



Facts About...

PUBLIC HEALTH RISKS FROM EATING OYSTERS GROWN BY OYSTER GARDENERS AT PRIVATE PIERS

Oyster Gardening, the practice of growing oysters at private piers for ecological benefits, is expanding in Maryland. Recognizing the possible presence of harmful pathogens in the oysters raised by gardeners, the Maryland Departments of Environment, Natural Resources and Health & Mental Hygiene urge oyster gardeners against eating the shellfish that they raise. Areas around private piers are not routinely tested and approved for shellfish harvest by State officials and may be subjected to pollution sources such as unexpected failures of a neighbor's septic system, drainage of water from yards where pets are kept and other factors that can introduce disease-causing organisms, which can be concentrated by oysters, posing a health risk to people that consume them. Consequently, it is not safe to eat these oysters.

There are a number of human illnesses that are caused by the transfer of disease causing organisms from pollution sources to raw shellfish. Sources of human pathogens that could cause illness may be associated with human sources and animal sources such as pets, birds, farm animals, and wildlife. While these pathogens do not infect the shellfish, oysters and clams may filter the disease-causing organisms out of the water and can accumulate enough of them to make consumers of raw or partially cooked shellfish ill. Some of the most common pathogens associated with consumption of raw or undercooked shellfish include, *Noroviruses*, *Hepatitis A virus*, *Salmonella*, *Shigella*, *Escherichia coli*, and *Campylobacter jejuni*.

In Maryland, the responsibility for the sanitary control of the shellfish industry is split among three state agencies: Maryland Department of Environment (MDE), the Department of Natural Resources (DNR), and Department of Health and Mental Hygiene (DHMH). MDE is responsible for identifying and eliminating pollution sources affecting Maryland's shellfish harvesting waters, as well as determining waters where the shellfish harvested are safe for human consumption. DNR is responsible for harvest controls, posting areas restricted to shellfish harvesting, and patrolling these areas to prevent illegal harvesting. DHMH is responsible for any food control measures necessary to ensure that shellfish are harvested, processed, packaged and transported under sanitary conditions. DHMH also regulates shellfish dealers to assure compliance with the required sanitary standards.

Oysters commercially harvested from approved waters, packed under sanitary conditions, and properly refrigerated are usually safe to eat raw or cooked by healthy individuals. Cooking oysters to an internal temperature of 140° F or greater for 4 to 6 minutes destroys the common microorganisms of public health concern. The nutritional value of oysters is very good. Raw oysters have a protein content of about 9 percent, and a fat content of less than 2 percent. One-half pound of raw oysters contains about 150 calories. The cholesterol content of oysters is 50 milligrams/100 grams of meat, and the sodium content is 109 milligrams/100 grams. Oysters are also very high in iron content.

Health risk associated with *Vibrio* bacteria. In addition to pathogenic bacteria and viruses associated with pollution sources *Vibrio* bacteria are found naturally in all coastal waters, including waters which are approved for oyster and clam harvesting. *Vibrio* are present in high numbers in the Chesapeake Bay when water temperatures are above 60° F. Not all *vibrio* are pathogenic, however the most common illness is gastroenteritis associated with pathogenic strains of *Vibrio parahaemolyticus*, and everyone is at risk. Certain individuals, those with predisposed medical conditions, are at a higher risk for a more severe illness from another species, *Vibrio vulnificus*. People at "high risk" include those who have liver disease, excessive alcohol intake, diabetes, AIDS or HIV infection, or any illness or medical treatment which results in a compromised immune system. Symptoms of illness include vomiting, diarrhea, stomach pains, severe weakness, skin rashes, blisters shaking chills and high fever, and can cause death in high risk individuals. Older adults are more likely to have these health conditions and should be aware of their health status. Anyone at high risk needs to be especially careful to avoid eating raw shellfish. Anyone at high risk with any of these symptoms after eating raw oysters should see a doctor immediately for treatment. For more information contact: Maryland Department of Environment www.mde.state.md.us; Department of Natural Resources www.dnr.state.md.us; Department of Health & Mental Hygiene www.dhmh.maryland.gov