
C. Fish Consumption Advisories

Table C.1. State of Michigan fish consumption advisories for the Kalamazoo River 1977-2001^{a, b}

Species	Size	'77 to '78 ^c	'79 to '82	'83	'84 ^d	'85 to '86	'87 to '89	'90 to '93	'94 to '95	'96	'97	'98 to '01
Kalamazoo River from Battle Creek to Morrow Pond Dam												
Carp	All				▼/◆		◆	◆	◆	◆	◆	◆
Catfish	All				▼/◆							◆
Suckers	All				▼/◆							
Largemouth bass	All				▼/◆							
Kalamazoo River from Morrow Pond Dam to Allegan Dam (including Portage Creek)^d												
Carp	All		◆	◆	▼/◆	◆	◆	◆	◆	◆	◆	◆
Catfish	All		◆		▼/◆	◆	◆	◆	◆	◆	◆	◆
Suckers	All		◆	◆	▼/◆	◆	◆	◆	◆	◆	◆	◆
Largemouth bass	All		◆		▼/◆	◆	◆	◆	◆	◆		
	140-300										◆	◆
Smallmouth bass	All		◆			▼/◆	▼/◆	◆	◆	◆		
	140-300										◆	◆
All other species			◆			▼/◆	▼/◆	▼/◆	▼/◆	▼/◆	▼/◆	▼/◆
All species in Portage Creek ^e			◆	◆								
Kalamazoo River below Allegan Dam (Allegan Dam to Saugatauk)												
Carp	All		◆	◆	▼/◆	◆	◆	◆	◆	◆	◆	◆
Catfish	All		◆		▼/◆	◆	◆	◆	◆	◆	◆	◆
Suckers	All		◆	◆	▼/◆	◆	◆					
Largemouth bass	All		◆		▼/◆	◆	◆		▼/◆	◆		
	140-300										▼/◆	▼/◆
	> 150							▼/◆				
Smallmouth bass	All		◆			▼/◆	▼/◆		▼/◆	◆		
	140-300										▼/◆	▼/◆
	> 150							▼/◆				
Northern pike	All		◆			▼/◆	▼/◆		◆	◆		
	≥ 220										◆	◆
	200-250							▼/◆				
	> 250							◆				
All other species	All		◆			▼/◆	▼/◆					▲/■

Table C.2. State of Michigan fish consumption advisories for the Lake Michigan, south of Frankfort 1977-2001^{a, b}

Species	Size	'77 to '81	'82 to '85	'86	'87 to '91	'92 to '94	'95	'96	'97 ^c	'98	'99 to '01
Brown trout	All		▼/◆	◆							
	100-220				▼/◆	▼/◆			▲	▲/■	▲/■
	≥ 220				▼/◆	▼/◆			◆	◆	◆
	> 230				◆	◆	◆	◆			
Carp	All		▼/◆	◆	◆	◆	◆	◆	◆	◆	◆
Catfish	All		▼/◆	▼/◆	◆	◆	◆	◆	◆	◆	◆
Chinook salmon	All	▼/◆	▼/◆								
	100-260									▲/■	▲/■
	≥ 260			▼/◆						▲/■	▲/◆
	210-320				▼/◆	▼/◆					
> 320				◆	◆	▼/◆					
Coho salmon	All	▼/◆	▼/◆								
	100-300									▲/■	▲/■
	> 260				▼/◆	▼/◆					
	≥ 300									▲/◆	▲/◆
Lake trout	All	▼/◆	▼/◆								
	100-180								▲	▲/■	▲/■
	180-220								▼/◆	▼/■	▼/■
	≥ 220								◆	◆	◆
	200-230				▼/◆	▼/◆	▼/◆	▼/◆			
	> 230				◆	◆	◆	◆			
	≤ 25			▼/◆							
> 250			◆								
Rainbow trout/ steelhead	All	▼/◆	▼/◆								
	100-180									▲/▼	▲/▼
≥ 180									▲/■	▲/■	
Smelt	60-140									▲/▼	▲/▼
Sturgeon	≥ 300								◆	◆	◆
Walleye	140-180									▲/▼	▲/▼
	180-220								▲	▲/■	▲/■
	220-260					▼/■	▼/■	▼/■	▼/■	▼/■	▼/■
	≥ 260					▼/■	▼/■	▼/■	▼/■	▼/◆	▼/◆

Table C.2. State of Michigan fish consumption advisories for the Lake Michigan, south of Frankfort 1977-2001 (cont.)^{a, b}

Species	Size	'77 to '81	'82 to '85	'86	'87 to '91	'92 to '94	'95	'96	'97 ^c	'98	'99 to '01
Whitefish	All		▼/◆	▼/◆							
	60-180								▲	▲/▼	▲/■
	180-220								▲	▲/■	▲/■
	≥ 220								◆	◆	◆
	> 230					◆	◆	◆			
Yellow perch	All										
	60-80									▲/▼	▲
	80-220									▲/▼	▲/▼

◆ = No consumption.

◆ = Limit consumption to 6 meals (½ pound) per year.

■ = Limit consumption to 1 meal (½ pound) per month.

▼ = Limit consumption to 1 meal (½ pound) per week.

▲ = Unlimited consumption.

a. If there is only one symbol it is the advice for the whole population. When two symbols are shown, the first is the advice for the general population and the second is the advice for “children and women who are pregnant, nursing, or expect to bear children.” From 1977 to 1983 children are not defined by age, from 1984 to 1987 the advice is for children age 6 and under, and from 1988 to 2000 the advice is for children age 15 and under.

b. Key contaminants/factors responsible for the advisory:

From 1982 to 1988 the contaminant of concern was not identified by waterbody or species in the advisory, instead a preamble said that listed “locations contained one or more chemicals at levels of public health concern.” Potential contaminants listed were mercury, PCB, PPB, DDT, dieldrin, chlordane, toxaphene and dioxins. In 1992 the three contaminants listed for Lake Michigan were PCB, mercury and chlordane, they were not attributed by species. Attribution specific to years and species are listed below (the order in which the contaminants are listed indicates their relative contribution to the advisory).

- Chinook and coho salmon — the key contaminants listed were mercury and PCB from 1977 to 1981, and PCB from 1989 to 2000.
- Lake trout — the key contaminants listed were PCB and DDT from 1977 to 1981, PCB from 1989 to 1991, and 1993 to 1994, chlordane from 1995 to 1996 and PCB and chlordane from 1987 to 2000.
- Rainbow trout/steelhead — the key contaminant listed was PCB from 1977 to 1981 and 1989 to 2000.
- Brown trout, carp, and catfish — the key contaminant listed was PCB from 1989 to 2000.
- Walleye — the key contaminants listed were mercury from 1993 to 1997, PCB and mercury in 1998, and mercury, PCB, and dioxin from 1999 to 2000.
- Whitefish — the key contaminants listed were chlordane from 1993 to 1997, PCB and chlordane in 1998, and PCB, chlordane, and dioxin from 1999 to 2000.
- Smelt and yellow perch — the key contaminant listed was PCB from 1997 to 2000.
- Sturgeon — the key contaminants listed were PCB from 1997 to 1998 and PCB, chlordane, DDT, and dioxin from 1999 to 2000.

c. In 1997 EPA issued FCAs for the Michigan waters of Lake Michigan. These FCAs were more stringent, but were not used in our primary estimate of damages in that single year.

Table C.3. 1998 Wisconsin FCAs for Green Bay^a

	One meal a week	One meal a month	One meal every 2 months	Do not eat
Brown trout		< 170	170-280	> 280
Carp				All sizes
Channel catfish				All sizes
Chinook salmon		< 300	> 300	
Northern pike	< 220	> 220		
Rainbow trout		All sizes		
Smallmouth bass		All sizes		
Walleye		< 170	170-260	> 260
White bass				All sizes
Whitefish			All sizes	
White sucker		All sizes		
Yellow perch	All sizes			

a. Including tributaries up to the first dam or barrier.

Source: Breffle et al., 1999.

Table C.4. State of Michigan fish consumption advisories for the St. Joseph River 1977-2000^{a, b}

Species	Size	1977 to 1981 ^c	1982 to 1988	1989 to 1996	1997	1998 to 2000
St. Joseph River below Berrien Springs						
Carp	All		◆	▼/◆	▼/◆	▼/◆
Smallmouth bass	140-300					▲/■
Walleye	≥ 140					▲/▼
St. Joseph River above Berrien Springs, Berrien County (including Chapin Lake)^d						
Carp	All				▼/◆	▼/◆
Smallmouth bass	140-300					▲/■
St. Joseph River, St. Joseph County						
Walleye	≥ 140					▲/▼
Union Lake (St. Joseph River, Branch County)						
Carp	All					▲/▼
Catfish	All					▲/▼

◆ = No consumption.

■ = Limit consumption to 1 meal (½ pound) per month.

▼ = Limit consumption to 1 meal (½ pound) per week.

▲ = Unlimited consumption.

a. If there is only one symbol it is the advice for the whole population. When two symbols are shown, the first is the advice for the general population and the second is the advice for “children and women who are pregnant, nursing, or expect to bear children.” From 1977 to 1983 children are not defined by age, from 1984 to 1987 the advice is for children age 6 and under, and from 1988 to 2000 the advice is for children age 15 and under.

b. PCB is the only substance identified as a key contaminant/factor responsible for the advisories for 1989 to 2000. From 1982 to 1988 the contaminant of concern was not identified by waterbody in the advisory, instead a preamble said that listed “locations contained one or more chemicals at levels of public health concern.” Potential contaminants listed were mercury, PCB, PPB, DDT, dieldrin, chlordane, toxaphene, and dioxins.

c. St. Joseph river was not included in the advisory from 1977 to 1981.

d. Additionally, for Chapin Lake follow general advice for mercury (no more than one meal per week), since there has been no site-specific testing.