

Seafood HACCP

In Phases

A step by step guide to develop a HACCP plan for your seafood processing facility created by NY Sea Grant Seafood Specialist

This guide will walk you through developing a HACCP plan based on the Seafood HACCP Alliance (SHA) and Association of Food and Drug Officials (AFDO) approved curriculum for seafood HACCP. For more in depth information on developing a HACCP plan you can use the SHA “Hazard Analysis and Critical Control Point Training Curriculum ([Manual](#))” and the “FDA Fish and Fishery Products Hazards and Controls Guidance ([Hazards Guide](#)),” which can be purchased online or downloaded at www.flseagrant.org/seafood/haccp

You can also find additional information on developing HACCP plans and seafood safety regulations at the resources outlined below.

Seafood Network Information Center

>>Seafood HACCP

www.seafood.oregonstate.edu

Food and Drug Administration

>>Food >>Guidance & Regulation >>Guidance Documents & Regulatory Information by Topic >>Seafood

www.fda.gov

New York Sea Grant

>>Resources New York Seafood: Industry and Consumers

www.nyseagrant.org/seafood



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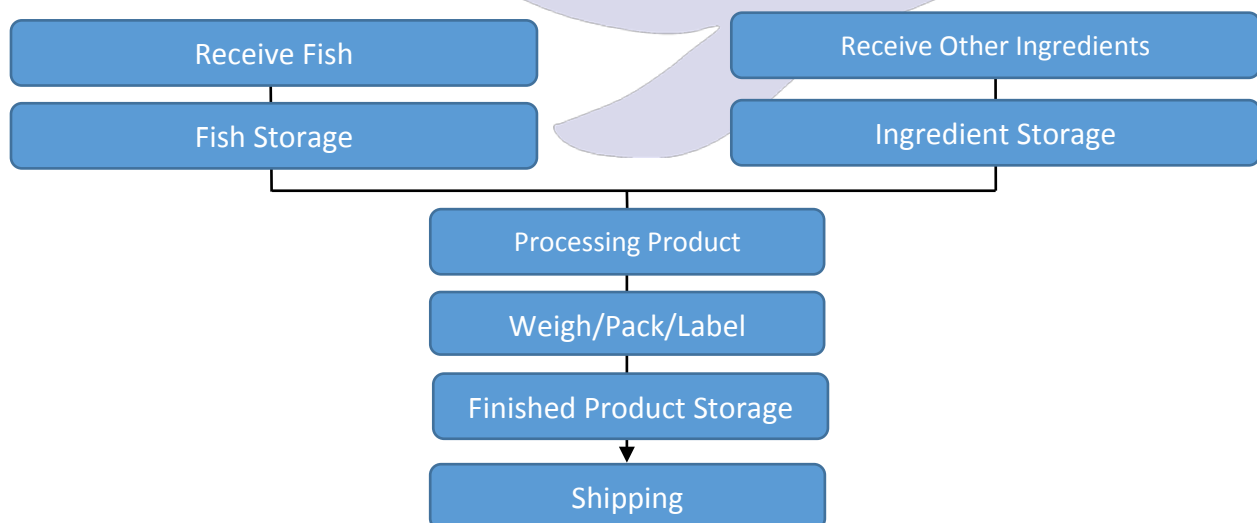
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Phase 1: Preliminary Steps

1. Identify a HACCP Team, which should consist of several individuals from your facility who have knowledge of the products and processes used.
2. Complete a Product Description for each of the products you produce at your facility. An example of the Seafood HACCP Alliance product description form is provided below.

Fish or Shellfish Species	Where Product Is Purchased			How Product Is Received			How Product Is Stored				How Product Is Shipped			How Product is Packaged		How Product Will Be Consumed			Intended Consumer	
	From Fisherman	From Fish Farm	From Processor	Refrigerated	Iced	Frozen	Refrigerated	Iced	Frozen	Shelf-Stable	Refrigerated	Iced	Frozen	Air Packed	Reduced Oxygen/ Vacuum Packed	Raw to be cooked by consumer	Raw Ready-to-Eat	Cooked Ready-to-Eat	General Public	At Risk Population
Fish Species			X	X			X				X			X			X		X	

3. Create a process flow diagram and Process Narrative. A basic example of a process flow diagram is shown below. The process narrative should elaborate on what occurs at each step of the process flow diagram.
 - a. The example provided below is very basic and will likely need to be expanded for most facilities. For example, you will need to elaborate on the each step of processing to more accurately address what type of processing is done



Phase 2: Hazard Analysis

Although you are not required to you have a written HACCP plan on site, you must conduct a Hazard Analysis to complete your HACCP Plan. The Seafood HACCP Alliance recommends you maintain a written record of your HA to help expedite the inspection process.

1. Fill in the firm and product info in your hazard analysis (HA) worksheet. An example of the SHA hazard analysis worksheet is provided below.

Hazard Analysis Worksheet					
Firm Name: <list company name>			Product Description:		
Firm Location: <list company address and contact information>			Method of Storage & Distribution:		
			Intended Use & Consumer:		
(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)

2. Transfer all your steps from the process flow chart/narrative to column 1 “Processing Steps” of the HA worksheet shown below.

(1)	(2)	(3)	(4)	(5)	(6)
Receive Fish					
Fish Storage					
Receive Other					
Ingredient Storage					
Processing Product					
Weigh/Pack /Label					
Finished Storage					

3. Identify all potential Species-related hazards using tables 3-2 (page 31) and 3-3 (Page 62) in your hazards guide (4th edition).
 - Be sure to read up on each hazard in the appropriate chapter indicated in the table, those chapters will help you fill in the next four columns.
4. Identify all potential process-related hazards using table 3-4 (Page 71) in the hazards guide.
 - Be sure to read up on each hazard in the appropriate chapter indicated in the table, those chapters will help you fill in the next four columns.
5. Add all identified hazards to column two of the HA worksheet for EACH processing step.
 - When using the inclusive method we will put all hazards associated with the product in all processing steps.

(1)	(2)	(3)	(4)	(5)	(6)
Receive Fish	Pathogen Growth				
	Histamine				
	Allergen				
Fish Storage	Pathogen Growth				
	Histamine				
	Allergen				
Receive Other	Pathogen Growth				
	Histamine				
	Allergen				
Etc...					

6. Determine if each hazard at each processing step is significant in column 3 and justify your decision in column 4 of the HA Worksheet
 - Use the chapters of the hazards guide for each hazard to help determine if it is significant and to find justifications for your decisions.

(1)	(2)	(3)	(4)	(5)	(6)
Receive Fish	Pathogen Growth T/T	Yes	Could occur with temp abuse		
	Histamine	Yes	Could occur with temp abuse		
	Allergen	Yes	Fish one of top 8 allergens		
Fish Storage	Pathogen Growth	Column (3) will contain yes or no designating whether or not the hazard is significant at this processing step.	Use column (4) to justify why the hazard is reasonably likely to occur whenever "Yes" appears in column (3) or why not if "No" was written in column (3).		
	Histamine				
	Allergen				
Receive Other	Pathogen Growth				
	Histamine				
	Allergen				
Etc...					

7. Identify potential control measures in column 5 of the HA worksheet

- The chapters in the hazards guide will give you potential control measures for each hazard at different processing steps

(1)	(2)	(3)	(4)	(5)	(6)		
Receive Fish	Pathogen Growth T/T	Yes	Could occur with temp abuse	Time/Temp Control			
	Histamine	Yes	Could occur with temp abuse	Time/Temp Control			
	Allergen	Yes	Fish one of top 8 allergens	Controlled at labeling step			
Fish Storage	Pathogen Growth T/T	Column (3) will contain yes or no designating whether or not the hazard is significant at this processing step.	Use column (4) to justify why the hazard is reasonably likely to occur whenever "Yes" appears in column (3) or why not if "No" was written in column (3).	In column (5) describe how you will control the hazard at this processing step.			
	Histamine						
	Allergen						
Receive Other	Pathogen Growth						
	Histamine						
	Allergen						
Etc...							

8. Identify which steps are critical control points

- These will be any hazard at that step that is a potential food safety hazard and can be controlled at this step. For example: if you said "yes" in column 3 and identified a control for the hazard in column 5 you would identify this as a CCP.

(1)	(2)	(3)	(4)	(5)	(6)			
Receive Fish	Pathogen Growth T/T	Yes	Could occur with temp abuse	Time/Temp Control	YES			
	Histamine	Yes	Could occur with temp abuse	Time/Temp Control	YES			
	Allergen	Yes	Fish one of top 8 allergens	Controlled at labeling step	NO			
Fish Storage	Pathogen Growth	Yes	Use column (4) to justify why the hazard is reasonably likely to occur whenever "Yes" appears in column (3) or why not if "No" was written in column (3).	In column (5) describe how you will control the hazard at this processing step.	ID as a CCP if: Yes in Column (3) and a control identified in column (5)			
	Histamine	Yes						
	Allergen	Yes						
Receive Other	Pathogen Growth	No						
	Histamine	No						
	Allergen	No						
Etc...								

Now that you have finished identifying all the critical control points for this product at your facility you can develop a HACCP plan for each. Remember you must conduct a hazard analysis and develop separate HACCP plans for all products and processes used at your facility as hazards will differ depending on the product.

Phase 3: Develop HACCP Plans

1. Fill in the firm and product info in your HACCP Plan Form.

Firm Name:		Product:	
Address:		Method Storage & Distribution:	
Signature:		Intended Use:	
Printed:		Date:	
		CCP number	
(1) Critical Control Point (CCP)			
(2) Significant Hazard			
(3) Critical Limits			
Monitoring	(4) What		
	(5) How		
	(6) When		
	(7) Who		
(8) Corrective Action			
(9) Records			
(10) Verifications			

2. Fill in the CCP's you identified during your hazard analysis in row (1) and the hazards associated with them in row (2) of the HACCP Plan form.

- Remember that you should fill one of these out for each of the CCP's identified in column (6) of your hazard analysis.

	CCP 1
(1) Critical Control Point (CCP)	Receive Fish
(2) Significant Hazard	Pathogen growth due to time/temperature abuse

3. Select critical limits for controlling each hazard and describe them in row (3) of the HACCP Plan Form.

- Each chapter of the hazards guide provides several example control strategies. Each of these examples is broken up into sections. The first outlines a selection of critical limits that can be used to fill in row (3).

	CCP 1
(1) Critical Control Point (CCP)	Receive Fish
(2) Significant Hazard	Pathogen growth due to time/temperature abuse
(3) Critical Limits	All lots received include transit records that show that the product was held at an ambient temperature below 40°F throughout transit. Page 220 of the Hazards Guide.

4. Determine what you will monitor to control the hazard and maintain it above or below the critical limits specified and fill this in row (4).
 - The second section of the example control strategies will outline monitoring procedures starting with what can be monitored.

Monitoring	(4) What	The ambient temperature in the truck throughout transportation. Page 220 of the Hazards Guide.
	(5) How	
	(6) When	
	(7) Who	

5. In row (5) describe how you will monitor that which you identified in row (4) to ensure it stays above/below the critical limits described in row (3).
 - This information can be found in the monitoring section of each example control strategy.

Monitoring	(4) What	The ambient temperature in the truck throughout transportation. Page 220 of the Hazards Guide.
	(5) How	Continuous temperature recording device will monitor temperature throughout transit. Page 221 of the Hazards Guide.
	(6) When	
	(7) Who	

6. In row (6) explain how often you will monitor that which was described in row (4).
 - The monitoring section of each example control strategy provided in the hazards guide will also outline options for when monitoring can/should be done.

Monitoring	(4) What	The ambient temperature in the truck throughout transportation. Page 220 of the Hazards Guide.
	(5) How	Continuous temperature recording device will monitor temperature throughout transit. Page 221 of the Hazards Guide.
	(6) When	Temperature logs will be evaluated with receipt of every lot. Page 221 of the Hazards Guide.
	(7) Who	

7. In row (7), identify who in your facility will be in charge of monitoring each CCP.
 - When identifying who will monitor each CCP it is a good idea to include a specific job title but not a specific individual as various employees could fill that particular role at any given time. (For example: state QA manager and not John Doe).

- In most cases the guide will state that the one doing the monitoring must be “any person who has and understanding of the nature of the controls.” You are responsible for training your employees to make sure that this criteria is met.

Monitoring	(4) What	The ambient temperature in the truck throughout transportation. Page 220 of the Hazards Guide.
	(5) How	Continuous temperature recording device will monitor temperature throughout transit. Page 221 of the Hazards Guide.
	(6) When	Temperature logs will be evaluated with receipt of every lot. Page 221 of the Hazards Guide
	(7) Who	The QA manager on duty will evaluate temperature logs to ensure ambient temperature remained below 40°F. Page 222 of the Hazards Guide

8. In row (8), describe your corrective actions, or what will be done if your critical limits are not met at any point during processing and monitoring.

- Be sure to address what product/how much and what will be done to it as well as how you will evaluate your process to address why the deviation occurred.
- The third section of each example control strategy in the hazards guide will outline potential corrective actions.

(8) Corrective Action	<p>Reject the lot.</p> <p>AND</p> <p>Discontinue the use of supplier until they show proof that the transportation/handling deviation has been corrected. Page 222 of the Hazards Guide</p>
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9. In row (9) of the HACCP plan form describe what records will be kept with regard to monitoring and maintaining critical limits for each CCP.

- Examples of records that can be kept for various hazards can be found in the fourth section of each example control strategy within each chapter of the hazards guide.

(9) Records	Receiving records of ambient temperature readouts for product transit and QA manager's initials indicating visual check of records upon receipt. Page 222 of the Hazards Guide
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10. In row (10), describe how you plan to verify that the procedures you are using are accurate and adequately able to control for the hazards you are using them on.
- The last section of each example control strategy will outline some acceptable verification procedures.

(10) Verifications	<p>Accuracy of temperature data loggers will be checked upon arrival of each lot.</p> <p style="text-align: center;">AND</p> <p>Monitoring, corrective action, and verification records will be reviewed weekly. Page 223 of the Hazards Guide</p>
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Phase 4: Approval and implementation

- Now that you have developed a HACCP plan for your facility it must be signed by the most responsible person at your facility (i.e. the owner/manager who will assume responsibility should the facility be out of compliance).
- Once signed you should start your monitoring activities and records should be signed and dated weekly to insure controls are being monitored.
 - To start this you will need to develop logs for your employees to fill in as specified in the plan. Record keeping templates for various monitoring procedures are available through the Seafood HACCP Alliance and can be found at [http://www.seafoodhaccp.org/record-keeping-templates](#)
- Be sure to review your HACCP plan annually and adjust as needed based on experience.
 - You will also have to adjust you HACCP plan at any time throughout the year if you make any changes to your product or process.