

Florida's Statewide Mercury TMDL

*Fact Sheet
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Eating Fish is an important part of a healthy diet

Rich in vitamins and low in fat, fish contains protein we need for strong bodies. It is also an excellent source of nutrition for proper growth and development. In fact, the American Heart Association recommends that you eat two meals of fish or seafood every week. Most Florida seafood has low to medium levels of mercury. Depending on the age of the fish, the type of fish, and the condition of the water the fish lives in, the levels of mercury found in fish are different.

Why is Mercury a Concern?

Mercury (Hg) is a chemical element that occurs naturally in the earth's crust, as a gas in the atmosphere, and dissolved in minute quantities in the ocean. Mercury can be natural in the environment or may occur due to pollution from electronic power plant, mining, and other industrial sources.

Because mercury can both evaporate into air and dissolve into water, it can cycle between land, the atmosphere, and water such as lakes, streams, and oceans. Mercury may also be converted into methylmercury (methylmercury or MeHg) by certain groups of naturally occurring bacteria. Methylmercury is a harmful form of mercury that can strongly concentrate (bioaccumulate) in aquatic organisms and other wildlife that consume fish. Although the concentration of mercury in waters of lakes, streams and coastal waters is usually very low, concentrations in fish tissue may be many times higher due to bioaccumulation and reach concentrations that may be above recommended consumption levels.

Almost all of human exposure to methylmercury results from eating fish. Methylmercury exposure to women of childbearing age and young children increases the risk of learning disabilities in children, and may increase the rate of heart attacks in adults.

Florida specific guidelines make eating choices easier.

For most people, freshwater fish caught in Florida are not a health concern. Species that are lower on the food chain, and smaller, younger (but legal sized) individuals of a given fish species.

To lower the risk of harm from mercury found in other fish caught in Florida, guidelines based on tests of various freshwater, marine and estuarine water bodies are presented in the tables available through links below. This information should be used by everyone to determine the type and amount of fish to eat or avoid.

Floridians should the advisories found at the following link as the DOH guidance for selecting fish that are lower in mercury so they are able to continue eating fish as part of a healthy diet: <http://www.doh.state.fl.us/floridafishadvice/Facts.htm>.

Florida's Mercury Total Maximum Daily Load (TMDL)

The Florida Department of Environmental Protection (FDEP) is taking action to establish a statewide mercury reduction goal called a Total Maximum Daily Load or TMDL to address excess levels of mercury found in some Florida fish. This TMDL will address both freshwater and marine fish on a statewide or regional basis.

What is a TMDL (Total Maximum Daily Load)?

A TMDL is the scientific determination of the maximum amount of a given pollutant that a surface water can absorb and still meet the water quality standards that protect human health and aquatic life. Waterbodies that do not meet water quality standards are identified as "impaired" for the particular pollutants of concern—nutrients, bacteria, mercury, etc.—and

TMDLs must be developed, adopted and implemented for those pollutants in order to reduce pollutants and restore the water body so that designated uses are attained.

The threshold limits on pollutants in surface waters – Florida’s surface water quality standards – are set forth primarily in rules 62-302 and 62-303 of the Florida Administrative Code (FAC).

How are Florida’s waters assessed?

For assessment purposes, the FDEP has divided the State’s surface waters into over 6400 assessment units, each with a unique waterbody identification number (WBID). FDEP assesses mercury impairments based on the Florida Department of Health’s (DOH) fish consumption advisories. DOH issues advisories recommending that individuals limit their consumption of certain fish from water bodies where mercury concentrations are elevated.

Mercury Impaired Waters

Currently in Florida, there are a total of 12,994 square miles (freshwater and marine) and 2,903 stream miles of waters that have been verified by the State as impaired for mercury.

Number of WBIDs and Miles/Square Miles Impaired for Mercury (in Fish Tissue) by Waterbody Type

Waterbody Type	Number of WBIDs Impaired	Miles Impaired
Streams/Rivers	265	2,903

Waterbody Type	Number of WBIDs Impaired	Square Miles Impaired
Lakes	128	1,344
Estuaries	588	5,163
Coastal	151	6,487

Sources of Mercury to the State

Atmospheric deposition of mercury (from rainfall and the settling of dust) to waterbodies is the predominant source of mercury in Florida. While a portion of the mercury present in the atmosphere is due to natural processes (e.g., emissions from volcanoes), about two-thirds is from human activities which release mercury to the air. The sources of mercury to Florida’s waterbodies originate globally and locally, coming from halfway around the world and from local sources. Florida’s latitude, geographical setting and meteorology allow a high rate of mercury deposition from the atmosphere onto Florida’s lands and waters.