

# 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.**

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.

### 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 people who eat smaller meals.
- Follow cooking and cleaning directions given above to prepare fish.

## SPECIAL MERCURY ADVISORY

*Due to levels of mercury greater than what has been found in most predator fish in Illinois, the following bodies of water require more restrictive consumption advice.*

Water	Fish Species	Advice for	
		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)	Flathead 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 Illinois University)	Largemouth Bass (all sizes)	1 meal/week	1 meal/month
Cedar Lake (Jackson County)	Largemouth Bass (larger than 12") White Crappie (all sizes)	1 meal/week unlimited	1 meal/month 1 meal/week
Devil's Kitchen Lake (Williamson County)	Largemouth Bass (all sizes) Black Crappie (all sizes)	1 meal/week 1 meal/week	1 meal/month 1 meal/month
Evergreen Lake (McLean County)	Largemouth Bass (larger than 19")	1 meal/week	1 meal/month
Heidecke Lake (Grundy County)	Smallmouth Bass (larger than 18")	1 meal/week	1 meal/month
Kinkaid Lake (Jackson County)	Largemouth Bass (all sizes) Walleye (all sizes) White Crappie (all sizes)	1 meal/week 1 meal/week unlimited	1 meal/month 1 meal/month 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
Lake Renwick East (Will County)	Largemouth Bass (larger than 14")	1 meal/week	1 meal/month
Little Grassy Lake (Williamson County)	Largemouth Bass (all sizes) White & Black Crappie (all sizes)	1 meal/week unlimited	1 meal/month 1 meal/week
Little Wabash River & Tributaries	Carp (all sizes) Largemouth Bass (all sizes) Spotted Bass (all sizes) White Crappie (all sizes)	1 meal/week 1 meal/week 1 meal/week unlimited	1 meal/month 1 meal/month 1 meal/month 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
Mt. Olive New City Lake (Macoupin County)	Largemouth Bass (all sizes)	1 meal/week	1 meal/month
Sam Parr Lake (Jasper County)	Largemouth Bass (larger than 12") Crappie (all sizes)	1 meal/week unlimited	1 meal/month 1 meal/week
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
<b>BORDER WATERS</b>					
Lake Michigan (P)	Chinook Salmon Coho Salmon Lake Whitefish Rainbow Trout Brown Trout Lake Trout Yellow Perch Smelt Channel Catfish Carp White Sucker Sunfish	Less than 22"  All Sizes All Sizes	Less than 36" All Sizes All Sizes Larger than 22" Less than 25" Less than 23"	Larger than 36"  Larger than 25" 23" to 27"	Larger than 27"  All Sizes All Sizes
Waukegan North Harbor (P) (includes Lake Michigan fish species advisories listed above with addition of:)			All Sizes All Sizes		
Mississippi River (P) Entire River Entire River Except Pool 15 Pool 15 Lock and Dam 22 to Cairo	Channel Catfish Carp Carp Sturgeon	Less than 18" All Sizes	Larger than 18"  All Sizes All Sizes		
Ohio River (P)	Channel Catfish Blue Catfish Carp Drum Sauger Largemouth Bass (see special mercury advisory)	Larger than 15" All Sizes  Less than 14"	All Sizes Larger than 14" All Sizes		
Wabash River (P)	Carp Channel Catfish Drum White Bass	All Sizes Larger than 19" All Sizes	All Sizes		
<b>LAKES</b>					
Busse Lake (P)	Carp Black Bullhead Channel Catfish	All Sizes All Sizes	All Sizes		
Campus Lake (P) (Southern Illinois U.)	Bluegill Largemouth Bass (see special mercury advisory)	All Sizes			
Crab Orchard Lake (P) East of Wolf Creek Road East of Wolf Creek Road East of Wolf Creek Road West of Wolf Creek Road West of Wolf Creek Road West of Wolf Creek Road	Largemouth Bass Channel Catfish Carp Largemouth Bass Channel Catfish Carp	All Sizes  All Sizes All Sizes	All Sizes All Sizes All Sizes		
Fox Chain-O-Lakes (P)	Channel Catfish Carp	18" to 26"	Larger than 26" Larger than 17"		
Frank Holten State Lakes (P)	Largemouth Bass Channel Catfish	Larger than 14" All Sizes			
Herrin Lake #1 (P)	Carp Channel Catfish		All Sizes		All Sizes
Highland-Silver Lake (C)	Channel Catfish	Larger than 25"			
Horseshoe Lake (P) (Madison County)	Carp Channel Catfish	All Sizes Less than 20"	Larger than 20"		
Lake Bracken (P) (Knox County)	Largemouth Bass Channel Catfish Carp (see special mercury advisory)	All Sizes Less than 15"	Larger than 15" All Sizes		
Lake Calumet (P)	Largemouth Bass Carp	Less than 14"	Larger than 14" All Sizes		
Lake Decatur (P,C)	Channel Catfish Carp Flathead Catfish	All Sizes All Sizes	All Sizes		
Lake Depue (P)	Channel Catfish Carp		All Sizes	Less than 24"	Larger than 24"
Lake of Egypt (P)	Carp Channel Catfish	Larger than 23" Larger than 20"			
Lake Taylorville (C)	Channel Catfish	Larger than 21"			
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 Carp	Larger than 23" All Sizes			

(C) = Listed due to Chlordane contamination

(P) = Listed due to Polychlorinated Biphenyl (PCB) contamination

Please note that the advisory changes for Lake Taylorville channel catfish and Fox Chain O'Lakes carp have been relaxed as the sizes listed in the consumption categories have increased reflecting a decrease in PCB concentrations.

Additional information about Fish Advisories in Illinois can be found on the Illinois Dept. of Public Health website: <http://www.idph.state.il.us/envhealth/factsheets/fishadv.htm>

Water	Fish Species	1 Meal/week	1 Meal/month	6 Meals/year	Do Not Eat
Wolf Lake (P)	Channel Catfish Carp	All Sizes	All Sizes		
<b>RIVERS</b>					
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 Carp Sunfish Yellow Bass	All Sizes	All Sizes Less than 12" Less than 8"	Larger than 8"	Larger than 12"
Casey Fork Creek (P)	Carp Channel Catfish		All Sizes All Sizes		
Cedar Creek (Warren Co.) (P)	Carp			All Sizes	
Chicago River, North and South Branches of the Chicago River, North Shore Channel, Chicago Sanitary & Ship Canal (P)	Carp Largemouth Bass Sunfish	All Sizes	All Sizes	Less than 12"	Larger than 12"
Des Plaines River (P) Rt. 120 to Hoffman Dam Hoffman Dam to Lockport Lockport to Kankakee River	Carp Channel Catfish Carp Channel Catfish Freshwater Drum Channel Catfish Carp	All Sizes	Larger than 19" Less than 22" All Sizes All Sizes All Sizes	Larger than 22" Less than 18"	Larger than 18"
Du Page River (P) Headwaters to Rt. 6 Rt. 6 to Des Plaines River	Carp Carp Channel Catfish Smallmouth Bass	All Sizes	All Sizes All Sizes All Sizes		
East Branch DuPage River (P)	Carp	All Sizes			
Fox River (P) Above Dayton Dam Below Dayton Dam	Channel Catfish Carp Channel Catfish Carp	All Sizes	All Sizes All Sizes All Sizes		
Galena River (P)	Carp	Less than 20"	Larger than 20"		
Illinois River (P) Headwaters to Marseilles  Starved Rock  Peoria Pool  Peoria to Mississippi River	White Bass Channel Catfish Carp Smallmouth Bass White Bass Channel Catfish Carp Largemouth Bass Channel Catfish Carp Carp (includes Bighead & Silver Carp) Channel Catfish	All Sizes Less than 12" All Sizes Larger than 16"	All Sizes All Sizes All Sizes All Sizes 12" to 16" All Sizes	All Sizes 16" to 18"	All Sizes Larger than 18"
Kankakee River (P) Kankakee Dam to Wilmington Dam Wilmington Dam to Illinois River	Carp Carp	All Sizes	All Sizes		
Kaskaskia River (P) (above Lake Shelbyville)	Carp	Larger than 18"			
Kickapoo Creek (P) (Ill. R. Near Peoria)	Carp Channel Catfish	Larger than 17" Less than 17"	Larger than 17"		
Kishwaukee River (P)	Carp Channel Catfish	Less than 26" Larger than 18"	Larger than 26"		
Kishwaukee River So. Branch (P)	Carp		All Sizes		
Lake Fork Creek (P)	Carp	All Sizes			
Mackinaw River (P)	Carp	Larger than 17"			
Mazon River (P)	Carp	All Sizes			
Nippersink Creek (McHenry Co) (P)	Channel Catfish	All Sizes			
Pecatonica River (P)	Carp	Larger than 21"			
Rock River (P) State line to Fordam dam Rockford to Milan Steel dam  Milan Steel Dam to Mississippi River	Carp Channel Catfish Carp Channel Catfish Flathead Catfish Carp Channel Catfish White Bass	Less than 23" Larger than 16" Larger than 16" Larger than 20" All Sizes All Sizes	Larger than 23" All Sizes All Sizes		
Salt Creek (P) (Des Plaines River Basin)	Carp		Less than 24"		Larger than 24"
Sangamon River (P) (Lake Decatur to Roby) (Lake Decatur to IL River)	Carp Channel Catfish	Less than 21"	All Sizes 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 (P) (Rock River Basin)	Carp	Larger than 18"			