Shellfish harvesting process from farm to retail. Regulatory oversight and industry procedures (page 1 of 2)

**Regulation covering process**

**DFO:** Shellfish aquaculture site licensing and communication with all licensed shellfish harvesters

**FLNRD:** BC government shellfish tenure licensing to generate land-file (leaseholder) numbers

**EC:** Water classification for shellfish harvest area

**Routine role/process**

**DFO:** Communicated to license holder and shellfish industry to advise of any new or revised regulatory requirements

**Fish Notification System, posted information to website.**

Provide information to Outbreak Investigation Coordinating Committee (OICC) on volumes of oysters harvested, water temperature and other harvest practices for specific lease areas.

**2015 outbreak additional regulatory role/process**

**DFO:** communicated to license holder and shellfish industry to advise of any new or revised regulatory requirements

**Fish Notification System, posted information to website.**

Provide information to Outbreak Investigation Coordinating Committee (OICC) on volumes of oysters harvested, water temperature and other harvest practices for specific lease areas.

**Regulation covering processing**

**DFO:** Pacific Aquaculture Regulations - condition of licence

Prior to leaving the licensed area, all containers holding shellfish that are destined for market sale shall be marked with a visible tag identifying the following:

- Licence Holder Name;
- Species;
- Pacific Fisheries Management Area;
- Land File Number;
- Date of Harvest;
- CFIA Reference Number.

The licence holder shall record, within 24 hours, the importation or transfer of shellfish to the licensed area, the transfer of shellfish from the licensed area and harvest for market sale. Records shall include shellfish stored at the licensed area, transfer of shellfish from other locations prior to market sale. The licence holder shall record:

- Aquaculture Licence Number(s), Facility Reference Numbers, or groups of Aquaculture Licence or Facility Reference Numbers associated with the licence holder for sites in the same Pacific Fisheries Management Area;
- Activity code;
- Species common name;
- The nature of the activity (i.e. Activity Code (IP - Importation) (TS - Transfer) (HT - Harvest for Market Sale));
- number of containers;
- Container type;
- Average container weight, OR total estimated weight, OR estimated number of individuals;
- Source of shellfish arriving at the site (source licence number, or other);
- Destination of shellfish leaving the site (destination licence number, shellfish buyer, or market sale processor). The CSSP isn’t a regulation – it consolidates regulatory information and outlines policy. Shellfish processors must implement requirements in the CSSP (FIR 15 (B))

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CFTA: Federal Fish Inspection Regulations. Temperature control during harvest, transportation and at processing:

Schedule II. 16. (1) Fish shall be kept iced or chilled and protected from contamination before processing in the establishment and, if the type of process operation conducted so requires, shall be washed before processing. (2) Cold storages shall maintain the temperature of fish at -18°C or colder, and (3) Coolers shall maintain fish at a temperature from 4°C to -1°C.

Schedule III. 8. (1) Fish, while on board a vessel used for fishing or transporting from contamination, shall be (a) preserved by the use of finely diced ice sufficient to reduce and hold the temperature at 4°C or lower, and such ice shall be made from water by a source approved by a fish inspection laboratory. Schedule V. 8. (1) Fish held prior to being transported shall be iced or chilled after unloading from a vessel and be protected from the sun and weather and from contamination, and (2) Fish shall be iced or chilled while being transported. CFTA: Federal Fish Inspection Regulations. QMP plans and Appendix H

The Federal Fish Inspection Regulations require a QMP plan be developed and implemented (FIR 15 [B]). The QMP Reference Standard and Compliance Guidelines, Appendix H requires that establishments identify all hazards, including those that present at steps not under their direct control (e.g. VP risks at the harvest site) (Facilities Inspection Manual, Ch 5, Sub 4).

Appendix H outlines that natural occurring microbiological pathogens (such as VP) must meet identified standards in the final product. Critical limits to address the level of microbiological pathogens at the time of harvest, and time/temperature exposure from harvest to final product shipping must be established during the warmer months when shellfish are destined for raw consumption.

**Industry processing**

**Shellfish farm:*

**Indicator sampling:** a single pre-harvest oyster sample must be tested for VP, either prior to harvest, or simultaneously with harvest (more sub-samples may be tested).

**Harvest:** from rafts (oysters suspended on long-lines), from beach, from raft to beach (hardening of oyster shell), Deep-water submersion before harvesting is one method; cold tank storage with deep line water occurs with one farm.

**Washing:** at harvest/beach area, or with approved water at registered facility (CSSP 4.2)

**Temp control methods:** for totes may be brought to harvest site by leaseholder, product is layered in ice for transport to the dock. Previous CFIA control guidance may be followed:

- Water temp-1°C, 1 hr to place product under temp control.
- Water temp-1.5°C, 1 hr to place product under temp control.

**Trucking companies:**

**Shellfish processing firms follow HACCP, QMP reference standard & CSSP

1. Oysters are checked for VP if approved and opened harvest site
2. Sensory assessment is performed.
3. Oysters may be washed.
4. Oysters are tagged for identification
5. Oysters are refrigerated (note: processing of oysters is done in small batches, oysters are maintained under refrigeration)
6. Subunits (y=10) of 12 oysters (per subunit) per harvest day lot samples are taken for verification testing.

**For VP, processors additionally:**

7. Evaluate VP levels at harvest, low enough
8. Evaluate harvest & temperature conditions meet time/temperature controls
9. Implement time/temp control for VP
10. Implement interim VP guidelines

Other processes not described here: wet storage (up to 72 hours) (CSSP 5); shocking, heat shock, cool, repacking (CSSP 6)
<table>
<thead>
<tr>
<th>Transport to Distribution Chain</th>
<th>Shellfish Distributors</th>
<th>Retail / Restaurant</th>
<th>Human exposure &amp; Illness Reports</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Routine regulatory role/process</strong></td>
<td><strong>Regulatory oversight and industry procedures</strong></td>
<td></td>
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<tr>
<td>CIFA: reviews processor QMP for loading at appropriate temperature.</td>
<td>BC Min. of Agriculture: If a distributor is provincially licensed as a processor, the facility is subject to constructional and operational inspections. For e.g., inspect shellfish holding, verify water quality, species held, source of shellfish from federally registered establishments.</td>
<td>Local HA: Inspection of all facilities identified during illness investigations with focus on food safety and temp controls.</td>
<td>Local HA responsible for case investigation and sending forms/tags to BCCDC and CFIA</td>
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<td><strong>Outbreak: Shellfish harvesting process from farm to retail</strong></td>
<td>Annual inspections occur based on risk, at least once/yr and usually 3X/year. Evaluation of food safety and sanitation plans, observations during inspection, testing of risk rating and inspection results on public web-site.</td>
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<td>BCCDC: Responsible for reviewing submitted forms for cluster or common associations in time/place</td>
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<td>CIFA: responsible for traceback for every tag provided by local HA and follow up with processors identified.</td>
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<td><strong>Public Health Act:</strong></td>
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<td>BCCDC: Review of available tag information, coordinate provincial response, national DEC liaison, engage BCSGA to share data</td>
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<td>CSPA 7.2: no specific time/temp requirements in Canada. “Shellstock shall be transported in adequately refrigerated vehicles when the shellstock have been previously refrigerated or when ambient temperatures are such that unacceptable bacterial growth or deterioration may occur.”</td>
<td>CSSP 7.2: shellstock in storage shall be protected from contamination and maintained at temperatures between 1°C and 4°C (applies to distributors who are also federally registered fish processing establishments)</td>
<td>BC Food Premises Regulation: S. 5.14. PHF food is stored at ≤4°C. S. 23/24 requirement for food safety and sanitation plan</td>
<td>BCCDC: Review of available tag information, coordinate provincial response, national DEC liaison, engage BCSGA to share data</td>
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<td>CSSP 8.3 e. Repackaged shellstock shall be labeled in the same manner as shellstock was initially packaged.</td>
<td>National Food Retail and Food Services Code: 2.2.2.2 Invoices, receipts, and lot coding information should be retained, to allow tracking of unlabelled products (such as carcasses, produce or bakery products) or split lots. Seafood tags should be retained for a minimum of 90 days after use.</td>
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<td>BCCDC educational documents for restaurants and retailers</td>
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<td>FRFSC: retain tags for 90 days (per previous box)</td>
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<td>BCCDC: recommendation in educational notices is to retain tags for 3 months</td>
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<td>Shellfish Distributors:</td>
<td>Retail/restaurant: Keep all PHF foods ≤4°C Keep shellfish tags/invoices for a minimum of 90 days Maintain temp control logs for refrigerated equipment Follow food safety plan for oysters for raw consumption In VCH: warnings on either menus or tables</td>
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<td>Retail/restaurant: Track and report illnesses to Health Authority for follow-up</td>
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<td>Some trucks have temperature data loggers &amp;/or drivers who monitor temperature during delivery</td>
<td>Distributor (Processor): Verify farms are SQA via inspections 1-2X/yr (in person or 3rd party audit) Establish cold chain of custody for transport from farm to processor/ distributor Provide potable ice/ice packs for delivery to retail/restaurant Maintain premise interior below 4°C Delivery trucks have data logger and records Maintain temp control logs</td>
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<td>HACCP certification of trucking companies (e.g., Cold Star Freight)</td>
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