriate to the sensitivity of the resource(s) & which provide a qualifying conservation easement in perpetuity	25 points

POINTS	0-2	3	6	9	12	15	18	20	25+
% Reduction of Market Value	0%	20%	30%	40%	50%	60%	70%	80%	90%

Green Shores – Summary of Local Government Policy/Regulation Scan

	Official Community Plan goals & objectives	Development Permit Area	Zoning/Land Use Bylaw	Green Shores referenced	Climate change and sea level rise referenced	Shoreline Classification
Campbell River, City of	Chap 5 – Parks and Natural Environment	Foreshore Development Permit Area	Schedule A, ss 4.3, 4.4 require approval for development within area 30 m above high water mark	No, but Foreshore DPA guidelines favour soft shore approaches	Yes, OCP notes that SLR is intensifying the risk of flooding and erosion	None
Cowichan Valley Regional District, Electoral Area D	Part 1, Policy Framework, Sections 1.4, 1.6, 2.4, 3.3, 5.2	Aquatic Resource Protection DPA; Marine Village DPA		Yes	Yes	OCP Planning areas include Marine Village, Marine Residential, and Marine Resource
Gibsons, Town of	Ch. 6 "The Natural Environment", sec. 6.4 "The Marine Environment; sec. 6.8 "Sea Level Rise"; Ch. 13 Servicing & Infrastructure	Included in DPA No. 1 Geotechnical Hazards, DPA No. 2 Environmentally Sensitive	-	No	Yes	Part of general land use designations in OCP: Commercial harbor, Marine recreation, Greenbelt/open space
Lantzville, District of	Sec. 4.2.4 "The Waterfront"	DPA IV coastal protection		No, but OCP encourages retention and restoration of natural shoreline vegetation, and discourages shoreline armouring.	No	
Lasqueti Island – Islands Trust	Sec.3.6 "Environmental Management"; Sec. 3.7 "Community Servicing and Utilities"	-	General Marine-related Regulations and 9 zones (4.13-4.21)	No	No	None
Metchosin, District of	Sec. 2.6 "Marine Shorelands"	DPA for Shoreland Slopes – natural hazards	-	No	No	Sec 2.6 OCP - 5 classes based on physical form/processes; policies for each
Nanaimo, City of	Sec. 2.9 "Waterfront"	DPA 2 Environmentally Sensitive Areas, DPA 3 Natural Hazard Lands	Sec.6.3.1.2 15-m leave strip (setback)	No	No	None

Nanaimo Regional District Electoral Areas A & G	Electoral Area A: Sec. 4.3 Coastal Zone Management; Electoral Area G: sec. 2.3 Coastal Zone Management	DPA Environmentally Sensitive Features, for coastal areas of 15 m upland and 15 m seaward of natural boundary	-	No, but hard armouring measures only considered if QP says soft shore alternatives not adequate	No	None
North Cowichan, District of	Sec. 2.2 "Ecosystem health, biodiversity and critical habitats"	Included in DPA 3 "Natural Environment" as 30-m buffer along shoreline; DPA 2 "Marine Waterfronts" with provisions to protect shorelines when sites are developed.	-	No, but "planning with environment" encouraged in developed shoreline areas, e.g. marine waterfront	Yes, OCP acknowledges vulnerability of shoreline to sea level rise	None
North Saanich, District of	Sec. 4.0 Marine Areas	DPA No. 1, Marine Uplands and Foreshore	Sec. 213 – 15 m setback from natural boundary	No, but natural features to be protected when land developed	No	Sec. 4.2 OCP - 4 classes of shore based on physical form/ processes, policies for each
Powell River, City of	Part 4 "Waterfront Plan and Policy" – development oriented; Sec. 5.5 "Tidal/ Salt water riparian areas"		-	No	Yes, must plan for 1.0 m SLR.	None
Powell River Regional District, Electoral Area A	Section 2.2.2 Foreshore, Appendix 4, Green Shores for Homes			Yes	Yes, OCP, s.2.6.6	
Saanich, District of	Cadboro Bay Local Area Plan, Part 6 "Ocean Shoreline"	DPA 29 Environmental Development	Sec. 5.16 – 7.5 m setback from natural boundary	No	No	Saanich ESA Atlas
Salt Spring Island – Islands Trust	OCP, Part b, sec. B.9, Shoreline and Aquatic Use Objectives and Policies	DPA 3 Shoreline	Designates 8 shoreline zones; no uses or structures may result in removal or permanent shading of eelgrass or kelp, or be within 125 m of clam beds	Yes, owners are encouraged to use Green Shores	No	OCP designates Conservation, Recreation, Development, Aquaculture & Marine
Sechelt, District of	OCP, Land Use Policies, 4 – Ocean and Shoreline Areas	DPA 3 – Marine, Foreshore and Shoreline Areas		Yes, DPA 3 references Green Shores principles	Environmental assessment report for development in DPA requires review of impacts of sea level rise	
Sunshine Coast Regional District, Electoral Area F	N/A	DPA 5 – Shoreline Protection & Management		No, but development in DPA must not cause damage to the marine environment	Yes, for DPA must consider sea level rise impacts on shoreline processes	2007 West Howe Sound Classification of Shoreline Types Study
West Vancouver, District of	Section 6, "Natural Environment", policies for shoreline and foreshore	Under consideration to be developed		No	No	

Summary of Tax Exemption/Incentive Programs

	Program Name	Purpose
British Columbia	<i>Community Charter, s.225</i> <i>Vancouver Charter, s.396C</i>	Establishes voluntary riparian tax exemption system that local governments can use to compensate riparian landowners who choose to protect eligible riparian land through conservation covenant.
Gibsons, Town of	Riparian Area Property Tax Exemption Bylaw no. 944	Exempts eligible riparian property on Charman Creek from taxation 2003-2013.
Islands Trust	Natural Area Protection Tax Exemption Program	"Tax exemptions can be authorized to property owners who voluntarily register conservation covenant on eligible natural areas of their property, up to 65% of assessed value of eligible portion.
Washington State	<i>Open Space Taxation Act</i>	Allows owners to have open space (defined) valued at current use rather than highest and best use for purposes of reducing market value and hence, taxes. Allows counties to establish public benefit rating system for open space classification to govern eligibility and determination of current use valuation.
Pierce Co., Washington State	Public Benefit Rating System Tax Program	Sets up application system for applying for reduced market value based on open space features; ranks (priorizes) and assigns a point value to open space features; establishes market value reduction based on accumulated points.

APPENDIX B: GREEN SHORES – CREDIT SUMMARIES

Green Shores for Coastal Development

Prerequisite and Credit List

Prerequisites	
Prerequisite 1	Siting of Permanent Structures
Prerequisite 2	Conservation of Critical or Sensitive Habitats
Prerequisite 3	Riparian Zone
Prerequisite 4	Conservation of Coastal Sediment Processes
Prerequisite 5	On-Site Environmental Management Plan

Credits		
Credit 1	Site Design with Conservation of Shore Zone	1 to 3 points
Credit 2	Shore Friendly Public Access	1 point
Credit 3	Re-Development of Contaminated Sites	1 point
Credit 4	Climate Change Adaption Plan	1 to 5 points
Credit 5	Rehabilitation of Coastal Habitats	0.5 to 4 points
Credit 6	Rehabilitation of Coastal Sediment Processes	2 to 3 points
Credit 7	Enhanced Riparian Zone Protection	0.5 to 4 points
Credit 8	Light Pollution Reduction	1 point
Credit 9	Integrated Stormwater Planning and Design	1 to 4 points
Credit 10	Innovation	1 to 2 points
Credit 11	Outreach and Public Education	1 point

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Green Shores for Homes™ Credit List

SHORELINE PROCESSES

6 credits

- 1.1 No use of Shore Protection Structures
- 1.2 Increase Setback and Avoid Impact
- 1.3 Reduce or Remove Bulkhead
- 1.4 Remove groins or similar structures
- 1.5 Construct Soft Shore Protection
- 1.6 Move buildings to use Managed Retreat

SHORELINE HABITAT

6 credits

- 2.1 Maintain or replant riparian vegetation
- 2.2 Preserve Trees and Snags
- 2.3 Remove, reduce and manage invasive species
- 2.4 Retain Woody Material
- 2.5 Remove or reduce Overwater Structures
- 2.6 Minimize Access Design to avoid impacts

WATER QUALITY

6 credits

- 3.1 Minimize site disturbance during construction
- 3.2 Reduce and treat runoff
- 3.3 Avoid use of toxic chemicals, use Environmentally Friendly Building Products
- 3.4 Remove and dispose of creosote material
- 3.5 Avoid use of herbicides, pesticides and fertilizer
- 3.6 Ensure properly functioning on-site sewage

SHORE STEWARDSHIP CREDITS

4 credits

- 4.1 Collaborate with neighbouring waterfront property owners on shoreline structures or enhancement measures
- 4.2 Provide public information and education opportunities
- 4.3 Establish conservation easement
- 4.4 Participate in Shoreline Stewardship program