THE GREEN SHORES Project

Review of Shore Management Policy & Bylaw Language

Revised December 2006

GREEN SHORES

A SUSTAINABLE APPROACH TO
COASTAL DESIGN AND DEVELOPMENT

A PROJECT OF THE STEWARDSHIP CENTRE FOR BRITISH COLUMBIA

This report was prepared by Harriet Rueggeberg of Lanarc Consultants, Nanaimo, BC for the GREEN SHORES Technical Working Group. It is anticipated that this review will be updated periodically. Financial support for this aspect of the GREEN SHORES Project was provided by the District of Squamish, Comox-Strathcona Regional District, the Sunshine Coast Regional District and the Real Estate Foundation of BC. A full listing of GREEN SHORES Project funders is given on the back cover of this report.

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1. INTRODUCTION

The GREEN SHORES project is designed to encourage sustainable use of coastal ecosystems through planning and design that recognizes the ecological features and functions of coastal systems. The guiding principles for GREEN SHORES are:

1. Preserve the integrity or connectivity of coastal processes.
2. Maintain or enhance habitat diversity and function.
3. Minimize or reduce pollutants to the marine environment.
4. Reduce cumulative impacts to the coastal environment.

The conceptual vision for the GREEN SHORES project has three components:

- A voluntary assessment/ certification process for shore developments, similar to the LEED certification system for buildings.
- Specific case studies to showcase alternatives to conventional coastal shore development.
- Sample policy and bylaw language to assist local and regional governments to enshrine the principles of GREEN SHORES in land use decisions.

This report responds to the third component of the GREEN SHORES project, and particularly to the requests of the local government partners in the GREEN SHORES project (see back cover). It suggests a framework and provides examples of language for local government policies and bylaws, based on planning and regulatory tools used in a variety of jurisdictions, that relate to shoreline development and protection that meet GREEN SHORES principles. The focus is on language for Official Community Plans (OCPs) and Development Permit Areas (DPAs) but examples are drawn from other planning and regulatory tools.

This report is intended to provide examples of language that could be used to support GREEN SHORES principles, but it is not a 'model bylaw'. Nor does it try to address the legal limits of local government jurisdiction respecting marine shores. If a local government wishes to develop new bylaws or bylaw amendments relating to GREEN SHORES, it is always advisable to confer on language with their legal counsel.

GREEN SHORES Principles

1. Coastal Processes: Preserve the integrity or connectivity of coastal processes.

2. Coastal Habitat and Species: Maintain or enhance habitat diversity and function (on a local or regional scale).

3. Water and Sediment Quality: Minimize or reduce pollutants to the marine environment.

4. Cumulative Impacts on Shorelines: Reduce cumulative impacts to the coastal environment.

1.1 Methodology

Legislation and guidelines pertaining to marine shores from a variety of coastal jurisdictions were examined to see what aspects of shoreline management were covered and how they were addressed.

In British Columbia, we looked specifically at tools and wording in bylaws - particularly OCPs, DPAs, and zoning bylaws - of coastal communities. Useful precedents were also gleaned from lakeshore management tools used by interior communities.

In the U.S., particularly Washington State, we looked at federal, state and county policy directives used by coastal jurisdictions that could apply 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 a comprehensive comparative study, but rather to help define planning and regulatory tools and wording that could apply to a GREEN SHORES approach to shoreline management by local governments.

Example Shoreline Classifications
See Appendix A for details

Salt Spring Island OCP:
- Conservation
- Recreation
- Development
- Aquaculture
- Undesignated

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)

Given this research and the GREEN SHORES principles, this report suggests elements of a GREEN SHORES approach that 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.

2. SHORELINE CLASSIFICATION

Some jurisdictions classify their shorelines as a way of assisting them in defining land use policies and regulatory requirements. While not decision-makers in themselves, shoreline classification schemes can help to make decisions about appropriate land uses.

Classification schemes may be based on:

a) Shore use, ranging from conservation to recreation to low-intensity/high-intensity development. Examples include shore classes defined in Salt Spring Island's OCP and Land Use Bylaw, and the Washington State Shoreline Management Guidelines. These classification systems are used to assign appropriate land uses and land use standards to different parts of the shore.

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).

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.

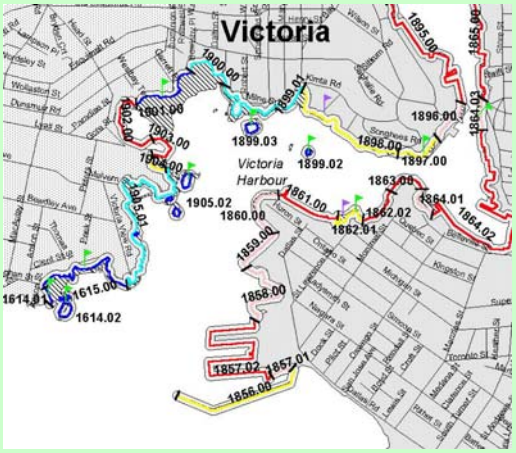
Victoria and Esquimalt Harbours Atlas (www.harboursatlas.ca)

Created through a partnership of the Capital Regional District, BC Ministry of Environment, Environment Canada, Fisheries and Oceans Canada, Department of National Defence 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 harbours' shoreline into shore units and rates each unit for:

- Ecological value: based on interpretation of species diversity, habitat diversity, naturalness and importance to key life cycle 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.

(Sources: Victoria and Esquimalt Harbours Environmental Action Program, *Harbours Ecological and Rating Project Final Phase 1 Report: Intertidal and Backshore Inventory and Rating*, January 2000, 36 p.; J. Watson, pers.comm.)



3. OFFICIAL COMMUNITY PLANS

OCPs are long term policy guides for land use planning and decision-making with respect to residential, commercial and industrial activity, transportation infrastructure, social, heritage and environmental considerations.

OCPs are mandated under Section 875 of the *Local Government Act*, which defines a community plan as "a 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 Plan, but all future land use decisions made by the adopting council or board must be consistent with the objectives and policies outlined in the Plan.

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

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 through systematic development of beach access points.

RDN Area H:

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

2. 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.

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

4. Advance public stewardship of the waterfront.

3.1 Shoreline Objectives

Many jurisdictions acknowledge the significance of their shorelines with respect to environmental values, public use and access, land use and economic development and natural hazards (erosion, land slumping, flooding, hurricane, tsunami, etc.). These values are reflected in goal statements in their community plans.

Most jurisdictions attempt to seek a balance among these sometimes conflicting shoreline management values, depending on the range of uses that occur. Jurisdictions with primarily residential or rural uses tend to emphasize environmental values, natural hazard protection and/or public access. Jurisdictions that depend on waterfront-based commercial or industrial activity will focus on goals that support these activities along with public access, balancing these with environmental and hazard considerations.

GREEN SHORES principles by their nature focus on the protection of natural features and processes. This does not preclude recognition of the economic and social significance of shorelines. Objectives for marine shores can reflect green shore principles while addressing socio-economic considerations. In fact, it is in the context of designating land uses and approving development activities that a local government can:

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

- Protecting sensitive shoreline features and processes during development.
- Shoreline classes and policies specific to each class.
- Public access.
- Future studies to improve planning and management of shoreline areas.

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 build up 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:

- *Locating major new structures and other forms of development is not supported in 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 shall be channeled into shoreline areas already so utilized or into those shoreline areas that lend themselves to suitable development.*
- *Where multi-family, commercial, or industrial uses are now located in shoreline areas that are more suited to other 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 closely analyzed for their effect 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).*

Public access:

- *Development shall be undertaken in a manner that will maintain existing public access to the 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 undertake an integrated coastal area management planning process. {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..*

4. DEVELOPMENT PERMIT AREAS

Under section 919.1 of the *Local Government Act*, DPAs can be designated under OCPs for a variety of purposes, but the most 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.

Once a DPA is designated, the land cannot be subdivided, altered or built upon without first obtaining a development permit. For DPAs designated for environmental protection or natural hazard, Sec. 920 of the Act authorizes development permits to do several things that are pertinent to shorelines, including:

- specify areas that must remain free of development except in accordance with any conditions contained in the permit;
- require specified natural features or areas to be preserved, protected, restored or enhanced in accordance with the permit;
- require works to be constructed to preserve, protect, restore or enhance specific natural features;
- require 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;
- require, 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.

Development permits can address a wide range of development activities and may act to alter some land use requirements of zoning or land use bylaws. However, development permit conditions cannot prevent a property from being used for the purposes allowed in the local zoning bylaw, nor can they vary the land use or density from that permitted under a zoning bylaw (except if the variance relates to health, safety or protection of property in DPAs defined for natural hazard).

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. Upper limits on size before a DP is required could be stipulated, to avoid having to deal with 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 sq.m.).
- 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. Again, limits on 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 sq.m.) before triggering a DP can be included.
- Installation of signs and light standards.
- The subdivision of parcels within the DPA.

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

- Include marine shores as part of a general environmentally sensitive area (ESA) designation, and treat them in the same way as watercourses/riparian areas or other ESAs (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 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.

The following sections discuss the typical components that are included in a DPA designation to meet the requirements of the *Local Government Act*.

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

4.1 Designated Area

Shore-based DPAs designated for environmental protection or natural hazard management can be shown as a strip following the shoreline to represent the location (but not the exact boundaries) of the DPA. Their extent can then be defined in text 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.

4.2 Justification / Objectives

A statement of justification or objective 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 on next page.)

4.3 Exemptions

Section 919.1 of the *Local Government Act* allows local governments to identify activities or circumstances from requiring a development permit within a DPA. Activities that are typically exempted 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 beyond the jurisdiction of local governments to regulate, though they can still 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 an arborist or similar professional. Emergency actions by anyone other than the local jurisdiction or a senior government agency usually are usually required to 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. The exemption could require a planting plan approved by the local government, or that the planting be carried out in accordance with guidelines or directions provided by the local government.

- In some cases, construction of trails on private property. Limitations on this exemption can be stipulated; e.g., the trail design and location minimizes 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, sec. 919.1(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". Guidelines act to:

a) Assist an applicant in creating and development plan that meets the objectives of the DPA;

b) Assist the local government in considering and approving proposed land uses; and

c) Provide 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 shore-based DPAs are discussed in the following sections under the following topics:

- 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.

Example DPA Justification/ Objectives

District of North Cowichan – DPA 8 Natural Environment:

The District has many areas identified by the "Cowichan Valley Environmental Planning Atlas", the "Sensitive Ecosystem Inventory for Southeast Vancouver island and Gulf Islands" and local knowledge as important habitats for fish, birds and wildlife, or that represent areas of native vegetation, rare and sensitive ecosystems and biological diversity. Some of these areas may also present hazards to development, by having steep slopes or erodable soils or by being subject to flooding. To protect and maintain these important assets, as well as to protect development from natural hazards, a development permit shall be required prior to alterations of land or vegetation in the designated areas."

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.*

- Information needs.

Note that while the example or suggested guidelines in the following sections are phrased in 'directive' language, they are intended simply to illustrate the range of items that could be addressed under these topics.

4.4.1 Shoreline Modification – General

Shoreline modification refers to the construction of physical structures usually undertaken to support a shoreline use or to protect a use from erosion. Such structures include dykes, breakwaters, piers, docks, shoreline protection measures (rip rap, retaining walls, etc.), 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.

Sample Guidelines for Shoreline Modifications (general)

(adapted from Washington State "Shoreline Master Program Guidelines" 2004)

- *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.*

The following sections discuss specific types of shoreline modifications.

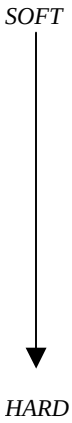
4.4.2 Shoreline Stabilization Measures

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:

- 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.



In general, *the harder the construction measure, the greater the impact on shoreline processes* - including sediment transport, geomorphology, and biological functions. Structural shoreline stabilization also often results in vegetation removal and damage to near-shore habitat and shoreline corridors.

Guidelines for shoreline stabilization (see next page) 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.

As a general note, where marine shorelines and their sediment conveyance systems cross jurisdictional boundaries, local governments should 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" 2004 and Salt Spring Island DPA 3)

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.

New development:

- Using geotechnical analysis of the site and shoreline characteristics, subdivision applications must ensure that the lots created will not require shoreline stabilization 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, as demonstrated by a geotechnical analysis.
- New development that would require shoreline stabilization that causes impacts to adjacent or down-current properties shall not be supported.
- Shoreline stabilization structures will not be allowed for the purpose of providing a sufficient setback to meet zoning requirements.
- 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.

Continued….

Sample Guidelines – Shoreline Stabilization (continued)

- 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.
  - 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.
  - for protection of new structures, locations on the property where those structures could be built and not require shoreline modification.
  - 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.
  - 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.
  - what conditions should be incorporated into the permit to achieve short- and long-term compliance with the objectives of this DPA.

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 for access to watercraft and not for patio use.

Sample Guidelines – Docks, Piers and Ramps

(adapted from Washington State "Shoreline Master Program Guidelines" 2004 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.
- 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.

<u>Private and/or residential docks and ramps</u>

- Preference is to be given to the placement of mooring buoys and floats instead of docks.
- 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.
- 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.

[1] Adams, 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 is 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.

4.4.7 Land Development - General

"Development" typically refers to the range of land use activities that local governments can regulate under Part 26 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.
- 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.
- 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.
- 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.

Continued..

Sample Guidelines – Development (continued)

- 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

DPAs associated with commercial and industrial development are often defined for "form and character" to regulate the design of development. However, despite their high intensity use of land and foreshore, there are still measures to 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 water mark for the purposes of providing a trail or walkway is not supported.
- 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

DPAs 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 Metchosin and District of North Saanich).

In future revisions of this document, as more information and experience is gathered, we will begin to look at guidelines that could be considered in association with different types of shorelines.

Example Shoreline Zones

Salt Spring Island Land Use Bylaw No. 355:

Shoreline zones S1 – S8:

- Commercial 1 (heavy)
- Commercial 2 (light)
- Moorage and loading (public, private)
- Docks etc. (private)
- Aquaculture
- Private 1
- Private 2
- Navigational

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

5. ZONING

The ability of local governments under sec. 902 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.

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.

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 may not be a stand-alone tool but need to be coupled with other bylaws that regulate soil removal/ depositing, landscaping and other land use activities.

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

Last Revised 7 Dec 06

Jurisdiction	Campbell River, City of
Tool	OCP Bylaw no. 3150 (Sched A) (2004)
Policies	Chapter 9 "Environmentally Sensitive Areas" • Sec. 9.2 - Principles: - "Minimize adverse impacts from human activity or development related disturbance in environmentally sensitive areas {ESAs}, especially in flood prone areas, the foreshore areas, watercourses, and the City watershed (drinking water supply) area. - Implement riparian area, streamside and watercourse protection measures to provide habitat protection for fish and wildlife. - Work with developers, builders, the general public, and other levels of government and non-governmental organizations to protect the foreshore area and the marine environment." • Sec. 9.4 - defines "ocean foreshore" as an ESA.
DPAs	Sec 9.5 "Development Permit Guidelines" • Designated area includes "all lands within the Riparian Assessment Area of an identified watercourse and associated drainage in accordance with the Riparian Areas Regulation {RAR}, including streams, rivers, and the Campbell River Estuary area, plus the oceanfront and foreshore areas, as identified on Map Schedule 8: Environmentally Sensitive Area's (ESAs)"; • Section 9.5.4 Development Permit Guidelines for Streamside Areas, Campbell River Estuary, and Oceanfront and Foreshore areas: - Defines development as per RAR. - Incorporates requirement for an assessment report by a Qualified Environmental Professional (QEP), as per RAR.
Classification	None
Notes	The DPA is largely stream oriented and developed to comply with recently adopted RAR. Marine shore areas are acknowledged but given no specific treatment.

Jurisdiction	Gibsons, Town of
Tool	OCP Bylaw No. ? (2005)
Policies - chapters 4 and 9	Ch.4 "The Natural Environment" - sec. 4.4 "The Marine Environment": • Goal: "Ensure that uses on the waterfront and harbour area do not negatively affect the marine ecosystem and is compatible with upland uses." • Policies (p.28): 1. [Greenbelt] designation is intended to remain undeveloped, and provide for boating, fishing, swimming and other outdoor recreation uses. 2. Restrict any new foreshore structures that are proposed to be used for commercial uses within the Greenbelt designation. 3. Restrict new pier, float or private wharf facilities associated with a single residential upland use within the Town's foreshore lease boundary. 4. 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. 5. 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. 6. Discourage the purchase of Crown fill areas 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. 7. Ensure that any new developments along the Gibsons Landing waterfront enhance public access or views of the water through public pathways, viewing decks or other features. 8. Protect and enhance the shoreline and aquatic life in the Gibsons harbour area by following the guidelines contained in the Gibsons Landing Environmental Management Program. Ch.9 Gibsons Landing - sec. 9.4 "Parks & Community Uses": • Promotes public access to harbour, development of "a continuous seawalk" along entire shoreline. • Sec. 9.5 "Marine & Shoreline Uses": specific policies for Gibsons Harbour and Commercial Harbour.
DPAs - Chapter 14	DPA No.1 - Geotechnical Hazards: • Schedule B shows areas of low-medium and high probability of geotechnical hazard; most of shoreline shown as low-medium with 3 sections indicated as high. • 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.108). DPA No. 2 - Environmentally Sensitive: • Marine shore area is one of 4 types of ESAs shown in Sched. C; 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" (p. 112). • Requires environmental assessment for any new development, redevelopment or use, to be conducted by a qualified professional; indicates what assessment should address. Gibsons Landing DPA No. 5 – designated for form and character of development.
Classification	Schedule A "Land Use Plan" - general land use designations, includes 3 marine shoreline types/areas: • Commercial harbour - (p.72) support marine uses, industrial/transportation uses. Already extensively developed, limited additional development potential due to limited land availability and extensive coverage within existing water lots. • Recreational harbour - secondary marine use area where limited or seasonal marine uses may occur in future; not considered suitable for general commercial use due to more shallow depths, lack of sufficient upland for parking and buildings, impacts on adjacent residential uses. • Greenbelt/open space - "intended to remain undeveloped and provide for boating, fishing, swimming and other outdoor recreation uses" (policy 1, p.28).
Notes	OCP policies are sensitive to protection of the marine environment, but there is a strong emphasis on promoting public access along the shore in the Gibson's Landing and commercial harbour, and some emphasis on recreational uses in "greenbelt" areas.

Jurisdiction	Lantzville, District of
Tool	OCP Bylaw no. 50 (2005)
Policies	Goal 4: Protect the Natural Environment – sec. 4.2.4 The Waterfront "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: 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 at least 15 metres 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	DPA IV - Coastal Protection Designated area: entire shoreline 15 m upland from "property boundary or natural boundary". 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". Guidelines: 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	One of the few examples 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	Section 3.6 Environmental Management Objectives include: 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." Marine Coastal Policies (specific sub-section): 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: • 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 *Navigable Waters Protection Act* administered by the Coast Guard, and also comply with the bylaws of the Local Trust Committee. Advocacy Policy 4 - to encourage the Ministry and the Coast Guard to regulate uses such that: • 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." Sec. 3.7. Community Servicing and Utilities - Boats and Maritime Vessel Policies "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: • 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/ltc/la/bylaws.cfm

Jurisdiction	Lasqueti Island – Islands Trust
Tool	Land Use Bylaw no. 78, 2005
Zones	Includes General Marine-related Regulations and 9 marine zones:

Zone	Permitted uses
4.13. Marine Conservation(M1)	Ecological reserves and other reserves designated for protection of marine ecosystems and habitat; Public shellfish reserves; Underwater Conservancy; Marine Protected Areas; Marine navigation aids; and Emergency log boom tie ups at designated sites.
4.14. Marine General (M2)	Moorage for non-commercial purposes, Slipways, Private docks of the sizes specified at designated locations.
4.15. Marine Commercial (M3)	Fuel sales; Boat charters and water taxis; Passenger ferry dock; Public (only) docks
4.16. Marine Mariculture (M4)	Bottom culture of molluscs; Long-line culture of molluscs; Private dock, work sheds and covered docking area; Commercial harvesting of shellfish from the lease area in Maple Bay of Scottie Bay.
4.17. Marine Industrial (M5)	Storage and repair of gear and equipment; Shipyard ways and industrial docks; and Boat repair and construction.
4.18. Marine Transportation (M6)	Boat charters and water taxis; Public (only) docks.
4.19. Marine Boat Ramp (M7)	Public boat ramps
4.20. Marine Barge Ramp (M8)	Barge ramps accessible to all barge operators.
4.21. Multi-use Ramp (M9).	Multi use ramp

Classification	None
Notes	Bylaw available at http://www.islandstrust.bc.ca/ltc/la/bylaws.cfm

Jurisdiction	Metchosin, District of
Tool	OCP Bylaw no. 258, 1995 consolidated to 1998
Policies	Part 2 Environmental Policies - sec. 2.6 "Marine Shorelands" • Contains general policies and policies specific to each of 5 shoreland types (see classification below) that address such things as: - Setbacks for construction and material removal – from15m (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. Part 5 – Parks: Objective: "To place a high priority on the acquisition and development of a marine park system." Part 13 – Implementation – further studies: • 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	Sec 2.14 Shoreland Slopes DPAs: • 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: o Basic setback of 60 m from edge of slope unless geotechnical engineering report says otherwise. o Requirement for an Engineer's Report, lists details to be addressed. o 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	Section 2.6 - based on physical forms (excerpts p. 14-17): • 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: - 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 Peddler 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	One of few examples 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 easily be translated into DPA guidelines.

Jurisdiction	Nanaimo, City of
Tool	OCP Bylaw no. 6000 (1996) consolidated to 2005
Policies	Goal 1 "Build complete, viable communities" - sec. 1.4 "Waterfront Designation" Objectives: • To increase public waterfront access throughout the city - maximize physical and visual public access… while minimizing disturbance to waterfront vegetation and environmental features. • To build a Waterfront Trailway: Over the long term, complete an uninterrupted waterfront bike and pedestrian trailway 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 Harbourfront 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 shore zone habitat for fish and other aquatic life. • 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 Harbourfront lands. • To co-operate with the Nanaimo Port Authority on waterfront planning: Work with the Port Authority in harmonizing the Harbour Master Plan with Plan Nanaimo's goals, objectives and policies. Policy headings: Public access to waterfront, Nanaimo Harbour waterfront trailway, Waterfront land uses - Departure Bay to Downtown, Waterfront Land uses - downtown, Protection Island, Downtown to Nanaimo Estuary, Port Authority Goal 2 "Protect the Environment" – sec. 2-1 "Environmentally Sensitive Areas" and 2-2 "Natural Hazard Areas" • Marine foreshore and nearshore defined as ESA and included in DPA #23 (below) • Several shorelines defined as natural hazard areas - DPAs (below)
DPAs	DPA 1, 2, 3: • Specific shoreline areas designated for natural hazard due to wave action and erosion. • Common requirements: maintain existing vegetation, no disposal of stormwater on the slope, geotechnical report, follow North Slope Stability Study. DPA 23: Watercourses • Includes designation of "the sea or ocean, all area between the water's edge and a perpendicular line inland 15 meters from the natural boundary" = "leave strip". • Guidelines : - Development in DPA considered only if pre-existing conditions on lot makes it undevelopable under existing zoning without encroaching into DPA and opportunities to vary other development requirements are exhausted. - Indicates how to determine if development is within DPA. - Allowable variances to other requirements and to the leave strip. - Design to minimize encroachment, impacts (time of year, construction methods), mitigation and restoration. - Dedication of leave strip is encouraged. - Criteria for assessing need for encroachment and impact of encroachment. - Application information requirements. - Requirements for erosion control, vegetation management, habitat restoration.
Tool 2	Zoning Bylaw No. 4000 (1993) (consolidated to 2005)
Provision	"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." "5.3.1.2. The leave strip adjacent to the sea shall include that area between the water's edge and a perpendicular line inland 15 metres (49.2 feet) from the natural boundary." "5.3.2.1. No building, structure, road, parking lot, driveway, patio, games court or other impermeable surface shall be located within a leave strip."
Classification	None for shorelines
Notes	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. While marine shores are lumped in with watercourses in DPA 23 and in the Zoning Bylaw, the 15-m leave strip is treated with same significance as a similar leave strip along watercourses in terms of regulating development, avoiding impacts, etc.

Jurisdiction	Nanaimo Regional District
Tool	Electoral Area H OCP Bylaw no. 1335 (2003)
Policies	Part 2 "Natural Environment" – sec.2.1 "ESAs": • Defines shoreline as an ESA and designates it as a DPA. Sec. 2.4 Coastal Zone Management: "The coastal zone is one of the prime features of the natural environment of the Plan Area, and includes recreational beaches, productive shellfish aquaculture areas, sheltered bays and sensitive estuaries. The coastal zone also includes hazardous bluff shoreline susceptible to erosion and landslides in some areas. Historically, the coastal zone has been the focus of residential and tourist commercial development in the Plan Area. Therefore the shore zone must be recognized as a finite resource. Policies should support the enhancement of the physical, recreational, and visual qualities of the area, while recognizing the relationship of upland foreshore land uses. To that end, the community has identified the area within 1000 metres from the foreshore as environmentally sensitive. This area extends from the Deep Bay Spit to the eastern boundary of Electoral Area 'H' along the entire coastal waterfront area." Recognizes Deep Bay for recreational and commercial use. Objectives: *1. Recognize* the foreshore and waterfront areas as an integral part of the community, and as a major destination for leisure, commercial and recreational pursuits. 2. *Support* the development of shellfish aquaculture in appropriate locations on the Deep Bay Estuary and Baynes Sound foreshore, in a manner that does not conflict with residential and recreational uses of the coastal zone. 3. *Discourage* development, which would alienate the foreshore from public access or impact on the natural environment. *4. Advance* public ownership and stewardship of the waterfront. 5. *Advocate* cooperation and coordination among agencies responsible for marine foreshore and upland resources. 6. *Direct* development that is compatible with the Community Values and Development Guideline Criteria Statements. Policies: 1. The entire coastline of Electoral Area 'H' shall be designated a Development Permit Area. 2. Encourage the users of the shoreline and ocean to minimize the disturbance or pollution of marine and related terrestrial natural habitats. 3. The Plan recognizes the existing shellfish culture leases west of Deep Bay Harbour. All water lots leased for shellfish aquaculture purposes shall be zoned accordingly. Seafood processing shall not be permitted. 4. Where an application is submitted for a foreshore or water lease and the proposal is referred to the Regional District, the Regional District shall recommend to the agency that any structure or development be designed to permit public access and recreational activity along the foreshore. 5. The Ministry of Transportation shall be encouraged to foster the improvement of beach access road rights-of-way for public recreational use and beach access or designation for park purposes where appropriate.
DPAs	Appendix A - section a.4 "Environmentally Sensitive Features DPA" • Applies to 7 types of ES features, designates a DP area for each. • "For all Coastal Areas – the development permit area shall be 30 metres upland of the natural boundary and the surface of water within 30 metres of the natural boundary of the ocean." Guidelines: • Consider possible variances to land use and subdivision bylaw to minimize encroachment into the DPA. • Site development to be located where it will cause least impact on the environmental values of the DPA. • Construction to occur at a time of year and using construction methods that minimize the impacts on the DPA. • In order to ensure that no additional encroachment occurs into the development permit area at the time of construction, permanent or temporary fencing measures may be required. • The Regional District may require an applicant to supply (all to satisfaction of RDN): - sediment and erosion plan with implementation recommendations, prepared by registered professional engineer or person with similar qualifications. - stormwater drainage plan prepared by a registered professional engineer or person with similar qualifications, - assessment, prepared by a registered professional biologist or person with similar qualifications, of environmental impact of the proposed development with prescriptions for mitigation and protection of habitat. - re-vegetation plan. - On parcels where development (including tree and vegetation removal) is proposed for an area with a slope of 30% or greater, a report, prepared by a professional geotechnical engineer, indicating that slope stability will not be jeopardized and soil erosion and site mitigation measures can be implemented. • All proposals shall use the Stream Stewardship 1993 and Land Development Guidelines 1992 publications by DFO and MELP and the Environmental Requirements and Best Management Practices for the Review of Land Development Proposals, March 2001 publication by MELP, or any subsequent editions.
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.

Jurisdiction	North Cowichan, District of (DNC)
Tool	OCP Bylaw No. 3130 (2002)
Policies	Chapter 6 "Working with the Environment", Sec. 6.4 "The Oceanfront": Presents the context for DNC's waterfront and provides general policy directives as well as specific policies for 8 waterfront areas: • Cowichan Estuary and Cowichan Bay foreshore (supports Cowichan Estuary Management Plan) • Genoa Bay Village (discourage leases for private moorage given proximity of marinas; supports marina redevelopment) • Sansum Narrows Resource Foreshore (private moorage, fish farms, log booming and storage) • Maple Bay (residential, commercial, industrial) • Crofton Community Waterfront (public access, commercial fish boat facility) • Crofton/Chemainus Industrial waterfront (port facilities) • Chemainus River estuary (establish 30 m upland setback; permit passive recreation) • Chemainus Community waterfront (public access, development)
DPAs	DPA #8 "Natural Environment" • Applies to four types of ESAs, one of which is "shoreline protection areas" • Designates a 30-m buffer along marine shoreline. • DPA designation intended to protect from development, erosion and vegetation removal. • Development generally restricted to uses necessitating shoreline access, and then subject to environmental assessment and mitigation measures specified in the DP. DPA #7 "Marine Commercial Waterfronts" • Provides some regulatory control of development within 100 m of the shoreline, primarily for appearance. • General guidelines: o Environmental considerations. o Sightlines, views and vistas. o Safety, security and comfort. o Accessibility o Interaction and integration. o Circulation, arrival points and entrances. o Site organization and building massing o Building materials and detailing. o Building form, character and scale. o Outdoor space, landscaping and features. • Specific guidelines for 5 areas: Chemainus, Crofton, Maple Bay, Bird's Eye Cove, Genoa Bay.
Classification	None
Notes	(From notes provided by Robert Conway, Planner DNC, 1 Dec 05) The general policies in section 6.4 provide staff and Council with direction when making decisions regarding applications for foreshore leases, rezoning, temporary use permits, etc. The DPAs allow the District some level of regulation of the nature of development that is permitted. The two DPAs overlap geographically, and the guidelines associated with them can conflict in some respects. Through the application review process, the DNC tries to find a balance between the environmental and aesthetic objectives of the DPAs. Since the DP areas were established in 2002, the majority of applications have been on single-family lots where owners wish to develop within the 30-m shoreline protection area. The development review on these types of applications has been relatively basic as the DNC phases in the implementation of environmental regulations with limited resources. In some cases, the proposed development in the 30-m area has been discouraged, but in most cases, the DNC influenced the location of the development and the measures taken to prevent foreshore erosion and vegetation removal. Creating the DPAs has been an important transitional step for the District. It is the District's goal that as time progresses, waterfront land owners will increasingly recognize that marine waterfronts are sensitive and should, wherever possible, be left undisturbed and in a natural condition.

Jurisdiction	North Saanich, District of
Tool	OCP Bylaw No. 874, 1998
Policies	Ch.4 Shoreline Uses Recognizes sensitivity of shoreline habitat and increasing demand for foreshore uses; mostly rugged, steep shoreline with a few small pocket beaches 4.1 Objectives: • 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 support public access to the shoreline through systematic development of beach access points. • To reduce physical obstructions into the foreshore, and restrict such developments to the least environmentally and visually sensitive areas. • To continue to support designation of Saanich Inlet as a marine park. 4.2 General policies: • All foreshore within 300 m from shore designated as Marine conservation area, no development except in conformity with following policies. • Natural vegetation not to be disturbed except to degree necessary for provision of access. • Structural intrusions into foreshore may require environmental impact assessment and "appropriate studies". • Specific policies for shoreline types - see below under "classification".
DPAs	4.2.2: All commercial marinas and private yacht club developments designated to protect natural environment and regulate form and character. 4.2.13 Tsehum Harbour DPA for environmental protection. Geographically-specific DP areas and guidelines defined in sec.15 for environmental protection and/or form and character.
Classification	4.2 Shoreline policies: Identifies 3 types of shores, sets out policies for each type. Rocky shores: 4.2.6: "To preserve the natural appearance of the rocky shoreline, no buildings or structures, or soil removal or deposit shall be permitted within a minimum of 15 m of the natural boundary, except where it can be demonstrated a lesser distance is acceptable." Beach shores - drift sector beaches: class II and III erosion beaches - limited walkable backshore. "4.2.7 "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." 4.2.8 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. 4.2.9 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 15 m horizontal distance of the natural boundary adjoining beach shores, except where it can be demonstrated a lesser distance is acceptable. 4.2.10 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." 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. 4.2.11 Building prohibitions and soil removal and fill restrictions shall be placed on lands within 15 m horizontal distance landward of the natural boundary adjacent to Class I or pocket beaches except where it can be demonstrated a lesser distance is satisfactory. 4.2.12 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. Mudflats, marsh and delta shores: 4.2.13 "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. 4.2.14 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. 4.2.15 Development immediately adjacent to a mudflat, marsh or delta area shall be discouraged."
Tool 2	Zoning Bylaw no. 750 consolidated to 2005
Requirement	Sec. 213 "Setbacks from Shoreline": "No building shall be located within 15 metres of the natural boundary of the marine shoreline".
Notes	One of few examples of physical shorezone-based classifications and "green shore" oriented policies related to each class. Presumably the policies direct all forms of development applications and review, supplemented in specific shoreline areas where DPAs are defined.

Jurisdiction	Peace River Regional District
Tool	Lakeshore Development Guidelines - July 2000 "The guidelines in this document are intended to promote and provide ideas for responsible development practices within proximity to lakes, streams and watercourses. Further, the policies in this document will be used to assist the Regional Board and Development Services Staff in the review of development proposals and future land use plans for land located in proximity to lakes, streams and watercourses." (p.4)
Policies	Sec. 8 General development and subdivision guidelines: • 8.1Single Lot Development and Construction (based on 1992 "Land Development Guidelines for the Protection of Aquatic Habitat") o 8.1.2 Site Layout and Clearing o 8.1.3 Soil Erosion Control o 8.1.4 Drainage and Sediment Control o 8.1.5 Retaining Vegetation Leave Strip * o 8.1.6 Building Setbacks * o 8.1.7 Septic Field Setbacks * o 8.1.8 Road Construction • 8.2 Subdivision Guidelines o 8.2.1 General Location o 8.2.2 Design o 8.2.3 Access • 8.3 Routine Activities o 8.3.1 On-Site Sewage Systems o 8.3.2 Yard Maintenance, Landscaping and Gardening o 8.3.3 Automobile Maintenance o 8.3.4 Boating o 8.3.5 Dock Construction Sec. 9-14: Specific development policies for 5 classes of lake (see below) Sec.16 "Future Considerations" – recommends that the PRRD "consider options for designating site-specific development permit areas within the shore zones of those lakes classified as either "Development Lakes" or "Special Case Lakes" into future land use bylaws". Whether the PRRD has done so unknown.
DPAs	na
Classification	Lake type classifications and specific policies: • Agricultural (policies based on1997 Stewardship Series publication "Watershed Stewardship Guidelines: A guide For Agriculture") • Development • Limited development • Natural environment • Special case Amount of development supported is indicated by percentage of shoreline based on lake size (ha).
Notes	http://www.pris.bc.ca/prrd/Services/dev_serv_main.htm Useful document, similar to Living by Water publication "On the Living Edge", in providing general education and guidance primarily for residential and small-scale commercial uses. Needs some updating; implementation through a regulatory tool. Some potential applicability to marine shore in structure of guidelines and classification system.

Jurisdiction	Powell River, City of
Tool	OCP Bylaw no. 2080, 2005
Policies 1	Part 4 - Waterfront Plan and Policy (most excerpted from "Powell River Waterfront Plan" 2005) "The proposed waterfront plan for Townsite and Westview from Willingdon Park and the central Harbour area to Churchman's corner has five primary development objectives: (a) To create more public waterfront open space and greater pedestrian access along the waterfront where feasible; (b) To develop a marine business/industrial site south of the Catalyst Paper mill; (c) To enhance marine commercial development opportunities at Wharf Street and at the barge terminal; (d) To create a cultural hub on the former Willingdon Arena site; and (e) To develop stronger pedestrian links between the waterfront and Marine - Willingdon Avenue commercial areas. South Beach Plan Council supports improving and extending the sea walk southward via a trail cut into the sloping, grassed bank above the high high watermark subject to the following: budget considerations and funding partnerships; Ministry of Transportation and DFO approvals; and no net loss or negative impact to the existing sandy beach." 
Policies 2	Part 5 - Environment 5.3 Tidal / Salt Water Riparian Areas The dedication of public access to the waterfront and protecting the environmental quality of that waterfront is of concern to Powell River residents. Tidal/Salt Water Riparian Areas Policy & Objectives (a) Minimize the degradation of natural systems through steps such as protecting the foreshore from erosion, by retaining embankment vegetation and through construction that does not require vertical sea walls. (b) Parking lots at or near the water's edge should have grass, gravel, or open interlocking paving systems to ensure bio-filtration of hydrocarbons and heavy metals from the undercarriage of vehicles from surface water drainage. (c) It is recognized that the coastal shoreline undergoes a natural progression of accretion and erosion gradually over the long term or suddenly in severe storm events. The municipality shall endeavor to map and track this process as it relates to the shoreline for the purposes of land use planning. (d) The municipality supports ensuring that storm water runoff from buildings and land is managed through a natural bio-filtration system where possible. (e) No structures are permitted within the 15-metre setback from the high high water line as set out in the Zoning Bylaw.* (f) All work adjacent to the 15-metre boundary of the high high water line of the Strait should include environmentally sustainable practices such as using landscaping strategies that require little or no revetment and minimize erosion but augment bank stabilization, in conformance with the guidelines contained in the 2003 Federal/Provincial publication entitled Coastal Shore Stewardship: A Guide for Planners, Builders and Developers. The municipality encourages the retention and restoration of natural shoreline vegetation and naturally occurring driftwood and rocks along the Malaspina Strait and Strait of Georgia waterfront." *Zoning Bylaw: "4.3.2. Notwithstanding the regulations for *yard*s within zones in this Bylaw, principal or *accessory building*s or *structure*s over 1 metre in height above *grade* in any residential zone, other than a private wharf or float, shall be set back a minimum of 15.0 metres from any water body."
DPAs	For form & character only for various areas on city
Classification	none
Notes	Unsure how PR reconciles conflicting objectives between part 4 (development and access oriented) and part 5 (environmental protection oriented).

Jurisdiction	Saanich, District of
Tool 1	Cadboro Bay Local Area Plan Bylaw no. 8307, 2002 (amendment bylaw to OCP Bylaw no. 7044)
Policies	Part 6 "Environment",sec. "Ocean Shoreline": • 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". • Policy 6.1 proposes to establish development guidelines for upland, shoreline and foreshore riparian zones adjacent to Cadboro Bay and Haro Strait.
DPAs	None as yet
Classification	Contains map of shoreline beach types. Saanich ESA Atlas - provides information for database of shoreline features.
Tool 2	Zoning Bylaw 8200, 2003
Provision	"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."
Notes	Saanich also has Environmentally Significant Areas Atlas, which is being updated to include a marine layer.

Jurisdiction	Salt Spring Island – Islands Trust
Tool 1	*OCP Bylaw no 345 (June 10, 1998) volumes 1 and 2*
OCP Policies	Part B "Land Use Objectives and Policies" Sec. B.9 "Shoreline Use Objectives and Policies" (vol.1) • General objectives: "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 for 5 shoreline designations (see classification 1 below)
DPAs	*Part E "Development Permit Areas", sec. E.3 "DPA 3 Shoreline" (vol.2)* • 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): o Construction of buildings. o 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. o An addition to an existing dock or construction of a new dock in areas within the Shoreline Conservation Designation. o Construction of more than one mooring facility next to a parcel. o Construction of a breakwater, a rock weir, a groin or a jetty. o Construction of shoreline stabilization works, bulkheads or walkways. o Placing of fill. o Dredging. o Construction of boat launch ramps and railways. o 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 m^2 in area within 10 m of the natural boundary of the sea. o Installation of light standards in commercial or industrial zones on the water surface. o Installation of signs in commercial or industrial zones that exceed the size allowed in local bylaws. o The subdivision of land parcels that creates additional new lots. • Objectives: 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	OCP Designations: Conservation "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." Recreation "To identify and protect ocean beaches that are especially suitable for public recreation. Development "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." Aquaculture "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 *Farm Practices Protection ("Right to Farm") Act* into local bylaws." Undesignated "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." 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."

Jurisdiction	Salt Spring Island – Islands Trust (continued)
Tool 2	Land Use Bylaw No. 355 adopted June 28, 2001; cons'd March 2005 (equivalent to Zoning bylaw)
Provisions	Section 9.11 Shoreline Zones: • "Shoreline *zones* extend from the *natural boundary* 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 8 zones (S1 – S8): o By way of matrices, identifies which of 17 principal uses, buildings and structures and which of 5 accessory uses are permitted in each zone. o 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 (approximate labels): 1) Commercial 1 (heavy) 2) Commercial 2 (light) 3) Moorage and loading (public, private) 4) Docks etc. (private) 5) Aquaculture 6) Private 1 7) Private 2 8) Navigational
Notes	Probably the most comprehensive regulatory framework for marine shores among BC local governments.

Jurisdiction	Thompson Nicola Regional District
Tool	Lakeshore Development Guidelines 2004 "[T]he existing Lakes Study Policy Statement determines lakes that are suitable for development and how much development is permitted. The Lakeshore Development Guidelines sets out acceptable standards and approvals criteria for new development while the TNRD Zoning Bylaw No. 940 establishes permitted uses and mandatory development characteristics. These three documents are the tools to provide sound stewardship of the lake resource in the Thompson Nicola Regional District." "This document provides guidelines for development within one (1) kilometer of the lakeshore and provides information on the TNRD's Lake Classification System." "The guidelines should .. be viewed as a baseline of standards that to a degree are considered flexible providing development proponents can demonstrate that policy objectives will be achieved."
Policies	Guiding Principles: 1. Protect environmental quality 2. Retain access to resources 3. Promote collaborative approach 4. Develop, implement clear and appropriate regulations 5. Protect lake users from hazardous conditions 6. Preserve cultural and heritage values 7. Maintain and where possible enhance public access 8. Promote sustainable practices through stewardship and awareness programs 9. Ensure consistency with other planning documents 10. Encourage economic development and diversification Policies for: • Site development • Public access • Hazard protection • Infrastructure • Land use • Education
DPAs	NA
Classification	See below
Notes	http://tnrd.ihostez.com/contentengine/launch.asp Applicable structure; more up-to-date, directive and "green shores" oriented than Peace River RD guidelines.

Lake Classification	Description	Allowable Capacity Ratios per Ha of Water Surface	Allowable Percentage of Shoreline Development
General Use Lakes	generally used for public recreation, with some private development	.50 units/ha	Up to 20% of perimeter
General Use - Developed Lake Subclass		No further development	No further development
Development Lakes	lakes that can withstand a variety of uses including extensive public recreation and private development	.67 units/ha	Up to 35% of perimeter for lakes less than 800 ha; 50% for lakes over 800 ha
Development Lakes - Developed Subclass		No further development	No further development
Natural Environment Lakes	lakes with negligible development, limited near shore logging and access; significant sportfish values, waterfowl and ungulate capabilities;	.25 units/ha	Up to 5% of perimeter
Critical Lakes	lakes which are at a critical point in their evolution and should have no further development	No further development	No further development
Wilderness Lakes	lakes with no development, and generally no motorized access although rudimentary access may exist; however, there is an absence of near shore logging.	No further development	No further development
Special Case Lakes	lakes that require special management guidelines	Lake Management Plan required	Lake Management Plan required

Jurisdiction	West Vancouver
Tool	OCP Bylaw no. 4360, 2004
Policies	Policy section 6 "Natural Environment" "Policy NE 3: Maintain, protect and enhance the shoreline and foreshore and, where feasible, provide for public access. • 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.89) "Policy NE 6: Recognize and manage environmentally sensitive areas. • 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	

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)	Shoreline Management Act: • "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). Guidelines: 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	"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 "General provisions" to be included in master programs – Guidelines state principles and standards for: • 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	Act requires local governments to issue: • "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	"Shoreline Environments" (tailored by individual local governments) designation criteria: • 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.

Jurisdiction	Thurston Region (County), Washington Thurston Co. encompasses the southern-most portion of Puget Sound, including the city of Olympia.
Tool	Shoreline Master Program, 1990
Policies	"All development … shall demonstrate compliance wit the following policies: A. 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. B. Protection of water quality and aquatic habitat is recognized as a primary goal. All applications for development of shorelines and use of public waters shall be closely analyzed for their effect on the aquatic environment. Of particular concern will be the preservation of the larger ecological system when a change is proposed to a lesser part of the system, like a marshland or tideland. C. Future water-dependent or water-related industrial uses shall be channeled into shoreline areas already so utilized or into those shoreline areas that lend themselves to suitable industrial development. Where industry is now located in shoreline areas that are more suited to other uses, it is the policy of this Master Program to minimize expansion of such industry. D. Residential development shall be undertaken in a manner that will maintain existing public access to the publicly owned shorelines and not interfere with the public use of water areas fronting such shorelines, nor shall it adversely affect aquatic habitat. E. Governmental units shall be bound by the same requirements as private interests. F. Applicants for permits shall have the burden of proving that a proposed substantial development is consistent with the criteria that must be met before a Permit is granted. In any review of the granting or denial of an application for a permit as provided in RCW 90.58.18.180 (1), the person requesting the review shall have the burden of proof. G. Shorelines of this Region which are notable for their aesthetic, scenic, historic or ecological qualities shall be preserved. Any private or public development which would degrade such shoreline qualities shall be discouraged. Inappropriate shoreline uses and poor quality shoreline conditions shall be eliminated when a new shoreline development or activity is authorized. H. Protection of public health is recognized as a primary goal. All applications for development or use of shorelines shall be closely analyzed for their effect on the public health."
Regulatory tools	Development permits - see summary for Washington State Shoreline Management Act.
Classification	Shoreline Environment: Gives purpose, definition, and goal statements for each of 8 "elements"* for: Natural environment Conservancy environment Rural environment Suburban environment Urban environment Aquatic environments *Elements = Economic development, Public access, Circulation, Recreation, Shoreline use, Conservation, Historical and cultural values, Restoration
Notes	Difficult to comment without map of shoreline environments (classes) and assessment of how well implementation of policies and goal statements has worked.

Jurisdiction	Destin, Florida
Tool	Comprehensive Plan: 2010 Ch.6: Coastal Management Element (Comprehensive Plan):
Date	January 2005
Policies (The following are "Objectives" headings)	1.1 Protect coastal resources, wetlands estuaries, living marine resources and wildlife habitats. "All development shall: 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) 1.2 Reduce adverse impacts to water quality in coastal waters. - stormwater system improvements - no direct runoff into coastal water bodies 1.3 Protect and enhance coastal shorelines - no removal of vegetation (native emphasized), control boat launching locations, control erosion, revegetation and renourishment programs. 1.4 Criteria for prioritizing shoreline uses and providing public access to shorelines. First priority: 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. 2nd priority to: 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. • 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." 1.5 Land use controls and construction standards for protecting the natural shoreline. 1.6 Hazard mitigation and coastal high hazard areas avoidance. 1.7 Limiting public subsidy of development in coastal high hazard areas (hurricane response) - funding directed when available to relocating, mitigating or replacing infrastructure. 1.8 Direct population densities (further development or higher density redevelopment) away from coastal high hazard areas. 1.9 Hurricane evacuation, emergency preparedness. 1.10 Post disaster redevelopment. 1.11 Land use policies to promote continuance of public access to public beaches and shorelines. 1.12 Protect historic resources in coastal areas. 1.13 Maintain public facility level to service standards. 1.14 Intergovernmental coordination within the coastal area. 1.15 Continuing evaluation of coastal management element (program).
Classification	?
Notes	http://www.cityofdestin.com/pages/Community%20Development/compplan.html 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	sec.811 of *Local Government Act*	• Adopted under Bill 26 *Local Government Statutes Amendment Act* in 1997, establishing a permissive municipal riparian property tax exemption system similar to that already in existence for heritage property. • The purpose of the tax exemption is to compensate property owners who choose to give up development rights and protect eligible riparian land through a conservation covenant. A tax break will not be granted if a landowner only does what is already required through local government bylaws and development permits. • The riparian area must be subject to a conservation covenant (under section 219 of the *Land Titles Act*) to which a local government is party. • The local government must have a riparian area property tax exemption bylaw authorized under this section in effect. • The power to issue riparian property tax exemptions is permissive, not mandatory; i.e., local governments are not obliged to offer these exemptions. Local governments have flexibility in terms of whether or not 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 Act). • 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, local governments determine which properties are significant riparian land. • Local governments 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 or regional board 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. • Only example to date is Gibson's Bylaw no. 944 (following).

Jurisdiction	Name	Highlights
Gibsons, Town of	Riparian Area Property Tax Exemption Bylaw no. 944, 2002	• 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 contravention of conditions of covenant, Council may by bylaw require owner to pay taxes plus interest.

Jurisdiction	Name	Highlights
Islands Trust	Natural Area Protection Tax Exemption Program (NAPTEP)	• Authorized under *Islands Trust Natural Area Protection Tax Exemption Regulation* passed in 2002 under Part 7.1 of *Islands Trust Act.* • Available (so far) to Gulf Island landowners in the Sunshine Coast Regional District and the Capital Regional District. Islands Trust is intending to expand program to other RD's in the 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: - 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: - 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: - 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: landowner is responsible for providing annual monitoring report on the state of the covenant area. Can choose to have this done by an approved Environmental Professional or ask the Islands Trust to do this on their behalf, at cost of minimum $250 to no more than 5% of the amount of tax exemption for that year. • As of January 2006, 4 properties encompassing about 31 ha have been covenanted under NAPTEP, all on Salt Spring Island. http://www.islandstrustfund.bc.ca/howtoprotectlands/naptep/naptep01.htm

Jurisdiction	Name	Highlights
Washington State (excerpted from "Open pace Taxation Act", Dept. of Revenue, Nov 2005	Open Space Taxation Act, RCW 84.34 and WAC 458-30.	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: 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. 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. 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. 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. 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

Jurisdiction	Name	Highlights
Pierce Co., Washington State	Public Benefit Rating System (PBRS) – Tax Program	• 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 $600. • 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. - http://www.co.pierce.wa.us/pc/abtus/ourorg/at/open_space.htm

Priority Resources	
High Priority: Critical Salmon Habitat, Fish & Wildlife Habitat, Marine Waters, Streams, Wetlands, Estuaries & Tidal Marshes, Wooded Areas	5 points each
Medium Priority: Agricultural Lands, Aquifer Recharge Areas, Flood Hazard Areas, Lakes, Private Open Space Passive Recreation, Privately Owned and Operated Recreational Facilities, Private Trails & Corridors	3 points each
Low Priority: Archaeological Sites, Historic Landmark Sites, 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
Bonus Points	
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 (abuts) or Creates Linkage with Another Open Space Parcel	5 points
Superbonus	
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 - Local Government Policy/Regulation Scan SUMMARY

	Official Community Plan goals & objectives	Development Permit Area	Zoning/Land Use Bylaw	Other	Shoreline Classification
Campbell River, City of	Chap 9 - included with Environmentally Sensitive Areas (ESA)	Included peripherally in DPA for riparian areas	Height above natural boundary for flood prevention only		None
Gibsons, Town of	Sec.4.4 "The Marine Environment"	Included in DPA#1 for natural hazard, DPA#2 for environmental sensitivity	-		Part of general land use designations in OCP
Lantzville, District of	Sec. 4.2.4 "The Waterfront"	DPA IV coastal protection	-		None
Lasqueti Island – Islands Trust	Sec.3.6 "Environmental Management"; Sec. 3.7 "Community Services and Utilities"	-	General Marine-related Regulations and 10 zones	-	None
Metchosin, District of	Sec. 2.6 "Marine Shorelands"	DPA for shoreland slope – natural hazard	-		Sec 2.6 OCP - 5 classes based on physical form/processes; policies for eac
Nanaimo, City of	Sec. 2.1 "Waterfront Designation"	3 DPAs for site-specific natural hazard; DPA 23 – included with watercourses	Sec.5.3. 15-m leave strip (setback) (same as DPA)		None
Nanaimo Regional District Electoral Area H	Sec. 2.4 "Coastal Zone Management"	Sec.A.4 DPA for coastal areas of 30 m upland and 30 m seaward of natural boundary	-		None
North Cowichan, District of	Sec. 6.4 "The Oceanfront"	Included in DPA 8 "Natural Environment" as 30-m buffer along shoreline; DPA 7 "Marine Commercial Waterfronts" for form and character primarily.	-		None
North Saanich, District of	Chap.4 "Shoreline Uses" – foreshore (300 m) designated as marine conservation area	Site-specific DPAs for environmental protection and/ or form & character	Sec. 213 – 15 m setback from natural boundary		Sec. 4.2 OCP - 4 classes of shore based on physical form/ processes, policies for each
Peace River Regional District	-	-	-	Lakeshore Development Guidelines	5 classes of lakes with specific policies/guidelines
Powell River, City of	Part 4 "Waterfront Plan and Policy" – development oriented; Sec. 5.3 "Tidal/ Salt water riparian areas"	None	-		None
Saanich, District of	Cadboro Bay Local Area Plan, sec. 6- "Ocean Shoreline"	Proposed but not established?	Sec. 5.16 – 7.5 m setback from natural boundary		Maybe in Atlas?

	Official Community Plan goals & objectives	Development Permit Area	Zoning/Land Use Bylaw	Other	Shoreline Classification
Salt Spring Island – Islands Trust	Sec. B.9 "Shoreline Use Objectives & Policies"	DPA 3 "Shorelines" – 10 m upland, 300 m seaward of natural boundary	Sec 9.11 Shoreline Zones – designates land use zones for different shore uses		5 OCP designations 8 shoreline zones
Thompson Nicola Regional District	-	-	-	Lakeshore Development Guidelines	8 lake classes, policies for each
West Vancouver	Sec.6 "Natural Environment" – includes shorelines	General DPA NE6 "Difficult Terrain"	-		-
Washington State	Shoreline Management Act Shoreline Master Program Guidelines	"Substantial Development permits"	-		6 "shoreline environments" – policies, standards for each
Thurston Region (County), Washington	Shoreline Master Program	Development permits	-		6 "shoreline enviornments"
Destin, Florida	Comprehensive Plan	-	-		-

Summary of Tax Exemption/Incentive Programs

	Program Name	Purpose
British Columbia	Sec. 811, *Local Government Act*	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	Open Space Taxation Act	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.

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