

# 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.*

## New This Year

Beginning this year, the Illinois sport fish meal advice will be presented in a different format. Previously, advisories based on all contaminants in fish were found in one table. Now, 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 now lists those waters where stricter advice for methyl mercury is necessary. This new approach is described more fully on the following page. 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 a 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 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 have 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 species.

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 gastro-intestinal 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	
		pregnant or nursing women, women of childbearing age, children less than 15 years old	women beyond childbearing age, males more than 15 years old
Ohio River	Largemouth Bass (all sizes)	1 meal/month	1 meal/week
Campus Lake (Southern Illinois University)	Largemouth Bass (all sizes)	1 meal/month	1 meal/week
Cedar Lake	Largemouth Bass (all sizes) White Crappie (all sizes)	1 meal/month 1 meal/week	1 meal/week unlimited
Kinkaid Lake	Largemouth Bass (all sizes) White Crappie (all sizes)	1 meal/month 1 meal/week	1 meal/week unlimited

# 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><u>BORDER WATERS</u></b>					
Lake Michigan (P)	Chinook Salmon Coho Salmon Lake Whitefish Rainbow Trout Brown Trout Lake Trout Yellow Perch Smelt Channel Catfish Carp	Less than 19" Less than 17"  All Sizes All Sizes	Less than 30" All Sizes 19" to 25" Larger than 17" Less than 22" Less than 23"	Larger than 30"  Larger than 25"  Larger than 22" 23" to 27"	Larger than 27"   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 <b>Largemouth Bass (see special mercury advisory)</b>	Larger than 15" All Sizes  Less than 14"	All Sizes Larger than 14" All Sizes		
Wabash River (P)	Carp <b>Channel Catfish</b> Drum <b>White Bass</b>	All Sizes <b>Larger than 19</b> All Sizes	<b>All Sizes</b>		
<b><u>LAKES</u></b>					
Busse Lake (P)	Carp <b>Black Bullhead</b> <b>Channel Catfish</b>	<b>All Sizes</b> <b>All Sizes</b>	<b>All Sizes</b>		
Campus Lake (P) (Southern Illinois U.)	<b>Bluegill</b> <b>Largemouth Bass (see special mercury advisory)</b>	<b>All Sizes</b>			
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	Less than 18"	All Sizes Less than 22" All Sizes Larger than 18" All Sizes All Sizes	Larger than 22"	
Fox Chain-O-Lakes (P)	<b>Channel Catfish</b> <b>Carp</b>	<b>Larger than 18</b>	<b>All Sizes</b>		
Frank Holten State Lakes (P)	<b>Largemouth Bass</b> <b>Channel Catfish</b>	<b>Larger than 14</b> <b>All Sizes</b>			
Highland-Silver Lake (C)	Channel Catfish	Larger than 25"			
Horseshoe Lake (P) (Madison County)	<b>Carp</b> <b>Channel Catfish</b>	<b>All Sizes</b> <b>Less than 20</b>	<b>Larger than 20</b>		
Lake Bracken (P)	Largemouth Bass Channel Catfish Carp		All Sizes All Sizes	All Sizes	
Lake Calumet (P)	<b>Largemouth Bass</b> <b>Carp</b>	<b>Less than 14</b>	<b>Larger than 14</b> <b>All Sizes</b>		
Lake Decatur (P,C)	Channel Catfish Carp	All Sizes All Sizes			
Lake Taylorville (C)	Channel Catfish	All Sizes			
Midlothian Reservoir (P)	<b>Carp</b>		<b>Larger than 15</b>		
Powerton Lake (P)	Channel Catfish	<b>15 to 19</b>	Larger than 19		
Saganashkee Slough (P)	<b>Channel Catfish</b>	<b>Larger than 18</b>			
Schiller Pond (P)	<b>Carp</b>	<b>All Sizes</b>			

<b>Water</b>	<b>Fish Species</b>	<b>1 Meal/week</b>	<b>1 Meal/month</b>	<b>6 Meals/year</b>	<b>Do Not Eat</b>
<b>Sycamore Lake (P)</b>	<b>Channel Catfish Carp</b>	<b>Larger than 23 All Sizes</b>			
<b>Wolf Lake (P)</b>	<b>Carp</b>		<b>All Sizes</b>		
<b>RIVERS</b>					
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
<b>Casey Fork Creek (P)</b>	<b>Carp Channel Catfish</b>		<b>All Sizes All Sizes</b>		
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) Lockport to Kankakee River  Forest Park to Lockport	Freshwater Drum Channel Catfish Carp Channel Catfish Carp		All Sizes All Sizes  All Sizes All Sizes	Less than 18"	Larger than 18"
<b>Fox River (P)</b>	<b>Channel Catfish Carp</b>	<b>All Sizes</b>	<b>All Sizes</b>		
<b>Galena River (P)</b>	<b>Carp</b>	<b>Less than 20</b>	<b>Larger than 20</b>		
Illinois River (P) Headwaters to Marseilles  Starved Rock  Peoria Pool  <b>Peoria to Mississippi River</b>	White Bass Channel Catfish Carp Smallmouth Bass White Bass Channel Catfish Carp Largemouth Bass Channel Catfish Carp <b>Carp</b>	All Sizes   All Sizes Less than 12"  <b>Larger than 19</b>	All Sizes  All Sizes All Sizes All Sizes  12" to 16" All Sizes	All Sizes     16" to 18"	All Sizes     Larger than 18"
Kaskaskia River (P) (above Lake Shelbyville)	Carp	Larger than 18			
<b>Kishwaukee River (P)</b>	<b>Carp</b>	<b>Less than 26</b>	<b>Larger than 26</b>		
<b>Kishwaukee River So. Branch (P)</b>	<b>Carp</b>		<b>All Sizes</b>		
<b>Mackinaw River (P)</b>	<b>Carp</b>	<b>Larger than 17</b>			
<b>Mazon River (P)</b>	<b>Carp</b>	<b>All Sizes</b>			
<b>Pecatonica River (P)</b>	<b>Carp</b>	<b>Larger than 21</b>			
Rock River (P) <b>State line to Fordam dam</b>  <b>Rockford to Milan Steel dam</b>  <b>Milan Steel Dam to Mississippi River</b>	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		
Sangamon River (P) (Lake Decatur to Roby)	Carp		All Sizes		
Sangamon River South Fork (C)	Carp	Larger than 18"			
<b>Skillet Fork Creek (P)</b>	<b>Carp</b>	<b>Larger than 21</b>			
<b>Sugar River (P)</b>	<b>Carp</b>	<b>Larger than 18</b>			

(C) = Listed due to Chlordane contamination

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

**Note: Advisories listed on the above tables in bold are new for 2002. Waters with previous advisories that have been dropped in 2002 are: Lake Springfield, Lake Vermilion and Lou Yeager Lake.**

**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>**