

# **BC SHELLFISH AQUACULTURE**

## **CODE OF PRACTICE**

**FINAL SUBMISSION**

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## **Introduction**

British Columbia's shellfish aquaculture industry is comprised of a dynamic cross section of farming enterprises producing a variety of farmed shellfish products. Today the cultivation of products such as oysters and clams is well established, and the cultivation of other species such as scallops, mussels, geoduck, abalone and sea urchins are just beginning.

Shellfish aquaculture is a non-consumptive, resource based industry. The well-circulated waters and irregular coastal geography of British Columbia are nearly ideal for the saltwater culture of cold-water species. Commercial aquaculture involves the application of agri-business principles and intensive farming methods within a physically and biologically dynamic environment.

Despite the differences in species cultured, husbandry methods employed, and geographic siting, all aquaculture industries share a common goal: environmental sustainability. Shellfish farmers' livelihoods depend upon clean water and the delicate balance of the marine environment. In order to achieve sustainability for the aquaculture sector, industry and government must work together to preserve the integrity of this valuable public resource. Additionally since shellfish culturists work within the broader range of a vibrant coastal community, it is fundamental that the shellfish culture industry be able to co-exist with other marine and shoreline users.

The development of an enforceable Code of Practice (COP) for the BC shellfish aquaculture industry is an important initiative. It is intended to serve as a guideline to shellfish aquaculture companies to ensure their operations are conducted in a manner that works in concert with the marine environment. The COP will provide guidance for addressing and minimizing negative environmental impacts and maximizing positive impacts related to normal farm practices on shellfish aquaculture tenures. The COP will promote the responsible development and management of a viable and responsible BC shellfish aquaculture sector.

This provincial COP will be enforceable as a condition of the shellfish aquaculture license. Compliance with these normal farm practices will set the baseline standard for shellfish aquaculture operations in British Columbia.

Meeting the stated environmental objective of each operational practice is the goal of this document. This approach is consistent with the development of other international environmental systems. The COP is intended to promote ongoing opportunities for innovations, with environmental outcomes favored over prescriptive guidelines.

Using the BC Shellfish Growers Association voluntary COP as a baseline, consultations were held with regulatory agencies, shellfish farmers, marine users, communities and other stakeholders to revise or refine the Code. The consultation process was critical to enable legitimate concerns and issues to be raised and solutions proposed.

In addition to meeting federal and provincial regulatory standards, the final COP is clear and easy to implement. By ensuring that farming practices meet objectives for environmental sustainability, the COP aims to improve public acceptance and support for shellfish farming. Through implementation of the COP, the industry's profile as a legitimate user of the marine resource, as well as a benefit to the economic and social fabric of coastal communities, will be enhanced.

In addition to raising industry standards and garnering community support, implementation of the COP will also serve to streamline information requests during new site applications.

**1.0 Siting**

<b>Relevant Act, Regulation or Policy</b>	<u>Operational Practice</u>
BC Land Act	<i><b>Background:</b> The siting of shellfish farms is conducted through the review and approval of the Shellfish Management Plan (SMP) by provincial and federal agencies. The SMP contains the type and level of information to ensure shellfish farms are appropriately positioned relative to a number of factors: habitats, species, other uses or areas of high ecological value.</i>
BC Aquaculture License – terms & conditions	<i>Failure to locate farms accurately may result in adverse impacts to navigational safety or the surrounding habitat as well as possible infringement on other coastal resource users.</i>
Federal Fisheries Act (Section 35)	<i>Once a farm is established, it is very important that farm structures and operational practices take place within predetermined, designated boundaries.</i>
Navigable Waters Protection Act (NWPA)	<b>Objective: To ensure all farm structures and operational practices take place within predetermined, designated boundaries that are within the jurisdiction of the Province of British Columbia.</b>
Canadian Environmental Assessment Act (CEAA)	<b>Farmers shall:</b>
	Adhere to tenure boundaries and an approved Shellfish Management Plan for their site (species and improvements).

## **2.0 Tenure Modification**

### **Relevant Act, Regulation or Policy**

Federal Fisheries Act, Section 35.1 & 35.2

BC Land Act

### Operational Practice

**Background:** *Beach modification may be necessary to optimize intertidal shellfish production. While modifications vary according to the site, species and culture methods, the following are typical examples of intertidal site preparation: gravelling of substrate, building of berms or raking of debris to optimize production. Channelization of streams is not an acceptable operational practice, according to Section 35.2 of the Federal Fisheries Act.*

*Since improvements may alter the natural state of the site, as well as potentially impact fish or wildlife habitat, tenures will not be physically modified without prior approval of a Shellfish Management Plan, which includes referral to, and approval by, appropriate agencies.*

**Objective: To prevent negative impacts on fish or wildlife habitat when enhancing the productive capacity of a site.**

### **Farmers shall:**

- a) Comply with their approved Shellfish Management Plan when physically modifying their site;
- b) Receive a letter of advice or authorization from DFO before proceeding with physical modification of sites as required.

### 3.0 Waste Management

<b>Relevant Act, Regulation or Policy</b>	<u>Operational Practice</u>
Waste Management Act	<i><b>Background:</b> Waste management is crucial to the environmental success of a shellfish operation. As the maintenance of pristine water quality is of paramount importance to the shellfish aquaculture industry, effective control of waste management is critical both to the industry itself as well as the marine environment.</i>
Canadian Environmental Protection Act [Section 127]	<i>Waste will be generated as a result of normal shellfish production and processing operations; however, the discharge of sewage, greywater, garbage, oil, chemicals and other solid waste can negatively impact the marine environment. While disposal of solid organic materials and wastewater is conducted according to regulations, farmers need to manage other waste materials carefully to minimize the visual impact of their operations (i.e. floating debris and garbage drifting off farm sites).</i>
Federal Fisheries Act [Section 36(3)]	
BC Workers Compensation Act	
Canadian Shellfish Sanitation Program	<b>Objective: Through responsible waste management practices, the industry will minimize all organic and inorganic wastes generated from culture, harvesting and processing activities. Sewage must not enter the waters of a shellfish site.</b>
	<b>Farmers shall:</b>
	a) Keep farms clean, safe and sanitary at all times;
	b) Remove garbage and debris from the site and dispose of, or recycle at appropriate facilities;
	c) Remove damaged or insecure equipment;
	d) Ensure synthetic material waste (e.g. two stranded poly propylene rope used for string culture) generated in harvesting operations does not re-enter the marine environment at any point after harvest;
	e) Develop and follow a Best Management Plan (BMP) for sewage and liquid waste disposal that addresses the following:
	i) Provision of toilet facilities appropriate to the operation
	ii) Handling & discharge of greywater
	iii) Transportation and disposal of sewage and liquid waste

## 4.0 Access, Private Property and Riparian Rights

<b>Relevant Act, Regulation or Policy</b>	<u>Operational Practice</u>
Common Law – Riparian Right of Access	<p><b>Background:</b> Land and Water BC administers Crown Land and respects the riparian rights of waterfront property owners and recognizes the importance of public access to and along the foreshore.</p> <p><i>The riparian right of access requires that the waterfront property owner be able to get to and from deep water in a navigable craft of reasonable size from every point along the waterfront property and from every point along the foreshore directly in front of it. (Riparian Rights and Public Foreshore Use in the Administration of Aquatic Crown Land, Province of British Columbia, Revised, March, 1990)</i></p>
Navigatable Waters Protection Act	<p><i>The rights of shellfish aquaculturists are also protected. A license of occupation does not give the holder the right to restrict public access across the tenure. However, a lease gives the holder the right to restrict public access to and across the tenure by posting or notice. Shellfish crops and grow-out structures are also protected by law.</i></p>
Federal Fisheries Act (Section 35.1)	<p><b>Objective: To ensure safe public access where required by law and protection of private property where required by law.</b></p> <p><b>Farmers shall:</b></p> <ol style="list-style-type: none"> <li>a) Mark farm sites in accordance with Canada Coast Guard/NWPA permits and Shellfish Management Plan;</li> <li>b) Mark intertidal tenures as per BCMAFF guidelines;</li> <li>c) Provide reasonable public access around and/or through the tenure and clearly mark when required as a condition of tenure;</li> <li>d) Ensure oyster seed storage piles and other temporary culture materials stored on intertidal tenures do not interfere with riparian right of access, are maintained in an orderly manner and are clearly marked as appropriate;</li> <li>e) Ensure access to intertidal tenures by vehicles does not damage marine life and/or habitat and vegetation (i.e. eelgrass, saltmarsh).</li> </ol>

## 5.0 Noise & Light

<b>Relevant Act, Regulation or Policy</b>	<u>Operational Practice</u>
BC Workers Compensation Act	<p><b>Background:</b> Shellfish farmers operate as part of a larger community and as such their activities must contribute positively, not negatively, to the local community.</p>
BC Farm Practices Protection Act	<p>While technological advancements have improved the industry's productivity, heavier reliance upon equipment has increased the incidence of noise on shellfish aquaculture tenures. In addition, due to the seasonal shift of working tides from daytime into evening, intertidal harvesting activities also shift to nighttime. Understandably, these activities require the operation of equipment and vessels as well as verbal communication. The noise and light resulting from these activities has the potential to negatively impact nearby residents or other marine users. Therefore, growers must be sensitive to this issue and take the following steps to minimize any potential impact.</p> <p><b>Objective: To minimize impacts to surrounding property owners and other users of the marine area by following good neighbor practices.</b></p> <p>All operations must exercise and demonstrate good neighbor practices, by conducting activities in a manner that is respectful of adjacent upland owners and other coastal users.</p> <p>Farmers shall:</p> <ol style="list-style-type: none"> <li>a) Restrict noise and light to harvesting activities, normal operational practices and/or maintenance of safety;</li> <li>b) Make every reasonable effort to minimize noise during regular farming activities;</li> <li>c) Make very reasonable effort to minimize noise and lights during nighttime operations;</li> <li>d) Ensure well-maintained sound suppression devices including mufflers, barriers and baffles, are used while operating equipment;</li> <li>e) Ensure employees reduce verbal communication to the minimum necessary level at night, particularly in areas with nearby upland residents.</li> </ol>



## 6.0 Odour

### **Relevant Act, Regulation or Policy**

Farm Practices Protection Act

Good Neighbor practice when not legislated.

### Operational Practice

**Background:** *Shellfish farmers operate as part of a larger community and as such their activities must contribute positively, not negatively, to the local community.*

*While drying/decaying is an acceptable short-term method of controlling biofouling, large amounts can result in offensive farm odours.*

**Objective: To minimize the degree of odor at the farm site, beyond the accepted levels associated with normal farm operations.**

### **Farmers shall:**

- a) Ensure that the storing or drying of equipment is conducted in a manner that is respectful of adjacent upland owners and other coastal users;
- b) Clean heavily fouled equipment prior to dry storage to prevent putrefaction;
- c) See additional recommendations found in Section 10: Biofouling.

## 7.0 Visual Quality

### Relevant Act, Regulation or Policy

No legislation

#### Operational Practice

**Background:** *The shellfish farming industry is visual by its nature. However, shellfish farmers must recognize that they operate as part of a larger community where visual beauty of the marine environment is a key coastal resource.*

*An orderly well maintained site reflects a responsible, efficient and productive farm operation. For the benefit of all users and community members, visual impact of the operations should be minimized to maintain the existing visual character of the area to the extent reasonable possible. Such a site also helps to address aesthetic concerns of upland owners and the local community.*

**Objective: To ensure that facilities are maintained in such a way as to minimize visual impacts of farms.**

#### **Farmers shall:**

- a) Ensure site layout and construction complies with approved Shellfish Management Plan;
- b) Ensure that the farm site and infrastructure within site is maintained in a clean, safe and orderly manner (i.e. site is free of trash, broken equipment and derelict infrastructure);
- c) Ensure that, with the exception of navigational safety aids, the site will reflect a consistency in color scheme and design where possible (i.e. uniform types of floatation, consistency for structures, rafts etc.)

## 8.0 Interaction with Wildlife

### Relevant Act, Regulation or Policy

Federal Fisheries Act  
(Section 32 & 35.1)

Migratory Birds Convention Act

Species at Risk Act

Pest Control Products Act

Canadian Wildlife Service Guidelines

### Operational Practice

**Background:** Most plants and animals do not have a negative impact on farming operations and many have positive impacts. However, there are a variety of pests and predators that can destroy shellfish crops. Shellfish farmers must ensure that their operational practices are conducted in a manner that minimizes impacts to both terrestrial and aquatic wildlife. Exclusion is the primary and preferred strategy to minimize damage by predators. However, improperly secured or damaged netting can prove to be harmful to birds or other marine life.

### **Objective: To minimize impacts to wildlife**

Lethal methods of vertebrate predator control are not acceptable, and depending on species, are prohibited or require appropriate authorization.

### **Clam Culture**

When approved on a site specific basis, predator netting must be:

- i) An acceptable size to minimize entrapment and potential injury to wildlife;
- ii) Constructed of an acceptable material as approved in the Shellfish Management Plan;
- iii) Tightly secured flat to the intertidal, maintained, inspected and repaired on a regular basis.

### **Mussel Culture**

While more research is required before standards are set for predator netting procedures on a mussel operation, it is important that a plan be in place to reduce possible negative impacts to birds. Best management plans will be revised as new information on the subject comes available.

A Best Management Plan is developed and followed to minimize entrapment of birds. Plan to include:

- i) Deployment of physical barriers;
- ii) Use of vertical net panels or bottom net;
- iii) Other techniques (i.e. raising of raft structures, scaring) to inhibit birds from landing.

## **9.0 Transplant and Import of Stocks**

<b>Relevant Act, Regulation or Policy</b>	<u>Operational Practice</u>
Provincial/Federal Introductions and Transfers Committee	<i><b>Background:</b> The health of the environment can be jeopardized if culture or processing activities spread pests, introduce diseases as well as non-indigenous aquatic nuisance species. It is critical that growers abide by current transfer and import permit requirements to minimize these risks.</i>
Federal Fisheries Act	<b>Objective: To minimize the potential for disease and invasive species transfer.</b>
BC Wildlife Act	<b>Farmers shall:</b>
BC Fisheries Act	a) Ensure that appropriate relay permits and certification are obtained prior to moving shellfish or shell, as per Provincial/Federal Introductions and Transfer Committee guidelines.
Contaminated Fisheries Regulations	
Canadian Shellfish Sanitation Program	

## **10.0 Biofouling Control**

### **Relevant Act, Regulation or Policy**

Waste Management Act

Federal Fisheries Act

Canadian Environmental Protection Act (CEPA)

### Operational Practice

**Background:** *Over time, shellfish grow out systems accumulate a layer of natural marine organisms (biofouling) which reduce the efficiency of culture systems. Ongoing site maintenance may necessitate the washing and handling of growout systems to control biofouling.*

*Another normal farm practice is to clean shellfish on site at the time of harvest to ensure that product is delivered to the processing plant in a clean and sanitary manner.*

*Biological debris resulting from harvesting, if discharged to the sea floor, could potentially lead to smothering of organisms or organic accumulations.*

**Objective: To minimize the amount of organic material released to the marine environment to lessen possible impact to sensitive marine habitats such as eelgrass beds, subtidal kelp beds or rocky reef habitats.**

### **Farmers shall:**

- a) Not release removed biofouling outside their farm site;
- b) Follow practices that minimize buildup of released biofouling onto the seabed;
- c) Not pressure wash in intertidal area as it may damage marine habitat.

## **11.0 Use of Vessels, Vehicles and Marine Equipment**

### **Relevant Act, Regulation or Policy**

Federal Fisheries Act

Waste Management Act

### Operational Practice

**Background:** *Marine vessels and equipment are an integral part of a shellfish operation. Marine vessels are necessary for the safe transport of employees as well as for handling and transporting of product. Depending on the site, vehicles may also be necessary for the transport of employees, equipment and product over intertidal areas. Improper use and handling of vessels, vehicles and other equipment, as well as accidental spills, has the potential to negatively impact the marine environment.*

**Objective:** **To minimize any adverse effects on the environment from use of vessels, vehicles or other equipment.**

### **Farmers shall:**

- a) Not damage marine life and/or habitat and vegetation (i.e. eelgrass, saltmarsh) when operating vessels and equipment;
- b) Take precautions as outlined in Section 13: Use and Storage of Chemical, Fuel and Lubricants to prevent the release of contaminants from their equipment into the marine environment:
- c) Keep all vessels, equipment and vehicles clean and well maintained at all times.

## 12.0 Equipment & Construction Standards

### Relevant Act, Regulation or Policy

Waste Management Act

Aquaculture License – terms and conditions

Federal Fisheries Act

### Operational Practice

**Background:** *The shellfish farming industry is quickly developing new equipment and construction standards to improve productivity on sites. It is very important, therefore, that the standards of construction design continue to improve, increasing the use of long lasting materials that are environmentally compatible. In addition, all construction should be completed in a manner that prevents the release of construction waste (or any other substance deleterious to fish) into the marine environment.*

**Objective: To minimize negative environmental impacts of construction waste on a shellfish site.**

### **Farmers shall:**

- a) Ensure that all floating structures and site construction activities conform to the approved Shellfish Management Plan;
- b) Ensure that site improvements, grow out equipment and structures are capable of withstanding normal, worst case weather conditions;
- c) Use only durable, long life materials for site construction; materials that will readily deteriorate, such as unprotected Styrofoam, are not acceptable. Styrofoam used for floatation must be wrapped in an acceptable material (such as UV stable plastic wrapping or urethane coating);
- d) Ensure that construction activities and materials follow recommendations in Section 13: Use and Storage of Chemicals, Fuels and Lubricants.

### **13.0 Use & Storage of Chemical, Fuel & Lubricants**

<b>Relevant Act, Regulation or Policy</b>	<u>Operational Practice</u>
Waste Management Act	<i><b>Background:</b> A wide variety of chemicals, fuels and lubricants may be used in the normal day-to-day farm operations. Proper storage and handling of all chemicals, fuels and lubricants used on the farm site minimizes the potential risk of accidental spills into the marine environment.</i>
Workers Compensation Act	<b>Objective: To prevent impacts to water quality and flora and fauna of water bodies from improper use and storage of production related chemicals, fuels and lubricants.</b>
Federal Fisheries Act 36 (3)	<b>Farmers shall:</b>
A Field Guide to Fuel Handling, Transportation & Storage (Ministry of Water, Land & Air Protection)	<ul style="list-style-type: none"> <li>a) Not permit the release of contaminants from their equipment into the environment;</li> <li>b) Minimize the risk of spills of substances from vessels and equipment through appropriate design, employing appropriate containment devices (such as drip pans), and ensuring prompt cleanup of all spills and leaks;</li> <li>c) Develop and maintain a spill response kit, which includes: appropriate equipment, information for notification of authorities and a training plan for employees;</li> <li>d) Amend spill response kit whenever there is a change in the operation which materially increases the release or potential release of harmful materials or fuel into the environment;</li> <li>e) Whenever possible, store chemicals, fuels and lubricants off site;</li> <li>f) Store on site only fuels and lubricants required to carry out operations;</li> <li>g) Prevent direct or indirect contact of toxic chemicals and compounds including creosote, wood preservatives, tin based paints, etc. with the environment.</li> </ul>
WHMIS	



## 14.0 Navigational Safety

### **Relevant Act, Regulation or Policy**

Navigable Waters Protection Act (NWPA)

Canada Shipping Act

Aquaculture Licenses – terms and conditions

### Operational Practice

*Background: The vast majority of shellfish operations occur in navigable waters. It is very important, therefore, that shellfish farms are visible to other marine users by night and day. As a result, farms are required to be marked according to Canadian Coast Guard guidelines.*

**Objective: To maintain safe navigation around shellfish farms.**

#### **Farmers shall:**

- a) If a Navigable Waters Protection Act (NWPA) permit is necessary: ensure that all required aids to navigation, including lights, navigational floats and markers, are present and maintained in accordance with NWPA regulations and approved Shellfish Management Plan;
- b) Clearly mark or submerge anchor lines and cables to prevent obstruction;
- c) Securely fasten and maintain floating equipment, predator netting and intertidal grow out equipment;
- d) If using rebar to secure clam nets: ensure it is U-shaped to prevent potential accidents or injury.

## 15.0 Culture & Harvesting

<b>Relevant Act, Regulation or Policy</b>	<u>Operational Practice</u>
Aquaculture License – terms & conditions	<i><b>Background:</b> The BC shellfish aquaculture industry routinely uses a variety of culture and harvesting methods. Generally, while non-persistent in nature, harvesting activities generate some concern from other stakeholders as this is typically the period of greatest activity on a farm site. Another key issue for the grower when harvesting product is adherence to shellfish sanitation regulations to ensure product safety.</i>
Federal Fisheries Act [Section 35.1]	<b>Objective: To minimize potential negative impacts of culture and harvesting activities on the marine environment.</b>
Management of Contaminated Fisheries Regulations	<b>Farmers shall:</b>
Migratory Birds Convention Act	a) Harvest only the species for which they are licensed to culture and harvest, under an approved Shellfish Management Plan, within the boundaries of their site;
BC Waste Management Act	b) Not damage or destroy fish or wildlife species or habitat in the conduct of any culture or harvesting operations, unless having appropriate authorization;
BC Wildlife Act	c) Ensure that all culture and harvesting activities and potential related impacts are confined to the tenure area;
Canadian Shellfish Sanitation Program	d) Adhere to requirements of the Canadian Shellfish Sanitation Program

## 16.0 Oyster Seed Collection on Non-Tenured Areas & Setting & Nursery Operations

### Relevant Act, Regulation or Policy

Federal Fisheries Act

Waste Management Act

Navigable Waters Protection Act

BC Land Act

### Operational Practice

**Background:** *Licensed shellfish farmers have the authority to collect wild oyster seed (spat) in provincially designated shellfish reserves for subsequent transfer to their tenures. Other seeding methods include the use of hatchery-reared larvae, which are transferred to suitable substrates such as old oyster shell (cultch) in a process known as "remote setting". Nursery culture occurs when seed is stored or protected during early growth stages prior to final grow-out for harvest.*

**Objective: Minimize potential adverse effects of oyster seed collection on non-tenured areas, as well as potential adverse effects of setting and nursery operations, on surrounding ecosystems.**

### **Farmers shall:**

#### Setting & Nursery on Tenures

- a) Ensure that intertidal stored cultch or seed bags do not smother or disturb sensitive fish or wildlife habitat as designated by DFO;
- b) Ensure that seed storage piles and other temporary culture materials stored on intertidal tenures do not interfere with riparian right of access, are maintained in an orderly manner, and are clearly marked as appropriate;
- c) Ensure that remote setting operations and facilities follow codes of practice for equipment and construction standards as outlined in this document;
- d) Ensure that remote setting operations have a contingency plan to prevent and control fires arising from seawater heating (i.e. tiger torch heating);

#### Oyster Seed Collection on Non-Tenured Areas

- e) Ensure floating structures and temporary equipment in shellfish reserves are of orderly appearance and are appropriately anchored and marked with license holder information;
- f) Ensure use of Provincial reserves for oyster spat collection be in accordance with BCMAFF protocols and Federal Fisheries Act Regulations;
- g) Ensure use of Provincial reserves for oyster spat collection follow existing codes of practice for equipment and construction standards;
- h) Ensure intertidal stored cultch or seed bags do not smother or disturb sensitive fish or wildlife habitat (i.e. eelgrass).

## **17.0 Training**

### **Relevant Act, Regulation or Policy**

No legislation

### **Operational Practice**

***Background:*** Human resources are an extremely important and integral part of a viable shellfish aquaculture industry. To encourage compliance with the Code of Practice, shellfish business operators are encouraged to develop a training program for their employees. Through the ongoing transfer of knowledge and information about sustainable operational practices, the shellfish industry will create a workforce that is both highly skilled as well as sensitive to potential impacts of the industry upon the environment and other user groups.

**Objectives:** To ensure all staff working on shellfish farms have an understanding of the necessity as well as the components of the Code of Practice and conduct operations accordingly.

### **Farmers shall:**

- a) Ensure all staff receive training that covers all aspects of the COP.

## **Relevant Acts, Regulations or Policies**

All acts, regulations or policies identified in the Code of Practice document are listed below. In addition, the following synopsis also contains additional links to other pieces of legislation that may affect some farming operations.

### **FEDERAL LEGISLATION, REGULATIONS AND POLICIES**

#### **1. Canadian Environmental Assessment Act.....**[http://www.ceaa.gc.ca/0011/act\\_e.htm](http://www.ceaa.gc.ca/0011/act_e.htm)

This Act establishes the federal environmental assessment process. Its purpose is to ensure that environmental effects of projects are considered before the activity commences, development is sustainable and contributes to a healthy environment and economy, and to ensure that projects do not cause significant adverse effects outside the site that projects occur. The requirement to obtain Coast Guard approval under the NWPA may necessitate an environmental assessment.

#### **2. Canadian Environmental Protection Act .....**<http://laws.justice.gc.ca/en/C-15.31/>

The purpose of this Act is to respect pollution prevention and the protection of the environment and human health in order to contribute to sustainable development.

#### **3. Canadian Shellfish Quality Resource .....**<http://www.shellfishquality.ca>

The purpose of this website is to provide an informative resource for Canadian shellfish aquaculture industry stakeholders regarding quality and safety assurance of Canadian farmed shellfish products.

#### **4. Canadian Shellfish Sanitation Program.....** ..... <http://www.inspection.gc.ca/english/anima/fispoi/manman/cssppccsm/toctdme.shtml>

The CSSP provides a Manual of Operations, which guides departmental staff in enforcing safety policies and procedures throughout shellfish harvesting and processing. These policies and regulations enable the classification of all shellfish growing areas according to the area's sanitary water quality and the potential health safety of shellfish harvested from that area.

#### **5. Canadian Wildlife Service Guidelines .....**[http://www.cws-scf.ec.gc.ca/birds/eng/reg\\_e.cfm](http://www.cws-scf.ec.gc.ca/birds/eng/reg_e.cfm)

The Migratory Birds Regulations are part of the regulations respecting the protection of migratory birds in general, as mandated by the Migratory Birds Convention (MBC).

#### **6. Criminal Code .....**<http://insight.mcmaster.ca/org/efc/pages/law/cc/cc.html>

Provides penalties for theft of oysters, shellfish, and other property of interest to an aquaculturist.

#### **7. Customs Act.....**<http://www.ccr-aadrc.gc.ca/customs/general/publications/indexcae-e.html>

This Act governs the importation and exportation of goods in and out of Canada. The act also regulates the transportation, movement, and storage of goods. A certificate of origin is required for all goods being imported into and goods being exported to the USA. This act provides for the appointment of inspectors and outlines their powers.

**8. Fish Inspection Act**..... <http://laws.justice.gc.ca/en/F-12/>

This Act provides authority for the inspection of vessels, vehicles, processing plants, and product destined for interprovincial and international trade or imported in Canada from other countries. It includes action where fish products pose a danger to public health and safety, are of unacceptable quality, or are fraudulently or incorrectly marketed.

**9. Federal Fisheries Act**..... <http://canada.justice.gc.ca/en/laws/F-14/text.html>

This Act provides for the management, protection, and conservation of fisheries resources and habitat in Canada. It provides for licensing, administration, and enforcement. The Act prohibits the destruction of fish or fish habitat or the deposit of deleterious substances into waters frequented by fish except as authorized by permit.

**10. Fisheries Development Act**..... <http://canada.justice.gc.ca/en/laws/F-21/text.html>

This Act provides for the development of the commercial fisheries in Canada through aquaculture and fishery resource research development.

**11. Migratory Birds Convention Act**..... <http://canada.justice.gc.ca/en/laws/M-7.01/index.html>

This Act implements a convention for the protection of migratory birds and their nests (but not specific habitat) in Canada and the USA. Migratory birds may not be killed, captured, injured, removed, or destroyed without permit.

**12. Navigable Waters Protection Act (NWPA)**..... <http://www.tc.gc.ca/actsregs/nwpa/english/nwpa.htm>

This Act provides terms and conditions for the protection of navigable waters. Navigable waters are generally described as any body of water over which any description of vessels may operate. Approval under the Act is required for all works located below the high water mark in any navigable water, which constitute a significant interference with navigation. All plans must be approved prior to the commencement of construction and may require the use of private aids and markings to be established and maintained in accordance with regulations. These regulations are currently under review and revised regulations are expected within a year.

**13. Pest Control Products Act**..... <http://www.hc-sc.gc.ca/pmra-arla/english/legis/pestcont-e.html>

This Act regulates products used for the control of pests and organic functions of plants and animals. Control products must be used, handled, and stored in an authorized manner.

**14. Species at Risk Act (SARA)**..... <http://www.cws-scf.ec.gc.ca/sar/strategy/index.htm>

This Act provides for the protection of wildlife at risk of becoming extinct or lost from the wild and covers: birds, fish (including shellfish), mammals, insects, amphibians, and reptiles. The Act prohibits the killing, harming, harassing, capturing, or taking of species officially listed as threatened, endangered, or extirpated, and the destruction of their resources including critical habitats.

**15. Shipping Act**.....<http://www.tc.gc.ca/Actsregs/csa-lmmc/Toccsa.html>

This Act provides detailed regulations for Canadian commercial shipping. The discharge of any pollutant (including spilling, leaking, pumping, etc.) from any ship vessel is prohibited under any circumstance. Pollutants are defined as any substance that if added to any waters would degrade or alter the quality of those waters to an extent that is detrimental to their use by man or natural flora or fauna.

**16. Transportation of Dangerous Goods Act**..... <http://www.tc.gc.ca/actsregs/TDG/english/tdg.htm>

This Act regulates the transportation of all dangerous goods in Canada including by rail, road, air, and water. All dangerous goods (including: gasses, flammable and combustible fluids, and any other substances deemed to be dangerous to humans or the environment) must be handled in compliance with all applicable regulations including marking, handling, transportation, and storage.

**17. Wildlife Act** ..... <http://canada.justice.gc.ca/en/laws/W-9/index.html>

This act promotes wildlife policies and programs, public cooperation in wildlife conservation and interpretation, wildlife research, conservation, and investigation as they relate to wildlife and their habitat. This Act allows for the establishment of protected marine areas in any waterbody in Canada.

**PROVINCIAL LEGISLATION, REGULATIONS AND POLICIES****18. Agricultural Land Commission Act**.....[http://www.qp.gov.bc.ca/statreg/stat/A/96010\\_01.htm](http://www.qp.gov.bc.ca/statreg/stat/A/96010_01.htm)

This Act provides the legislative framework for the preservation of land resources useful to the farming industry and consistent with the needs of the community. In establishing the Agricultural Land Commission, agricultural land within the ALR is preserved and provided some protections.

**19. A Field Guide to Fuel Handling, Transportation, and Storage** .....  
..... [http://wlapwww.gov.bc.ca/epd/epdpa/industrial\\_waste/petrochemical/fuel\\_handle\\_guide.pdf](http://wlapwww.gov.bc.ca/epd/epdpa/industrial_waste/petrochemical/fuel_handle_guide.pdf)

This document provides guidance on acceptable industry practice for managing fuel handling transportation and storage in rural and remote areas of British Columbia. It summarizes requirements of applicable statutes of Canada and British Columbia, industry codes of practice and recommendations relating to environmental protection, health and safety, and fire protection.

**20. Aquaculture Licenses—general terms and conditions** .....  
.....[http://www.agf.gov.bc.ca/fisheries/shellfish/shellfish\\_main.htm](http://www.agf.gov.bc.ca/fisheries/shellfish/shellfish_main.htm)

These terms and conditions outline the operating and reporting requirements for aquaculture license holders. The holder of an aquaculture license must comply with their approved development plan and ensure that the site is operated in accordance with established Branch (Ministry) and industry standards.

**21. Assessment Act**.....[http://www.qp.gov.bc.ca/statreg/stat/A/96020\\_01.htm](http://www.qp.gov.bc.ca/statreg/stat/A/96020_01.htm)

Provides for a Crown Corporation with authority to assess aquaculture tenures. Equipment, and real assets for taxation purposes.

**22. Environment and Land Use Act**..... [http://www.qp.gov.bc.ca/statreg/stat/E/96117\\_01.htm](http://www.qp.gov.bc.ca/statreg/stat/E/96117_01.htm)

This Act establishes the Environment and Land Use Committee with objectives of increasing environmental awareness, monitoring land use and resource development decisions, holding public inquiries, establishing protected areas, and making recommendations to cabinet about environmental issues.

**23. Environment Management Act** ..... [http://www.qp.gov.bc.ca/statreg/stat/E/96118\\_01.htm](http://www.qp.gov.bc.ca/statreg/stat/E/96118_01.htm)

This Act provides the authority for the ministry of Environment to manage, protect, and enhance the environment. Some responsibilities include: developing environmental policies and standards, preparing environmental plans for water resource management, fisheries and aquatic life management requiring and regulating environmental assessments, and enforcing the act.

**24. Farm Practices Protection (Right to Farm) Act**..... [http://www.qp.gov.bc.ca/statreg/stat/E/96131\\_01.htm](http://www.qp.gov.bc.ca/statreg/stat/E/96131_01.htm)

This Act applies to farmers operating in the Agricultural Land Reserve, other areas farming is permitted, and in areas for which an aquaculture license has been issued. The Act protects farmers against nuisance actions, court injunctions, or specific municipal bylaws relating to the operation of their farm provided that they are operating under “normal farm practices”. A Farm Practices Board is established to receive complaints from persons aggrieved by odour, noise, dust, or other disturbances resulting from farm operations and encourage settlement of the complaints. Some sections of the Act may not apply in areas covered under the Islands Trust Act.

**25. BC Fisheries Act**..... [http://www.qp.gov.bc.ca/statreg/reg/F/Fisheries/140\\_76.htm](http://www.qp.gov.bc.ca/statreg/reg/F/Fisheries/140_76.htm)

Sections of this Act pertaining to aquaculture include:

- a. Aquaculture Regulations—establishes the terms, conditions, license fees, reporting requirements, etc., for aquaculture licenses.
- b. Fish Inspection Regulations—prescribes the licensing, inspection, labeling, and standards required for the processing of fish in registered plants in BC.
- c. Fisheries Regulations—prescribes the regulation of wild oyster harvesting and oyster culture, establishes restrictions on moving oysters (related to Denman Island Disease and Oyster Drills), establishes shellfish reserves (Pendrell Sound and Pipestem Inlet), dictates uses of oyster culture equipment including spat collectors, etc.
- d. Shellfish Regulations—this regulation outlines the annual farmed shellfish reporting requirements.

**26. Health Act**..... [http://www.qp.gov.bc.ca/statreg/stat/H/96179\\_01.htm](http://www.qp.gov.bc.ca/statreg/stat/H/96179_01.htm)

This Act provides the regulatory framework which permits the health of British Columbians to be monitored and safeguarded with provisions aimed at preventing disease, removing health hazards, and permitting appropriate actions when problems occur. Regulations include sanitation standards for private dwellings and public places, sewage handling and discharge, and water and food safety. Refuse, unpurified sewage, and other substances may not be discharged into the environment without permits. Inspectors have the authority to order that hazards be eliminated.



**27. Island Trust Act**..... [http://www.qp.gov.bc.ca/statreg/stat/I/96239\\_01.htm](http://www.qp.gov.bc.ca/statreg/stat/I/96239_01.htm)

This Act provides for the zoning of land for activities (including aquaculture facilities) up to one kilometer offshore of major and minor islands contained within the Trust area (most southern Gulf Islands).

**28. Land Act**..... [http://www.qp.gov.bc.ca/statreg/stat/L/96245\\_01.htm](http://www.qp.gov.bc.ca/statreg/stat/L/96245_01.htm)

This Act provides for the disposition, management, and administration of Crown land in the province, as well as the surveying of Crown Land. Authority is established to determine whether a disposition of Crown Land is in the public interest, to designate particular uses or prohibitions, to issue licenses of occupation or leases, and to establish fees, rents, and conditions of use of Crown Lands.

**29. Land Title Act**..... [http://www.qp.gov.bc.ca/statreg/stat/L/96250\\_00.htm](http://www.qp.gov.bc.ca/statreg/stat/L/96250_00.htm)

Gives authority to approving officers to assess impacts of new subdivisions on farmland (including shellfish tenures) when they consider applications. Before subdivision approval is granted, adequate buffering or separation of the subdivision may be required to ensure there is no unreasonable interference with existing farm operations on adjoining or reasonably adjacent properties.

**30. Motor Vehicle Act**..... [http://www.qp.gov.bc.ca/statreg/stat/M/96318\\_01.htm](http://www.qp.gov.bc.ca/statreg/stat/M/96318_01.htm)

This Act provides the legislative framework to enable municipal governments, regional districts, and improvement districts (each up to one kilometer offshore) to operate. It includes regulations describing boundaries, elections, assessment, and collection of taxes and administration. Specific regulations pertaining to farming include: community planning, zoning, nuisance regulations, water use, and protected farm areas.

**31. Municipal Act**..... [http://www.qp.gov.bc.ca/statreg/stat/L/96323\\_00.htm](http://www.qp.gov.bc.ca/statreg/stat/L/96323_00.htm)

Provides zoning of land for activities (including aquaculture, processing, marketing facilities) within municipal boundaries, or within management areas of Regional Districts up to one kilometer offshore.

**32. Social Services Tax Act**..... [http://www.qp.gov.bc.ca/statreg/stat/S/96431\\_01.htm](http://www.qp.gov.bc.ca/statreg/stat/S/96431_01.htm)

Regulations pertaining to bona fide aquaculturists which provide for exemptions from provincial sales tax for specified aquaculture, farm, and safety equipment.

**33. Transportation of Dangerous Goods Act**..... [http://www.qp.gov.bc.ca/statreg/stat/T/96458\\_01.htm](http://www.qp.gov.bc.ca/statreg/stat/T/96458_01.htm)

This Act establishes requirements for the safe transport and marking of goods deemed to be dangerous including flammable and combustible fluids and the vehicles which are used to transport them.

**34. Trespass Act**..... [http://www.qp.gov.bc.ca/stareg/stat/T/96462\\_01.htm](http://www.qp.gov.bc.ca/stareg/stat/T/96462_01.htm)

This Act outlines the rights and responsibilities of property owners, including leaseholders, and provides a definition of trespass and outlines trespasser's obligations. Not all aspects of trespass are codified. Common Law also applies.

**35. Waste Management Act** ..... [http://www.qp.gov.bc.ca/statreg/reg/W/WasteMgmt/129\\_99.htm](http://www.qp.gov.bc.ca/statreg/reg/W/WasteMgmt/129_99.htm)

This Act establishes the Ministry of Environment's responsibilities for waste management in BC. Authority exists to prohibit waste discharge without permit, authorize storage, disposal, treatment, or discharge of waste, and regulate or delegate authority to other bodies. Regulations pertaining to aquaculture include sewage control areas, petroleum storage, chemical waste control, and spill reporting.

**36. BC Wildlife Act**.....[http://www.qp.gov.bc.ca/statreg/stat/W/96488\\_01.htm](http://www.qp.gov.bc.ca/statreg/stat/W/96488_01.htm)

This Act provides for the regulation of hunting and angling and the management of BC's fish and wildlife resources. This act authorizes the administration of land for the purposes of wildlife management and protection, protection of critical wildlife areas, protection of endangered species, and enforcement.

**37. WHMIS**.....[http://www.hc-sc.gc.ca/ehp/ehd/psb/whmis/reference\\_manual.information.htm](http://www.hc-sc.gc.ca/ehp/ehd/psb/whmis/reference_manual.information.htm)

The Health Canada Reference Manual for the WHMIS Requirements of the *Hazardous Products Act (HPA)* and the *Controlled Products Regulations (CPR)* provides a section-by-section "interpretation / discussion" of the federal legislation which sets out the Canadian supplier and Canadian importer labelling and MSDS requirements of the Workplace Hazardous Materials Information System (WHMIS), Canada's national hazard classification and hazard communication standard.

**38. Workers Compensation Act**.....[http://www.qp.gov.bc.ca/statreg/stat/W/96492\\_00.htm](http://www.qp.gov.bc.ca/statreg/stat/W/96492_00.htm)

This Act provides for the establishment of the Workers Compensation Board of BC, which has regulatory responsibility for health and safety for virtually all employers and workers in BC. Health and safety regulations include:

- a. WCB Health and Safety Regulations
- b. WCB Occupational First Aid Regulations
- c. Workplace Hazardous Materials Information System (WHMIS) regulations
- d. Occupational Environment Regulations

## **Glossary**

### **Aquaculture**

The culture of aquatic organisms, including fish, molluscs, crustaceans and aquatic plants. Culture implies some form of intervention in the rearing process to enhance production such as regular stocking, feeding, protection from predators, etc.

### **BC Shellfish Aquaculture Code of Practice**

The Code presents objectives and specifies shellfish farm operating practices that will ensure activities are managed in an environmentally responsible and sustainable manner.

### **Beach Culture**

The culture of oysters and molluscs intertidally.

### **Berm**

A narrow shelf, path, or ledge typically at the top or bottom of a slope.

### **Biofouling**

Biological organisms such as algal and invertebrate species that adhere to gear causing fouling.

### **Canadian Shellfish Sanitation Program**

A program to classify harvesting areas and control the commercial and recreational harvesting of molluscs and processing of product for the consumer market.

### **Contaminants**

Substances that, when added to the water column, may render the water harmful or unusable by others

### **Cultch**

A substrate that is introduced to encourage the settlement of mollusk larvae (spat). Examples of item used include: ropes, tiles, rocks, pipes, and wooden posts

### **Greywater**

Wastewater generated by hand washing sinks, showers, dishwashers, bathtubs etc.

### **Intertidal**

That portion of the shoreline between the high water tidal mark and the low water mark.

### **Longline**

Form of suspended (off-bottom) culture in which shellfish are grown on suspended ropes or containers (i.e. trays)

**Remote Setting**

Remote setting is an efficient way to produce clutched oysters. Facilities consist of upland tanks where oyster shell is submerged in water pumped directly from adjacent natural water bodies. The water is normally heated. A predetermined and measured number of oyster larvae are poured directly into the tanks so that they disperse around the oyster shell. Air pumps in the bottom of the tanks help circulate the water for dispersion of the larvae.

**Riparian Rights**

The major riparian right associated with waterfront property is the right to unimpeded access to and from that property to deep water for the purposes of navigation. This right exists separate and apart from the public right of navigation.