State of Alaska Food Safety and Sanitation Program

Shellfish Dealer Education Program

Alaska Department of Environmental Conservation
Division of Environmental Health
Food Safety and Sanitation Program
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https://dec.alaska.gov/eh/fss/shellfish

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This document is intended to provide the necessary education for shellfish dealers required under the National Shellfish Sanitation Program (NSSP) Guide for the Control of Molluscan Shellfish. https://www.fda.gov/food/federalstate-food-programs/national-shellfish-sanitation-program-nssp

All shellfish dealers are required to complete the Shellfish Dealer Education Training (Chapter VIII .01 B). **The training must be completed prior to receiving a Shellfish Dealer Permit to Operate and must be renewed every five (5) years thereafter.**

Reviewing this booklet, passing the quiz, signing the certificate at the end, and submitting it to ADEC will satisfy this education component.

For questions and additional information please contact:

Carol Brady, Shellfish Permit
Coordinator Phone: 907-269-7636
Fax: 907-269-7510
Email: carol.brady@alaska.gov

Alaska's Shellfish

There are four main types of bivalve shellfish that are harvested from Alaska's waters:

1. Clams
2. Mussels
3. Oysters
4. Scallops (whole animals only)

The harvest and subsequent processing are regulated cooperatively by ADEC and Federal Food and Drug Administration (FDA) using the National Shellfish Sanitation Program (NSSP). The NSSP is recognized by the Interstate Shellfish Sanitation Conference (ISSC) for the sanitary control of shellfish produced and sold for human consumption.

Complying with these regulations allows your product to be sold commercially for human consumption.

Figure 1: Flow of shellfish after harvest.

Hazards

Shellfish are filter-feeders that are often eaten raw or lightly cooked. Filter feeders take in nutrients from the ocean by drawing water over filtration structures. The ocean water can include things like **bacteria, viruses, and chemicals**, and if there is enough of these contaminants they can accumulate in the shellfish and may make people sick. **Even cooked shellfish can contain contaminants that can make people sick.**

Illnesses commonly associated with shellfish include Paralytic Shellfish Poisoning (PSP), Norovirus, Hepatitis A, and vibriosis. For this reason it is important to know the hazards and take appropriate steps to control them.

Figure 2. Diagram of a shellfish filter feeding.

Detritus is debris.

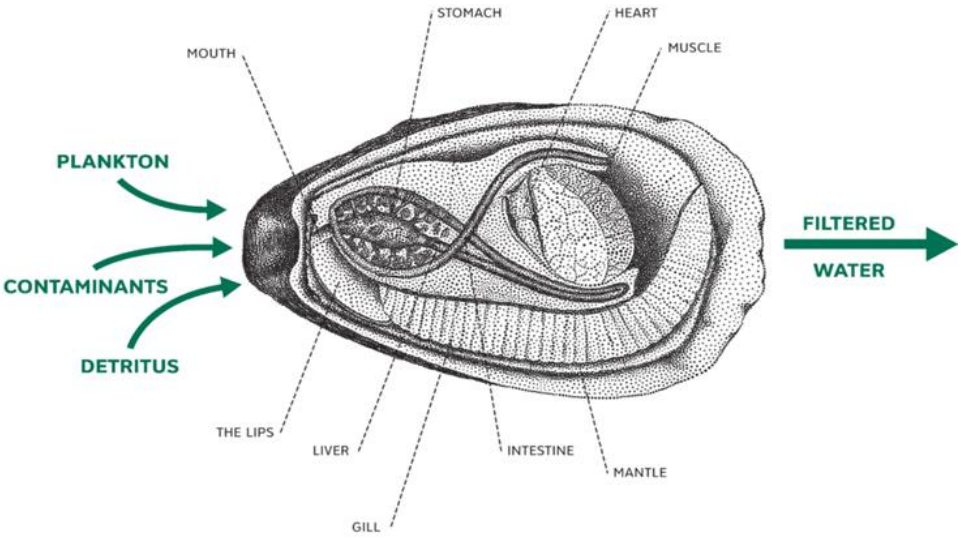
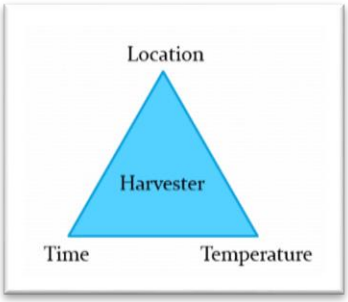


Image retrieved from: https://99percentinvisible.org/episode/oyster-tecture/

Controlling the Hazards

To control the hazards **(bacteria, viruses, and chemicals)**, three things must be considered:

1. Location
2. Temperature
3. Time



Location

The first step in ensuring that shellfish is safe is to make sure it comes from waters that are open, classified, and approved for growing or harvesting. Many considerations go into determining if an area can be used to harvest or grow shellfish including:

- Location of human habitation or industry developments
- Fisheries
- Presence of streams, rivers, and other flowing bodies of water
- Presence of wild animals, or resident and migrating bird populations
- Harvest periods and methods
- Species to be grown or harvested
- Recreational use of the area
- Proposed boundaries and topography

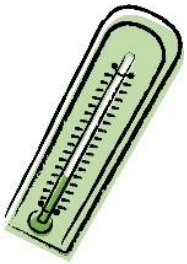
In addition the growing or harvest area waters must meet the fecal coliform standards set out in NSSP. This means the water must be regularly tested for the presence of fecal coliform.

Harvesting shellfish from closed or prohibited areas is illegal.

For more information on how waters are classified visit:
https://dec.alaska.gov/eh/fss/shellfish/growing-area-classification/

Temperature

Temperature control must be applied to all shellstock as soon as the harvest is no longer submerged to prevent bacteria from growing. This can be done placing the shellfish on ice or in a mechanically refrigerated unit. All shellstock must be maintained at:



- An ambient temperature of 45°F or less; or
- An internal temperature of 50°F or less.

Time

For oysters, time requirements are applied in addition to temperature requirements to prevent *Vibrio parahaemolyticus* (Vp) bacteria from growing. The amount of time allowed for cooling depends on the month the oysters were harvested in.

- **June 15th to September 15th:** Oysters must be harvested within the State's *Vibrio Parahaemolyticus* Time/Temperature Control Plan. Shellstock must be harvested and chilled to an ambient temperature of ≤45°F ambient or 50°F internal temperature. Open the link below to view the state's Vp Control Plan.

  https://dec.alaska.gov/eh/fss/shellfish/vibrio/control-plan/

- **October 1st to May 31st**: Oysters must be harvested according to the following Time/Temperature matrix:

Action Level	Average Monthly Maximum Air Temperature	Maximum Hours from Exposure to Receipt at a Dealer's Facility
Level 1	<50 °F (10 °C)	36 hours
Level 2	50 - 60 °F (10 - 15 °C)	24 hours
Level 3	>60 - 80 °F (15 - 27 °C)	18 hours
Level 4	>80 °F (27 °C)	12 hours

All HACCP Records associated with the control of time and temperature during harvesting and shipping must be adequately maintained, reviewed and verified by a HACCP trained individual.

Handling Product

Once in the plant, shellfish should be handled and stored in a way that protects them from contaminants. For example, muddy shellfish should be rinsed prior to processing/storage to protect other shellstock, utensils, or other food contact surfaces. Dead or unwholesome shellstock should be not be processed because they may contaminate the rest of the lot. Only food grade or Generally Recognized as Safe (GRAS) approved ingredients and additives should be used.

Protect shellfish from contamination during handling by making sure the work surface is covered to protect from birds and bird droppings. The sort table must be made of a smooth and easily cleanable material and kept clean. Rinse mud, sand, and other debris from shellfish using clean, potable water and use clean plastic totes with covers made of food-grade materials for storage of shellfish.

Commingling is the act of combining different lots of shellfish, and is prohibited. When harvesting take care not to mix shellfish lots. A lot is considered one day of harvested shellfish of a specific species. For example, razor clams harvested on January 1st would be labeled Lot A while razor clams harvested on January 2nd would be Lot B.

Transportation

Shellstock must be protected from contamination during transport. The shellstock must be clean and the temperature maintained at:

- An ambient temperature of 45°F or less; or
- An internal temperature of 50°F or less.

Vessel/Vehicle Condition and Sanitation

To keep your shellstock safe during transport on your vessel or vehicle the following must be considered:

- An approved marine sanitation device (MSD) must be on board the vessel to contain sewage. A bucket with a lid is not an approved MSD.
- A means to wash hands effectively and toilet paper must be supplied along with the MSD.
- The vessel must be constructed in such a way to prevent contamination of shellstock with bilge water or polluted overboard water.
- Potential sources of contamination (such as fuel cans) must be kept away from shellstock storage.
- Cats, dogs, and other animals are not allowed on vessels, vehicles, or any area where shellfish are stored
- In a vehicle without channeled floors, shellstock must be stored on a pallet or in a tote.
- Product should not be comingled with other species or product harvested on a different day or growing area.

Shellfish Identification – Tagging

Correct shellstock identification is very important in protecting consumer health. In the event of a shellfish related illness, tags and records are used to trace the shellstock from the consumer back through to where the product was harvested. All shellfish tags must be durable, waterproof, and approved by the authority prior to use. Information written on the tag must be indelible and legible.

Dealer tags need to include:

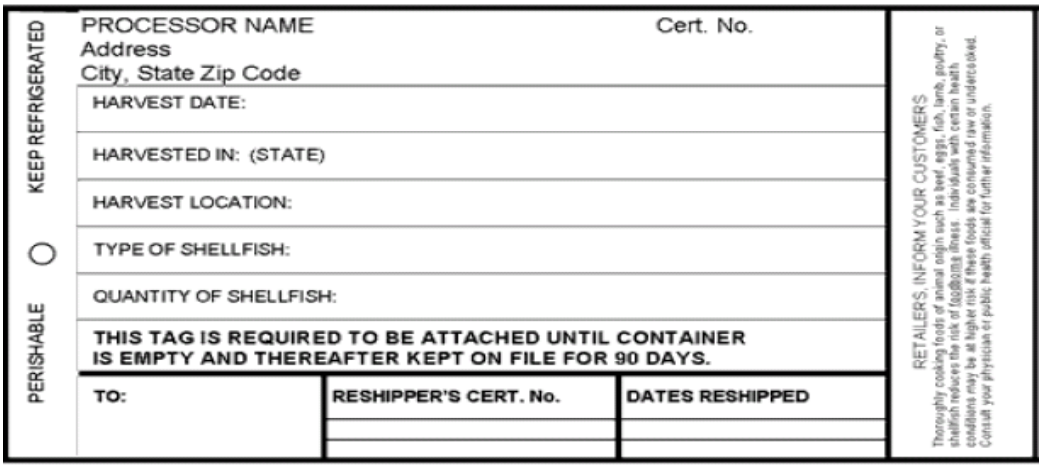
- **Who**: Dealer Name, Dealer Address, and Cert. No.
- **When**: Harvest Date
- **Where**: Harvest Location
- **What**: Type and Quantity of Shellfish
- **Consumer Advisory Statement** if intended for raw consumption
- **Holding statement**: "Keep Refrigerated"

And the following statements in bold capitalized type on each tag:

- **"THIS TAG IS REQUIRED TO BE ATTACHED UNTIL CONTAINER IS EMPTY AND THEREAFTER KEPT ON FILE FOR 90 DAYS."**
- **"RETAILERS: DATE WHEN LAST SHELLFISH FROM THIS CONTAINER SOLD OR SERVED** (INSERT DATE) **_____."**

Once the product is retagged, the original harvester or dealer tag must be kept on file for 90 days.

Example of a dealer tag which meets the NSSP requirements. Please note that this example does not show the following language: **"RETAILERS: DATE WHEN LAST SHELLFISH FROM THIS CONTAINER SOLD OR SERVED** (INSERT DATE) **_____."**, and is still required.



Shipping your Shellstock

Harvested shellstock must be properly tagged. All harvested shellstock must comply with the applicable time to temperature requirements of:

- The state Vp Control Plan
- Chapter VIII @.02 Shellstock time to temperature controls.

Action Level	Average Monthly Maximum Air Temperature	Maximum Hours from Exposure to Receipt at a Dealer's Facility
Level 1	<50 °F (10 °C)	36 hours
Level 2	50 - 60 °F (10 - 15 °C)	24 hours
Level 3	>60 - 80 °F (15 - 27 °C)	18 hours
Level 4	>80 °F (27 °C)	12 hours

Shipping Documentation

All shipments of shellstock to another dealer shall be accompanied by shipping documentation as required by Chapter IX .04 and.05. This means the shipper will give the receiver the following information:

Time the product was shipped, **AND**

Notation that the conveyance was pre-chilled to 45°F or less prior to shipping. **OR** The product was shipped adequately iced.

Sanitation

All dealers are required to monitor the eight (8) key points of sanitation. Monitoring the eight (8) key points of sanitation includes documentation of the monitoring activities. This means each dealer should have a form that they record monitoring activities for each on the eight key points that includes the date and time of monitoring and actual values for items such temperatures and sanitizer strength. Any deficiencies must be noted along with the corrective actions taken.

1. **Safety of water for processing and ice production**
   - Water supply (well vs community water system), water used for ice production, water used to wash shellstock, plumbing and related facilities (cross connections)

2. **Conditions and cleanliness of food contact surfaces**
   - Equipment and utensil construction, cleaning and sanitizing, storage, employee gear

3. **Prevention of cross-contamination**
    - Protection of shellfish, separation of operations, employee practices

4. **Maintenance of handwashing, hand sanitizing, and toilet facilities**
    - Hand washing facilities/sinks, hand sanitizing, sewage, toilets

5. **Protection from adulteration**
    - Shellfish, packaging material, and food contact surfaces protected from microbial, chemical, and physical contaminants

6. **Proper labeling, storage, and use of toxic compound**
    - Storage, use, and labeling of toxic chemicals such as sanitizers, pesticides, lubricants, etc

7. **Control of employee health conditions**
    - Exclude workers with illness, wounds, or other affliction that could be a source of contamination to food

8. **Exclusion of pests**
    - Prevent pest attraction and exclusion of pests from the facility

Hazard Analysis Critical Control Point (HACCP)

Hazard Analysis Critical Control Point, or HACCP, is a preventative food safety approach to minimize, significantly reduce, and/or eliminate hazards associated with a product and/or process. All dealers are required to be trained in HACCP. In addition, all dealers are required to develop and implement a written HACCP plan. HACCP plans are specific to each company and location. The plans must be reviewed and signed annually or after the plan is updated.

For more information on HACCP training, please visit the Alaska Sea Grant Marine Advisory Program website below for more information.

https://alaskaseagrant.org/our-work/seafood-processing/

Product Recall

Dealers are required to have a written recall plan. A recall plan is a protocol a company develops and follows in the event of a recall. If a product is unsafe for human consumption and it enters into commerce (leaves the facility), then a company needs to recall the product back into their possession. The dealer must notify DEC and consignee(s) on a timely basis and move swiftly to effectively remove the affected product.

The following information must be included in the recall plan:

1. List of customers
2. Current customer contact information
3. Contact information for ADEC-EH-FSS Program

SHELLFISH DEALER EDUCATION QUIZ

QUESTIONS:

1. All of the following are examples of bivalve shellfish harvested in Alaska waters except
    a. oysters
    b. shrimp
    c. mussels
    d. clams
    e. scallops (whole animals only)

2. Illnesses frequently associated with shellfish include
    a. Paralytic Shellfish Poisoning (PSP)
    b. Norovirus
    c. Hepatitis A
    d. Vibriosis
    e. All of the above.

3. To control hazards that can lead to illness, what are the three critical items that must be considered?
    a. Time, Temperature, and Location
    b. Size of shellfish, Temperature, and Location
    c. Time, Tide, and Price
    d. Method of harvest, Tide, Time

4. To assure that shellstock is safe, the location or area of harvest must be
    a. Classified by the authority
    b. Approved
    c. In the open status
    d. All of the above

5. What is the time period when the Alaska State Vibrio Control Plan must be followed?
    a. March 1st – August 31st
    b. May 15th – September 15th
    c. April 1st – October 31st
    d. June 15th – September 15th

6. The tag information is very important for identifying the
    a. Date of harvest
    b. Location or area of harvest
    c. Quantity of harvest
    d. The Permit number of the dealer
    e. All of the above

7. All Shipments of shellstock to another dealer must be accompanied by shipping documentation as is required by chapter IX .04 and .05
    a. True
    b. False

8. All dealers are required to monitor the eight points of sanitation.
    a. True.
    b. False

9. The HACCP Plan is a preventive food safety approach to minimize, significantly reduce, and/or eliminate hazards associated a product and/or process.
    a. True
    b. False.

10. All dealers are required to have a recall plan:
    a. True
    b. False.

Congratulations!

You have successfully completed the Shellfish Dealer Education Training. Please fill out the certificate below and mail or email to Carol Brady, Shellfish Permit Coordinator.

State of Alaska DEC - Food Safety and Sanitation Program
Carol Brady, Shellfish Permit Coordinator
555 Cordova St, Anchorage, AK 99501
Phone: 907-269-7636
Fax: 907-269-7510
Email: dec.shellfish.processing@alaska.gov

CERTIFICATE OF SHELLFISH DEALER EDUCATION TRAINING

NAME: _____

Has successfully completed the Shellfish Dealer Education Training

STATE OF ALASKA FOOD SAFETY AND SANITATION PROGRAM

SIGNED: _____

DATE: _____

Certificate expires five (5) years from date above.