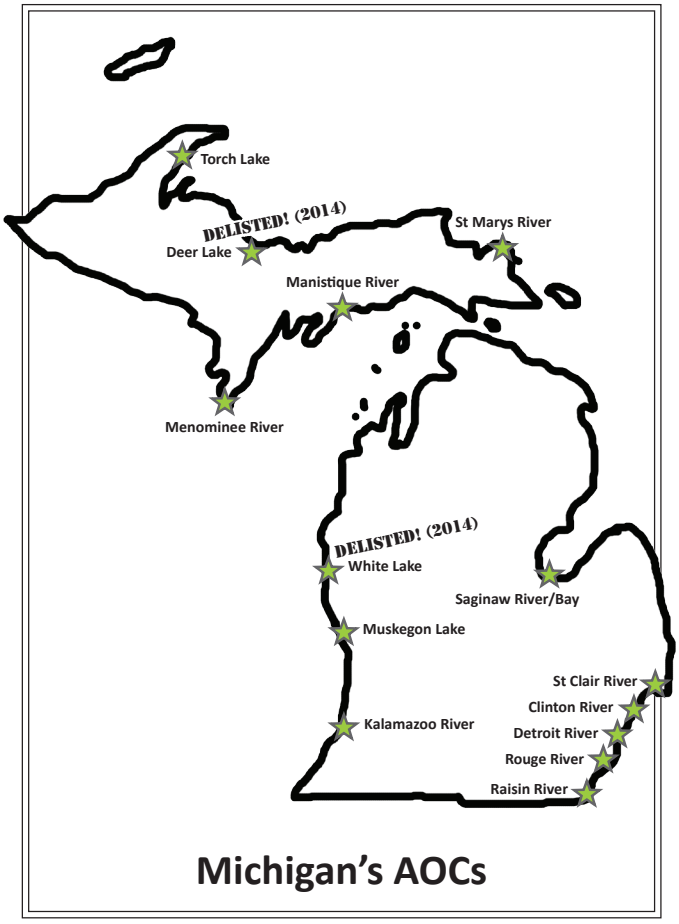
Eat Safe Fish from Michigan's Areas of Concern

Areas of Concern (AOCs)

In the 1980s, the United States and Canadian governments identified 43 places in the Great Lakes region that had severe, long-term environmental problems. These places are called *Areas of Concern*.

People in federal, state, and provincial government environmental remediation programs are working to address the problems in these areas. Funding and expert guidance are provided to AOCs to help local groups, known as Public Advisory Councils (PACs), work on these environmental problems, as well.



Michigan's AOCs

Beneficial Use Impairments (BUIs)

These environmental problems are called *beneficial use impairments.* There are 14 categories of BUIs, originally named in the U.S.-Canadian Great Lakes Water Quality Agreement. However, a place does not have to have all 14 problems to be called an AOC.

Each BUI has goals that need to be met in order to be removed from the AOC's list of problems. Once all BUIs are removed from the list, the AOC is considered to be no longer impaired and can be *delisted,* or removed from the list of AOCs.

The 14 BUIs that an AOC can have are:

- Restrictions on Fish and Wildlife Consumption
- Tainting of Fish and Wildlife Flavor
- Degraded Fish and Wildlife Populations
- Fish Tumors or Other Deformities
- Loss of Fish and Wildlife Habitat
- Degradation of Benthos
- Degradation of Aesthetics
- Beach Closings
- Added Costs to Agriculture or Industry
- Restrictions on Dredging Activities
- Eutrophication or Undesirable Algae
- Restrictions on Drinking Water Consumption or Taste and Odor Problems
- Bird or Animal Deformities or Reproductive Problems
- Degradation of Phytoplankton and Zooplankton Populations

Over the years, several BUIs have been removed from Michigan's AOCs, as citizens, industries, and government joined together to improve our state's environmental health. In fact, after decades of hard work, some Michigan AOCs only have one or two BUIs remaining and are getting closer to being delisted.

Restrictions on Fish Consumption BUI

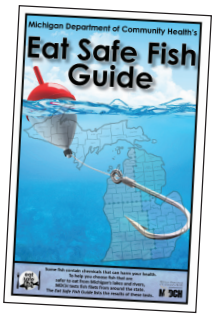
If an AOC has a ***Restrictions on Fish Consumption BUI***, it means that the fish from the affected lake or river at one time had higher levels of chemicals than fish in similar lakes or rivers in the Great Lakes region.

In most cases, the process to remove the Fish Consumption BUI is fairly direct. Chemical levels in fish from the AOC are compared to levels in fish from outside of the AOC. The BUI can be removed from the AOC's list of problems when:

- the levels of chemicals found in fish from the AOC are the same or less than fish from a similar location that is not an AOC, or
- the levels of chemicals in fish from the same lake or river have decreased over time. This process is used if there isn't a similar enough location outside of the AOC to use as a comparison.

Each AOC has their own process for BUI removal in place. The final decision to remove the BUI depends on the process that the PAC and the Michigan Department of Environmental Quality agree upon.

Michigan Department of Community Health *Eat Safe Fish Guide*



The ***Eat Safe Fish Guide*** is put out by the Michigan Department of Community Health (MDCH). This guide lists all of the fish species that have been tested from lakes and rivers throughout Michigan. MDCH tests only the filet of the fish for chemicals like PCBs, dioxins, and mercury. They use this information to develop the safe fish eating guidelines printed in the *Eat Safe Fish Guide*.

Fish with chemicals in their bodies are not just found in AOCs, but also in the other thousands of lakes and rivers throughout Michigan. If you eat a lot of Michigan fish, are young, and/or have health problems, you can use the *Eat Safe Fish Guide* to find fish that are lower in chemicals and safer for you to eat. You can get a free copy of the *Eat Safe Fish Guide* from MDCH by calling 1-800-648-6942 or visiting www.michigan.gov/eatsafefish.

BUIs and Eat Safe Fish Guidelines are NOT the same.

- ***Fish Consumption BUIs*** compare chemical levels in fish from the AOC to chemical levels in fish that are not in an AOC. When these levels are similar - meaning the amount of chemicals in fish from the AOC are little different than those from other lakes and rivers in the state that are not in an AOC - then the BUI can be removed.
- The ***MDCH Eat Safe Fish Guide*** helps you find safer fish to eat from Michigan lakes and rivers. MDCH tests filets of fish for chemicals from locations all around the state. The *Eat Safe Fish Guide* can help you find safer fish to eat in lakes and rivers throughout Michigan, not just in the AOC.

When the Fish Consumption BUI is removed from an AOC's list of problems, fish from the lake or river will still be tested and listed in the ***MDCH Eat Safe Fish Guide*** for some time after.

Michigan lakes and rivers are improving thanks to federal and state environmental rules and the hard work of the US Environmental Protection Agency, the MDEQ, and the PACs, but it will take many years for these chemicals to leave the ecosystem and the fish.

To learn more about AOCs & BUIs:

MDEQ - Office of the Great Lakes

517-335-3168

http://www.michigan.gov/deqaocprogram

To learn more about eating safe fish:

MDCH - Division of Environmental Health

1-800-648-6942

http://www.michigan.gov/eatsafefish

Fish Tumors or Other Deformities in Michigan's Areas of Concern

Areas of Concern (AOCs)

In the 1980s, the United States and Canadian governments identified 43 places in the Great Lakes region that had severe, long-term environmental problems. These places are called *Areas of Concern*.

People in federal, state, and provincial government environmental remediation programs are working to address the problems in these areas. Funding and expert guidance are provided to AOCs to help local groups, known as Public Advisory Councils (PACs), work on these environmental problems, as well.

Beneficial Use Impairments (BUIs)

These environmental problems are called *beneficial use impairments.* There are 14 categories of BUIs, originally named in the U.S.-Canadian Great Lakes Water Quality Agreement. However, a place does not have to have all 14 problems to be called an AOC.

Each BUI has goals that need to be met in order to be removed from the AOC's list of problems. Once all BUIs are removed from the list, the AOC is considered to be no longer impaired and can be *delisted,* or removed from the list of AOCs.

Michigan's AOCs in 2012

The 14 BUIs that an AOC can have are:

- Restrictions on Fish and Wildlife Consumption
- Tainting of Fish and Wildlife Flavor
- Degraded Fish and Wildlife Populations
- Fish Tumors or Other Deformities
- Loss of Fish and Wildlife Habitat
- Degradation of Benthos
- Degradation of Aesthetics
- Beach Closings
- Added Costs to Agriculture or Industry
- Restrictions on Dredging Activities
- Eutrophication or Undesirable Algae
- Restrictions on Drinking Water Consumption or Taste and Odor Problems
- Bird or Animal Deformities or Reproductive Problems
- Degradation of Phytoplankton and Zooplankton Populations

Over the years, several BUIs have been removed from Michigan's AOCs, as citizens, industries, and government joined together to improve our state's environmental health. In fact, after decades of hard work, some Michigan AOCs only have one or two BUIs remaining and are getting closer to being delisted.

Fish Tumors or Other Deformities BUI

If an AOC has a ***Fish Tumors or Other Deformities BUI***, it means that the fish from the affected lake or river once had a higher rate of tumors, possibly caused by chemicals.

Fish tumors aren't only caused by chemicals, however. There are diseases that can cause tumors in fish, just like in humans. For this reason, even after the *Fish Tumors or Other Deformities BUI* has been removed from an AOC, there still might be fish with tumors in the river.

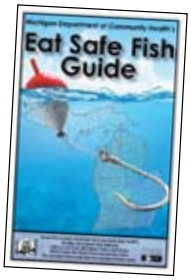
There are two ways to remove the *Fish Tumors or Other Deformities BUI.* The first is by reviewing MDEQ and Michigan Department of Natural Resources (MDNR) records for confirmed reports of fish tumors in the past five years. If there are none, the BUI may be removed. If tumors have been reported, then a number of fish that typically have more tumors, like bullheads or suckers, are collected from the river. These fish are then examined by scientists at the MDEQ for tumors or lesions. The same types of fish are also collected from an area outside of the AOC, called a reference site. These fish are also examined for tumors or lesions. The two groups are then compared. If the group of fish from the AOC shows the same number or fewer tumors or lesions than the fish from the reference site, the BUI can be removed.

It is important to note that:

- **Tumors can occur naturally in fish. Catching a fish with a tumor is not always a sign that there are problems with the water or fish population.**
- **Spots and other lesions on fish can be caused by viruses, lampreys, or even scrapes during the fight on your fishing line.**
- **People can't get sick from most fish diseases (except tapeworms), but it's good practice to wash your hands after handling a fish and to cook your freshwater fish filets completely.**

If you are concerned about a fish that you caught that seems sick or is deformed, or if you see a large number of dead fish, you can report it to your local Michigan Department of Natural Resources (MDNR) office: **Rouge River area / Detroit area - (248) 359-9040 • St Marys River area - (906) 293-5131.**

You can't see chemicals in fish. Use the *Eat Safe Fish Guide*.



- You can't always see the chemicals in fish that can cause health problems in people. In fact, the chemicals that cause the Michigan Department of Community Health's (MDCH) fish eating guidelines and the ***Fish Tumors or Other Deformities BUI*** to be issued can't be seen at all.
- The ***MDCH Eat Safe Fish Guide*** can help you choose safer fish to eat from many of Michigan's lakes and rivers, not just the ones in the AOCs. MDCH tests filets of fish for chemicals from locations all around the state.

Even when the ***Fish Tumors or Other Deformities BUI*** is removed from an AOC's list of problems, fish from the lake or river will still be tested and listed in the *MDCH Eat Safe Fish Guide* for some time after. This is because different chemicals cause different problems. None of the chemicals listed in the *MDCH Eat Safe Fish Guide* will ever change the taste or the look of the fish.

Michigan lakes and rivers are improving thanks to federal and state environmental rules, and the hard work of the US Environmental Protection Agency, the MDEQ, and the PACs. However, it will take many years for these chemicals to leave the ecosystem and the fish.

To learn more about AOCs & BUIs:

MDEQ - Office of the Great Lakes

517-335-3168

http://www.michigan.gov/deqaocprogram

To learn more about eating safe fish:

MDCH - Division of Environmental Health

1-800-648-6942

http://www.michigan.gov/eatsafefish

Tainting of Fish Flavor in Michigan's Areas of Concern

Areas of Concern (AOCs)

In the 1980s, the United States and Canadian governments identified 43 places in the Great Lakes region that had severe, long-term environmental problems. These places are called *Areas of Concern*.

People in federal, state, and provincial government environmental remediation programs are working to address the problems in these areas. Funding and expert guidance are provided to AOCs to help local groups, known as Public Advisory Councils (PACs), work on these environmental problems, as well.

Beneficial Use Impairments (BUIs)

These environmental problems are called *beneficial use impairments.* There are 14 categories of BUIs, originally named in the U.S.-Canadian Great Lakes Water Quality Agreement. However, a place does not have to have all 14 problems to be called an AOC.

Each BUI has goals that need to be met in order to be removed from the AOC's list of problems. Once all BUIs are removed from the list, the AOC is considered to be no longer impaired and can be *delisted,* or removed from the list of AOCs.

Michigan's AOCs in 2012

The 14 BUIs that an AOC can have are:

- Restrictions on Fish and Wildlife Consumption
- Tainting of Fish and Wildlife Flavor
- Degraded Fish and Wildlife Populations
- Fish Tumors or Other Deformities
- Loss of Fish and Wildlife Habitat
- Degradation of Benthos
- Degradation of Aesthetics
- Beach Closings
- Added Costs to Agriculture or Industry
- Restrictions on Dredging Activities
- Eutrophication or Undesirable Algae
- Restrictions on Drinking Water Consumption or Taste and Odor Problems
- Bird or Animal Deformities or Reproductive Problems
- Degradation of Phytoplankton and Zooplankton Populations

Over the years, several BUIs have been removed from Michigan's AOCs, as citizens, industries, and government joined together to improve our state's environmental health. In fact, after decades of hard work, some Michigan AOCs only have one or two BUIs remaining and are getting closer to being delisted.

Tainting of Fish Flavor BUI

If an AOC has a ***Tainting of Fish Flavor BUI***, it means that the fish from the affected lake or river once had a flavor not normal for fish. Many different chemicals can cause these strange flavors, but they are often caused by oils in the water.

The Detroit River was the last AOC to still have this problem. As some of the problem areas in the Detroit River have been cleaned up, the fish flavor got better. In fact, the State has not received any reports of strange fish flavors in several years.

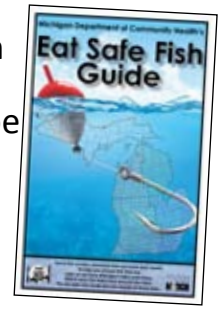
To be sure the fish tainting problem really is better, the Friends of the Detroit River surveyed nearly 300 people who ate Detroit River fish in 2011 and 2012. Of those who had eaten Detroit River fish, 91% said the taste of the fish from the river was now "good" to "excellent."

It is important to note that:

- **Strong "fishy" flavors are not considered to be part of the *Tainting of Fish Flavor BUI*.**
- **Fish with meat that is softer than normal is not considered to be part of the *Tainting of Fish Flavor BUI*.**
- **Sores or tumors on the fish are not part of the *Tainting of Fish Flavor BUI*.**
- **The *Tainting of Fish Flavor BUI* is not the same as the *Restrictions on Fish Consumption BUI*.**

If you are concerned about a fish that you caught that seems sick or is deformed, or if you see a large number of dead fish, you can report it to your local Michigan Department of Natural Resources (MDNR) office. The number for the MDNR office nearest Detroit is (248) 359-9040.

You can't taste <u>all</u> chemicals. Use the *Eat Safe Fish Guide*.



- You can't always taste the chemicals in fish that can cause health problems in people. In fact, the chemicals that cause the Michigan Department of Community Health's (MDCH) fish eating guidelines and the ***Restrictions on Fish Consumption BUI*** to be issued can't be tasted at all.
- The ***MDCH Eat Safe Fish Guide*** can help you choose safer fish to eat from many of Michigan's lakes and rivers, not just the ones in the AOCs. MDCH tests filets of fish for chemicals from locations all around the state.

Even when the ***Tainting of Fish Flavor BUI*** is removed from an AOC's list of problems, fish from the area will still be tested and listed in the *MDCH Eat Safe Fish Guide* for some time after. This is because different chemicals cause different problems. None of the chemicals listed in the *MDCH Eat Safe Fish Guide* will ever change the taste or the look of the fish.

Michigan lakes and rivers are improving thanks to federal and state environmental rules, and the hard work of the US Environmental Protection Agency, the MDEQ, and the PACs. However, it will take many years for these chemicals to leave the ecosystem and the fish.

To learn more about AOCs & BUIs:

MDEQ - Office of the Great Lakes

517-335-3168

http://www.michigan.gov/deqaocprogram

To learn more about eating safe fish:

MDCH - Division of Environmental Health

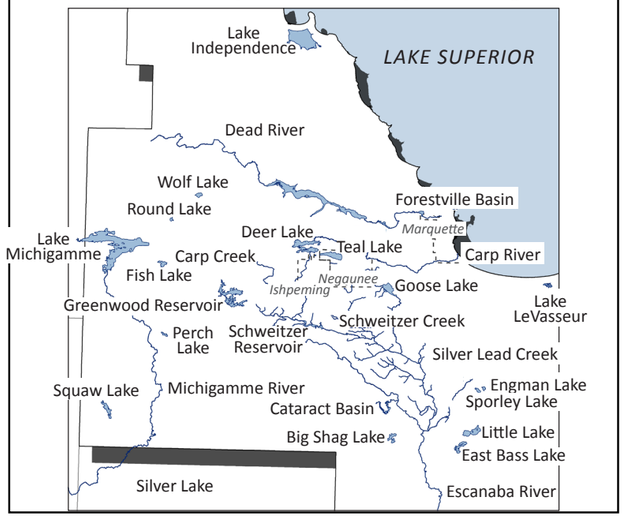
1-800-648-6942

http://www.michigan.gov/eatsafefish

Eat Safe Fish Guidelines

These guidelines are from the 2015 *Upper Peninsula Eat Safe Fish Guide.*
To get the most up-to-date guidelines for lakes and rivers in Marquette County or other areas of Michigan, please visit www.michigan.gov/eatsafefish to download a copy of the *Eat Safe Fish Guide* to your smartphone or call 1-800-648-6942 to get a print copy!

Map of Marquette County, Michigan



Cataract Basin
(on the Escanaba River, Forsyth Township)

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Walleye	Mercury	Under 20″	1
		Over 20″	6 Per Year

Dead River
(including the Dead River Basin/Hoist Basin, Forestville Basin, McClure Basin, Silver Lake Basin, and Tourist Park Basin)

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Largemouth Bass	Mercury	Under 18″	1
		Over 18″	6 Per Year
Northern Pike	Mercury	Under 30″	6 Per Year
		Over 30″	Do Not Eat▲
Smallmouth Bass	Mercury	Under 18″	1
		Over 18″	6 Per Year
Walleye	Mercury	Under 20″	1
		Over 20″	6 Per Year

(When fishing the river near Lake Superior, check those guidelines, too.)

Deer Lake

SPECIAL NOTICE: Deer Lake has a Michigan DNR Catch & Release Sportfishing Regulation. For information on Michigan DNR Fishing Regulations, please visit www.michigan.gov/fishing. For information on current fish contaminant results, please see the MDHHS *Eat Safe Fish Guide* at www.michigan.gov/eatsafefish.

Big Shag Lake

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Northern Pike	Mercury	Under 24″	2
		24″ to 34″	1
		Over 34″	6 Per Year

East Bass Lake

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Northern Pike	Mercury	Any	2

Carp Creek
(upstream of Deer Lake)

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Brook Trout	Mercury	Under 10″	2
		Over 10″	1
Suckers	Mercury	Any	2

Engman Lake

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Northern Pike	Mercury	Under 30″	1
		Over 30″	6 Per Year

Carp River
(downstream of Deer Lake)

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Brook Trout	Mercury	Any	4
Northern Pike	Mercury	Under 30″	1
		Over 30″	6 Per Year
Suckers	Mercury	Any	2

(When fishing the river near Lake Superior, check those guidelines, too.)

Escanaba River

- **East Branch**
  (upstream of Gwinn, including Warner Creek, Goose Lake Outlet, Goose Lake Inlet, Schweitzer Creek, Ely Creek and other tributaries)
- **Green Creek**
  (from the Empire Tailings dam to the Middle Branch of the river)
- **Middle Branch**
  (from Gwinn to Cataract Dam)

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Brook Trout	Selenium	Any	4
Suckers	Selenium	Any	4

(When fishing the river near Lake Michigan, check the lake guidelines in the current *Eat Safe Fish Guide*, too.)

2X	See the **2x** box on the back of this page to learn how you can eat more of these fish safely.
▲	See the **Limited** and **Do Not Eat** boxes on the back of this page for more information.

To get the guidelines for other regions in Michigan and nearby states, please visit www.michigan.gov/eatsafefish or call MDHHS at 1-800-648-6942.

(Open the brochure for more area information and to learn how to use the Eat Safe Fish guidelines.)

v. 12-2015

FREE LOCAL FISHING MAP & Eat Safe Fish Guidelines

eat safe fish in Marquette County

What are 'safe' fish?

Safe fish are fish that are low in chemicals. If you use the ***Eat Safe Fish Guide*** when you choose fish to catch and eat, you will protect yourself and your family from chemicals that could someday make you sick.

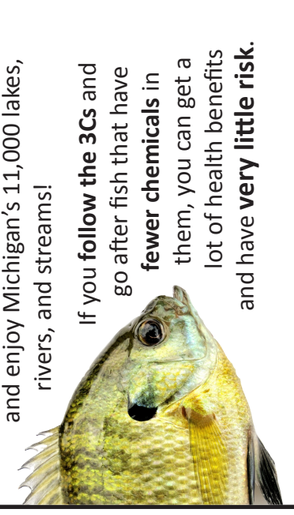
If there are chemicals in the fish, why should I still eat it?

Fish have a lot of great health benefits.

- ☑ **Fish can be a great low-fat source of protein.**
- ☑ **Fish are brain food.**
- ☑ **Some fish have heart-healthy omega-3s.**

Plus, fishing is a fun way to get outside and enjoy Michigan's 11,000 lakes, rivers, and streams!

If you **follow the 3Cs** and go after fish that have **fewer chemicals** in them, you can get a lot of health benefits and have **very little risk.**



Catching fish • Buying fish • Eating fish
For more information on safe fish, call MDHHS at 1-800-648-6942 or visit us online at www.michigan.gov/eatsafefish.

MDHHS Michigan Department of Health & Human Services

Using the Eat Safe Fish Guidelines

MDHHS tests only the filets of the fish for chemicals to set these guidelines. *MI Servings* are set to be safe for everyone. This includes **children, pregnant or breastfeeding women, and people who have health problems like cancer or diabetes.**

How much is *MI Serving*?

Weight of Person	*MI Serving* Size
45 pounds	2 ounces
90 pounds	4 ounces
180 pounds	8 ounces

For every 20 pounds less than the weight listed in the table, subtract 1 ounce of fish.
For example, a 70-pound child's *MI Serving* size is 3 ounces of fish.
90 pounds - 20 pounds = 70 pounds & 4 ounces - 1 ounce = a *MI Serving* size of 3 ounces

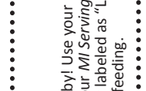
Weigh Less?

For every 20 pounds more than the weight listed in the table, add 1 ounce of fish.
For example, a 110-pound person's *MI Serving* size is 5 ounces of fish.
90 pounds + 20 pounds = 110 pounds / 4 ounces plus 1 ounce = a *MI Serving* size of 5 ounces

Weigh More?

You might eat more than one *MI Serving* in a meal. That's OK, just keep track so you don't have too much.

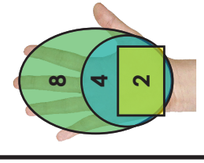
Are you pregnant?



Fish is good for you and your baby! Use your pre-pregnancy weight to find your *MI Serving* size. It's also best to avoid eating fish labeled as "Limited" when you're pregnant or breastfeeding.

My Michigan, *MI Serving* Size

- ☑ 8 ounces of fish = size of an adult's hand (large oval)
- ☑ 4 ounces of fish = size of the palm of an adult's hand (small circle)
- ☑ 2 ounces of fish = size of half a palm of an adult's hand (rectangle)



The MDHHS Safe Fish Guidelines in this brochure are from the MDHHS ***2015 Eat Safe Fish Guide***.
For updates, visit www.michigan.gov/eatsafefish or call 1-800-648-6942 and ask for a free ***Guide***.

2015 Eat Safe Fish Guidelines for Marquette County (continued)

Fish Lake

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Northern Pike	Mercury	Under 30"	1
		Over 30"	6 Per Year

Goose Lake

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Northern Pike	PCBs	Any	1[2x]
Suckers	PCBs	Any	6 Per Year[2x]
Walleye	PCBs	Any	1[2x]
Yellow Perch	PCBs	Any	1[2x]

Greenwood Reservoir

(on the Escanaba River near Ely, MI)

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Black Crappie	Mercury	Any	2
Largemouth Bass	Mercury	Under 18"	1
		Over 18"	6 Per Year
Northern Pike	Mercury	Any	6 Per Year
Smallmouth Bass	Mercury	Under 18"	1
		Over 18"	6 Per Year
White Crappie	Mercury	Any	2

Lake Independence

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Northern Pike	Mercury	Under 30"	2
		Over 30"	1
Walleye	Mercury	Any	1

Lake LeVasseur

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Northern Pike	Mercury	Under 30"	6 Per Year
		Over 30"	Do Not Eat▲

Lake Michigamme

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Burbot	Mercury	Any	2
Lake Herring	Mercury	Any	2
Lake Whitefish	Mercury	Any	4
Northern Pike	Mercury	Under 30"	6 Per Year
		Over 30"	Do Not Eat▲
Rock Bass	Mercury	Any	1
Suckers	Mercury	Under 18"	4
		Over 18"	2
Walleye	Mercury	Under 20"	6 Per Year
		Over 20"	Do Not Eat▲
Yellow Perch	Mercury	Any	2

Little Lake

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Walleye	Mercury	Under 18"	4
		Over 18"	2

Michigamme River

(Includes Michigamme Basin in Marquette Co and Michigamme Reservoir, Peavy Pond, and Michigamme Lake in Iron Co.)

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Burbot	Mercury	Any	2
Lake Whitefish	Mercury	Any	4
Northern Pike	Mercury	Under 24"	1
		Over 24"	6 Per Year
Rock Bass	Mercury	Any	2
Suckers	Mercury	Any	2
Walleye	Mercury	Under 20"	1
		Over 20"	6 Per Year
Yellow Perch	Mercury	Any	2

Perch Lake

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Northern Pike	Mercury	Under 30"	1
		Over 30"	6 Per Year

Round Lake

(near Champion Twp, MI)

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Largemouth Bass	Mercury	Under 18"	6 Per Year
		Over 18"	Do Not Eat▲
Smallmouth Bass	Mercury	Under 18"	6 Per Year
		Over 18"	Do Not Eat▲

Schweitzer Reservoir

(on Schweitzer Creek near Palmer, MI)

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Northern Pike	Mercury	Under 30"	1
		Over 30"	6 Per Year

Silver Lead Creek

(near the K.I. Sawyer Air Force Base)

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Brook Trout	PCBs	Any	2[2x]

Sporley Lake

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Splake	Mercury	Any	2
Suckers	None	Any	16[2x]

Squaw Lake

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Rainbow Trout	Mercury	Any	8
Splake	Mercury	Any	4
Suckers	Mercury	Any	8
Yellow Perch	Mercury	Any	4

Teal Lake

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Walleye	Mercury	Under 18"	4
		18" to 24"	2
		Over 24"	1

Lake Superior

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Brown Trout	PCBs	Any	1[2x]
Burbot	PCBs	Any	Limited▲
Chinook Salmon	PCBs	Any	6 Per Year[2x]
Coho Salmon	PCBs & Toxaphene	Any	4[2x]
Lake Herring	Mercury	Any	8
Lake Trout	PCBs & Toxaphene	Under 24"	2[2x]
	PCBs	24" to 28"	1[2x]
		Over 28"	6 Per Year[2x]

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Lake Whitefish	PCBs, Dioxins, Toxaphene	Any	2[2x]
Northern Pike	Mercury	Any	2
Rainbow Trout	PCBs	Any	2[2x]
Siscowet	PCBs & Toxaphene	Any	Limited▲
Steelhead	PCBs	Any	2[2x]
Suckers	Toxaphene	Any	2[2x]
Walleye	Mercury	Any	2
Yellow Perch	Mercury	Any	2

Statewide Guidelines & More

Don't see a certain Marquette County lake or river listed in this brochure? Then the Statewide Safe Fish Guidelines can help you find safer fish to eat. But only use the Statewide Guidelines if...

STOP

- **the Marquette County lake or river you are fishing in is not listed in this brochure, OR**
- **your lake or river is listed in this brochure, but the fish species is not listed.**

Statewide Safe Fish Guidelines

Type of Fish	Chemical of Concern	Size of Fish (length in inches)	MI Servings per Month*
Black Crappie	Mercury	Any Size	4
Bluegill	Mercury	Any Size	8
Carp	PCBs	Any Size	2
Catfish	PCBs & Mercury	Any Size	4
Largemouth Bass	Mercury	Under 18"	2
		Over 18"	1
Muskellunge	Mercury	Any Size	1
Northern Pike	Mercury	Under 30"	2
		Over 30"	1

Type of Fish	Chemical of Concern	Size of Fish (length in inches)	MI Servings per Month*
Rock Bass	Mercury	Any Size	4
Smallmouth Bass	Mercury	Under 18"	2
		Over 18"	1
Suckers	Mercury	Any Size	8
Sunfish	Mercury	Any Size	8
Walleye	Mercury	Under 20"	2
		Over 20"	1
White Crappie	Mercury	Any Size	4
Yellow Perch	Mercury	Any Size	4

These guidelines are based on the typical amount of chemicals found in fish filets tested from around the state. Some fish may be higher or lower. If any of these fish are listed in the guidelines for the lake or river you are fishing in, use **those** guidelines instead of the statewide guidelines. The *MI Servings* recommendation will be more exact for that lake or river because those filets have been tested. For other counties in Michigan, please visit www.michigan.gov/eatsafefish to get the *Eat Safe Fish Guide* for that region.

2x, Best Choice, Limited, and Do Not Eat

2x

Remove the fat; double the *MI Servings*!

PCBs and dioxins are in the fat of the fish. You can double the number of *MI Servings* if you:

- trim away the fat that you can see from the filet,
- cook the fish on a grill or broiling pan so more fat can drip away
- **Note, you can't remove mercury, selenium, or PFOS from the fish.** Do not double the *MI Servings* for fish with those chemicals listed as a Chemical of Concern.

Best Choice

Do you eat fish at least twice a week?

When using the MDHHS *Eat Safe Fish Guide*, watch for this MDHHS "Best Choice" symbol. The hook and fish mark species that you and your family can safely eat 8 *MI Servings* or more each month!

Do Not Eat

No one should eat fish listed as Do Not Eat, regardless of age or health.

When these fish were tested, MDHHS found very high levels of chemicals. Eating even one meal of these fish could possibly lead to health problems in the future, regardless of age or health.

Limited

If you:

- are under the age of 15,
- have health problems, like cancer or diabetes,
- are planning on having children in the next several years, currently pregnant, or breastfeeding,

MDHHS suggests you **avoid eating all fish listed as *"Limited"*** because of higher levels of chemicals.

If **NONE** of the above apply to you, it is usually OK to eat fish listed as "*Limited*" **1 or 2 times each year**.

v. 12-2015

Fishing Carp Creek

What's the Catch?

Some fish have less chemicals than others because of what they eat, how long they live, and how lean or fatty they are. Smaller fish of the same species usually have less chemicals than the bigger ones. It's best to keep the small fish for eating and to snap a picture and return trophy fish to the water!

How to Catch Yellow Perch

- During the winter and spring, perch can be caught in shallow water. However, during the summer, yellow perch tend to be in deeper holes. They bite during the day.
- A typical perch rig for summer fishing consists of a sinker on the end of the line with a pair of hooks (No. 6 or 8) tied on leaders about a foot apart just above the sinker. Be sure to check DNR regulations to see what type of bait is OK for this area.

How to Catch Brook Trout

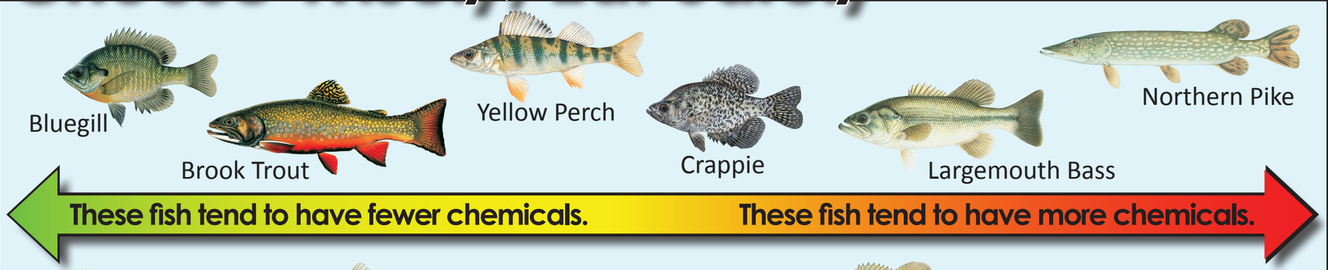
- Brook trout can be caught at almost any time, even in the middle of the day.
- These fish are ready biters and can be caught using a variety of gear.
- Cast carefully. Brook trout spook easily. These fish can often be found in deep holes and under the cover of logs or overhanging banks in many streams. Allow your bait to drift slowly along the bottom until you get a bite!

Source: www.michigan.gov/howtofish


Yellow Perch

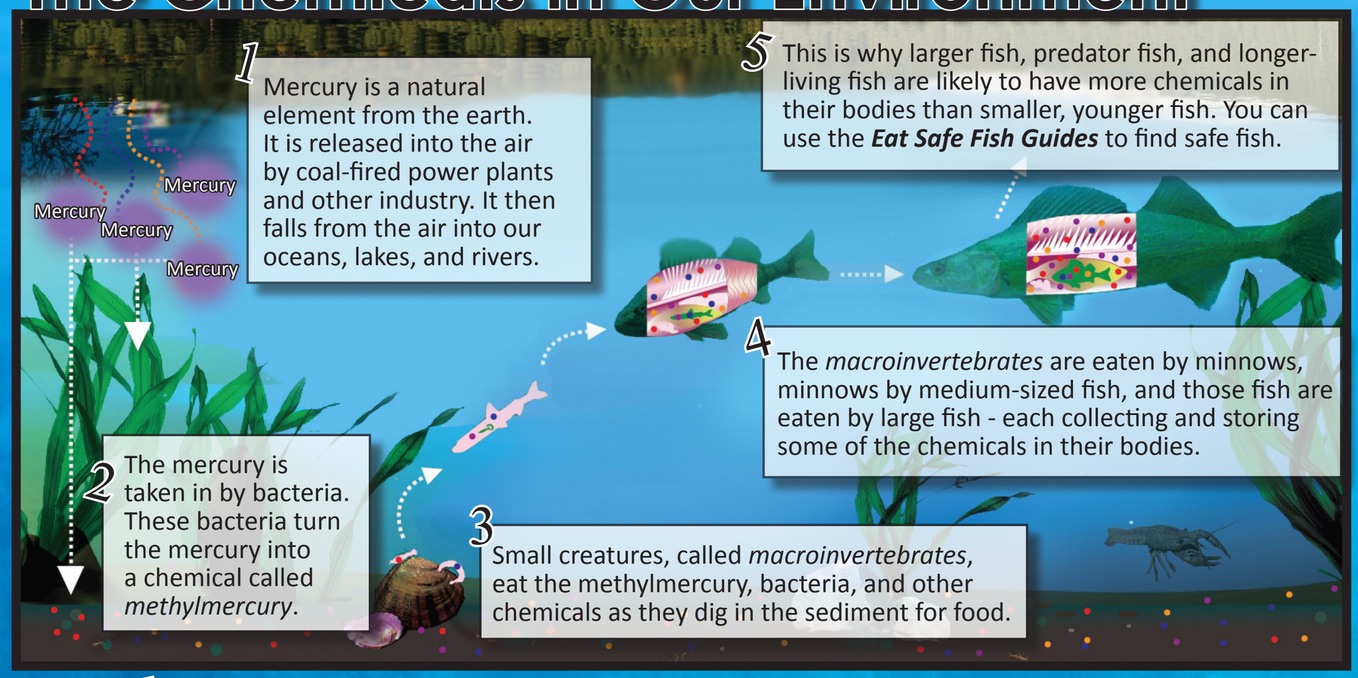

Brook Trout

Choose Wisely, Eat Safely



You can use the *Eat Safe Fish Guide - U.P.* to find safer fish to enjoy from nearby lakes and rivers!

The Chemicals in Our Environment

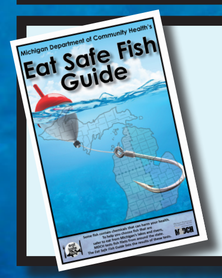


More About Mercury

- Did you know that mercury is the most common chemical found in fish in the Upper Peninsula - and not just in Carp Creek?
- It is safe to touch the fish and swim in the water even if there is mercury in it.
- You will not be able to see any of the chemicals, even mercury, in the fish. The fish will look normal.
- Studies have shown that eating too much mercury can harm heart function in people of all ages. It can also harm brain development in children.

- Fish are healthy for you to eat, but it's important to choose fish with fewer chemicals in them.
- The MDCH ***Eat Safe Fish Guides*** and the ***Buy Safe Fish*** brochure can help you find fish that are lower in chemicals and safe to eat from Michigan's lakes, rivers, and stores.

Visit www.michigan.gov/eatsafefish to learn more!



Looking for other nearby fishing locations where fish have been tested?

Call MDCH at 1-800-648-6942 and ask for a free *Eat Safe Fish Guide* or pick up an *Eat Safe Fish in Marquette County* brochure at the Ishpeming City Hall or area stores.

The *Guide* and brochure includes maps and lists of lakes and rivers where fish have been tested for chemicals. The MDCH Lab tests the filets of fish for chemicals, and all of the MDCH guidelines are based only on this data.

You can also download this information to your smartphone 24/7 at www.michigan.gov/eatsafefish!

Michigan Department of Community Health · MDCH · DEQ · Department of Natural Resources Michigan · eat safe fish · CLIFFS · Friends of Deer Lake · Great Lakes Commission des Grands Lacs · United States Environmental Protection Agency · Great Lakes Restoration · City of Ishpeming

Fishing Carp River

What's the Catch?

Some fish have less chemicals than others because of what they eat, how long they live, and how lean or fatty they are. Smaller fish of the same species usually have less chemicals than the bigger ones. It's best to keep the small fish for eating and to snap a picture and return trophy fish to the water!

How to Catch Yellow Perch

- During the winter and spring, perch can be caught in shallow water. However, during the summer, yellow perch tend to be in deeper holes. They bite during the day.
- A typical perch rig for summer fishing consists of a sinker on the end of the line with a pair of hooks (No. 6 or 8) tied on leaders about a foot apart just above the sinker. Be sure to check DNR regulations to see what type of bait is OK for this area.

How to Catch Brook Trout

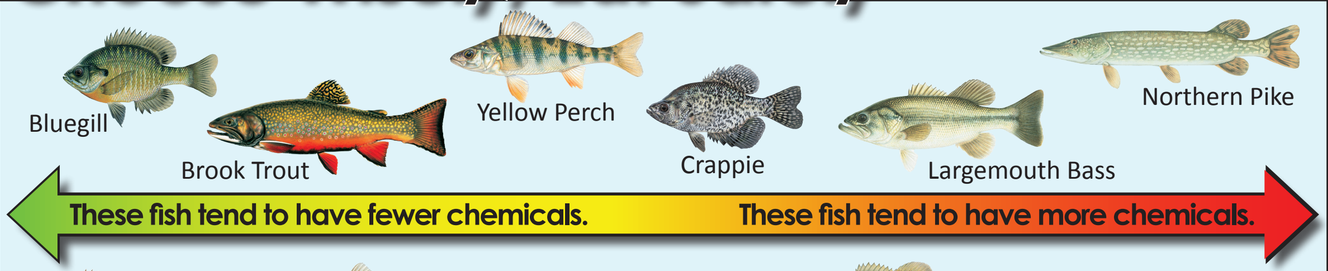
- Brook trout can be caught at almost any time, even in the middle of the day.
- These fish are ready biters and can be caught using a variety of gear.
- Cast carefully. Brook trout spook easily. These fish can often be found in deep holes and under the cover of logs or overhanging banks in many streams. Allow your bait to drift slowly along the bottom until you get a bite!

Source: www.michigan.gov/howtofish

Yellow Perch

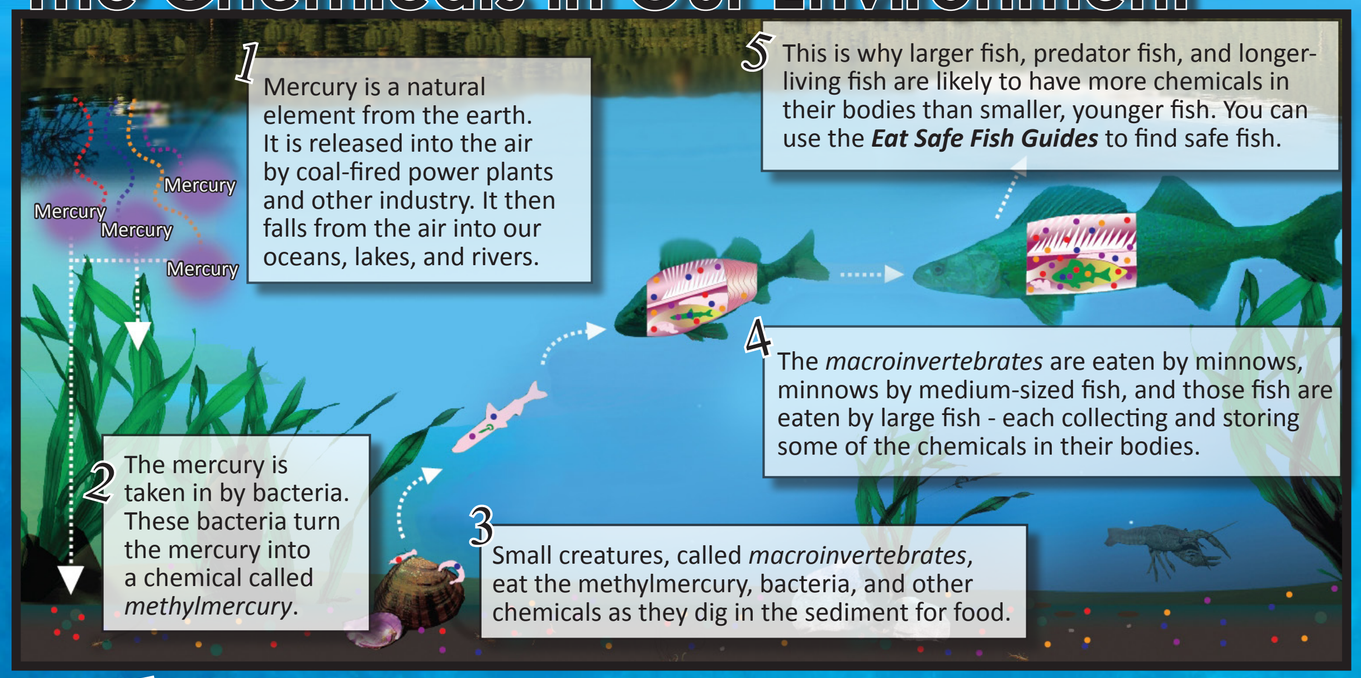
Brook Trout

Choose Wisely, Eat Safely



You can use the *Eat Safe Fish Guide - U.P.* to find safer fish to enjoy from nearby lakes and rivers!

The Chemicals in Our Environment

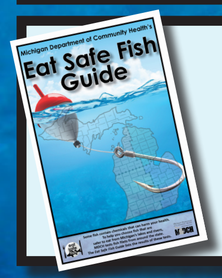


More About Mercury

- Did you know that mercury is the most common chemical found in fish in the Upper Peninsula - and not just in Carp River?
- It is safe to touch the fish and swim in the water even if there is mercury in it.
- You will not be able to see any of the chemicals, even mercury, in the fish. The fish will look normal.
- Studies have shown that eating too much mercury can harm heart function in people of all ages. It can also harm brain development in children.

- Fish are healthy for you to eat, but it's important to choose fish with fewer chemicals in them.
- The MDCH ***Eat Safe Fish Guides*** and the ***Buy Safe Fish*** brochure can help you find fish that are lower in chemicals and safe to eat from Michigan's lakes, rivers, and stores.

Visit www.michigan.gov/eatsafefish to learn more!



Looking for other nearby fishing locations where fish have been tested?

Call MDCH at 1-800-648-6942 and ask for a free *Eat Safe Fish Guide* or pick up an *Eat Safe Fish in Marquette County* brochure at the Ishpeming City Hall or area stores.

The *Guide* and brochure includes maps and lists of lakes and rivers where fish have been tested for chemicals. The MDCH Lab tests the filets of fish for chemicals, and all of the MDCH guidelines are based only on this data.

You can also download this information to your smartphone 24/7 at www.michigan.gov/eatsafefish!

Michigan Department of Community Health · MDCH · DEQ · DNR · eat safe fish · CLIFFS · Friends of Deer Lake · Great Lakes Commission des Grands Lacs · United States Environmental Protection Agency · Great Lakes Restoration · City of Ishpeming

Going Fishing?

Deer Lake is a catch and release fishery.

- **In order to preserve the unique fishery, current DNR regulations require that all fish from Deer Lake be returned to the water.**
- **While the environment is getting better, please note that some fish in Deer Lake and other lakes and rivers in Michigan still have higher levels of mercury. Mercury can't be removed from the fish filet.**
- **Be sure to check the Michigan Department of Community Health's *Eat Safe Fish Guide* to find fish that are lower in mercury and other chemicals. For more information, please visit www.michigan.gov/eatsafefish or call 1-800-648-6942.**
- **Thank you to the U.S. Environmental Protection Agency, Cliffs Natural Resources, the City of Ishpeming, the Deer Lake Public Advisory Council/Lake Association, the Michigan Department of Environmental Quality, the Michigan Department of Natural Resources, the Michigan Department of Community Health, and all of the dedicated local partners who have worked together to restore Deer Lake and reduce the levels of mercury in the fish and water.**

Questions about DNR regulations? Call 906-228-6561.

Looking for other nearby fishing locations where fish have been tested?

Call MDCH at 1-800-648-6942 and ask for a free *Eat Safe Fish Guide* or pick up an *Eat Safe Fish in Marquette County* brochure at the Ishpeming City Hall or area stores.

The *Guide* and brochure includes maps and lists of lakes and rivers where fish have been tested for chemicals. The MDCH Lab tests the filets of fish for chemicals, and all of the MDCH guidelines are based only on this data.

You can also download this information to your smartphone 24/7 at www.michigan.gov/eatsafefish!

Michigan Department of Community Health MDCH

Department of Natural Resources DNR Michigan

Friends of Deer Lake

Great Lakes Restoration

United States Environmental Protection Agency

DEQ

Great Lakes Commission des Grands Lacs

CLIFFS

City of Ishpeming 1873

eat safe fish

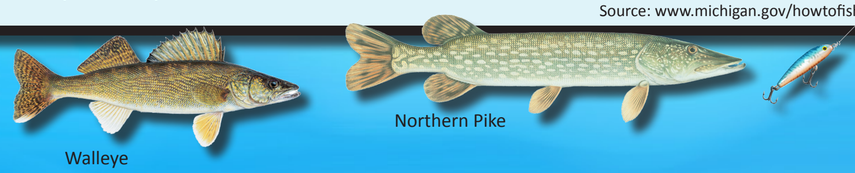
Fishing Deer Lake

What's the Catch?

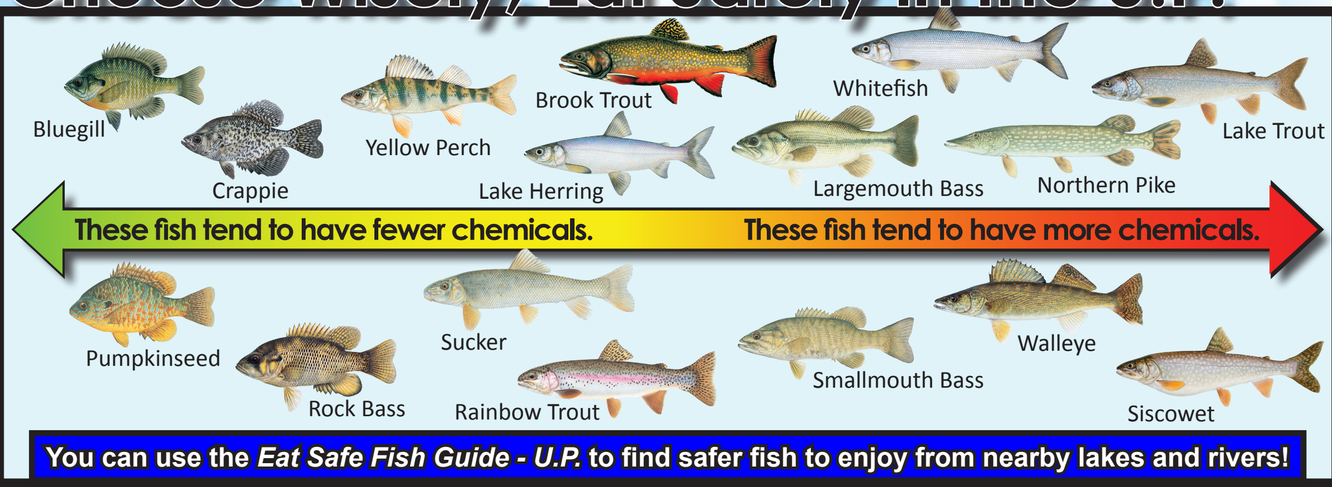
To preserve the unique fishery in Deer Lake, regulations require that all fish be returned to the water. Catch and release fishing is a great way to enjoy Michigan's beautiful natural resources. The DNR has some tips on ways to catch and release without harming the fish:

- **Single, barbless hooks cause smaller wounds and can be more easily removed.**
- **Fish do not usually swallow artificial bait, but if they do, it's best to just cut the line. The hook will rust out over time. Leaving it in will hurt the fish less than having a hook pulled out.**
- **If you want to take a picture of the fish before you release it, please handle it carefully. Wet your hands before touching the fish to prevent removing the protective mucus (aka slime) from the fish.**
- **Please hold on to the fish carefully. Do not squeeze the fish. For larger fish, gloves may help you hold them securely while removing the hook.**
- **Please do not let the fish flop around in your boat or on the ground.**
- **When releasing a fish, slide it gently back into the water. If the fish appears stressed, hold it in the water and gently move it back and forth to force water through the gills. Please do not throw the fish.**

Source: www.michigan.gov/howtofish

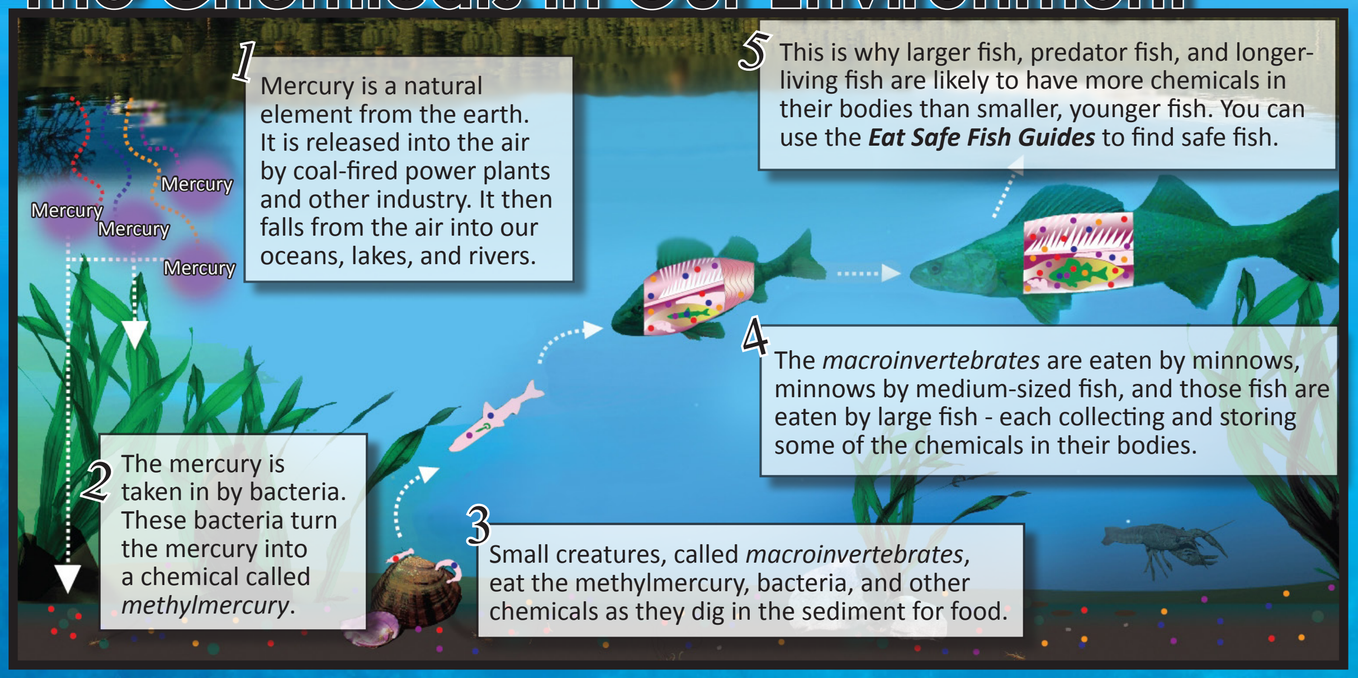


Choose Wisely, Eat Safely in the U.P.



You can use the *Eat Safe Fish Guide - U.P.* to find safer fish to enjoy from nearby lakes and rivers!

The Chemicals in Our Environment



More About Mercury

- Did you know that mercury is the most common chemical found in fish in the Upper Peninsula - and not just in Deer Lake?
- It is safe to touch the fish and swim in the water even if there is mercury in it.
- You will not be able to see any of the chemicals, even mercury, in the fish. The fish will look normal.
- Studies have shown that eating too much mercury can harm heart function in people of all ages. It can also harm brain development in children.

- Fish are healthy for you to eat, but it's important to choose fish with fewer chemicals in them.
- The MDCH ***Eat Safe Fish Guides*** and the ***Buy Safe Fish*** brochure can help you find fish that are lower in chemicals and safe to eat from Michigan's lakes, rivers, and stores.

Visit www.michigan.gov/eatsafefish to learn more!

Looking for other nearby fishing locations where fish have been tested?

Call MDCH at 1-800-648-6942 and ask for a free *Eat Safe Fish Guide* or pick up an *Eat Safe Fish in Marquette County* brochure at the Ishpeming City Hall or area stores.

The *Guide* and brochure includes maps and lists of lakes and rivers where fish have been tested for chemicals. The MDCH Lab tests the filets of fish for chemicals, and all of the MDCH guidelines are based only on this data.

You can also download this information to your smartphone 24/7 at www.michigan.gov/eatsafefish!

Michigan Department of Community Health · MDCH · DEQ · Department of Natural Resources · DNR · Michigan · eat safe fish · CLIFFS · Friends of Deer Lake · Great Lakes Commission des Grands Lacs · United States Environmental Protection Agency · Great Lakes Restoration · City of Ishpeming

Frequently Asked Questions: Eating Fish from the Detroit River

Some fish in the Detroit River shouldn't be eaten because there are too many chemicals in them, but there are plenty of fish that are OK to eat. You just need to choose wisely.

The ***Eat Safe Fish Guide*** can help you choose safer fish to eat from lakes and rivers in Michigan. You can get a free copy of the ***Eat Safe Fish Guide*** from the Michigan Department of Community Health (MDCH) by calling 1-800-648-6942 or visiting www.michigan.gov/eatsafefish.

It's not only Michigan fish that have chemicals in them. You can use the ***Buy Safe Fish*** brochure to learn how to choose safer fish from other states and countries. You can call MDCH or visit www.michigan.gov/eatsafefish to get a copy of the brochure.

How do chemicals end up in fish?

The chemicals that cause the guidelines for eating fish from the Detroit River are mercury, PCBs, and dioxins.

Mercury

Mercury occurs naturally in the environment, but most of the mercury in our air comes from the smokestacks of coal-fired power plants and other industries. Mercury particles in air can travel far from where they started. After landing on the ground, the mercury particles are carried by rain run-off into our rivers and wetlands.

PCBs

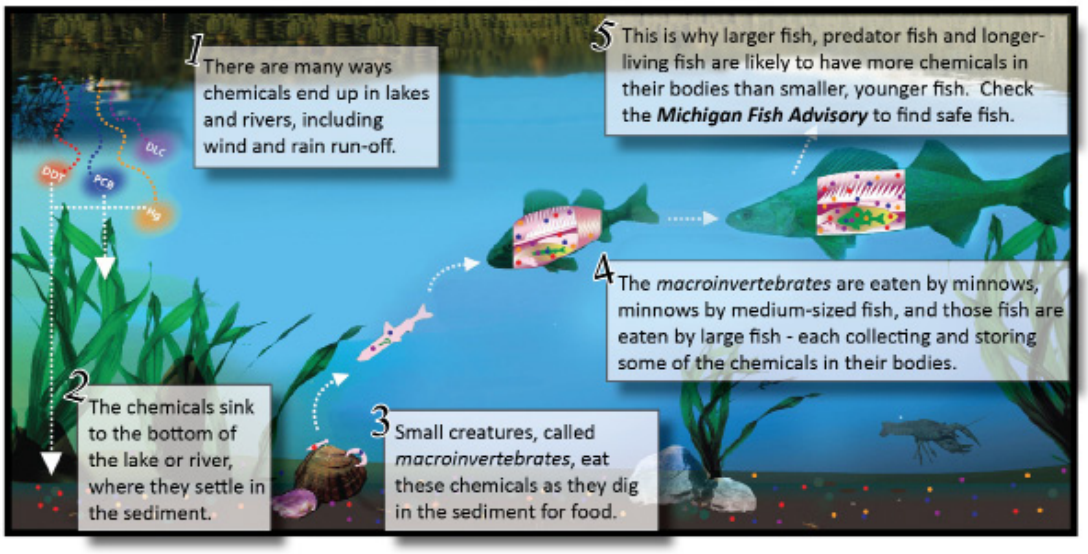
PCBs were used in many products including electrical equipment and hydraulic oils. While PCBs are no longer made in the U.S., some of these old PCB-containing products may still be used. PCBs can be spilled into the environment from these old products, from old or poorly contained waste sites, or from intentional dumping. Once in the environment, PCBs can be carried by rain run-off and storm drains into our lakes and rivers.

Dioxins

Dioxins are not made on purpose. They're created when chlorine chemicals are made or used, and when things containing chlorine - like paper and plastics - are burned. Dioxins from smokestacks can enter our water from the air like mercury does. Dioxins can also get into the environment from old or poorly contained waste sites or from intentional dumping. Like PCBs, dioxins can be carried by rain run-off and storm drains into our lakes and rivers.

A lot of these chemicals were put into our environment before we knew the long-term problems these chemicals caused. It was also before the U.S. Clean Water Act and other laws were put into place to protect the environment. Sometimes companies would dump chemical waste directly into the river to get rid of it. Other times, chemical spills would happen accidentally.

Once these chemicals are in the water, they sink to the bottom and become a part of the fish food chain. The US Clean Water Act and US Clean Air Act have cut back on a lot of this pollution. This is why the amount of PCBs and dioxins in our fish are slowly going down. Mercury is still a growing problem in some areas in the state, though. But mercury levels in fish seem to be staying about the same in the Detroit River.



What can these chemicals do to my health?

The chemicals in fish won't make you sick right away. Not everyone will get sick from eating fish with these chemicals in them. Some people will be fine after years of eating these fish. Others could have health problems. It is difficult to know who might get sick from the chemicals in fish and who won't. It's best to choose your fish wisely and limit the amount of chemicals you eat. This will reduce your chance of getting sick from these chemicals.

Chemical in fish	Possible health problems if too much is eaten
Mercury	• brain development can be harmed in fetuses and children • heart function can be harmed in older adults • immune system can be harmed
Dioxins	• linked to development of cancer • linked to development of diabetes • fertility can be harmed • thyroid can be harmed
PCBs	• brain development can be harmed in fetuses and children • linked to development of cancer • linked to development of diabetes • immune system can be harmed

What is being done to clean up the river?

The Detroit River is getting better thanks to federal and state environmental rules that now limit what can be put into our waters. The US Environmental Protection Agency (EPA), the Michigan Department of Environmental Quality (MDEQ), the Friends of the Detroit River, and the Detroit River Public Advisory Council are working hard to get rid of pollution that was put there before.

Removing the contaminated sediment from the river bottom is one way to get rid of some of the chemicals. In 2005, the EPA and MDEQ removed 470,000 pounds of contaminated sediment from the Black Lagoon in Trenton, Michigan - including almost 160 pounds of PCBs; 360 pounds of mercury; 300,000 pounds of oil and grease; 38,000 pounds of lead; and 140 pounds of zinc!

These groups are now planning to do a similar project in Riverview, Michigan.

View of the Black Lagoon oil plume near the McLouth Steel plant (Source: EPA)

Removing the polluted mud from the Black Lagoon, 2004. (Source: EPA)

Testing for pollution in the Trenton Channel, 2012 (Source: EPA)

Even with the clean-ups happening in the river, it will take many years for these chemicals to leave the ecosystem and the fish. Always be sure to check the ***Eat Safe Fish Guide*** before choosing fish to eat.

You can visit www.michigan.gov/eatsafefish or call 1-800-648-6942 to get a free copy of the ***Eat Safe Fish Guide***.

If you would like to find out what you can do to help the Detroit River, contact the Friends of the Detroit River at (734) 288-3889 or visit their website at www.detroitriver.org.

If you eat a lot of fish or always go fishing in the same lake or river, check the *Eat Safe Fish Guide* to be sure you're eating safe fish!

Call 1-800-648-6942 or visit www.michigan.gov/eatsafefish to learn more.

Michigan Department of Community Health

MDCH

Eat Safe Fish Guidelines

These guidelines are from the 2015 *Upper Peninsula Eat Safe Fish Guide.*
To get the most up-to-date guidelines for lakes and rivers in Menominee County or other areas of Michigan, please visit www.michigan.gov/eatsafefish to download a copy of the *Eat Safe Fish Guide* to your smartphone or call 1-800-648-6942 to get a print copy!

Green Bay, Big Bay de Noc, & Little Bay de Noc

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Carp	PCBs	Any	Do Not Eat▲
Largemouth Bass	PCBs & Mercury	Under 18"	2
		Over 18"	1
Northern Pike	Mercury	Any	1
Rock Bass	Mercury	Any	8
Smallmouth Bass	PCBs & Mercury	Under 18"	2
		Over 18"	1
Suckers	PCBs	Any	6 Per Year2x

Use the Lake Michigan guidelines for any fish species not listed above.

Lake Michigan

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Brown Trout	PCBs	Any	Limited▲
Burbot	PCBs	Any	1 2x
Carp	PCBs	Any	Do Not Eat▲
Chinook Salmon	PCBs	Any	6 Per Year2x
Coho Salmon	PCBs	Any	1 2x
Lake Trout	Dioxins	Under 24"	6 Per Year2x
		Over 24"	Limited▲
Lake Whitefish	PCBs & Dioxins	Any	Limited▲
Rainbow Trout	PCBs	Under 20"	2 2x
		Over 20"	6 Per Year2x
Smelt	PCBs	Any	2 2x
Steelhead	PCBs	Under 20"	2 2x
		Over 20"	6 Per Year2x
Suckers	PCBs	Any	6 Per Year2x
Walleye	PCBs & Mercury	Under 18"	2
	PCBs	18" to 22"	6 Per Year2x
		Over 22"	Limited▲
Yellow Perch	PCBs	Under 10"	4 2x
	PCBs & Mercury	Over 10"	4

Shakey Lake

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Northern Pike	Mercury	Under 30"	1
		Over 30"	6 Per Year

Menominee River

(between the Twin Falls Dam in Dickinson Co. and Upper Scott [Park Mill] Dam; including the Big & Little Quinnesec Falls Impoundments in Dickinson Co., and the Chalk Hill Impoundment, White Rapids Impoundment, Grand Rapids Impoundment, and the Upper Scott Flowage in Menominee Co.)

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Carp	PCBs	Any	Limited▲
Largemouth Bass	PCBs	Any	1 2x
Northern Pike	Mercury	Any	1
Rock Bass	Mercury	Any	4
Smallmouth Bass	PCBs	Any	1 2x
Suckers	PCBs & Mercury	Under 18"	4
	Mercury	Over 18"	1
Walleye	Mercury	Any	1

Menominee River

(between the Upper Scott [Park Mill] Dam and the Menominee Dam)

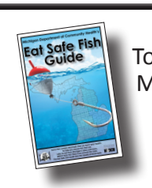
Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Carp	PCBs & Mercury	Any	2
Rock Bass	Mercury	Any	2
Suckers	Mercury	Any	6 Per Year
Walleye	Mercury	Under 20"	1
		Over 20"	6 Per Year

Menominee River

(between the Menominee Dam and Green Bay)

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Black Crappie	Mercury	Under 9"	8
	PCBs & Mercury	Over 9"	4
Bluegill	Mercury	Any	8
Carp	PCBs	Any	Do Not Eat▲
Largemouth Bass	PCBs & Mercury	Under 18"	2
	Mercury	Over 18"	1
Northern Pike	Mercury	Any	1
Smallmouth Bass	PCBs & Mercury	Under 18"	2
	Mercury	Over 18"	1
Sunfish	Mercury	Any	8
White Crappie	Mercury	Under 9"	8
	PCBs & Mercury	Over 9"	4
Yellow Perch	Mercury	Any	4

2X	See the **2x** box on the back of this page to learn how you can eat more of these fish safely.
▲	See the **Limited** and **Do Not Eat** boxes on the back of this page for more information.



To get the guidelines for other regions in Michigan and nearby states, please visit www.michigan.gov/eatsafefish or call MDHHS at 1-800-648-6942.

v. 12-2015 (Open the brochure for more area information and to learn how to use the Eat Safe Fish guidelines.)

What are 'safe' fish?

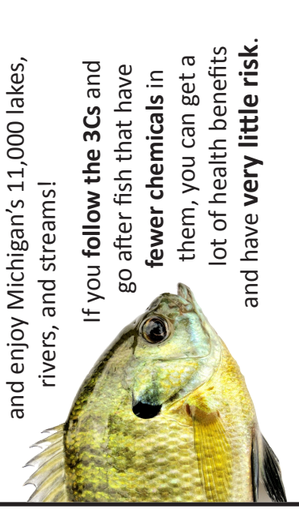
Safe fish are fish that are low in chemicals. If you use the ***Eat Safe Fish Guide*** when you choose fish to catch and eat, you will protect yourself and your family from chemicals that could someday make you sick.

If there are chemicals in the fish, why should I still eat it?

Fish have a lot of great health benefits.

- ☑ **Fish can be a great low-fat source of protein.**
- ☑ **Fish are brain food.**
- ☑ **Some fish have heart-healthy omega-3s.**

Plus, fishing is a fun way to get outside and enjoy Michigan's 11,000 lakes, rivers, and streams!



If you **follow the 3Cs** and go after fish that have **fewer chemicals** in them, you can get a lot of health benefits and have **very little risk.**

Catching fish • Buying fish • Eating fish
For more information on safe fish, call MDHHS at 1-800-648-6942 or visit us online at www.michigan.gov/eatsafefish.

MDHHS Michigan Department of Health & Human Services

Using the Eat Safe Fish Guidelines

MDHHS tests only the filets of the fish for chemicals to set these guidelines. *MI Servings* are set to be safe for everyone. This includes **children, pregnant or breastfeeding women, and people who have health problems like cancer or diabetes.**

How much is *MI Serving*?

Weight of Person	*MI Serving* Size
45 pounds	2 ounces
90 pounds	4 ounces
180 pounds	8 ounces

Weigh Less? For every 20 pounds less than the weight listed in the table, subtract 1 ounce of fish.
For example, a 70-pound child's *MI Serving* size is 3 ounces of fish. 90 pounds - 20 pounds = 70 pounds & 4 ounces - 1 ounce = a *MI Serving* size of 3 ounces

Weigh More? For every 20 pounds more than the weight listed in the table, add 1 ounce of fish.
For example, a 110-pound person's *MI Serving* size is 5 ounces of fish. 90 pounds + 20 pounds = 110 pounds / 4 ounces plus 1 ounce = a *MI Serving* size of 5 ounces

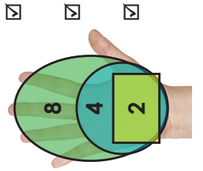
You might eat more than one *MI Serving* in a meal. That's OK, just keep track so you don't have too much.

Are you pregnant?

Fish is good for you and your baby! Use your pre-pregnancy weight to find your *MI Serving* size. It's also best to avoid eating fish labeled as "Limited" when you're pregnant or breastfeeding.

My Michigan, *MI Serving* Size

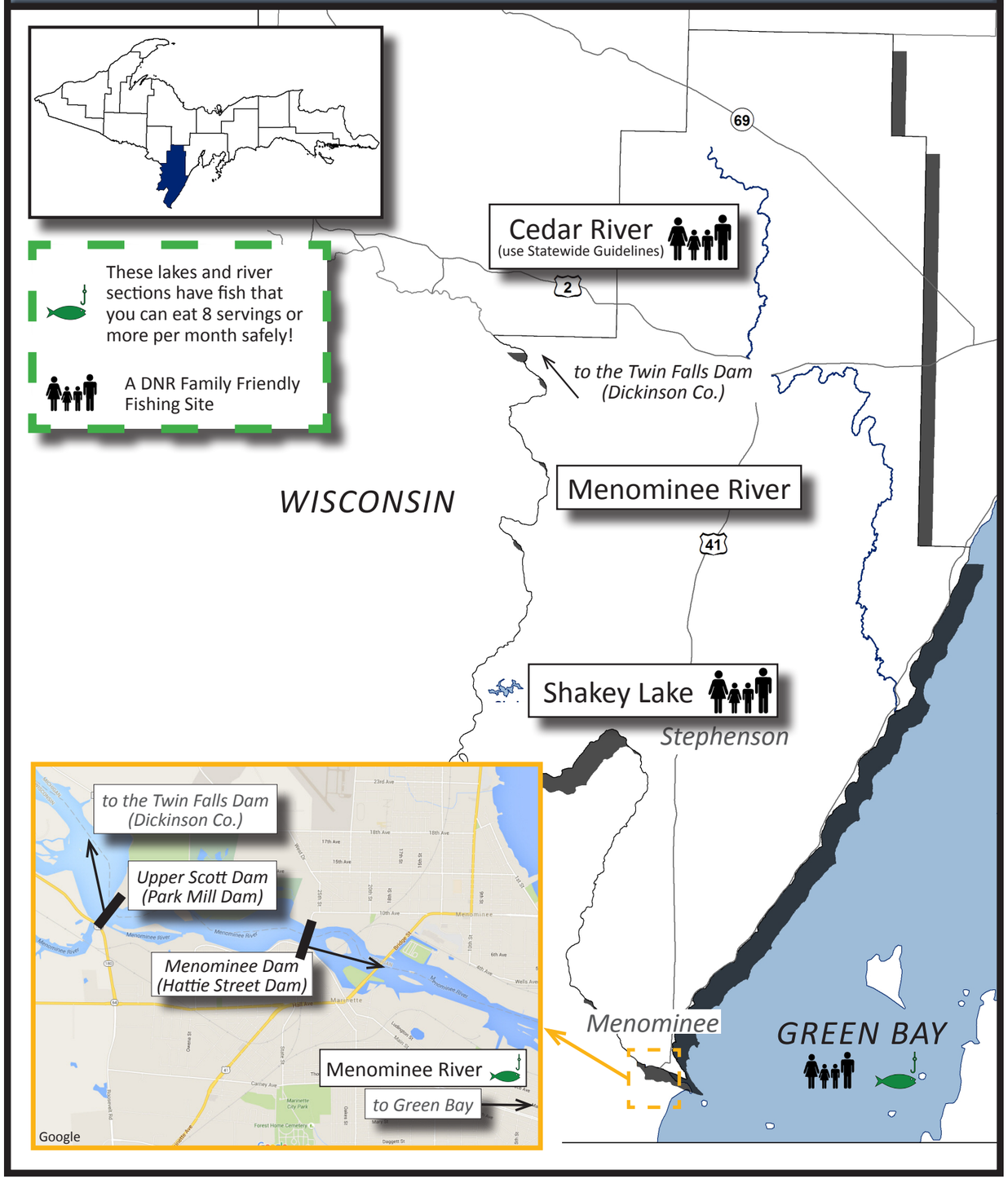
- ☑ 8 ounces of fish = size of an adult's hand (large oval)
- ☑ 4 ounces of fish = size of the palm of an adult's hand (small circle)
- ☑ 2 ounces of fish = size of half a palm of an adult's hand (rectangle)



The MDHHS Safe Fish Guidelines in this brochure are from the MDHHS ***2015 Eat Safe Fish Guide.*** For updates, visit www.michigan.gov/eatsafefish or call 1-800-648-6942 and ask for a free ***Guide.***

Map of Menominee County, MI

Check the 2015 Eat Safe Fish guidelines on the inside of this brochure for the lakes and rivers on this map.
For all other lakes and rivers in Menominee County, please use the Statewide Guidelines.



Statewide Guidelines & More

Don't see a certain Menominee County lake or river listed in this brochure?
Then the Statewide Safe Fish Guidelines can help you find safer fish to eat.

Only use the Statewide Guidelines if...

STOP

- **the Menominee County lake or river you are fishing in is not listed in this brochure, OR**
- **your lake or river is listed in this brochure, but the fish species is not listed.**

Statewide Safe Fish Guidelines

Type of Fish	Chemical of Concern	Size of Fish (length in inches)	MI Servings per Month*
Black Crappie	Mercury	Any Size	4
Bluegill	Mercury	Any Size	8
Carp	PCBs	Any Size	2
Catfish	PCBs & Mercury	Any Size	4
Largemouth Bass	Mercury	Under 18"	2
		Over 18"	1
Muskellunge	Mercury	Any Size	1
Northern Pike	Mercury	Under 30"	2
		Over 30"	1
Rock Bass	Mercury	Any Size	4
Smallmouth Bass	Mercury	Under 18"	2
		Over 18"	1
Suckers	Mercury	Any Size	8
Sunfish	Mercury	Any Size	8
Walleye	Mercury	Under 20"	2
		Over 20"	1
White Crappie	Mercury	Any Size	4
Yellow Perch	Mercury	Any Size	4

These guidelines are based on the typical amount of chemicals found in fish filets tested from around the state. Some fish may be higher or lower. If any of these fish are listed in the guidelines for the lake or river you are fishing in, use **those** guidelines instead of the statewide guidelines. The *MI Servings* recommendation will be more exact for that lake or river because those filets have been tested. For other counties in Michigan, please visit www.michigan.gov/eatsafefish to get the *Eat Safe Fish Guide* for that region.

2x, Best Choice, Limited, and Do Not Eat

2x

Remove the fat; double the *MI Servings*!

PCBs and dioxins are in the fat of the fish. You can double the number of *MI Servings* if you:

- trim away the fat that you can see from the filet,
- cook the fish on a grill or broiling pan so more fat can drip away
- **Note, you can't remove mercury, selenium, or PFOS from the fish.** Do not double the *MI Servings* for fish with those chemicals listed as a Chemical of Concern.

Limited

If you:

- are under the age of 15,

-or-

- have health problems, like cancer or diabetes,

-or-

- are planning on having children in the next several years, currently pregnant, or breastfeeding,

MDHHS suggests you **avoid eating all fish listed as *"Limited"*** because of higher levels of chemicals.

If **NONE** of the above apply to you, it is usually OK to eat fish listed as *"Limited"* **1 or 2 times each year**.

Best Choice

Do you eat fish at least twice a week?

When using the MDHHS *Eat Safe Fish Guide*, watch for this MDHHS "Best Choice" symbol. The hook and fish mark species that you and your family can safely eat 8 *MI Servings* or more each month!

Do Not Eat

No one should eat fish listed as Do Not Eat, regardless of age or health.

When these fish were tested, MDHHS found very high levels of chemicals. Eating even one meal of these fish could possibly lead to health problems in the future, regardless of age or health.

v. 12-2015

Fishing the Menominee River

What's the Catch?

Some fish have less chemicals than others because of what they eat, how long they live, and how lean or fatty they are. Smaller fish of the same species usually have less chemicals than the bigger ones. It's best to keep the small fish for eating and to snap a picture and return trophy fish to the water!

How to Catch Smallmouth Bass

- Bass are typically found in shallower waters in the spring. They move deeper after spawning.
- You can catch bass with almost any kind of bait, as long as it is moving - either from trolling in a boat or casting and slowly reeling it in.
- There are times when it's not legal to keep large and smallmouth bass. Check the DNR's regulation booklet that you get with your fishing license to learn more.

How to Catch Panfish

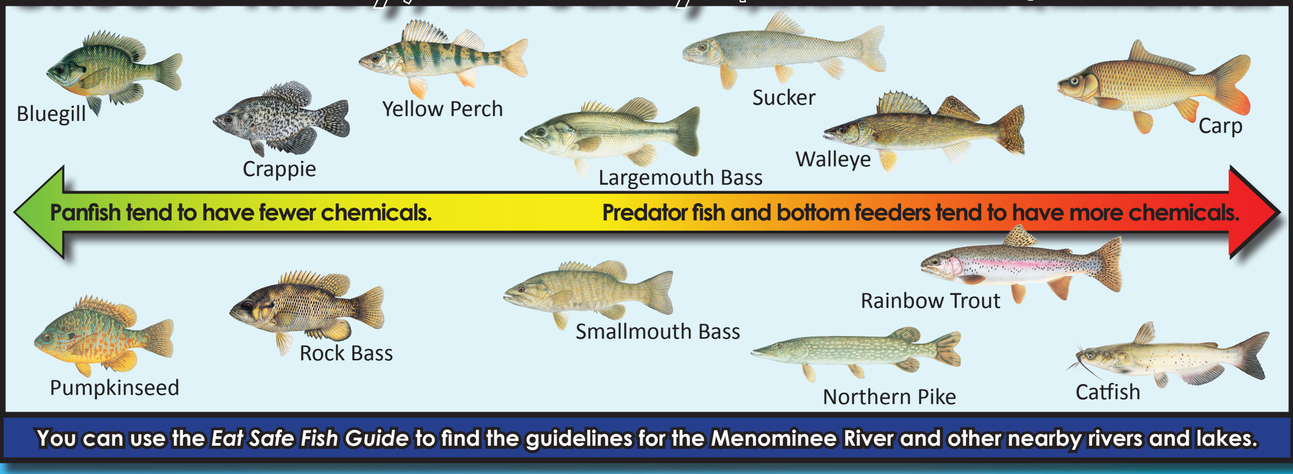
- Panfish, including rock bass and bluegill, can usually be found in shallow water in weed beds or under docks and fallen trees, but they will often go deep in both summer and winter.
- They can be caught using all types of live bait. However, they have small mouths so small bait - like leaf worms, wax worms or crickets - on small hooks work best.
- You can catch these fish year round.

Source: www.michigan.gov/howtofish


Smallmouth Bass

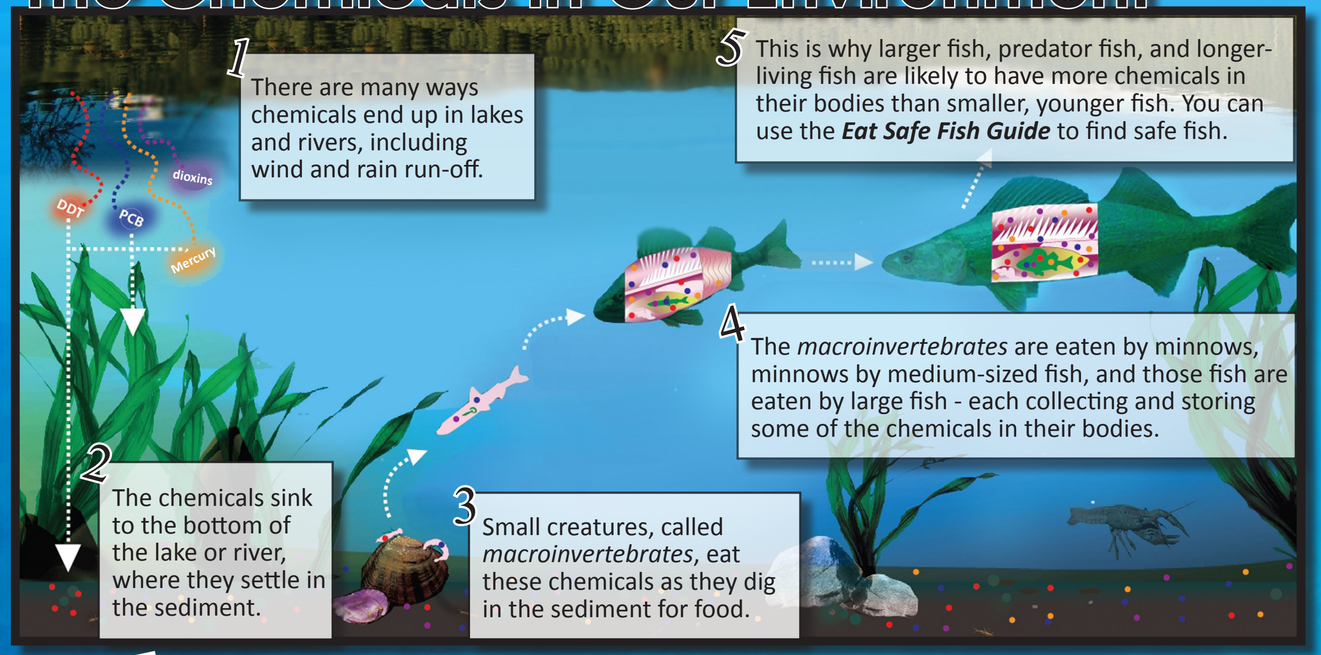

Bluegill

Choose Wisely, Eat Safely upstream of the Hattie St/Menominee Dam



You can use the *Eat Safe Fish Guide* to find the guidelines for the Menominee River and other nearby rivers and lakes.

The Chemicals in Our Environment



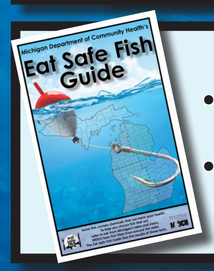
No Guide? Be S.A.F.E.

S **Smaller fish are better.**
They tend to have fewer chemicals.

a **Avoid large predator fish and the bottom feeders.**
They tend to have more chemicals. Please check the ***Eat Safe Fish Guide*** before eating these fish.

f **Fat should be removed.**
Some chemicals are in the fat of the fish.

e **Eat fish that have been broiled or grilled on a rack.**
More of the fat and chemicals can drip away. You can reduce some chemicals by up to half!



Have Questions? Want an *Eat Safe Fish Guide*?

- **You can call the Michigan Department of Health & Human Services (MDHHS) at 1-800-648-6942 and ask for a free *Eat Safe Fish Guide* or pick up an *Eat Safe Fish* brochure from any of our local partners.**
- **You can also download this information to your smartphone 24/7 at www.michigan.gov/eatsafefish!**

The Guide and brochure include maps to nearby lakes and rivers where fish have been tested for chemicals by MDHHS. The MDHHS Lab tests the filets of fish for chemicals, and all of the MDHHS guidelines are based only on this data.

Many thanks to our partners:

MDHHS Michigan Department of Health & Human Services
United States Environmental Protection Agency
Lower Menominee River Citizen's Advisory Committee
Department of Natural Resources Michigan DNR
eat safe fish
Great Lakes Commission des Grands Lacs
DEQ
Wisconsin Dept. of Natural Resources
Great Lakes Restoration

Fishing the Menominee River

What's the Catch?

Some fish have less chemicals than others because of what they eat, how long they live, and how lean or fatty they are. Smaller fish of the same species usually have less chemicals than the bigger ones. It's best to keep the small fish for eating and to snap a picture and return trophy fish to the water!

How to Catch Smallmouth Bass

- Bass are typically found in shallower waters in the spring. They move deeper after spawning.
- You can catch bass with almost any kind of bait, as long as it is moving - either from trolling in a boat or casting and slowly reeling it in.
- There are times when it's not legal to keep large and smallmouth bass. Check the DNR's regulation booklet that you get with your fishing license to learn more.

How to Catch Panfish

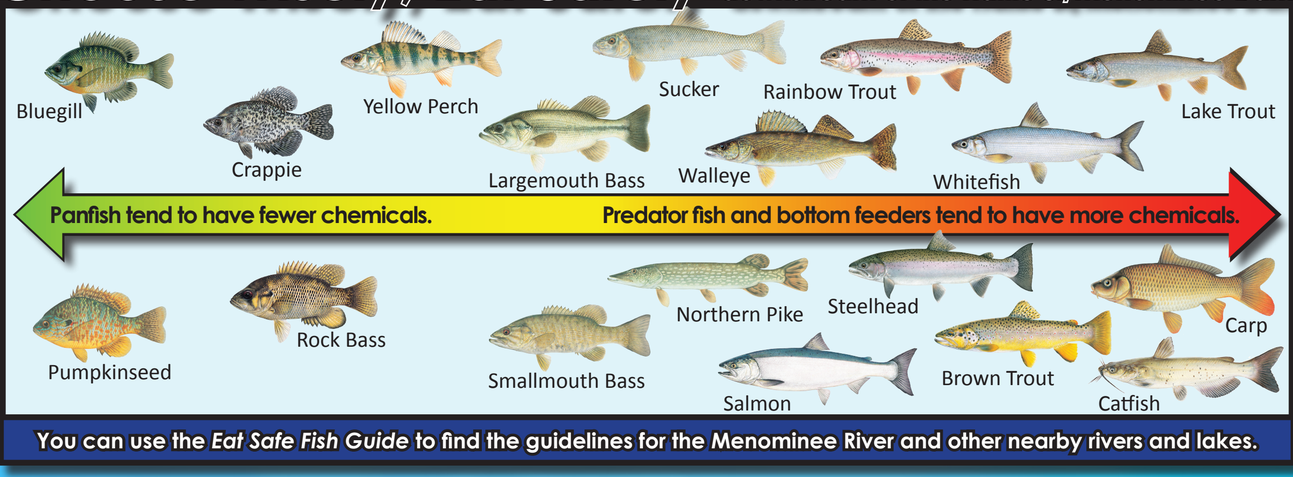
- Panfish, including rock bass and bluegill, can usually be found in shallow water in weed beds or under docks and fallen trees, but they will often go deep in both summer and winter.
- They can be caught using all types of live bait. However, they have small mouths so small bait - like leaf worms, wax worms or crickets - on small hooks work best.
- You can catch these fish year round.

Source: www.michigan.gov/howtofish


Smalllmouth Bass

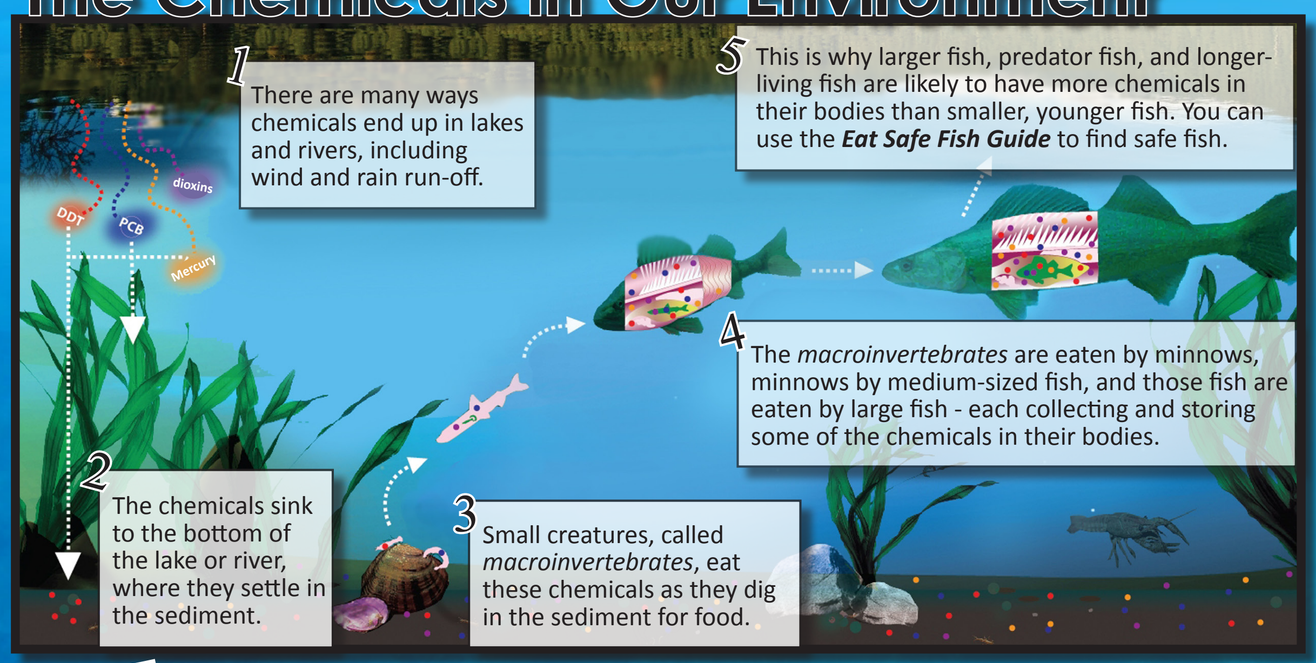

Bluegill

Choose Wisely, Eat Safely downstream of the Hattie St/Menominee Dam



You can use the *Eat Safe Fish Guide* to find the guidelines for the Menominee River and other nearby rivers and lakes.

The Chemicals in Our Environment



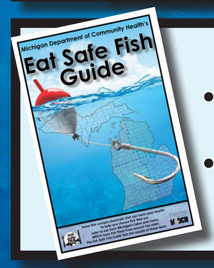
No Guide? Be S.A.F.E.

S **Smaller fish are better.**
They tend to have fewer chemicals.

a **Avoid large predator fish and the bottom feeders.**
They tend to have more chemicals. Please check the ***Eat Safe Fish Guide*** before eating these fish.

f **Fat should be removed.**
Some chemicals are in the fat of the fish.

e **Eat fish that have been broiled or grilled on a rack.**
More of the fat and chemicals can drip away. You can reduce some chemicals by up to half!



Have Questions? Want an *Eat Safe Fish Guide*?

- **You can call the Michigan Department of Health & Human Services (MDHHS) at 1-800-648-6942 and ask for a free *Eat Safe Fish Guide* or pick up an *Eat Safe Fish* brochure from any of our local partners.**
- **You can also download this information to your smartphone 24/7 at www.michigan.gov/eatsafefish!**

The Guide and brochure include maps to nearby lakes and rivers where fish have been tested for chemicals by MDHHS. The MDHHS Lab tests the filets of fish for chemicals, and all of the MDHHS guidelines are based only on this data.

Many thanks to our partners:

MDHHS Michigan Department of Health & Human Services
United States Environmental Protection Agency
Lower Menominee River Citizen's Advisory Committee
Department of Natural Resources Michigan DNR
eat safe fish
Great Lakes Commission des Grands Lacs
DEQ
Wisconsin Dept. of Natural Resources
Great Lakes Restoration

Eating Fish from the Menominee River

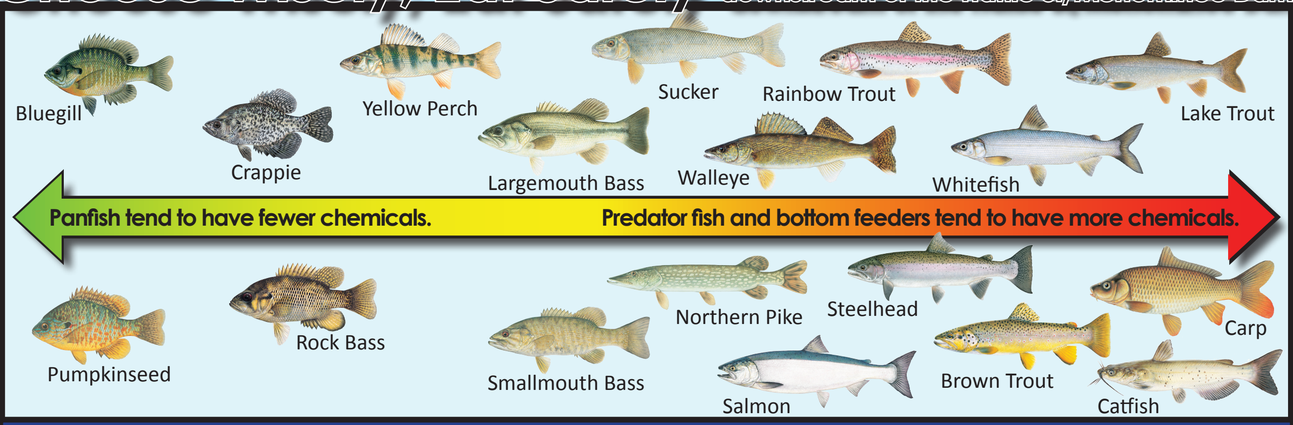
Eating Your Catch

Some fish have less chemicals than others because of what they eat, how long they live, and how lean or fatty they are. Smaller fish of the same species usually have less chemicals than the bigger ones. It's best to keep the small fish for eating and to snap a picture and return trophy fish to the water!


Walleye

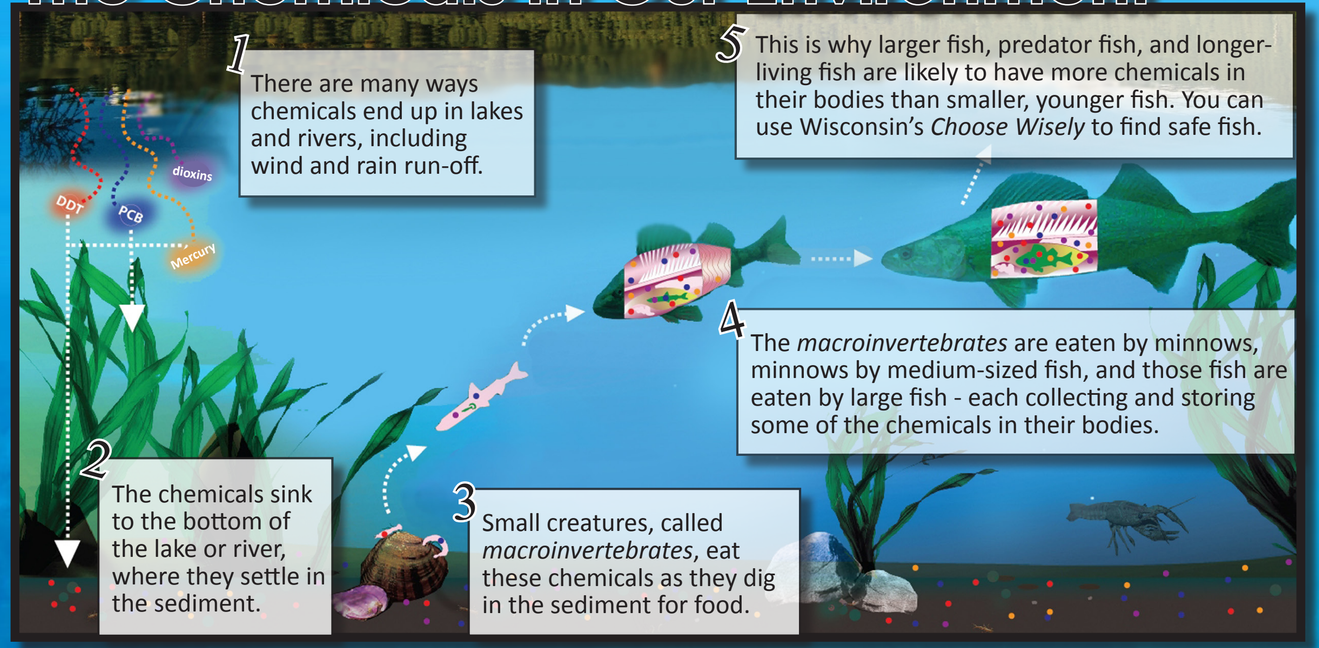

Bluegill

Choose Wisely, Eat Safely downstream of the Hattie St/Menominee Dam



You can use Wisconsin's *Choose Wisely* guide to find safe fish in the Menominee River and Lake Michigan.

The Chemicals in Our Environment



1 There are many ways chemicals end up in lakes and rivers, including wind and rain run-off.

2 The chemicals sink to the bottom of the lake or river, where they settle in the sediment.

3 Small creatures, called *macroinvertebrates*, eat these chemicals as they dig in the sediment for food.

4 The *macroinvertebrates* are eaten by minnows, minnows by medium-sized fish, and those fish are eaten by large fish - each collecting and storing some of the chemicals in their bodies.

5 This is why larger fish, predator fish, and longer-living fish are likely to have more chemicals in their bodies than smaller, younger fish. You can use Wisconsin's *Choose Wisely* to find safe fish.

Be S.A.F.E.

S **Smaller fish are better.**
They tend to have fewer chemicals.

a **Avoid large predator fish and the bottom feeders.**
They tend to have more chemicals.

f **Fat should be removed.**
Some chemicals are in the fat of the fish.

e **Eat fish that have been broiled or grilled on a rack.**
More of the fat and chemicals can drip away.

Have questions? Find advice for your fishing spot!

For further information, see one of the following:

- **Request from your local WDNR office a "Choose Wisely" guide to eating fish safely,**
- **Go to www.dnr.wi.gov and search for "Eating your catch" or "Find Advice" or scan the code here with your phone,**
- **Or call the WDNR at 1-888-936-7463.**

The Wisconsin Departments of Natural Resources and Health Services provide recommendations on how much fish from all waters of the state can be eaten safely. Recommendations vary by species, size of the fish, and location.

Many thanks to our partners:

MDHHS Michigan Department of Health & Human Services
DEQ
Great Lakes Commission des Grands Lacs
United States Environmental Protection Agency
Lower Menominee River Citizen's Advisory Committee
Wisconsin Dept. of Natural Resources
eat safe fish
Department of Natural Resources DNR Michigan
Great Lakes Restoration

Fishing Lake Michigan

What's the Catch?

Some fish have less chemicals than others because of what they eat, how long they live, and how lean or fatty they are. Smaller fish of the same species usually have less chemicals than the bigger ones. It's best to keep the small fish for eating and to snap a picture and return trophy fish to the water!

How to Catch Smallmouth Bass

- Bass are typically found in shallower waters in the spring. They move deeper after spawning.
- You can catch bass with almost any kind of bait, as long as it is moving - either from trolling in a boat or casting and slowly reeling it in.
- There are times when it's not legal to keep large and smallmouth bass. Check the DNR's regulation booklet that you get with your fishing license to learn more.

How to Catch Panfish

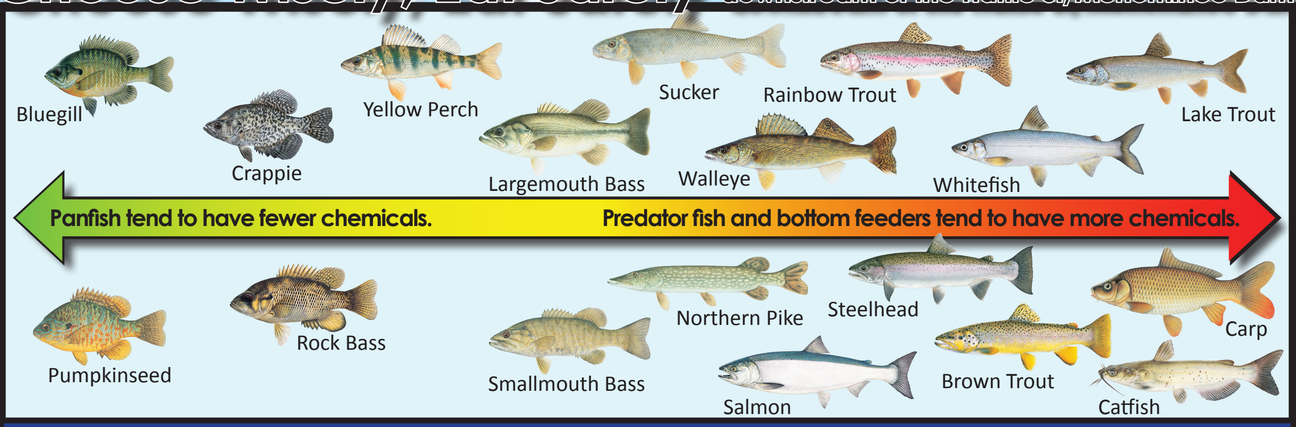
- Panfish, including rock bass and bluegill, can usually be found in shallow water in weed beds or under docks and fallen trees, but they will often go deep in both summer and winter.
- They can be caught using all types of live bait. However, they have small mouths so small bait - like leaf worms, wax worms or crickets - on small hooks work best.
- You can catch these fish year round.

Source: www.michigan.gov/howtofish


Smallmouth Bass

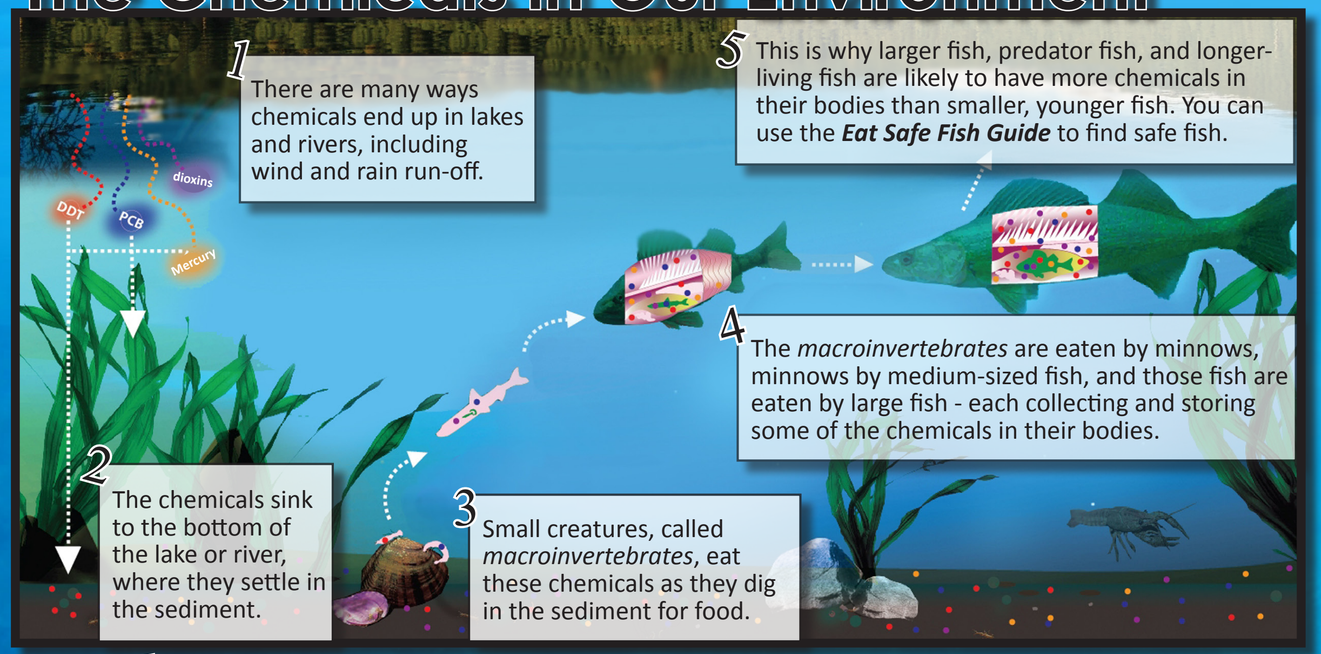

Bluegill

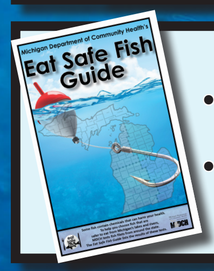
Choose Wisely, Eat Safely downstream of the Hattie St/Menominee Dam



You can use the *Eat Safe Fish Guide* to find the guidelines for Lake Michigan, the Menominee River, and more!

The Chemicals in Our Environment





Have Questions? Want an *Eat Safe Fish Guide*?

- **You can call the Michigan Department of Health & Human Services (MDHHS) at 1-800-648-6942 and ask for a free *Eat Safe Fish Guide* or pick up an *Eat Safe Fish* brochure from any of our local partners.**
- **You can also download this information to your smartphone 24/7 at www.michigan.gov/eatsafefish!**

The Guide and brochure include maps to nearby lakes and rivers where fish have been tested for chemicals by MDHHS. The MDHHS Lab tests the filets of fish for chemicals, and all of the MDHHS guidelines are based only on this data.

No Guide? Be S.A.F.E.

S **Smaller fish are better.**
They tend to have fewer chemicals.

a **Avoid large predator fish and the bottom feeders.**
They tend to have more chemicals. Please check the ***Eat Safe Fish Guide*** before eating these fish.

f **Fat should be removed.**
Some chemicals are in the fat of the fish.

e **Eat fish that have been broiled or grilled on a rack.**
More of the fat and chemicals can drip away. You can reduce some chemicals by up to half!

Many thanks to our partners:

MDHHS Michigan Department of Health & Human Services
United States Environmental Protection Agency
Lower Menominee River Citizen's Advisory Committee
Department of Natural Resources Michigan DNR
eat safe fish
Great Lakes Commission des Grands Lacs
DEQ
Wisconsin Dept. of Natural Resources
Great Lakes Restoration

Eating Fish from Lake Michigan

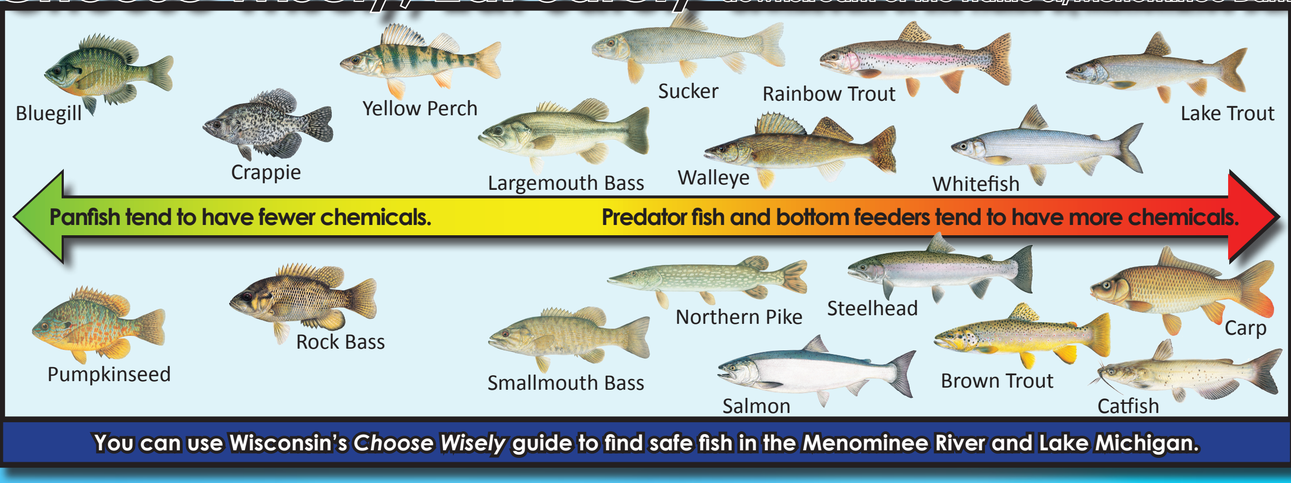
Eating Your Catch

Some fish have less chemicals than others because of what they eat, how long they live, and how lean or fatty they are. Smaller fish of the same species usually have less chemicals than the bigger ones. It's best to keep the small fish for eating and to snap a picture and return trophy fish to the water!


Walleye

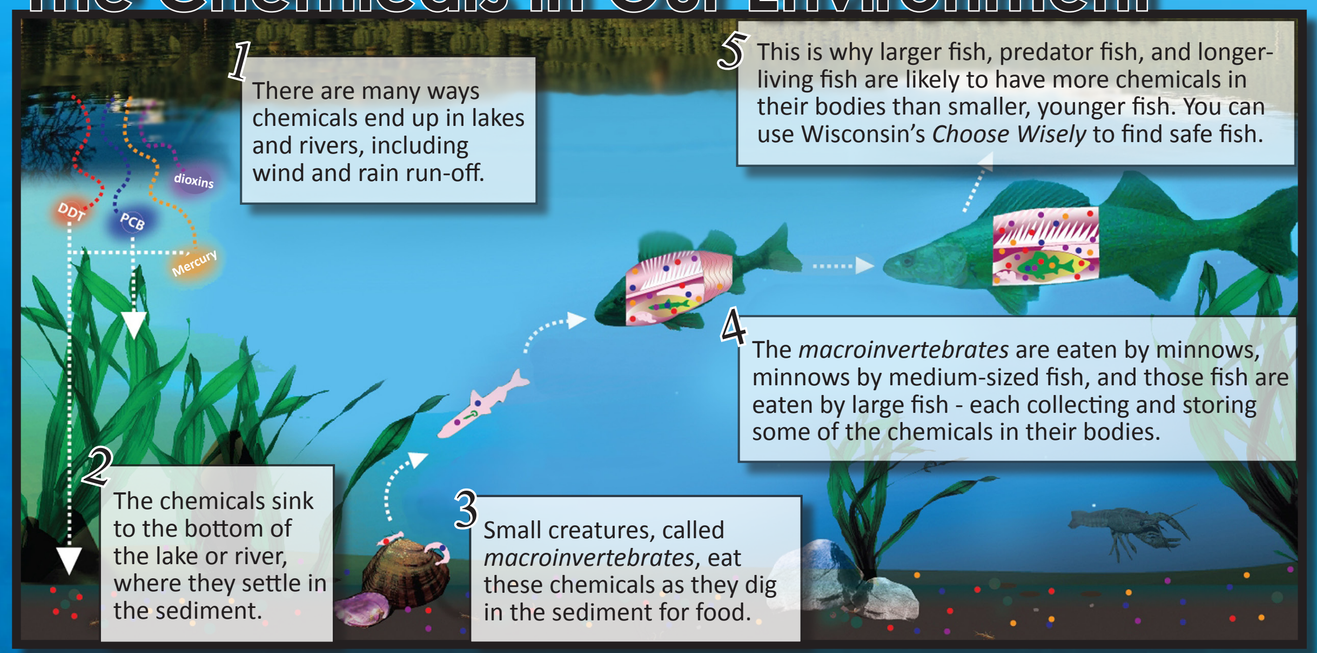

Bluegill

Choose Wisely, Eat Safely downstream of the Hattie St/Menominee Dam



You can use Wisconsin's *Choose Wisely* guide to find safe fish in the Menominee River and Lake Michigan.

The Chemicals in Our Environment



Be S.A.F.E.

S **Smaller fish are better.**
They tend to have fewer chemicals.

a **Avoid large predator fish and the bottom feeders.**
They tend to have more chemicals.

f **Fat should be removed.**
Some chemicals are in the fat of the fish.

e **Eat fish that have been broiled or grilled on a rack.**
More of the fat and chemicals can drip away.

Have questions? Find advice for your fishing spot!

For further information, see one of the following:

- **Request from your local WDNR office a "Choose Wisely" guide to eating fish safely,**
- **Go to www.dnr.wi.gov and search for "Eating your catch" or "Find Advice" or scan the code here with your phone,**
- **Or call the WDNR at 1-888-936-7463.**

The Wisconsin Departments of Natural Resources and Health Services provide recommendations on how much fish from all waters of the state can be eaten safely. Recommendations vary by species, size of the fish, and location.

Many thanks to our partners:

MDHHS Michigan Department of Health & Human Services
DEQ
Great Lakes Commission des Grands Lacs
United States Environmental Protection Agency
Lower Menominee River Citizen's Advisory Committee
Wisconsin Dept. of Natural Resources
eat safe fish
Department of Natural Resources DNR Michigan
Great Lakes Restoration

Here's your map & the local Eat Safe Fish guidelines, too!

This flyer lists all the lakes and rivers in Muskegon County that have had filets of fish tested for chemicals.

To get the *Eat Safe Fish Guides* for other areas, please call MDHHS at 1-800-648-6942 or visit www.michigan.gov/eatsafefish.

Photo Credits: Kathy Evans (Muskegon, MI)

What are 'safe' fish?

Safe fish are fish that are low in chemicals. If you use the MDHHS ***Eat Safe Fish Guide*** for your region when you choose fish to catch and eat, you will protect yourself and your family from chemicals that could someday make you sick.

If there are chemicals in the fish, why should I still eat it?

Fish have a lot of great health benefits!

- ☑ **Fish can be a great low-fat source of protein.**
- ☑ **Fish are brain food.**
- ☑ **Some fish have heart-healthy omega-3s.**

Plus, fishing is a fun way to get outside and enjoy Michigan's 11,000 lakes, rivers, and streams!

If you **follow the 3Cs** and go after fish that have **fewer chemicals** in them, you can get a lot of health benefits and have **very little risk**.

Catching fish • Buying fish • Eating fish

For more information on safe fish, call MDHHS at 1-800-648-6942 or visit us online at www.michigan.gov/eatsafefish.

printed with support from the

eat safe fish

MLWP Muskegon Lake Watershed Partnership

& the Great Lakes RESTORATION Initiative

MDHHS Michigan Department of Health & Human Services

Areas of Concern (AOCs)

In the 1980s, the United States and Canadian governments identified 43 places in the Great Lakes region that had severe, long-term environmental problems. These places are called *Areas of Concern* or *AOCs*. Michigan originally had 14 AOCs located in both the upper and lower peninsulas.

People in federal, state, and provincial governments are working to address the problems in these areas. Local groups, known as Public Advisory Councils (PAC), also work on these environmental problems.

Beneficial Use Impairments (BUIs)

These environmental problems are called *beneficial use impairments* or *BUIs.* There were 14 categories of BUIs named in the U.S.-Canadian Great Lakes Water Quality Agreement. However, a place does not have to have all 14 problems to be called an AOC.

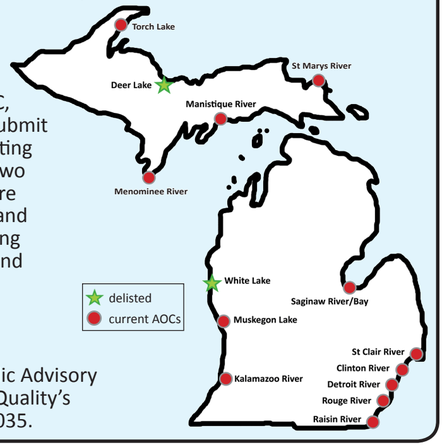
Each BUI has goals that need to be met in order to be removed from the AOC's list of problems. Once all BUIs are removed from the list, the AOC is considered to be no longer impaired and can be *delisted,* or removed from the list of AOCs.

The 14 BUIs that an AOC can have are:

- Restrictions on Fish and Wildlife Consumption
- Tainting of Fish and Wildlife Flavor
- Fish Tumors or Other Deformities
- Degraded Fish and Wildlife Populations
- Loss of Fish and Wildlife Habitat
- Bird or Animal Deformities or Reproductive Problems
- Degradation of Phytoplankton and Zooplankton Populations
- Degradation of Benthos
- Degradation of Aesthetics
- Eutrophication or Undesirable Algae
- Beach Closings
- Added Costs to Agriculture or Industry
- Restrictions on Dredging Activities
- Restrictions on Drinking Water Consumption or Taste and Odor Problems

The Goal: Delisting & a Healthy Environment

Once all of the assigned BUIs have been removed from an AOC, the PAC and Michigan Department of Environmental Quality submit a petition to the U.S. Environmental Protection Agency requesting it be removed from the list of AOCs. This is called "delisting." Two of Michigan's 14 original AOCs were delisted in 2014. Others are closer to delisting thanks to the dedication of the local, state, and federal stakeholders working to improve our environment, along with funding from the U.S. Environmental Protection Agency and the Great Lakes Restoration Initiative.



You can get involved!

Would you like to volunteer with the Muskegon Lake AOC Public Advisory Council? Contact the Michigan Department of Environmental Quality's Office of the Great Lakes for more information at 1-517-284-5035.

FREE LOCAL FISHING MAP & the MDHHS Safe Fish Guidelines

eat safe fish in Muskegon County

www.michigan.gov/eatsafefish

Get to know the 3Cs

Choose, Clean, Cook

By choosing the right fish and then cleaning and cooking it the right way, you can reduce some of the chemicals in the fish **by nearly half**!

1 Choose

Some fish contain chemicals that can harm your health. MDHHS tests filets of fish taken from Michigan's lakes and rivers to learn which fish are safer to eat. The ***Eat Safe Fish Guides*** make it easy to find out which fish have been tested and easy to choose fish that are safe to eat.

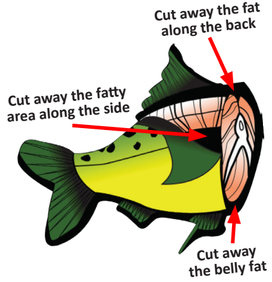
The Eat Safe Fish Guide:

- ☑ **lists fish species that have had filets tested for chemicals by MDHHS.**
- ☑ **protects people who eat Michigan fish often.**
- ☑ **protects anyone who has health problems, is young, is pregnant, or is planning on having children in the future.**

Other lakes and rivers have been tested in Muskegon County. You can find these guidelines on the flyer in the back of this brochure. To get the guidelines for other areas, visit www.michigan.gov/eatsafefish or call 1-800-648-6942.

2 Clean

Some chemicals, like PCBs and dioxins, collect in the fat of the fish.



- ☑ **When cleaning the fish, trim away any of the fat you can see.**
- ☑ **Remove and throw away the organs, too.**

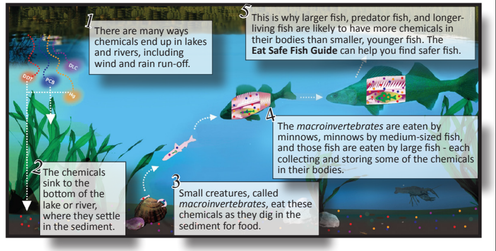
Careful cleaning and cooking can get rid of up to half of these chemicals from the fish.

3 Cook

- ☑ **Poke holes in the skin or remove it completely so that more fat can drip away from the fish filet as it cooks.**
- ☑ **Cook your fish on a grill or on a broiler pan in the oven. More of the fat and chemicals left behind can now drip away from the fish through the grates.**
- ☑ **If you choose to fry your fish, it's best to pan fry and throw away the oil. Please note that frying does not get rid of any of the chemicals that may be in the fish.**

You can't remove mercury or PFOS from fish by cleaning and cooking.
Always choose your fish wisely!

Why are there chemicals in some fish?



- ☑ PCBs, dioxins, and mercury are the most common chemicals found in filets of Michigan fish.
- ☑ These chemicals are *persistent* and *bioaccumulative*. This means the chemicals not only stay in the environment, they also build up in living things.
- ☑ Because of this, they have become part of the food chain for fish, as you can see in the picture above.
- ☑ Some chemicals, like PCBs and dioxins, build up in the fat of the fish. Mercury and PFOS build up in the muscle, or filet, of the fish.
- ☑ If you choose fish lower in mercury and PFOS and follow the **3Cs**, you can keep these chemicals from building up in your body, too.
- ☑ You can't see or taste these chemicals. They do not change how clear or dirty the water looks. The only way to know if these chemicals are in the fish is by testing for them in a laboratory.

Muskegon Co. Eat Safe Fish Guidelines

These guidelines are from the 2015 *Southwest Michigan Eat Safe Fish Guide.*
To get the most up-to-date guidelines for lakes and rivers in Muskegon County or other areas of Michigan, please visit www.michigan.gov/eatsafefish to download the *Eat Safe Fish Guides* to your smartphone or call 1-800-648-6942 to get a print copy!

Bear Lake

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Carp	PCBs	Any	Do Not Eat▲
Largemouth Bass	PCBs	Any	6 Per Year2x
Northern Pike	PCBs & Mercury	Any	2
Smallmouth Bass	PCBs	Any	6 Per Year2x
Walleye	Mercury	Under 18"	4
	PCBs	18" to 22"	6 Per Year2x
		Over 22"	Limited▲
All Other Species	PCBs	Any	6 Per Year2x

Big Blue Lake

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Largemouth Bass	Mercury	Under 16"	2
		Over 16"	1
Smallmouth Bass	Mercury	Under 16"	2
		Over 16"	1

Black Creek

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Carp	PCBs	Any	Limited▲
Suckers	PCBs	Any	6 Per Year2x

Mona Lake

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Carp	DDT	Under 18"	2 2x
	PCBs	18" to 28"	6 Per Year2x
		Over 28"	Limited▲
Largemouth Bass	PCBs	Any	6 Per Year2x
Smallmouth Bass	PCBs	Any	6 Per Year2x
Walleye	PCBs	Under 20"	1 2x
		Over 20"	6 Per Year2x
All Other Species	PCBs	Any	6 Per Year2x

Muskegon Lake

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Carp	PCBs	Any	Do Not Eat▲
Largemouth Bass	PCBs	Any	6 Per Year2x
Northern Pike	PCBs & Mercury	Any	2
Smallmouth Bass	PCBs	Any	6 Per Year2x
Walleye	Mercury	Under 18"	4
	PCBs	18" to 22"	6 Per Year2x
		Over 22"	Limited▲
All Other Species	PCBs	Any	6 Per Year2x

Muskegon River

(downstream from Croton Dam in Newaygo Co.)

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Suckers	Mercury	Any	2
Walleye	PCBs	Any	6 Per Year2x

Ruddiman Creek Lagoon

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Carp	PCBs	Any	Do Not Eat▲
Largemouth Bass	PCBs	Any	1 2x
Smallmouth Bass	PCBs	Any	1 2x
All Other Species	PCBs	Any	6 Per Year2x

White Lake

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Carp	PCBs	Any	Limited▲
Largemouth Bass	Mercury	Under 18"	2
		Over 18"	1
Northern Pike	PCBs & Mercury	Any	2
Smallmouth Bass	Mercury	Under 18"	2
		Over 18"	1
Suckers	PCBs	Any	1 2x
Walleye	PCBs	Any	6 Per Year2x

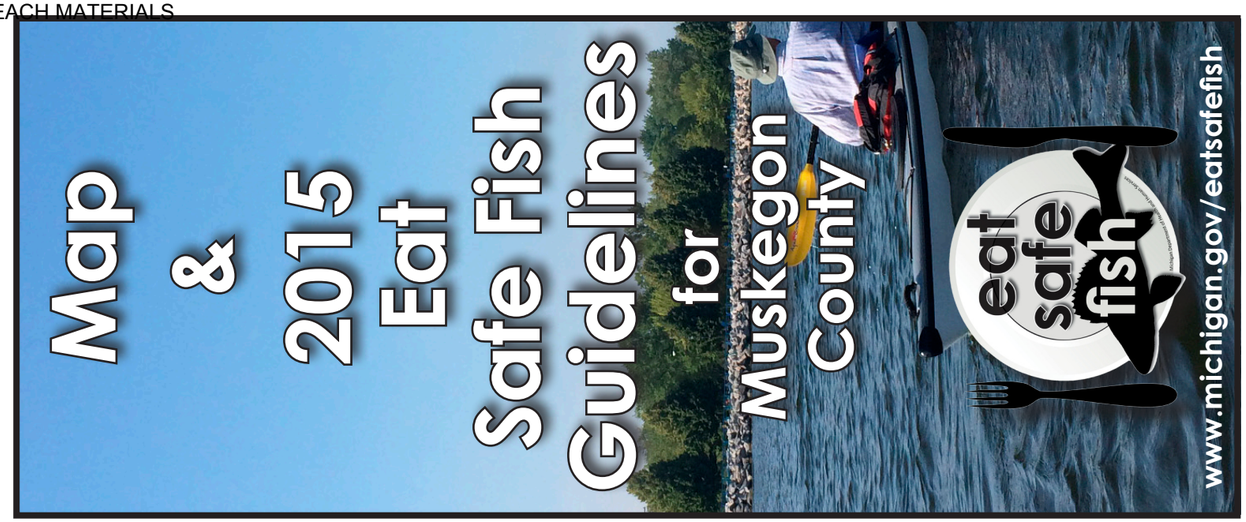
For all other lakes and rivers in Muskegon County, please use the Statewide Safe Fish Guidelines found on the other side of this brochure.

Please see the other side of this brochure for the Lake Michigan guidelines.

2X	See the **2x** box on the back of this page to learn how you can eat more of these fish safely.
▲	See the **Limited** and **Do Not Eat** boxes on the back of this page for more information.

To get the full *Eat Safe Fish Guides* with guidelines for other counties and regions in Michigan, please visit www.michigan.gov/eatsafefish or call MDHHS at 1-800-648-6942.

v. 12-2015 (Open the brochure for the map and to learn how to use the Eat Safe Fish guidelines.)



Restoring Muskegon Lake

The Muskegon Lake Watershed Partnership has been working with the U.S. Environmental Protection Agency and Michigan Department of Environmental Quality to do projects around Muskegon Lake that help to improve the local environment for people, animals, and fish!

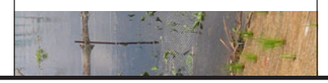
To learn more about the work that was done, please contact the Muskegon Lake Watershed Partnership at (231) 722-7878 x17.

Heritage Landing

(Located at the end of 7th Street on Muskegon Lake)

Heritage Park is the summer hotspot for music festivals. However, a visit on most days offers a peaceful and unobstructed view of Muskegon Lake, as well as some great shoreline fishing!

You are likely to catch some tasty panfish in the areas just offshore. Heritage Lansing is great for a family fishing outing and also offers plenty of handicap accessible areas.



Muskegon Nature Preserve

(Located on the east side of Muskegon Lake)

The Wilder River Walk links to the Muskegon Lake Shore trail and has 7 fishing platforms along the Muskegon River.

Recent work to control an invasive reed - phragmites - over eight acres of wetland in the Preserve will provide better fish and wildlife habitat for the future as native plant species return to the wetlands.

Catching fish • Buying fish • Eating fish

For more information on safe fish, call MDHHS at 1-800-648-6942 or visit us online at www.michigan.gov/eatsafefish.

MDHHS Michigan Department of Health & Human Services

eat safe fish

Using the Eat Safe Fish Guidelines

MDHHS tests only the filets of the fish for chemicals to set these guidelines. *MI Servings* are set to be safe for everyone. This includes **children, pregnant or breastfeeding women, and people who have health problems like cancer or diabetes.**

How much is *MI Serving*?

Weight of Person	*MI Serving* Size
45 pounds	2 ounces
90 pounds	4 ounces
180 pounds	8 ounces

Weigh Less? **For every 20 pounds less than the weight listed in the table, subtract 1 ounce of fish.**
For example, a 70-pound child's *MI Serving* size is 3 ounces of fish. 90 pounds - 20 pounds = 70 pounds & 4 ounces - 1 ounce = a *MI Serving* size of 3 ounces

Weigh More? **For every 20 pounds more than the weight listed in the table, add 1 ounce of fish.**
For example, a 110-pound person's *MI Serving* size is 5 ounces of fish. 90 pounds + 20 pounds = 110 pounds / 4 ounces plus 1 ounce = a *MI Serving* size of 5 ounces

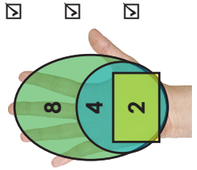
You might eat more than one *MI Serving* in a meal. That's OK, just keep track so you don't have too much.

Are you pregnant?

Fish is good for you and your baby! Use your pre-pregnancy weight to find your *MI Serving* size. It's also best to avoid eating fish labeled as "Limited" when you're pregnant or breastfeeding.

My Michigan, *MI Serving* Size

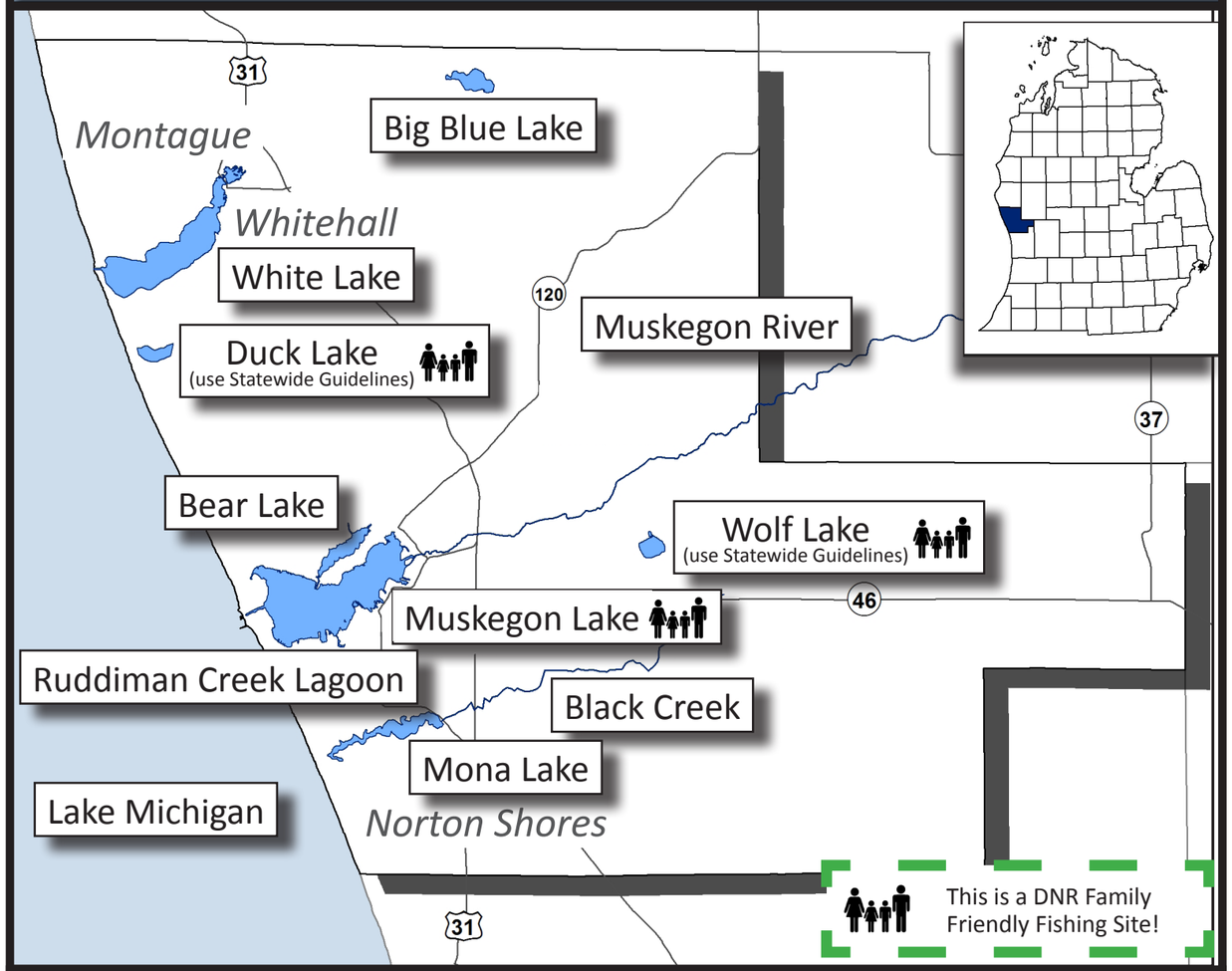
- ☑ 8 ounces of fish = size of an adult's hand (large oval)
- ☑ 4 ounces of fish = size of the palm of an adult's hand (small circle)
- ☑ 2 ounces of fish = size of half a palm of an adult's hand (rectangle)



The MDHHS guidelines in this brochure are from the MDHHS ***2015 Eat Safe Fish Guide***. For updates, visit www.michigan.gov/eatsafefish or call 1-800-648-6942 and ask for a free ***Guide***.

Map of Muskegon County, MI

Check the 2015 Eat Safe Fish Guidelines on the inside of this brochure for the lakes and rivers on this map.
For all other lakes and rivers in Muskegon County, please use the Statewide Guidelines.



Lake Michigan

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Brown Trout	PCBs	Any	Limited▲
Burbot	PCBs	Any	1[2x]
Carp	PCBs	Any	Do Not Eat▲
Chinook Salmon	PCBs	Any	6 Per Year[2x]
Coho Salmon	PCBs	Any	1[2x]
Lake Trout	Dioxins	Under 24”	6 Per Year[2x]
		Over 24”	Limited▲
Lake Whitefish	PCBs & Dioxins	Any	Limited▲
Rainbow Trout	PCBs	Under 20”	2[2x]
		Over 20”	6 Per Year[2x]
Smelt	PCBs	Any	2[2x]
Steelhead	PCBs	Under 20”	2[2x]
		Over 20”	6 Per Year[2x]
Suckers	PCBs	Any	6 Per Year[2x]
Walleye	PCBs & Mercury	Under 18”	2
	PCBs	18” to 22”	6 Per Year[2x]
	PCBs	Over 22”	Limited▲
Yellow Perch	PCBs	Under 10”	4[2x]
	PCBs & Mercury	Over 10”	4

Please see the other side of this brochure for the guidelines for other Muskegon lakes and rivers that have been tested.

Statewide Guidelines & More

Don’t see a certain Muskegon County lake or river listed in this brochure?
Then the Statewide Safe Fish Guidelines can help you find safer fish to eat.

Only use the Statewide Guidelines if...

STOP

- **the Muskegon County lake or river you are fishing in is not listed in this brochure, OR**
- **your lake or river is listed in this brochure, but the fish species is not listed.**

Statewide Safe Fish Guidelines

Type of Fish	Chemical of Concern	Size of Fish (length in inches)	MI Servings per Month*
Black Crappie	Mercury	Any Size	4
Bluegill	Mercury	Any Size	8
Carp	PCBs	Any Size	2
Catfish	PCBs & Mercury	Any Size	4
Largemouth Bass	Mercury	Under 18”	2
		Over 18”	1
Muskellunge	Mercury	Any Size	1
Northern Pike	Mercury	Under 30”	2
		Over 30”	1
Rock Bass	Mercury	Any Size	4
Smallmouth Bass	Mercury	Under 18”	2
		Over 18”	1
Suckers	Mercury	Any Size	8
Sunfish	Mercury	Any Size	8
Walleye	Mercury	Under 20”	2
		Over 20”	1
White Crappie	Mercury	Any Size	4
Yellow Perch	Mercury	Any Size	4

These guidelines are based on the typical amount of chemicals found in fish filets tested from around the state. Some fish may be higher or lower. If any of these fish are listed in the guidelines for the lake or river you are fishing in, use **those** guidelines instead of the Statewide Guidelines. The *MI Servings* recommendation will be more exact for that lake or river because those filets have been tested. For other counties in Michigan, please visit www.michigan.gov/eatsafefish to get the *Eat Safe Fish Guide* for that region.

2x, Best Choice, Limited, and Do Not Eat

2x

Remove the fat; double the *MI Servings*!

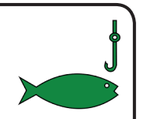
PCBs and dioxins are in the fat of the fish. You can double the number of *MI Servings* if you:

- trim away the fat that you can see from the filet,
- cook the fish on a grill or broiling pan so more fat can drip away
- **Note, you can’t remove mercury, selenium, or PFOS from the fish.** Do not double the *MI Servings* for fish with those chemicals listed as a Chemical of Concern.

Best Choice

Do you eat fish at least twice a week?

When using the MDHHS *Eat Safe Fish Guide*, watch for this MDHHS “Best Choice” symbol. The hook and fish mark species that you and your family can safely eat 8 *MI Servings* or more each month!



Limited

If you:

- are under the age of 15,

-or-

- have health problems, like cancer or diabetes,

-or-

- are planning on having children in the next several years, currently pregnant, or breastfeeding,

MDHHS suggests you **avoid eating all fish listed as *“Limited”*** because of higher levels of chemicals.

If **NONE** of the above apply to you, it is usually OK to eat fish listed as “*Limited*” **1 or 2 times each year**.

Do Not Eat

No one should eat fish listed as Do Not Eat, regardless of age or health.

When these fish were tested, MDHHS found very high levels of chemicals. Eating even one meal of these fish could possibly lead to health problems in the future, regardless of age or health.

v. 12-2015

Fishing Muskegon Lake

What's the Catch?

Some fish have less chemicals than others because of what they eat, how long they live, and how lean or fatty they are. Smaller fish of the same species usually have less chemicals than the bigger ones. It's best to keep the small fish for eating and to snap a picture and return trophy fish to the water!

How to Catch Walleye

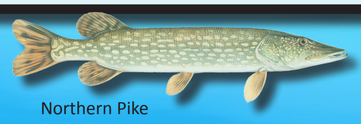
- Walleye fishing is often best early and late in the day...or even after dark!
- You can catch walleyes with live bait; nightcrawlers drifted along the bottom or minnows fished on a tight line are best. In the fall, jigging with spoons in deep water is a good way to get a bite.
- Cast your line out and slowly reel it in. You might want to try different depths to see what works, but you should have the best luck letting your bait skim along the bottom.

How to Catch Northern Pike

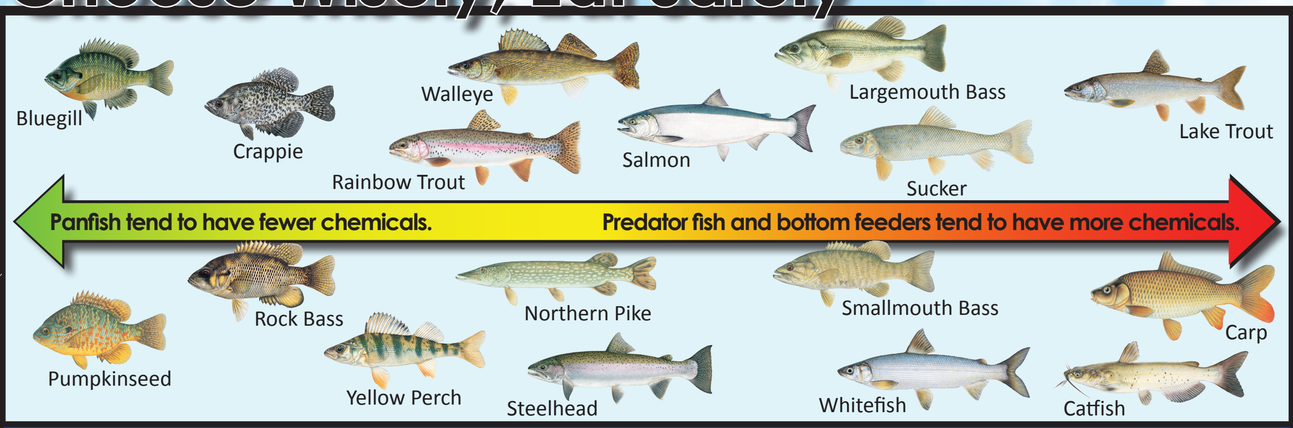
- Pike are typically found in shallower waters in the spring. They move deeper after spawning.
- You can catch pike with minnows or almost any kind of artificial lure. Some anglers recommend using a wire leader because of their sharp teeth. Watch your fingers!
- There are times when pike fishing is not allowed. Check the DNR's regulation booklet that you get with your fishing license to learn more!

Source: www.michigan.gov/howtofish


Walleye

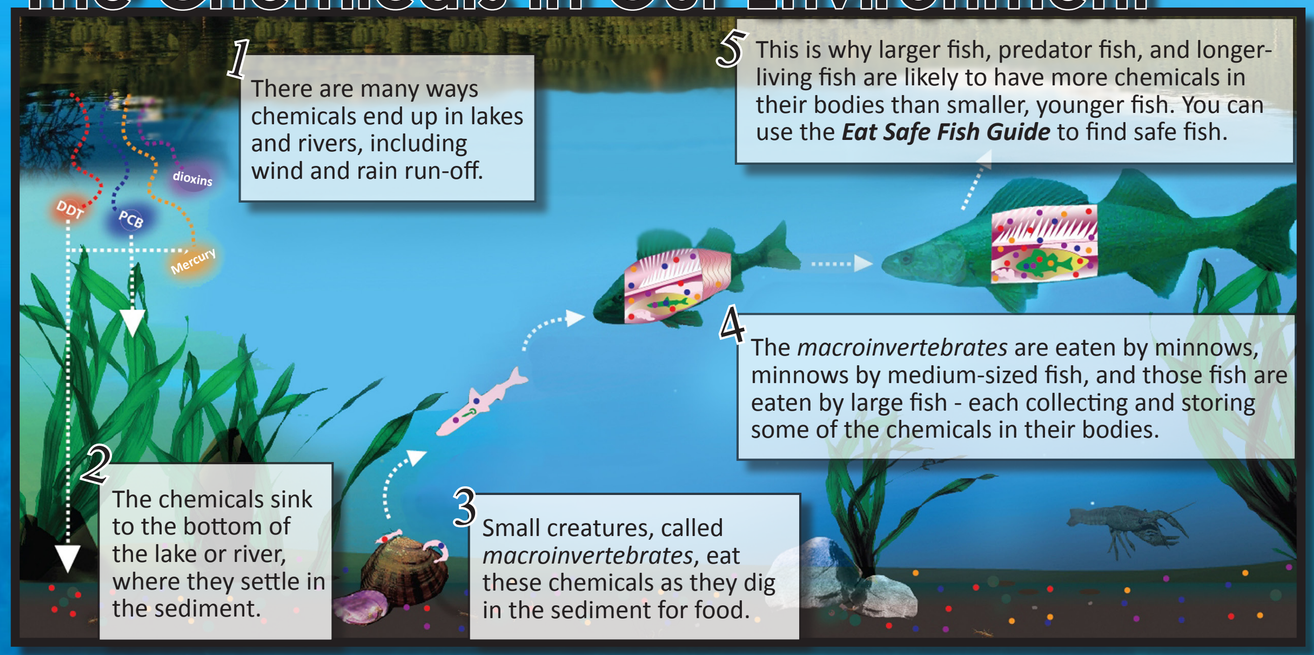

Northern Pike

Choose Wisely, Eat Safely



You can use the *Eat Safe Fish Guide* to find specific guidelines for Muskegon Lake and other nearby rivers and lakes.

The Chemicals in Our Environment



1 There are many ways chemicals end up in lakes and rivers, including wind and rain run-off.

2 The chemicals sink to the bottom of the lake or river, where they settle in the sediment.

3 Small creatures, called *macroinvertebrates*, eat these chemicals as they dig in the sediment for food.

4 The *macroinvertebrates* are eaten by minnows, minnows by medium-sized fish, and those fish are eaten by large fish - each collecting and storing some of the chemicals in their bodies.

5 This is why larger fish, predator fish, and longer-living fish are likely to have more chemicals in their bodies than smaller, younger fish. You can use the ***Eat Safe Fish Guide*** to find safe fish.

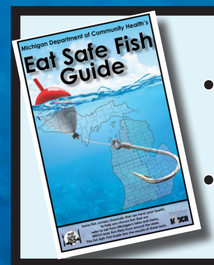
No Guide? Be S.A.F.E.

S **Smaller fish are better.**
They tend to have fewer chemicals.

a **Avoid large predator fish and the bottom feeders.**
They tend to have more chemicals. Please check the ***Eat Safe Fish Guide*** before eating these fish.

f **Fat should be removed.**
Some chemicals are in the fat of the fish.

e **Eat fish that have been broiled or grilled on a rack.**
More of the fat and chemicals can drip away. You can reduce some chemicals by up to half!



Have Questions? Want an *Eat Safe Fish Guide*?

- **You can call the Michigan Department of Health & Human Services (MDHHS) at 1-800-648-6942 and ask for a free *Eat Safe Fish Guide* or pick up an *Eat Safe Fish* brochure from the Muskegon County Convention and Visitors Bureau or any of our local partners.**
- **You can also download this information to your smartphone 24/7 at www.michigan.gov/eatsafefish!**

The Guide and brochure include maps to nearby lakes and rivers where fish have been tested for chemicals by MDHHS. The MDHHS Lab tests the filets of fish for chemicals, and all of the MDHHS guidelines are based only on this data.

Many thanks to our partners:

MDHHS Michigan Department of Health & Human Services
United States Environmental Protection Agency
Muskegon West Michigan's Shoreline City www.shorelinecity.com
MLWP Muskegon Lake Watershed Partnership
Muskegon Conservation District
Department of Natural Resources Michigan DNR
eat safe fish
Great Lakes Commission des Grands Lacs
Muskegon County
WMSRDC West Michigan Shoreline Regional Development Commission
DEQ
Great Lakes Restoration