Fish Consumption Advisory for Waters of North Dakota

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Introduction

Fish are low in fat and high in protein. Regular consumption of fish may decrease chances of heart disease and may have substantial health benefits when fish are eaten in moderation in place of high fat foods.

Methylmercury (as mercury) levels in smaller fish from North Dakota's lakes and rivers are usually low. Unfortunately, the larger fish in certain species contain levels of mercury that may be harmful if those fish are eaten too often. However, there are no known cases of illness from eating fish caught in North Dakota.

This advisory is not intended to discourage eating fish. Rather, it offers advice on how fish caught in North Dakota can be eaten safely.

Sources of Mercury

Mercury occurs naturally in North Dakota's soil. Snowmelt and rainfall runoff can carry mercury from the soil into lakes and rivers. Mercury also can enter surface water when reservoirs are constructed and when vegetation and soils are flooded as water levels rise. Research indicates that precipitation falling directly on a lake or river can remove mercury from the atmosphere and add it directly to the surface water. Human activities can influence the amount of mercury that results from any of these sources.

Fish Sampling

Since 1990, the North Dakota Department of Health has obtained mercury data for many fish species found in several of the state's prominent lakes, reservoirs and rivers.

The Department of Health works closely with the North Dakota Game & Fish Department to collect fish and fish flesh samples. The fish are measured for length and weight. Then, the Department of Health conducts laboratory tests on the samples.

Mercury concentrations in fish vary among lakes, reservoirs and rivers and also change as water quality conditions and fish populations change. The fish mercury data are used by the Department of Health to issue this fish consumption advisory.

General Guidelines

All species and sizes of tested fish contain mercury. The larger fish of each species contain greater levels of mercury. When deciding to keep and eat fish, the following general guideline applies:

Keep the smaller fish for eating. Practice catch and release of larger fish, especially the whoppers. Releasing larger fish and keeping smaller fish for eating can help both you and the fishery. If you eat larger fish, eat smaller amounts or eat them less often.

Mercury is contained in the fillet of fish. Removing the fish's skin and fatty tissue and cooking the fish do not reduce the amount of mercury in the fillet.

Explanation of Advisory Chart

Human dietary exposure to fish that contain mercury depends upon the number of meals and the sizes and species of fish consumed. Health sensitive people and the general adult population can avoid toxicological effects by eating fewer meals of fish or smaller fish.

The following chart presumes that people eat at least one meal of fish each month from local fisheries. Visitors or residents who eat mostly fish for one to two weeks can safely consume several meals of larger fish during that period, if they subsequently exclude fish in their diets for two or three months.

A child's meal of fish is about 4 ounces (on average, before cooking) of fillets; an adult woman's meal is about 8 ounces; and an adult male's meal is about 10 ounces.

Advisory Resources

Several Environmental Protection Agency, Food and Drug Administration and state documents regarding methyl mercury, fish and human health provided information for preparation of this document.

NORTH DAKOTA ADVISORY FOR HUMAN CONSUMPTION OF FISH

The chart applies to fisheries of the state; data for crappie, trout and white sucker are incomplete, and the fish in many lakes, reservoirs and rivers have not been sampled. It does not consider other human exposures of methylmercury (as mercury), such as eating ocean or other inland fish.

Meal frequencies:
none -- no consumption advised
occasional -- occasional consumption, 1 to 2 meals per month, avoid eating whoppers
moderate -- moderate consumption, 2 to 4 meals per month
frequent -- frequent consumption, 4 to 8 meals per month

Summary: "children 5 & younger," pregnant women and nursing women can occasionally eat only smaller fish; and children over age 5 and all other adults can frequently eat smaller fish while limiting the meals of medium and larger fish.

		Fish Size				
Fish Species		Smaller	**or**	Medium	**or**	Larger
BASS, largemouth smallmouth	Children 5 & younger	occasional		**none**		**none**
	Pregnant &nursing women	occasional		occasional		**none**
smaller sizes are less than 16 inches	Children over 5 & under 15	moderate		moderate		moderate
	All other people	frequent		moderate		moderate
BASS, white	Children 5 & younger	occasional		**none**		**none**
smaller sizes are less than 12 inches	Pregnant & nursing women	moderate		moderate		occasional
	Children over 5 & under 15	frequent		moderate		occasional
	All other people	frequent		moderate		moderate
CHINOOK SALMON	Children 5 & younger	moderate		occasional		occasional
smaller sizes are less than 19 inches	Pregnant & nursing women	moderate		moderate		occasional
	Children over 5 & under 15	frequent		moderate		moderate
	All other people	frequent		frequent		moderate
NORTHERN PIKE	Children 5 & younger	moderate		occasional		occasional
smaller sizes are less than 28 inches	Pregnant & nursing women	moderate		moderate		occasional
	Children over 5 & under 15	frequent		moderate		occasional
	All other people	frequent		moderate		moderate
WALLEYE CHANNEL CATFISH	Children 5 & younger	moderate		occasional		occasional
	Pregnant & nursing women	moderate		moderate		occasional
smaller sizes are less than 22 inches	Children over 5 & under 15	frequent		moderate		moderate
	All other people	frequent		moderate		moderate
YELLOW PERCH	Children 5 & younger	moderate		moderate		occasional
smaller sizes are less than 11 inches	Pregnant & nursing women	moderate		moderate		occasional
	Children over 5 & under 15	frequent		moderate		moderate
	All other people	frequent		frequent		frequent