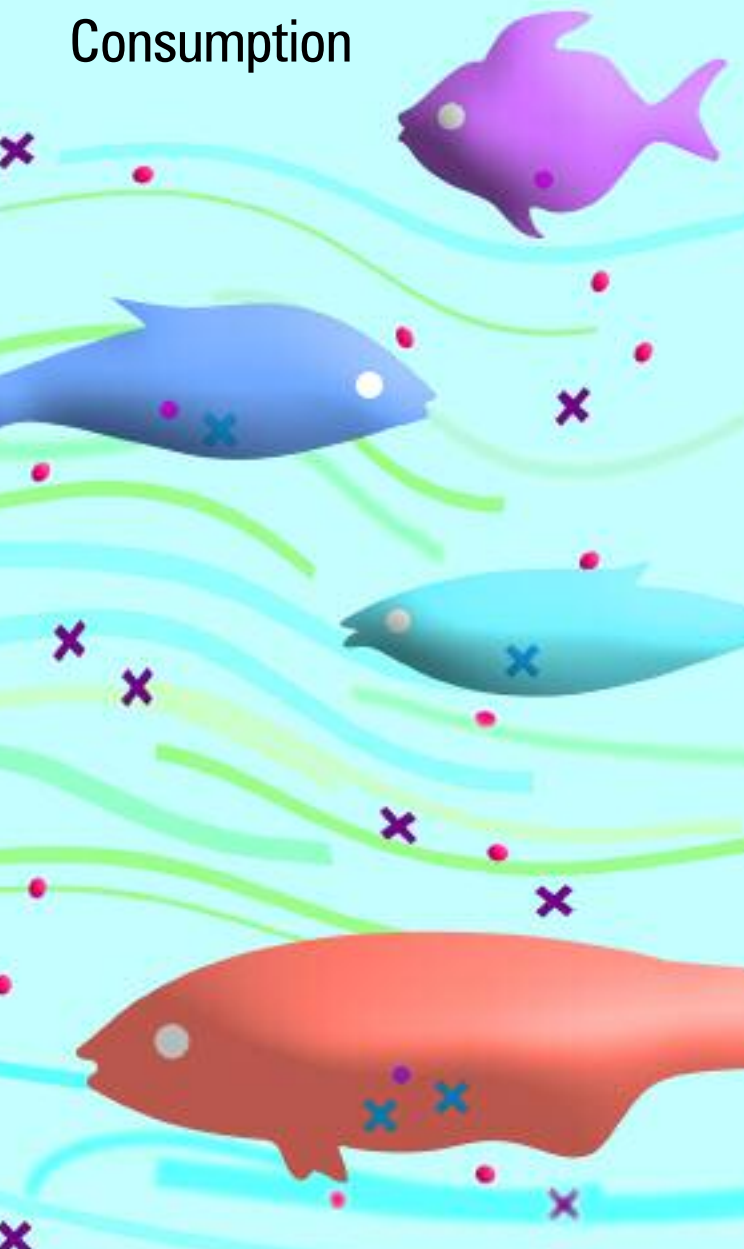


# Contaminants in Fish & Seafood

A Guide to Safe  
Consumption



# Fish are an excellent source of proteins, minerals and vitamins.

Fish are an excellent source of protein and other nutrients that play a role in maintaining a healthy, well-balanced diet.

However, did you know that some fish can contain harmful contaminants? This is of special concern if you are pregnant, nursing a baby, or have a young child. Contaminated fish may not look, smell, or taste different. But they can still harm you and your child.

## You can still get the benefits of eating fish by wisely choosing:

- safer types of fish
- safer ways to prepare fish
- how often you eat fish

This publication includes more information about these recommendations. However, you should also discuss fish consumption with your healthcare provider.

## Comparison of Food Composition

Amount		Calories	Protein (gr.)	Fat (gr.)
<b>Beef burger</b>	3.5 Oz.	219	27.4	11.3
<b>Chicken roasted</b>	3.5 oz.	166	31.6	3.4
<b>Egg</b>	1 large	82	6.5	5.8
<b>Halibut</b>	3.5 oz.	171	25.2	7.0
<b>Herring</b>	3.5 oz.	98	17.5	2.6
<b>Ocean Perch</b>	3.5 oz.	227	19	13.3



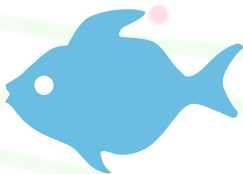
# Mercury and PCBs: Chemicals Affecting Babies and Young Children

Exposure to low levels of some contaminants may have long lasting health effects on your body. Mercury and polychlorinated biphenyls (PCBs) are among the major contaminants found in Indiana fish.

Harmful levels of PCBs and mercury can build up in your body without you even being aware of it. These contaminants can be especially harmful to your developing child during pregnancy because you can pass the contaminants directly to your baby.

Above certain levels, mercury can damage the nervous system, particularly in developing children. Low amounts of mercury may cause subtle effects on the central nervous system, such as learning deficits. PCBs have also been linked to learning deficits in children as well as children displaying more behavioral problems.

Your exposure to these contaminants before pregnancy matters too! Women who may become pregnant should follow the fish consumption advice in this brochure, since traces of these contaminants may remain in your body for a period of time after ingestion. Over time, your body can rid itself of some contaminants however, you can reduce your risk of exposure as well as your future child's risk by following the advice in this brochure as well as consulting your healthcare provider.



# Reduce Your Exposure to PCBs and Mercury

## The Type of Fish

- Always remember to eat a variety of fish. Fish with more fatty flesh tend to accumulate contaminants such as PCBs (PCBs have an affinity to collect in the fat). Fish that tend to be fatty are catfish (excluding farm raised), and the salmonids (e.g., coho and steelhead). Catfish purchased in stores or from restaurants are farm raised and tend to be low in contaminants.
- Predatory fish that eat other fish also build up contaminants. Largemouth bass, as an example tend to have higher levels of mercury. Mercury binds to the muscle and is not removed during cooking.
- Eat smaller fish (within state size regulations). Fish build up contaminants from the water they live in and the food they eat. Larger and or older fish tend to build up contaminants in their bodies.
- Fish that feed along the bottom of lakes, streams and rivers ingest more contaminants than those swimming in the water column (contaminants tend to settle to the bottom with the sediments).



## Choosing Where To Fish

- Protect yourself and your family by knowing where fish have been caught. If you have that knowledge, then use the “Indiana Fish Consumption Advisory” booklet to determine the recommended rate of consumption.
- If you are uncertain about the waterbody from which the fish have been caught, then it is best to discard the fish.

## Follow Consumption Advice

Indiana and neighboring states sharing water bodies have tested several fish species from a variety of lakes, rivers and streams and developed fish consumption advisories where needed. In several instances, fish migratory patterns and feeding habits have resulted in statewide advisories. For a listing of specific water bodies and corresponding fish species please visit <http://iisgcp.org> or call (317) 232-4080 for a copy of Indiana’s Fish Consumption Advisory.

<b>Level of Mercury</b>	<b>Maximum Amount to Eat</b>	<b>Commercial Fish Species</b>
<b>High</b>	<b>Never</b>	tilefish (golden bass or golden snapper), swordfish, shark and king mackerel
<b>Moderate</b>	<b>1 meal per month</b>	grouper, red snapper, marlin, moon fish, orange roughy, saltwater bass, wild trout, bluefish, tuna steaks, northern lobster, croaker, halibut, sablefish and pollock
<b>Low</b>	<b>1 meal per week</b>	canned tuna, crab, cod, mahi mahi, haddock, whitefish, herring and spiny lobster
<b>Lowest</b>	<b>More than 1 meal per week</b>	salmon, oysters, shrimp, farm-raised channel catfish, farm-raised rainbow trout, flounder/sole, perch (saltwater and freshwater), tilapia, clams, scallops and red swamp crayfish

If you are given a recreationally-caught fish, ask what species of fish it is, where it was caught, and check the advisory guide to see if a health advisory exists for that fish.

## **Choose How Much Fish You Should Eat and How Often?**

In some waters of Indiana, the fish are not safe for pregnant or nursing women or young children to eat. Water bodies where the fish are not safe to eat are classified as a Group 5. The advisories range from a Group 1, unlimited consumption to a Group 5 fish which are not safe for human consumption. The advisories are designed to help you understand which fish species to avoid and which species you can eat in limited amounts.

## **Are Store-Bought Fish Safe?**

Consumption advice is usually not necessary for many of the popular seafood species, such as flounder, pollock, cod, salmon, clams and scallops, which have relatively low levels of mercury and are low in fat content.

The Food and Drug Administration is advising pregnant women and women of childbearing age who may become pregnant on the hazard of consuming certain kinds of fish that may contain high levels of methyl mercury. The FDA is advising women not to eat shark, swordfish, king mackerel, and tilefish (golden snapper or golden bass).

*PCBs are stored in fat and can be removed prior to cooking and during the cooking process.*

*Mercury is stored in muscle tissue and cannot be removed by cooking the fish*

Also, the FDA is recommending that women limit their intake of canned tuna or tuna steaks due to potentially high mercury levels.

The FDA advisory board acknowledges that seafood is an important part of a balanced diet for pregnant women and those of childbearing age who become pregnant. The FDA advises women to select a variety of other kinds of fish, including shellfish, canned fish, smaller ocean fish and farm raised fish. Based on FDA recommendations, women, including young children can safely eat 12 ounces per week of cooked fish (a typical serving is 3 to 6 ounces).

## **Preparation and Cooking Guidelines for Fish Under Advisories**

PCBs are stored in the fat of fish whereas mercury is stored in the muscle of the fish. You can reduce the level of PCBs (but not mercury) by properly cleaning, skinning, and trimming the species and by following the cooking recommendations.

- Before cooking, remove and do not eat the organs, head, skin and the dark fatty tissue along the lateral line, backbone and belly.
- Bake or broil the fish on an elevated rack that allows fats to drain to the pan below; do not fry in collected fats.
- After cooking, discard all liquids. Do not reuse for soups or sauces.



## How to Protect Your Baby or Young Child and Still Enjoy Fish

- Remember to consider all sources of fish you eat when making choices.
- Discuss the fish you eat with your healthcare provider.
- Carefully choose the fish you eat prior to becoming pregnant, during pregnancy and while nursing.
- Consider making changes in how you eat fish: the kind of fish you eat; the source of the fish; how much you eat; how often and; how you prepare the fish.
- Eat a variety of foods, including fish.



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<b>Advisory Groups</b>	
<b>Group 1</b>	Unrestricted consumption. One meal per week for women who are pregnant or breastfeeding, women who plan to have children, and children under the age of 15.
<b>Group 2</b>	One meal per week (52 meals per year) for adult males and females. One meal per month for women who are pregnant or breastfeeding, women who plan to have children, and children under the age of 15.
<b>Group 3</b>	One meal per month (12 meals per year) for adult males and females. Women who are pregnant or breastfeeding, women who plan to have children, and children under the age of 15 do not eat
<b>Group 4</b>	One meal every 2 months (6 meals per year) for adult males and females. Women who are pregnant or breastfeeding, women who plan to have children, and children under the age of 15 do not eat.
<b>Group 5</b>	No consumption (DO NOT EAT)

The above tables are located at: <http://fn.cfs.purdue.edu/anglingindiana/>

***For More Information About  
Indiana's Fish Advisories  
contact:***

***Indiana State Department of Health***  
(317) 233-7808

***Indiana Department of Natural Resources***  
(317) 232-4080

***Indiana Department of  
Environmental Management***  
(317) 232-8560

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