

# Seafood Safety: Regulations and Requirements



  
VIRGINIA AGRICULTURAL EXPERIMENT STATION  
**VIRGINIA SEAFOOD AGRICULTURAL  
RESEARCH AND EXTENSION CENTER**  
VIRGINIA TECH™



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VIRGINIA SEAFOOD AREC

# Outline

- Regulatory agencies in VA
- Permits to sell your seafood products
- Seafood Safety Extension Program
- Summary



Photos by: Keri Rouse, VSAREC

# Regulatory Agencies



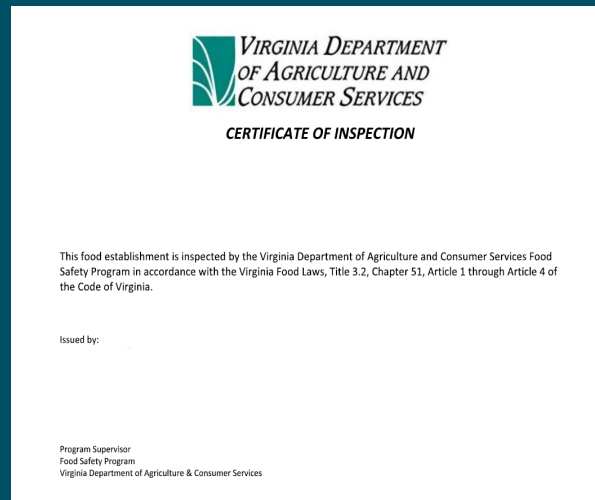
# Permits to sell your seafood products

## VDACS

- VDACS License/Certificate of Inspection
  - Home Food Processing
  - Commercial Kitchen Processing
  - Manufacturing/Warehouse Food Establishment

## VDH

- Certificate of inspection by the Division of Shellfish Safety
  - Renewed annually





# Where do you plan to sell your seafood product?

## Retail

- Farmer's market
- Direct sales

### Requirements

- Seafood HACCP Certificate\*
- Good Manufacturing Practices
- Sanitation Standard Operating Procedures
- Allergens



Source: Virginia Sea Grant

## Wholesale

- Other companies
- Restaurants
- Grocery stores
- Hotels

### Requirements

- Seafood HACCP Certificate
- Good Manufacturing Practices
- Sanitation Standard Operating Procedures
- Allergen cross-contact program
- Employee training and records



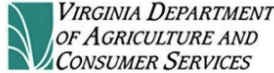
# General information & requirements

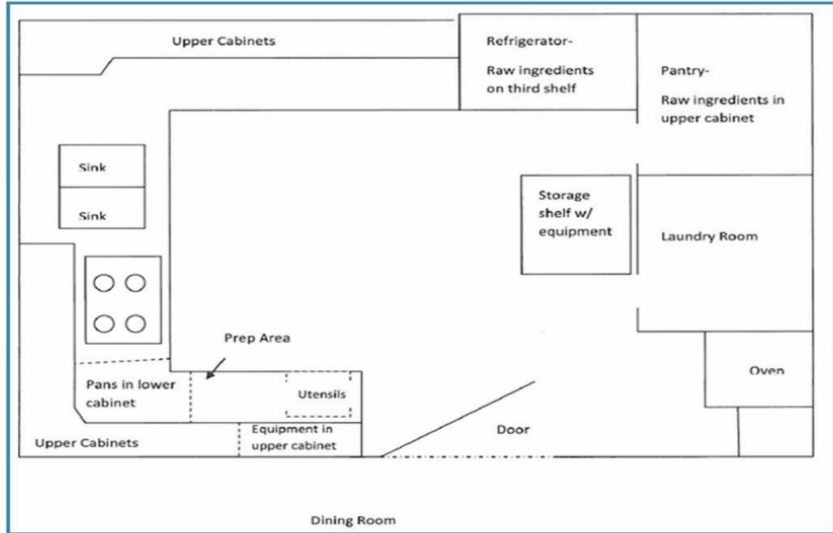


- Virginia Food and Drink Law
- Good Manufacturing Practices, 21 CFR 117
- Fish and Fishery Products, 21 CFR 123
- Hazard Analysis
- HACCP Plan
- Sanitation Control Procedures
  - Sanitation Standard Operating Procedures (SSOPs)
- Allergen control plan
- Employee training records

# VDACS - Home food processing

- Basic business/owner information
  - Pets, must be excluded from the processing area
  - Hours of operation
- Requirements
- Local zoning office approval
- Diagram of the food processing & storage
- Water source & laboratory results
- Sewage information
- Employee training & records
- Prevention of contamination with personal belongings
- List of products and distribution
- Allergen cross-contact
- Ingredients, source of ingredients, allergens present in ingredients
- Product information (Trade Secret)
- Label for each product

 <a href="http://www.vdacs.virginia.gov">www.vdacs.virginia.gov</a>	VDACS Food Safety Program PO Box 1163 Richmond, VA 23218-1163 (804) 786-3520 <a href="mailto:foodsafety@vdacs.virginia.gov">foodsafety@vdacs.virginia.gov</a>	<b>DEPARTMENT USE ONLY</b> DATE RECEIVED _____ APPLICATION # _____ FIRM ID # _____
	<b>Example: diagram of food processing and storage areas</b> The diagram may be drawn using computer software or drawn by hand.	

**Food Processing and Storage Area Diagram for the Kitchen Space**  
Include your diagram here or on a separate sheet. Clearly indicate or label each area used for storage of raw ingredients, packaging materials, finished products, processing areas, warewashing facilities, handwashing sinks, restrooms, etc.

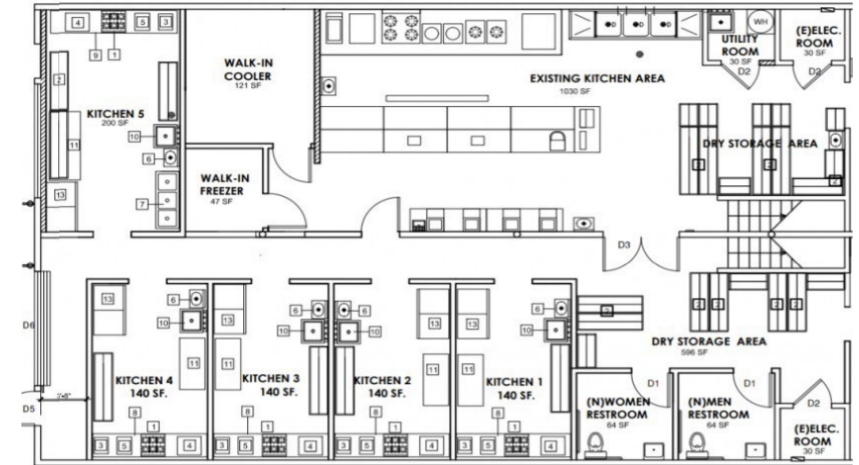
	Written explanation of how contamination with personal belongings will be prevented
	Written procedures for preventing allergen cross-contact
	List of all products submitted for review with planned method and place of distribution
	List of all ingredients used in your business, with the source of each

# VDACS – Commercial kitchen food processing

- Basic business/owner information
  - Hours of operation
- Requirements
- Diagram of the food processing & storage
- Water source & laboratory results
- Sewage information
- Employee training & records
- Prevention of contamination with personal belongings
- List of products and distribution
- Allergen cross-contact
- Ingredients, source of ingredients, allergens present in ingredients
- Product information (Trade Secret)
- Label for each product

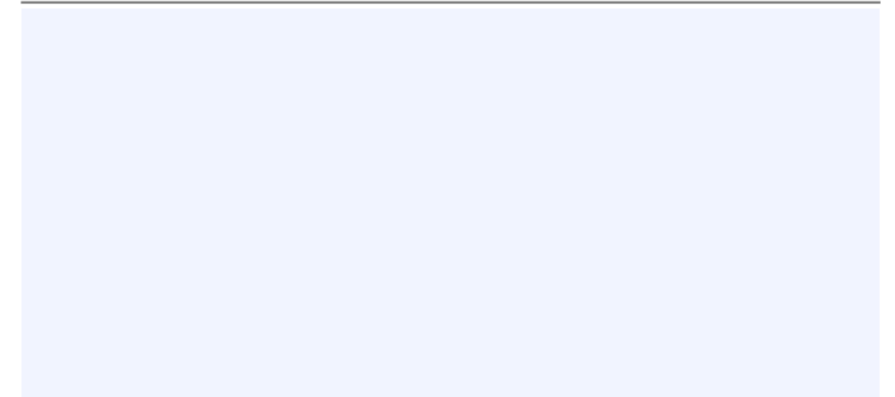
**Example: diagram of food processing and storage areas**

The diagram may be drawn using computer software or drawn by hand.



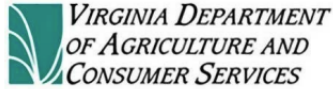
**Food Processing and Storage Area Diagram for the Commercial Kitchen Space**

Include your diagram here or on a separate sheet. Clearly indicate or label each area used for storage of raw ingredients, packaging materials, finished products, processing areas, warewashing facilities, handwashing sinks, restrooms, etc.





# VDACS – Manufacturing Establishment



[www.vdacs.virginia.gov](http://www.vdacs.virginia.gov)

VDACS Food Safety Program  
PO Box 1163  
Richmond, VA 23218-1163  
(804) 786-3520  
[foodsafety@vdacs.virginia.gov](mailto:foodsafety@vdacs.virginia.gov)

## DEPARTMENT USE ONLY

DATE RECEIVED \_\_\_\_\_

APPLICATION # \_\_\_\_\_

FIRM ID # \_\_\_\_\_

## Permit Application for Manufacturing/Warehouse Food Establishment

NOTE: AN INCOMPLETE APPLICATION WILL BE RETURNED FOR CORRECTION.

DOWNLOAD THIS APPLICATION TO YOUR COMPUTER AND OPEN IN ADOBE READER FOR FULL FUNCTIONALITY

This application is for a <input type="checkbox"/> New Establishment <input type="checkbox"/> New Owner/Change of Ownership for Existing Establishment	
Establishment Legal Name:	
Doing Business As (DBA) Name:	
Establishment Telephone:	
Establishment Physical Address:	
County or City (LIST THE COUNTY OR CITY THAT ASSESSES THE REAL ESTATE TAX FOR THE PHYSICAL ADDRESS):	
Establishment Mailing Address:	
Establishment Email Address:	
Number of Employees:	
Water Supply:	<input type="checkbox"/> Public <input type="checkbox"/> Private*; List Type (drilled, bored, etc.) _____
*FOR A PRIVATE WATER SUPPLY, ATTACH A CURRENT WATER TEST REPORT SHOWING ABSENCE OF COLIFORM BACTERIA	
Sewage Disposal:	<input type="checkbox"/> Public <input type="checkbox"/> Private*
*FOR A PRIVATE SEWAGE DISPOSAL SYSTEM, ATTACH DOCUMENTATION THAT YOUR SYSTEM IS APPROPRIATE FOR YOUR PLANNED FOOD OPERATIONS; CONTACT THE HEALTH DEPARTMENT FOR ASSISTANCE WITH DOCUMENTATION	

Establishment Ownership Type:	<input type="checkbox"/> LLC <input type="checkbox"/> Corporation <input type="checkbox"/> Partnership <input type="checkbox"/> Individual <input type="checkbox"/> Other		
Name of LLC, Corporation, Partnership, Individual, or Other			
Names, titles, birth dates, and addresses of persons comprising the legal ownership (Attach list if necessary):			
NAME	TITLE	BIRTHDATE	ADDRESS
Billing Address:			

## Pre-Operational Checklist for Manufacturing/Warehouse Establishment

- ☐ Supervisors and Employees
  - Documentation and records of education, training, or experience necessary to perform duties
  - Employee health policy for foodborne illness
  - Hygienic practices: clean outer garments, personal cleanliness, hair restraints, single-use gloves, no unsecured jewelry
- ☐ Allergen control plan
  - Written procedures for preventing allergen cross-contact during storage and preparation
- ☐ Food Safety Plan
  - Hazard analysis, preventive controls, monitoring procedures, corrective action procedures, verification procedures
  - Recall plan
- ☐ Supply chain program
- ☐ Potable water supply
  - Private water supply shall be tested annually to ensure it is safe and of adequate sanitary quality
- ☐ Adequate plumbing
  - Installed in accordance with Plumbing Code; backflow prevention where required
  - Carries sufficient quantities of water to areas throughout the plant
- ☐ Adequate sewage disposal system
  - Private sewage systems require approval from the Virginia Department of Health
- ☐ Refrigeration equipment
  - Maintain time/temperature control for safety (TCS) foods below 41°F; keep frozen foods frozen
- ☐ Thermometers
  - Probe-type thermometer capable of measuring temperatures between 0-220°F
  - Ambient air thermometers in all refrigeration equipment where TCS foods are stored
- ☐ Hand washing sinks in all areas where good sanitary practices require employees to wash their hands
  - Supplied with: hot and cold water, soap, paper towels, hand washing signage, refuse receptacles
- ☐ Procedures/facilities (sinks) for cleaning and sanitizing equipment
  - Adequate sanitizer and test strips
- ☐ Functional toilet rooms that are accessible to employees at all times
  - Shall be sanitary and provided with an adequate hand washing sink and self-closing door that does not open into area(s) where unpackaged food is handled/stored
- ☐ Shielded/shatter-proof light fixtures
  - Required in areas where there is exposed food and/or exposed equipment
- ☐ Functional and cleanable food processing equipment
- ☐ Cleanable floors, walls, and ceilings
  - Shall be made of non-absorbent, durable materials in food preparation and warewashing areas
  - Coving at the floor/wall juncture
- ☐ Controls for insects, rodents, and other pests
  - Pests not present; Premises free of harborage and/or breeding places
  - Raw materials, packaging materials, and finished product stored at least 6" off the floor or on pallets
  - Pallets/shelving shall not be flush to the wall
  - Doors, windows, and other openings protected
- ☐ Maintained roads, yards, and parking lots around the facility
  - No standing water, weeds, or trash
- ☐ Trash receptacles
  - Trash shall be stored, conveyed, and disposed of to prevent against the contamination of food
- ☐ Copy of Virginia Food and Drink Law, 21 CFR 117 (Good Manufacturing Practices), and 21 CFR 101 (Food Labeling)
  - Note: Additional regulations may apply depending on the type of product you are manufacturing/warehousing
- ☐ Approval from other regulatory authorities in the locality
  - Building inspector, fire marshal, etc.
- ☐ Submitted VDACS Manufacturing/Warehouse Food Establishment Permit Application

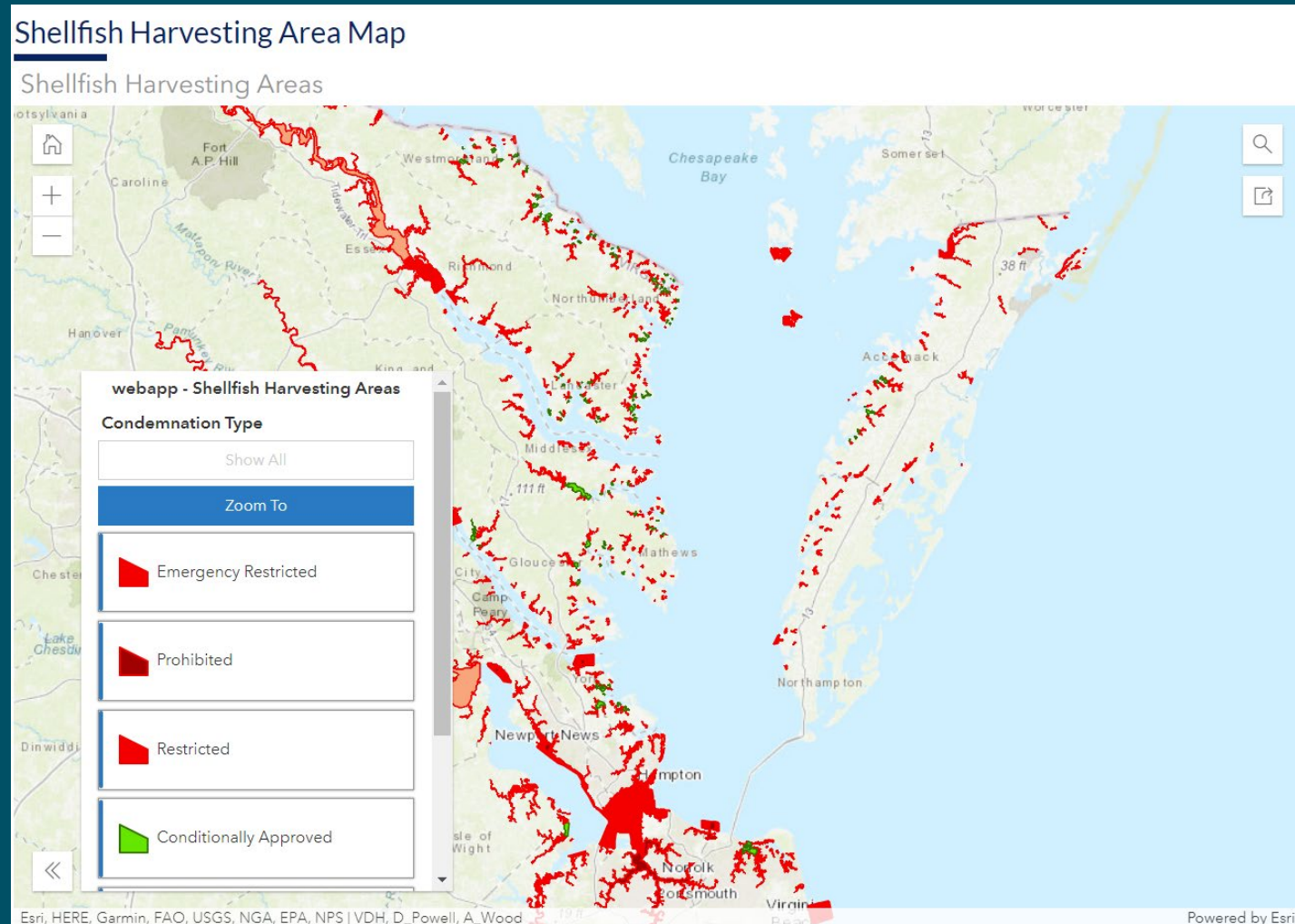
# VDH - Shellfish Surveillance

## VDH

- Shellfish Control Authority
- Authorize waters for harvesting shellfish
- Monitor harvest area
- Issue and notify closure

## Virginia Marine Resources Commission (VMRC)

- Manages shellfish licenses for commercial and recreational harvesters/dealers
- Issue “Restricted-use shellstock tag”



# VDH – Certificate of Inspection

## Application for Certificate of Inspection Virginia Department of Health Division of Shellfish Sanitation

The undersigned hereby applies for a Certificate of Inspection to operate a business for the handling, processing and packing of shellfish (as shellfish are defined by the National Shellfish Sanitation Program) for market under the name of: \_\_\_\_\_

\_\_\_\_\_  
Mailing address: \_\_\_\_\_

Physical location: \_\_\_\_\_

If such certificate is granted, the undersigned agrees to comply with the Rules and Regulations of the Virginia Department of Health (VDH) and the applicable statutes of the *Code of Virginia* for the *Sanitary Control of the Growing, Harvesting, Transporting, Processing, Packing and Shipping of Oysters, Clams and Other Shellfish* and with the VDH standards *The Federal Seafood HACCP Regulation, CFR 21, Part 123*. The undersigned further agrees to sell or offer for sale only such shellfish that have been obtained from areas which are considered approved [Section 28.2-808, paragraph (3), *Code of Virginia*], or approved by a control agency in another state; or from disapproved areas only after having been conditioned in accordance with the provisions of a special permit [issued under Section 28.2-811, *Code of Virginia*].

It is understood by the applicant that the State Health Commissioner, or his authorized representative, may in his discretion revoke any certificate granted in accordance with this application for

- Shellfish
  - Oct 1 –Sept 30
- Crab
  - April 1 – March 31

# Important information for selling seafood and shellfish

- Seafood products
- Shellstock temperature control
  - Specific guidelines depending on the month of harvesting
- Proper tag in the containers
  - Do not mix batches
- Harvesters have to be licensed
- Keep the tag for 90 days after sale (retail)

**COMMONWEALTH OF VIRGINIA  
SHELLFISH HARVESTER TAG**

Harvester Name: \_\_\_\_\_  
Harvester Identification #: \_\_\_\_\_  
Harvest Date: \_\_\_\_\_ Time: \_\_\_\_\_ Harvest Begins  
Time: \_\_\_\_\_ Landing ☐ ICE  
Harvest Area: \_\_\_\_\_, VA  
Type of Shellfish: \_\_\_\_\_  
Quantity: \_\_\_\_\_

THIS TAG IS REQUIRED TO BE ATTACHED UNTIL CONTAINER IS EMPTY OR IS RETAGGED AND THEREAFTER KEPT ON FILE FOR 90 DAYS.

**Dealer Name**  
**Dealer Address**  
ORIGINAL SHIPPERS CERT. NO.: (If other than above) \_\_\_\_\_  
DATE OF HARVEST: \_\_\_\_\_  
HARVEST SITE LOCATION: \_\_\_\_\_, VA

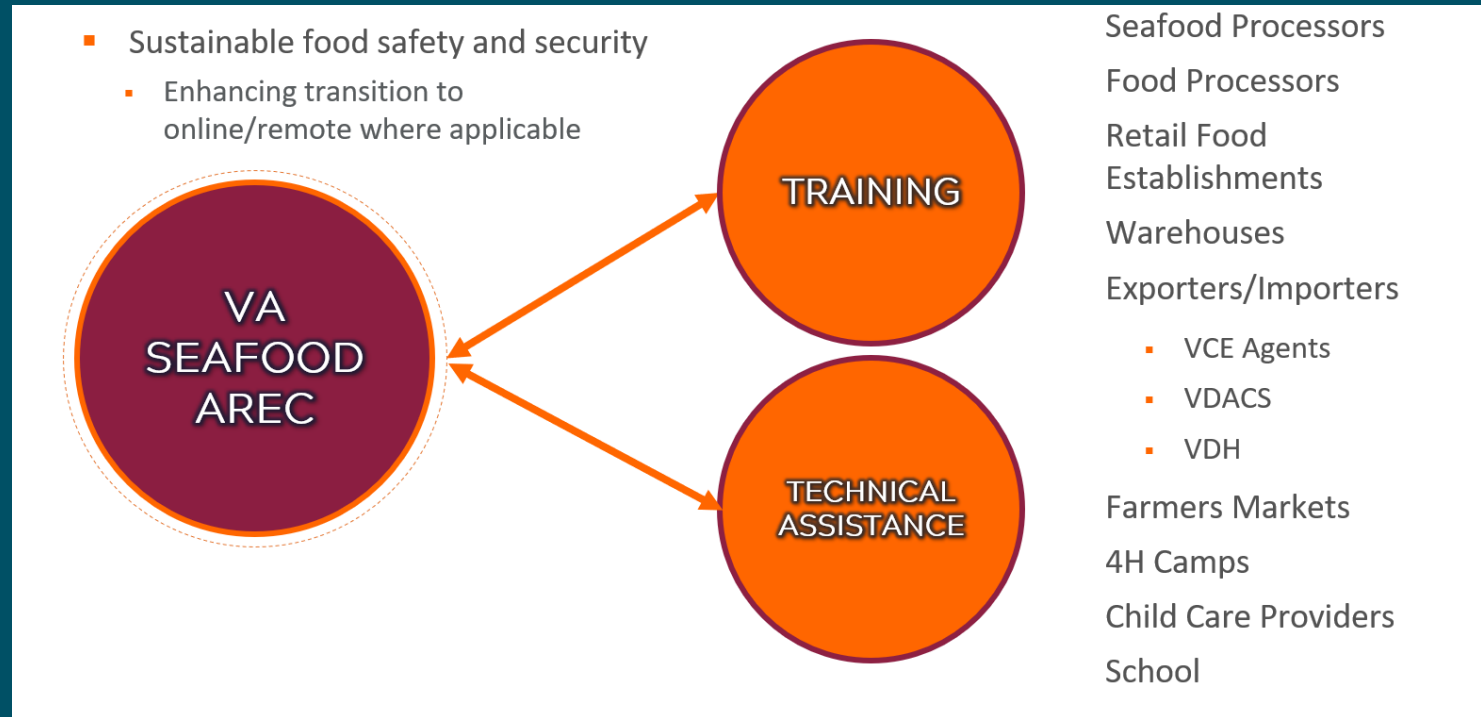
**TYPE AND QUANTITY OF SHELLFISH**

Product of the USA

THIS TAG IS REQUIRED TO BE ATTACHED UNTIL CONTAINER IS EMPTY OR IS RETAGGED AND THEREAFTER KEPT ON FILE IN CHRONOLOGICAL ORDER, FOR 90 DAYS, RETAILERS: DATE WHEN LAST SHELLFISH FROM THIS CONTAINER WAS SOLD OR SERVED TO: \_\_\_\_\_

Consuming raw or undercooked meats, poultry, seafood, shellfish, or eggs may increase your risk of foodborne illness, especially if you have certain medical conditions.

# Seafood Safety Extension Program





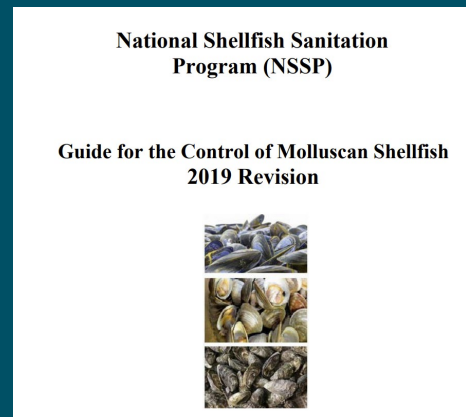
# Seafood Safety Extension

- Scientific and technical assistance Food Safety Plans
- Food Safety Trainings
  - Seafood HACCP
  - Good Manufacturing Practices
  - Sanitation Control Procedures
  - Food Allergen
- Seafood Microbiology Testing
  - Shelf-life studies
  - Environmental sampling



# Seafood HACCP Certificate

- Seafood HACCP Alliance/AFDO
  - Basic Seafood HACCP class
    - 3-day class
  - Segment I and Segment II
    - Virtual course (Cornell University)
    - In-person or virtual, 1-day class
- VDH – DSS
  - HACCP Shellstock Shippers and Reshippers
  - 1-day class



# Conduct a Hazard Analysis

Identify and List all potential food safety hazards associated with the product and process.



## Species Hazards

4. Pathogens (harvest)
5. Parasites
6. Natural Toxins
7. Scombrototoxin
8. Other Decomposition-related hazards
9. Environmental Chemicals
10. Methylmercury
11. Aquaculture Drugs

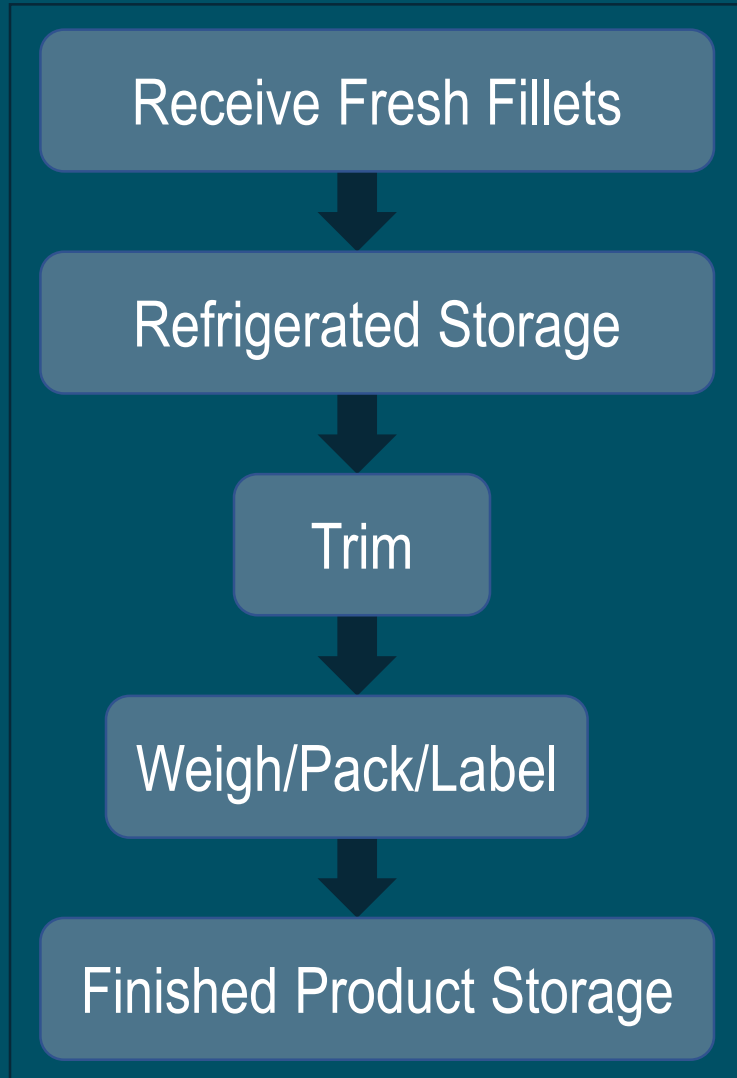
## Process Hazards

12. Pathogen Growth & Survival
13. *C. botulinum* toxin
14. Pathogen Growth & toxin formation inadequate drying.
15. *S. aureus* toxin
16. Pathogen Growth & Survival cooking
17. Pathogen Survival process designed to retain raw
18. Intro. of pathogens after pasteurization and specialize cooking
19. Allergens
20. Additives
21. Metal or Glass inclusion

TABLE 3-2											
POTENTIAL VERTEBRATE SPECIES-RELATED HAZARDS											
<b>Note:</b> You should identify pathogens from the harvest area as a potential species-related hazard if you know or have reason to know that the fish will be consumed without a process sufficient to kill pathogens or if you represent, label, or intend for the product to be so consumed. (See Chapter 4 for guidance on controlling pathogens from the harvest area.)											
MARKET NAMES		LATIN NAMES		HAZARDS							
				POTENTIAL INVERTEBRATE SPECIES-RELATED HAZARDS							
				TABLE 3-3							
MARKET NAMES		LATIN NAMES		Parasites <sup>3</sup>		Natural toxins <sup>4</sup>		Scombrotoxin (histamine)		Environmental Chemicals	

# Process flow Diagram and Narrative

## Flow Diagram



## Process Narrative

**Receive Fresh Fish** – Fresh wild-caught mahi-mahi fillets are received from several domestic suppliers. Delivery truck transit times range from 2-8 hours. Tubs or other containers of mahi-mahi fillets are received along with other fresh seafood products packed in ice and delivered by refrigerated truck. After receipt, products are re-iced if necessary and moved into refrigerated storage.

**Refrigerated Storage** – Individual mahi-mahi fillets are completely buried in ice and stored in a refrigerated cooler until needed.

**Trim** – Individual tubs or containers of mahi-mahi fillets are removed from the cooler as needed to pack customers orders. Fillets are trimmed by hand with knives if necessary to meet customer specifications. Trimming is completed in 30 minutes or less.

**Weigh/Pack/Label** – per customer order, mahi-mahi fillets are weighed, packed into containers and each container is labeled with a handwritten or printed label...

**Finished Product Storage** – Iced mahi-mahi containers in master cartons...

# Product Description

[illegible]



# Hazard Analysis Worksheet

Hazard Analysis Worksheet					
Firm Name: XYZ Seafood			Product Description: Raw, wild-caught mahi-mahi fillets received from other processors		
Firm Location: Anywhere USA (555) 555-5555 Anyone@XYZseafood.com			Method of Storage & Distribution: Air packed, stored and distributed on ice		
			Intended Use & Consumer: To be cooked and consumed by the general public		
(1) Processing Steps	(2) List all potential food safety hazards that could be associated with this product and process.	(3) Is the potential food safety hazard significant (introduced, enhanced or eliminated) <u>at this step?</u> (Yes or No)	(4) Justify the decision that you made in column 3	(5) What control measure(s) can be applied to prevent this significant hazard?	(6) Is this step a Critical Control Point? (Yes or No)

# HACCP Plan

(1) Critical Control Point (CCP)	(2) Significant Hazards	(3) Critical Limits for each Preventative Measure	(4) (7)	(5) (8)	(6) (9)	(7) (10)	(8) (11)	(9) (12)	(10) (13)
			Monitoring				Corrective Action(s)	Verification	Records
			What	How	Frequency	Who			
RECEIVING	Histamine	Mahi-mahi fillets are completely surrounded with ice at receipt	Adequacy of ice surrounding Mahi-mahi fillets at delivery	Visual check of adequacy of ice in a representative number of containers in each delivery	Every delivery	Receiving Manager	IF the amount of ice is not adequate; <b>THEN</b> reject product and call supplier to let them know CL was not met and provide product delivery specifications, and discontinue use of the supplier until their transport procedures are corrected	Weekly review of Receiving Log, Corrective Actions and Verifications. Check internal temp. of fish at delivery for each new supplier and quarterly thereafter to ensure the ice maintains product temp. <u>Accuracy Check</u> thermometers before use <u>Annually calibrate</u> thermometers	Receiving Log with the number of containers checked and number of containers in each shipment; and the results of checks for adequacy of ice  Corrective Action and Verification Records
REFRIGERATED STORAGE	Histamine	Mahi-mahi fillets are completely surrounded with ice throughout storage time	Adequacy of ice surrounding Mahi-mahi fillets	Visual check of adequacy of ice in a representative number of containers in cooler storage	At the beginning and end of each work day	Cooler Manager	IF the amount of ice is not adequate; <b>THEN</b> chill and hold the product until it can be evaluated based on total time and temperature exposure, including exposures during prior processing operations, and ice and make adjustments to the ice application process	Weekly review of Cooler Ice Log, Corrective Actions and Verifications. Check internal temperature of fish quarterly to ensure ice maintains product temp. <u>Accuracy Check</u> thermometers before use <u>Annually calibrate</u> thermometers	<u>Cooler Ice Log</u> with number of containers checked, the approx. number of containers in storage, and the results of checks for adequacy of ice.  Corrective Action and Verification Records

Product  
Description &  
Flow Chart

Hazard Analysis

HACCP

Support  
Documentation

Product  
Marketability

Company Name

Fresh/ Refrigerated and Frozen; raw, to be cooked or prior to consumption by consumer

HA and HACCP

### Flow Chart

(1) Processing Steps	(2) List all potential food safety hazards that could be associated with this product and process.	(3) Is the potential food safety hazard <b>significant</b> (introduced, enhanced or eliminated) <u>at this step?</u> (Yes or No)	(4)  Justify the decision that you made in column 3	(5)  What control measure(s) can be applied to prevent this significant hazard?	(6)  Is this step a Critical Control Point? (Yes or No)
Receive and storage packaging materials	Environmental Chemical Hazards (Ch 9)	No	Not reasonably likely to occur at this step		
	Aquaculture Drug Hazards (Ch 11)	No	Not reasonably likely to occur at this step		
	Pathogenic Bacteria Growth – Temperature	No	Not reasonably likely to occur at this step		

(1) Critical Control Point	(2) Significant Hazards	(3) Critical Limits for each Preventive Measure	Monitoring				(8) Corrective Actions	(9) Verification	(10) Records
			(4) What	(5) How	(6) Frequency	(7) Who			
Receiving Trout	Environmental Chemical Hazards and pesticides	Request a quarterly written and signed supplier's certificate/letter from the hatchery that shows fish harvest from waters not contaminated with env contaminants and/or pesticides	Presence of a certificate/l etter indicating harvesting from uncontami nated waters.	Visual	Each lot received	Any person who has an understand ing of the nature of the controls. Receiving operator.	If the certificate or letter is not on file, then reject the lot or hold the lot until a certificate can be provided. And discontinue the use of the supplier until evidence is obtained that the supplier will comply with the certification controls.	Collect and analyze fish tissue samples (quarterly) for those environmental chemical contaminants and pesticides that are reasonably likely to be present and review agricultural and industrial practices in the production area.  Review monitoring, corrective action and verification records weekly	Copy of the certificate or letter Receiving record showing lots received and the presence or absence of a certificate/letter Monitoring logs Corrective action logs
Weight/ Pack/ Label	Undeclared allergens	Market name "Rainbow trout" must appear on the label.	Labels of bags of product	Visual	Every bag	Packaging operator	If the packaged products do not have the allergen name; then identify, segregate and relabel the improperly labeled packages.  Determine the cause for the problem and correct by removing and destroying the supply of incorrect labels and reviewing the label specifications with the label supplier	Weekly review of label log records. Corrective action and monitoring logs.	Label check logs and corrective actions.  Training records for packaging operator.

# Oyster Shellstock Process Flow Chart

## HACCP Plan Form – Reshipper

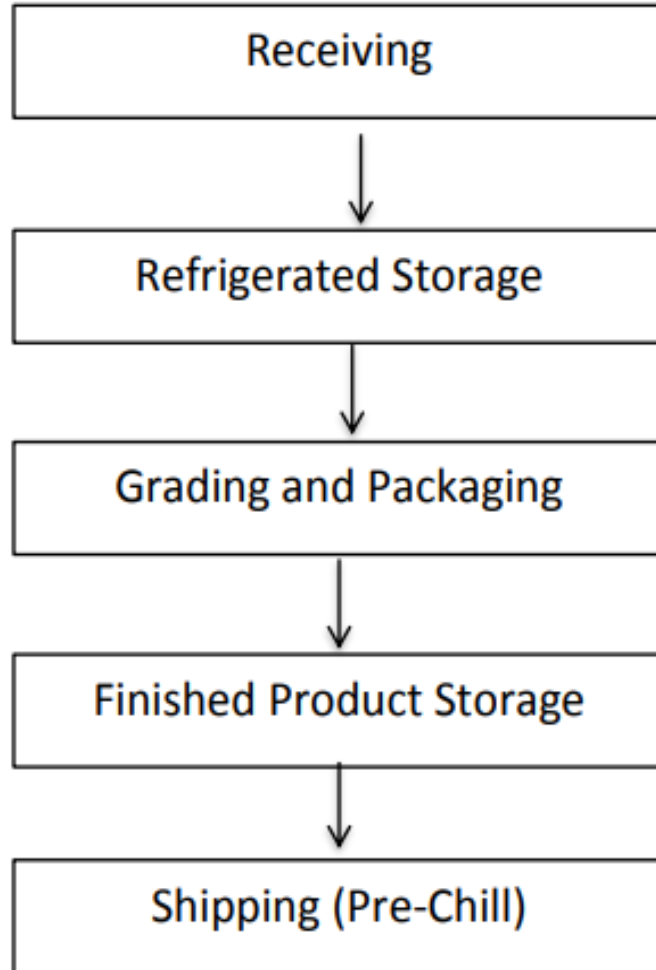
VA\_\_\_\_\_RS

Firm Name: \_\_\_\_\_

Product Type: Oysters, clams, mussels

Firm Address: \_\_\_\_\_

Process Method: Receiving and storing of whole and shucked shellfish



1) Critical Control Point (CCP)	(2) Significant Hazards	(3) Critical Limits for each Preventive Measure	Monitoring				(8) Corrective action	(9) Verification	(10) Records
			(4) What	(5) How	(6) Frequency	(7) Who			
Receiving Shellfish	Shellfish may contain pathogens, marine biotoxins and toxic chemicals if received from growing waters closed to shellfish harvesting.	1) Receive shellstock or shucked shellfish from a dealer who has identified the shellfish with a tag or label and transaction record. 2) Shellstock is shipped adequately iced; or in a conveyance at or below 45°F (ambient air temperature); or 50°F internal temperature or less; or in a conveyance capable of lowering the temperature of the shellstock and will maintain it at 50°F or less. 3) Shellfish shipped iced, or in a conveyance at or below 45°F ambient air temperature.	Shellstock tag or label and transaction record.  Presence of ice or Conveyance ambient air temperature or Shellfish temperature.	Visual check	Upon receipt of each shipment	Plant personnel as assigned	1) Reject any shellstock that are without an identifying tag or shucked shellfish without a label.  2) Shellstock temperature is above 50°F internal temperature or conveyance temperature is above 45°F; place under 45°F immediately if the receiving date is the harvest date. If the receiving date is different than the harvest date reject shipment.  2) Reject shucked shellfish and in-shell product not iced or in a conveyance above 45°F ambient air temp.  Discontinue use of the supplier until evidence is obtained that shipping practices have changed.	Minimum weekly review of shellfish receiving records and corrective action records by a HACCP trained individual.  Monthly calibration of thermometer against NIST certified thermometer or agitated ice slurry; or NIST certified thermometer with a valid certificate.	Shellfish Receiving Record  Corrective action record  Thermometer calibration record

Signature of Company Official: \_\_\_\_\_

Date: \_\_\_\_\_

Page # 1

# Summary

- Determine which regulatory agency will inspect you
- Start the application to get inspected
- Identify where you will sell your product
  - Requirements may vary based on this
- Time and temperatures are important when handling seafood
- Contact us for technical assistance



# Thank you

**Katheryn Parraga-Estrada**  
kparraga@vt.edu