New Mexico Fish Consumption Advisories
January 2014

New Mexico Department of Game & Fish
New Mexico Department of Health
New Mexico Environment Department

Fish are nutritious and are an important part of a healthy diet. However, some fish may contain contaminants at levels that could lead to health problems.

These fish consumption advisories are designed to reduce the risk of adverse health effects or health problems from eating fish caught in New Mexico waters. These advisories are based on the risk from eating contaminated fish and do not take into consideration the health benefits of eating fish. The State of New Mexico recommends eating fish that are low in contaminants. However, there are no contaminant-related health risks from activities such as catch and release fishing, swimming, boating, or camping in and around waters that have fish consumption advisories. Therefore, the State of New Mexico encourages these activities as enjoyable forms of recreation.

The State of New Mexico periodically collects fish from water bodies across the State and analyzes those fish for contaminants. Based on the results of those analyses, we have developed recommendations for fish consumption (expressed in meals per month). The advisories presented here replace previously issued advisories. As new data become available, we will update these advisories.

In some New Mexico fish, three particular contaminants have been detected at levels that could result in health problems from long term fish consumption, such as for weeks, months, or longer. These contaminants are mercury, polychlorinated biphenyls (PCBs), and dichloro-diphenyl-trichloroethane (DDT). Eating fish for which there is a consumption advisory may not make you feel sick, but long term consumption of such fish could increase your risk for a variety of health problems.

Mercury

Mercury is a very toxic metal. In fish, mercury is in the form of methylmercury. Methylmercury is toxic at very low exposure levels. Eating fish is the main way that people are exposed to methylmercury. However, each person's exposure depends on the amount of methylmercury in the fish they eat and how much and how often they eat fish.

If too much methylmercury is consumed, over a long period of time, it damages the brain, nerves, kidneys, and may lead to other health problems such as those of the cardiovascular system. The brain of fetuses, babies, and young children are most at risk as they are still developing. All prenatal effects of exposure to mercury have been found to be permanent. The developing fetus and breast-fed babies are vulnerable to toxic effects of their mother's mercury exposure because many aspects of their development, particularly brain maturation, can be disturbed by the presence of mercury. Developing babies exposed in the uterus may suffer from

mental retardation, lack of coordination, blindness, seizures, speech disorders, and learning disabilities. Young children are also less able to detoxify and excrete mercury from their bodies. Thus, people most at risk for health problems related to mercury are women who are pregnant or nursing, women who may become pregnant, and children age six and younger, so they should only eat fish low in mercury. This consumption advice for mercury-contaminated fish is intended to protect children and pregnant or nursing women. For others, this advice may be overly protective.

Methylmercury accumulates in fish over the course of their lifetimes, so **older (and, typically larger) fish tend to have more mercury than younger (smaller) fish**. This is why, within a species at a particular lake, larger fish tend to have a lower number of recommended meals per month than smaller fish. Also, fish that eat other fish (predators) tend to have relatively higher mercury concentrations in their bodies than less predatory fish. For example, predatory fish such as walleye, bass, or pike typically have more mercury than trout, bluegill, or suckers (insect or plant eaters).

PCBs (polychlorinated biphenyls)

PCBs are a class of industrial chemicals that were once used as electrical insulators, lubricants, and coolants. In 1978, PCBs were banned from use in the United States. However, unintentional releases, such as fires involving PCB-containing transformers, are a way that they can still enter the environment. PCBs do not break down easily in the environment, which is why they may still present a public health concern today.

Eating too much fish with PCBs may cause a variety of health problems, including those related to nerve development, reproduction, hormones, and cancer. The negative effects of PCBs on development of infants and children whose mothers were exposed before becoming pregnant and during pregnancy are of particular concern. The effects in newborns and children may include a decrease in learning ability that may continue later in life. PCBs may cause cancer in humans, particularly liver and kidney cancer, because they are known to cause cancer in laboratory animals.

The consumption advice for PCB-contaminated fish is intended to reduce one's lifetime cancer risk. The calculations used to develop this advice assume that if you eat PCB-contaminated fish according to these recommendations, the chances of developing cancer from it are one in 100,000. This advice also protects from other health problems related to PCB exposure.

DDT (Dichloro-Diphenyl-Trichloroethane)

DDT is a pesticide that was once widely used in the control of mosquitoes and agricultural pests. In 1972, DDT was banned for most uses in the United States. DDT and its breakdown products, DDD and DDE, persist in the environment, which is why DDT still poses a public health risk more than 35 years after it was banned. Together, DDT, DDD, and DDE are referred to as "total DDT". Thus, in this advisory, the term "DDT" refers to total DDT.

Excessive exposure to DDT through eating contaminated fish may cause a variety of health problems, including effects on reproduction, the nervous system, the immune system, and may increase the risk of cancer. Because DDT and its break down products can mimic the action of natural hormones, they may reduce a mother's ability to produce milk and affect pregnancy by increasing the chance of having premature babies. DDT may cause cancer in humans, primarily liver and breast cancer, because it is known to cause cancer in laboratory animals.

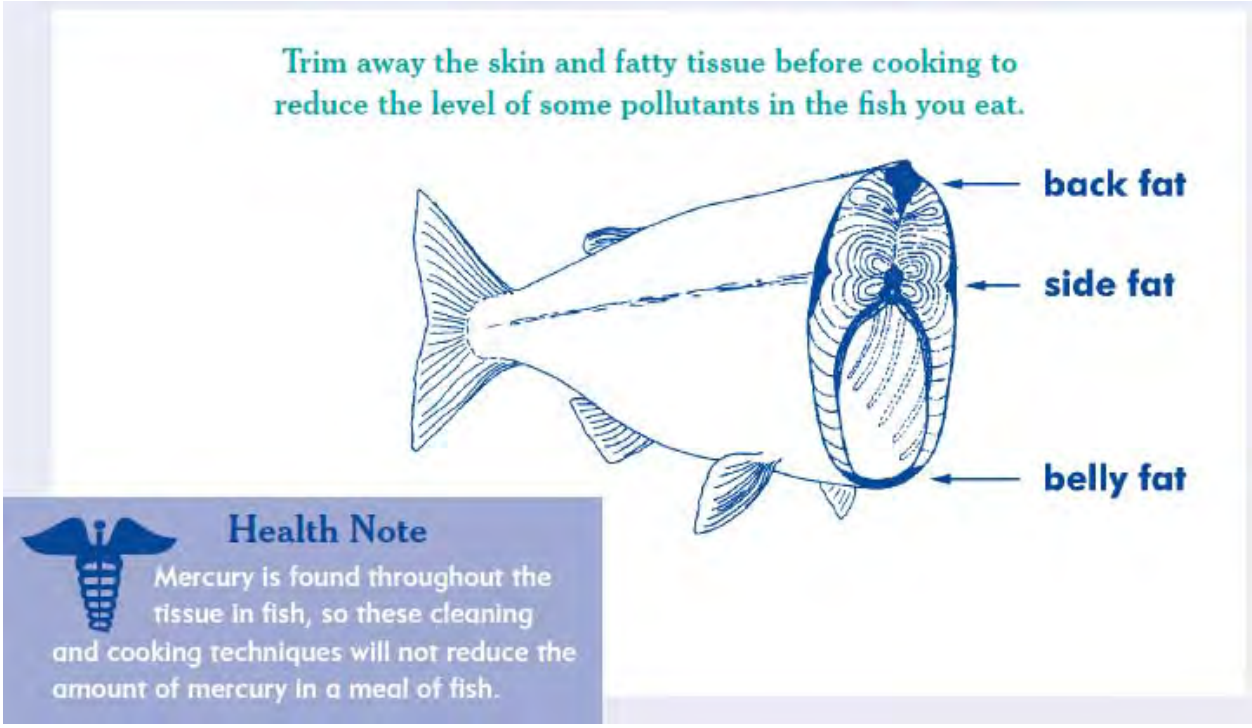
The consumption advice for DDT-contaminated fish is intended to reduce one's lifetime cancer risk. The calculations used to develop this advice assume that if you eat DDT-contaminated fish according to these recommendations, the chances of developing cancer from it are one in 100,000. This advice also protects from other adverse health effects from DDT exposure

Cleaning and Preparation of Fish

You can remove much contamination by properly cleaning and preparing the fish you catch. This is particularly true for PCB- and DDT-contaminated fish. Handling fish will not result in exposure to dangerous levels of contaminants.

First, you should remove the skin, fat, and internal organs. When cooking fish, you can reduce the amount of PCBs and DDT stored in the fatty portion of the fish by grilling, baking, or broiling and letting the fat drip away. However, avoid frying fish, because frying seals in contaminants that may be in the fish's fat.

Methylmercury is not stored in the fish's fat, and therefore, there is no cleaning or cooking method that will reduce the amount of mercury in fish.



How to use the New Mexico Fish Consumption Advisories table

1. Determine the species and length (in inches) of your fish.
2. Refer to the chart to find the lake or river where you caught your fish.
3. Find the species (row) and size (column) of your fish.
   - The number in the corresponding box is the number of meals per month that you can safely consume (we define a meal as a pre-cooked weight of 8 ounces of fish).
   - "No advisory" means the data we have indicate that an advisory is unnecessary.
   - "0" means that we recommend that you DO NOT EAT ANY fish of that species and size class.
   - If the box is blank, it means that we have not analyzed that particular species and size class at that location.
   - If your fish is larger than the largest listed for that species and location, you should assume a smaller number of meals per month is advisable.
   - If you eat the number of meals indicated in a cell, you have eaten the maximum amount recommended from all sources (don't combine cell numbers).
4. If your location or species is not listed, assume that smaller fish are generally lower in contaminants, and follow the information under "Cleaning and Preparation of Fish."

Some of the fish sizes listed in this advisory are below the legal size limit as established by the New Mexico Game Commission. **These advisories are for consumption limits only and do not supersede regulations pertaining to size or possession limits.**

For more information about fish advisories, visit the US Environmental Protection Agency at http://www2.epa.gov/fish-tech or the New Mexico Environment Department at https://www.env.nm.gov/swqb/advisories.

If you have questions about these advisories, please call the New Mexico Environment Department, Surface Water Quality Bureau at **(505) 827-2470** or toll free at (**866) 885-2997**. If you have questions about health concerns related to consumption of contaminants, please call the New Mexico Department of Health, Environmental Health Epidemiology Bureau at **(888) 878-8992**. If you have questions about fishing opportunities or regulations, please call the New Mexico Department of Game & Fish at **(505) 476-8000** or toll free at **(800) 862-9310**.

New Mexico Fish Consumption Advisories Table

LOCATION	SPECIES	SIZE (inches) < 10	10-14	14-18	18-22	22-26	26-30	30+	CONTAMINANT
Abiquiu Lake	Brown trout		4	4	2				Mercury
	Carp			1	1				Mercury, PCBs
	Channel catfish		3	2	2	1			Mercury, PCBs
	Rainbow trout		No advisory		3				Mercury, PCBs
	Smallmouth bass		2	1					Mercury
	Walleye			2	1				Mercury
	Crappie	2							Mercury
Avalon Lake	No data available, but data from upstream and downstream suggest that substantial contamination is likely								DDT, PCBs
Bear Canyon Dam	Bluegill	4							Mercury
	Channel catfish		4	4					Mercury
	Crappie	½							Mercury
	Largemouth bass		4	3					Mercury
Bill Evans Lake	Bluegill	4							Mercury
	Largemouth bass			2					Mercury, PCBs
Bluewater Lake	Tiger muskie							3	Mercury
Brantley Lake	All species	Catch and release only (per order of the NM Game Commission)							DDT
Caballo Lake	Blue catfish		4	3	3				Mercury
	Channel catfish			3	2	2			Mercury
	Crappie		3						Mercury
	River carpsucker			4	4				Mercury
	Smallmouth buffalo				2	2	1		Mercury
	Walleye		4	2	1	1	1		Mercury
	White bass		1	½					Mercury
Cabresto Lake	Brook trout	4							Mercury
	Cutbow trout	4							Mercury
Canjilon Lakes	Brook trout	No advisory	No advisory						Mercury
	Rainbow trout	No advisory	No advisory						Mercury
Carlsbad Municipal Lakes (Lake Carlsbad and Bataan Lake)	Carp			0	0				PCBs
	Channel catfish			½	0				DDT, PCBs
	Spotted bass		1						PCBs
Charette Lakes	Black bullhead		1						Mercury
	Rainbow trout		No advisory						Mercury
	White sucker		4	4					Mercury
	Yellow perch		1	1					Mercury
Clayton Lake	Bluegill	1							Mercury
	Channel catfish				4		1		Mercury
	Walleye				2	2	½		Mercury
Cochiti Lake	Bluegill	3							Mercury
	Carp				0	0			PCBs
	Channel catfish		4	3	1	1			Mercury, PCBs
	Crappie	2							Mercury
	Northern pike					3	2	1	Mercury
	Walleye			1	½	½			Mercury
	White bass		1						Mercury
Conchas Lake	Bluegill	3							Mercury
	Channel catfish			2	1				Mercury, PCBs
	Largemouth bass		3	2	1				Mercury
	Smallmouth bass		3	2					Mercury
	Walleye		4	4	1	1	½		Mercury
Eagle Nest Lake	Kokanee salmon		No advisory	No advisory					Mercury
	Northern pike					4			Mercury
	Rainbow trout		No advisory	No advisory	4				Mercury
	White sucker		4						Mercury
	Yellow perch		3						Mercury
El Vado Lake	Brown trout		No advisory	No advisory					Mercury
	Kokanee salmon	No advisory	No advisory	No advisory					Mercury
	Rainbow trout		No advisory						Mercury
	White sucker		4						Mercury
Elephant Butte Lake	Carp			2	1				PCBs
	Channel catfish			1	1	½			Mercury
	Crappie		2						Mercury
	Largemouth bass		2	1	1				Mercury
	Smallmouth bass		2	1					Mercury
	Striped bass					1	½		Mercury
	White bass		1	½					Mercury
Heron Lake	Kokanee salmon	No advisory	No advisory	No advisory					Mercury, DDT, PCBs
	Lake trout		No advisory	No advisory	No advisory		4		Mercury
	White sucker		4	4					Mercury
Lake Farmington (Beeline Lake)	Channel catfish		3						Mercury
	Carp				1	½			PCBs
	Largemouth bass		4						Mercury

New Mexico Fish Consumption Advisories Table
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Lake Maloya	Rainbow trout	No advisory	No advisory						Mercury
	White sucker	No advisory	4						Mercury
Lake Roberts	Bluegill	No advisory							Mercury
	Largemouth bass			3	2				Mercury
Maxwell Lakes	Channel catfish				No advisory				Mercury
	Rainbow trout			No advisory	No advisory				Mercury
Navajo Lake	Bluegill	3							Mercury
	Channel catfish		4	4	2		½		Mercury
	Crappie	4	4	1					Mercury
	Kokanee salmon		No advisory	No advisory					Mercury
	Largemouth bass		2		½				Mercury
	Northern pike					1	1	½	Mercury
	Rainbow trout			4					Mercury
	Smallmouth bass	3	2	1					Mercury
	White sucker		No advisory						Mercury
Pecos River (Pecos National Historical Park to headwaters)	Brown trout	No advisory	No advisory	4					Mercury
	White sucker	No advisory							Mercury
Pecos River (North boundary of Brantley Wildlife Management Area to US 70)	Carp		3	1					DDT, PCBs
	Channel catfish		2	2	2				DDT, PCBs
Pecos River (Brantley Wildlife Management Area)	All species	Catch and release only (per order of the NM Game Commission)							DDT
Pecos River (Texas border to below Carlsbad Municipal Lakes)	Carp		1	½	½				PCBs
	Channel catfish			0					PCBs
Rio Grande (I-25 to US 550)	Channel catfish			3					PCBs
	White bass	0	0						PCBs
Rio Grande (Cochiti Lake to Otowi Bridge at NM Hwy 502)	Carp				0	0			PCBs
	Channel catfish			½	½				PCBs
Rio Grande (Otowi Bridge at NM Hwy 502 to Chama River)	Carp				½	0			PCBs
	Channel catfish				0	0	0		PCBs
	River carpsucker				0				PCBs
Rio Grande (Chama River to Embudo Creek)	Carp				1	0			PCBs
	Channel catfish			1	1				PCBs
	White sucker			1					PCBs
San Juan River (Cañon Largo to Navajo Dam)	Rainbow trout		No advisory	No advisory	No advisory				Mercury
Santa Rosa Lake	Bluegill	3							Mercury
	Channel catfish		3		½	½			Mercury
	Smallmouth bass		2						Mercury
	Walleye			1	½	½	½		Mercury
Shuree Ponds	Rainbow trout		No advisory	No advisory	No advisory				Mercury
Springer Lake	Black bullhead	4							Mercury
	Carp			No advisory	No advisory				Mercury
	Channel catfish			No advisory	No advisory	No advisory	2	½	Mercury
	Northern pike					4	2	2	Mercury
	Yellow perch	4	4						Mercury
Storrie Lake	Carp			No advisory	No advisory	4			Mercury
	Channel catfish		4	2		1			Mercury
	White sucker		No advisory	4					Mercury
Stubblefield Lake	Black bullhead		4						Mercury
	Channel catfish				4	4			Mercury
	Walleye				2	2			Mercury
	White sucker			No advisory					Mercury
	Yellow perch		4						Mercury
Sumner Lake	Carp		4	2					Mercury
	Channel catfish	4	2	2	1				Mercury
	Flathead catfish		4		2				Mercury
	Walleye			2	1	½	0		Mercury
	White bass	3	½						Mercury
Ute Lake	Bluegill	3							Mercury
	Channel catfish			4	2				Mercury, PCBs
	Largemouth bass		2	1	1				Mercury
	Smallmouth bass		2						Mercury
	Walleye			1	½	½	0		Mercury
	White bass		3	1					Mercury, PCBs