

# Mercury *in Our Waters*

What you need to know to make the  
right decisions for you and your family



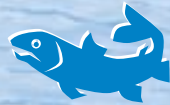
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## What is **MERCURY?**

Mercury is a naturally occurring element that is toxic to humans and wildlife. Although mercury exists naturally in the environment, it is also found in a number of household, medical, and industrial products.

## How does **MERCURY enter the ENVIRONMENT?**

Mercury reaches waterbodies in the Northeast by two main pathways:

- Rain and snow that are contaminated with mercury from air pollution
- Direct discharge from wastewater treatment plants and industries

Mercury is released into the air primarily through the burning of coal at power plants and the burning of mercury-containing wastes. Discharge from wastewater treatment plants may contain mercury from products used in dental clinics, health care facilities, laboratories, and homes. Once mercury reaches a waterbody, bacteria convert it to its more toxic form, methylmercury, which can accumulate in fish and other aquatic organisms.

## How are we EXPOSED to MERCURY?

The primary route of human exposure to mercury is through consumption of contaminated fish. Humans may also be exposed to mercury through vapors emitted when mercury-containing products such as thermometers and fluorescent light bulbs are broken.

Humans are not the only species affected by mercury. Fish-eating wildlife such as eagles, ospreys, loons, turtles, mink, and otters can suffer early death, weight loss, and reproductive difficulties as a result of mercury exposure.



### Mercury in Fish

Fish is a healthy source of protein, so it should not be eliminated from your family's diet. However, it is important to limit consumption of certain types of fish. Each of the Northeast states has issued fish consumption advisories for its waterbodies. These advisories indicate the amount of each type of fish you and your children can safely consume. Visit your state health department's website for fish consumption advice for your state or visit [www.epa.gov/waterscience/fish/advisories](http://www.epa.gov/waterscience/fish/advisories) to search for advisories across the country.

### Mercury-Containing Products

Mercury is found in many products that you may use on a daily basis, including:

- Switches in cars, freezers, and ovens
- Fluorescent lamps
- Thermometers, barometers, and blood pressure cuffs
- Button cell batteries, such as those used in hearing aids and watches
- Some laboratory and pharmaceutical chemicals, paints, and pesticides
- Cleaning products, including some brands of disinfectants and detergents



If these products are disposed of in household trash, they end up in landfills or municipal waste combustors. When the products are burned, mercury is released to the atmosphere, where it can be deposited into waterbodies and contaminate fish. If household cleaning products are poured down a drain, they end up at wastewater treatment plants and in septic systems, and eventually in waterbodies.

### Dental Mercury

Mercury is used to make dental amalgam, which is used as filling material to restore teeth. Studies have shown that more than half of the amalgam mixed for fillings becomes waste. If not disposed of properly, this mercury is discharged to wastewater treatment plants and septic systems and can eventually make its way into lakes, rivers, or groundwater. Dentists can install filters to separate amalgam from other waste, so that it can be recycled. Some of the Northeast states have laws that require dentists to install amalgam separators, but installation is voluntary in other states.



## What are the **HEALTH EFFECTS** associated with **MERCURY EXPOSURE**?

The developing fetus is at the greatest risk for health effects from methylmercury exposure because it can be affected by levels that are not harmful to the mother. In utero exposure to methylmercury is associated with:

- Delayed development
- Impacts on cognitive thinking
- Impaired visual-spatial skills
- Attention and behavior problems
- Impaired motor function
- Poor hearing

The health effects of methylmercury on adults include:

- Tingling in hands and feet
- Brain and kidney damage
- Lack of coordination
- Skin rashes
- Impaired speech, hearing, and vision
- Abnormal behavior

## What can you do to **REDUCE MERCURY** in the **ENVIRONMENT**?

- Dispose of mercury-containing products properly.  
Visit [www.earth911.org](http://www.earth911.org) to find a household hazardous waste collection center near you.
- Discontinue use of household products containing mercury.
- When possible, replace mercury-containing products with mercury-free alternatives.  
Visit [www.informinc.org/fsmercaltts.pdf](http://www.informinc.org/fsmercaltts.pdf) to see a list of mercury-containing products and alternatives.
- Ask your dentist about his or her mercury use, disposal practices, and alternatives to mercury amalgam fillings.

# How does MERCURY end up on YOUR PLATE?

**Mercury is released into the air through the burning of fossil fuels and incineration of mercury-containing wastes.**

**Mercury from the atmosphere is deposited on waterbodies through rain and snow.** Mercury is also discharged directly into waterbodies by wastewater treatment plants and industries. Bacteria in the water transform mercury to its more toxic form, methylmercury.

**Fish absorb methylmercury when they consume bacteria, plankton, and other fish.** Methylmercury accumulates over time and levels increase as you move up the food chain. Large species such as swordfish tend to have much higher levels than smaller fish.

**Humans consume methylmercury by eating contaminated fish.** Consumption of large quantities of fish can result in adverse health effects.



## For more INFORMATION

### NEIWPPC

[www.neiwppc.org/mercury](http://www.neiwppc.org/mercury)

### EPA

[www.epa.gov/mercury](http://www.epa.gov/mercury)

### Connecticut

Department of Environmental Protection  
[www.dep.state.ct.us/wst/mercury/mercury.htm](http://www.dep.state.ct.us/wst/mercury/mercury.htm)

Department of Health  
[www.dph.state.ct.us/BRS/EOHA/webfsh.htm](http://www.dph.state.ct.us/BRS/EOHA/webfsh.htm)

### Maine

Department of Environmental Protection  
[www.maine.gov/dep/mercury](http://www.maine.gov/dep/mercury)

Bureau of Health  
[www.maine.gov/dhs/ehu/fish](http://www.maine.gov/dhs/ehu/fish)

### Massachusetts

Department of Environmental Protection  
[www.mass.gov/dep/bwp/hgres.htm](http://www.mass.gov/dep/bwp/hgres.htm)

Department of Public Health  
[www.mass.gov/dph/topics/mercury.htm](http://www.mass.gov/dph/topics/mercury.htm)

### New Hampshire

Department of Environmental Services  
[www.des.state.nh.us/nhppp/mercury](http://www.des.state.nh.us/nhppp/mercury)

### New York

Department of Environmental Conservation  
[www.dec.state.ny.us/website/dshm/redrecy/mercury.htm](http://www.dec.state.ny.us/website/dshm/redrecy/mercury.htm)

Department of Health  
[www.health.state.ny.us/nysdoh/fish/fish.htm](http://www.health.state.ny.us/nysdoh/fish/fish.htm)

### Rhode Island

Department of Environmental Management  
[www.state.ri.us/dem/topics/mercury.htm](http://www.state.ri.us/dem/topics/mercury.htm)

Department of Health  
[www.health.ri.gov/topics/mercury.php](http://www.health.ri.gov/topics/mercury.php)

### Vermont

Department of Environmental Conservation  
[www.anr.state.vt.us/dec/waterq/lakes/htm/lp\\_mercury.htm](http://www.anr.state.vt.us/dec/waterq/lakes/htm/lp_mercury.htm)

Department of Health  
[www.healthyvermonters.info/hp/airquality/mercury.shtml](http://www.healthyvermonters.info/hp/airquality/mercury.shtml)