

Illinois Fish and Your Health

A Guide to Your Health

Fish are nutritious, but some fish contain chemicals such as polychlorinated biphenyls (PCBs), chlordane and methyl mercury. These chemicals get into the water fish live in and the food they eat, and over time they can build up to levels that may cause health effects in people who eat the fish. It is important to keep exposure to these chemicals as low as possible. The Illinois fish advisory helps you plan what sport fish to eat as well as how often they can be eaten. *The fish advisory is not intended to discourage you from eating fish, but should be used as a guide to eating fish that are low in contaminants.*

Statewide Methyl Mercury Advisory

Since 2002, the Illinois sport fish meal advice has been presented in an expanded format. Previously, advisories based on all contaminants in fish were found in one table. Due to a more restrictive approach for methyl mercury in fish, a general state-wide advisory for predator fish is needed for women of childbearing age and children. In addition, a second table lists those waters where stricter advice for methyl mercury is necessary. **This does not mean that fish have become more contaminated with methyl mercury, only that recent studies have shown that methyl mercury is more toxic than previously thought.**

Health Benefits of Eating More Fish

Eating fish is good for you! When properly prepared, fish provide many health benefits. Many doctors suggest eating one-half pound of fish each week to help prevent heart disease. In fact, the American Heart Association recommends eating two to three fish meals per week. The benefits of eating fish include:

- Almost any kind of fish may have **real health benefits** when it replaces a high-fat source of protein in the diet. Possible health effects associated with high-fat diets include heart disease, high blood pressure, diabetes, and several forms of cancer.
- Fish offer **high-quality protein with fewer calories** than a similar-sized portion of meat. For example, both catfish and ground beef are about 18% protein. However, an 8-ounce meal of the catfish will have only about 232 calories, while the regular ground beef will have about 640 calories.
- Freshwater and saltwater fish alike are both **low in sodium and good sources of potassium, vitamins, and other minerals.**
- Fish are generally **low in cholesterol and saturated fats**, which have been associated with high blood pressure and heart disease. Eating fish regularly may lower the levels of cholesterol and saturated fats in your body.
- Scientific research has revealed beneficial roles of certain fish oils in nutrition and general health. While the benefits of fish on nutrition are still being studied, much of the current research is focused on various kinds of beneficial fats in fish, particularly a kind called omega-3 fatty acids, which are in some fish and fish oils. Some studies have indicated that these fatty acids play an important role in fetal development, and also have favorable effects on health conditions such as hardening of the arteries (atherosclerosis), high levels of cholesterol, high blood pressure, and perhaps even arthritis. Note that atherosclerosis, high blood pressure, and obesity are the three major diet-related factors which increase the risk of developing coronary heart disease the cause of nearly half of all deaths in the United States today. Also, one in five Americans has a problem with atherosclerosis or high blood pressure.

Health Risks

Eating contaminated fish does **not** necessarily mean that you will experience health effects. The health problems that **may** result from chemicals that can build up in fish range from small changes that are hard to detect to birth defects and cancer. The most sensitive of these possible health effects are small changes in infant measurements, such as low birth weights (caused by PCBs), and small changes in the normal physical or mental development of infants and children (caused by PCBs, chlordane, and methyl mercury). Therefore, the meal advice contained in the following tables is primarily aimed at protecting mothers and their children.

If you follow the guidance of the fish advisories, you will keep exposure to these chemicals low for both you and your children.

Cleaning and Cooking

Many chemicals are found at higher levels in the fat of the fish. You can reduce the amount of these chemicals and your exposure by properly trimming, skinning and cooking your catch. **Cooking does not destroy chemicals in fish**, but heat from cooking melts some of the fat in fish and allows some of the contaminated fat to drip away. Do not use the drippings to prepare broth, sauce, chowder or soup. **These cleaning precautions will not reduce the amount of mercury in fish.** Mercury is found throughout a fish's muscle tissue (the part you eat) rather than in the fat and skin. Therefore, the only way to reduce mercury intake is to reduce the amount of contaminated fish you eat.

Methyl Mercury

Mercury is found in the environment because of natural and human activities. When moving through the environment, mercury goes through a series of complex changes. Through these changes in lake and river sediments, an organic form of mercury, methyl mercury, is created. Methyl mercury is very persistent in the environment. Methyl mercury is transferred up the food chain to predator species, and can accumulate in people that eat these predator fish.

Methyl mercury is extremely toxic to humans and causes many adverse health effects. Health effects associated with eating methyl mercury-contaminated fish include impaired central nervous system function, kidney damage and failure, and gastrointestinal damage with higher methyl mercury exposure, and development delays in children with lower exposure. A recent report by the National Academy of Sciences concluded that the population at highest risk for adverse health effects is the children of women who eat large amounts of fish and seafood during pregnancy. This is due to the greater sensitivity of the developing nervous system of infants.

In order to protect the most sensitive populations, pregnant or nursing women, women of childbearing age, and children less than 15 years of age are advised to eat no more than one meal per week of predator fish.

This advisory is based on recent studies of families in several countries that eat many meals of fish having various amounts of methyl mercury, along with the most recent mercury data from predator fish at sample points throughout the state. Predator fish include all species of black bass (largemouth, smallmouth, and spotted), striped bass, white bass, hybrid striped bass, walleye, sauger, saugeye, flathead catfish, muskellunge, and northern pike. **Since women beyond childbearing age and males over 15 years of age are at less risk for the effects of methyl mercury, these groups may continue to enjoy as many meals of predator fish as they please, except as noted below.**

Meal Advice for Eating Sport Fish From Illinois Waters

- Measure fish from the tip of the nose to the tip of the tail.
- **One meal a week (52 meals per year), one meal a month (12 meals per year) and one meal every two months (six meals per year)** is advice for how long to wait before eating your next meal of sport fish.
- **Do not eat** means no one should eat those fish because of very high contamination. (Note that the amount of contamination in a fish listed on the "One meal a month" group is four times higher than the amount of contamination in a fish listed in the "One meal a week" group.)
- **One "meal"** is assumed to be one-half pound of fish (weight before cooking) for a 150-pound person. The meal advice is equally protective for larger people who eat larger meals and smaller meals.
- Follow cooking and cleaning directions given above to prepare fish.

Special Mercury Advisory

A few bodies of water have been found to have fish with higher levels of methyl mercury than in waters from the rest of the state. These waters require more restrictive meal advice than the general advice given above. The special advice is listed in the following table.

Water	Fish Species	Women, beyond childbearing age, males more than 15 years old	Pregnant or nursing women, women of childbearing age, children less than 15 years old
Ohio River	Largemouth Bass (all sizes)	1 meal/week	1 meal/month
Rock River (Rockford to Milan Steel Dam)	Flat head Catfish (larger than 29")	1 meal/week	1 meal/month
Arrowhead Lake (Cook County)	Largemouth Bass (all sizes)	1 meal/week	1 meal/month
Campus Lake (Southern IL Univ.)	Largemouth Bass (all sizes)	1 meal/week	1 meal/month
Cedar Lake (Jackson County)	Largemouth Bass (larger than 12")	1 meal/week	1 meal/month
	White Crappie (all sizes)	unlimited	1 meal/week
Devil's Kitchen Lake (Williamson County)	Largemouth Bass (all sizes)	1 meal/week	1 meal/month
	Black Crappie (all sizes)	1 meal/week	1 meal/month
Evergreen Lake * (McLean County)	Largemouth Bass (Larger than 19")	1 meal/week	1 meal/month
Kinkaid Lake (Jackson County)	Largemouth Bass (all sizes)	1 meal/week	1 meal/month
	Walleye (all sizes)	1 meal/week	1 meal/month
	White Crappie (all sizes)	unlimited	1 meal/week
Lake Bracken (Knox County)	Largemouth Bass (larger than 17")	1 meal/week	1 meal/month
Lake in the Hills (McHenry County)	Largemouth Bass (larger than 15")	1 meal/week	1 meal/month
Little Grassy Lake (Williamson County)	Largemouth Bass (all sizes)	1 meal/week	1 meal/month
	White & Black Crappie (all sizes)	unlimited	1 meal/week
Mt. Olive New City Lake* (Macoupin County)	Largemouth Bass (all sizes)	1 meal/week	1 meal/month
Little Wabash River & Tributaries	Carp (all sizes)	1 meal/week	1 meal/month
	Largemouth Bass (all sizes)	1 meal/week	1 meal/month
	Spotted Bass (all sizes)	1 meal/week	1 meal/month
	White Crappie (all sizes)	unlimited	1 meal/week
Marquette Park Lagoon (Cook County)	Largemouth Bass (all sizes)	1 meal/week	1 meal/month
Midlothian Reservoir (Cook County)	Largemouth Bass (larger than 14")	1 meal/week	1 meal/month
Monee Reservoir (Will County)	Largemouth Bass (all sizes)	1 meal/week	1 meal/month
Wabash River	Sauger (larger than 12")	1 meal/week	1 meal/month

Chlordane and PCB Advisory

The following fish advisory is for eating trimmed and skinned fish (except smelt). The advice in this table has been developed to protect infants, children and women of child bearing age. The advice may be over protective for women beyond child bearing age and adult men.

Water	Fish Species	1 meal/week	1 meal/month	6 meals/year	Do Not Eat
<u>BORDER WATERS</u>					
Lake Michigan (P)	Chinook Salmon*		Less than 36"	Larger than 36"	
	Coho Salmon		All Sizes		
	Lake Whitefish		All Sizes		
	Rainbow Trout	Less than 22"	Larger than 22"		
	Brown Trout*		Less than 25"	Larger than 25"	
	Lake Trout		Less than 23"	23" to 27"	Larger than 27"
	Yellow Perch	All Sizes			
	Smelt	All Sizes			
	Channel Catfish				All Sizes
Carp				All Sizes	
Waukegan North Harbor (P) (Includes all species listed above as well as):	White Sucker		All Sizes		
	Sunfish		All Sizes		
Mississippi River (P) Entire River	Channel Catfish	Less than 18"	Larger than 18"		
Entire River Except Pool 15	Carp	All Sizes			
Pool 15	Carp		All Sizes		
Lock and Dam 22 to Cairo	Sturgeon		All Sizes		
Ohio River (P)	Channel Catfish	Larger 15"			
	Blue Catfish	All Sizes			
	Carp		All Sizes		
	Drum	Less than 14"	Larger than 14"		
	Sauger		All Sizes		
	Largemouth Bass			See Special Mercury Advisory	
Wabash River (P)	Carp	All Sizes			
	Channel Catfish	Larger than 19"			
	Drum	All Sizes			
	White Bass		All Sizes		
<u>LAKES</u>					
Busse Lake (P)	Carp		All Sizes		
	Black Bullhead	All Sizes			
	Channel Catfish	All Sizes			
Campus Lake (P) (Southern IL Univ.)	Bluegill	All Sizes			
	Largemouth Bass			See Special Mercury Advisory	
Crab Orchard Lake (P)	Largemouth Bass	All Sizes			
East of Wolf Creek Road	Channel Catfish		All Sizes		
	Carp		All Sizes		
	Largemouth Bass	All Sizes			
West of Wolf Creek Road	Channel Catfish		All Sizes		
	Carp	All Sizes			
	Largemouth Bass	All Sizes			
Fox Chain-O-Lakes (P)	Channel Catfish	Larger than 18"			
	Carp		All Sizes		
Frank Holten State Lakes (P)	Largemouth Bass	Larger than 14"			
	Channel Catfish	All Sizes			
Herrin Lake #1 (P)	Carp				All Sizes
	Channel Catfish		All Sizes		
Highland-Silver Lake (C)	Channel Catfish	Larger than 25"			

Water	Fish Species	1 meal/week	1 meal/month	6 meals/year	Do Not Eat
LAKES					
Horseshoe Lake (P) (Madison County)	Carp	All Sizes			
	Channel Catfish	Less than 20"	Larger than 20"		
Lake Bracken (P) (Knox County)	Largemouth Bass	All Sizes			
	Channel Catfish	Less than 15"	Larger than 15"		
	Carp	All Sizes			
Lake Calumet (P)	Largemouth Bass	See Special Mercury Advisory			
	Carp	Less than 14"	Larger than 14"		
Lake Decatur (P,C)	Channel Catfish	All Sizes			
	Carp	All Sizes			
	Flathead Catfish	All Sizes			
Lake Depue (P)	Channel Catfish			Less than 24"	Larger than 24"
	Carp	All Sizes			
Lake of Egypt (P)	Carp	Larger than 23"			
	Channel Catfish	Larger than 20"			
Lake Taylorville (C)	Channel Catfish	All Sizes			
Marion City Reservoir (P)	Carp	All Sizes			
Midlothian Reservoir (P)	Carp	Less than 20"	Larger than 20"		
Powerton Lake (P)	Channel Catfish	15" to 19"	Larger than 19"		
Raccoon Lake (P)	Carp	All Sizes			
Saganashkee Slough (P)	Channel Catfish	Larger than 18"			
Schiller Pond (P)	Carp	All Sizes			
Sycamore Lake (P)	Channel Catfish	Larger than 23"			
	Carp	All Sizes			
Wolf Lake (P)	Carp	All Sizes			
RIVERS & CREEKS					
Big Muddy River (P) Rend Lake to Rt. 149	Carp	All Sizes			
Calumet River, Cal Sag Channel, Little Calumet River (from Cal Sag Channel to the Calumet River) (P)	Black Bass		All Sizes		
	Carp		Less than 12"		Larger than 12"
	Sunfish	All Sizes			
Casey Fork Creek (P)	Carp	All Sizes			
	Channel Catfish	All Sizes			
Cedar Creek (Warren Co.) (P)	Carp	All Sizes			
Chicago River, North and South Branches, North Shore Channel, Chicago Sanitary and Ship Cannel (P)	Carp			Less than 12"	Larger than 12"
	Largemouth Bass	All Sizes			
	Sunfish	All Sizes			
Des Plaines River (P)					
Rt. 120 to Hoffman Dam	Carp		Larger than 19"		
	Channel Catfish	All Sizes			
Hoffman Dam to Lockport	Carp		Less than 22"	Larger than 22"	
	Channel Catfish	All Sizes			
Lockport to Kankakee River	Freshwater Drum	All Sizes			
	Channel Catfish	All Sizes			
	Carp			Less than 18"	Larger than 18"
DuPage River (P)					
Headwaters to Rt. 6	Carp	All Sizes			
Rt. 6 to Des Plaines River	Carp	All Sizes			
	Channel Catfish	All Sizes			
	Smallmouth Bass	All Sizes			
East Branch of the DuPage River (P)	Carp	All Sizes			
Fox River (P)	Channel Catfish	All Sizes			
	Carp	All Sizes			

Water	Fish Species	1 meal/week	1 meal/month	6 meals/year	Do Not Eat
RIVERS & CREEKS					
Galena River (P)	Carp	Less than 20"	Larger than 20"		
Illinois River (P)					
Headwaters to Marseilles Dam	White Bass		All Sizes		
	Channel Catfish				All Sizes
	Carp			All Sizes	
Starved Rock Pool	Smallmouth Bass		All Sizes		
	White Bass		All Sizes		
	Channel Catfish		All Sizes		
Peoria Pool	Carp		All Sizes		
	Largemouth Bass	All Sizes			
	Channel Catfish	Less than 12"	12" to 16"	16" to 18"	Larger than 18"
Peoria Dam to Mississippi River	Carp		All Sizes		
	Carp (includes Bighead & Silver)	All Sizes			
	Channel Catfish	Larger than 16"			
Kankakee River (P)					
Kankakee Dam to Wilmington Dam	Carp	All sizes			
Wilmington Dam to Illinois River	Carp		All sizes		
Kaskaskia River (P) (above Lake Shelbyville)	Carp	Larger than 18"			
Kickapoo Creek (P) (IL River near Peoria)	Carp	Larger than 17"			
	Channel Catfish	Less than 17"	Larger than 17"		
Kishwaukee River (P)	Carp	Less than 26"	Larger than 26"		
	Channel Catfish	Larger than 18"			
Kishwaukee River South Branch (P)	Carp		All sizes		
Lake Fork Creek (Piatt and Douglas Counties) (P)	Carp	All Sizes			
Mackinaw River (P)	Carp	Larger than 17"			
Mazon River (P)	Carp	All sizes			
Nippersink Creek (McHenry County) (P)	Channel Catfish	All sizes			
Pecatonica River (P)	Carp	Larger than 21"			
Rock River (P)					
State Line to Fordam Dam	Carp	Less than 23"	Larger than 23"		
	Channel Catfish	Larger than 16"			
Rockford Dam to Milan Steel Dam	Carp		All Sizes		
	Channel Catfish	Larger than 16"			
	Flathead Catfish	Larger than 20"			
Milan Steel Dam to Mississippi River	Carp		All Sizes		
	Channel Catfish	All Sizes			
	White Bass	All Sizes			
Salt Creek (Des Plaines River Basin) (P)	Carp		Less than 24"		Larger than 24"
Sangamon River (P)					
Lake Decatur to Roby	Carp		All Sizes		
Lake Decatur to IL River	Channel Catfish	Less than 21"	Larger than 21"		
Sangamon River South Fork (C)	Carp	Larger than 18"			
Skillet Fork Creek (P)	Carp	Larger than 21"			
Spring Creek (Sangamon County) (P)	Carp	All Sizes			
Sugar River (Rock River Basin) (P)	Carp	Larger than 18"			

(C) = Listed due to chlordane contamination

(P) = Listed due to polychlorinated biphenyl (PCB) contamination

* = Denotes change for the 2008 season.