



Fact Sheet

FOOD SAFETY FACTS ON BIVALVE SHELLFISH IN BRITISH COLUMBIA

Bivalve shellfish are an excellent source of protein and are high in essential minerals, and low in calories, fat and cholesterol. However, consumers should be aware of some potential food safety issues associated with bivalve shellfish.

Bivalve shellfish feed by filtering plankton (microscopic marine algae) from the water and this form of feeding may increase the concentration of chemicals, bacteria and viruses from the surrounding water, some of which can cause illness in humans.

What are bivalve shellfish?

Bivalve shellfish have two hinged shells and include oysters, clams, scallops, mussels and cockles.

What are the food safety issues associated with bivalve shellfish?

Marine toxins

Bivalve shellfish can accumulate plankton toxins, Paralytic Shellfish Poison (PSP) and Amnesic Shellfish Poison (ASP), to levels which can cause illness and even death. Unlike bacteria and viruses, **marine toxins are generally not destroyed by cooking**. It is not possible to know if shellfish are toxic by looking at them. Harvest prohibitions are put in place whenever toxin levels increase above the safety standard.

Bacteria and viruses

Bacteria and viruses from the surrounding water, capable of causing illness, may concentrate in bivalve shellfish. Areas not meeting sanitary standards are closed for the harvesting of shellfish. Consumers should also be aware of the potential for illness due to *Vibrio parahaemolyticus* (Vp). Vp is a naturally occurring bacterium found in our coastal waters and during the summer months Vp can increase to levels which may cause illness. Infection results in gastroenteritis, typically including diarrhea and abdominal cramps which may last several days.

Metals and contaminants

Most foods, including shellfish, have trace amounts of contaminants and heavy metals. For most species the levels of these substances are well below established standards. Consumers should be aware of elevated levels of cadmium found in British Columbia (B.C.) oysters and whole scallops. Cadmium is a naturally occurring element found in the environment. Chronic exposure to elevated levels of cadmium over an extended period of time may result in damage to the kidneys, although there is no scientific evidence linking health effects to naturally occurring cadmium found in shellfish.

What can consumers do to minimize the risk of food-borne illness?

- Bivalve shellfish should only be purchased from a reputable retail store or restaurant. Bivalve shellfish must be processed through a federally approved and inspected shellfish processing plant.
- To minimize the risk, keep shellfish cold at all times before consumption.
- Cooking shellfish thoroughly is the most effective way to prevent illnesses from bacteria or viruses. This is especially recommended during the summer months when levels of *Vibrio parahaemolyticus* bacteria are at their highest.
- Following consumption guidelines for oysters will minimize the intake of cadmium. Health Canada recommends that the consumption of B.C. oysters be limited to 460 grams per month for adults and to 60 grams per month for children.
- Consumers who wish to harvest their own shellfish should confirm that the area is not under a harvest prohibition. This information can be obtained from the Fisheries and Oceans Canada (DFO) offices, DFO's 24 hour information telephone line at (604) 666-2828 or the DFO Pacific Region website at www.pac.dfo-mpo.gc.ca. In addition, the DFO Sport Fishing Guide contains valuable information.

What is the federal government doing to enhance the safety of bivalve shellfish for human consumption?

- **Health Canada** establishes all guidelines and action levels for bacteria, toxins and other contaminants in foods.
- The federal government established the Canadian Shellfish Sanitation Program to minimise the risk of consumption of unsafe or unwholesome shellfish. Three departments joined in this initiative:

- **Environment Canada** conducts shoreline sanitary and growing water surveys and identifies areas that do not meet sanitary standards.
- **The Canadian Food Inspection Agency (CFIA)** monitors shellfish growing areas for marine toxins and is also responsible for registering and inspecting fish and shellfish processing plants.
- **Fisheries & Oceans Canada (DFO)** closes harvest areas and prohibits the harvesting of bivalve shellfish whenever bacteriological or toxin levels exceed the established guidelines.

For more information on food safety, visit the Canadian Food Inspection Agency Web site at www.inspection.gc.ca

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