Chapter 5
Wet Storage

Wet storage is the temporary storage (less than 60 days) of live shellfish from approved sources, intended for marketing, in containers or floats in natural bodies of seawater (nearshore sites) or in tanks containing natural or synthetic seawater (onshore systems). The following requirements apply to wet storage in both nearshore sites and onshore systems. These requirements do not apply to relay operations or to the movement of shellfish to new shellfish areas for 60 days or more. For pre-depuration wet storage see chapter 10, section 10.2.

Wet storage of live shellstock is subject to the requirements of the Fish Inspection Act and Regulations (FIR).

5.1 Source of Shellfish

Shellfish for wet storage shall be harvested from approved or conditionally approved harvest areas in the open status.

5.2 Wet Storage Requirements

Each registered establishment conducting wet storage must consider and incorporate the requirements of this chapter, as applicable, in the development and implementation of their Quality Management Program (QMP). Any hazards that are associated with nearshore wet storage sites that are not operated by a registered establishment must be controlled under the QMP of a registered establishment. Further guidance on the application of HACCP critical control points in shellfish processing establishments can be found in Chapter 3, Subject 4, Appendix H of the CFIA Fish, Seafood and Production Division Facilities Inspection Manual. Wet storage shall only be practised in compliance with the provisions described in each establishment's QMP.

5.2.1 Onshore Indoor Wet Storage Systems.

For new establishments, the CFIA will evaluate onshore wet storage systems during the registration process. This will involve an assessment of the establishment’s QMP plan and inspection of the onshore wet storage system. Registered establishments that add onshore wet storage systems or change an existing wet storage system will be evaluated by the CFIA during ongoing regulatory verification activities.
Water Quality

i) Natural seawater used for wet storage systems shall meet the requirements of section 14(3) of Schedule I of the FIR when the storage tanks are set up and operated as a flow-through system. Areas that are classified as approved by Environment Canada are considered to meet this requirement. In the case of unclassified areas, the proponent must demonstrate upon start up, and on a regular basis that the water will meet section 14(3) of schedule I of the FIR.

Seawater that is recirculated or does not meet section 14(3) of schedule I of the FIR shall be treated. The quality of the water prior to disinfection shall not exceed a median or geometric mean of 88 faecal coliform/100 mL (less than or equal to 10% do not exceed 260 MPN/100 mL).

ii) Synthetic seawater used for wet storage must be made from water meeting requirements of section 14(1) of Schedule I of the FIR. Salt added to increase salinity or produce synthetic seawater shall be food grade.

iii) Water must not be used for onshore wet storage if the source area is in the closed status unless a validated/approved system is in place to control all potential hazards. The source area shall not exceed a median or geometric mean of 88 faecal coliform/100 mL (less than or equal to 10% do not exceed 260 MPN/100 mL) and be free of viral contamination while in closed status.

Water Treatment Systems

iv) Water treatment systems shall provide an adequate quantity and quality of water to maintain the quality of the shellfish in wet storage, and the treatment shall not affect the safety of the shellfish. Each water treatment system must be validated to ensure it can eliminate or reduce the potential microbiological or biotoxin hazards to an acceptable level.

v) Ongoing monitoring and verification of each water treatment system is required:

a) For systems using UV treatment, UV intensity and water flow rate must meet manufacturer’s specifications for effective treatment.

b) The turbidity must meet the manufacturer’s specifications for water receiving UV disinfection. In the absence of manufacturer specifications, turbidity must not exceed 20 Nephelometric Turbidity Units.
c) Post treated water shall meet a standard of ≤2 coliforms/100mL. This shall be verified on a regular basis.

Note: Special consideration must be given if chlorine or ozone is used in the treatment process. It is recommended that proponents contact CFIA prior to installing treatment systems that use chlorine or ozone. The use of such may produce toxic by-products and may not be suitable in wet storage systems.

d) Water filtration systems designed to control biotoxin hazards must eliminate toxic phytoplankton from the source water prior to reaching wet storage tanks. Further guidance on how shellfish in wet storage systems affected by biotoxin closures is assessed is found in chapter 11, section 11.6.

vi) Disinfection units shall be cleaned, serviced, and tested as per Manufacturer’s specifications to ensure effective disinfection.

Tanks and Plumbing
In addition to meeting the applicable requirements of schedule I and II of the FIR shellfish processing establishments shall meet the following requirements:

vii) Tanks are constructed so as to be easily accessible for cleaning and inspection, to be self-draining or equivalent (e.g. an alarm installed or a back up system), and to meet food-contact surface requirements. Plumbing is designed and installed so that cleaning and sanitizing will be effective;

viii) Construction of shellstock containers and loading depth must ensure the free flow of water to all shellstock. The wet storage of shellstock in standing water is not permitted;

ix) Tanks and plumbing shall be cleaned and sanitized as necessary to prevent contamination of the tanks and water.

Shellfish Handling Requirements

x) Shellfish shall be washed and culled to remove dead, broken, or cracked shellfish prior to wet storage in tanks. Due to the adverse effects of culling on mussel physiology, culling of mussels may be done after wet storage.
xi) Shellfish from different harvest lots shall not be commingled during wet storage in tanks. Lot identity must be maintained.

xii) Bivalve molluscs shall not be stored with other non bivalve mollusc species in the same tank. Where multiple tank systems use a common water supply system for bivalve molluscs and other non bivalve mollusc species, water shall be effectively disinfected prior to being put into tanks containing the bivalve molluscs or, the water is supplied to the tanks containing the bivalve molluscs first.

5.2.2 Onshore Outdoor Wet Storage Systems

a) All requirements from section 5.2.1 must be met

b) The wet storage system must be located on the same property as the federally registered establishment.

c) The wet storage tanks must be covered. Tank covers shall:

   i) Prevent entry and contamination by birds, animals or vermin; and

   ii) Remain closed while the system is in operation except for periods of tank loading and unloading, cleaning or monitoring/verification activities.

5.2.3 Nearshore Wet Storage

a) Nearshore wet storage sites operated by registered establishments will be evaluated as part of the QMP regulatory verification or registration process. Nearshore wet storage sites not operated by registered establishments must be evaluated for compliance to requirements before commencing operation. If approved, the CFIA will provide notice in writing of the approval which will remain valid until there are changes made to the wet storage system or otherwise determined by the CFIA.

b) The requirements for nearshore wet storage include:

   i) The location of the storage site must be in an area classified as approved or conditionally approved*.

   ii) Shellstock containers must be constructed to ensure the free flow of water to all shellstock;
* Classification of the nearshore storage site must be confirmed with Environment Canada

c) Shellfish may only be removed from a nearshore wet storage site when in the open status.

5.3 Labelling and Identification of Shellstock

a) The identity of the shellfish must be maintained as per chapter 4 section 4.4.

b) Labeling requirements can be found in chapter 7.

5.4 Record Keeping

In all cases, records shall be maintained by the processor that clearly indicates the harvest and wet storage history of the product.