



In many populated parts of the coast, shores have been altered dramatically. The installation of shore protection works often begins a costly chain reaction, as homes have often been built too close to the shore.



Shore protection works can affect the way that wave energy is dissipated and can alter sediment movements, creating areas of intense scouring and deposition.



Low-lying coastal areas can be subject to dramatic changes during severe storms. Waves and storm surges can combine to flood low-lying areas.

Development Impacts

Rather than being sensitive to development, altered shores are the recipients of development impacts. These can include:

- Straightening and hardening of the shore zone, reducing the amount and diversity of substrates available for organisms to colonize or find shelter.
- Burying benthic habitat under fill or structures.
- Removing natural seawater flows to shore areas and/or filling in intertidal and inshore areas, eliminating habitats such as salt marshes and mudflats.
- Removing shoreline vegetation, causing bank destabilization and a decline in habitat quality and quantity.
- Altering how and where sediment is deposited along the shore, changing long-established patterns of erosion and beach formation.
- Creating localized changes in wave energy, reflection and resonance, which can cause shore erosion or make shores unusable.
- Shading marine plants, thereby making habitat less productive.
- Introducing pollutants through outfalls, during construction or operational activities, or by the choice of building material, such as creosoted pilings.
- Poor drainage practices on upland properties, which can lead to erosion, slumping and failure of shore bluffs and banks.
- The interception and redirection of freshwater flows and sediment, precluding the establishment of deltas and brackish estuarine habitats for wildlife.
- Altering the shoreline, its substrate or salinity can encourage the establishment of nuisance or non-native species, which can grow quickly and eliminate native species.

The cumulative effects of altered shores in populated areas have reduced biodiversity and ecosystem health.

Coastal Planning and Approvals

Mike Tarbotton



Who Does What

The previous chapters describe how activities on land and shore influence coastal shore conditions. We must make decisions from a sound understanding of the biophysical forces and processes that shape and sustain coastal shores.

This chapter is about making those decisions. It will tell you “who does what” in the coastal environment. It begins with a brief summary of where jurisdiction lies and then describes roles and responsibilities for federal, provincial and local governments and First Nations governments, focusing on planning and approvals. Finally, it summarizes the roles that non-governmental organizations, landowners and shore users play in coastal decision-making.

The following table provides a quick guide for navigating through this range of responsibilities.

Acronyms listed on next page

Canada:

| | |
|--|--------|
| Environment Canada | (EC) |
| Canadian Environmental Assessment Agency | (CEAA) |
| Fisheries and Oceans Canada | (DFO) |

British Columbia:

| | |
|--|---------|
| Ministry of Agriculture, Food and Fisheries | (MAFF) |
| Ministry of Community, Aboriginal and Women’s Services | (MCAWS) |
| Ministry of Energy and Mines | (MEM) |
| Ministry of Sustainable Resource Management | (MSRM) |
| Ministry of Water, Land and Air Protection | (MWLAP) |

Note:

Text written *like this* identifies federal or provincial legislation. Information written *like this* is available on the Internet - refer to the Website Address Insert included in this document for details.

Roles in Coastal Planning and Approvals

| | <i>Planning Role</i> | <i>Approvals Role</i> | <i>Legislation</i> |
|---|--|---|--|
| Federal Government | Facilitate coastal zone planning under Canada's Ocean Strategy | Protect fish and aquatic habitat; marine mammals; migratory bird habitat Regulate to maintain navigable waters Regulate disposal of materials to deep ocean Assess environmental impacts of federal projects Designate protected areas | <i>Oceans Act: DFO</i> <i>Fisheries Act (Canada): DFO</i> <i>Migratory Birds Convention Act: EC</i> <i>Canada Wildlife Act: EC</i> <i>Navigable Waters Protection Act: DFO</i> <i>Canadian Environmental Assessment Act: CEAA</i> <i>Canadian Environmental Protection Act: EC</i> <i>Species at Risk Act: EC</i> |
| Provincial Government | Deliver coastal zone planning to address land and resource uses | Allocate, license and regulate the use of Crown foreshore and aquatic lands Approve and regulate discharges to coastal waters Approve and regulate aquaculture operations Regulate mineral, oil and gas development Designate protected areas | <i>Land Act: MSRM</i> <i>Waste Management Act: MWLAP</i> <i>Fisheries Act (B.C.): MAFF</i> <i>Fish Protection Act: MRSM and MWLAP</i> <i>Wildlife Act: MWLAP</i> <i>Petroleum and Natural Gas Act: MEM</i> <i>Environmental Assessment Act: MSRM</i> <i>Local Government Act: MCAWS</i> <i>Community Charter (as of December 2002): MCAWS</i> <i>Mines Act: MEM</i> <i>Mineral Tenure Act: MEM</i> <i>Park Act: MWLAP</i> <i>Ecological Reserve Act: MWLAP</i> |
| Local Governments, Municipalities, Regional Districts, the Islands Trust | Prepare and implement regional and community plans Zone lands for specific uses Plan and provide such local services and facilities as roads, parks, water, sewer and drainage | Approve and regulate residential, recreational, commercial and industrial development along coastal shores | <i>Powers derived from: Local Government Act</i> <i>Community Charter (December 2002- for municipalities only)</i> <i>Regional Growth Strategies</i> <i>Official Community Plans</i> <i>Zoning</i> <i>Subdivision</i> <i>Watercourse protection</i> <i>Tree protection, landscaping</i> <i>Drainage, stormwater management</i> <i>Sediment and erosion control</i> |
| First Nations | Exercise aboriginal rights to traditional lands and waters along coast. Conduct or collaborate with federal/provincial/local governments on coastal inventory and planning. | | |
| Landowners | Call for and participate in local inventory and planning programs | Respect regulations Protect, restore and enhance coastal habitat on properties Demonstrate stewardship practices Adopt best management practices for all activities or works on private waterfront properties "Eyes and ears" for coastal stewardship | |
| Non-governmental Organizations | Advocate for plans where needed Participate in inventory and planning programs Acquire key coastal habitat | Advocate for improved regulations Inform and educate Manage local restoration/enhancement projects "Eyes and ears" for coastal stewardship | |



Jurisdiction along the Coast

Jurisdiction over coastal areas in B.C. is split among federal, provincial and local governments, depending on the location along the coast and the relationship to the shore. It is important to note that while the following points refer to ownership and jurisdiction, all B.C.'s coast is subject to aboriginal claims based on traditional use by First Nations.

Offshore waters

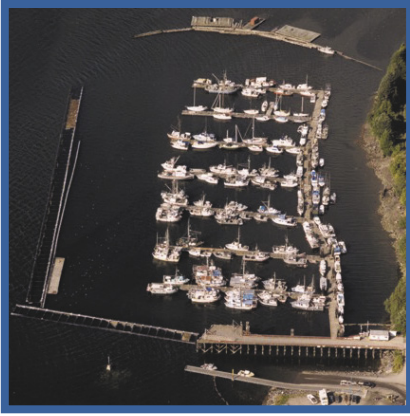
The federal government has exclusive jurisdiction over the nearshore and seabed along the outer coast known as the "territorial sea", which extends from the low water mark out to 12 nautical miles. It also has jurisdiction (control but not ownership) over resources in the "exclusive economic zone," from the territorial sea boundary out to 200 nautical miles, as well as over mineral resources in the "continental shelf" beyond 200 nautical miles.

Inland waters

The shore lands, seabed and waters located between the mainland and Vancouver Island are often referred to as B.C.'s "inland sea." This includes the Strait of Georgia, Juan de Fuca Strait, Johnstone Strait and Queen Charlotte Strait. The provincial government has exclusive jurisdiction over the seabed and its mineral and attached biological resources throughout this area. Provincial ownership also extends to embayed areas, fjords and inlets bounded by discrete headlands on the outer coast. There is currently some disagreement over which level of government has jurisdiction over the seabed in the areas north of Vancouver Island- Hecate Strait, Dixon Entrance and Queen Charlotte Sound.

Beaches and Foreshores

On B.C.'s coast, the area between high tide and low tide is owned and controlled by the provincial government. This foreshore area is never privately owned, though the province may grant leases and licences for special uses of the foreshore – like gathering oysters or building docks and wharves. Use of this area is also subject to local government land use regulations.



Prince Rupert Harbour, Rushbrook



Nanaimo waterfront and uplands areas

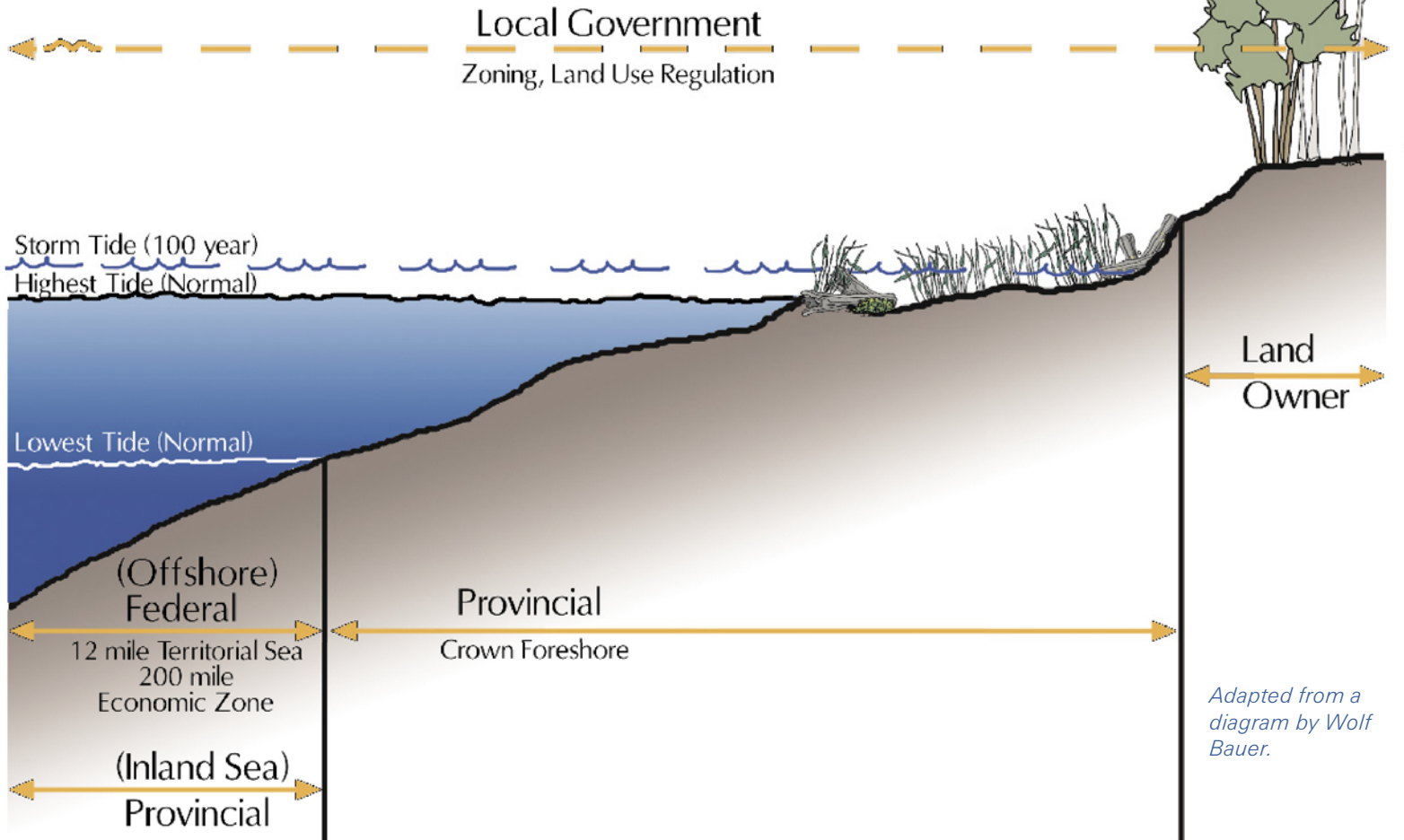
Ports and Harbours

In British Columbia, independent port corporations have management authority over seven major harbours: the Ports of Vancouver, Victoria, Fraser River, Nanaimo, Port Alberni, Prince Rupert and the North Fraser.

Traditionally, other "small craft" harbours have been administered by Fisheries and Oceans Canada as marinas or by Transport Canada as federal wharves and shore facilities. However, these harbours are gradually being turned over to management by local governments, authorities and/or corporations. There are currently about 300 of these.

Upland areas

The coastal upland is either owned privately (most prevalent in southern areas) or owned by the province as Crown lands (largely the case in central and northern parts of the coast). Exceptions are lands held by the federal government (e.g. Indian Reserves, national parks and national defence lands) or by local governments (e.g. community parks). Privately owned lands and some aspects of Crown provincial land use are subject to local government regulations. Tenures on provincial Crown lands, such as timber and recreation leases, are subject to the applicable provincial regulations.



Adapted from a diagram by Wolf Bauer.



Canadian Wildlife Service

Federal Roles

Planning - Canada's Oceans Act

Traditionally, the federal government's role in coastal planning was to manage fisheries, protect fish habitat and oversee transportation safety. This mandate has changed under the *Oceans Act*.

The *Oceans Act* is aimed at optimizing the economic potential of Canada's oceans while maintaining the sustainability of marine and coastal ecosystems. The Act calls on Fisheries and Oceans Canada (DFO) to develop and implement a comprehensive strategy for Canada that will:

- Balance economic, social, cultural, environmental and economic values to ensure sustainable development;
- Manage the increasingly complex and diverse use of the oceans through the development and adoption of integrated management approaches; and
- Engage communities and stakeholders in making decisions that affect them.

The primary means of implementing this strategy is through collaboration with provincial and local governments, First Nations and coastal communities in developing Coastal Integrated Management Plans.

National Marine Conservation Areas Act

This new legislation allows the establishment of National Marine Conservation Areas to protect and conserve marine areas for the benefit, education and enjoyment of everyone. It is administered by Parks Canada, under the Minister of Canadian Heritage.

Fisheries

The *Fisheries Act*, first enacted in 1868, is one of the strongest federal laws to protect Canada's freshwater and marine ecosystems. The Act, administered by DFO and Environment Canada, regulates the harvesting and management of fisheries and the discharge of pollutants into fish bearing waters. It also prohibits the "harmful alteration, disruption or destruction of fish habitat" (a HADD) unless authorized under Section 35 (2) of the Act.

Authorizations issued by DFO require the project result in "no net loss of habitat productive capacity" as required under the National Policy for the Management of Fish Habitat.

Marine Pollution

Complementing the *Fisheries Act*, the *Canadian Environmental Protection Act* (CEPA), enacted in 1999, enables the federal government to set national standards and regulate toxic substances, establish national guidelines (standards) for water quality, and regulate the disposal of materials to ocean environments. Environment Canada administers this act.

Navigation and Marine Transport

The *Navigable Waters Protection Act* (NWPA) is one of the oldest pieces of federal legislation. When it became law in 1882, it was intended to protect marine navigation routes by controlling the logging industry and the location of bridges and dams on navigable waters. Although its application has evolved over the years, its primary purpose is still to protect the public right of navigation. Today the Act is applied to many types of projects in all navigable waterways and coastal areas across Canada. The Canadian Coast Guard, a division of DFO, is responsible for administering its application.

The *Canada Shipping Act* regulates boating and shipping standards and activity. Transport Canada administers it.

Migratory Birds and Wildlife

The Canadian Wildlife Service of Environment Canada conserves and manages populations of migratory birds under the *Migratory Birds Convention Act*. The act protects migratory birds and their eggs and nests from destruction or harassment, governs the taking, capturing or use of migratory birds, and allows establishment of Migratory Bird Sanctuaries. Under the *Canada Wildlife Act*, the Canadian Wildlife Service may establish National Wildlife Areas on land or sea, to protect nationally significant habitat areas.

Environmental Assessment (EA) Review

An environmental assessment and review makes sure the environmental effects of a proposed project are identified, assessed and mitigated early in project planning. This is to prevent the project from harming the environment.

Both Canada and B.C. can require environmental assessments (EAs) of proposed projects. The Canada-B.C. Accord on Environmental Assessment Cooperation promotes cooperative environmental assessment when both federal and provincial EA requirements apply to the same project.

Projects that receive federal funding, occur on federal lands, or are subject to specific federal approvals fall under the *Canadian Environmental Assessment Act* (CEAA) and its regulations. The Act establishes a number of EA tracks, depending on the nature of the project and the likely environmental effects. All projects are screened initially. Larger projects that may have greater environmental impact may require a more detailed EA.

If an EA is required, the proponents are encouraged to review the legislation and relevant regulations that can apply to their project or contact relevant federal departments early in the planning phase. A discussion with such agencies, especially at the local level, assists in identifying potential environmental impacts and necessary mitigation measures. The earlier that environmental considerations are taken into account in project planning, location and design the more likely the project will succeed and have less impact on the environment. An important consideration with regard to CEAA is the cumulative effects assessment that is required; proponents must assess the contribution their project has towards a cumulative effects in the area. This effectively extends the assessment beyond the specific site.

For more information on the Act and its regulations, refer to the publication *Environmental Assessment: Making a Difference* available on [Environment Canada's website](#). There are also several helpful guides available through the [Canadian Environmental Assessment Agency](#):

- *The Citizen's Guide: Canadian Environmental Assessment Process* : A guide to determining whether a project is likely to cause significant adverse environmental effects, you can access this guide [on their website](#).
- *A cumulative effects assessment—practitioners' guide*: you can access this guide [on their website](#).
- *Guide for the preparation of a comprehensive study*: you can access this guide [on their website](#).

The Community Mapping Network

(CMN) comprises organizations that collect and map natural resource information. Its steering committee includes representatives from provincial and federal agencies, local governments, provincial environmental organizations and community groups. The CMN integrates data from many sources and makes them accessible through its mapping system. Information is mapped on fish and wildlife distributions, streams and wetlands, eagles and herons, rare and endangered species and possible restoration sites. The intent is to provide inventories and maps for community planning, storm water management, emergency response, habitat restoration and enhancement, watershed planning, coastal planning, development referrals, impact assessment, research, education and awareness. All maps and information are available from the [Community Mapping Network website](#).



Provincial Roles



Coastal Zone Planning

For many years, coastal planning in British Columbia took place primarily in response to specific issues in specific areas — typically harbours and estuaries. During the 1970s and '80s, management plans were developed for the estuaries of the Fraser River, Cowichan River, Squamish River, Ladysmith Harbour, Sooke Harbour and Comox-Puntledge River. More recently, management plans have been developed for the Port of Stewart, Prince Rupert Harbour, Tofino Harbour and several other areas.

However, since the early 1990s there has been consensus on the need to strengthen and improve long range planning in the coastal zone. Such planning allows levels of government to collaborate in the allocation and management of resources to meet national, provincial and local interests.

The province's initial emphasis was on strategic level plans (1:100,000 to 1:250,000) for large regions and sub-regions (e.g. Vancouver Island Land Use Plan). These plans rarely define where various uses would best occur, but offer broad direction for resource use planning and management.

More recently, provincial attention has shifted towards landscape or local scale plans (1:20,000 to 1:50,000) that provide clearer direction on resource allocation. For coastal regions, these plans suggest where applicants are likely to have success in applying for tenured uses such as aquaculture, log handling, float homes, tourism, and other types of foreshore and nearshore uses. Local-scale plans have been completed for Barkley Sound, North Island Straits and Nootka Sound. Plans are under way for Kyuquot and Quatsino Sounds, and the Malaspina Inlet Complex on the Sunshine Coast.

Smaller scale planning (e.g. 1:20,000 scale or more detailed) addresses specific issues, such as the [Baynes Sound Shellfish Aquaculture Action Plan](#) and log handling in Nanaimo Estuary. The results can include area designation maps, specific management measures and such operational action plans as compliance and enforcement strategies.

The [Ministry of Sustainable Resource Management](#) (MSRM) is the main agency responsible for the delivery of provincial coastal zone plans, through its regional offices and its [Coast and Marine Planning Office](#) (CMPO). The CMPO also designs planning processes, so there is a consistent planning approach between regions, and coordinates provincial coastal policy.

Coastal Inventories and Data Resources

The [Coastal Resource Information System \(CRIS\)](#) is managed by Decision Support Services of the MSRM. This system is designed to streamline the collection and dissemination of marine habitat and fishery resource information for coastal B.C. The system provides a central, accessible source of spatially geo-referenced information on marine habitat and fish resources. Although the individual databases and GIS layers may reside on different computers in a range of agency data warehouses, the CRIS Atlas provides all the information at one location. There is work underway to integrate and build a relational database for all databases within the CRIS. The CRIS system provides an online data entry system.

Decision Support Services has also developed the British Columbia Marine Ecological Classification system and the British Columbia Biophysical Shorezone Mapping System, which identify marine sensitive areas and shore zone mapping standards. It has mapped most of the coast for its biophysical capability to support shellfish and finfish aquaculture. For more information, check the [Decision Support Service's website](#).

The [Sensitive Ecosystem Inventory](#) is a joint endeavour of Environment Canada and the B.C. ministries of Sustainable Resource Management and Water, Land and Air Protection. It identifies and maps remnants of rare and ecologically fragile terrestrial ecosystems in parts of the province that are experiencing heavy growth. Its goal is to encourage land-use decisions that support the survival of these ecosystems. The inventory is available in hardcopy (1:20,000) and electronic (ArchInfo) formats, and is accompanied by a manual that suggests measures that could be taken to preserve these fragile resources. A Sensitive Ecosystem Inventory has been completed for East Vancouver Island and the Gulf Islands, and inventories are underway for the Sunshine Coast and the Central Okanagan region. Visit the [Sensitive Ecosystem Inventories website](#).

The [Resources Information and Standards Committee \(RISC\)](#) sets provincial standards for natural and cultural resources inventories, including collection, storage, analysis, interpretation and reporting of inventory data. Committee members represent provincial, federal, aboriginal and private sector agencies and other resource interests. RISC has established standards and published manuals for both physical and biological shore zone mapping. It also has a [website database](#) of coastal resource inventories.

Land and Foreshore Tenure

As the “landlord” of B.C.’s public (or Crown) lands, the provincial government can issue tenure or sell public lands. Crown lands include intertidal areas and inner coastal waters and seabeds. The right to occupy these areas requires some form of tenure - typically a lease or license of occupation. These are issued for a variety of uses including aquaculture, mariculture (shellfish), log storage, private and public moorage, wharves and marinas, and recreational uses. Land and Water B.C. Inc. (formerly B.C. Assets and Lands Corp.) is the agency responsible for allocating Crown land tenures, and reports to the [Minister of Sustainable Resource Management](#).

Activities proposed on Crown shores and seabeds require an assessment of environmental impacts. These assessments are usually managed through an internal referral process administered by LWBC though large projects may be passed to the B.C. Environmental Assessment Office. For more information, visit the [Land and Water B.C. website](#).

Waste Management

The provincial [Waste Management Act](#) controls emission and discharge of pollutants from land into the marine environment. This includes liquid waste (including stormwater) and hazardous waste, as well as contaminated sites. The Act is administered by the Ministry of Water, Land and Air Protection.

Fish and Wildlife

The B.C. [Fisheries Act](#) (to be distinguished from the federal [Fisheries Act](#)) controls activities associated with commercial fisheries and aquaculture operations. Its primary concern is the licensing of fish processing plants, fish buying establishments, fishers selling their own catch, wild oyster and marine plant harvesting and aquaculture operations.

The [Wildlife Act](#) regulates the management and protection of wildlife on land and sea. The [Fish Protection Act](#) provides for the regulation and management of anything affecting shellfish, resident finfish and marine plants. It authorizes water managers to consider impacts on fish and fish habitat before approving water licenses. The [Ministry of Water, Land and Air Protection](#) administers both acts.

Oil, Gas and Minerals

The [Mines Act](#) enables the regulation and management of extracting non-metallic (e.g., sand and gravel) and metallic minerals in the inland sea. The [Petroleum and Natural Gas Act](#) oversees the regulation and management of oil and gas exploration and development in the inland sea. The [Ministry of Energy and Mines](#) administers both acts.

Environmental Assessment

The provincial [Environmental Assessment Act](#) requires projects of certain types and sizes to have formal environmental assessment. Such projects include, but are not limited to:

- Aquaculture/food processing
- Offshore oil and gas development (exploration and production)
- Offshore mining operations (exploration and production)
- Large destination resorts and such associated facilities as marinas and golf courses
- Highways, railroads, transmission lines and pipelines
- Larger ports and ferry terminals
- Local government solid and liquid waste management projects
- Dams and reservoirs, dikes, diversion projects, groundwater extraction, and shore modification

Generally, residential building projects are not subject to this process because they usually are regulated solely by local governments. Their impacts are usually below provincial assessment thresholds.

Environmental assessment reviews are managed and coordinated by the Environmental Assessment Office. Details of the process are outlined in the [Guide to the British Columbia Environmental Assessment Process \(January 2001\)](#). This guide is available [on their website](#).

Marine Protected Areas

A number of federal and provincial agencies have responsibilities related to the creation of protected areas in coastal waters. For example, Fisheries and Oceans Canada is the lead federal agency responsible for coordinating the development of a system of marine protected areas, and can establish protected areas under the **Oceans Act**. Fisheries and Oceans works closely with Parks Canada and Environment Canada, who have their own responsibilities for marine protection under the **National Marine**

Conservation Areas Act, and the **Canada Wildlife Act/Migratory Birds Convention Act**, respectively. The overall objective of these programs is to further conservation and protection of living marine resources and their habitats.

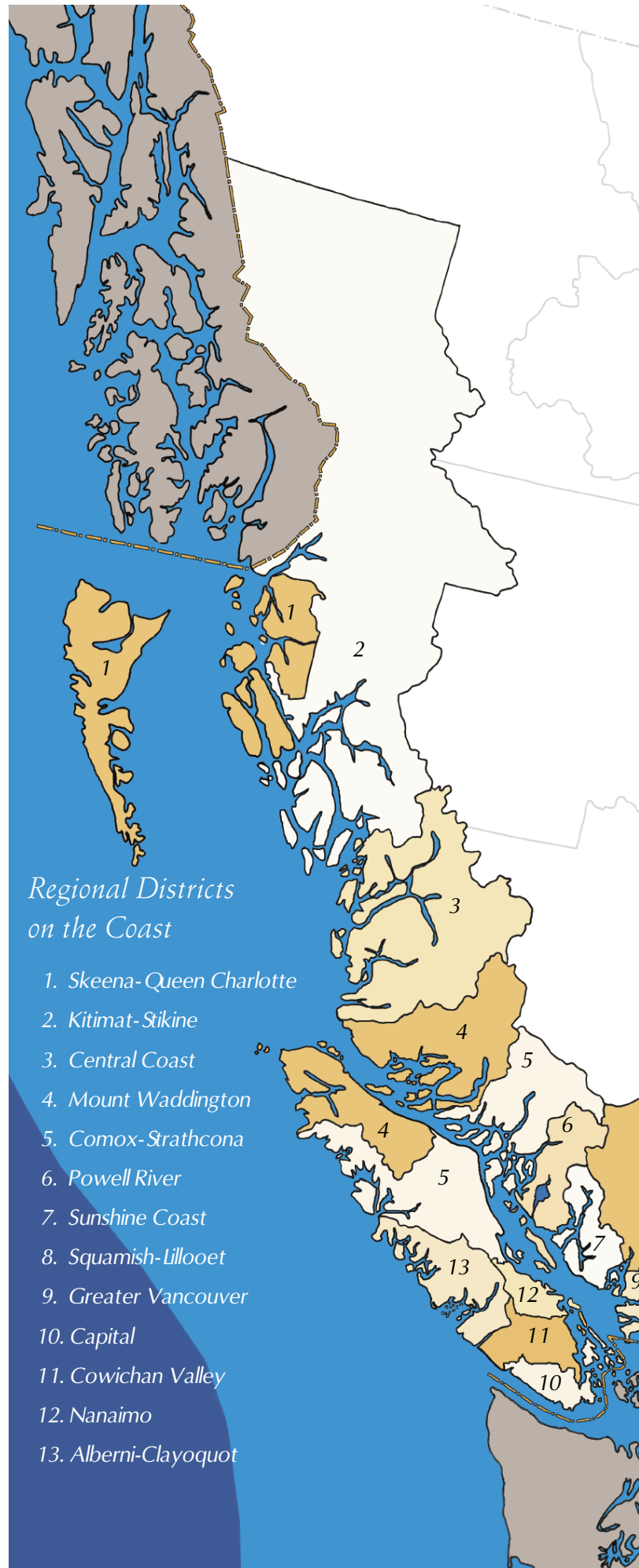


Canadian Wildlife Service

A Marine Protected Areas Strategy for Canada's Pacific Coast is being developed jointly by the governments of Canada and British Columbia. This strategy is intended to lead to a network of marine protected areas along the Pacific coast, using new and existing federal and provincial statutes. Under this Strategy, objectives for MPAs include:

- Contribute to the protection of marine biodiversity, fish and their habitats, and cultural heritage resources;
- Provide opportunities for recreation and tourism;
- Provide scientific research opportunities and support the sharing of traditional knowledge; and
- Increase education and awareness efforts.

The Endeavour Hydrothermal Vents Area recently became Canada's first Marine Protected Area to be declared under the **Oceans Act**. Several other marine protected area initiatives are currently underway, including designation of Race Rocks and Bowie Seamount Area as Marine Protected Areas (by Fisheries and Oceans Canada), designation of the Scott Islands as a Marine Wildlife Area for seabird foraging protection (Environment Canada), and designation of the waters around Gwaii Haanas National Park Reserve as a national marine conservation area (Parks Canada).



Regional Districts on the Coast

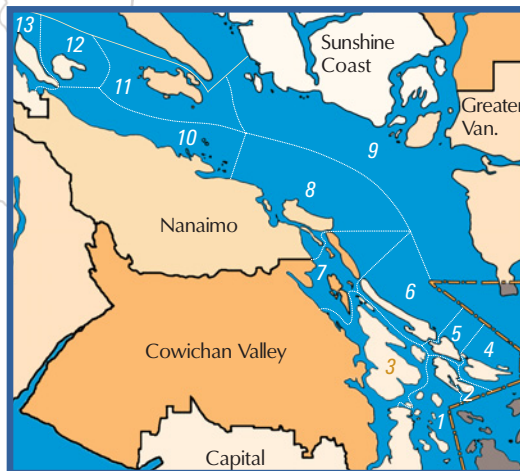
1. Skeena-Queen Charlotte
2. Kitimat-Stikine
3. Central Coast
4. Mount Waddington
5. Comox-Strathcona
6. Powell River
7. Sunshine Coast
8. Squamish-Lillooet
9. Greater Vancouver
10. Capital
11. Cowichan Valley
12. Nanaimo
13. Alberni-Clayoquot

Local Government Roles

Regional, Community and Islands Trust Planning

Municipalities, Regional Districts and the Islands Trust (collectively referred to as local governments) are responsible for planning land use and development within their respective boundaries. Their powers are defined under BC's *Local Government Act* and as of December 2003, under the *Community Charter* for municipalities. As such, local governments can have a tremendous influence on land based activities that affect coastal shores and nearshore areas.

These planning and regulatory powers also extend to areas covered by water. The *Local Government Act* defines land to include "the surface of water," and states that municipal boundaries can include "the whole or part of adjoining foreshore and any area below low water mark." This implies that the power to plan, zone and permit land uses covers freshwater bodies and marine foreshore and nearshore areas. Many local governments extend zoning into nearshore areas.



Islands Trust Area

- | | |
|-----------------|---------------|
| 1. North Pender | 7. Thetis |
| 2. South Pender | 8. Gabriola |
| 3. Salt Spring | 9. Howe Sound |
| 4. Saturna | 10. Executive |
| 5. Mayne | 11. Lasqueti |
| 6. Galiano | 12. Hornby |
| | 13. Denman |

Land use planning at the local level comes in two basic forms: Regional Growth Strategies and Official Community Plans.

A *Regional Growth Strategy (RGS)* is prepared by a regional district, which comprises municipalities and unincorporated electoral areas. An RGS promotes development that is socially, economically and environmentally healthy and that makes efficient use of public services, land and other resources. An RGS looks ahead at least 20 years to address population growth with reference to land use, economic development, transportation, environmental protection and other regional programs aimed at meeting the needs of people.

Any bylaws passed by a regional district board with an RGS must conform to the direction of the RGS. Similarly, Official Community Plans established by member municipalities of that regional district must be consistent with its RGS.

Like an RGS, an *Official Community Plan (OCP)* is a statement of objectives and policies to guide decisions on planning and land use management within a municipality or electoral (or unincorporated) area. It can identify land use designations, policies and guidelines related to development opportunities and requirements, transportation networks and environmental protection. It also establishes a basis for local government regulations and servicing programs. An OCP addresses a smaller area than a RGS and usually in more detail.

Supporting Coastal Stewardship in Local Planning

Regional Growth Strategies and Official Community Plans are effective tools in providing community direction for coastal stewardship. Especially in settled parts of the coast, these plans can play a significant role in establishing a framework for coastal stewardship by:

- Calling for coordination of policies, regulations and approvals among all levels of governments.
- Establishing land use designations and policies based on an understanding of the biophysical processes of coastal ecosystems.

The next page indicates some of the policies that could be included to support coastal stewardship at the local level.

Coastal Stewardship Policies in Regional Growth Strategies and Community Plans

Stakeholder Involvement

A stakeholder review is useful, either as a part of the main community plan process or as an adjunct to the planning process. It identifies issues that affect planning and management of coastal areas in the community or region.

A list of coastal stakeholders may include coastal landowner groups, industries, recreational users and conservation organizations. Institutional stakeholders may include port corporations, harbour authorities and regional offices of Fisheries and Oceans Canada, Environment Canada, Land and Water B.C. and the Ministry of Water, Land and Air Protection (MWLAP).

Setting goals

An Official Community Plan or Regional Growth Strategy may contain a variety of goals specific to coastal stewardship - such as:

- Developing tactics to protect, restore and enhance natural coastal systems
- Providing opportunities for public recreational use and enjoyment of coastal areas.
- Planning for marine oriented industrial and commercial development.
- Planning an integrated coastal strategy with other levels of government.

Partnership policies

Local governments can use intergovernmental agreements and partnerships with non-governmental organizations to help achieve community goals for coastal areas - for example:

- Coordinate inventory and shore mapping with the provincial Coastal Management and Planning Office, the Conservation Data Centre, etc.
- Develop awareness of best management practices, and run workshops for agencies, developers, waterfront landowners, NGOs and staff.
- Establish a Coastal Zone Technical Committee.

Environmentally Sensitive Areas

It is desirable to regulate development or avoid it in areas where coastal shores are physically or biologically sensitive or subject to natural hazards. This can be done through an OCP or RGS by:

- Identifying Environmentally Sensitive Areas (ESAs) and hazard areas,
- Working to acquire these areas for parks and greenways along coasts,
- Designating development permit areas for the protection of ESAs that establish conditions for development,
- Fostering community awareness of coastal stewardship, encouraging and supporting volunteer actions.

Development policies

Encourage development in appropriate areas by:

- Designating shore areas that are most suitable for development (see examples of coastal classification systems on the next page),
- Specifying best management practices to be used in these areas,
- Encouraging desired forms of development.

Recreation policies

Recognize recreational resources as community assets by setting policies that:

- Provide continuity of public access through the development of interconnected greenways
- Provide access for water-based sports and recreation on the shores that can best support these amenities
- Ensure that recreational uses and the structures that support them (such as a docks) do not adversely impact coastal processes

Water quality policies

Policies and guidelines that reinforce ways to manage liquid waste and stormwater can reflect coastal concerns. Suggested strategies:

- Identify areas with high septic system failure rates. Inform landowners about proper maintenance of on-site sewage disposal and stormwater systems. Promote testing to ensure that systems are properly installed and well maintained.
- Promote demand management strategies to reduce the impact of industrial and commercial sewage
- Reduce the impact of non-point source (NPS) pollution by increasing public awareness
- Work with such high-risk businesses as car washes and gas stations to develop site-specific NPS plans, work with municipal engineering and public works to develop local strategies to minimize the impacts of NPS.

Marine resource policies

Many municipal and regional district boundaries extend over coastal areas covered by water. Official community plans can include strategies that protect such nearshore marine resources as shellfish concentrations, eelgrass beds, etc:

- Collaborate with, or ask senior agencies to conduct mapping and inventory of nearshore resources and locate rare or sensitive species and habitat,
- Protect shellfish and other sensitive marine resources from impacts of upland land uses,
- Develop programs to periodically check the health and quality of nearshore resources.

Hazard management policies

Official community plans should include strategies that minimize risk. A common approach is to insist on development permits in all hazardous areas. These permits must respond to such unstable and hazardous conditions as:

- Ongoing shore erosion
- Occasional flooding from storm surges and tsunamis
- Seasonal flooding; some of these areas may have been identified as part of provincial flood risk mapping.
- Areas of steep slope or where soil seepage conditions create potential for slides.

The avoidance and management of risks is important not just during the construction phase of a project, but over its entire life, including operation and maintenance. The cost of maintaining and reinforcing structures built on eroding land far outweighs the cost of proper site location, or the loss of prime development land. Proper assessment of risk – including anticipation of unforeseen circumstances – prevents costly repairs or lawsuits.

Classifying Shores

A useful tool in planning at the local government level is to classify shores from a habitat sensitivity perspective. Federal and provincial agencies have been doing this for some time in collaboration with harbour authorities and regional districts as part of estuary management plans. A few local governments have developed shore classification systems for this purpose, too.

Fraser River Estuary Management Program — FREMP, a joint endeavour of federal, provincial and local governments and harbour authorities on the Fraser River, was created in response to enormous development pressure on this threatened estuarine system. Under FREMP, the shores in the estuary have been evaluated for their ecological significance and designated into three “zones”:

- A **Red zone** has highly productive habitat and any development must avoid impacts on the environment. The only exceptions are for projects vital to public health and safety.
- A **Yellow zone** has moderately productive habitat and permits development provided there is no net loss in habitat productivity. This requires a focused, intensive environmental impact assessment with full mitigation of impacts. Where impacts cannot be fully mitigated, compensatory habitats must be constructed prior to disturbance or destruction of the affected habitats.
- A **Green zone** is often an already disturbed area that provides marginal habitat or irrecoverable shore process functions. Development may occur, provided that reasonable efforts are made to mitigate environmental impacts.

This system provides guidance as to where development interest and initiative should be directed. For more information on [FREMP](#) check out its website.

Prince Rupert Harbour Foreshore Management Plan — Prince Rupert Port Corporation and the Skeena/Queen Charlotte Regional District have endorsed a harbour plan that focuses on protection of fish habitat while ensuring water access for economic activities in the harbour. The basis of the management plan is a foreshore habitat classification system similar to that used for FREMP, with the same colour coded zoning and assessment of habitat values. The classification system inventoried intertidal vegetation, physical shoreline type, wave exposure regimes and valued habitat features to develop foreshore classification maps. Other evaluation criteria for classifying shorelines include degree of modification, restoration potential and presence of compensatory habitat.

Regional District of Comox-Strathcona — This Regional District on mid-Vancouver Island is taking a different approach to shore classification. Its purpose is to protect the coastal environment, but also to protect public resources (historical, recreational and scenic) and limit risk and liability from construction on unstable shores. The approach is based on physical forces as well as biological characteristics. It identifies shore “cells”, initially by their sedimentation characteristics (eroding, transport, or accreting), and then by their relative energy level (high, medium, low) based on exposure to winter storm waves. The shore within each “cell” is then classified in segments, according to shore type (boulder/cobble, sand/gravel, mud, etc.) and relative biological productivity (high, low). Land use management policies are proposed for each major type of shore. The Regional District is still refining and testing this classification scheme for its usefulness as a management tool. For more information, contact the [RDSCS Planning Department](#) on-line or call them at (250) 334-6000.

The Harbours Ecological Inventory and Rating (HEIR) project is an initiative to inventory and evaluate the ecological value of the backshore, intertidal and subtidal portions of Victoria and Esquimalt harbours and their connected waterways. Developed by the Victoria and Esquimalt Harbours Environmental Action Program (VEHEAP), the HEIR is a web-based information and mapping tool that provides materials to assist land and water use decisions, avoid further habitat degradation, and improve the restoration and enhancement of harbour ecosystems. Mapping layers, database information and ecological value ratings are accessible from the VEHEAP web site using the interactive ARC IMS mapping software [at their website](#).

Zoning

Zoning bylaws are used to regulate types, location and density of development by “zoning” lands for particular land uses. Zoning can extend over water to include intertidal and nearshore areas.

Zones specify such land use characteristics as minimum parcel or lot sizes, the dimensions and location of buildings, and setbacks or distances between structures and property lines. Zoning can even regulate the extent and location of impervious surfaces such as driveways, parking lots and tennis courts.

Local governments use zoning bylaws to help direct different kinds of development (residential, commercial, industrial) to suitable areas and away from unsuitable ones. Zoning bylaws can help protect shore areas by restricting inappropriate land uses and practices. Zoning can also establish building setbacks along or around sensitive coastal features. Zoning designations along waterfronts can respect unique physical and biological aspects of the adjacent shore systems and the potential impact of development on these systems.

A local government can also meet shore stewardship goals through rezoning. The rezoning process offers a local government the opportunity to demand measures that would benefit the community. This could include dedication of a shore greenway, protection of sensitive features and processes or provision or restoration of shore amenities.

Other zoning-related tools can also be used to protect shore areas:

- **Density bonus zoning** allows for higher density when certain measures are taken – such as the protection of an environmentally sensitive site, preservation of a shore “leave” strip or providing public access. For example, a 20 percent density bonus would allow up to 12 units per hectare from a base zoning of 10 units/ha, in exchange for one or more of these community benefits.
- **Comprehensive development (CD) zoning** involves the creation of a unique land use arrangement for a specific site. For example, a development proposal for a marina facility could include a mix of commercial, light industrial and multi-residential development along with areas of public use and conservation. This approach is used most often in larger developments.

Development Permit Areas

An OCP can designate Development Permit Areas (DPA) that have special land use and development conditions. Land within a DPA cannot be subdivided, altered or built on without first obtaining a development permit that contains requirements established for that DPA. Under the [Local Government Act](#), DPAs can be designated for three purposes:

- To protect the natural environment, its ecosystems and biological diversity;
- To protect a development from hazardous conditions; and
- To establish objectives for the form and character of intensive residential development and of commercial, industrial or multi-family residential development.

Several local governments have designated DPAs for coastal protection:

- **Nanoose Bay**, in the Regional District of Nanaimo (RDN), has designated a ‘leave’ strip extending 15 m inland from the natural boundary (or high water mark) of the shore as a DPA under its official community plan. “Leave” strips are intended to remain in an undisturbed state, and activities are regulated to protect habitat, prevent flooding and control erosion. Check the [RDN website](#) for a copy of Nanoose Bay’s OCP.
- **The City of Nanaimo** takes a similar strategy in its OCP by designating under its DPA a 15 m “leave” strip along its shores for watercourse protection (DPA #23). In addition, it defines particularly steep, erodible shore areas as DPAs for natural hazard management. The content of the OCP and DPA #23 are available on the [city’s website](#).
- **The District of North Cowichan** is revising its OCP in which “Shoreline Protection Areas” are being considered for DPA designation. These would extend 30 m inland from the natural boundary of marine shores. Development within that 30 m DPA would be restricted generally to uses that require shore access.
- **The OCP for Rural Comox Valley**, in the Regional District of Comox-Strathcona, designates most of its shore along the Strait of Georgia as a DPA for “aquatic environmentally sensitive areas.” No structures other than “shoreline protection devices” are permitted within 15 metres of the natural boundary. A portion of the shore with steep, erodible banks is also designated a DPA for hazardous conditions. The DPA specifies special protective, construction and planting requirements. The OCP and DPA can be viewed on the [RDSCS website](#).

Subdivision

Subdivision approval is another tool that can be used to protect shorelines. Site plans must show lot layout, road and utility layout and development standards. Subdivision applications must also address the conservation of environmentally sensitive areas, avoidance or mitigation of hazardous conditions and provision of public access. Other subdivision tools can be used to protect shore areas:

- Up to 5 percent of land proposed for subdivision can be required as a **park** at the time of subdivision. This power can be used for public acquisition of coastal areas or for access to the coast.
- Subdivision can also incorporate a **conservation covenant**. This could preserve a portion of the property for its ecologically valuable features, set up a buffer zone adjacent to sensitive coastal areas, or require specific land use practices that protect coastal habitats or vegetation. The landowner retains the right to use the land in a manner consistent with the purposes of the covenant. The organization holding the covenant - which may be a local government or a registered conservation organization, or both - becomes responsible for ensuring the terms of the covenant are followed.

Other Bylaw-making Powers to Protect Shore Areas

| | |
|-------------------------------------|--|
| Landscaping | Set requirements and standards that “preserve, protect, restore and enhance the natural environment.” These could be used to protect existing native shore vegetation to limit erosion, maintain vegetated corridors to support habitat, and require replanting adjacent to shore areas after construction. |
| Tree cutting/protection | (Municipalities only) protect significant or heritage trees by requiring permits for cutting. Regional governments can determine what trees must be preserved to prevent erosion. |
| Watercourse protection | Pass bylaws that prohibit polluting or impeding the flow of a watercourse. In shore areas, this could be used to protect and maintain clean freshwater inputs. |
| Sediment and erosion control | Require development projects to plan and undertake erosion and sediment control measures within the construction program. This could include: scheduling and designing earth moving to minimize erosion; retaining vegetation; replanting disturbed soil; diverting runoff from exposed soils. |
| Drainage and stormwater | Require landowners to manage the disposal of surface runoff and stormwater. The bylaw could also establish the maximum percentage of the area of land that can be covered by impermeable material. This could be an important consideration where runoff is often contaminated, or in bluff environments, where runoff can increase erosion. |
| Plan assessment | Require assessments of project plans as part of a rezoning or permit application. This examines the potential environmental, social and economic effects of the project and its projected benefit to the community. |
| Building permits | Require buildings and structures to comply with the B.C. Building Code. Approval of building permits can also be used to ensure compliance with local bylaws and see that the site is safe for development relative to hazards posed by coastal erosion, and the effects of construction on the stability of the coast. |
| Security | Require a security deposit to ensure that construction meets design specifications and/or permit conditions regarding restoration, landscaping, etc. Because of the greater risk of development on coastal shores, local governments should consider security deposits that address construction hazards posed by tides, wind, storms, etc.; spills (which can be widely dispersed by runoff and waves); and impacts to adjacent properties where shore development may disrupt longshore drift patterns, or cause slope failure or vegetation blowdown. |

*In May 2003, the Province introduced legislation (Bill 48) to protect farming and aquaculture from local government bylaws that could limit their operations. The legislation proposes to amend the **Local Government Act** to ensure provincial approval is required on any bylaws affecting aquaculture development or operations in ways that may violate the **Farm Practices Protection Act**. The latter Act would also be amended to clarify that Crown lands and foreshore areas suitable for aquaculture can be designated as “farming areas” and therefore, subject to protection under the Act. This proposed legislation could significantly restrict local governments’ ability to regulate aquaculture operations under zoning or other bylaws.*

First Nations

Over 50 First Nations have traditional ties and enjoy aboriginal rights with respect to land and resources on the B.C. coast. Many are represented in treaty negotiations with the province and Canada.

Treaty Making

The treaty-making process is overseen by the B.C. Treaty Commission, an independent, neutral body responsible for facilitating treaty negotiations among the governments of Canada, B.C. and First Nations. A First Nation does not have to prove aboriginal rights - these are already recognized and protected by the Canadian Constitution. The main goal of the treaty process is to provide certainty of jurisdiction over B.C.'s land and resources. For more information, check the [B.C. Treaty Commission website](#).

Through the B.C. Treaty process, as well as through partnerships with government agencies, the roles of First Nations are evolving into those of an "order" of governance with respect to traditional shore resource and areas. Governance will vary, according to the settlement that is reached within each treaty negotiation, as will the relationship developed with senior government agencies and adjacent local governments.

Reserve Lands

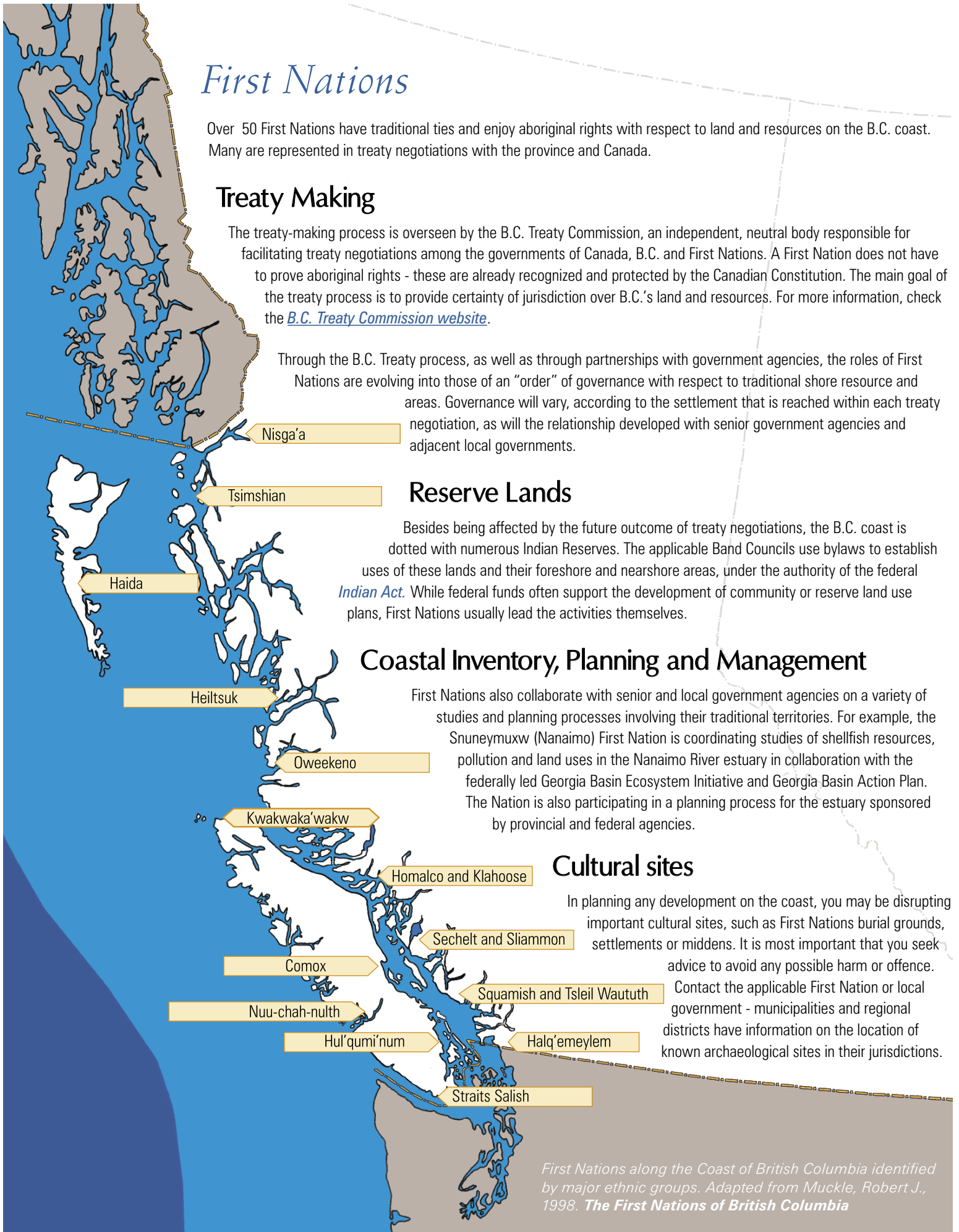
Besides being affected by the future outcome of treaty negotiations, the B.C. coast is dotted with numerous Indian Reserves. The applicable Band Councils use bylaws to establish uses of these lands and their foreshore and nearshore areas, under the authority of the federal *Indian Act*. While federal funds often support the development of community or reserve land use plans, First Nations usually lead the activities themselves.

Coastal Inventory, Planning and Management

First Nations also collaborate with senior and local government agencies on a variety of studies and planning processes involving their traditional territories. For example, the Snuneymuxw (Nanaimo) First Nation is coordinating studies of shellfish resources, pollution and land uses in the Nanaimo River estuary in collaboration with the federally led Georgia Basin Ecosystem Initiative and Georgia Basin Action Plan. The Nation is also participating in a planning process for the estuary sponsored by provincial and federal agencies.

Cultural sites

In planning any development on the coast, you may be disrupting important cultural sites, such as First Nations burial grounds, settlements or middens. It is most important that you seek advice to avoid any possible harm or offence. Contact the applicable First Nation or local government - municipalities and regional districts have information on the location of known archaeological sites in their jurisdictions.



First Nations along the Coast of British Columbia identified by major ethnic groups. Adapted from Muckle, Robert J., 1998. *The First Nations of British Columbia*

Non-governmental Organizations

There are many non-governmental organizations (NGOs) that are working to protect, preserve and enhance coastal environments. Some of these NGOs are profiled in Chapter 6. Their roles are many and varied, but can be summarized under the following headings.

- **Education** — Many NGOs conduct public information and education sessions about stewardship as part of their mandate. They provide an increasingly important role in supporting the public outreach of government agencies.
- **Habitat identification/inventory** — More stewardship groups are taking training and becoming volunteer “citizen scientists”. Quality of data and the consistency of collection methods and data management and sharing have arisen as issues. These issues are gradually being addressed through such programs as the Community Mapping Network and other collaborative efforts with local and senior governments.
- **Restoration and enhancement** — Local stewardship groups carry out site-specific restoration or enhancement projects within their communities. Conservancy organizations may forge management agreements with landowners or manage restoration or enhancement projects on the properties that they acquire.
- **Land conservation covenants** — Many NGOs, typically “land trusts”, hold and manage conservation covenants under the provincial *Land Titles Act*. Land trusts are private, non-profit organizations that protect areas for environmental, scientific, historical, cultural, scenic, or compatible recreational values. A conservation covenant is a voluntary, written agreement between a landowner and another party (such as the land trust) in which the owner promises to protect the land.
- **Participation/advocacy** — Many NGOs participate in local, regional and provincial programs to represent stewardship-related interests. They may join standing or ad hoc committees, or act as experts or participants in review processes. NGOs also play an important advocacy role, encouraging or lobbying government and corporations to take measures that support the stewardship of coastal resources.

Georgia Strait Alliance



Volunteer clean up events help keep coastal areas free of debris and pollutants.

Landowners

Shorefront landowners have direct contact with the shore, and a vital role and responsibility in stewarding these areas.

Rights and Responsibilities

Waterfront landowners hold some basic “riparian” rights, which include:

- A right to unimpeded access to the shore from the property. This limits the province’s ability to approve the use of fronting foreshore and nearshore areas without written authorization from the shore owner.
- At the same time, the public has the right to access the foreshore, which is public property. Property owners cannot impede public routes to the beach.
- A right to apply to the Crown to claim and acquire accretions as a natural expansion of their property. Accretion is the slow, natural deposit of sediment to a piece of shore, which enlarges the land area abutting the adjacent waterfront property. This right is tempered by consideration of the public right to access to the foreshore.
- The right to install protective works within the property in order to minimize erosion and related destruction of the property.

The exercise of these rights is subject to applicable federal, provincial or local government laws. For example, any works to protect property from coastal erosion are subject to local government regulations, provincial authorization if they extend below the high water mark, and federal authorization if they adversely affect fish habitat - which is usually the case.

For example, a landowner wants to remove several trees that are lying on the beach in front of her house in order to provide clear access to the beach. But the trees have become a habitat structure that has recruited sand and gravel and created a beach where surf smelt spawn. DFO would have to authorize the removal of these trees. Failure to obtain an authorization can result in criminal prosecution and a hefty fine.

Stewardship Role

Landowners obviously have a significant responsibility to care for their coastal properties – to protect their own interest and investment, and to ensure that the larger coastal environment is not affected adversely by their actions.

Landowners can also promote stewardship among their neighbours and other users of the shore. Living by the water, landowners can observe and report unusual events or hazardous activities. By word and example, they can help to educate other shore users on “better ways” of treating the coastal environment.

Pat Boyle

Working with the Coastal Shore

Alexe Lohvinen



As you set out to change or adapt shores near you, think forward — anticipate the outcomes and consequences of what you do.

- ☞ Your actions may change how the shore works.
- ☞ These changes could harm the living components of the shore.
- ☞ These changes could affect you, your neighbours and your community. They could be costly to fix and they could lead to the irretrievable loss of land, beaches or fishing areas. Changes done without approval could also subject you to serious financial penalties.

The results can be drastic — and unexpected.

Although the following section provides advice about factors to keep in mind when you are planning or working near coastal shores, there are really just three simple rules:

*Don't Disrupt,
Don't Harden,
Don't Pollute*

Note:

Text written *like this* identifies federal or provincial legislation. Information written *like this* is available on the Internet - refer to the Website Address Insert included in this document for details.