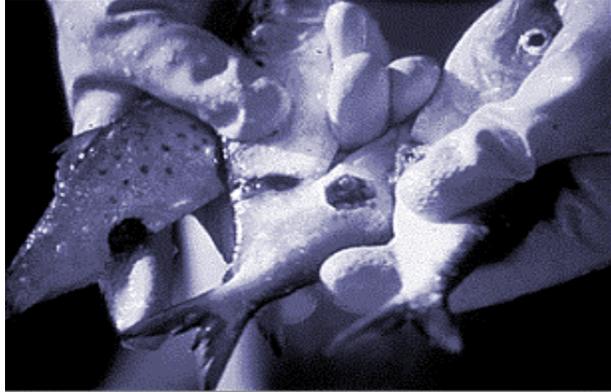


What You Should Know About Fish Lesions

Background (9/8/99)

There are many causes of fish kills and fish lesions (changes in color or breaks in the skin or fins of a fish). They routinely occur from time to time and are generally not a cause for alarm. However, public concern arose in the summer of 1997 when toxic *Pfiesteria piscicida*, first discovered in North Carolina in 1988, was linked to fish lesions and fish health problems in three Maryland rivers that are tributaries of the Chesapeake Bay.



Fish Lesions
Photo Courtesy of North Carolina State University

F What is a lesion?

A lesion is a change in color or an opening in the skin or fins of a fish. The lesion may be on the skin surface only, or it may go deeper into the muscle or organs of the fish.

F Why do fish get lesions?

Fish can get lesions if they are injured in a net or trap, or are bitten by another animal. Fish may also get lesions from stress, algae, fungi, bacteria, parasites, *Pfiesteria* toxins, and changes in weather or diet, or polluted water (such as water with sewage or runoff from

cities and farms).

F Can we tell what caused the lesion?

No one can tell what caused a lesion just by looking at it. Sometimes, scientists can examine the lesion with special tools to tell what fungus or parasites are currently present. But most of the time, they don't know what started the lesion because the different causes can act together or follow one after another, making it hard to know what happened first.

Related Web Sites

U.S. Geologic Survey	http://www.usgs.gov/pfiesteria.html
U.S. Environmental Protection Agency	http://www.epa.gov/owow/estuaries/pfiesteria/
National Oceanic & Atmospheric Administration	http://www.cop.noaa.gov/projects/pfiesteria.html
Fish Health in the Chesapeake Bay	http://www.mdsg.umd.edu:80/fish-health/
<i>Pfiesteria</i> and Fish Health in Maryland	http://www.dnr.state.md.us/fishhealth.html
Virginia Institute of Marine Science	http://www.vims.edu/welcome/news/pfiesteria/
North Carolina 1999 Fish Kill Update	http://207.4.102.3/Fishkill/fishkill99.htm
South Carolina	http://www.state.sc.us/dhec/fspfies.htm



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F Can I get sick from touching fish with lesions?

Maybe. However, without knowing what caused the fish lesions, you can't tell if contact with the water or the fish could make you sick. To protect people, state authorities use reports of fish with lesions along with other information (number of dead fish, fish behavior, and chemical and biological water conditions) in making decisions to close or not close tidal waters.

We do know that certain bacteria can cause lesions on fish and may infect humans as well, making them sick or causing persistent sores called "fish handler's disease." Also, some people have complained about flu-like illness, skin rashes, short-term memory loss, and confusion after being in or near waters that contain toxic *Pfiesteria*. Some research studies also have shown these symptoms, while others have not.

F If I catch or see a fish with lesions, does it mean that toxic *Pfiesteria piscicida* is in the water?

Not necessarily. Most lesions have causes other than *Pfiesteria*. To be on the safe side, contact the appropriate state hotline listed below. Scientists will need several weeks to do special tests to find out if *Pfiesteria* is in the water.

F Can I get sick from eating fish or shellfish caught at the time of a toxic *Pfiesteria piscicida* outbreak?

There is no evidence that shows people can get sick from eating fish or shellfish that have been caught in coastal waters that contain toxic *Pfiesteria piscicida*. However, to be safe, do not eat fish with lesions.

What is *Pfiesteria piscicida*?

Pfiesteria piscicida is a microscopic organism called a dinoflagellate. It has been associated with fish lesions and fish kills in Maryland, Delaware and North Carolina tidal waters. Dinoflagellates are a natural part of the marine environment. Most dinoflagellates are not harmful, and *Pfiesteria* is harmful only under certain conditions.

F How do fish act in a toxic outbreak of *Pfiesteria piscicida*?

They act strangely, appearing to dance on the surface or swimming in circles or swaying very slowly from side to side. At other times, they may act tired and stay in the same area of water even if approached.

F What should I do if I see fish with lesions?

Use common sense. Seeing a few dead fish with lesions is generally not a cause for concern. However, if you see many dead fish, many fish with lesions, or many fish acting strangely, don't touch the fish or the water and leave the area immediately. Call the telephone number for your state below to report what you saw.

If your health changes after seeing or touching fish with lesions, call your doctor and the telephone number below for your state to report what you saw and how you feel.

State Hotlines:

Delaware	1-800-523-3336	North Carolina	1-888-823-6915
Maryland	1-888-584-3110	South Carolina	1-888-481-0125
Virginia	1-888-238-6154	Georgia	1-800-241-4113
		Florida	1-800-636-0511