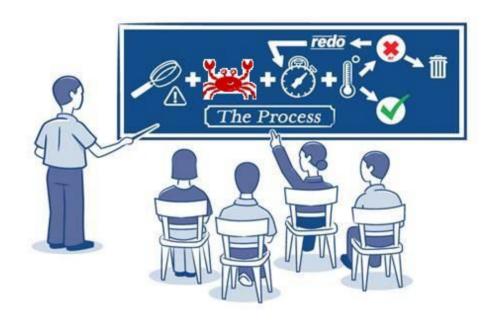
Sample Food Safety Plan

COOKED CRAB MEAT





Product Description – Cooked Crab Meat

Product Description	
1. What is your product name and weight/volume?	Fresh Cooked Dungeness Crab Meat (454g/1lb) (Cancer magister)
2. What type of product is it (e.g., raw, ready-to-eat, ready-to-cook, or ready for further processing, farmed vs. wild, domestic vs. import, etc.)?	Ready to eat, wild BC
3. What are your product's important food safety characteristics (e.g., acidity, A _w (water availability), salinity, etc.)?	None
4. What allergens does your product contain?	Seafood (crustaceans)
 What restricted ingredients (preservatives, additives, etc.) does your product contain, and in what amounts (e.g., grams) 	None
6. What are your food processing steps (e.g., cooking, cooling, pasteurization, etc.)?	Receiving incoming materials, sorting, culling, cooking, cooling, peeling, dipping in brine, rinsing with water, removing any remaining shell, packaging/labelling/weighing, cool refrigerator storage and distribution/shipping.
7. How do you package your product (e.g., vacuum, modified atmosphere, etc.) and what packaging materials do you use?	Fresh cooked crabmeat is packaged in a 454g/1 lb food-grade plastic container. Five 454g/1lb plastic containers are then packed inside a cardboard box.
8. How do you store your product (e.g., keep refrigerated, keep frozen, keep dry) in your establishment and when you ship your product?	Stored and distributed at refrigerated temperature between 0°C and 4°C.
9. What is the shelf-life of your product under proper storage conditions?	5 days from production date under refrigerated temperature.
10. How is the 'best before' date to be noted on your product?	The 'best before' date is printed on the plastic container label as YY MM DD. Example: 17 JA 04 (January 04, 2017)
11. Who will consume your product (e.g., the general public, the elderly, the immunocompromised, infants)?	General public. Note: Not suitable for people with seafood (fish, crustaceans, and shellfish) allergies.
12. How might the consumer mishandle your product, and what safety measures will prevent this?	Products that are not properly refrigerated can have food safety and quality concerns; 'keep refrigerated' is printed on the plastic container label.
	Products that have passed the 'best before' date can be unsafe for consumption; the 'best before' date is printed on the plastic container label.
13. Where will the product be sold?	Food service (e.g., restaurants) and retail premises within BC.
14. What information is on your product label?	Fish and fish products sold intraprovincially (i.e., within BC) are subject to labelling requirements under the federal Food and Drug Act and the Consumer Packaging Labelling Act.
	Labels on individual plastic containers must contain the following information: product common name, weight, ingredients, allergens, nutritional table, storage and handling instructions, 'best before' date, manufacturing company name and address.
	Labels on outer cardboard boxes must contain the following information: product common name, total net weight, ingredients, allergens, storage and handling instructions, 'best before' date, manufacturing company name and address.

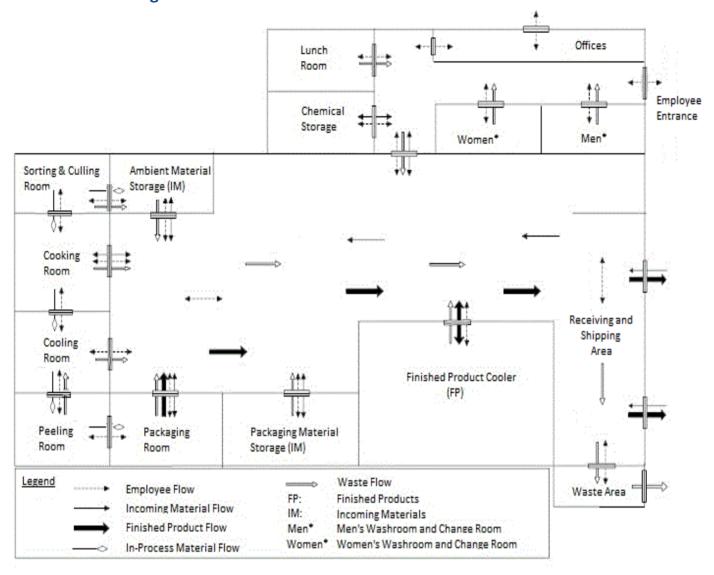
Incoming Materials – Cooked Crab Meat

Ingredients	
Live Dungeness crab	Food-grade salt
Food contact processing aid materials	
Water	Ice
Food contact packaging materials	
454g/1lb food-grade plastic container with lid	
Non-food contact packaging materials	
Ink	Cardboard boxes
Таре	Plain labels
Chemicals (hand washing, sanitation and maintenance)	
Hand soap	Sanitizer
Hand sanitizer	

Process Flow – Cooked Crab Meat

Process Step Number	Process step (e.g., washing, cooling, drying)
1	Receiving incoming materials
2	Sorting (live crab only)
3	Culling
4	Cooking
5	Cooling
6	Peeling
7	Dipping in brine
8	Rinsing with water
9	Removing any remaining shells
10	Packaging/Labelling/Weighing
11	Storing – Refrigerated Temperature
12	Distributing/Shipping

Process Flow Diagram – Cooked Crab Meat



Hazard Analysis and Control Measures – Cooked Crab Meat

Process Step	Biological, Chemical, and Physical Hazards	Control Measures (can include: process steps,
Number		Standard Operating Procedures (SOPs), and
		Prerequisite Programs)
1. Receiving	Biological: Contamination and growth of	Product needs to be cooked before eating.
ingredient – live	pathogen (Coliforms, Salmonella, Listeria M.,	
Dungeness crab	E.Coli).	Purchasing and Supplier (e.g., Letter of Guarantee that no
		dead crab will be shipped).
	Chemical: Contamination and presence of	
	allergen, natural toxin, environmental chemical	Receiving, Transportation and Storage (e.g., checking
	residues, and sanitation chemicals.	products during receiving for dead/live crab).
	Chemical: Contamination of natural toxin due	Allergen Control.
	to harvesting crabs in a closed area.	
		Premises.
	Physical: Contamination of foreign material	
	(such as dirt, bits of wood).	
1. Receiving	Biological: Contamination of pathogen at	Use and purchase only food-grade salt.
ingredient – salt	supplier level.	Durch stine and Constitute (see 1.11. CO. 1.1.)
(food-grade)		Purchasing and Supplier (e.g., Letter of Guarantee).
	Chemical: Contamination and presence of	Desciving Transportation and Starter
	allergen, chemical residues and sanitation	Receiving, Transportation and Storage.
	chemical at supplier level.	
	Physical: Contamination of foreign material.	
1. Receiving Food	Biological: Contamination of water borne	Potable water from a reliable municipal system used for
Contact	pathogens (Coliforms, E.Coli, Fecal Coliform).	processing.
Processing Aid -	, , , , , , , , , , , , , , , , , , , ,	
water	Chemical: Contamination of chemical residues	Water sample is sent and tested by 3 rd party accredited
	(such as chlorine, lead).	laboratory yearly.
	Physical: Contamination of foreign material	
	(such as dirt, sand, and tiny rocks).	
1. Receiving Food	Biological: Contamination of water borne	Ice used for chilling the crab meat is made from potable
Contact	pathogens (Coliforms, E.Coli, Fecal Coliform).	water from a reliable municipal system.
Processing Aid –		-rd
ice	Chemical: Contamination of chemical residues	Ice sample is sent and tested by 3 rd party accredited
	(such as chlorine, lead).	laboratory yearly.
	Physical: Contamination of foreign material	
	(such as dirt, sand, and tiny rocks).	
1. Receiving Food	Biological: Contamination of pathogen at	Use and purchase only food contact packaging material
Contact	supplier level.	which is food-grade and approved by Health Canada.
Packaging		The state of the s
Materials –	Chemical: Contamination and presence of	Purchasing and Supplier (e.g., Letter of Guarantee).
454g/1 lb plastic	allergen, chemical residues and sanitation	,
container with lid	chemical at supplier level.	Receiving, Transportation and Storage.
(food-grade)		
	Physical: Contamination of foreign material.	
1. Receiving non-	None.	Any broken plastic container will not be used. Any broken
food contact		plastic container found during final product storage will
packaging		not be shipped to the customer. Therefore, the non-food
materials - ink,		contact packaging material should not be in contact with
tape, plain label,		the product or be a source of contamination.
cardboard boxes		

Process Step	Biological, Chemical, and Physical Hazards	Control Measures (can include: process steps,			
Number		Standard Operating Procedures (SOPs), and			
		Prerequisite Programs)			
2. Sorting live	Biological: Contamination and growth of	Product needs to be cooked before eating and only live			
crab only	pathogen (Coliforms, Salmonella, Listeria M.,	crab can be cooked/processed.			
	E.Coli, Staphylococcus aureus).				
	Chamical Contamination of classing/conitiving	Cleaning and Sanitation.			
	Chemical: Contamination of cleaning/sanitizing chemicals.	Personal Hygiene and Training.			
	Chemicus.	resonarrygiene und rrunning.			
	Physical: Contamination of foreign material	Operational Controls (Crab Sorting SOP).			
	(such as dirt, hair, bits of wood, plastic, glass).				
		Premises.			
3. Culling	Biological: Contamination and growth of	Product needs to be cooked before eating and only live			
	pathogen (Coliforms, Salmonella, Listeria M., E.Coli, Staphylococcus aureus).	crab can be cooked/processed.			
	E.con, Staphylococcus aureus).	Cleaning and Sanitation.			
	Chemical: Contamination of cleaning/sanitizing	6			
	chemicals.	Personal Hygiene and Training.			
	Physical: Contamination of foreign material	Premises.			
	(such as dirt, hair, bits of wood, plastic, glass).	Equipment, Calibration and Maintenance.			
4. Cooking	Biological: Pathogen survival due to inadequate	Cooking time and internal temperature of crab.			
o o	cooking temperature and time (Coliforms,	Cleaning and Sanitation.			
	Salmonella, Listeria M., E.Coli, Staphylococcus				
	aureus).	Potable water from a reliable municipal system used for			
		processing.			
	Chemical: Contamination of cleaning/sanitizing chemicals.	Personal Hygiene and Training.			
	Chemicals.	rersonarrygiene and rraining.			
	Physical: Contamination of foreign material	Equipment, Calibration and Maintenance.			
	(such as dirt, hair, bits of wood, plastic, glass).				
		Premises.			
5. Cooling (with	Biological: Re-contamination and growth of	Cooling time and internal temperature of crab.			
running cold water or	pathogen (Coliforms, Salmonella, Listeria M., E.Coli, Staphylococcus aureus).	Potable water from a reliable municipal system used for			
occasionally ice if	L.Coii, Staphylococcus aureus).	processing.			
needed)	Chemical: Contamination of cleaning/sanitizing	9			
	chemicals.	Ice used for chilling the crab meat is made from potable			
		water.			
	Physical: Contamination of foreign material	Classian and Caritation			
	(such as dirt, hair, bits of wood, plastic, glass).	Cleaning and Sanitation.			
		Personal Hygiene and Training.			
		Equipment, Calibration and Maintenance.			
		Premises.			

Process Step	Biological, Chemical, and Physical Hazards	Control Measures (can include: process steps,					
Number		Standard Operating Procedures (SOPs), and					
- ramber		Prerequisite Programs)					
6 Dooling	Biological: Contamination and growth of						
6. Peeling	pathogen (Coliforms, Salmonella, Listeria M.,	Crab Post-Cooling Processing SOP (e.g., Product is					
7 Dinaine in		processed in a processing room at 8-9°C. The time of					
7. Dipping in	E.Coli, Staphylococcus aureus).	peeling, dipping in brine, rinsing with water and removing					
Brine	Chaminal, and an institute of classics /socitions	any remaining shells until the product is transferred to					
O. Dissels a sociale	Chemical: contamination of cleaning/sanitizing	refrigerated temperature, storage is not more than 4					
8. Rinsing with	chemicals.	hours).					
Water	Physical: Contamination of foreign material	Potable water from a reliable municipal system used for					
9.Removing any	Physical: Contamination of foreign material (such as dirt, hair, bits of wood, plastic, glass).	Potable water from a reliable municipal system used for processing.					
Remaining Shells	(Such as unit, hair, bits of wood, plastic, glass).	processing.					
Remaining Shells		Cleaning and Sanitation.					
Note: these four		Cleaning and Sanitation.					
		Personal Hygione and Training					
steps were grouped into one		Personal Hygiene and Training.					
row as the		Equipment, Calibration and Maintenance.					
hazards and		Equipment, Cambiation and Maintendifice.					
controls are the		Premises.					
same for each of		Premises.					
the four steps.		Brine Preparation SOP.					
10. Packaging/	Biological: Contamination and growth of	Packaging SOP (e.g., No broken plastic containers used for					
Labelling/	pathogen (Coliforms, Salmonella, Listeria M.,	packaging).					
Weighing	E.Coli, Staphylococcus aureus).	packaging).					
vveigiiiig	L.con, Staphylococcus aureus).	Labelling SOP.					
Note: these	Chemical: undeclared allergen, contamination	Labelling 30r.					
related activities	of cleaning/sanitizing chemicals.	Cleaning and Sanitation.					
occur at the same	or creating surface of creating creatin	Cicuming and Samuation.					
time.	Physical: Contamination of foreign material	Personal Hygiene and Training.					
time.	(such as dirt, hair, plastic, glass, bits of wood).	resonarrygiene and running.					
	(Such as an t) han, plastic, glass, sits of wood,	Premises.					
		Tremises.					
		Equipment, Calibration and Maintenance.					
11. Storing -	Biological: Contamination and growth of	Storage SOP (e.g., Product is packed inside 454g/1lb food-					
Refrigerated	pathogen (Coliforms, Salmonella, Listeria M.,	grade plastic container and stored under refrigeration					
Temperature	E.Coli) due to inadequate refrigeration	temperature between 0°C and 4°C. Product found in a					
. cperatare	temperature.	broken plastic container will be discarded).					
	toniperature.	Solven plastic container tim 20 allocal accept					
	Chemical: None.	Premises.					
	Physical: None.	Equipment, Calibration and Maintenance.					
	,						
		Personal Hygiene and Training.					
		7,0 * * * * * * * * * * * * * * * * * * *					
		Receiving, Transportation and Storage.					
12. Distributing/	Biological: Contamination and growth of	Distributing/Shipping SOP (e.g., Product is fully packaged					
Shipping	pathogen (Coliforms, Salmonella, Listeria M.,	and shipped under refrigerated temperature. Any product					
11 0	E.Coli) due to temperature abuse during	with broken packaging will not be distributed).					
	shipping.						
	5	Personal Hygiene and Training.					
	Chemical: None.						
		Receiving, Transportation and Storage.					
	Physical: None.	<u> </u>					
	<u> </u>	<u> </u>					

Critical Control Point Table – Cooked Crab Meat

1. Identifying Hazards	2. Identifying Critical Control Points (CCPs)	3. Establishing Critical Limits	4.	Establishing Monitoring Procedures (who, what, how and when)	5.	Establishing Corrective Actions		6. Establishing Verification Procedures (who, what, how and when)	7. Keeping Records
Biological hazard: Pathogen survival due to inadequate cooking temperature and time (Coliforms, Salmonella, Listeria M., E.Coli, Staphylococcus aureus).	CCP #1 Cooking	The internal temperature of the product must be at least 85°C (185°F) for a minimum of 1 minute. Source: p. 422, Table A-3, Appendix 4, FDA Fish and Fishery Products Hazards and Controls Guidance – 4 th edition	2.	Production line employee measures the product's internal temperature for every cooking batch by inserting the thermometer into the centre of the product. Wait until the thermometer reading is steady. Production line employee records result for each cooking batch on the "Cooking and Cooling Time and Temperature Record".	on (The product must be cooked for a longer period of time until the product's internal temperature reaches at least 85°C for a minimum of 1 minute, or the product must be destroyed. Immediately investigate the cause of the non-conformance and take necessary corrective actions to prevent reoccurrence. Record all non-conformances and corrective actions taken on the "Cooking and Cooling Time and Temperature Record".	 3. 4. 	day, Production Supervisor reviews the "Cooking and Cooling Time and Temperature Record" to ensure that it has been properly completed.	Cooking and Cooling Time and Temperature Record.
Biological hazard: Re-contamination and growth of pathogen (Coliforms, Salmonella, Listeria M., E. Coli, Staphylococcus aureus).	CCP #2 Cooling	Product is cooled in running cold tap water (or ice if needed). The internal temperature of the product must be cooled down to 21°C within 2 hours of cooking and then further cooled to 4°C	2.	Production line employee measures the product's internal temperature for every batch 2 hours and 6 hours after the cooling process started. Wait until the thermometer reading is steady. Production line employee records result	on :	nen critical limits are not met for e or more product samples: Segregate, hold the product and discard. Immediately investigate the cause of the non-conformance	1.	At the end of each production day, Production Supervisor reviews the "Cooking and Cooling Time and Temperature Record" to ensure that it has been properly completed.	Cooking and Cooling Time and Temperature Record.

1. Identifying Hazards 2. Identifying Critical Control Points (CCPs)	1	4. Establishing Monitoring Procedures (who, what, how and when)	5. Establishing Corrective Actions	6. Establishing Verification Procedures (who, what, how and when)	7. Keeping Records
	within an additional 4 hours. Source: p. 230, Chapter 12, FDA Fish and Fishery Products Hazards and Controls Guidance – 4 th edition	for each cooling batch on the "Cooking and Cooling Time and Temperature Record".	and take necessary corrective actions to prevent reoccurrence. 3. Record all non-conformances and corrective actions taken on the "Cooking and Cooling Time and Temperature Record".	 Once per week, Production Supervisor ensures that the temperature check follows the written monitoring procedure. If non-conformance is found during the verification procedure, Production Supervisor immediately investigates the cause of the non-conformance and takes necessary corrective actions to prevent reoccurrence. Production Supervisor records all observations on the "Cooking and Cooling Time and Temperature Record". 	

Cooking and Cooling Time and Temperature Record Critical Control Points #1 & #2 Record

	Cooking Process (CCP#1) Co				Coolir	ooling Process (CCP#2)									
Date	Purchase Order#	Live Check	Weight Prior to Cooking (lbs)	Cook Start Time	Cook End Time	Cooked Product Internal Temperature	temperat	internal ure after 2 rs (°C)	temperat	t internal ture after 6 rs (°C)	Weight of Product Produced (lbs)	Corrective Action	Employee initials	Verification initials and date	Verification Corrective Action
	4422	Althor		10:00 444	10.03.44	(°C)	Time	Temp (°C)	Time	Temp (°C)			DII	2 Town 1.47	
2 June '16	4433	Alive	50	10:00 AM	10:03 AM	87.4° <i>C</i>	12:00 PM	18.4 °C	4:00PM	2.2°C	30 x 1 lb	-	RH	2 June ' 16 AS	-
3 June '16	4434	Alive	50	10:00 AM	10:03 AM	88.2°C	12:00 PM	19.4 °C	4:00PM	6.2°C	None	Operator forgot to add ice in the cooling process. All crab meat was disposed due to product internal temperature not reaching below 4°C after 6 hours.	RH	3 June ' 16 AS	Supervisor retrained the operator regarding cooling procedures. Training record was kept for future reference.
6 June '16	4435	Alive	50	10:30 AM	10:33 AM	86.5° <i>C</i>	12:30 PM	17.2 °C	4:30PM	1.7°C	30 x 1 lb	-	RH	6 June ' 16 AS	-