

# Communicating Fish Consumption Risks: Lessons from U.S. Fish Consumption Health Advisory Programs

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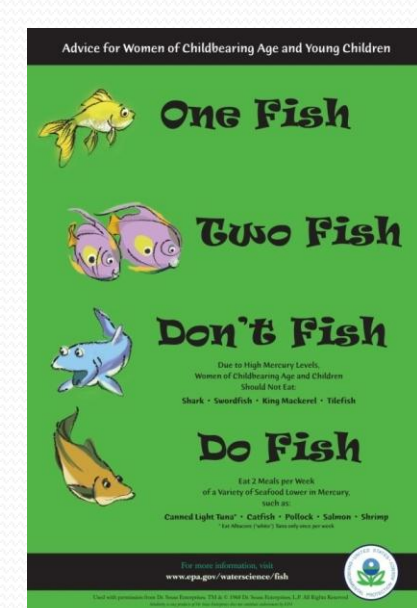
## Introduction



As a result of concerns about chemical contaminants in fish, many U.S. state, federal, and tribal governments issue fish consumption health advisories to provide recommendations that people limit or avoid eating certain species of fish caught in certain waters. Most U.S. fish consumption health advisories address persistent chemical contaminants such as mercury, PCBs, dioxins, chlordane, or DDT. Lessons learned from health advisories designed to provide guidance about fish consumption from waters affected by contaminants may be relevant for other fish contamination contexts, such as concerns about radiation in fish associated with the Fukushima releases.



## Health Advisory Overview

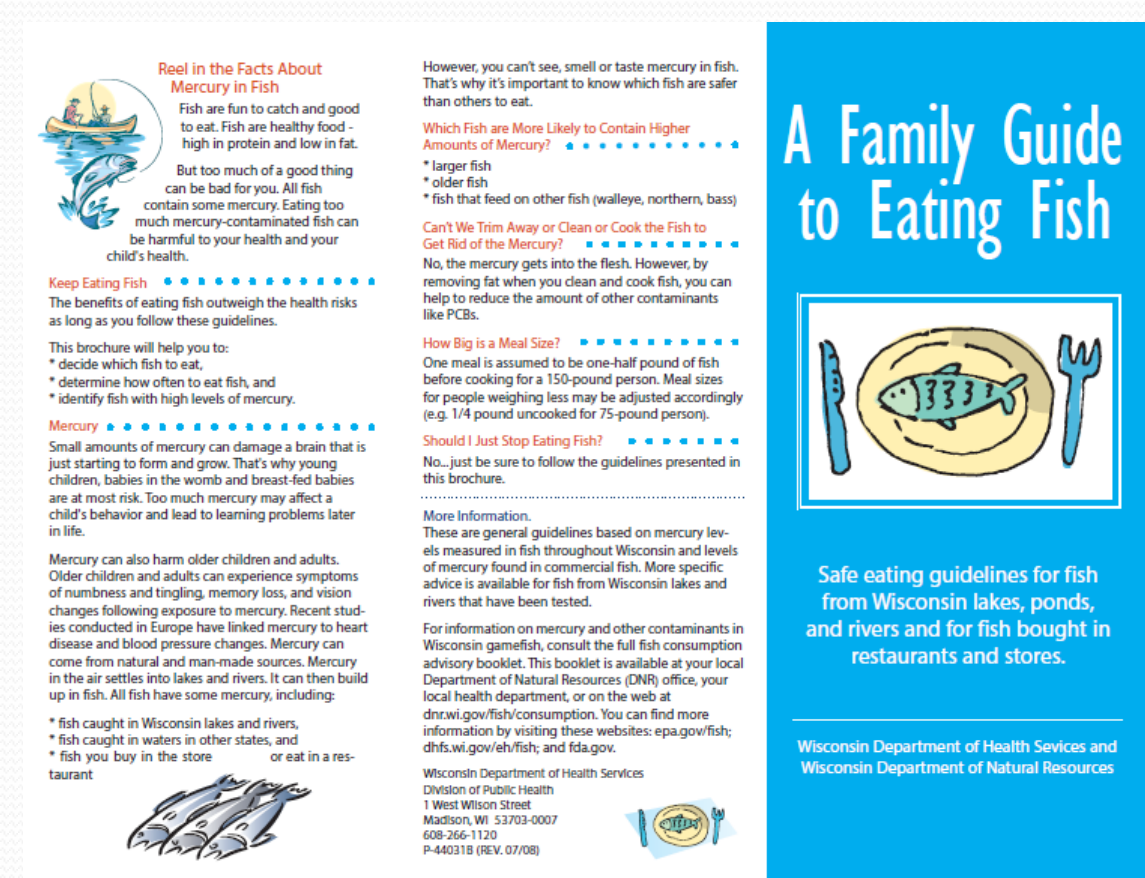


A fish consumption health advisory is not a regulation; it is a recommendation issued to protect public health, but depends on people choosing to follow the recommendation.

Typically, health advisory recommendations are developed using a risk-based approach informed by chemical contaminant monitoring data.

Health advisories often include different recommendations for different types of people, such as:

- children
- nursing mothers
- women who are pregnant
- women of childbearing age
- general public
- recreational or subsistence fishers



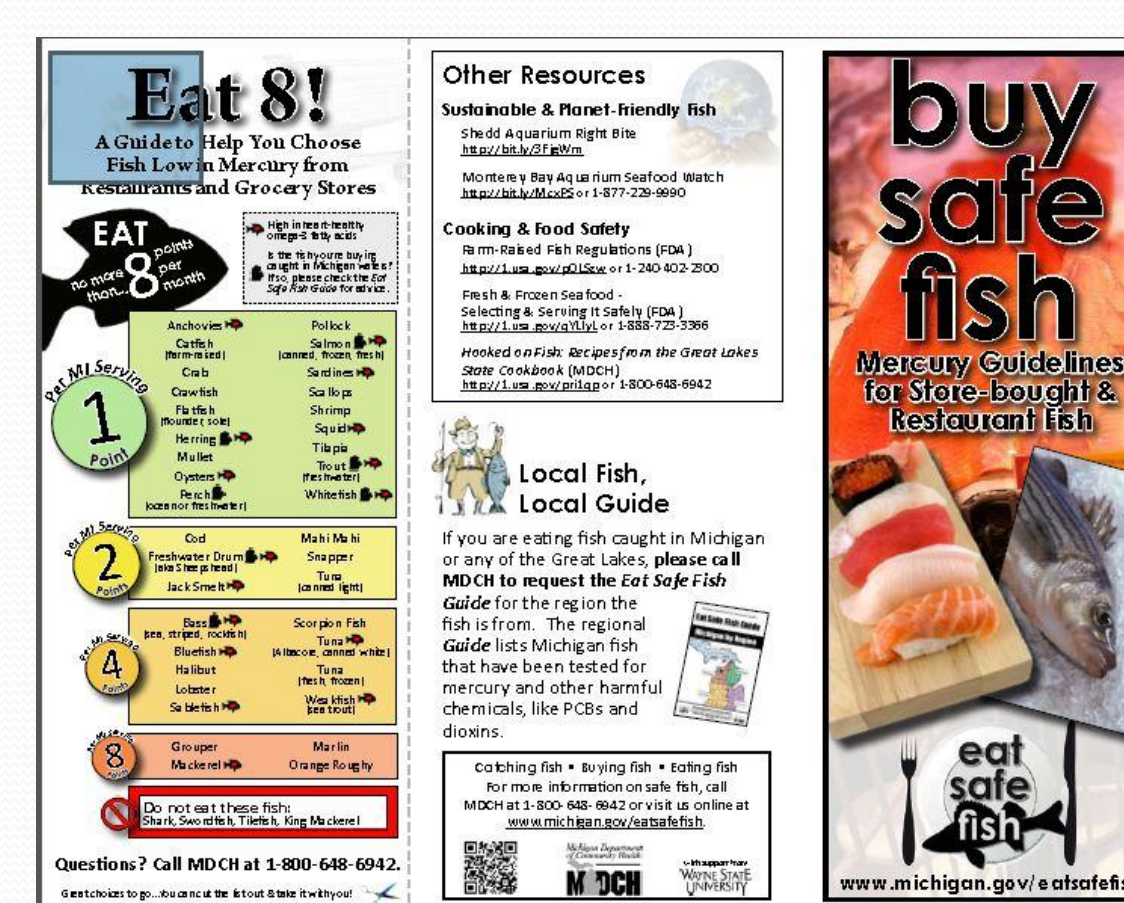
## Health Advisory Information



The U.S. Environmental Protection Agency maintains a database of all fish advisories issued by federal, state, tribal, or local agencies at <http://water.epa.gov/scitech/swguidance/fishshellfish/fishadvisories/general.cfm#data>

Health advisories typically include information about:

- safer fish species
- safer fish sizes
- specific water bodies
- contaminants of concern
- health effects associated with the contaminants
- benefits of eating fish



## Risk Communication Research

Several key findings emerge from risk communication studies on health advisories:

- Consistent risk messages are important; contradictory messages can erode trust in the agency and produce doubts about the credibility of health advisory recommendations, correlating with diminished effectiveness of health advisories (Vardeman & Aldoori 2008).
- Interpretation of and responses to health advisories differ based on education, gender, age, income, and other factors, making it difficult to develop one overall approach to communicating the health risks from fish consumption (Connelly & Knuth 1998).
- Desired fish consumption behavior correlates with language simplicity (vs. complexity); use of visual aids (vs. text-only); use of cajoling language (vs. commanding language); and presentation of relative risks (Connelly & Knuth 1998).
- Likelihood of complying with health advisory recommendations correlates with level of concern about health risks, and with family and friends believing that following health advisories is important (Connelly et al., 2012).

## Risk Communication Research (cont'd)

• Desired fish consumption behaviors are encouraged by comparative risk information in health advisories, such as comparing the health risks and benefits associated with eating fish vs. risks and benefits of other types of food, or comparing the risks for different fish species or for fish from different water bodies (Knuth et al., 2003).

## Factors Influencing Fish Consumption

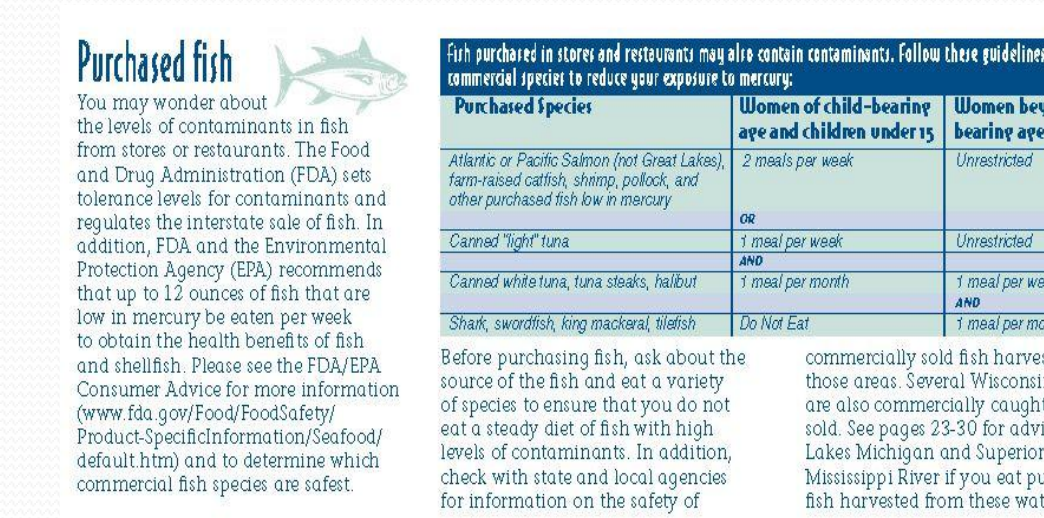
Studies framed by the Theory of Planned Behavior suggest that fish consumption is influenced by:

- (1) An individual's attitude about the behavior (e.g., is eating any fish viewed as generally positive or generally negative?);
- (2) Perceived personal behavioral control (e.g., how easy or difficult is it to follow the health advisory recommendations?); and
- (3) Subjective norm (e.g., what social pressures does an individual experience when deciding whether or not to eat fish?).



## Potential Implications for Fukushima Fish Consumption Messages

- Explain the contaminant monitoring protocol.
- Use consistent, simple messages.
- Provide comparative risk information relative to other foods.
- Indicate which fish species have lower contaminant levels.
- Indicate which locations/waters have lower contaminant levels.
- Frame the message in a way that suggests personal control.



## Literature Cited

Connelly & Knuth. 1998. Evaluating risk communication: Examining target audience perceptions about four presentation formats for fish consumption health advisory information. *Risk Analysis*, 18: 649-659.

Connelly, Lauber, Niederdeppe, Knuth. 2012. Factors affecting fish consumption among anglers living in the Great Lakes Region. *HDRU Series No. 12-3*, Cornell University.

Knuth, Connelly, Sheeska, Patterson. 2003. Weighing health benefit and health risk information when consuming sport-caught fish. *Risk Analysis*. 23: 1185-1197.

Vardeman & Aldoori. 2008. A qualitative study of how women make meaning of contradictory media messages about the risks of eating fish. *Health Communication*, 23: 282-291.