LONG ISLAND SOUND STUDY

Seafood Issues

Should I Continue to Eat Seafood?

Yes! If you select a variety of products from reputable establishments or use recreationally harvested fish in ways consistent with the health advisories and handle them properly, you can feel confident that potential safety concerns associated with seafood are minimized.

Consumers have been receiving mixed messages about the quality of seafood. In response to the concerns raised, the Food and Drug Administration (FDA) reviewed seafood quality issues in 1989 and concluded that American shoppers can be confident that their seafood selections are safe and wholesome.

Seafood is a tasty and nutritious part of a healthy diet, but as with other foods there are things consumers need to know. Potential seafood quality problems result primarily from improper handling, preparation or storage which can taint the product, consequently making people ill. Other potential safety concerns related to natural marine toxins or environmental contaminants are uniquely associated with specific types of fish or particular shellfish growing areas.

Proper Handling is the Best Defense

Proper cooling or refrigeration is essential to preserve the quality of seafood. The U.S. General Accounting Office reported that one of the major causes of seafood-borne illness is mishandling and improper cooking. Seafood should be kept close to 32°F at all times to prevent spoilage. Scombroid poisoning, which results in an allergic reaction, can be prevented simply by properly cooling

and storing fish associated with this illness (tuna, bonito, bluefish and mahi-mahi).

Seafood can be contaminated through contact with other food, equipment or the individuals handling it. Good hygiene and food handling practices (such as clean utensils, countertops and hands) will help prevent bacterial contamination of the seafood you are preparing.

Choosing Seafood

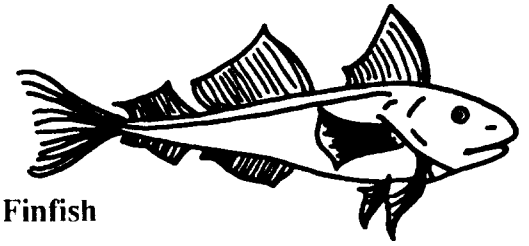
- **Purchase seafood from a reputable establishment and plan ahead to have the equipment (cooler and ice) necessary to keep it cold.**
- **Look for good quality seafood.**
  - **Shellfish: Whole clams, oysters and mussels should be alive (shells will close when tapped). Discard dead ones or those with broken shells.**
  - **Finfish: Fish should have a clean, fresh smell with no fishy or other "off" odors. Gills should be bright red or pink. Flesh should be firm and elastic, and the skin should be shiny with firmly attached scales. Undamaged eyes are bright and clear and protrude away from head when fish is fresh.**
- **Refrigerate seafood immediately.**

Handling and Preparation

- Keep raw and cooked seafood cold, 32°-38°F at all times. Flaked or crushed ice will maximize cooling.
- Store whole fish on crushed ice in a cooler or refrigerator.
- Refrigerate live shellfish (clams, oysters and mussels), but don't allow them to dry out. Drastic temperature changes, freshwater and airtight containers can kill live shellfish.
- Don't store fillets or shucked shellfiih directly on ice. Put them in a waterproof container that can be buried in ice or refrigerated.
- Separate raw seafood from cooked and keep seafood separate from other food products during handling, storage and preparation.
- Bake fish 10 minutes per inch of thickness to reach an internal temperature of 145°F.
- Store frozen seafood at 0°F or lower, freezing it in airtight, waterproof containers.
- Thaw seafood slowly in the refrigerator or use cold running water for rapid thawing. NEVER thaw in standing water or at roomtemperature. Frozen seafood can be cooked without thawing. Follow package directions or double usual cooking time.

Raw or Partially Cooked Seafood

Some seafood dishes are commonly eaten raw or lightly cooked. However, raw foods pose a higher risk for causing gastrointestinal and related illnesses than cooked foods do.



1. Finfish

Fish, like other foods, may contain parasites in their flesh, some of which could infect humans when ingested. Historically, parasitic infections have been most frequently associated with freshwater fish. These parasites can infect humans only if the fish eaten is inadequately cooked.

Raw or Partially Cooked Finfish

- Fish for raw or purposely undercooked dishes should be frozen for 5-7 days at -4°F to eliminate parasites. Check the temperature in your freezer to be sure it reaches -4°F.
- Thaw properly (refer to handling tips).

2. Shellfish

Because bivalve shellfish – clams, oysters and mussels – feed by filtering food from the waters they live in, they accumulate microorganisms and other small particles. When people eat raw shellfish, any microorganisms that were filtered from the water are also ingested. If shellfish harvested illegally from waters containing unacceptable levels of pathogenic bacteria are eaten raw, gastrointestinal or a more serious illness could occur.

Under the National Shellfish Sanitation Program, government and industry are working together towards ensuring that shellfish sold in the marketplace don't cause human illness. This program sets standards and monitors

water quality in harvesting areas. To ensure shellfish are harvested from approved areas, an inspection and tagging system has been established. You can ask the seafood dealer to show you the tag that identifies where the shellfish were harvested.

Consumers should use common sense when eating shellfish, especially if they plan to eat them raw.

Raw or Partially Cooked Shellfish

- **Harvest shellfish from approved waters.**
- **Wash before shucking, then eat meats immediately.**
- **Cook as thoroughly as possible. Recommendations vary but it is suggested shellfish be steamed for 4 to 10 minutes after the water has returned to a boil. Although extensive cooking is needed to kill all microorganisms that might be present, it may make the shellfish tough and dry.**
- **High-risk individuals must take special precautions to maintain health and should check with their physician before eating raw shellfish, or avoid it. This category includes people with chronic liver disease (including cirrhosis and hemochromatosis), chronic alcohol abuse, chronic kidney disease, diabetes mellitus, individuals with compromised immune systems (those with cancer, on radiation or chemotherapy and those with AIDS), or those with steroid dependency or achlorhydria.**

Chemical Contaminants

Potentially harmful chemicals, such as polychlorinated biphenyls (PCBs), have been found in a variety of foods including some fresh and saltwater fish. Historically, chemical contaminants have been a concern mainly in inland waters. Chemicals like PCBs persist in the environment and are often stored in fatty tissues and may concentrate in the internal organs of fish and shellfish that inhabit contaminated waters.

State and federal agencies monitor the quality of fish and wildlife and the waters in which they live. When potentially contaminated fish are identified, commercial products are removed from the marketplace and consumption advisories are issued for people who catch and eat their own fish.

Fish consumption advisories for sport-caught fish are available from the state and local health departments, state fisheries agencies, and public education programs such as Sea Grant. Anglers and fish lovers should know these advisories often contain specific recommendations for groups who may be especially susceptible to the effects of chemical pollutants, such as pregnant women, women of childbearing age and children under the age of 15. Since the advisories change from year to year, they're not included here. You should check existing advisories that may cover the waters you fish in.

In the tri-state area, advisories have been issued for only three saltwater fish – striped bass, eels and bluefish – and this is because of suspected elevated levels of PCBs. If you suspect that the fish you catch contains contaminants, you should follow trimming guidelines which recommend removing fat to minimize contaminant levels.

Minimizing Potential Exposure to Chemical Contaminants

- Eat a variety of different fish and shellfish.
- Follow consumption advisories.
- Choose smaller individual fish within legal size since smaller ones are likely to contain less contaminants than larger ones.
- Avoid eating internal organs such as fish livers, lobster tomalleys and crab mustards that may have come from contaminated waters as contaminants tend to accumulate in these organs.
- Allow fats to drain away when cooking (bake or broil on a rack) and discard any cooking liquids.

Naturally Occurring Toxins

Toxins produced by marine phytoplankton have also been associated with human illness. One type of toxin called "ciguatera" is only associated with fish from tropical areas of the world. Locally, plankton that causes red tide can cause illness if one eats shellfish that have accumulated its toxin. Fortunately, shellfish growing waters are routinely monitored for red tide, to prevent toxin containing shellfish from reaching the market.

What Role Does the Consumer Play?

As a consumer, you have a responsibility to become more familiar with seafood products. Knowing proper handling and preparation techniques will help ensure that the seafood you and your family eat is safe and wholesome.

For More Information On Seafood Quality and Safety Contact:

New York	
Department of Health	(800) 458–1158
Department of Environmental Conservation	(516) 751–7900
Sea Grant Extension Program	(516) 632-8730
Connecticut	
Department of Health Services	(203) 566-8167
Department of Environmental Protection	(203) 443-0166
Department of Agriculture	(203) 874-0696
Sea Grant Marine Advisory Program	(203) 445-8664

The Long Island Sound Study

The Long Island Sound Study (LISS) is a six-year research and management project that began in 1985 as part of the National Estuary Program, a recent addition to the federal Clean Water Act created to protect estuaries of national importance. The LISS is a cooperative effort involving research institutions, regulatory agencies, marine user groups and other concerned organizations and individuals. The purpose of the Study is to produce a management plan for the Sound that will be administered by the three major LISS partners, the Environmental Protection Agency and the states of Connecticut and New York. To get involved with the Study, or for more information, contact: the New York Sea Grant Extension Program, Dutchess Hall, SUNY, Stony Brook, NY 11794, Tel. (5 16) 632-8737; or the Connecticut Sea Grant Marine Advisory Program, 43 Marne Street, Hamden, CT 06514, Tel. (203) 789-7865.

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