



A PEOPLE'S GUIDE TO

EATING FISH

CAUGHT IN WESTERN NEW YORK



BUFFALO NIAGARA
WATERKEEPER®

This guide was created by Buffalo Niagara WATERKEEPER® with funding from the United States Environmental Protection Agency's Great Lakes Restoration Initiative. The purpose of this guide is to enhance present Western New York Fish Advisories and to educate the public on local water and fish pollution issues. If you have any questions about this guide, our organization or fish advisories, please contact:

Buffalo Niagara WATERKEEPER®
721 Main Street, Buffalo, NY 14203
(716) 852-7483
www.bnwaterkeeper.org

This guide would not have been possible without the hard work of Buffalo Niagara WATERKEEPER® staff, interns, and volunteers. In particular, we would like to thank Jill Jedlicka, Kerri Bentkowski Li, Robbyn Drake, Katherine Winkler, Margaret Wooster, Hilary Andelora, Alex Kuttesch, Alexandra Sullivan, Win Thant, and Lisa Wiza.

A special thanks to the many gracious people that aided in the creation of this guide, especially Jordan Besek, Jordan Dalton, Mike Todd, Doug Morrison, and the New York State Department of Health.

October 2012

Book Design by: Joel Brenden

Graphics and Illustrations: Joel Brenden; additional illustrations by Amber Gougen

Written by: Katy Brown, Sarah Cunningham, and Amber Gougen

Maps by: Brian Conley



**BUFFALO NIAGARA
WATERKEEPER**



Western New York has some of the best freshwater fishing in the world. Fishing is a fun and relaxing activity and an affordable way to feed your family. However, Western New York has a long history of pollution that has made some of these fish harmful to eat.

“A People’s Guide to Eating Fish Caught in Western New York” is your guide for making healthier choices when eating locally caught fish.

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Are Fish Healthy to Eat?



Fish are delicious and healthy to eat. Fish are a good source of lean protein and are low in saturated fat. Eating fish can help your body fight illness and disease and keep your insulin levels healthy if you have diabetes.

Eating fish that are high in Omega-3 fatty acids, a good fat, may prevent heart disease in adults and improve brain growth in babies and children.



Fish can be a very healthy meal for you and your family. However, some fish may be harmful to eat.

Fish caught from some rivers and lakes in Western New York are polluted with harmful chemicals. When we eat polluted fish, the chemicals in their bodies can pass to our bodies and build up over time. Eating a lot of polluted fish may be bad for our health.

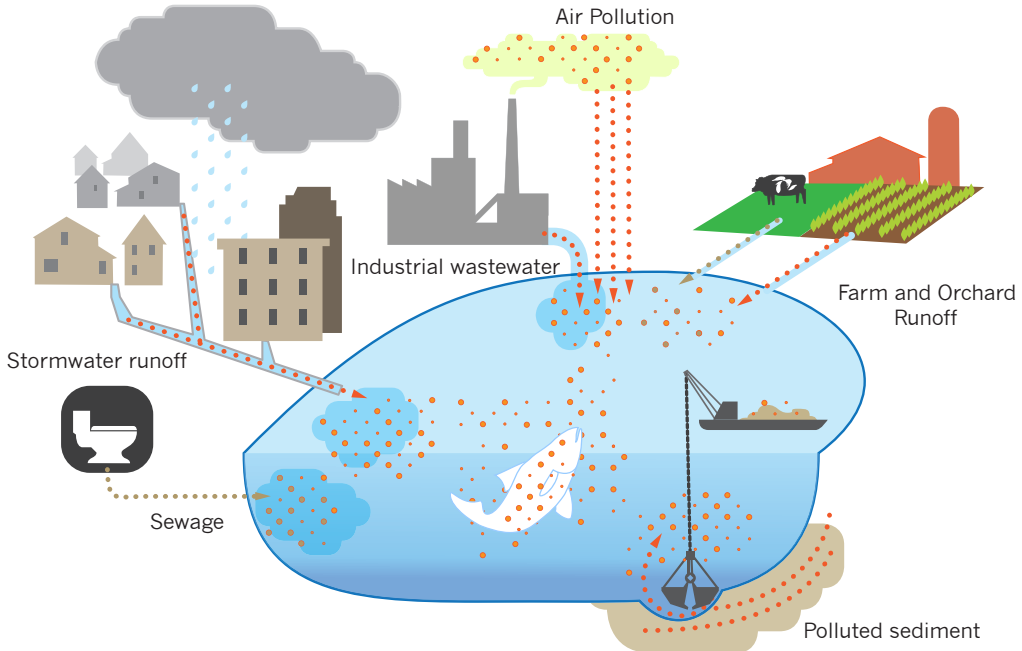
The advice in this guide was created to help you make healthier choices about eating locally caught fish. Use this guide to help protect your health against pollution, especially chemical pollution, in our waterways.

What is Pollution?

In this guide, pollution is defined as anything introduced to an environment which is harmful or toxic. There are many sources and types of pollution in Western New York waterways. Water pollution is an important issue everywhere. Not all pollution comes from local sources. Some pollution comes from far away through the air and water.

There are many sources of pollution in our local waterways.

Orange and brown dots were used to show how pollution can enter our waterways and fish. In real life, you cannot see, smell or taste most of this pollution.



Chemical pollution is the most harmful type of pollution in our waterways. Chemical pollution can come from all of the sources shown above. Our waterways are also polluted with harmful germs. This type of pollution can come from human waste in sewage and animal waste from farm runoff.

Why are Waterways in Western New York Polluted?

The Great Lakes are the largest source of fresh surface water in the world! People have fished this region's rivers and lakes for food for thousands of years. Fishing continues to be an important part of people's lives today. However, many rivers and lakes in Western New York are polluted.

Western New York has a long history of pollution. This region's abundant supply of water made it a center of transportation, farming and industry for more than one hundred years.

Cheap hydroelectric power from Niagara Falls brought many types of industries to the region. In fact, Western New York's abundant supply of water and cheap power helped it become one of the world's largest producers of chemicals. Although these industries brought jobs and growth, they also polluted our water and fish with harmful chemicals.



Buffalo River at Katherine Street in 1924

Before the 1970s, many harmful chemicals were directly dumped into the water or buried in nearby landfills. Even though laws were created to control this pollution, much of it still remains in our local waters and fish. Many of these chemicals are long-lasting and difficult to clean up.

Are Waterways in Western New York Still Polluted?

A lot of work has been done to clean up pollution in Western New York waters. However, chemical, sewage and other types of pollution are still major issues in our local waterways. Many industries have left this region, but much of the pollution they created remains hidden in our waterways.



Buffalo River at Katherine Street in 1994

This pollution continues to affect many of our rivers, lakes and shorelines even though they may look cleaner and greener than they did in the past. Much more work needs to be done before our water is clean and all of the fish are safe to eat again.

Can I See Pollution in Water and Fish?

No. You cannot see most pollution in water and fish. You may see smoke coming from factories or garbage in the water, but harmful chemicals and germs are too small to be seen with the human eye.

Clear water does not equal clean water.

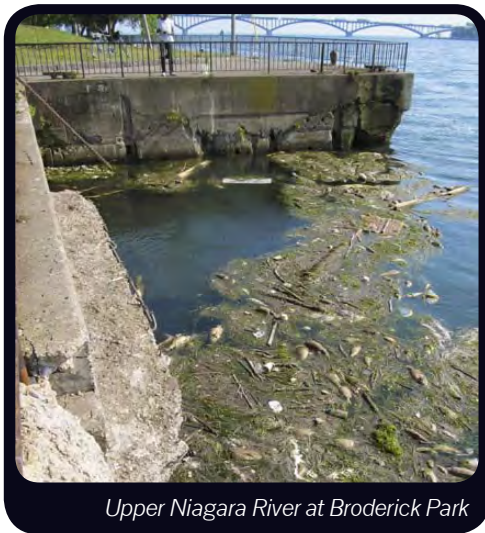
Water that looks clean can be more polluted than water that looks dirty.

Water can be fast-moving and deep and still be very polluted.

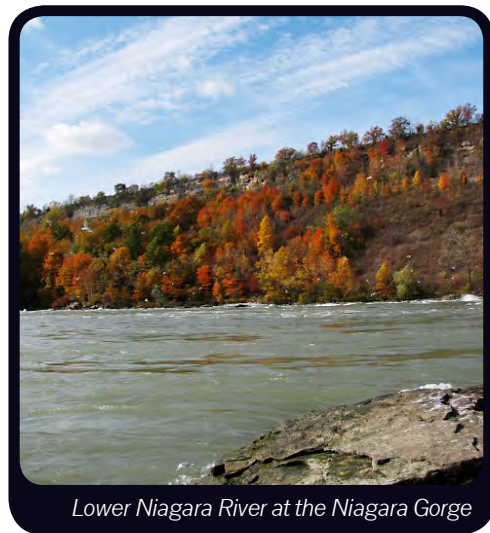
The Niagara River is a fast-moving river, but the water and some of the fish are still polluted with harmful chemicals.

You cannot tell if a fish is polluted with harmful chemicals when you look at it.

A polluted fish may look, smell, and taste the same as a fish that is not polluted.



Upper Niagara River at Broderick Park



Lower Niagara River at the Niagara Gorge

In the first picture, cans, bottles and algae make the Upper Niagara River look more polluted than the Lower Niagara River. However, fish testing has shown that some types of fish in the Lower Niagara River are more chemically polluted than these same types of fish in the Upper Niagara River.

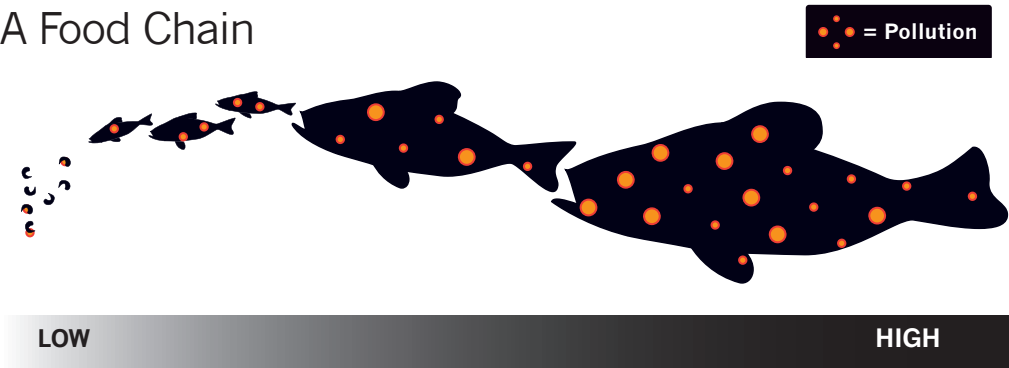
To learn more, read the Specific Fish Advisories for the Upper and Lower Niagara River on page 36 and 44

How Do Fish Become Polluted?

Fish become polluted when they live and eat in polluted waters.

Chemical pollution builds up in the sediment (bottom soil and muck) of rivers and lakes. Small animals living on the bottom eat the polluted sediment and become polluted, too. Chemical pollution in the sediment is passed up the food chain to fish that eat these small animals. A food chain is how animals get food and energy from other living things in the environment.

A Food Chain



The picture above shows how chemical pollution can build up in fish and be passed up the food chain to larger and larger fish. When we eat fish, we become a part of this food chain. The chemicals in their bodies can pass to ours when we eat them.

The most harmful kinds of chemical pollution are long-lasting and build up in fish over time.

The longer a fish lives and eats in polluted water, the more polluted it tends to be. Larger, older fish have more of these harmful chemicals built up in their bodies than smaller, younger fish.

Different parts of the fish build up more chemicals than other parts.

- Chemicals such as PCBs, Mirex and Dioxin build up in the fatty parts of the fish including the skin, guts, head, belly fat and lateral lines (the dark tissue along the sides of the fish).
- Mercury builds up in the muscle of the fish.

Will Eating Polluted Fish Make Me Sick?

This question is hard to answer. When we eat polluted fish, the pollution in their bodies can pass to our bodies. The more polluted fish we eat, the more pollution we put into our bodies. The more pollution we put in our bodies, the greater the risk to our health. Not everyone will get sick from eating polluted fish. How pollution affects your body can depend on your lifestyle, weight, age, sex, and overall health.



Different kinds of pollution can make you sick in different ways.

Contact with germs in and on fish may make you feel sick right away. Health effects may include stomach problems, such as diarrhea or vomiting, and infection. To learn more, read page 62.

Eating chemically polluted fish will not make you feel sick right away. However, chemical pollution may seriously affect your health in the future.

Follow the advice in this guide to reduce your health risks when eating polluted fish.

What are the Risks to my Health from Chemical Pollution?

The chemicals of most concern to human health are long-lasting and build up in our bodies over time. It may take months or years of eating polluted fish to build up enough chemicals in your body to be harmful to your health. The health effects can be very hard to notice, such as memory loss, or more serious, such as cancer. Different chemicals can affect our bodies in different ways.

High levels of chemical pollution can harm the:

Brain - Changes in behavior, memory, and ability to learn new things

Thyroid glands - An organ that controls hormone levels

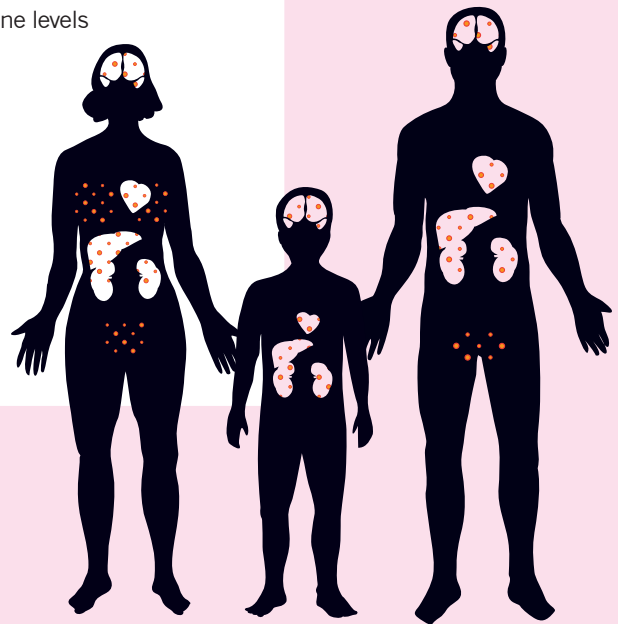
Skin

Liver

Kidneys

Sperm quality in men

Women's ability to have healthy pregnancies and periods



Everyone is at risk from eating chemically polluted fish, but some people are more at risk than others. You are either in the LOW RISK group or the HIGH RISK group based on the risks to your health. **Read the following section to find out which Risk Group you are in.**

To learn more about common chemicals in fish and their effect on human health, read page 58-59.

Know Your Risk Group

There are 2 Risk Groups

Learning about Risk Groups is an important part of following the advice in this guide.



LOW RISK

Men 15 years and over

Women 50 years and over

Women under 50 who WILL NOT become pregnant in the future



HIGH RISK

Babies and children under 15

Pregnant women

Breastfeeding babies and their mothers

Women who may become pregnant in the future

Adults with serious health problems

The Risk Group symbols will be used in this guide to:

- Explain the health risks of eating chemically polluted fish for different people.
- Show which types of fish you should eat or avoid eating from local waterways affected by pollution. This advice about eating fish from Western New York is called a “Fish Advisory” and is explained in detail starting on page 17.

Why are there two risk groups?

Eating chemically polluted fish affects the health of people in the HIGH RISK Group more than the people in the LOW RISK Group. Under the age of 15, our brains and bodies are still growing and are very sensitive to pollution. After the age of 15, our brains and bodies are more developed and are less affected by pollution. Babies and children under 15 are most at risk from pollution and the advice for the HIGH RISK Group was created to help protect their health.

Adult women can pass pollution in their bodies to their babies during pregnancy and breastfeeding. Women who are pregnant, breastfeeding or who may become pregnant in the future are in the HIGH RISK Group. Women who WILL NOT become pregnant or breastfeed in the future are in the LOW RISK Group.



Men 15 years and over

Men over 15 are less affected by pollution in the fish they eat than women and children. This is because men cannot pass pollution from the fish they eat to a child like a woman can during pregnancy and breastfeeding. However, men should still be careful about which fish they eat. Certain chemicals in fish may lower the quality of sperm and make it harder to have a baby, or affect the brain and other organs.

The advice for women in the LOW RISK group is based on the fact that they WILL NOT become pregnant or breastfeed in the future and cannot pass the pollution in their bodies to a child.



Women 50 years and over

Women over 50 are past their child-bearing years and are unable to pass pollution in their body to a child like a younger woman can during pregnancy and breastfeeding. However, women over 50 should still be careful about which fish they eat. Certain chemicals in fish may affect the brain and other organs.



Women under 50 who WILL NOT become pregnant in the future

Women under 50 can choose to follow the advice for the LOW RISK group if they are ALL of the following:

- **Not pregnant**
- **Not breastfeeding**
- **WILL NOT become pregnant in the future**

If you are a woman under 50 who does not fit ALL of the above, you are in the HIGH RISK group and should follow the advice for that group.



People from the LOW RISK group with serious health problems still benefit from eating fish, but may be more sensitive to pollution. If you have a serious health problem and eat locally caught fish, protect yourself from pollution by following the advice for the HIGH RISK group in the Fish Advisories for Western New York, starting on page 28.



People with Higher Health Risks from Pollution

People in the HIGH RISK Group are more affected by pollution and should be more careful about the fish they choose to eat. If you are in the HIGH RISK group and eat polluted fish, use the information in this guide to start making healthier choices about the fish you eat today.



Babies and children under 15



Parents need to be careful about which fish they feed their children. The brains and bodies of children under 15 are very sensitive to pollution because they are still growing.

If children eat a lot of polluted fish, harmful chemicals can build up in their bodies and affect how their brains grow and work. They may have problems with memory, attention, motor skills, and language development. These chemicals may also affect a child's ability to fight infection and disease.



Pregnant women



A pregnant woman should be very careful about which fish she eats. The time a baby spends inside of its mother is very important for its health.

If a woman eats a lot of polluted fish before or during pregnancy, she may pass harmful chemicals that have built up in her body to her baby. Babies are very sensitive during this time and these chemicals may affect how their brains and bodies grow and work in the future.

Harmful chemicals may also affect a woman's pregnancy by causing the baby to be born too early and have a lower birth weight.



Breastfeeding babies and their mothers



A woman should be careful about which fish she eats while breastfeeding her baby. If a woman eats a lot of polluted fish before or while breastfeeding, she may pass harmful chemicals that have built up in her body to her baby through her breast milk. These chemicals may affect how a baby's brain and body grows and works.

Even if you have eaten polluted fish in the past, **DO NOT STOP** breastfeeding. Breastfeeding is very important and healthy for babies! Store bought formula does not have the same health benefits to a growing baby as breast milk.



Women who may become pregnant in the future



Women who may become pregnant in the future should be careful about which fish they eat.

If a woman eats a lot of polluted fish before she becomes pregnant, harmful chemicals from these past meals may build up in her body and stay there for many years. These chemicals may be passed to her baby if she becomes pregnant in the future.

What if I do not plan to have a baby in the future?

Pregnancies are not always planned. Women who do not plan on having a baby in the future should still be careful about the fish they eat now. Certain chemicals in fish may stay in your body for 12 years and be passed to your child during pregnancy and breastfeeding in the future.

Women who are unsure about the possibility of becoming pregnant should follow the advice about eating fish for the **HIGH RISK** group. Women who **WILL NOT** become pregnant in the future can choose to follow the advice for the **LOW RISK** group.

How To Make Fish Meals Healthier

Don't stop fishing or eating fish! Protect your health and the health of your family and friends from pollution. Make healthier choices when eating fish from Western New York and learn ways to reduce pollution in your meals.

Follow these steps to make all of your fish meals healthier and less polluted.



Eat fish from waterways that are less polluted and know your local Fish Advisories.

page 17



Choose healthier, less polluted fish. Avoid fish that are known to be more polluted.

page 18



Clean your fish to reduce harmful germs and chemicals.

page 20



Cook your fish to temperatures that kill germs and in ways that reduce harmful pollution.

page 24



Plan your fish meals to balance the risks and benefits of eating fish.

page 26



Follow the advice for your risk group when eating fish from waterways with Specific Fish Advisories.

page 28

Use and share the advice in this guide with friends, family, and anyone you know who fishes or eats locally caught fish.

Eat Fish from Waterways that are Less Polluted

Western New York has many rivers and lakes to enjoy. This includes over 4,000 miles of freshwater streams and rivers, over 24 major lakes, ponds and reservoirs, and over 100 miles of Great Lakes shoreline.

Water pollution is a problem in many of these waterways. There are no known waterways in New York State that are clean enough to eat an unlimited amount of fish from. That is why the Department of Health issues advice called “Fish Advisories” to help people choose which fish to eat and which fish to avoid eating because of pollution. ALL New York State fresh waters have either a General Fish Advisory or a Specific Fish Advisory.

Specific Fish Advisories

Specific Fish Advisories are issued for waterways where some fish have been found to have chemical levels that may be harmful to health. The advice for these waterways also applies to their tributaries (connected rivers and streams) until the first barrier a fish cannot pass, such as a dam or waterfall.

Women under 50 and children under 15 should avoid eating fish caught from most waterways with Specific Advisories. Waterways in Western New York with Specific Fish Advisories are listed on pages 28-49.

General Fish Advisories

General Fish Advisories are issued for ALL fresh waterways that do not have Specific Fish Advisories or are not tributaries (connected rivers and streams) of waterways with Specific Fish Advisories.

Everyone in the family can enjoy up to four fish meals a month from waterways with General Advisories. Western New York waterways that are not listed on pages 28-49 have a General Advisory.

To learn more about how Fish Advisories are made, read page 64.



Consider fishing and eating fish from Lake Erie!

Easy to get to by car or bus, Lake Erie provides great fishing and many types of fish that can be enjoyed by the whole family. To learn more, read the Lake Erie Fish Advisory on page 32.



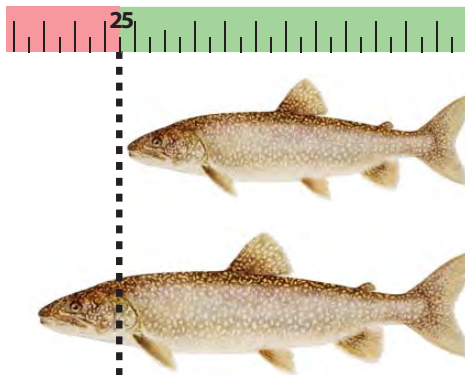
Choose Healthier, Less Polluted Fish

You cannot see, smell, or taste most chemical pollution in fish. That is why it is important to remember these tips when choosing which fish to eat. Use this information to make healthy choices about the fish you eat from ALL New York State waterways.

Choose smaller, younger fish

When deciding which fish to eat, choose smaller, younger fish within a species because they tend to be less polluted than larger, older fish. Larger, older fish tend to be more polluted because they have had more time to build up pollution in their bodies than smaller, younger fish.

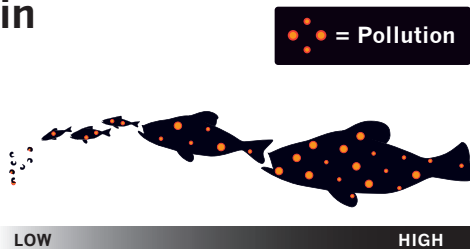
Example: A lake trout over 25 inches tends to be more polluted than one under 25 inches. That is why the advice about eating lake trout from the Lower Niagara River and Lake Ontario (p.44 and p.46) is based on size.



Keeping smaller fish is a healthy choice, but always follow local size and season regulations. To learn more, read page 50.

Choose fish lower on the food chain

Fish lower on the food chain tend to have less chemicals than fish that are higher on the food chain. Predatory fish build up more chemicals because they eat other fish and are higher on the food chain. To learn more about the food chain, read page 9.



Choose panfish

Panfish tend to be less polluted because they are lower on the food chain. Common Western New York panfish include:



Black Crappie



Bluegill



Pumpkinseed



Rock Bass



Yellow Perch

Avoid Eating Polluted Fish



The following fish tend to build up more harmful chemicals in their bodies than other fish. A black diamond ♦ will be used in the rest of this guide to remind you to avoid or eat less of these fish to better protect your health from pollution.

♦ Avoid predatory fish

Predatory fish are higher on the food chain and naturally build up more chemical pollution, such as mercury, in their bodies. Avoid or eat less of the following predatory fish:



Northern Pike



Smallmouth Bass



Walleye



Largemouth Bass

♦ Avoid fattier fish

Harmful chemicals such as PCBs, Dioxin, and Mirex build up in the fat of fish. The following fish are naturally fattier and are known to build up more chemicals in their bodies than other fish. Avoid or eat less of the following fatty fish:



Channel Catfish



Chinook Salmon



Coho Salmon



Common Carp



Lake Trout



White Perch

The New York State Department of Health does not use a diamond symbol in their advisory tables, but does advise to avoid or eat less of these fish to better protect your health from pollution.



Clean Fish to Reduce Pollution

Why should I clean my fish? *Cleaning fish can reduce germs and chemical pollution from your meal. "Cleaning fish" refers to the way fish is cut and prepared before cooking and eating. It does not mean washing or soaking fish. Washing and soaking fish will not remove most pollution in and on the fish you eat.*

How to reduce germs and keep your fish fresh

Keep fish cool before you clean it.

Keep your fish cool with ice or refrigerated below 45°F until you are ready to clean them. This will keep the fish fresh and reduce the spread of germs.

Clean and gut your fish as soon as possible after catching.

Do not freeze your fish whole or wait until the skin is dry and brittle before cleaning. The fresher the fish, the easier it is to clean. When gutting the fish, throw the guts away and do not touch or eat any of the contents. Guts can contain germs and chemicals. If any organs are punctured during gutting, rinse out the fish immediately.

Wash hands, knives and work surfaces before and after cleaning.

Wash everything that comes in contact with raw fish with soap and warm water before and after cleaning and cooking. This will help control the spread of germs.

Always wear gloves during cleaning.

Gloves will protect you from germs that may still be in or on the fish.

Store raw fish in a clean container before and after cleaning.

Fish can be stored for up to two days, if fresh. If fish will not be eaten within two days, wrap it tightly in foil, plastic wrap, or moisture-proof paper and store in the freezer.

Separate raw fish from other foods before, during, and after cleaning.

Keep raw fish away from foods that are ready to eat to stop the spread of germs.



PCBs, Dioxin and Mirex build up in the fatty parts of the fish.

You CAN remove almost half of these chemicals from your meal by cutting off and throwing away ALL fatty parts of the fish.

How to reduce chemicals in your fish meals

Remove the guts.

The intestines and other organs are very fatty and contain many chemicals. These parts should be removed and thrown away.

Fillet the fish.

A skinless fish fillet is the healthiest and least polluted part of the fish. Filleting a fish refers to cutting and removing the meat from both sides of the fish, between the head and tail. Do not eat the head and other parts of the fish left over after filleting. These parts are fatty and contain more chemicals.

Cut off the skin and extra fat from the fillet.

The skin and lateral lines (the dark tissue on the side of the fish) are very fatty and contain many chemicals. Slice off and throw away the skin and lateral lines before cooking.

Mercury builds up in the muscle of fish, not in the fat.

You CANNOT remove mercury by cleaning your fish because muscle makes up most of the meat we eat.

How to reduce Mercury in your fish meals

The only way to reduce the amount of mercury you and your family eat is to choose fish that are lower in mercury.

Choose locally caught fish that are lower in mercury.

Panfish tend to be lower in mercury because they are lower on the food chain. For a list of common local panfish, read page 18.

Choose restaurant and store-bought fish that are lower in mercury.

To learn more, read “How to choose fish from stores and restaurants” on page 56.



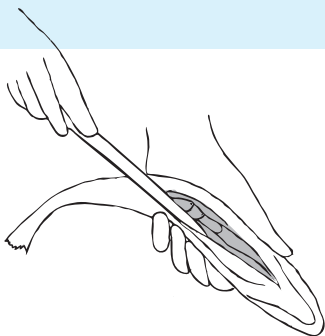
How to Clean Your Fish

There are many different ways to clean your fish. One way to clean your fish is shown below.

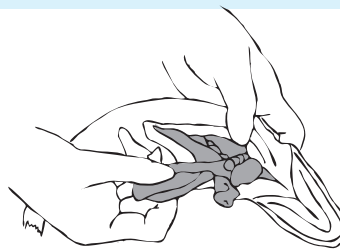


Always use a very sharp knife and cut away from your hands.

- 1** To gut the fish, insert only the tip of the knife into the vent on the bottom of the fish. Run the knife tip up toward the head. Be careful not to puncture the guts!



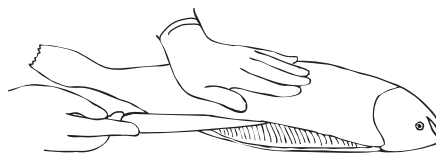
- 2** Pull out the guts and cut out any that cannot be removed by hand. Rinse out the fish. Throw the guts away.



- 3** Make a cut behind the head and the gills on one side of the fish.



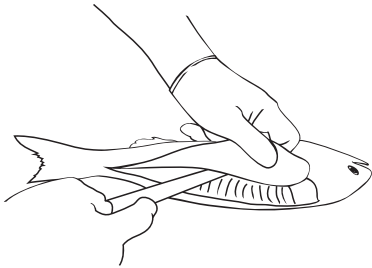
- 4** Starting at this cut, run the knife down the backbone of the fish, below the fins, all the way to the tail.



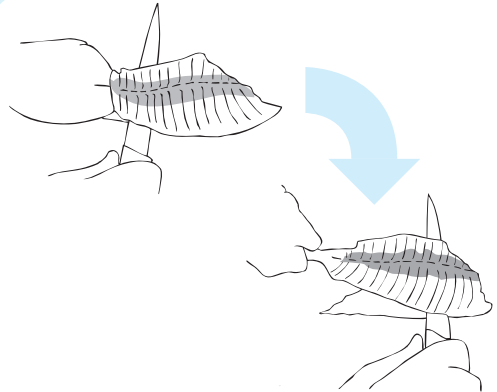
How to Clean Your Fish



5 Begin slicing off the fillet, peeling it back as you cut. Guide the knife across the bones as you separate the fillet meat from the fish. Keep the blade angled down. You have now cut a fillet! Flip the fish over and remove the other fillet.

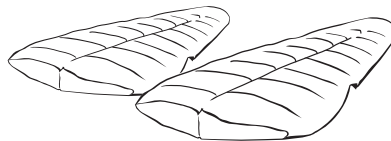


6 Place the fillet on the cutting board skin side down. Make a small cut between the skin and the meat at the tail end of the fillet. Holding the skin, work the knife down the length of the fillet until the rest of the skin is separated from the meat. Throw the skin away.



7 To remove more chemical pollution from your meal, cut off the dark, fatty tissue from the sides and top of the fillet. To remove bones, feel along the fillet and pull out any remaining bones with tweezers.

8 You now have two skinless fillets of fish. **Use only the skinless fillet in all of your fish meals because this part of the fish contains the least amount of chemical pollution.**





Cook Your Fish to Reduce Pollution

Healthy Cooking Tips

Do not use the fatty parts that have been removed during cleaning.

Fatty parts such as the guts, head, skin, belly, and lateral lines (the dark tissue on the side of the fish) contain many chemicals. Some parts, such as the intestines, also contain harmful germs. Do not cook or eat these parts. Throw them away.

Use only the skinless fillet when cooking.

A skinless fillet makes the healthiest meal because it has the least amount of fat and chemicals. Remove chemicals in your fish meals from the start by using only the skinless fillet during cooking.

Cook fish to an internal temperature of 140°F in the thickest part.

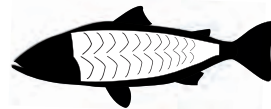
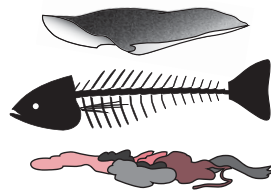
Raw or undercooked fish may still contain germs, even after proper cleaning. Heat from cooking will kill these germs.

Cook fish in a way that allows fat to drip away.

Some harmful chemicals may still remain in the fat inside of the fish fillet. Heat from cooking will NOT destroy these chemicals. However, heat from cooking will cause some of this fat to melt out and drip away. Using a rack during cooking allows more fat to drip away from the fish.

Do not use cooking liquids and fats to make sauces or gravies.

The fat that drips away during cooking contains harmful chemicals. The water, oil or butter that the fish is cooked in will also contain fat and chemicals. Throw away all cooking liquids and fats.



Cook Your Fish to Reduce Pollution



There are many different ways to prepare and cook your fish. Some ways are healthier than others because they remove the most chemicals from your fish.

The more fat that drips off and away from the fish during cooking the fewer chemicals you and your family will eat. Choose cooking methods that allow the most fat to drip away.

Good at removing chemicals from fish

Grill
Bake
Broil
Steam



These cooking methods are healthier because they allow the most fat to drip off and away from the fish.

Cook the fish on a rack to separate it from cooking liquid and any fat that has dripped off.

Do not use the cooking liquids and fats to make sauces or gravies. They contain chemicals that have just dripped away.

Bad at removing chemicals from fish

Soups
Stews
Broths
Curry
Chowders
Deep-fry



These cooking methods do not remove as many chemicals because they do not allow the extra fat to drip off and away from the fish.

Soups, stews, broths, curries and chowders hold the fat and chemicals in the cooking liquid.

Deep-frying fish in batter traps the fat and chemicals in the fish during cooking.

Use only the skinless fillet to make these fish meals healthier.

Enjoy all of these methods from time to time, but choose healthier cooking methods more often to limit chemicals in your meals.



Plan Your Fish Meals

Eating fish is healthy, but eating a lot of polluted fish may be harmful to your health. Planning your locally caught fish meals will help you reduce your health risks from pollution. Planning includes spacing out your fish meals over time and controlling how much fish you eat during one meal. Following this advice will help your body better manage any health risks from pollution.

How often should I eat locally caught fish?

This depends on where the fish was caught, what type of fish you plan to eat, and which Risk Group you are in. The Fish Advisories in this guide will give you advice about how often you should eat locally caught fish, and which fish you should avoid eating because of pollution. As discussed on page 17, all fresh waterways in New York State have either a General or Specific Fish Advisory.

How often should I eat fish from waterways with a General Fish Advisory?

Everyone in the family can eat up to four fish meals each month, spaced out to one fish meal each week, of fish from waterways with a General Advisory.

How often should I eat fish from waterways with a Specific Fish Advisory?

If you are going to eat fish from waterways listed on pages 28–49, carefully read all Specific Advisory information. The tables shown on these pages explain how often you and your family should eat certain fish, and which fish you should avoid. This is called meal spacing advice. There are three different kinds of advice, shown on the key below. This key is included for each waterway with a Specific Advisory to help you plan your fish meals.

4	=	4 meals per month (Up to 1 meal each week)	
1	=	1 meal per month	
X	=	DO NOT EAT	

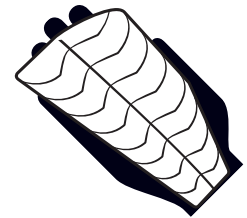


This guide uses the word “meal” to explain how much fish you should eat at one time. Eat the right sized fish meal to limit the risk to your health from chemical pollution in fish.

How much fish should I eat in a meal?

Adults

A meal is up to a half a pound of fish, or 8 ounces. An 8-ounce, uncooked fish fillet is about the size and thickness of two decks of cards, or an adult hand. Adults may choose to eat smaller fish meals, like two 4-ounce servings per week, or eat all 8 ounces in one meal.



8 ounce fish fillet

Children under 15

A meal is up to a quarter of a pound of fish, or 4 ounces. A 4-ounce, uncooked fish fillet is about the size and thickness of one deck of cards, or an adult hand without the fingers. Children can eat some locally caught fish, but should eat smaller fish meals than adults. Children should not eat any fish from waterways with Specific Fish Advisories except for Lake Erie and its tributaries.



4 ounce fish fillet



Adult hand



8 ounces of uncooked fish = 6 to 7 ounces after it is cooked.

Fish Advisories for Western New York Waterways

The following section covers all waterways in Western New York with Specific Fish Advisories. The Department of Health issues Specific Fish Advisories for waterways where some fish have been found to have chemical pollution levels that may be harmful to your health. This guide was not made by the Department of Health, but was developed using their health advisories for Western New York and “Tips for Healthier Eating” from 2012 – 2013.

To learn more about how Fish Advisories are made, read page 64.

Waterways in Western New York with Specific Fish Advisories	Page
Lake Erie	34
Buffalo River and Harbor	36
Upper Niagara River (before Niagara Falls)	38
Hoyt Lake in Delaware Park	40
Cayuga Creek	41
Erie Canal and Tonawanda Creek	42
Lewiston Power Reservoir	44
Lower Niagara River (after Niagara Falls)	46
Lake Ontario	48
Eighteen Mile Creek (in Niagara County)	50

The advice for these waterways also applies to their tributaries (connected rivers and streams) until the first barrier a fish cannot pass, such as a dam or waterfall. All waterways in Western New York with Specific Fish Advisories are shown in red on the map to the left.

ALL fresh waterways with no Specific Fish Advisory have a General Fish Advisory.



Everyone in the family can enjoy up to four fish meals a month from waterways with General Advisories. To learn more, read page 17.

Fish Advisories for Western New York Waterways



Water		Water with Specific Fish Advisory	
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How To Use Fish Advisories in This Guide

Follow the Specific Fish Advisories for Western New York to make healthier choices about the locally caught fish you and your family and friends eat.

Use the Specific Fish Advisories in this guide by asking yourself these 4 questions:

1

Where was this fish caught?

2

Which risk group am I in?

3

What kind of fish do I plan to eat?

Waterway

Common fish	Low Risk	High Risk
Burbot	4	4
Channel Catfish *	4	1
Chinook Salmon (under 19") *	4	4

4

What is the meal spacing advice for my Risk Group?

Each Specific Fish Advisory in this guide is divided into its own section. Each section contains:

- Common fish found in the advisory waterway.
- Advice for how often to eat these fish for the LOW RISK and HIGH RISK groups.
- Map highlighting the advisory waterway and affected tributaries in red.
- List of major tributaries that have the same Fish Advisory.
- List of the major types and sources of pollution in the advisory waterway.

How To Use Fish Advisories in This Guide

There are 2 Risk Groups

You need to know which group you are in to follow Fish Advisories.



LOW RISK

Men 15 years and over

Women 50 years and over

Women under 50 who WILL NOT become pregnant in the future

To learn more about Risk Groups, read pages 12 – 15



HIGH RISK

Babies and children under 15

Pregnant women

Breastfeeding babies and their mothers

Women who may become pregnant in the future

Adults with serious health problems

This key shows how many fish meals you can eat each month from waterways with Specific Fish Advisories. The numbers and colors on this key are the same as those used in the advisory tables in the next section. This key is included for each waterway with a Specific Advisory to help you plan your fish meals.

4	=	4 meals per month (Up to 1 meal each week)	
1	=	1 meal per month	
X	=	DO NOT EAT	

- ◆ **A black diamond symbol** was added to all Specific Fish Advisory tables for fish which are known to naturally build up more chemical pollution in their bodies than others. The Department of Health does not use these symbols in their advisory tables, but does advise to avoid or eat less of these fish to better protect your health from pollution.

Lake Erie



Common fish



Low Risk



High Risk

Burbot	4	4
Channel Catfish ◆	4	X
Chinook Salmon (under 19") ◆	4	1
Chinook Salmon (over 19") ◆	4	1
Common Carp ◆	4	X
Freshwater Drum (Sheepshead)	4	1
Gizzard Shad	4	1
Lake Trout ◆	4	1
Lake Whitefish	4	1
Largemouth Bass ◆	4	1
Muskellunge	4	1
Northern Pike ◆	4	1
Rainbow Trout (Steelhead)	4	1
Redhorse Sucker	4	1
Rock Bass	4	4
Smallmouth Bass ◆	4	1
Walleye ◆	4	1
White Bass	4	1
White Perch ◆	4	1
White Sucker	4	1
Yellow Perch	4	4
All other fish species	4	1

◆ Avoid or eat less of these fish. These fish are known to naturally build up more chemical pollution in their bodies than others. To learn more about these fish, read page 19.

X = DO NOT EAT

1 = 1 meal per month

4 = 4 meals per month
(Up to 1 meal each week)

Updated as of October 10, 2012



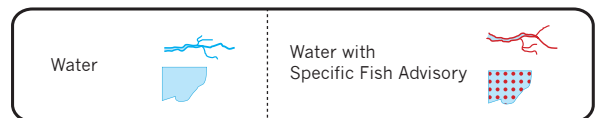
Lake Erie



This map shows the Specific Fish Advisory for Lake Erie and its tributaries in New York State. All waterways with this advisory are shown in red. The Buffalo River and the Upper Niagara River (shown in blue) each have their own Specific Fish Advisory.

The advice about eating fish from Lake Erie applies to all of its New York tributaries until the first barrier a fish cannot pass, such as a dam or waterfall. Some of these include:

- Big Sister Creek
- Cattaraugus Creek
- Chautauqua Creek
- Clear Creek
- Delaware Creek
- Eighteen Mile Creek
(Erie County)
- Little Sister Creek
- Rush Creek
- Silver Creek
- Smokes Creek



Major Types and Sources of Pollution: PCBs, polluted sediment, past and present industrial wastewater and dumping, farm runoff, sewage pollution, and stormwater runoff.

Buffalo River and Harbor



Common fish



Low Risk



High Risk

Common fish	Low Risk	High Risk
Black Crappie	4	X
Bluegill	4	X
Bowfin	4	X
Brown Bullhead	4	X
Channel Catfish ◆	4	X
Common Carp ◆	X	X
Freshwater Drum (Sheepshead)	4	X
Gizzard Shad	4	X
Largemouth Bass ◆	4	X
Muskellunge	4	X
Northern Pike ◆	4	X
Pumpkinseed	4	X
Rainbow Trout (Steelhead)	4	X
Redhorse Sucker	4	X
Rock Bass	4	X
Smallmouth Bass ◆	4	X
Smelt	4	X
White Bass	4	X
White Perch ◆	4	X
White Sucker	4	X
Yellow Perch	4	X
All other fish species	4	X

◆ Avoid or eat less of these fish. These fish are known to naturally build up more chemical pollution in their bodies than others. To learn more about these fish, read page 19.

X = DO NOT EAT

1 = 1 meal per month

4 = 4 meals per month
(Up to 1 meal each week)

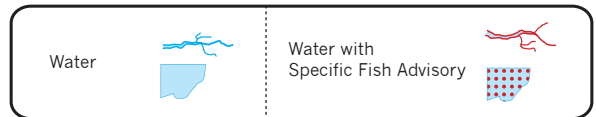
Buffalo River and Harbor



This map shows the Specific Fish Advisory for the Buffalo River, Harbor and their tributaries. All waterways with this advisory are shown in red. Lake Erie and the Upper Niagara River (shown in blue) each have their own Specific Fish Advisory.

The advice about eating fish from the Buffalo River and Harbor applies to all of their tributaries until the first barrier a fish cannot pass, such as a dam or waterfall. These include:

- Buffalo Creek
- Cayuga Creek
- Cazenovia Creek
(East and Main Branch)
- Slate Bottom Creek



Major Types and Sources of Pollution: PCBs, polluted sediment, past and present industrial wastewater and dumping, farm runoff, sewage pollution, and stormwater runoff.

The Buffalo River is an Area of Concern in the Great Lakes. To learn more about the progress of cleanup efforts, call Buffalo Niagara WATERKEEPER® at (716) 852-7483.

Upper Niagara River before Niagara Falls



Common fish



Low Risk



High Risk

Black Crappie	4	X
Bluegill	4	X
Bowfin	4	X
Brown Bullhead	4	X
Common Carp ◆	1	X
Freshwater Drum (Sheepshead)	4	X
Largemouth Bass ◆	4	X
Muskellunge	4	X
Northern Pike ◆	4	X
Pumpkinseed	4	X
Rainbow Trout (Steelhead)	4	X
Redhorse Sucker	4	X
Rock Bass	4	X
Smallmouth Bass ◆	4	X
Smelt	4	X
Walleye ◆	4	X
White Bass	4	X
White Perch ◆	4	X
White Sucker	4	X
Yellow Perch	4	X
All other fish species	4	X

◆ Avoid or eat less of these fish. These fish are known to naturally build up more chemical pollution in their bodies than others. To learn more about these fish, read page 19.

X = DO NOT EAT

1 = 1 meal per month

4 = 4 meals per month
(Up to 1 meal each week)



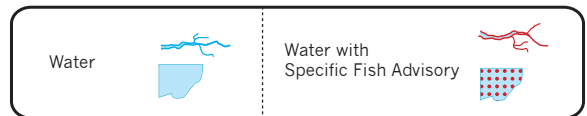
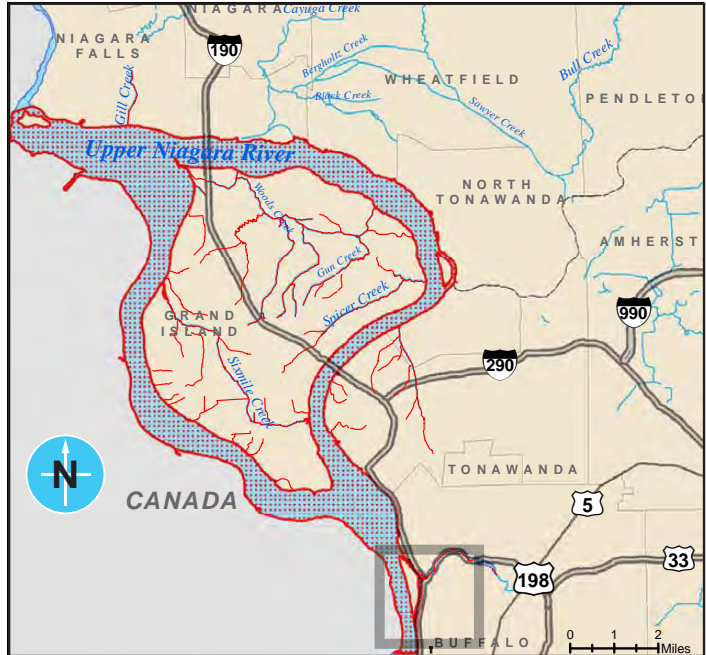
Upper Niagara River before Niagara Falls



The large map shows the Specific Fish Advisory for the Upper Niagara River and its tributaries. All waterways with this advisory are shown in red. The small map focuses on Squaw Island, Broderick Park (Foot of Ferry), and the Bird Island Pier, which also have the same advisory. Lake Erie and the Upper Niagara River (shown in blue) each have their own Specific Fish Advisory.

The advice about eating fish from the Upper Niagara River applies to all of its tributaries until the first barrier a fish cannot pass, such as a dam or waterfall. These include:

- Black Rock Canal
- Big Burnt Ship Creek
- Gill Creek
- Gun Creek
- Beaver Island Lagoon
- Scajaquada Creek
- Six Mile Creek
- Spicer Creek
- Two Mile Creek
- Wood Creek



Major Types and Sources of Pollution: PCBs, polluted sediment, past and present industrial wastewater and dumping, sewage pollution, and stormwater runoff.

The Niagara River is an Area of Concern in the Great Lakes. To learn more about the progress of cleanup efforts, call Mark Filipksi at New York State Department of Environmental Conservation at (716) 851-7220.

Erie Canal and Tonawanda Creek



Common fish



Low Risk



High Risk

Black Crappie	4	X
Bluegill	4	X
Bowfin	4	X
Brown Bullhead	4	X
Channel Catfish ◆	4	X
Common Carp ◆	1	X
Freshwater Drum (Sheepshead)	4	X
Largemouth Bass ◆	4	X
Muskellunge	4	X
Northern Pike ◆	4	X
Pumpkinseed	4	X
Rainbow Trout (Steelhead)	4	X
Redhorse Sucker	4	X
Rock Bass	4	X
Smallmouth Bass ◆	4	X
Walleye ◆	4	X
White Sucker	4	X
Yellow Perch	4	X
All other fish species	4	X

◆ Avoid or eat less of these fish. These fish are known to naturally build up more chemical pollution in their bodies than others. To learn more about these fish, read page 19.



X = DO NOT EAT

1 = 1 meal per month

4 = 4 meals per month
(Up to 1 meal each week)

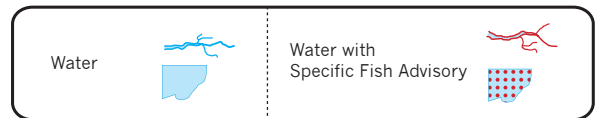
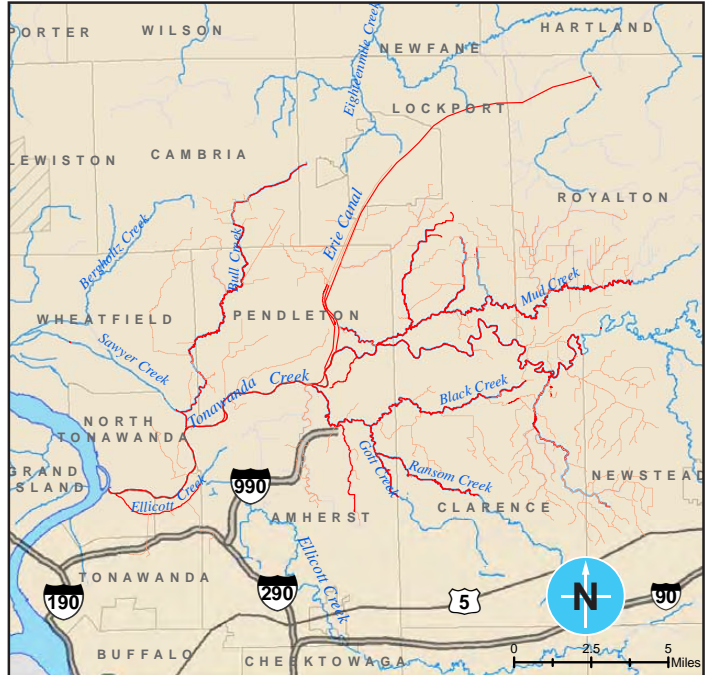
Erie Canal and Tonawanda Creek



This map shows the Specific Fish Advisory for Erie Canal, Tonawanda Creek and their tributaries. All waterways with this advisory are shown in red. The Upper Niagara River, Cayuga Creek, and Eighteen Mile Creek (shown in blue) each have their own Specific Fish Advisory.

The advice about eating fish from Erie Canal and Tonawanda Creek applies to all of their tributaries between Lockport and the Upper Niagara River until the first barrier a fish cannot pass, such as a dam or waterfall. These include:

- Barge Canal
- Beeman Creek
- Black Creek
- Bull Creek
- Ellicott Creek
- Gott Creek
- Mud Creek
- Ransom Creek
- Sawyer Creek

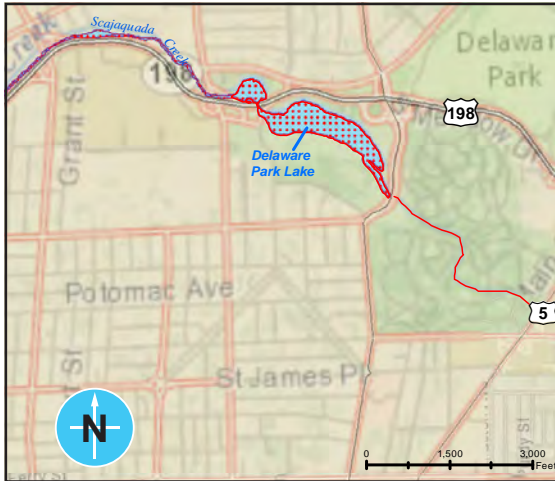


Major Types and Sources of Pollution: PCBs, polluted sediment, farm runoff, past and present industrial wastewater and dumping, sewage pollution, and stormwater runoff.



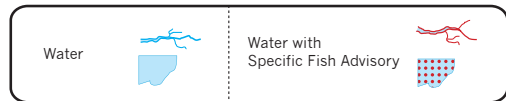
Hoyt Lake in Delaware Park

This map shows the Specific Fish Advisory for Hoyt Lake in Delaware Park. All waterways with this advisory are shown in red. Scajaquada Creek has the same advisory due to frequent overflow into and out of Hoyt Lake during heavy rainstorms.



The advice about eating fish from Hoyt Lake in Delaware Park also applies to Scajaquada Creek until the first barrier a fish cannot pass, such as a dam or waterfall.

Major Types and Sources of Pollution: PCBs, polluted sediment, stormwater runoff, and sewage pollution.



Common fish



Low Risk



High Risk

Bluegill	4	X
Brown Bullhead	4	X
Common Carp ♦	1	X
Gizzard Shad	4	X
Green Sunfish	4	X
Pumpkinseed	4	X
Rock Bass	4	X
White Bass	4	X
White Sucker	4	X
All other fish species	4	X

♦ Avoid or eat less of these fish. These fish are known to naturally build up more chemical pollution in their bodies than others. To learn more about these fish, read page 19.

X = DO NOT EAT

1 = 1 meal per month

4 = 4 meals per month
(Up to 1 meal each week)



Cayuga Creek



This map shows the Specific Fish Advisory for Cayuga Creek and its tributaries. All waterways with this advisory are shown in red. The Upper Niagara River, Lower Niagara River, Lewiston Power Reservoir, Erie Canal, and Tonawanda Creek (shown in blue) each have their own Specific Fish Advisory.

The advice about eating fish from Cayuga Creek applies to all of its tributaries until the first barrier a fish cannot pass, such as a dam or waterfall. These include:

- Black Creek
- Bergholtz Creek
- Little Niagara River

Major Types and Sources of Pollution: Dioxin, ground water pollution, polluted sediment, farm runoff, past and present industrial wastewater and dumping (Love Canal).



Common fish

	Low Risk	High Risk
Black Crappie	X	X
Bluegill	X	X
Brown Bullhead	X	X
Common Carp ◆	X	X
Largemouth Bass ◆	X	X
Northern Pike ◆	X	X
Pumpkinseed	X	X
Rock Bass	X	X
White Sucker	X	X
All other fish species	X	X

◆ Avoid or eat less of these fish. These fish are known to naturally build up more chemical pollution in their bodies than others. To learn more about these fish, read page 19.

X = DO NOT EAT

1 = 1 meal per month

4 = 4 meals per month
(Up to 1 meal each week)



Lewiston Power Reservoir



Common fish



Low Risk



High Risk

Common fish	Low Risk	High Risk
Bluegill	4	X
Brown Bullhead	4	X
Brown Trout	4	X
Channel Catfish ◆	4	X
Coho Salmon ◆	4	X
Common Carp ◆	X	X
Freshwater Drum (Sheepshead)	4	X
Largemouth Bass ◆	4	X
Muskellunge	4	X
Northern Pike ◆	4	X
Pumpkinseed	4	X
Rainbow Trout (Steelhead)	4	X
Rock Bass	4	X
Smallmouth Bass ◆	4	X
Smelt	4	X
Yellow Perch	4	X
White Bass	4	X
White Sucker	4	X
All other fish species	4	X

◆ Avoid or eat less of these fish. These fish are known to naturally build up more chemical pollution in their bodies than others. To learn more about these fish, read page 19.



X = DO NOT EAT

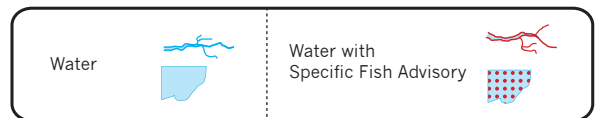
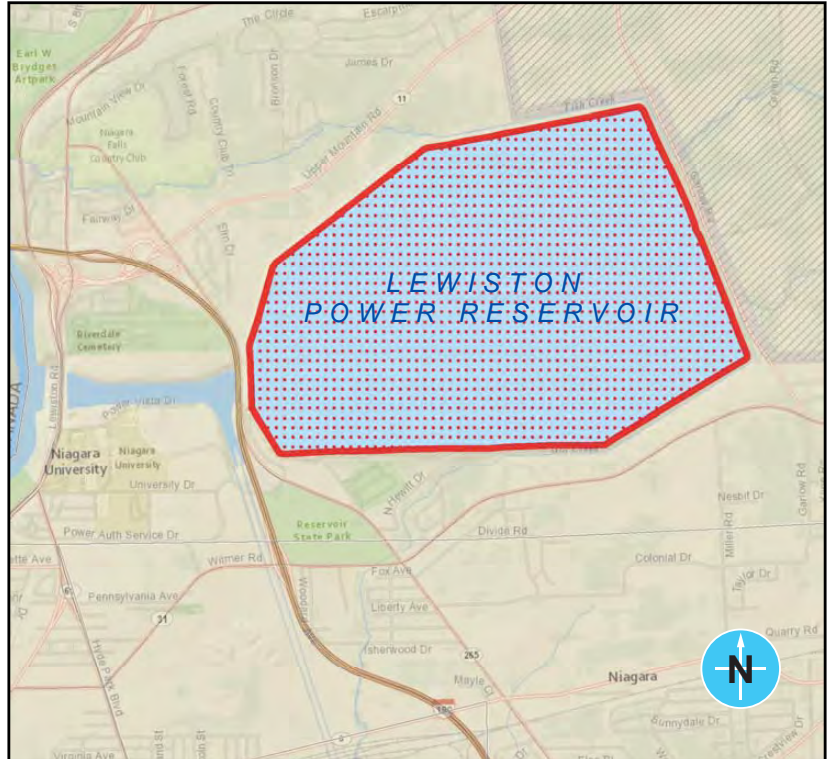
1 = 1 meal per month

4 = 4 meals per month
(Up to 1 meal each week)

Lewiston Power Reservoir



This map shows the Specific Fish Advisory for the Lewiston Power Reservoir shown in red. The Lewiston Power Reservoir does not have any tributaries. This waterway was issued a Specific Fish Advisory in 2012. Parts of the Lower Niagara River and Cayuga Creek (shown in blue) each have their own Specific Fish Advisory.



Major Types and Sources of Pollution: PCBs, polluted sediment, past and present industrial wastewater and dumping, sewage pollution, and stormwater runoff. The Upper Niagara River (before Niagara Falls) is the primary source of water flowing into the Lewiston Reservoir and so major types and sources of pollution in both waterways are largely the same.

Lower Niagara River after Niagara Falls



Common fish



Low Risk



High Risk

Atlantic Salmon	4	X
Black Crappie	4	X
Bluegill	4	X
Bowfin	4	X
Brown Bullhead	4	X
Brown Trout (under 20")	1	X
Brown Trout (over 20")	X	X
Channel Catfish ♦	X	X
Chinook Salmon ♦	1	X
Coho Salmon (under 25") ♦	4	X
Coho Salmon (over 25") ♦	1	X
Common Carp ♦	X	X
Freshwater Drum (Sheepshead)	4	X
Lake Trout (under 25") ♦	1	X
Lake Trout (over 25") ♦	X	X
Largemouth Bass ♦	4	X
Muskellunge	4	X
Northern Pike ♦	4	X
Pumpkinseed	4	X
Rainbow Trout (Steelhead)	1	X
Redhorse Sucker	4	X
Rock Bass	4	X
Smallmouth Bass ♦	1	X
Smelt	4	X
Walleye ♦	4	X
White Bass	4	X
White Perch ♦	X	X
White Sucker	1	X
Yellow Perch	4	X
All other fish species	4	X

♦ Avoid or eat less of these fish. These fish are known to naturally build up more chemical pollution in their bodies than others. To learn more about these fish, read page 19.

X = DO NOT EAT

1 = 1 meal per month

4 = 4 meals per month
(Up to 1 meal each week)



Lower Niagara River

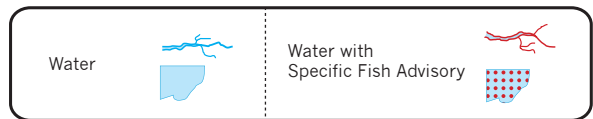
after Niagara Falls



This map shows the Specific Fish Advisory for the Lower Niagara River and its tributaries. All waterways with this advisory are shown in red. The Upper Niagara River, Cayuga Creek, Lewiston Power Reservoir, Erie Canal Tonawanda Creek, and Lake Ontario (shown in blue) each have their own Specific Fish Advisory.

The advice for eating fish from the Lower Niagara River applies to all of its tributaries until the first barrier a fish cannot pass, such as a dam or waterfall. These include:

Fish Creek



Major Types and Sources of Pollution: PCBs, Mirex, Dioxin, polluted sediment, past and present industrial wastewater and dumping, farm runoff, sewage pollution, and stormwater runoff. The Niagara River is an Area of Concern in the Great Lakes. To learn more about the progress of cleanup efforts, call Mark Filipksi at the New York State Department of Environmental Conservation at (716) 851-7220.

Lake Ontario in New York State



Common fish



Low Risk



High Risk

Atlantic Salmon	4	X
Black Crappie	4	X
Bluegill	4	X
Bowfin	4	X
Brown Bullhead	4	X
Brown Trout (under 20")	1	X
Brown Trout (over 20")	X	X
Channel Catfish ◆	X	X
Chinook Salmon ◆	1	X
Coho Salmon (under 25") ◆	4	X
Coho Salmon (over 25") ◆	1	X
Common Carp ◆	X	X
Freshwater Drum (Sheepshead)	4	X
Lake Trout (under 25") ◆	1	X
Lake Trout (over 25") ◆	X	X
Muskellunge	4	X
Northern Pike ◆	4	X
Pumpkinseed	4	X
Rainbow Trout (Steelhead)	1	X
Redhorse Sucker	4	X
Rock Bass	4	X
Smallmouth Bass ◆	4	X
Smelt	4	X
Walleye ◆	4	X
White Bass	4	X
White Perch (West of Point Breeze) ◆	X	X
White Perch (East of Point Breeze) ◆	1	X
White Sucker	1	X
Yellow Perch	4	X
All other fish species	4	X

◆ Avoid or eat less of these fish. These fish are known to naturally build up more chemical pollution in their bodies than others. To learn more about these fish, read page 19.

X = DO NOT EAT

1 = 1 meal per month

4 = 4 meals per month
(Up to 1 meal each week)



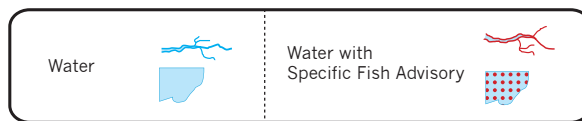
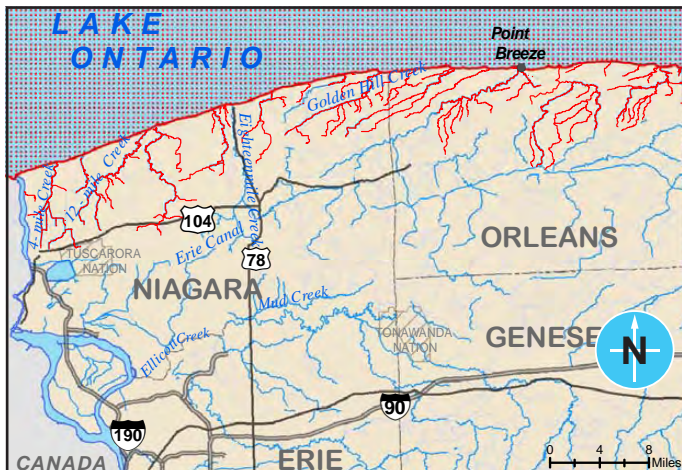
Lake Ontario



This map shows the Specific Fish Advisory for Lake Ontario and its tributaries in New York State. All waterways with this advisory are shown in red. The Upper Niagara River, Lower Niagara River, Cayuga Creek, Lewiston Power Reservoir, Erie Canal and Tonawanda Creek, and Eighteen Mile Creek (shown in blue) each have their own Specific Fish Advisory.

The advice about eating fish from Lake Ontario applies to all of its tributaries until the first barrier a fish cannot pass, such as a dam or waterfall. Some of these include:

- Bald Eagle Creek
- Beardsley Creek
- Fish Creek
- Four Mile Creek
- Golden Hill Creek
- Hopkins Creek
- Johnson Creek
- Keg Creek
- Marsh Creek
- Oak Orchard Creek
- Six Mile Creek
- Syren Creek
- Twelve Mile Creek



Major Types and Sources of Pollution: PCBs, Mirex, Dioxin, polluted sediment, past and present industrial wastewater and dumping, farm runoff, sewage pollution, and stormwater runoff.

Eighteen Mile Creek in Niagara County



Common fish



Low Risk



High Risk

Atlantic Salmon	X	X
Black Crappie	X	X
Bluegill	X	X
Bowfin	X	X
Brown Bullhead	X	X
Brown Trout	X	X
Chinook Salmon ◆	X	X
Coho Salmon ◆	X	X
Common Carp ◆	X	X
Lake Trout ◆	X	X
Largemouth Bass ◆	X	X
Muskellunge	X	X
Northern Pike ◆	X	X
Pumpkinseed	X	X
Redhorse Sucker	X	X
Rock Bass	X	X
Smallmouth Bass ◆	X	X
Rainbow Trout (Steelhead)	X	X
White Sucker	X	X
Yellow Perch	X	X
All other fish species	X	X

◆ Avoid or eat less of these fish. These fish are known to naturally build up more chemical pollution in their bodies than others. To learn more about these fish, read page 19.

X = DO NOT EAT

1 = 1 meal per month

4 = 4 meals per month
(Up to 1 meal each week)



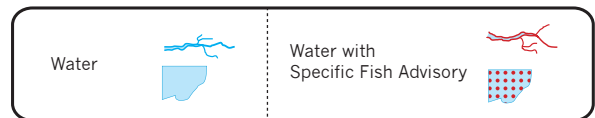
Eighteen Mile Creek in Niagara County



This map shows the Specific Fish Advisory for Eighteen Mile Creek and its tributaries. All waterways with this advisory are shown in red. Erie Canal, Tonawanda Creek, and Lake Ontario (shown in blue) each have their own Specific Fish Advisory.

The advice about eating fish from Eighteen Mile Creek (in Niagara County) applies to all of its tributaries until the first barrier a fish cannot pass, such as a dam or waterfall. These include:

Gulf Creek



Major Types and Sources of Pollution: PCBs, polluted sediment, past and present industrial wastewater and dumping, farm runoff, and stormwater runoff. Eighteen Mile Creek was made a Superfund site in 2012. To learn more about the progress of cleanup efforts, call Victor DiGiacomo at Niagara County Soil and Water Conservation District at (716) 434-4949.

Identify the Fish You Eat from Western New York

Use this section to correctly identify the fish you catch and eat. Identifying your fish can help you, your family, and your friends make healthier choices when eating locally caught fish.

There are at least 165 species of fish known to live in the fresh waters of New York State. This guide shows 30 fish commonly caught in Western New York.

The following pages organize these fish by family and name. Common names for each fish were also added. Under the name of each fish is the typical size range for an adult fish.

For detailed size regulation and season information about locally caught fish, see your regulation book or call the New York State Department of Environmental Conservation in Region 9 at (716) 851-7010.

- ◆ A black diamond symbol was added to all Specific Fish Advisory tables for fish which are known to naturally build up more chemical pollution in their bodies than others. The Department of Health does not use these symbols in their advisory tables, but does advise to avoid or eat less of these fish to better protect your health from pollution. To learn more about these fish, read page 19.



Fish images in this guide were originally prepared by Ellen Edmonson and Hugh Crisp as part of the 1927-1940 New York Biological Survey. Permission for use granted by the New York State Department of Environmental Conservation.

Local Fish

Typical Size Range



Fish Name

Other common names

Family

12 - 39 inches



Chinook Salmon ◆

King Salmon,
Pink Salmon

12 - 30 inches



Coho Salmon ◆

Silver Salmon,
Silvers

10 - 28 inches



Atlantic Salmon

Landlocked Salmon,
Sebago Salmon

12 - 26 inches



Lake Whitefish ◆

Humpback

12 - 31 inches



Lake Trout

Mackinaw, Lake Char,
Togue, Grey Trout,
Speckled Trout

6 - 30 inches



Rainbow Trout

Steelhead, Bow,
Rainbow, Salmon Trout,
Kamloop Trout

6 - 26 inches



Brown Trout

German Brown Trout,
Brown, Brownie
Lockleven Trout

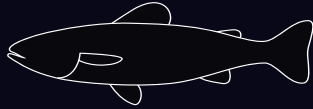
Salmonids

Local Fish

Family

Fish Name

Other common names



Typical Size Range

Pike

Muskellunge

Muskie
'Lunge



28 - 46 inches



Northern Pike

Pike
Jackfish
Pickerel



12 - 24 inches



Walleye

Yellow Walleye
Walleyed Pike
Yellow
Pike Perch



18 - 33 inches

Perch

Yellow Perch

Jackperch
Perch



7 - 12 inches

Temperate Bass

White Bass

Silver Bass



9 - 15 inches



White Perch

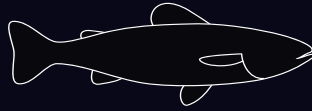
Silver Perch



7 - 9 inches

Local Fish

Typical Size Range



Fish Name

Other common names

Family

10 - 22 inches



Largemouth Bass ◆

Widemouth Bass,
Black Bass, Bigmouth,
Bucketmouth

10 - 20 inches



Smallmouth Bass ◆

Bronzeback, Brownie,
Brown Bass, Smallie,
Bronze Bass

7 - 10 inches



Black Crappie

Crappie, Calico Bass,
Strawberry Bass,
Oswego Bass

6 - 10 inches



Rock Bass

Goggle-eye, Redeye

5 - 10 inches



Bluegill

Bream, Copper Nose,
Brim, Bluegill Sunfish

4 - 8 inches



Pumpkinseed

Pond Perch,
Common Sunfish,
Punkys, Sunnys

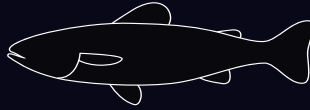
Sunfish

Local Fish

Family

Fish Name

Other common names



Typical Size Range

Catfish

- ◆ **Channel Catfish**
Catfish, Lake Catfish,
Silver Catfish,
Spotted Catfish



14 - 20 inches

- Brown Bullhead**
Bullhead, Mud
Cat, Mud Pout,
Horned Pout, Hornpout,
Bullhead Catfish



8 - 14 inches

Drum

- Freshwater Drum**
Sheepshead, Drum,
Croaker, Grunt



15 - 20 inches

Sucker

- White Sucker**
Sucker, Bay Fish,
Brook Sucker, Mullet



10 - 20 inches

Smelt

- Rainbow Smelt**
Smelt



6 - 8 inches

Local Fish

Typical Size Range



Fish Name

Other common names

Family

14 - 30 inches



Carp



Minnow

2 - 3 inches



Emerald Shiner

Shiner, Minnow

18 - 24 inches



Bowfin

Dogfish

Bowfin

15 - 22 inches



Burbot

Mariah, Ealpout,
The Lawyer

Cod

8 - 14 inches



Gizzard Shad

Mud Shad

Shad

4 - 10 inches



Round Goby

Goby

Goby

How To Choose Fish from Stores and Restaurants

Making the Best Choice

There are many different choices when buying fish from a store or restaurant. Some fish are farm-raised and some are caught in the wild. Sometimes, wild-caught fish are a better choice and other times, farmed fish are a better choice. Fish that are caught or farmed in earth-friendly ways are always the best choice.

When you buy fish from a store or restaurant, ask questions about how it was caught and where it came from. Asking these questions will help you make better choices.

The U.S. Food and Drug Administration (FDA) controls the sale of fish in stores and restaurants. Due to health concerns about mercury, the FDA advises pregnant women, women who may become pregnant, breastfeeding mothers, and young children to avoid:

Shark

Swordfish

King Mackerel

Tilefish

Some of the best store and restaurant choices are:

Buy FARMED

Catfish (U.S.)
Mussels
Oysters
Rainbow Trout (U.S.)
Scallops
Striped Bass (U.S.)

Buy WILD

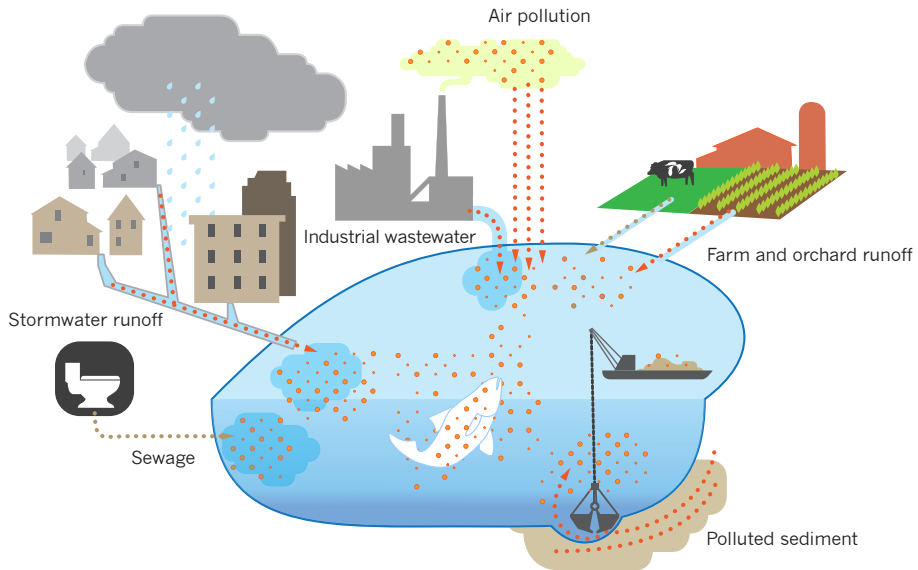
Albacore Tuna/canned “White” tuna
(caught by troll or pole in the U.S. or Canadian Pacific Ocean)
Dungeness or Stone Crab
Halibut (caught in Pacific Ocean by the U.S.)
Salmon (caught in Alaska)
Sardines (caught in Pacific Ocean by the U.S.)
Softshell/Steamer Clams
Striped Bass (caught in the U.S.)
Yellow Perch (Lake Erie)

For more information about mercury in fish and shellfish, call the FDA at 1-888-SAFEFOOD (723-3366).

To learn more about choosing fish from stores and restaurants, go online to www.seafoodwatch.org

Sources of Water Pollution

Water pollution is an important issue everywhere. Waters close to urban or industrial areas are usually the most affected. However, rural and suburban waters can also be very polluted.



There are many sources of pollution in our local waterways. Orange and brown dots were used to show how pollution can enter our waterways and fish. In real life, you cannot see, smell, or taste most of this pollution.

Industrial wastewater that has been dumped into or near waterways.

Air pollution from both local and non-local sources. Air pollution enters the water in many ways, including in rain and snow.

Farm and orchard runoff containing pesticides, herbicides, animal waste, and fertilizers.

Polluted sediment (soil and muck) at the bottom of a waterway. This can be stirred up by erosion or by dredging and maintenance of the waterways.

Sewage from sewer systems overflowing. Combined Sewer Overflows (CSOs) are a major source of water pollution in Western New York.

Stormwater containing oil, gas, and other pollution washed off from hard surfaces, such as roads and rooftops. This happens after rainfall or snowmelt.

Common Types of Chemical Pollution in Fish

Eating large amounts of fish polluted with the following chemicals may have harmful effects on your health over time.

Mercury

Mercury is a metal that occurs in many forms in the environment. Much of the mercury that enters our waterways comes from coal-burning power plants and garbage incinerators, both locally and far away. The type of mercury that builds up in the fish we eat is a harmful form called methylmercury. It builds up in the muscle of fish, not in the fat. Larger, older fish and predatory fish tend to build up more mercury in their bodies over time. Mercury can have many harmful effects on your health over time, including:

- Memory problems
- Hearing and vision changes
- Learning and development problems in babies and children
- Irritability
- Tremors
- Kidney damage
- Damage to the nervous system, brain, and fetus

PCBs

PCBs (polychlorinated biphenyls) are mixtures of chemicals. There are no natural sources of PCBs. PCBs were used in electrical equipment as coolants and lubricants because they insulate well and do not catch fire easily. Old electrical equipment, such as refrigerators, TVs, and fluorescent lights may also contain PCBs. The production and use of PCBs was banned in the U.S. in the 1970s. PCBs are long-lasting and are still found in the environment today. PCBs can have many harmful effects on your health over time, including:

- Acne and skin rashes
- Anemia
- Low birth weight in babies
- Problems with behavior, short-term memory, and motor skills in children
- Learning and development problems in babies and children
- Decreased memory and learning in adults
- Reproductive system changes
- Liver damage
- Cancer

Common Types of Chemical Pollution in Fish

Dioxins and Furans

Dioxins (polychlorinated dibenzo-p-dioxins or PCDDs) and furans (polychlorinated dibenzofurans or PCDFs) are similar groups of chemicals. Dioxins and furans are released from some manufacturing processes, but also from motor vehicle smoke, and the burning of waste, wood, and trash. Dioxins and furans can have many harmful effects on your health, including:

- Skin effects
- Reproductive hormone level changes
- Liver problems
- Impacts to the nervous system, hormone levels, and immune system of children
- Cancer

Chlordane, DDT, Dieldrin, and Mirex

Chlordane, DDT, Dieldrin, and Mirex are all chemicals which were produced and used for many years to kill insects. Mirex was also used as a flame retardant. The use and production of these chemicals was banned in the 1970s and 80s because they were found to be a threat to human and environmental health. These chemicals are long-lasting and are still found in the environment today. They can have many harmful effects on your health over time, including:

- Stomach and intestine problems
- Liver and kidney damage
- Nervous system damage
- Harm to eyes, reproductive system, and thyroid gland

Chemicals of emerging concern

Though millions of pounds of chemicals are produced each year in the US, the effect of many of these chemicals on human health and the environment is unknown. Chemicals of Emerging Concern are chemicals that are still in use, but have recently been found to be toxic or to build up in our bodies and the environment. Many of these chemicals can be found in personal care products we use every day, such as shampoo and fragrance, while others are found in medicines, fertilizers and pesticides. Some chemicals enter our waterway when they are flushed down a toilet or drain, or are washed off of lawns, farms and streets. Fish are not yet tested for most of these chemicals and local fish advisories do not address them.

Western New York Has a Sewage Pollution Problem

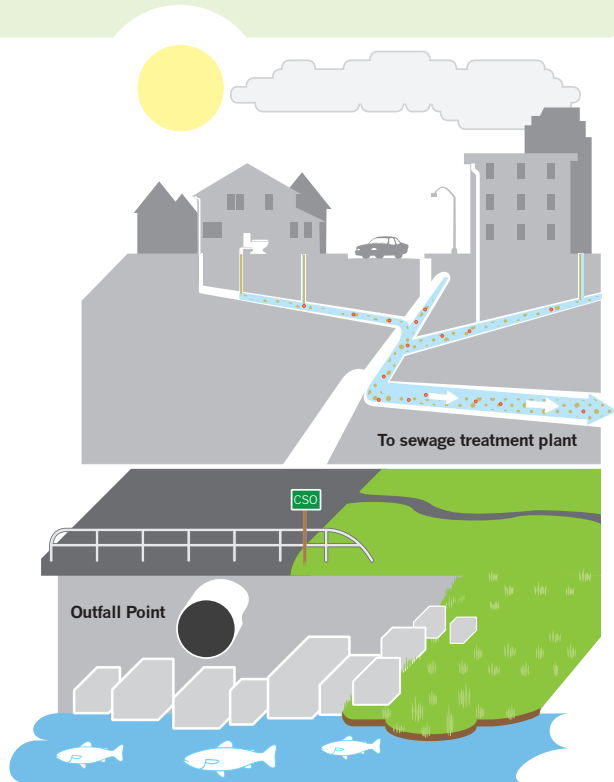
Combined Sewer Overflows (CSOs) are a major source of water pollution in Western New York. Many towns and cities in Western New York have sewer systems that combine sewage and stormwater in the same pipe before treatment. Each year, over four billion gallons of untreated sewage and stormwater are dumped into local waterways when these sewer systems overflow.

Sewage is a mixture of everything that is flushed or poured down the drain. Sewage can contain human feces and urine, medicines and pharmaceuticals, condoms and tampons, and soaps and cosmetics. Harmful chemicals are also sometimes dumped down the drain.

Stormwater is any water that runs off of hard surfaces, such as buildings and roads, and into the sewer. It can contain pesticides and fertilizers which wash off lawns and farms, as well as chemicals and trash which wash off roads and other surfaces when it rains.



In our region, combined sewer outfall points are marked by a green sign.



Combined sewers during dry weather.

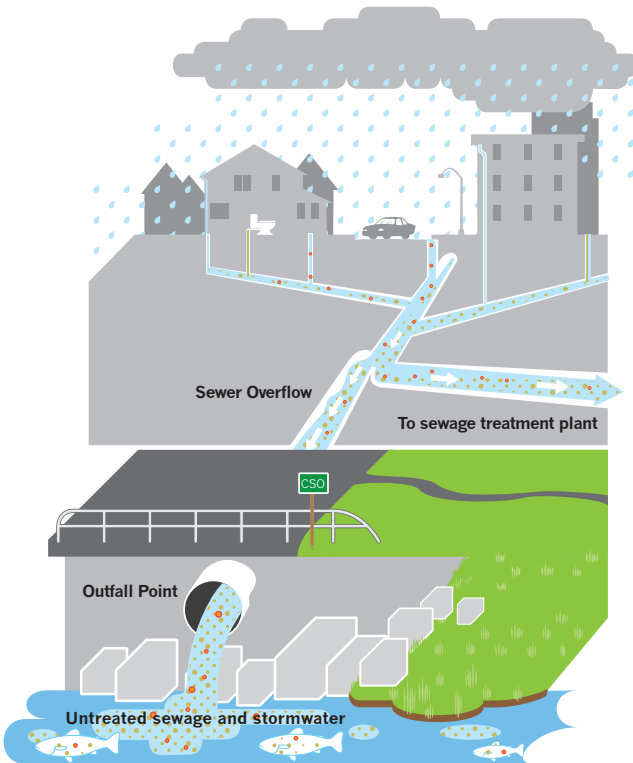
Combined Sewer Overflows

What are Combined Sewer Overflows?

During dry weather, sewage flows through combined sewer pipes underground to a wastewater treatment plant to be cleaned. During heavy rains or snow melt, large volumes of water flow into the sewer as stormwater. Sewage treatment plants can clean a lot of water, but too much stormwater can overload the pipes leading to the plant. When this happens, untreated sewage and stormwater overflow into our waterways through outfall points. This is called a Combined Sewer Overflow.

How do sewer overflows affect me?

Sewer overflows make our water less safe by polluting it with untreated sewage and stormwater containing harmful germs and chemicals. Contact with water polluted by sewer overflows can cause sickness or disease in humans, wildlife and fish.



Combined Sewer Overflow during wet weather.

There are 52 combined sewer outfall points in the Buffalo area that overflow into the following waterways:

- Niagara River
- Black Rock Canal
- Lake Erie
- Buffalo River
- Scajaquada Creek
- Cazenovia Creek
- Cornelius Creek

Many outfall points look like pipes or concrete openings along the shore or wall of a waterway.

Germs and Your Health

Germs are found everywhere in our environment, including in and on our bodies. Germs are invisible agents of disease, such as bacteria and viruses. Humans can come into contact with germs in many ways, including swimming in or drinking polluted water, or touching or eating raw or undercooked fish. Contact with germs in and on fish can make you feel sick right away or within a few days. Health problems may include:

- Infections in ears or eyes, or in open cuts or sores
- Diarrhea and vomiting
- Urinary tract infections

To reduce contact with germs in water and on fish:

Follow the advice in this guide when cleaning and cooking your fish. Read “Clean fish to reduce pollution” on pages 20-21 to learn more.

Do not touch or eat fish or water birds that act strange, or are sick, dying, or dead. They may have a strain of harmful bacteria called botulism. It is best to stay away from these fish and water birds, as they may also have other harmful germs. Read the next page for more information.

Do not swim or fish near pipes that empty into waterways. This is most important during heavy rain and snowmelt and up to three days afterward. Sewage and stormwater pollution increase the level of germs and chemicals in the water. Sewage pollution can come from many sources, including Combined Sewer Overflows. High levels of germs can remain in the water for several days after a sewer overflow event. If you see a sewer overflow event or a pipe with anything flowing out of it, stay away.

Other Local Water Pollution Issues

Fish which look or act strange

Do not eat fish that are deformed or abnormal looking. Eating fish that are abnormal or are obviously diseased (marked by tumors, lesions, or abnormal skin, organs, or meat) may be harmful to your health. The health risks of eating diseased or abnormal fish are not fully known.

Type E Botulism in fish and water birds

Do not touch or eat fish or water birds that act strangely, or are sick, dying, or dead. Botulism poisoning has caused sickness and death in large numbers of fish and water birds in and on the shores of Lake Erie and Lake Ontario. No human cases of botulism poisoning have ever been reported from eating locally caught fish. However, botulism can cause sickness or death in humans and animals. Cooking may not kill botulism in fish, so you should be careful about the fish and birds you eat.

Blue-green algae blooms

Stay away from water with blue-green algae blooms. Blue-green algae are naturally found in lakes and streams. However, blue-green algae can form harmful algal blooms in nutrient-rich water that is warm, shallow, and calm. Contact with large amounts of blue-green algae can be toxic to humans and animals. Contact can cause:

- Nausea
- Vomiting
- Diarrhea
- Skin or throat irritation
- Allergic reactions or breathing difficulties
- Liver or nervous system damage

Avoid swimming, wading, fishing, and eating fish from water with visible blue-green algal blooms. It can be difficult to tell a toxic algae bloom from a non-toxic algae bloom. Blue-green algae blooms can discolor the water by making it look like pea soup or spilled blue, green, or white paint. Blue-green algae blooms can also look like floating dots of algae or green streaks on the water's surface. Rinse skin with clean water if you come into contact with an algal bloom.

For more information about harmful algal blooms, call the New York State Department of Environmental Conservation at (716) 851-7200.

How are New York State Fish Advisories Made?

The Department of Environmental Conservation (DEC) and the Department of Health (DOH) work together to develop fish advisories for eating fish caught in New York State waters. The DEC catches fish from rivers and lakes around the state. These fish are sent to a laboratory to be tested for several chemicals. If test results show levels of chemical pollution in fish from a certain waterway may be harmful to eat, the DOH decides if a fish advisory is needed for that waterway.

It is important to know that:

- **Fish testing does not take place in every New York State waterway.** Fish testing usually focuses on popular fishing spots in waterways that are known or are likely to be polluted.
- **Not all types of fish in New York are tested for pollution.** Testing focuses on the fish most likely caught by people who fish for sport. Other fish may not be tested.
- **Fish are not tested for all types of harmful chemicals.** Fish are only tested for certain chemicals because resources are limited. Many of the new chemicals that enter our waterways every year are untested and their effect on human health and the environment is not yet known.

Why was this guide made?

This guide was made by Buffalo Niagara WATERKEEPER® with funding from the United States Environmental Protection Agency. The purpose of this guide is to enhance present Western New York fish advisories and to educate the public about local water and fish pollution issues.

While this guide uses the recommendations made by the New York State Department of Health (DOH), it was not made by the DOH.

For DOH advisories, call toll-free 1-800-458-1158 or go online to www.health.ny.gov/fish

Call to Action: How You Can Make a Difference

Share this book with friends, family and anyone you know who fishes or eats locally caught fish. Western New York waterways are an important resource for millions of people. Help keep pollution out of local waterways by following these tips:

- Don't flush any trash, like condoms or tampons, down the toilet.
- Never pour oil or chemicals down drains or into storm sewers.
- Never flush medicine down the toilet or pour it down the drain.
- Don't use fertilizers and pesticides on your lawn or gardens. These chemicals wash off lawns and gardens into our sewers and pollute our waterways.
- Plant trees or a garden to help reduce the amount of stormwater entering our sewers and waterways.

Make your voice heard!

Call or write a letter to the politicians who represent you. Tell them you care about cleaning up local waterways and stopping pollution. To find out who represents you, go online to www.usa.gov/contact/elected.shtml

Want to learn more?

For questions or concerns about fishing or fish testing, call:

The Department of Environmental Conservation Region 9 at (716)-851-7010 or (716) 851-7000 or go online to www.dec.ny.gov/outdoor/fishing.html

For questions about or copies of this guide, call:

Buffalo Niagara WATERKEEPER® at (716) 852-7483 or go online to www.bnwaterkeeper.org

To safely get rid of unwanted medicine:

In the city of Buffalo, drop medicine off at Black Rock Pharmacy on 431 Tonawanda Street or call them at 716-876-3070 with any questions. To find other places to drop off medicine, go online to www.disposemy meds.org



A PEOPLE'S GUIDE TO EATING FISH CAUGHT IN WESTERN NEW YORK



Use this guide to find important information about:



- Pollution in local waterways and fish
- The health risks of eating polluted fish
- How to choose, clean and cook fish to reduce pollution in your meals
- Fish Advisories for Western New York waterways
- Identifying common local fish
- How to choose fish from stores and restaurants
- How you can help fight water pollution locally



**Share this book with friends, family, and anyone
you know who fishes or eats locally caught fish.**

