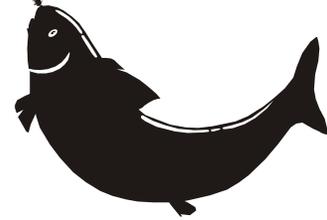


The Basic HACCP Guide



Did you know...

HACCP was first developed for use in America's space program

HACCP is a prevention plan, not a testing program

HACCP was scrutinized and endorsed by both industry and regulators

HACCP is the application of common sense and scientific principles to food processing

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What is HACCP?

Hazard Analysis Critical Control Point (HACCP) is a food safety system based on prevention. Prevention is essential for food safety because testing every product for bacteria, chemical, and foreign object contamination is impractical, time consuming, and cost prohibitive. HACCP consists of identifying food safety hazards that are reasonably likely to occur in your food process, creating controls to prevent the hazard, and then monitoring those controls. It can be applied to every product and process using the processor's operational knowledge, common sense, and food safety science. As a result, HACCP may be adapted to any type of food production and any size of facility without significant capital investment.

The State of Alaska has adopted the federal HACCP requirements as part of Alaska's seafood processing rules. To find out more about Alaska's requirements, please contact the Division of Environmental Health at the number or address listed on the back page of this guide. This simple, easy-to-read brochure will help explain the seven principles of HACCP and get you started on developing your own HACCP plan.

Why is HACCP Necessary?

Seafood, like other foods, may become contaminated if not handled, processed, or stored properly. However, seafood is unique in that some types may contain or develop naturally occurring hazards that can threaten human health. The federal Food and Drug Administration (FDA) and the Department of Environmental Conservation (DEC) are now requiring a HACCP plan of seafood processors to ensure food safety to the maximum extent practicable.

Training

State and federal regulations require approved HACCP training for at least one person in your HACCP plan development team. You may want to train only one member, your whole staff, or hire someone who is already trained in HACCP. In any scenario, the person(s) trained in HACCP will assist in developing, reassessing, and reviewing the Hazard Analysis and HACCP plan. Contact numbers are on the back page of this guide.

Getting started

By completing these five recommended steps prior to the planning process, you'll save your company a lot of time and effort.

First, get your HACCP resource team together. In addition to the one HACCP trained person, who do you want involved? You may include an outside expert. But most importantly: Who is your operations expert? Who is familiar with the flow of your processing? How about the experts on your equipment?

Second, describe what you process and how you process it. Sound easy? It is.

Third, list all ingredients and raw materials used in your process. Again, very straightforward. Just be sure to include everything, even packaging materials.

Fourth, make a process flow diagram. Do you have an artist on staff? Great! If not, simple boxes and arrows will do fine. Be sure to describe your operation from the moment the first ingredient hits the receiving door to the time the product is shipped out.

Fifth, be in compliance with FDA's Good Manufacturing Practices. Good Manufacturing Practices (GMP) are already required by the FDA and may be incorporated into your HACCP plan, in part or whole. DEC requires a written sanitation plan based on FDA's GMP. Keep in mind, a state sanitation plan and compliance with FDA's GMP are required even if no HACCP plan exists.

The HACCP Plan

Hazard Analysis and Identification

List the natural hazards associated with the species you process.

What naturally occurring hazards are associated with the species you process? FDA has developed "Fish and Fishery Products Hazards and Control Guide," a guide of species and the hazards normally associated with them including toxins, microbiological growth, and chemical contamination. You'll want to consult this guide. See the back page of this guide for more information.



List all of the biological hazards associated with your ingredients and process and at what point in the process each hazard exists. Remember, you are identifying what hazards are reasonably likely to occur. First, examine your ingredients. Raw product may be compromised before being received at the processing facility. As a result, processors must consider and control for hazards that may exist at the time of receipt. Consider dry ingredients involved in your process, such as flour or cornmeal. Can these or other ingredients be contaminated before or after being received at your facility? What about hazards associated with untreated water, such as microbiological contamination?

Second, examine your process. At what point is pathogen growth possible on the raw or finished product? What about pathogen growth while the product is being processed? Consider shellfish hazards, time/temperature abuse hazards, and finished food hazards such as microbiological growth with inadequate drying or inadequate cooking. What hazards are possible after ingredients are combined with raw product, such as pathogen growth in batter? What type of pathogen growth does the packaging type encourage? Examine all food processes such as, mixing, breading, formulating, cooling, and packaging for possible pathogen growth. Can mishandling affect the safety of your food? Recontamination is a serious health threat. Inanimate objects, employee contact, and raw food contact including splash or condensation drippage can be sources of bacteria, and the potential to recontaminate your food product should be carefully considered.

Identify all the physical hazards that can affect the safety of your food.

Examine the possibility of contamination of food product by foreign objects. Consider broken machine parts, machine oils or grease, employee objects, such as jewelry, and any other physical contamination.

Identify chemical hazards that may affect the safety of the product.

Consider any color or food additives used in your processing. Some additives are harmful to human health, if misused. Others have been linked to severe allergic reactions, including death. List any additives that you use in your process, when they are used, and what controls you have to make sure they are kept within acceptable limits.

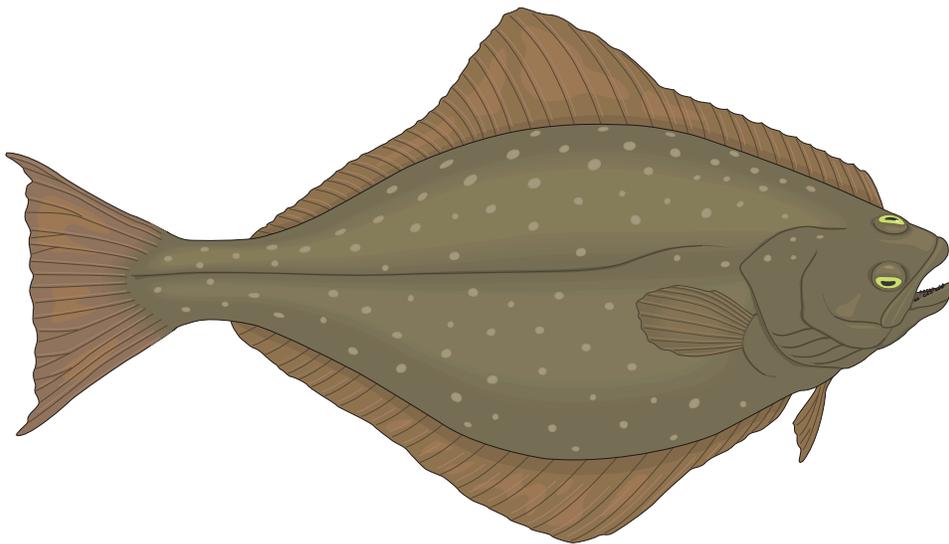
If Hazards Are Identified

Identify the Critical Control Points

At what point can a procedure be applied to prevent, eliminate, or reduce the hazard to an acceptable level? **Any area or procedure in which a hazard could result in an unacceptable human health risk is a critical control point.** The points you select can match the efficiency of your process, just as long as they are the points needed to keep your food safe. You'll find these are common sense, for example, keeping food properly refrigerated and cooking it at adequate temperatures.

Set Critical Limits

Establish the minimum or maximum limit needed to prevent, eliminate, or reduce the hazard to an acceptable level. **A critical limit is the point where corrective action is needed to ensure the hazards are being controlled and that your food product is safe.** The limits may be as unique as your process, but need to incorporate food safety science, such as the set refrigeration and cooking temperature standards given in the Hazards Guide.



Monitoring Procedures

Establish reliable measuring procedures and frequency of measurements at critical control points. Address what will be measured, how it will be done, who will do it, and how often the critical limit will be measured. Again, sophisticated machinery is not always necessary; a reliable measurement may be your facility manager checking the refrigerator temperature twice a day and recording the day, time and temperature with his or her initials on a record in a three-ring binder. This information can help you and your staff see and correct a trend before any product is compromised. **Be sure to include equipment calibration schedules for all your equipment needing it; such as handheld, cooking, or refrigeration thermometers.**

Have Written Corrective Actions

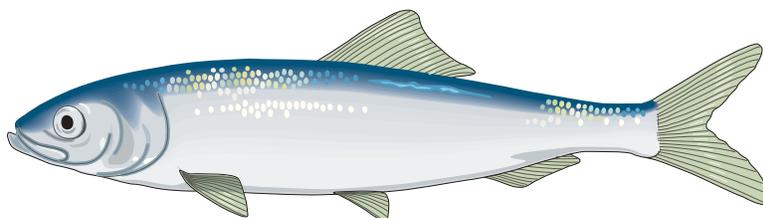
What will you do if a critical control limit is above and/or below acceptable levels? Depending on what hazard exists, you may have to test, recook, rework, or destroy the product. Identify what you will do if any of the critical limits are exceeded or not met.

Establish Records

The records you'll need depend on your process, but they must include your sanitation records, HACCP Plan, records of monitoring and corrective measures, verification procedures, and importer verification records. This may be the most crucial part of your HACCP Plan. By creating a historical record, the ability to pinpoint any problem with your food product will be easy. With good record keeping, you'll be able to analyze your overall operation and as a result improve the overall quality of your product. To make this work, you must practice "positive record keeping," which means documenting your monitoring activities when you are in compliance with critical limits, as well as instances when your limits are exceeded or not met. Records should include the facility's name, day and time of record; who is recording the information; the product identification, and the name of the code records reviewer. The length of time you'll need to retain these records varies, depending on your product: one year for refrigerated product, and two years for frozen, shelf stable, or preserved products.

Verification

At least once a year, verify that your HACCP plan adequately controls food safety hazards and that it is being implemented effectively. Any deviation from a critical limit is an excellent opportunity to review the HACCP plan and ask "Is our plan still valid? Why and how did the deviation occur?" Also, revisit your HACCP plan anytime there is any change to your process or operation, including any change in raw materials or new machinery. Date and sign the front of your HACCP plan after accepting changes or doing a review.



Special Considerations in HACCP Planning

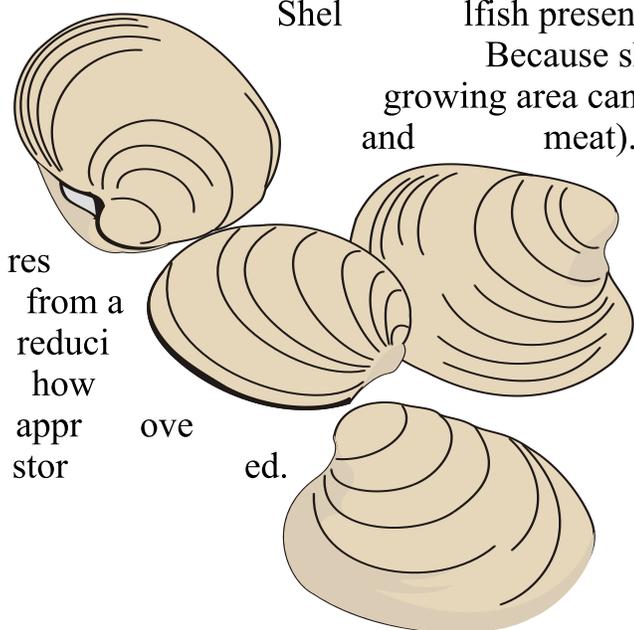
Imports

Anyone importing fish or fishery products into the United States must also follow HACCP regulations. There are two ways to verify that the imported product was processed under a HACCP system: import from countries with a U.S. seafood inspection equivalency or provide written verification procedures (outlined by the FDA). In either case, the U.S. owner or consignee who imports and offers the food for sale is responsible to ensure that the food product is in compliance with HACCP regulations. State how you ensure that any imported products in your processing comply with HACCP regulations.

Smoked Fish

Smoked fish and fishery products have the potential to develop botulism during shelf life, if not processed correctly. Botulism is one of the most poisonous natural toxins and as a result is an extreme hazard to human health. This potential has led FDA to specifically address smoking processes in HACCP planning. State how your processing controls will prevent the development of the botulism toxin during processing or over your product's shelf life.

Shellfish



Shell

fish present a unique challenge in HACCP planning.

Because shellfish are filter feeders, the toxins in the growing area can be concentrated in their tissue (intestines and meat). Raising the hazard potential even higher,

most consumers eat the entire shellfish, either raw or partially cooked. As a result, guaranteeing that the shellfish are from a clean growing area is crucial in reducing the hazards to human health. State how you identify receipt of product from different growing areas and how shellstock are

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Economic Integrity Issues Affecting Your Product

Although HACCP doesn't require processors to consider quality issues, they are still under regulation by the [FDA](#) and the state. Therefore, you may want to consider incorporating quality controls into your HACCP plan in part or whole. Some product quality issues for consideration are correct species representation, grade, size, proportion, breeding, and accurate packaging, and labeling.

Sanitation Standard Operating Procedures

[FDA](#) and the State also require sanitation standard operating procedures (SSOP) for every food processing facility. DEC requires the written plan consist of monitoring and recording procedures such as: the safety of water used in processing; the condition of food contact surfaces; prevention of cross-contamination; maintenance of sanitary facilities; protection of food, packaging, and food contact area from chemical, physical, and biological contaminants; proper labeling, storage, and use of toxic cleaners or substances; and control of employee health conditions.

Review Process

[DEC](#) requires that the hazard analysis, the HACCP plan, a written SSOP plan, and records are available to them on-site and will review them during an inspection. The department may ask that you submit a copy of the plan for its review and comment, although routine submission is not required.

Questions

HACCP is only one aspect of the Department's seafood processing requirements. For a full understanding of the State's requirements, please contact us at:

Seafood Processing Section

Division of Environmental health

555 Cordova Street

Anchorage, Alaska 99501

e-mail address: Joe_Donohue@envircon.state.ak.us

(907) 269-7637 (voice) (907)269-7510 (fax)

Training

Alaska Sea Grant Marine Advisory Program

2221 E. Northern Lights Blvd., Suite 110

Anchorage, Alaska 99508-4140

e-mail address: afdek@uaa.alaska.edu

(907)274-9691 (voice) (907) 277-5242 (fax)

Resources

FDA Fish and Fishery Products Hazard and Control Guide:

<http://wm.cfsan.fda.gov/~dms/haccp-2.html>

Center for Food Safety & Applied Nutrition:

<http://vm.cfsan.fda.gov/list.html>

USDA HACCP Training Programs and Resource Database:

<http://www.nal.usda.gov/fnic/foodborne/foodborn.htm>

Food and Drug Administration HACCP Information:

<http://vm.cfsan.fda.gov/~lrd/haccp.html>

Seafood Network Information Center:

<http://www-seafood.ucdavis.edu/>

Other HACCP Oriented Web Sites:

<http://www.state.ak.us/dec/deh/seafood/haccpweb.htm>

NMFS National Training Branch

978.281.9125

New Hotline: 1.800.HACCP50

