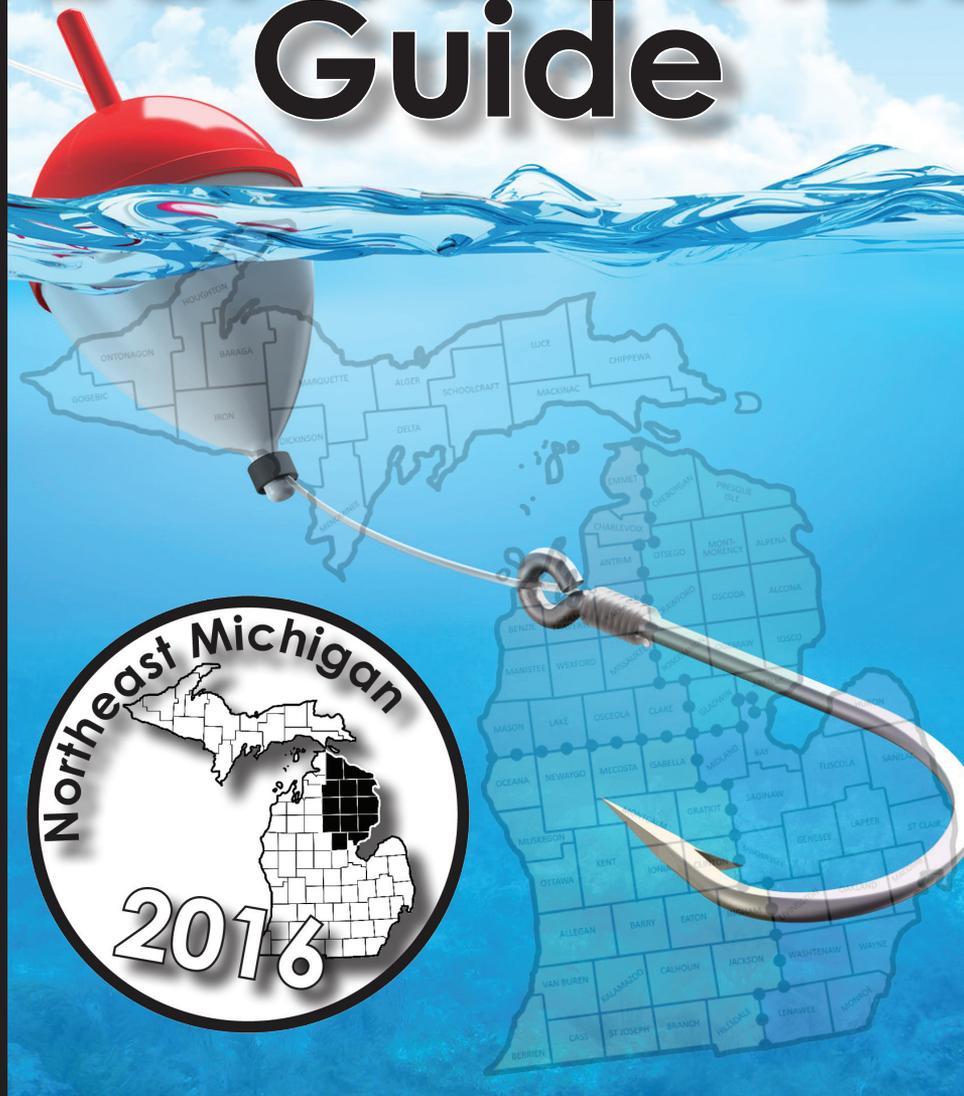


Michigan Department Health and Human Services'

Eat Safe Fish Guide



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 Guide* lists the fish that have been tested and how much is safe to eat.





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About the Guide

The *Eat Safe Fish Guide (ESF Guide)* is provided by the Michigan Department of Health and Human Services (MDHHS).

- The fish listed under each lake or river in the *ESF Guide* have been tested for chemicals.
- Scientists from MDHHS test **ONLY** the filet of the fish - the part that you would eat - to determine the guidelines included in the *ESF Guide*.
- MDHHS uses the test results from the fish filets to find the average amount of chemicals in the fish species from that lake or river. They use this information to determine how much fish is safe to eat per month.
- The *ESF Guide* is not a rulebook. These are only guidelines to help you make safer choices for you and your family. You are not required to use it.
- The *ESF Guide* does not include rules and regulations about catching or keeping legally-sized fish.
- The *ESF Guide* provides advice for the size range of fish that are typically caught and eaten.

Michigan DNR Fishing Laws



You should get a copy of the *DNR Michigan Fishing Guide* when you purchase your fishing license. If you lost your *Fishing Guide* or have other questions about fishing legally, please call the Michigan Department of Natural Resources at 1-517-373-1230 or visit www.michigan.gov/fishing.

Questions About Eating Safe Fish?

If you have questions about choosing safer fish to eat or would like the *ESF Guide* for another region, please call the Michigan Department of Health and Human Services at 1-800-648-6942 or visit www.michigan.gov/eatsafefish.



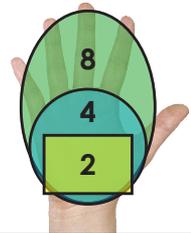
Choosing Safer Fish

The guidelines in the *ESF Guide* are set to be safe for everyone. **This includes children, pregnant or breastfeeding women, and people who have health problems, like cancer or diabetes.**

But the *ESF Guide* is also for healthy adults who want to avoid getting too many chemicals in their bodies. Chemicals like PCBs and dioxins are linked to cancer, diabetes, and other illnesses. Mercury can cause damage to your brain and nerves. MDHHS uses chemical limits in the *ESF Guide* that will protect everyone who eats fish.

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)



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.
 $90 \text{ pounds} - 20 \text{ pounds} = 70 \text{ pounds}$
 $4 \text{ ounces} - 1 \text{ ounce} = \text{a } MI \text{ Serving size of } 3 \text{ ounces}$

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.
 $90 \text{ pounds} + 20 \text{ pounds} = 110 \text{ pounds}$
 $4 \text{ ounces} + 1 \text{ ounce} = \text{a } MI \text{ Serving size of } 5 \text{ ounces}$



Are you pregnant?

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

Special MI Serving Categories

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.



Finding a Balance

Sometimes a child might eat more than 2 ounces of fish, or a 180 pound adult might eat more than 8 ounces of fish in one sitting. It's OK, just count the number of *MI Servings* you eat in that meal.

For example, let's say the 180 pound adult ate 16 ounces of fish during one meal. That is 2 *MI Servings* of fish for a person of that size. If the fish is listed as 2, 4, or 12 *MI Servings* in the *ESF Guide*, they're still within their range. If the fish is listed as 1 *meal per month* or *Limited*, they might want to avoid eating other meals of fish for a while to give their body time to process the chemicals.

No one should eat any amount of fish listed as Do Not Eat in the *ESF Guide*.



Get to know the **3Cs**

Choose, Clean, Cook



Choose

If you eat fish often, you can use the *ESF Guide* to choose the safest fish to keep and eat from any Michigan lake or river. Is that fish limited to 1 or 2 meals per month in the *ESF Guide*? Use the map to find another lake or river nearby where you can eat more!



Clean

When you clean your fish, try trimming away as much of the fat as you can see. Some chemicals, like PCBs and dioxin, are stored in the fat. If you cut out the fat, you cut down on the chemicals in your fish. Just note, you can't remove mercury from your fish by trimming. Mercury is stored in the meat of the fish.



Cook

Not only is grilling or broiling your fish healthier than frying, it also helps to get rid of more chemical-carrying fat. When you cook a fish on a grate, any fat hiding inside the filet can melt and drip away from the fish. This removes even more of those harmful chemicals.

If you follow the 3Cs carefully, you can remove up to half of the chemicals in your fish.

That means you can double the number of *MI Servings* per month, if:

- Mercury is **not listed** in the “**Chemical of Concern**” column.
- The *MI Serving* is not listed as “**Limited**”.

For example:

Type of Fish	Chemical of Concern	Size of Fish (length in inches)	MI Servings per Month*	Can you double?
Brown Trout	Dioxin	Any Size	Limited [▲]	No, it is “Limited.”
Burbot	PCBs	Any Size	12	Yes! 24 meals are OK, if you follow the 3Cs.
Carp	Mercury	Any Size	4	No, mercury is listed as a chemical in the fish.

Use the Statewide Safe Fish Guidelines ONLY if:



- your lake or river is not listed in the regional *Eat Safe Fish Guide*, OR
- your lake or river is listed in the *Eat Safe Fish Guide*, 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
Bullhead	Mercury	Any Size	4
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 statewide guidelines. The *MI Servings* recommendation will be more exact for that lake or river because those filets have been tested.

* See page 6

▲ See page 7

FAQs

How often is the Eat Safe Fish Guide (ESF Guide) updated?

The *ESF Guide* is updated regularly, but due to time and funding not all fish from all bodies of water listed in the *ESF Guide* are tested every year. If there are special problems in the area, fish may be tested more often or sooner than planned.

PCBs, dioxin, mercury, and other chemicals that can be found in fish stay in our environment for a very long time. The amount of chemicals found in the fish is not expected to change a lot from year to year.

What part of the fish is tested for the ESF Guide?

Only the filets of the fish are tested for chemicals. The skin is left on or taken off depending on common practice when cooking the fish. The organs and head are not tested for the *ESF Guide*. Internal organs (liver, fish eggs, etc.) typically have higher levels of chemicals than the filet and shouldn't be eaten.



Can I review the data myself?

Yes. All of the data, procedures, and scientific reports used to create the *ESF Guide* are available online at www.michigan.gov/eatsafefish (click on Science & Reports). If you do not have internet access, call MDHHS at 1-800-648-6942, and we'll be happy to provide you with the information.

Why does MDHHS always test carp?



Carp tend to eat everything in their path. MDHHS can use the test results from the carp to find out if there are chemicals in that lake or river, which ones, and how much. If tests on carp come back clean, it is likely other fish are also clean. If the carp have a lot of chemicals in them, then it is likely other species of fish will also have chemicals. MDHHS will then test other species of fish to see if they are safe to eat.

Will I be able to tell if the fish are safe to eat by looking at them?

No. You will not be able to see any of the chemicals, even mercury, in the fish. You also can't taste or smell the chemicals listed in the *ESF Guide*. To find the chemicals, MDHHS tests the fish in a laboratory. MDHHS only tests the filet of the fish - the part most people eat - for chemicals.



You can't see these chemicals in the water, either. Some very clear lakes or rivers can still have fish with higher levels of chemicals. If you eat a lot of Michigan fish, you can check the *ESF Guide* to find the safest options from the lake or river that you're fishing.

Is it safe to touch a fish that has chemicals in it?

Yes. You do not need to wear gloves or worry about getting the chemicals on you. They will not absorb into your skin from the fish.

Catch and release is almost always safe in Michigan regardless of where you're fishing. However, sometimes your local health department may issue a temporary warning against touching the water - including the fish that live in the water - because of problems like sewage overflow or harmful algae blooms.

You can contact your local health department or visit <http://www.deq.state.mi.us/beach/> for local warnings about water quality.

Why should I use the Eat Safe Fish Guide?

If you eat fish, you might also be eating chemicals - like mercury, PCBs, or dioxins. These chemicals can stay in your body for a long time.

The *ESF Guide* is designed to protect everybody - men, women, and children - who eats fish on a regular basis.

Using the *ESF Guide* and following the MI Serving suggestions will keep you from getting too many chemicals in your body at once. Scientists set the limits in the *ESF Guide* so that you are protected from possible health problems from the chemicals, no matter how long they stay in your body.

The *ESF Guide* is designed to protect any person who eats fish on a regular basis. If you are a healthy adult who is not pregnant and only eats Michigan fish once or twice a year from waters that are not posted with MDHHS signs, then you don't *need* to use the *ESF Guide* .

The S.A.F.E. fishing tips and the 3Cs in the *MDHHS Eat Safe Fish in Michigan* brochure will help the occasional Michigan fish eater avoid eating too many chemicals. Call 1-800-648-6942 to get a free copy of the brochure.

You may choose to eat more fish than the *ESF Guide* recommends. These guidelines are not rules; it is your choice. And not everyone will get sick from eating too many of these chemicals. The chemicals in the fish won't make you sick right away, either. Some people will be fine after years of eating fish with these chemicals in them. Others can have health problems. It is difficult to know who might get sick from the chemicals in fish and who won't. The *ESF Guide* makes it easy for you to make safer choices for you and your family and avoid eating too many chemicals in fish.

I don't see a fish species listed in the ESF Guide. I don't see my favorite fishing hole. What does this mean?

Michigan is lucky to have over 11,000 lakes, rivers, and streams. Because of that huge number, it is not possible to test every fish species from every body of water in the state.

If you don't see the fish species you're going after listed in the *ESF Guide* for your lake or river OR you don't see the lake or river listed at all, see page 9 for the **Statewide Safe Fish Guidelines**.

Common Michigan Fish

The fish listed here can be found in lakes and rivers around Michigan. Once you ID your fish, you can use the guidelines in this booklet to see how often the fish is safe to eat.



Black Crappie



Bluegill



Brook Trout



Brown Trout



Burbot



Carp



Channel Catfish



Chinook Salmon
(aka King Salmon)



Coho Salmon



Lake Herring



Lake Trout



Largemouth Bass
(aka Green Bass)



Northern Pike



Muskellunge
(aka Muskie)

Fish are not to scale.

Common Michigan Fish

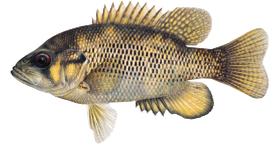
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Pumpkinseed
(aka Sunfish)



Rainbow Trout



Rock Bass



Siscowet



Sheepshead
(aka Freshwater Drum)



Smallmouth Bass



Sucker



Walleye



White Bass
(aka Silver Bass)



White Crappie



Whitefish



Yellow Perch

If you need more help finding out what kind of fish you caught, please visit www.michigan.gov/fishid or call your local DNR Operations Center.

Fish are not to scale.

Fish Eating Guidelines by County

The fish species listed on the following pages have been tested for chemicals by the Michigan Department of Health and Human Services (MDHHS).

The guidelines issued by MDHHS are based only on the amount of chemicals in the filet of the fish - the part that you would eat.

All fish listed here are not tested every year. Because the chemicals found in fish don't break down quickly, the amount of chemicals in the fish will not change that much from year to year and neither will the guidelines.

If you would like to see the data collected to support these guidelines, they are available at www.michigan.gov/eatsafefish. If you do not have access to the internet or have additional questions, we are available at 1-800-648-6942, Monday-Friday, 8am-5pm.



www.michigan.gov/eatsafefish



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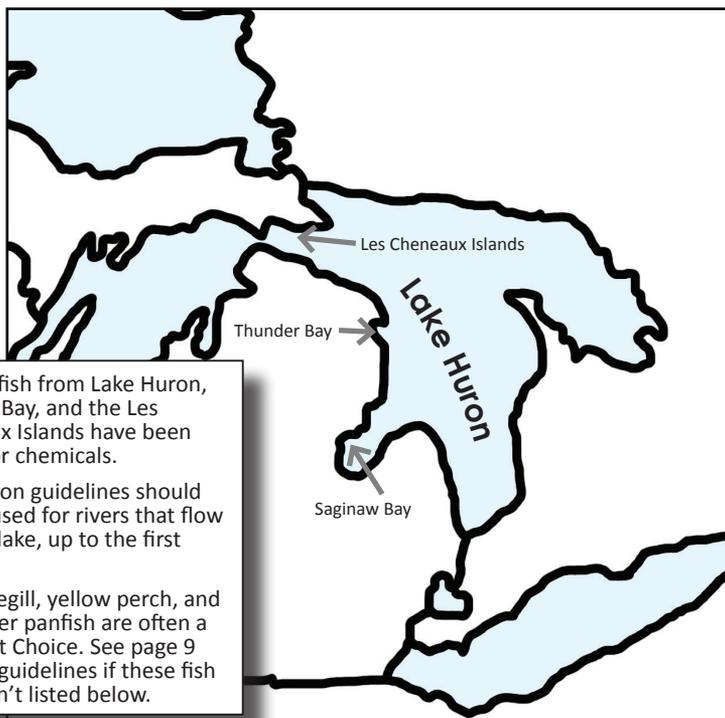
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See page 46 for a list of all lakes and rivers included in this booklet.

Special thanks to the Michigan Department of Environmental Quality and the Michigan Department of Natural Resources for providing technical support for the development of the *Eat Safe Fish Guides*.

Lake Huron



Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Brown Trout	PCBs	Any	6 Per Year ^{2x}
Carp	PCBs & Dioxins	Any	Do Not Eat [▲]
Catfish	Dioxins	Any	Limited [▲]
Chinook Salmon	PCBs	Any	6 Per Year ^{2x}
Coho Salmon	PCBs	Any	6 Per Year ^{2x}
Freshwater Drum	Mercury	Any	1
Lake Trout	PCBs & Dioxins	Under 20"	1 ^{2x}
	PCBs	20" to 24"	6 Per Year ^{2x}
		Over 24"	Limited [▲]
Lake Whitefish	Dioxins	Any	6 Per Year ^{2x}
Northern Pike	PCBs	Any	1 ^{2x}

(continued on the next page)

* See page 6

▲ See page 7

^{2x} See page 8

Best Choice! = 

Lake Huron (continued from p 16)

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Rainbow Trout	PCBs	Any	6 Per Year ^{2x}
Smelt	PCBs	Any	4 ^{2x}
Steelhead	PCBs	Any	6 Per Year ^{2x}
Suckers	PCBs	Any	2 ^{2x}
Walleye	Dioxins	Any	6 Per Year ^{2x}
White (Silver) Bass	PCBs & Dioxins	Any	Limited [▲]
White Perch	PCBs	Any	6 Per Year ^{2x}
Yellow Perch	Dioxins	Any	2 ^{2x}

Les Cheneaux Island Area & Thunder Bay

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
 Bluegill	Mercury	Any	12
Carp	PCBs & Dioxins	Any	Limited [▲]
Largemouth Bass	Mercury	Under 18"	2
		Over 18"	1
 Rock Bass	Mercury	Under 8"	8
Rock Bass	Mercury	Over 8"	4
Smallmouth Bass	Mercury	Under 18"	2
		Over 18"	1
 Sunfish	Mercury	Any	12
Yellow Perch	Dioxins	Any	2 ^{2x}

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

Saginaw Bay

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Carp	PCBs & Dioxins	Any	Do Not Eat [▲]
Catfish	Dioxins	Any	Limited [▲]

(continued on the next page)

* See page 6

▲ See page 7

^{2x} See page 8

Best Choice! = 

Saginaw Bay (continued from p 17)

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Freshwater Drum	Mercury	Any	1
Lake Trout	PCBs & Dioxins	Under 20"	1 ^{2x}
	PCBs	20" to 24"	6 Per Year ^{2x}
		Over 24"	Limited [▲]
Walleye	Dioxins	Any	6 Per Year ^{2x}
White (Silver) Bass	PCBs & Dioxins	Any	Do Not Eat [▲]
Yellow Perch	Dioxins	Any	2 ^{2x}
All Other Species	PCBs & Dioxins	Any	6 Per Year ^{2x}

* See page 6

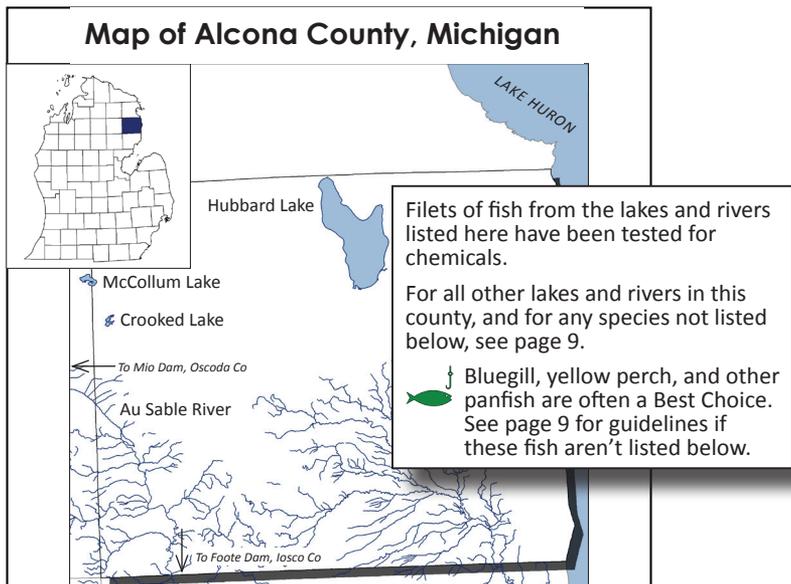
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Best Choice! =



Alcona County



Au Sable River

(between Mio Dam in Oscoda Co. and Foote Dam in Iosco Co.)

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
Walleye	Mercury	Any	1

Crooked Lake

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Walleye	Mercury	Under 20"	4
		Over 20"	2

(continued on the next page)

* See page 6

▲ See page 7

2x See page 8

Best Choice! = 

Alcona County (continued)

Hubbard Lake

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Northern Pike	Mercury	Under 28"	2
		Over 28"	1
Walleye	Mercury	Under 20"	1
		Over 20"	6 Per Year

McCollum Lake

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

See which fish are safe to eat from Lake Huron on Page 16.

* See page 6

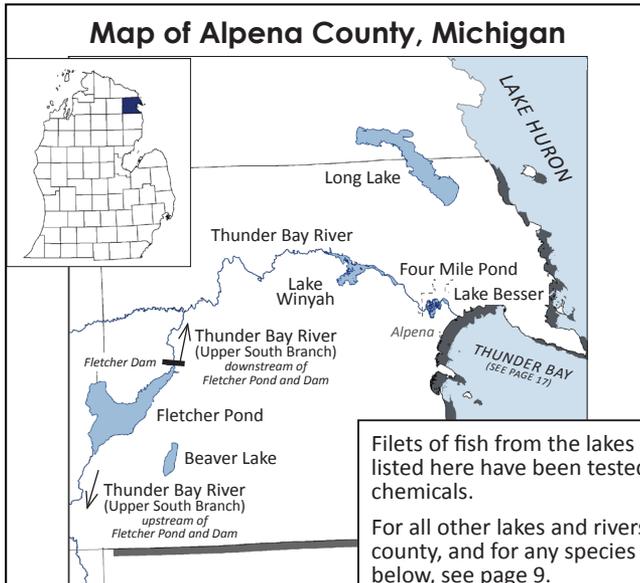
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Best Choice! =



Alpena County



Files of fish from the lakes and rivers listed here have been tested for chemicals.

For all other lakes and rivers in this county, and for any species not listed below, see page 9.

 Bluegill, yellow perch, and other panfish are often a Best Choice. See page 9 for guidelines if these fish aren't listed below.

Beaver Lake

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

Fletcher Pond

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

(continued on the next page)

* See page 6

▲ See page 7

^{2x} See page 8

Best Choice! = 

Alpena County (continued)

Four Mile Pond



Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Bullhead	Mercury	Any	4
Carp	PCBs & Mercury	Any	8
Largemouth Bass	Mercury	Under 18"	2
		Over 18"	1
Smallmouth Bass	Mercury	Under 18"	2
		Over 18"	1
Walleye	Mercury	Under 20"	1
		Over 20"	6 Per Year

Lake Besser

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Bullhead	Mercury	Any	4
Carp	PCBs & Mercury	Any	6 Per Year
Largemouth Bass	Mercury	Under 18"	2
		Over 18"	1
Rock Bass	Mercury	Under 8"	4
		Over 8"	2
Smallmouth Bass	Mercury	Under 18"	2
		Over 18"	1
Walleye	Mercury	Under 20"	1
		Over 20"	6 Per Year

Lake Winyah (aka Seven Mile Pond)



Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Bullhead	Mercury	Any	4
Carp	PCBs & Mercury	Any	8

(continued on the next page)



Lake Winyah (aka Seven Mile Pond)

(continued from page 22)

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Largemouth Bass	Mercury	Under 18"	2
		Over 18"	1
Smallmouth Bass	Mercury	Under 18"	2
		Over 18"	1
Walleye	Mercury	Under 20"	1
		Over 20"	6 Per Year

Long Lake

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Bullhead	Mercury	Any	4
Largemouth Bass	Mercury	Under 18"	4
		Over 18"	2
Smallmouth Bass	Mercury	Under 18"	4
		Over 18"	2
Suckers	Mercury	Under 16"	16
		Over 16"	8



Thunder Bay River (Main Branch)

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Bullhead	Mercury	Any	4
Carp	PCBs & Mercury	Any	6 Per Year
Largemouth Bass	Mercury	Under 18"	2
		Over 18"	1
Rock Bass	Mercury	Under 8"	4
		Over 8"	2

(continued on the next page)



Alpena County (continued)

Thunder Bay River (Main Branch)

(continued from page 23)

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Smallmouth Bass	Mercury	Under 18"	2
		Over 18"	1
Walleye	Mercury	Under 20"	1
		Over 20"	6 Per Year

When fishing the river near Lake Huron, please check the lake guidelines on page 16, too.

Thunder Bay River (Upper South Branch)

(downstream of Fletcher Pond and Dam)

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Bullhead	Mercury	Any	4
Carp	PCBs & Mercury	Any	6 Per Year
Largemouth Bass	Mercury	Under 18"	2
		Over 18"	1
Rock Bass	Mercury	Under 8"	4
		Over 8"	2
Smallmouth Bass	Mercury	Under 18"	2
		Over 18"	1
Walleye	Mercury	Under 20"	1
		Over 20"	6 Per Year

Thunder Bay River (Upper South Branch)

(upstream of Fletcher Pond and Dam)

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

See which fish are safe to eat from Lake Huron on Page 16.

* See page 6

▲ See page 7

2x See page 8

Best Choice! =



Arenac County



Filets of fish from the lakes and rivers listed here have been tested for chemicals.

For all other lakes and rivers in this county, and for any species not listed below, see page 9.

 Bluegill, yellow perch, and other panfish are often a Best Choice. See page 9 for guidelines if these fish aren't listed below.

Rifle River



Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Rock Bass	Mercury	Under 6"	8
		6" to 9"	4
		Over 9"	2
Suckers	Mercury	Any	4

When fishing the river near Lake Huron, please check the lake guidelines on page 16, too.

Saginaw Bay

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Carp	PCBs & Dioxins	Any	Do Not Eat [▲]
Catfish	Dioxins	Any	Limited [▲]

* See page 6

▲ See page 7

^{2x} See page 8

Best Choice! = 

Arenac County (continued)

Saginaw Bay

(continued from page 25)

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Freshwater Drum	Mercury	Any	1
Lake Trout	PCBs & Dioxins	Under 20"	1 ^{2x}
	PCBs	20" to 24"	6 Per Year ^{2x}
		Over 24"	Limited [▲]
Walleye	Dioxins	Any	6 Per Year ^{2x}
White (Silver) Bass	PCBs & Dioxins	Any	Do Not Eat [▲]
Yellow Perch	Dioxins	Any	2 ^{2x}
All Other Species	PCBs & Dioxins	Any	6 Per Year ^{2x}

See which fish are safe to eat from Lake Huron on Page 16.

* See page 6

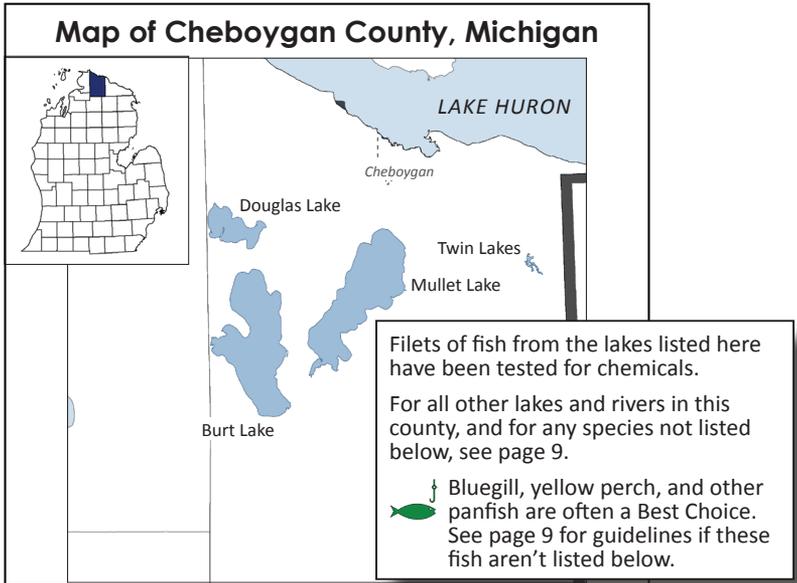
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Best Choice! =



Cheboygan County



Burt 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
Suckers	Mercury	Any	12
Walleye	Mercury	Under 20"	2
		Over 20"	1

Douglas 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

(continued on the next page)

* See page 6

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Best Choice! =



Cheboygan County (continued)

Mullet Lake

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Largemouth Bass	Mercury	Under 18"	2
		Over 18"	1
Smallmouth Bass	Mercury	Under 18"	2
		Over 18"	1
Walleye	Mercury	Under 20"	1
		Over 20"	6 Per Year

Twin Lakes

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
Smallmouth Bass	Mercury	Under 18"	1
		Over 18"	6 Per Year

See which fish are safe to eat from Lake Huron on Page 16.

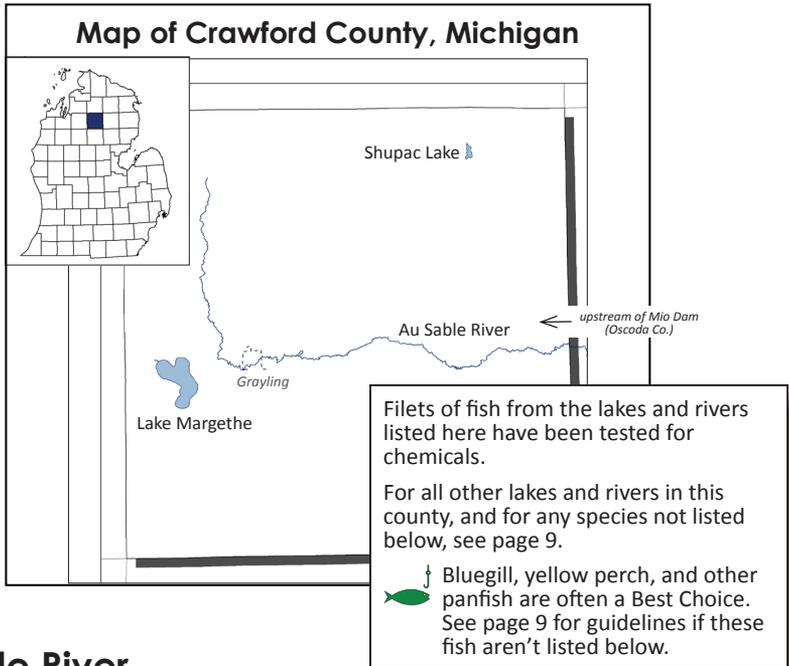
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Best Choice! = 

Crawford County



Au Sable River

(upstream of Mio Dam in Oscoda Co.)

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Brown Trout	Mercury	Any	4
Northern Pike	Mercury	Under 30"	2
		Over 30"	1

Lake Margethe

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

Shupac Lake

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

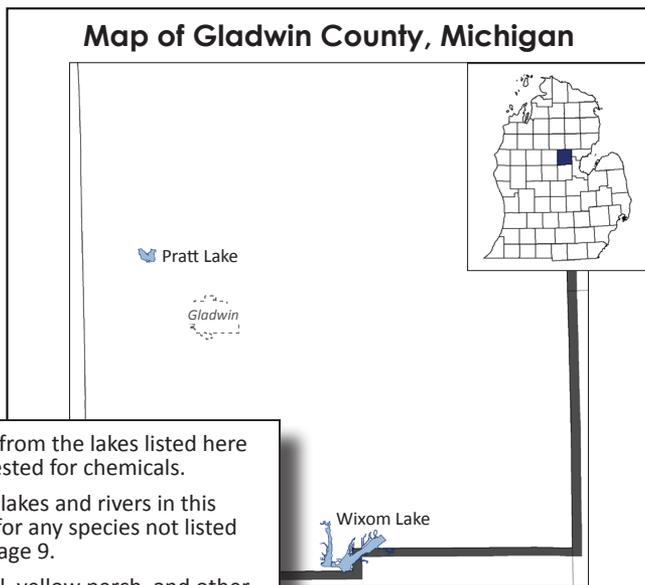
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Best Choice! =

Gladwin County



Filets of fish from the lakes listed here have been tested for chemicals.

For all other lakes and rivers in this county, and for any species not listed below, see page 9.

 Bluegill, yellow perch, and other panfish are often a Best Choice. See page 9 for guidelines if these fish aren't listed below.

Pratt Lake

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Largemouth Bass	Mercury	Under 18"	2
		Over 18"	1
Smallmouth Bass	Mercury	Under 18"	2
		Over 18"	1

Wixom Lake

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

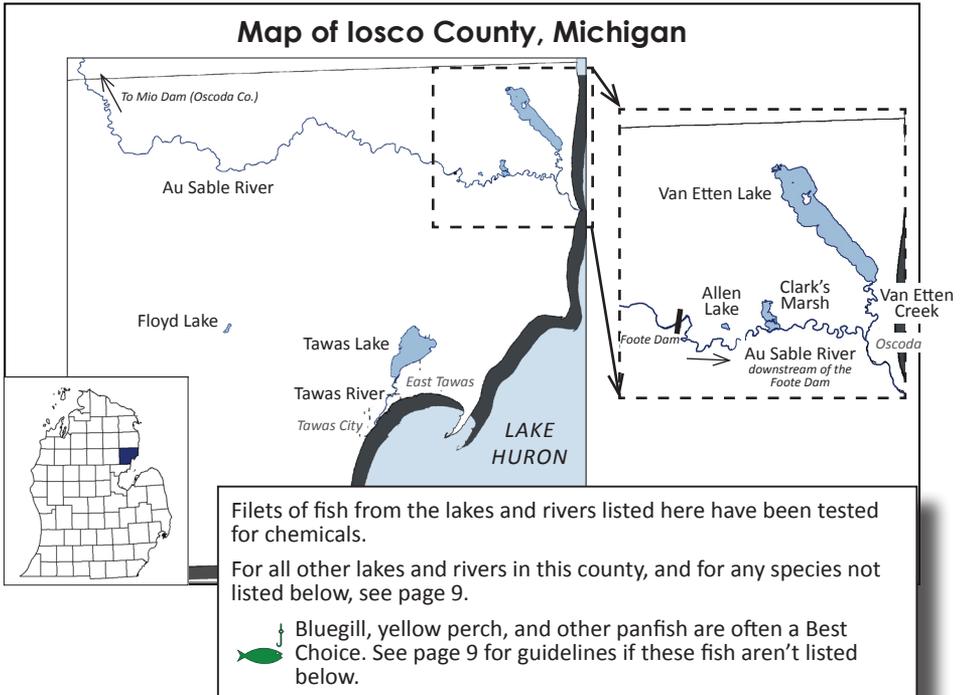
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Best Choice! = 

Iosco County



Allen Lake



Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Bluegill	Mercury	Any	8
Largemouth Bass	Mercury	Any	6 Per Year
Smallmouth Bass	Mercury	Any	6 Per Year
Sunfish	Mercury	Any	8
All Other Species	PFOS	Any	Do Not Eat [▲]

PFOS can't be reduced by trimming and cooking. Do not double MI Servings.

(continued on the next page)

* See page 6

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Best Choice! =

Iosco County (continued)

Au Sable River

(between Mio Dam in Oscoda Co. and Foote Dam)

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
Walleye	Mercury	Any	1

Au Sable River

(downstream of Foote Dam; includes Van Etten Creek)

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Brown Trout	PCBs	Any	6 Per Year ^{2x}
Carp	PFOS	Any	Do Not Eat [▲]
Chinook Salmon	PCBs	Any	6 Per Year ^{2x}
Coho Salmon	PCBs	Any	6 Per Year ^{2x}
Largemouth Bass	PFOS	Any	Do Not Eat [▲]
Rainbow Trout	PCBs	Any	6 Per Year ^{2x}
Rock Bass	Mercury & PFOS	Any	Do Not Eat [▲]
Smallmouth Bass	PFOS	Any	Do Not Eat [▲]
Steelhead	PCBs	Any	6 Per Year ^{2x}
Suckers	PFOS	Any	Do Not Eat [▲]
Walleye	Dioxins	Any	6 Per Year ^{2x}
All Other Species	PFOS	Any	Do Not Eat [▲]

PFOS can't be reduced by trimming and cooking. Do not double MI Servings.

Clark's Marsh

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Bluegill	PFOS	Any	Do Not Eat [▲]
Sunfish	PFOS	Any	Do Not Eat [▲]
All Other Species	PFOS	Any	Do Not Eat [▲]

PFOS can't be reduced by trimming and cooking. Do not double MI Servings.

(continued on the next page)

Floyd Lake

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
Smallmouth Bass	Mercury	Under 18"	1
		Over 18"	6 Per Year

Tawas Lake

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Black Crappie	Mercury	Any	2
White Crappie	Mercury	Any	2

Tawas River

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

When fishing the river near Lake Huron, please check the lake guidelines on page 16, too.

Van Effen Lake

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Catfish	PCBs	Any	Limited [▲]
Suckers	Mercury	Under 14"	8
		14 to 20"	4
		Over 20"	2
Walleye	Mercury	Any	1



See which fish are safe to eat from Lake Huron on Page 16.

* See page 6

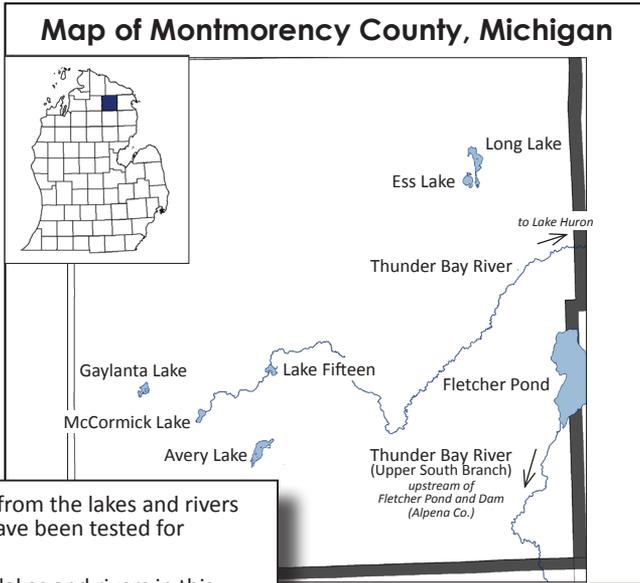
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Best Choice! =



Montmorency County



Filets of fish from the lakes and rivers listed here have been tested for chemicals.

For all other lakes and rivers in this county, and for any species not listed below, see page 9.

 Bluegill, yellow perch, and other panfish are often a Best Choice. See page 9 for guidelines if these fish aren't listed below.

Avery Lake

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

Ess Lake

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

(continued on the next page)

Montmorency County (continued)

Fletcher Pond

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

Gaylanta 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

Lake Fifteen

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
Smallmouth Bass	Mercury	Under 18"	1
		Over 18"	6 Per Year

Long Lake

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

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* See page 6

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Best Choice! =



Montmorency County (continued)

McCormick Lake



Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Brown Trout	Mercury	Under 14"	8
		14 to 18"	4
		Over 18"	2

Thunder Bay River

(in Montmorency Co. to Lake Huron; also includes the stretch of the Upper South Branch downstream of Fletcher Dam in Alpena Co., page 24)

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Bullhead	Mercury	Any	4
Carp	PCBs & Mercury	Any	6 Per Year
Largemouth Bass	Mercury	Under 18"	2
		Over 18"	1
Rock Bass	Mercury	Under 8"	4
		Over 8"	2
Smallmouth Bass	Mercury	Under 18"	2
		Over 18"	1
Walleye	Mercury	Under 20"	1
		Over 20"	6 Per Year

When fishing the river near Lake Huron, please check the lake guidelines on page 16, too.

Thunder Bay River (Upper South Branch)

(upstream of Fletcher Dam, also includes Fletcher Pond in Alpena Co., page 21)

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

* See page 6

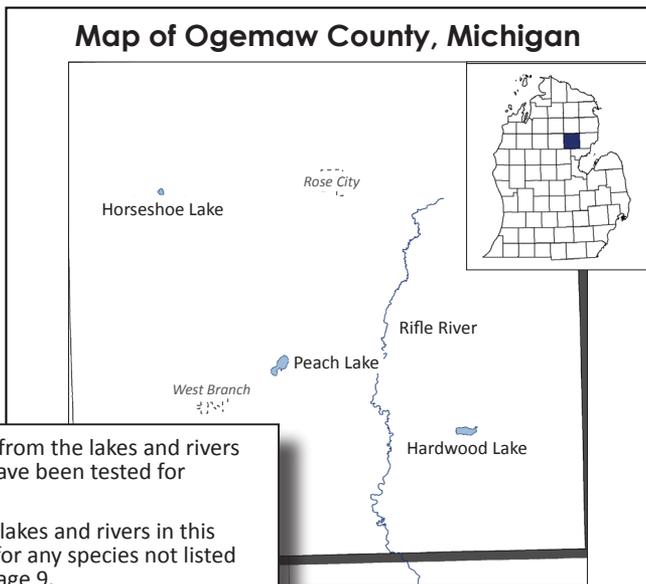
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Best Choice! =



Ogemaw County



Filets of fish from the lakes and rivers listed here have been tested for chemicals.

For all other lakes and rivers in this county, and for any species not listed below, see page 9.

 Bluegill, yellow perch, and other panfish are often a Best Choice. See page 9 for guidelines if these fish aren't listed below.

Hardwood Lake

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Northern Pike	Mercury	Under 28"	2
		Over 28"	1

Horseshoe Lake

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Largemouth Bass	Mercury	Under 18"	2
		Over 18"	1
Smallmouth Bass	Mercury	Under 18"	2
		Over 18"	1

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Best Choice! = 

Ogemaw County (continued)

Peach Lake

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

Rifle River



Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Rock Bass	Mercury	Under 6"	8
		6" to 9"	4
		Over 9"	2
Suckers	Mercury	Any	4

When fishing the river near Lake Huron, please check the lake guidelines on page 16, too.

* See page 6

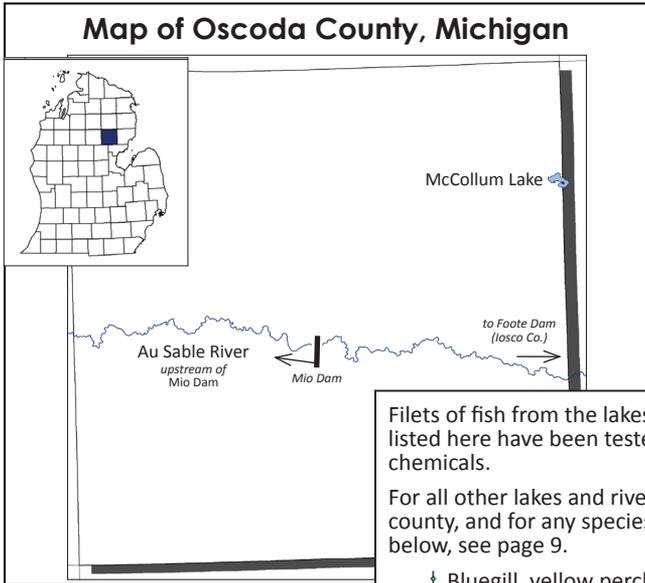
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Best Choice! =



Oscoda County



Au Sable River

(upstream of Mio Dam)

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Brown Trout	Mercury	Any	4
Northern Pike	Mercury	Under 30"	2
		Over 30"	1

Au Sable River

(between Mio Dam and Foote Dam in Iosco Co., page 31)

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
Walleye	Mercury	Any	1

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Best Choice! =



Oscoda County (continued)

McCullum Lake

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

* See page 6

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Best Choice! =



Otsego County

Map of Otsego County, Michigan

Files of fish from the lakes and rivers listed here have been tested for chemicals.

For all other lakes and rivers in this county, and for any species not listed below, see page 9.

↓ Bluegill, yellow perch, and other panfish are often a Best Choice. See page 9 for guidelines if these fish aren't listed below.

Au Sable River (North Branch)

(upstream of Mio Dam in Oscoda Co., page 39)

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Brown Trout	Mercury	Any	4
Northern Pike	Mercury	Under 30"	2
		Over 30"	1

Big Lake

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Largemouth Bass	Mercury	Under 18"	2
		Over 18"	1
Smallmouth Bass	Mercury	Under 18"	2
		Over 18"	1

Otsego Lake

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

* See page 6

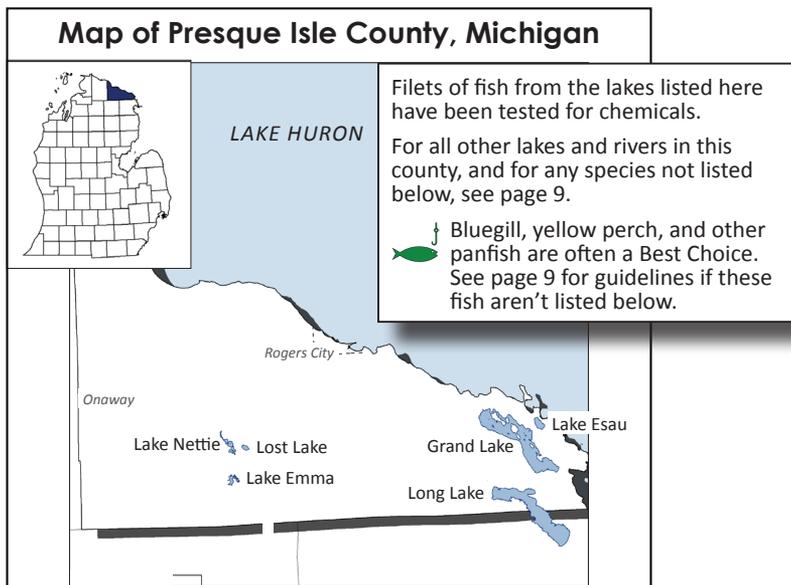
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Best Choice! =



Presque Isle County



Grand Lake

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Largemouth Bass	Mercury	Under 18"	2
		Over 18"	1
Rock Bass	Mercury	Any	4
Smallmouth Bass	Mercury	Under 18"	2
		Over 18"	1
Walleye	Mercury	Under 20"	2
		Over 20"	1

Lake Emma

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Northern Pike	Mercury	Under 20"	2
		Over 20"	1

(continued on the next page)

* See page 6

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Best Choice! = 

Lake Esau

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

Long Lake

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Bullhead	Mercury	Any	4
Largemouth Bass	Mercury	Under 18"	4
		Over 18"	2
Smallmouth Bass	Mercury	Under 18"	4
		Over 18"	2
Suckers	Mercury	Under 16"	16
	Mercury	Over 16"	8



Lost Lake

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
Smallmouth Bass	Mercury	Under 18"	1
		Over 18"	6 Per Year

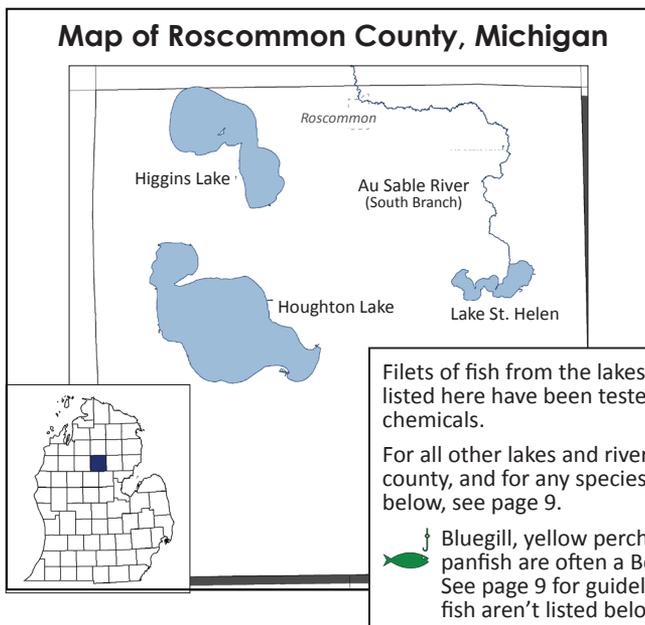
Lake Nettie

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Largemouth Bass	Mercury	Under 18"	2
		Over 18"	1
Smallmouth Bass	Mercury	Under 18"	2
		Over 18"	1

See which fish are safe to eat from Lake Huron on Page 16.



Roscommon County



Au Sable River (South Branch)

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Brown Trout	Mercury	Under 16"	4
		Over 16"	2

Higgins Lake



Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Brown Trout	PCBs	Any	8 ^{2x}
Lake Herring	PCBs & Mercury	Under 14"	8
	Mercury	Over 14"	4
Lake Trout	PCBs & Mercury	Under 22"	4
		22" to 30"	1 ^{2x}
	PCBs	Over 30"	Limited [▲]

(continued on the next page)

Houghton Lake

Type of Fish	Chemicals of Concern	Size of Fish (length in inches)	MI Servings per Month*
Carp	Mercury	Any	4
Walleye	Mercury	Under 20"	2
		Over 20"	1

Lake St. Helen

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

* See page 6

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Best Choice! =



Northeast Michigan Lakes & Rivers

Don't see a certain lake or river listed?

For the guidelines to all other lakes and rivers in Northeast Michigan, please see page 9. To get an *ESF Guide* for another region, visit www.michigan.gov/eatsafefish or call 1-800-648-6942.

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What Are the Chemicals of Concern?

The chemicals that cause Michigan's Eat Safe Fish guidelines are DDT, dioxins, mercury, PCBs, PFOS, selenium, and toxaphene. Many of these chemicals were put into the environment - by accident or on purpose - before we knew the long-term health and environmental problems they can cause.

These chemicals can travel through the air, and they can be carried by rain run-off and storm drains into our lakes, rivers, and wetlands. Once in the water, the chemicals sink to the bottom and become a part of the fish food chain. Some of these chemicals can stay in the environment, in the fish, and in the human body for a long time.

Efforts to reduce pollution under the U.S. Clean Water Act and U.S. Clean Air Act have cut the levels of these chemicals in the environment. In fact, the amount of DDT, dioxins, PCBs, and toxaphene in our fish are slowly going down. However, mercury continues to be a worldwide problem and newer chemicals, like PFOS, might stay in the environment for a long time.

Chemical of Concern	What is it?	Potential Health Problems
DDT (dichlorodiphenyl-trichloroethane)	<ul style="list-style-type: none"> • was one of the first modern insecticides • was banned in 1972 	<ul style="list-style-type: none"> • linked to the development of cancer • linked to the development of diabetes
Dioxins	<ul style="list-style-type: none"> • are not made on purpose • are created when chlorine chemicals are made or used • can be released when things that have chlorine in them - like paper or plastic - are burned • also can be released from old or poorly contained waste sites or intentional dumping 	<ul style="list-style-type: none"> • linked to the development of cancer • can harm fertility • can harm thyroid function

(continued on the next page)

Chemicals of Concern (continued from page 48)

Chemical of Concern	What is it?	Potential Health Problems
Mercury	<ul style="list-style-type: none"> • is a natural element • can be released from smokestacks of coal-fired power plants and other industry 	<ul style="list-style-type: none"> • can harm brain development in fetuses and children • can harm heart function in older adults • can harm the immune system
PCBs (polychlorinated biphenyls)	<ul style="list-style-type: none"> • were used in electrical equipment - like transformers • were found in hydraulic oils 	<ul style="list-style-type: none"> • can harm brain development in fetuses and children • linked to the development of cancer • linked to the development of diabetes • can harm the immune system
PFOS (perfluorooctane sulfonate)	<ul style="list-style-type: none"> • is used for waterproofing clothes, in fire-fighting foams, papers and packaging, cleaning products, and pesticides • is now rarely used in the United States 	<ul style="list-style-type: none"> • can harm thyroid function • can harm brain development in fetuses and children
Selenium	<ul style="list-style-type: none"> • is a natural element • is needed for your body to function, but too much is harmful • through mining activities, selenium-rich rock and water were added into waterways 	<ul style="list-style-type: none"> • hair loss • loss of fingernails • fatigue • irritability • mild nerve damage
Toxaphene	<ul style="list-style-type: none"> • was an insecticide for cotton and vegetables and on livestock and poultry • was sometimes added to lakes to kill unwanted fish • was banned in 1990 	<ul style="list-style-type: none"> • can harm the immune system

NOTES

Other Regional Eat Safe Fish Guides

Call 1-800-648-6942 or visit www.michigan.gov/eatsafefish to get a free copy of the *Eat Safe Fish Guides* for other regions in Michigan.

