



Department of
Environmental
Conservation

I NY Beginners' Guide to **Freshwater** FISHING





Let's Go Fishing!

Fishing is an excellent way to enjoy nature and make lasting memories with family and friends. Anyone—from children to retirees—can learn to fish. Enticing a fish to bite your hook is always fun, and can be as relaxing or challenging as you decide to make it. Fishing offers a never-ending stream of intriguing experiences: Wade into a cold, rocky stream fishing for trout. Watch a pink sunset reflected in a still pond as a bass explodes on your lure. Wonder if you can catch more fish than that osprey flying overhead. Let this guide help you take your first step into a lifetime of fishing fun and adventure.

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SECTION

1

Fishes of New York



New York State is home to more than 165 freshwater fish species, including some that were around when dinosaurs roamed the land. These fish come in all different sizes, from two-inch darters to sturgeon that can grow to more than seven feet. They come in all different shapes, too. Sunfish have compressed bodies, whereas common carp are fat and round. Pike and pickerel are long and narrow. The different sizes, shapes and colors are not accidental—each has a purpose in helping a fish survive and reproduce.

What makes a fish a fish?

- ✓ It lives in water.
- ✓ It has fins.
- ✓ It has gills.
- ✓ It is cold-blooded.

Fish Features

Fins – Fins help fish move through the water. The caudal (tail) fin pushes the fish forward, while the other fins are used for steering and balance. They allow the fish to stay in one place and to dive to the bottom or rise to the surface.

Gills – We use our lungs to get oxygen from the air. Fish use their gills to get oxygen from the water. Without gills, fish cannot live. The gill cover protects the sensitive gills from injury.



Rock Bass

Scales – Most fish have scales that cover all or a portion of their bodies, protecting them against injury. Catfish and lamprey are exceptions, as their skin is completely scaleless.

Spines – Some fish, like sunfish and perch, have spines in their fins to protect them against predators. Always be careful when handling these types of fish. For tips on how to hold the fish you catch, check the Care of Catch chapter.

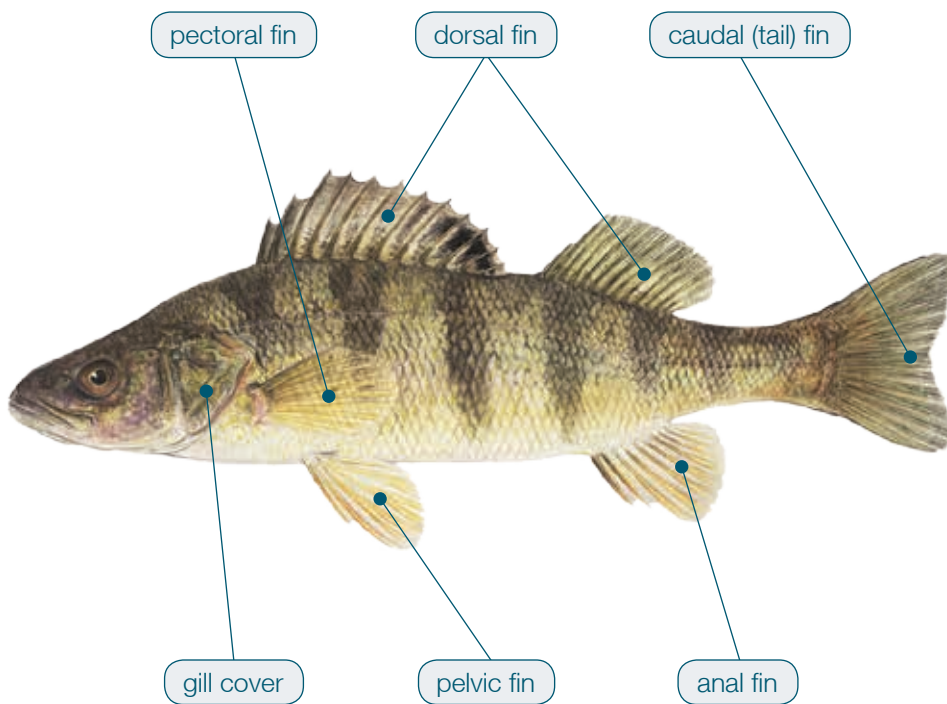
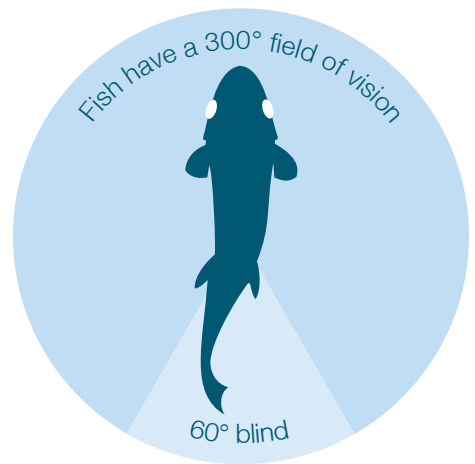
Slime – Have you ever held a fish? What does it feel like? Slimy? Slippery? The slime is there for a reason—to protect fish against diseases and help them glide through the water. So before you hold a fish, always wet your hands. That way, the slime will stay where it belongs.

Fish Senses

Fish use most of the senses humans do to help them survive in their environment.

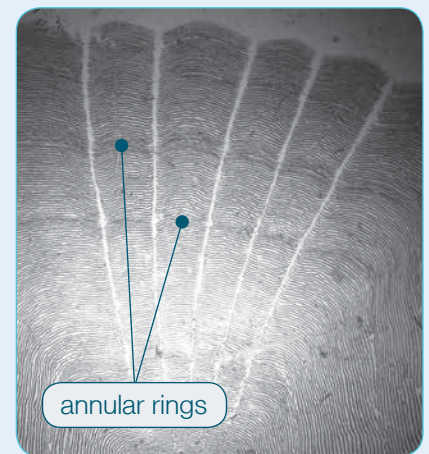
Sight

The next time you look at a fish, see how its eyes bulge out of its head. While humans can only see about 180 degrees around themselves, fish have a much broader field of vision and can see 300 degrees.



How old am I?

Biologists can use scales or otoliths (ear stones) to age fish. Just as you can age a tree by the rings in a cross-section of the trunk, you can estimate a fish's age by looking at its scales or otoliths.



Hearing

Even though you can't see them, fish have an inner ear on each side of their heads that aids in balance and allows them to sense vibrations caused by sounds in the water. That's why fish spook so easily when you're out fishing.

Lateral Line

Fish also have a lateral line that runs down the length of their bodies. This row of special cells helps them sense vibrations caused by other animals in the water.



Smell

Even though they're underwater, fish have nostrils, or nares, that they use to seek out food. Some fish even use their sense of smell to return to their birth streams to spawn (reproduce).



Brown Bullhead

Taste

Most fish have taste buds in their mouths, but some fish have them in their gills and barbels (whiskers). Catfish, with their very small eyes and poor vision, rely on their barbels to locate food. Despite myths you may have heard, barbels don't sting!

Swimbladder

We know fins help fish move about, but what is it that keeps them suspended within a waterbody instead of floating to the top or sinking to the bottom? It's an organ called the swim bladder. This gas-filled sac can be inflated or deflated by the fish. When it is filled just right, the fish is "neutrally buoyant," meaning it won't sink or float. This helps the fish stay exactly where it wants to be without having to swim.

Body Shape

A fish's shape tells you a lot about how it lives.



Built for speed

With its torpedo-shaped body and large fins in the back, chain pickerel are one of the state's fastest fish.



Laying Low

Catfish have compressed bodies, large pectoral fins and barbels, making them ideal for living on the bottom.



Did You Know

A freshwater drum can make a grunting noise by vibrating its swim bladder.



Coloration

When it comes to coloration, fish are very good at blending into their surroundings. After all, it's all about survival.



Largemouth bass blending in with its habitat

Largemouth bass tend to have a greenish color, which helps them blend in with the weedy areas where they live. Smallmouth bass prefer rocky areas, so they have a brown body. Sunfish and perch can be found hiding in plants. Having vertical bars up and down their bodies helps them blend in.

Most fish exhibit countershading, an adaptation that makes them difficult for predators to see. By having dark coloration on the top half of

their bodies, they blend in with the bottom when looked at from above. Similarly, by being light colored on the bottom half of their bodies, they blend with the light from the surface when looked at from below.

A Fish's Tale

All living things must reproduce so their species continues. Spawning between male and female fish occurs at certain times of the year, usually spring or fall, depending on the species. Most eggs are laid on plants or on the bottom of a lake or river, often in nests guarded by the male. Fish that don't take care of their young lay more eggs than fish that do. After eggs are fertilized, the embryo begins to form in the egg.



Fertilized eggs with developing embryos

After hatching, the young are called fry. The amount of time it takes for fry to hatch depends on the species and the water temperature. Young fish, called sac fry, have a yolk sac which provides nourishment as they grow.



Sac fry

Eventually, the yolk sac is absorbed and fry begin feeding on tiny, microscopic animals called zooplankton.

As they grow larger, the young are called juveniles, or fingerlings. Their diet consists of aquatic insects and smaller fish.



Bird's Eye View

Ever look for fish from a bridge? It's tough! From above, their dark-colored backs make them hard to see against shadowed bottoms. To make it easier, look for fish swimming over light-colored patches. This is a great example of a form of natural camouflage called "countershading."



Find the trout

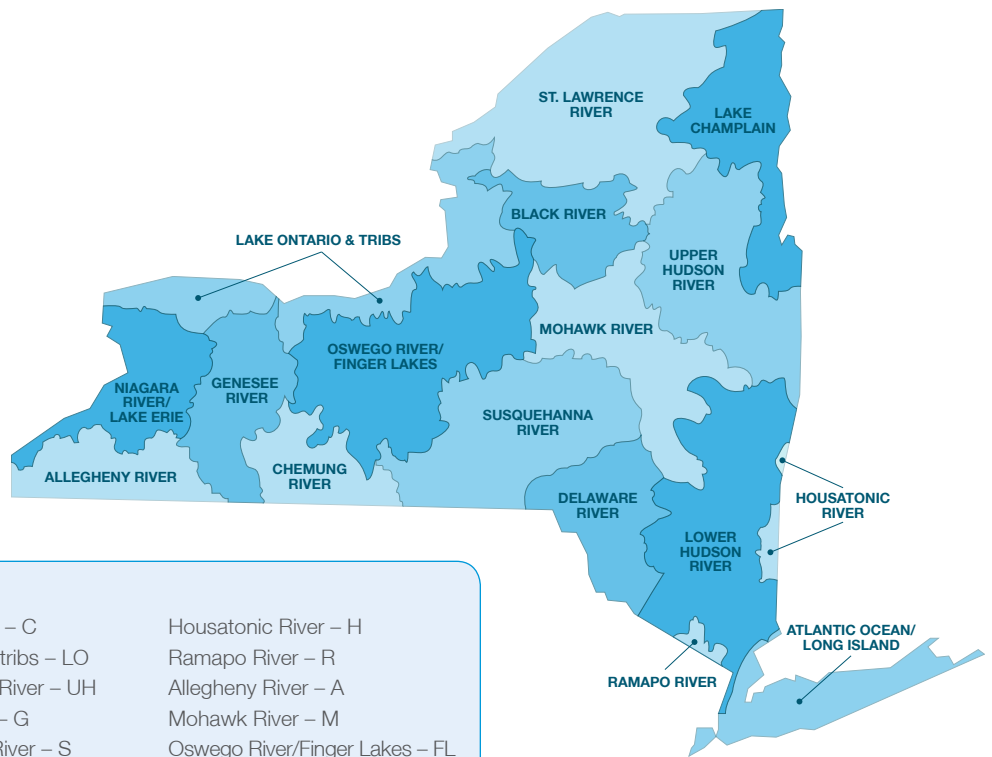
Fun Facts

- A female walleye can produce up to 500,000 eggs, but only around 25,000 will actually hatch.
- Bass eggs take a few days to hatch, but trout eggs can take weeks or longer.






Common and Interesting Fish of New York State





The following tables show common New York freshwater fish and some other interesting fish. Also see the “Key to Identifying Common New York Freshwater Fish” at the end of this chapter.



Watershed Key:

Niagara River/Lake Erie – LE	Chemung River – C	Housatonic River – H
Black River – B	Lake Ontario & tribs – LO	Ramapo River – R
Atlantic Ocean/Long Island – LI	Upper Hudson River – UH	Allegheny River – A
Delaware River – D	Genesee River – G	Mohawk River – M
St. Lawrence River – SL	Susquehanna River – S	Oswego River/Finger Lakes – FL
Lake Champlain – LC	Lower Hudson River – LH	

Species	Average/ Maximum Size	Habitat Preference	Diet	Spawning	Distribution
 <p>Sea Lamprey</p>	14-24 in./grow to 4 ft.	Larvae burrow in sand in quiet water for 4-5 years; adults move to ocean or large lakes	Fine-scaled fish such as trout and salmon	Swim up streams in spring to spawn in nests dug in gravel	LE, LO, SL, FL, B, LC, UH, LH, R, H, D, S, C, LI
Fish fact: Sea lampreys are parasitic, living off the body fluids of fish they attach to. This can reduce the host fish’s growth or even kill it. Great effort is spent to control sea lampreys in waters where they are not native.					
 <p>Lake Sturgeon</p>	3-5 ft./grow to 7 ft.	Clean sand, gravel or rock bottom areas of large lakes and rivers	Leeches, snails, mussels, small fish and algae	May-June in shallow water, where eggs are deposited over gravel bottoms with swift current	LE, LO, SL, B, FL, LC, G
Fish fact: New York State is home to three sturgeon species: lake (threatened), Atlantic (federally endangered), and shortnose (endangered). Fishing for any sturgeon species is strictly prohibited.					
 <p>Bowfin</p>	18-24 in./grow to 34 in.	Weedy, clear lakes and rivers	Crayfish and small fish	May-June in shallow, weedy areas, where nests are built by clearing vegetation away to form a depression	LE, LO, FL, SL, B, LC
Fish fact: Bowfin can live in waters with low oxygen levels and can even gulp air at the surface.					

Species	Average/ Maximum Size	Habitat Preference	Diet	Spawning	Distribution
<p>Longnose Gar</p> 	2 ft./grow to 4 ft.	Close to shore in weedy lakes and rivers	Small fish	Late May-early June in shallow water, where eggs are spread across the bottom	LE, A, LO, SL, LC, FL
Fish fact: Considered a “living fossil,” gar have been around for nearly 10 million years.					
<p>Channel Catfish</p> 	15-25 in./grow to 37 in.	Rivers and lakes with sandy or rocky bottoms	Worms, crayfish, insects and fish	Late spring-early summer near the shore or stream bank, where fertilized eggs are deposited in a burrow dug near a stump, log or boulder	LE, LO, SL, UH, LH, R, H, LC, FL, C, S, B, M
Fish fact: Largest of the catfish/bullhead species in New York State, its forked tail makes younger fish easy to identify. The tail becomes worn and less forked with age, however.					
<p>Brown Bullhead</p> 	8-14 in./grow to 21 in.	Still water with mud bottom	Worms, insects, leeches, plant material, crayfish and small fish	May-June in shallow water near logs or rocks, where a burrow is dug to form a nest	All watersheds
Fish fact: Brown bullhead are among the few fish species where both parents spend a lot of time caring for their young.					
<p>Chinook Salmon</p> 	30-38 in./grow to 48 in.	Deep, open water	Alewife, smelt and shad	September-October in Lake Ontario tributary streams, where nests (redds) are dug in gravel. Interestingly, chinook die soon after spawning.	LE, LO, G
Fish fact: The largest of the Pacific salmon, chinook salmon are commonly called king salmon and were first introduced into the Great Lakes in 1873. They were extensively stocked in the 1960s to control overabundant alewife.					

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Lower Hudson River – LH
 Housatonic River – H
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 Allegheny River – A

Mohawk River – M
 Oswego River/Finger Lakes – FL

Species	Average/ Maximum Size	Habitat Preference	Diet	Spawning	Distribution
<p>Coho Salmon</p> 	18-28 in./grow to 33 in.	Deep, open water	Alewife and smelt	October-November in Lake Ontario tributary streams, where nests (redds) are dug in gravel. Interestingly, coho die soon after spawning.	LO, G, LE
Fish fact: Both coho and chinook salmon are native to the Pacific Ocean. Coho, also called silver salmon, were introduced into the Great Lakes in the 1960s.					
<p>Rainbow Trout</p> 	8-12 in./grow to 27 in.	Clear, cold streams and lakes	Zooplankton (microscopic animals), insects and small fish	March-April in streams flowing over clean gravel, where nests (redds) are dug	All watersheds
Fish fact: Rainbow trout that live in large lakes and spawn in streams are called steelhead. They look more silvery and grow much larger than rainbow trout that live in small streams or lakes. Steelhead can grow to 35 inches.					
<p>Brown Trout</p> 	8-15 in. (streams), 16-30 in. (large lakes and rivers)/ grow to 38 in.	Coldwater streams and rivers, coldwater lakes	Insects, clams, mussels, crayfish and small fish	October-November in streams with clean, gravel bottoms, where nests (redds) are dug	All watersheds
Fish fact: Originally from Europe, brown trout are one of the most difficult trout species to catch.					
<p>Atlantic Salmon</p> 	15-30 in./grow to 38 in.	Cold, clear well-oxygenated lakes and rivers	Smelt, alewife, cisco and insects	October-November in tributaries with gravel bottoms and swift flowing currents; eggs are deposited in nests (redds)	LO, LC, SL, FL, D, UH, LH, R, H
Fish fact: Atlantic salmon are native to New York State. They used to live in the ocean and migrate to freshwater to spawn, but landlocked populations that spend their entire lives in freshwater now exist. They are known to leap high out of the water when hooked.					
<p>Brook Trout</p> 	8-14 in./grow to 22 in.	Small to moderate-sized coldwater streams, lakes and ponds	Insects, zooplankton and small fish	September-December spawn over springs or headwater streams with gravel bottoms and good flow of cold, clear water; eggs are deposited in nests (redds)	All watersheds
Fish fact: Brook trout are native to New York and the official state fish.					

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 Oswego River/Finger Lakes – FL

Species	Average/ Maximum Size	Habitat Preference	Diet	Spawning	Distribution
<p>Lake Trout</p> 	15-24 in./grow to 43 in.	Deep, cold, well-oxygenated lakes	Zooplankton, insects and fish	October-December in less than 100 feet of water, where eggs are deposited over rocky bottoms	LC, FL, LE, LO, SL, UH, LH, R, H, S
Fish fact: Lake trout are New York State's largest native trout and have the longest life span.					
<p>Chain Pickerel</p> 	15-20 in./grow to 30 in.	Shallow, weedy areas of ponds, lakes and rivers	Insects, crayfish and fish	April-May in marshy areas and shallow bays, where eggs are spread randomly and fertilized	All watersheds except A
Fish fact: Chain pickerel get their name from the chain-like markings on their bodies.					
<p>Northern Pike</p> 	18-35 in./grow to 4 ft.	Shallow, weedy areas of lakes and rivers; large pike live in deeper waters	Insects, crayfish, fish, frogs and birds	April-May in shallow marshes or flooded meadows, where eggs are spread randomly and fertilized	All watersheds except D, LI
Fish fact: With their razor sharp teeth and quick speed, they're the top predators in many New York waters.					
<p>Muskellunge</p> 	28-48 in./grow to 5 ft.	Large, cool lakes and rivers	Fish, frogs, small mammals and birds	April-May in shallow bays and marshy areas, where eggs are spread randomly, then fertilized.	A, LE, LO, SL, LC
Fish fact: Muskellunge are the largest freshwater game fish in New York State.					
<p>Pumpkinseed & Bluegill Sunfish</p> 	5-7 in./grow to 11 in.	Around weeds, docks and other cover in lakes, ponds and rivers	Plant material, insects, zooplankton, crustaceans and small fish	June-August in shallow water over gravel to sand bottoms, where eggs are spread over nests. Males guard the nests until the young disperse.	All watersheds
Fish fact: These two species are usually the first fish kids catch.					

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Species	Average/ Maximum Size	Habitat Preference	Diet	Spawning	Distribution
<p>Rock Bass</p> 	5-10 in./grow to 11 in.	Rocky and gravelly shallow water areas in lakes and ponds; also in warm reaches of streams and large rivers	Insects, crayfish and small fish	Mid-May to mid-June in shallow water, where eggs are spread over nests. Males guard the nests until the young disperse.	All watersheds
Fish fact: Rock bass have red eyes, making them easy to identify.					
<p>Black Crappie</p> 	8-12 in./grow to 18 in.	Quiet, clear ponds, lakes and rivers with abundant vegetation	Insect larvae, crustaceans and small fish	May-June in sand or gravel areas with some vegetation, where eggs are spread over nests. Males guard the nests until the young disperse.	All watersheds except G
Fish fact: Crappie, also called strawberry bass and calico bass, are most commonly caught when they congregate in shallow water to spawn in the spring. They seek deeper, cooler water during the summer.					
<p>Largemouth Bass</p> 	12-18 in./grow to 25 in.	Shallow, weedy areas of lakes, ponds and rivers; also prefer cover, such as logs, docks and stumps	Insects, fish and frogs	May-July in shallow, weedy areas, where eggs are spread over nests. Males guard the nests until the young disperse.	All watersheds
Fish fact: Largemouth bass are New York State's most popular sport fish.					
<p>Smallmouth Bass</p> 	10-16 in./grow to 24 in.	Rocky or sandy areas of lakes; also prefer cover of boulders or logs	Crayfish, insects and fish	May-June over gravel or rocky bottoms, where eggs are spread over nests. Males guard the nests until the young disperse.	All watersheds
Fish fact: Pound for pound, many anglers consider smallmouth bass the best fighting freshwater fish when hooked.					
<p>Walleye</p> 	14-25 in./grow to 34 in.	Deep water sections of large lakes, streams and rivers	Perch and other fish	April in tributaries with swift flow and gravel bottom, where eggs are spread randomly	All watersheds
Fish fact: Walleye have a shiny lining on the inside of their eyes, helping them to seek prey at night.					

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Species	Average/ Maximum Size	Habitat Preference	Diet	Spawning	Distribution
<p>Yellow Perch</p> 	6-12 in./grow to 16 in.	Shallow, weedy protected sections of rivers, lakes and ponds	Insect larvae, crayfish, small fish and invertebrates	April-May in shallow water near vegetation	All watersheds
Fish fact: Female yellow perch lay their eggs in a jelly-like tube that can measure up to seven feet long!					
<p>White Perch</p> 	8-10 in./grow to 16 in.	Freshwater and estuaries in warm, shallow water	Minnnows, crustaceans and insects; considered a major predator of larval fish in some waters	Late spring in tributary streams or along gravelly shoal areas, where eggs are randomly spread over the bottom, then fertilized.	A, LE, LO, SL, FL, LH, R, H, LI, LC
Fish fact: Though similar in size to yellow perch, white perch are more closely related to their much larger cousins, striped bass.					
<p>White Sucker</p> 	8-10 in./grow to 20 in.	Gravel and mud bottoms of warm lakes, rivers and streams	Plant material, insects, snails, crustaceans and clams	April-May in fast-flowing streams with gravel bottoms, where eggs are randomly spread, then fertilized	All watersheds
Fish fact: Most suckers have downturned mouths, enabling them to suck up plant and animal material from the bottom.					
<p>Common Carp</p> 	18-28 in./grow to 40 in.	Lakes or large rivers with soft bottoms and vegetation	Plant and animal material along the bottom	May-June in very shallow water near vegetation, where eggs are broadcasted over the bottom	All watersheds
Fish fact: During spawning season, they are often seen thrashing about close to the surface, with their bodies partially exposed.					
<p>American Eel</p> 	24-40 in.	In gravel and mud bottoms, or hiding under rocks	Fish, crayfish and insect larvae	February-April	All except A
Fish fact: After spending 5-20 years in freshwater rivers and streams, American eels swim to the Sargasso Sea (near the Bahamas) to spawn. The eggs drift back to the coast with ocean currents and hatch along the way. The transparent hatchlings, called glass eels, swim by the millions up freshwater rivers and streams where they'll feed and grow until they reach sexual maturity.					

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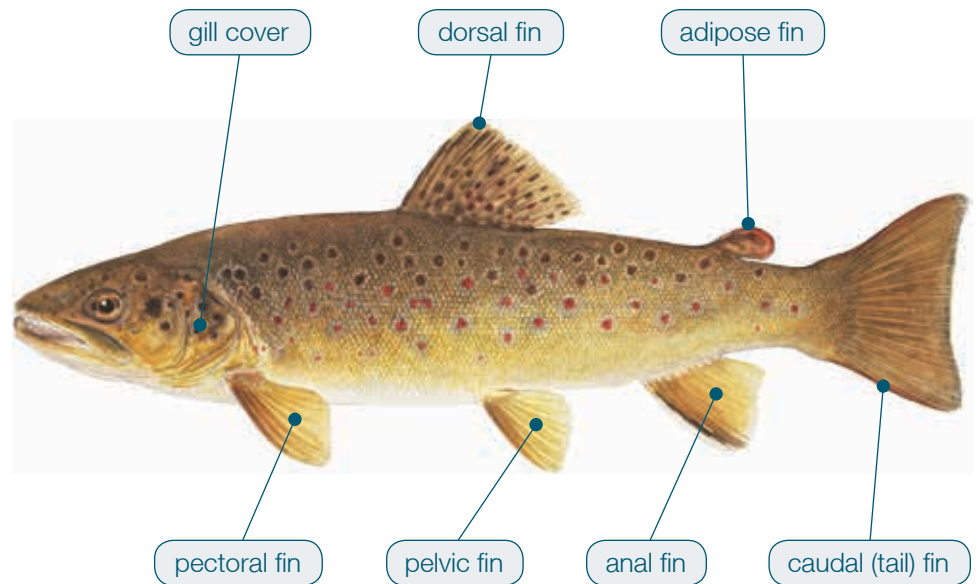
Mohawk River – M
 Oswego River/Finger Lakes – FL

Key to Identifying Common New York Freshwater Fish (and some less common but interesting species)

Although some fish species can be easily identified by color or some other obvious feature, this is not the case for all. Species such as black crappie and white crappie, or Atlantic salmon and brown trout, can look very similar and are very difficult to tell apart. Fisheries biologists use a tool called a *dichotomous key*, such as the simplified version provided here, to help them identify fish species. Occasionally, even a dichotomous key may not provide the answer and a genetic analysis of the fish may be necessary.

How to Use a Dichotomous Key

In the adjacent key, pairs of fish-feature descriptions are numbered and labeled “a” and “b” (hence, a dichotomy). Starting with number 1, compare your fish to the descriptions. A match leads either to the common name of the fish, or the number of the next feature to look for until the fish’s name is revealed.



1a. Mouth a round sucking disk, no jaws; no pelvic or pectoral fins – Lamprey



1b. Mouth with jaws; pectoral fins always present; one large slit-like opening on both sides of the head; pair of nostrils on snout – 2

2a. Upper lobe of tail fin much larger than bottom lobe – Sturgeon



2b. Both lobes of tail fin about the same size – 3

3a. Bottom jaw protected by a flat bony plate; long single dorsal fin extending over half of body length – Bowfin



3b. Bottom jaw fleshy and unprotected by a plate; dorsal fin either long or short – 4

4a. Very long, thin snout; body covered with diamond-shaped scales – Longnose Gar



4b. Snout not long and thin; scales not diamond-shaped or body scaleless – 5

5a. Pelvic fins absent; dorsal, tail and anal fins join to form single fin; body snake-like – American Eel



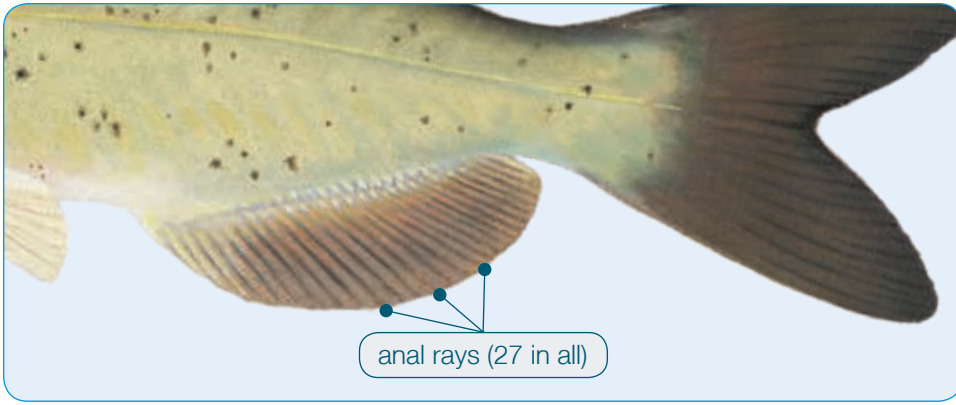
5b. Pelvic fins present; dorsal, caudal and anal fins usually separate – 6

6a. Adipose fin present – 7

6b. Adipose fin absent – 15

7a. Barbels (whiskers) surrounding mouth; no scales – 8

7b. No barbels (whiskers) – 9



8a. Tail deeply forked (particularly in young fish); anal fin with 24-29 rays – Channel Catfish



8b. Tail rounded and not forked; stout pectoral-fin spines with sawlike teeth; anal fin with 21-24 rays – Brown Bullhead



9a. Anal fin longer than it is wide – 10

9b. Anal fin wider than it is long – 11

10a. Black mouth; spotting on dorsal fin and entire tail fin – Chinook Salmon



10b. Black mouth with white gums; spots only on dorsal fin and upper lobe of tail – Coho Salmon



11a. Pattern of dark spots on light background – 12

11b. Pattern of light spots on a dark background – 14

12a. Many small black spots on dorsal fin, tail and back; pink line along side – Rainbow Trout



12b. Fewer larger black spots on sides; few, if any, present on tail – 13

13a. Many reddish spots found on sides and adipose fin (not evident in some lake fish) – Brown Trout



13b. No reddish spots – Atlantic Salmon



14a. Lower fins with white leading edge followed by a black stripe; body with small red spots circled with blue – Brook Trout



14b. Grayish body; light spots on back and sides, forked tail – Lake Trout



15a. Single dorsal fin – 16

15b. Two distinctly separate dorsal fins – 25

16a. Single dorsal fin with only soft rays – 17

16b. Single dorsal fin with a mix of hard (spiny) and soft rays – 18

17a. Tail forked; jaws forming duck-like snout with many teeth – 19

17b. No duck-like snout; downturned mouth with no noticeable teeth – Sucker Family



18a. Large, stout spine at forward edge of dorsal fin; two barbels (whiskers) along upper jaw – Common Carp



18b. Single dorsal fin composed of a front set of spiny rays and rear set of soft rays, may or may not have a notch between ray sets – 21

19a. Tips of tail fin rounded – 20

19b. Tips of tail fin pointed – Muskellunge



20a. Cheek and gill cover fully scaled; dark vertical bar under eye; chain-like markings on side – Chain Pickerel



20b. Cheek and upper half of gill cover scaled; sides covered with light bean-shaped spots on dark background – Northern Pike



21a. Flat, oval-shaped body; small mouth – 22

21b. Long body; large mouth – 25

22a. Red eyes – Rock Bass



22b. Eyes not red – 23

23a. Diamond-shaped, silvery-gray body with black blotches – Black Crappie



23b. Body not silvery-gray – 24

24a. Red spot at tip of gill cover; no black blotch on rear of soft dorsal fin – Pumpkinseed



24b. No red spot at tip of gill cover; black blotch on rear of soft dorsal fin – Bluegill



25a. Mouth extends past eye – Largemouth Bass



25b. Mouth does not extend past eye – Smallmouth Bass



26a. Teeth very large; large black blotch at base of spiny dorsal fin; tip of tail fin whitish – Walleye



26b. Teeth not noticeable; tip of tail fin not whitish – 27

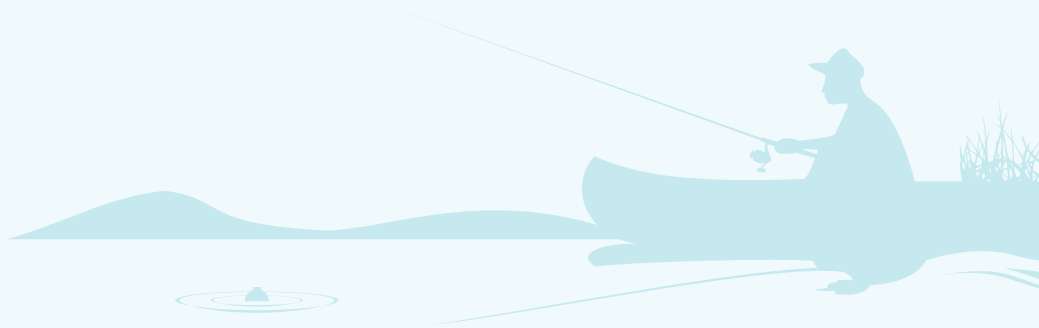
27a. Yellow with six to seven dark vertical bars – Yellow Perch



27b. Gray/silvery; no dark bars running along body – White Perch







SECTION

2

Basic Fishing Tackle and Techniques



Start with the Basics

Every angler has stories to tell: my first fish, my biggest fish, and, of course, the one-that-got-away. Before you can tell your own story, you need to hook your first fish. To make this happen, you need a rod, reel, hook, line, bait, lure and other tackle that will get you off to a good start. You also need to learn how to cast and how to choose the spots where you're most likely to catch fish in a lake, pond or stream. Once you learn these basics, it won't be long before you have your own stories to tell.

What do I need to go fishing?

The fishing section of any sporting goods store can be overwhelming. There is so much fishing tackle and fancy equipment to look at. How do you decide what to buy? The truth is, all you need is a small investment in a beginner's rod and reel, a hook, line and some kind of bait or lure, and you'll soon be on your way to catching fish!

Rod and Reel Types

You can choose from four main types of fishing rods and reels: spin-casting, spinning, bait-casting and fly rods. Spin-casting is generally considered the easiest to use while bait-casting and fly rods are considered the hardest to use. Spinning is considered the most versatile since it can cast light and moderately heavy lures/baits. For beginning anglers, a spin-casting rod and reel is recommended.

Spin-casting Rod and Reel

Most people start fishing with a spin-casting rod and reel combo because it is easy to use. You cast using a push-button (right). Spin-casting tackle consists of a closed-faced reel mounted on top of the rod. Spin-casting reels can be used on any rod designed for bait-casting, but usually perform best on light- to medium-action rods. If you are a beginner, use a rod that is your height or shorter for better control.



Where to begin? The variety of reels, rods, hooks and lures can be bewildering.

Fishing Line

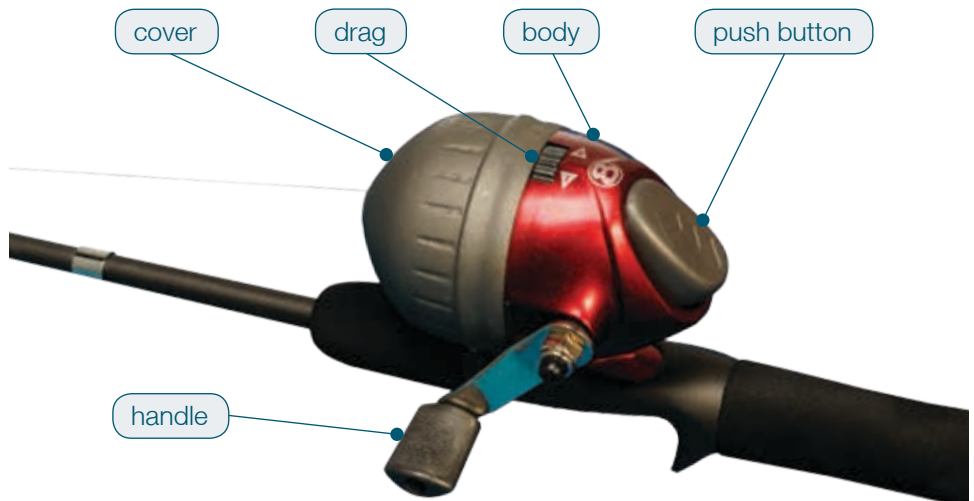
Fishing line is what connects you to the fish. While there are many different types of fishing line to choose from, monofilament line (mono) is the best choice for beginning anglers. Mono is inexpensive and works well in most fishing situations.

Line comes in different strengths called "pound test." Choose a line that best fits the type of fishing you plan to do. For example, when fishing for bluegills and yellow perch, 4- to 8-pound test line is good. When fishing for bass, use 8- to 12-pound test line. Eight-pound test is a good all-around line weight.

Replacing Your Fishing Line

Keeping fresh line on your reel is very important. Old monofilament line becomes brittle and loses its strength. This can lead to broken line and a lost fish. If your line breaks easily after tying a knot, it's time to replace it. You'll land more fish if you replace your line at least once a year.

Look for instructions on how to tie line to your reel in the package of line you purchase.



A closed-faced, spin-casting rod and reel is a good first choice.



A good way to practice casting is in your backyard (with a practice plug)

Setting the “Drag”

All reels have a drag system that differs in appearance between reel types. The drag puts pressure on the reel’s spool, setting how much force it takes to pull line off the reel. The tighter the drag, the harder it is to pull line off the reel. To tighten the drag, you turn one way (usually labeled with a “+” sign), and to loosen the drag, you turn the other way (usually labeled with a “-” sign).

Setting the drag properly is important. You want the drag tight enough to set the hook and control the fish, but not so tight that the line breaks. This gives you the ability to land a bigger fish than your line may be rated for. You can test the drag by pulling line off the spool with the reel engaged to retrieve line, as it would be if you hooked a fish. If the line you’re using breaks, loosen the drag. If the line comes off too easily, tighten the drag. We recommend that you set the drag about 25% less than the pound test line you are using. This is done “by feel,” which gets better with experience.

Casting

Learning how to cast well can greatly improve your chances of catching fish. Sometimes being able to cast far really helps, such as when you are trying to reach deeper water or when surf casting (casting into the waves). But casting accurately is usually more important. Fish love cover, such as a downed tree or a rock in the middle of a stream, so casting in just the right place without getting snagged will help you catch more fish.

Learn more about cover, and how to change your fishing strategy to take advantage of it, later in this chapter.

How to Cast

1. When your line is ready and a practice plug is tied on (below), place the practice plug 6-12” from your rod tip. Before you cast, look behind you and make sure nobody is close enough to get hit by your cast. Check for trees and bushes that can get in your way. Make sure your line is not wrapped around your rod tip.



Practice plug



When starting to cast, press and hold down the push button.

2. Press and **hold down** the reel’s push button.
3. Using your wrist and elbow (not your whole arm), gently bring the rod straight up over your shoulder to about the ten o’clock position. Gently sweep the rod forward, causing the rod to bend with the motion. When the rod is in front of you at about one o’clock, release your thumb from the button. The bend in the rod casts the practice plug out.



4. Turn the reel handle clockwise, and reel the practice plug back in.

Cast Troubleshooting

Sometimes when you are casting, things just don't work right. Use these simple tips to fix some common problems.

- *I try to reel in, but the line doesn't come in.*

Sometimes, when there is loose line on the reel, the reel can't "pick up" the line. Try pulling the line tight and then reel in. Most of the time, this fixes the problem.

- *The handle fell off my reel!*

If you reel the wrong way, you can spin the handle right off the reel. Put the handle back on the reel and reel in the opposite direction. That will spin it back on correctly. Keep reeling in that direction to pick up the line.

- *I cast, but the line doesn't go out.*

There are two possible solutions:

1. Check the rod tip to make sure the line isn't twisted around it. If it is, unwind the line and try to cast again.
2. If the line is not tangled at the rod tip, it might be tangled in the reel. Push down the button on the reel and let go, but do not start reeling in. Try to pull some line from the reel. If no line comes out, take the cap off the reel and try to untangle the line.

Casting and Fishing Safety

Below are some safety tips to keep in mind while fishing:

- Always walk when holding your fishing rod. Don't run!
- When walking with the fishing rod, always keep the rod tip up and behind you so it comes through the brush and trees easier.
- Make sure to attach the hook to a rod line-guide when not fishing. This keeps the hook from swinging into branches or even people.
- Look around before you cast to make sure it's safe. You don't want to hit another person or get your line tangled in a tree.



When casting, avoid bobber-snagging branches.

- Stand on safe stable ground while fishing from shore.

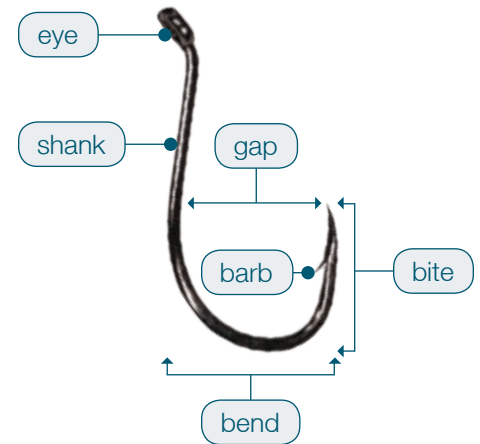
Terminal Tackle

Terminal tackle is fishing gear that is attached to the end of your line.

Hooks

Fishing hooks are one of the most important inventions of all time. They have helped people catch fish for over 9,000 years. Today, there are many different styles of hooks to choose from, depending on how you are fishing. For now we will stick to the basics.

Anatomy of a Fish Hook



Choosing the right size hook is very important when targeting a certain species of fish. Hook sizes are classified by numbers ranging from the tiny #22, used for tying small flies, to the giant #16/0 used for shark fishing. In between, are a variety of different sized hooks used for different sized fish. The chart that follows will help you decide which hook size to use. In general, use a hook that is not so big that a fish can easily detect it, but not so small that it can be easily swallowed.

Going Barbless

Some people may prefer to use barbless hooks. Any hook can be made barbless simply by using a pair of pliers to bend the barb down. Barbless hooks are good to use when catch-and-release fishing. However, remember to keep a tight line when reeling in your fish, as you will not have the barb to help keep the fish on the hook.



Hook Size		Hook Length in Inches	Trout	Northern Pike	Muskellunge	Channel Catfish	Bullhead	Smallmouth Bass	Largemouth Bass	Bluegill	Crappie	Yellow Perch	Walleye	Suckers	Carp	Salt Water Fish
13/0		4														
12/0		3 3/4														
11/0		3 1/2														
10/0		3 1/4														
9/0		3														
8/0		2 3/4														
7/0		2 1/2														
6/0		2 1/4														
5/0		2														
3/0	4/0	1 3/4														
1/0	2/0	1 1/2														
1	1 1/2	1 1/4														
4	2	15/16														
8	6	11/16														
12	10	7/16														
16	14	9/32														
20	18	5/32														
		1 7/8														
		1 5/8														
		1 3/8														
		1 1/8														
		13/16														
		9/16														
		7/16														
		5/32														

Hook sizes are determined by length of shank excluding eye

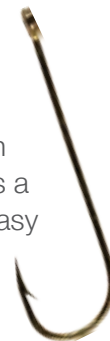
Sizes recommended for bait fishing

Basic Fish Hooks

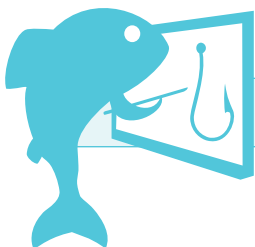
Bait holder – This style of hook has two barbs on the shank to help prevent bait from sliding down to the bend. This is a popular style of hook when using worms for bait.



Aberdeen – This is the classic j-shaped hook. It is very popular when fishing for panfish (such as sunfish and perch) and trout. It has a long shank that makes it easy to remove the hook from the fish.



Circle – This hook is becoming more popular with anglers because it will rarely hook a fish in the gut or the gills. It is a good hook to use when fishing with live bait. One major difference is that you do not set the hook. Instead, just reel steadily when you detect a bite until the hook is set.



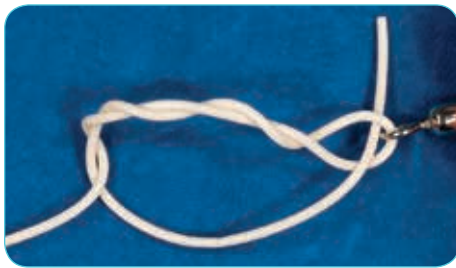
When fishing for panfish, size 6 to 8 aberdeen hooks work best.

Knots

Knots connect your fishing line to the hook. They are the weakest point in your fishing line. Some knots are stronger than others. You can help keep fish from breaking your line with a good knot such as an improved clinch knot.

How to Tie an Improved Clinch Knot

1. Put the end of the line through the eye of the hook and bring it back toward the line.
2. Make six "S" twists around the line.
3. Take the end back toward the hook and push it through the first loop nearest the eye.



4. Bring the end back through the big loop.



5. Moisten the line. Holding the hook and line, pull the knot tight until it looks like the knot shown.



Bobbers



A bobber or float is designed to do three things. First, it keeps bait suspended above the bottom, weeds or other cover. Second, it indicates when a fish is striking (biting or nibbling). Third, it provides additional weight when casting. Bobbers can be made of hollow plastic, foam, or cork and come in a variety of sizes and shapes. The most common type of bobber is round and is made of hollow plastic.

Use the smallest size bobber that you can easily see and holds your bait without submerging. The reason for this is that the fish do not like to feel resistance when taking your bait. The smaller the bobber, the more likely it is for the fish to hold the bait. This equals more fish!

Fish are not always near the bottom or the surface. Try adjusting your bait until you find the depth where the fish are hanging out.



Weights

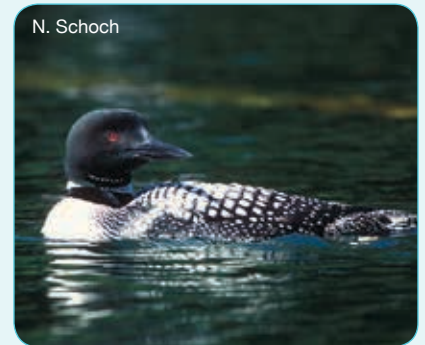


(Left-right) bullet weight, split-shot, egg sinker

Weights or sinkers keep your bait at or near the bottom, or can make your lure run deeper. They come in different shapes and sizes, each for a special purpose. Traditionally sinkers were made of lead. However, lead sinkers can be dangerous to waterfowl and other animals if swallowed. Small lead sinkers under ½-oz. can no longer be sold in New York State, but there are now many sinkers available that are not made of lead. Like bobbers, the larger the weight, the more resistance the fish feels. Use the smallest weight you need to keep your bait at the bottom.

Note: use a pair of pliers to put split shot on your line. Do not use your teeth!

N. Schoch



When lead sinkers are lost through a broken line or in other ways, birds and other wildlife can mistakenly swallow them while feeding and be poisoned.

Swivels and Snaps



(Top-bottom) 3-way swivel, swivel, snap swivel

A swivel is a small metal connector used to prevent line from twisting. It is helpful when using different types of fishing rigs, such as the bottom rig below.

A snap-swivel is a swivel with an interlocking snap attached for changing lures quickly. Snap-swivels are good for lures that twist line, such as spinners and spoons, but may keep other types of lures from moving as they were designed to through the water. Keep that in mind when using them.

Leaders

A leader is a short piece of line or wire that connects your main fishing line to your bait or lure. Wire is used for sharp-toothed fish, such as pike and pickerel. Fluorocarbon is used for line-shy fish such as trout because fluorocarbon blends into the water so the fish cannot see it.

Natural Bait/Rigs

Common Bait Rigs

A rig is the combination of terminal tackle used to catch fish.

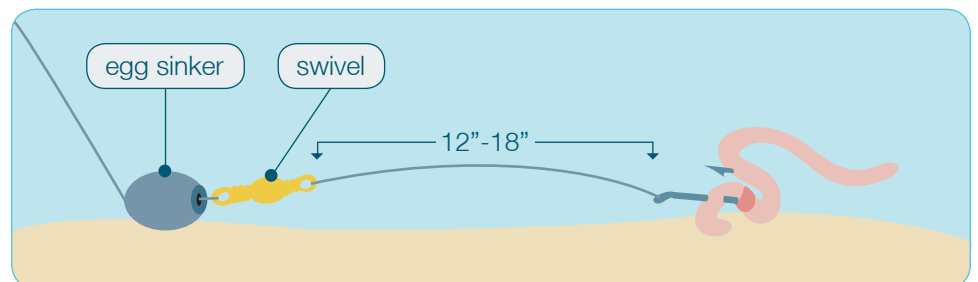
Bobber and Bait Rig

This is the best rig for beginners because the bobber lets you know when a fish takes the bait. You can use this rig with all types of live bait. A split shot sinker is optional and should only be used if necessary to improve casting or to keep your bait down. This rig can be difficult to use on windy days.



Bottom Rig

This a great rig to use, especially when fishing for species that feed on the bottom. It's also good to use on windy days when it is difficult to use a bobber and bait rig.

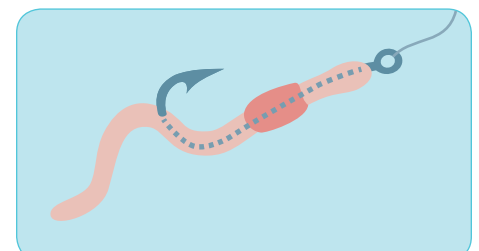


Natural (Live) Bait

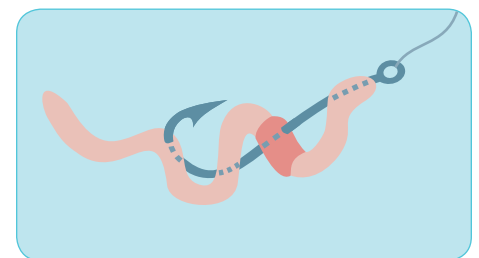
Natural baits consist of things like earthworms, crickets and minnows, and natural materials such as corn or dough balls. The use of natural baits is recommended for beginning anglers. You can purchase natural baits at bait shops, some mini-marts, and in the sporting goods sections of some department stores.

Worms

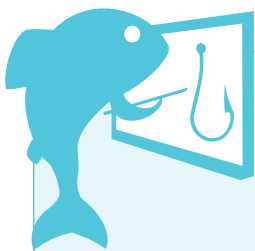
As bait, worms will pretty much catch anything that swims! Worms are found in rich soil, under leaves in the woods, or in gravelly soil along streams. Keep them in the shade in a can with moist soil. Because a worm will wiggle, hold it tightly at one end with your thumb and finger. Bring the hook down through one end of the worm and attach it in one of the ways shown below.



Thread worm onto the hook, covering it



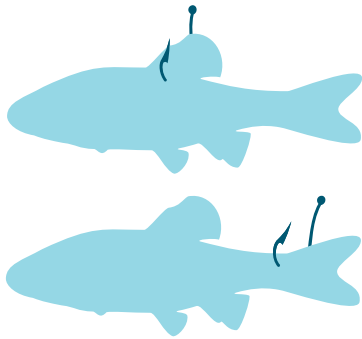
Attach the worm to the hook in several places



Be careful when putting bait on your hook. It is easy to poke yourself with a fish hook!

Minnows

Minnows used for bait are usually 1- to 3-inches long. Put the hook through the very top of its back, avoiding its spine, just in front of the fin. Minnows can also be hooked through the tail or lip. These methods will allow the minnow to swim naturally.



Did You Know

Minnows can spread fish diseases. Use only minnows caught from the same water you are using them in. Otherwise, you can use certified disease-free minnows from your local tackle shop. Also, make sure that the use of baitfish is permitted in the water you are fishing (see the current Fishing Regulations Guide).



Crickets

Crickets are a good bait for catching panfish. Hook them through the collar just behind their necks. The hook should be slipped under this collar so that the point is exposed. This keeps the insect alive so it will attract more fish. Look for crickets under rocks and logs.



Crayfish

Crayfish make great bass bait, but will catch plenty of other fish as well. Hold them along the back so you won't get pinched, and push the hook through the tail. Not all bait shops sell crayfish, so you might have to find them yourself. Your best bet is to flip over rocks along rocky shorelines.



Wax Worms

Wax worms are great for catching trout, perch, crappie and sunfish. They tend to be less messy than earthworms, making them perfect for the beginning angler. They work well with either a bobber or a bottom rig. Grab the wax worm by the head between your thumb and index finger. With your other hand, insert the hook through the tail end of the wax worm.



Dough-like Baits

Dough balls are great bait for carp. Dough balls are easily made from flour, bread and cornmeal dampened with water or honey. Experiment and find what works best for you. The dough ball should be formed in a tight ball and pressed onto the hook.



Catching a Fish

So you have your bait in the water, now what? How do you know when a fish is striking your hook?

- If you are fishing with a bobber and bait rig, keep a close eye on your bobber. If it starts to go under the water, a fish is biting.
- When fishing with a bottom rig, keep your line fairly tight. Closely watch your rod tip and line. If your rod tip starts bobbing, or your line starts to move or get slack, you are getting a bite.
- When using an artificial lure, detecting a strike depends on what kind of lure you are using. For example, if fishing with a plastic worm, wait to feel a tap on your bait or some resistance. If fishing with a fast-moving bait, your line will immediately get tight.

When you think a fish is biting your bait or lure, you need to “set the hook” (see exception in the box below). This is done by raising your rod in a fast upward motion, which causes the hook point to penetrate the fish’s mouth.

Hopefully, after you set the hook, you will feel the fish at the end of your line. Now is the time to try to judge the fish’s size and figure out how you are going to “play” it. The bigger the fish, the more careful you must be to avoid breaking the line. Adjusting the drag (page 3) is a way for you to adjust how much resistance a fish feels when pulling on the line.

Remember, if you’re using a circle hook, there’s no need to set the hook. If a fish is biting on the end of your line, simply start reeling in.



If you think you have a large fish, consider loosening the drag. This allows the fish to take some line and prevents the line from breaking.

When you get the fish close to the shore or the boat, you are ready to land the fish. If you plan to keep your catch, a net can be a big help. If you plan to release your fish, try to avoid taking the fish out of the water. Excessive handling can remove the protective slime that coats a fish. If you are not keeping the fish, try to release it as quickly as possible. Needle nose pliers can be a big help when removing the hook. If your fish is deeply hooked, avoid tearing it out as this can harm the fish. Instead, simply cut the line above the hook, and the hook will corrode and dissolve over time.

Holding Fish

Some fish have spines; some have teeth; a few have both. There are several ways to hold fish so you don't get hurt and neither does the fish. Whenever you are holding a fish, make sure to wet your hands first. This helps keep the protective mucus layer (slime) on the fish where it belongs.

Spiny-rayed Fish



For most spiny fish (i.e. sunfish, perch and walleye), wet your hand and then slide it over the head of the fish and slowly down the back. Let the spiny dorsal fin fold down against the back. Hold the fish firmly around the body.

Soft-rayed Fish



Soft-rayed fish (i.e. trout) can be held the same way as spiny-rayed fish except that you don't have to worry about spines!

Bass



If you catch a small bass, place your thumb inside the lower lip and your forefinger on the outside. You can pick up a larger bass the same way, but you should also cradle the body with your other hand or hold it straight down to prevent injury to the organs. Avoid holding the bass so that the lip bends down as this can injure its mouth. Because of the size of their mouths, you can also use this technique with crappies.

Pike



Pike, pickerel and muskellunge all have a set of very sharp teeth. Never put your hand into their mouths to remove a hook! Instead use forceps or needle nose pliers to remove the hook.

To hold a member of the pike family, grab the fish behind the head. Never grab a fish by the eye sockets or gill covers, because you can hurt it. If you plan to release the fish, keep it in the water as long as possible. If you do pick up the fish out of the water, hold it horizontally and support the fish's belly to prevent injury to the fish.

Catfish/Bullhead



Members of the catfish family have three large spines to be aware of: one on the dorsal and one on each pectoral fin. For small catfish (i.e.; bullheads), put your fingers in a V-shape. Run the "V" along the belly of the catfish toward the head. Your fingers will slide under the pectoral fin spines, allowing you to hold the fish easily. For large channel catfish, place one hand under the pectoral spines and hold the tail with your other hand.

Where to Fish in Lakes and Ponds

Lakes and ponds are a great place to start fishing. You can fish lakes and ponds from shore or from a boat. You can fish in shallow or deep water, in open water, or near structure/cover. Depending on the lake or pond you are fishing, you can catch a variety of fish species.

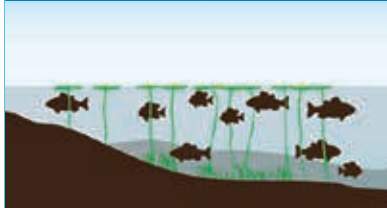
Structure = Fish!

When you first get to a pond, look for “fishy” looking spots, such as a downed tree, lily pads, weed edges, or a dock. What do all these places have in common? They are all structure, and where you find structure, you will likely find fish!

Structure provides shelter, shade, and protection for fish. Structure can also attract baitfish, and baitfish attract game fish, the fish you want to catch. The formula is simple: find structure and you’ll find fish! Other types of structure are submerged objects, such as stumps, rocks and branches, overhanging trees and brush, points, coves and inlets.

Most people begin fishing from shore or from a small boat near shore. So this section will concentrate on structure near the shoreline.

Floating and Submerged Vegetation



Cast into the edges and openings to avoid tangling your gear. Look for weed beds that lead to deeper water, or look for sunken weed beds in deep, open water. Fish the edges of the weed bed, where fish like to cruise looking for food.

Downed Trees and Other Submerged Objects



When experienced anglers see a sunken tree, they head straight for it because it provides structure that attracts fish. Other submerged objects to fish around are rocks, branches and stumps. Take care not to snag your gear when fishing around submerged objects.

Docks



Have you ever walked on a dock and watched fish from it? The fish are there because a dock is great structure! Fish hide under docks to take shelter from the sun, so they are good to fish near any time of the day. Sometimes, the biggest fish can be way underneath, so don’t just fish the edges if you are able to safely cast beneath the dock.

Points



Points are pieces of land that extend out from the shoreline and slope into deeper water. Gradually sloping points are good places to fish. The sloping-out formation creates a natural “highway” for fish to move from deep to shallow water in search of food. Fish the tip of the point and the corners of the point (the part that curves back into the shore).

Inlets



Areas where rivers and streams enter a lake or pond are called inlets. They are great places to fish because they carry food into the lake. Wherever there is food, there are fish! Spawning fish often gather near inlets before moving upstream to spawn. They can be excellent places to fish seasonally (usually spring or fall).

Overhanging Trees and Bushes



Overhanging trees and brushy shorelines provide cover from fish-eating birds as well as shade. Insects often drop into the water from overhanging trees and brush, providing food for fish. Huge fish can live under overhangs just feet from shore. The deeper the water under an overhanging tree, the better place it is to fish.

Where to Fish in Streams and Rivers

Fishing in streams and rivers offers different challenges than fishing in lakes and ponds because you have to deal with moving water. River and stream fishing involves knowing where the water is moving and how fish behave in it.

The first thing you need to know is where fish hide in streams and rivers. Undercut banks, eddies (a small circular current), sunken trees, rocks, and overhanging trees and bushes provide protection from the current and predators such as birds.

Feeding places include the outsides of bends, merging currents, drop-offs, feeder brooks and springs.

These are places where the current slows and food collects or sinks.

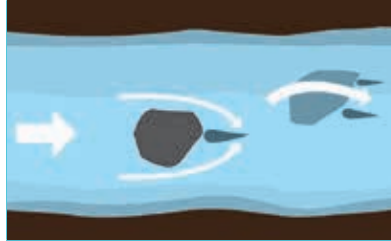
When you have a hiding place next to a feeding place, you have a really good fishing spot!

Outside Bends



When the river or stream curves, the faster water (which carries the food) moves to the outside of the bend. Fish look for food in these bends. Sometimes the outside of the bend also contains a rock or fallen tree. This slows down the food-carrying current and provides shelter, making it an even better place to catch fish.

Rocks (Pocket Water)



When flowing water hits a rock, the current splits around the rock. This creates a quiet pocket of water for fish to rest in. Since the current is next to the pockets, fish can dart out to grab food as it drifts by. While these quiet pockets are usually small, a well placed cast can often land you a nice fish.

Eddies



Eddies form when flowing water hits an obstruction, such as a rock or a log, and slows down. As the water slows down, it creates a mini-whirlpool, which collects a lot of food. Cast into the slow water of the eddy and along the edge, where the faster current meets the eddy, to catch fish.

Merging Currents



Currents carry food. Where two currents meet, there is twice the food...a good place to feed if you are a fish. Plus, the water actually slows down in the "seam" where currents meet, creating a perfect place for fish to sit and for you to cast.

Drop-offs



When water flows over a drop-off, it slows down and sinks, taking the food it carries with it. A drop-off is a great river fishing spot because it has food, deeper water and is away from the current.

Dams and Waterfalls



When water drops off a dam or falls, it digs out a big hole in the stream bottom. Fish will sit in this hole to feed on the food coming over the dam or falls. Dams and falls can prevent fish from moving upstream, concentrating fish. This makes dams and waterfalls excellent places to fish.

Undercut Banks



Undercut banks, formed when the current cuts out a cave-like hole in the bank, are perfect hiding spots. They provide overhead cover and easy access to deeper water for feeding or escape. The largest fish in a river often live near undercut banks.

What to Bring

Below are some things to keep in mind before leaving on your next fishing trip:

- ✓ **Buddy up** – Fishing with family and friends is a lot of fun and safer too.
- ✓ **Sunscreen** – To protect yourself from sunburn while out on the water
- ✓ **Sunglasses** – Polarized sunglasses not only help protect your eyes but they also help you see into the water.
- ✓ **Needlenose pliers** – Great to have for taking hooks out of fish
- ✓ **Hand sanitizer** – To clean your hands before eating or leaving
- ✓ **Line clippers** – To cut your fishing line. Remember, fishing line is not dental floss. Never cut line with your teeth.
- ✓ **Net** – Just in case you catch the big one
- ✓ **Towel** – Handy when cleaning your hands after handling live bait and fish
- ✓ **Bucket** – A place to put your fish or take a seat
- ✓ **Flashlight** – Important for fishing at night
- ✓ **Regulations guide** – For reference and to make sure you are doing things legally
- ✓ **Bug spray** – To make your fishing trip more comfortable in the spring and summer months
- ✓ **Ruler** – To figure out if your fish is large enough to legally keep
- ✓ **Camera** – You'll definitely want to capture your memorable catch.
- ✓ **Rain gear** – Just in case
- ✓ **Hat** – To keep the sun out of your eyes and face



Activities

Fishing Around the World Game

Find a field or lawn area with lots of room. Place a wash bin, hoop or other casting target in the middle of the area and mark various casting stations around the target. Stations should be at varying distances from the target. Casters begin at the first station and can only move to the next if they successfully hit the target. First caster “around the world” wins. If you are alone, challenge yourself to see how few casts it takes you to go “around the world!”



Catch a Fish

Now that you’ve learned how to fish, it’s time to go out and catch one! Typically, small ponds loaded with sunfish are the best places to get a bite. Visit DEC’s “Places to Fish” pages (www.dec.ny.gov/outdoor/7749.html) to find a fishing spot near you!



Fishing for more information?

Web Resources

- NYSDEC – Learn to Fish www.dec.ny.gov/outdoor/44804.html
- NYSDEC – Places to Fish www.dec.ny.gov/outdoor/7749.html
- Take Me Fishing – How to Fish <http://takemefishing.org/fishing/fishopedia/how-to-fish>
- Animated Knots by Grog www.animatedknots.com/indexfishing.php
- Fishingnoob.com – Beginners Fishing Guide <http://fishingnoob.com>

Books

- *The Complete Idiots Guide to Fishing Basics* by Mike Toth
- *Fishing for Dummies* by Peter Kaminsky and Greg Schwipps

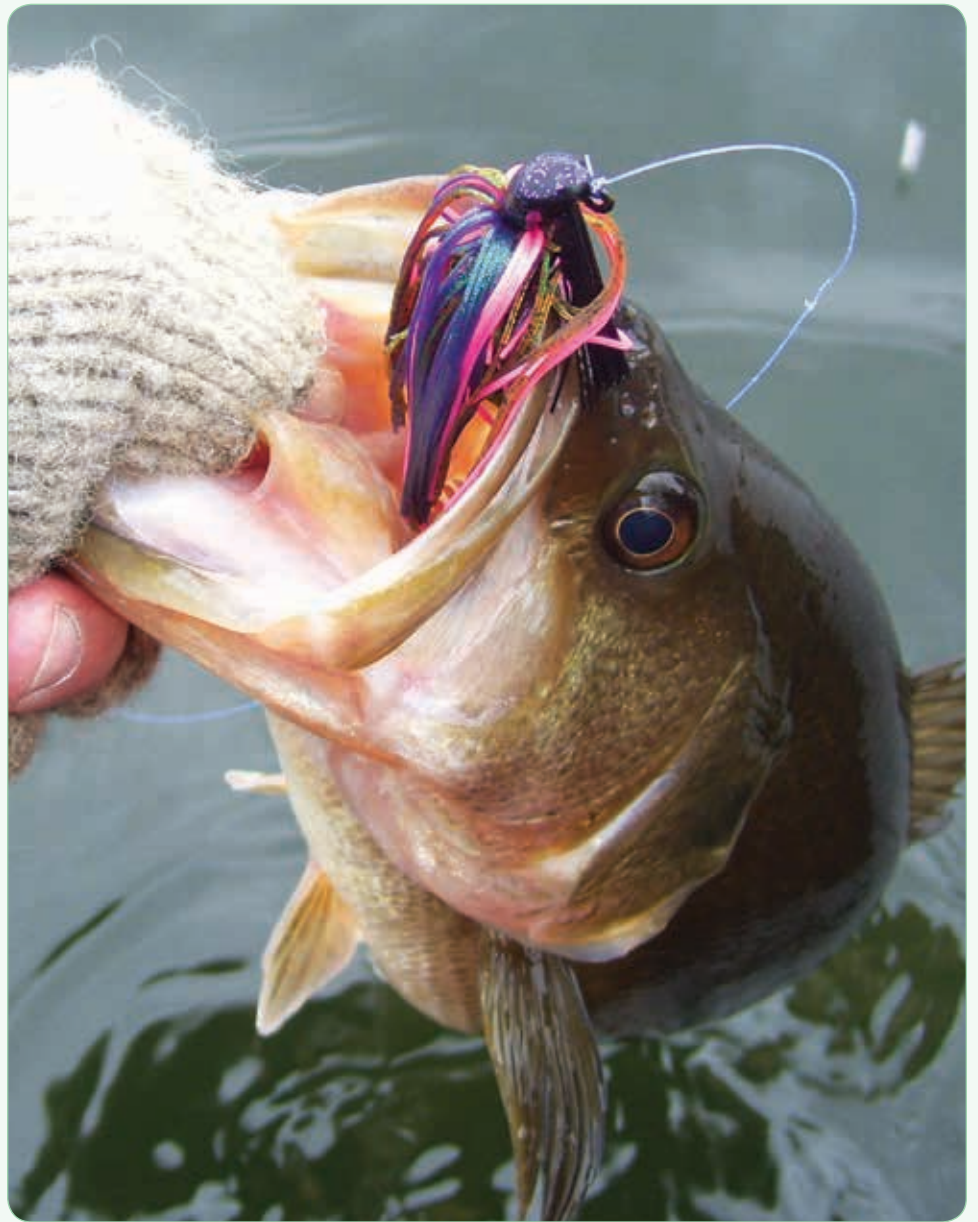




SECTION

3

Care of Your Catch



Success! You caught a fish! What you do next is up to you. Some anglers release their fish while others take them home for dinner. The choice is yours.

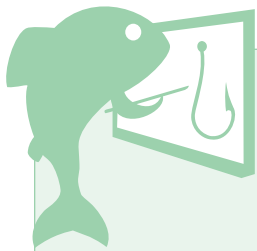


Catch and Release

Many people like to eat the fish they catch. However, many anglers prefer to return some or all of their catch to the water, a practice called “catch and release.” They do this so they can continue to enjoy the sport of fishing throughout their lives and pass on a healthy fishery to future generations. Letting smaller fish grow bigger and releasing larger fish to spawn again helps keep fishing great.

If you decide to practice catch and release, take these simple steps to aid in the survival of the fish you release:

- Quickly play and land your fish. Don't fight it to exhaustion.
- Handle your fish as little as possible and release it quickly. Unhook it in water if possible.
- If you have to take your fish out of the water, handle it carefully to avoid injuring it. Avoid contact with its gills and eyes, and don't squeeze it or remove its protective slime.



Wetting your hands before handling a fish helps keep the slime coating on its body.

- If you are taking pictures, take them quickly and get the fish back in the water as soon as possible.
- When holding a long fish to pose for a picture, hold it horizontally and support its belly as in the above photo. This protects its internal organs.
- Consider using only artificial lures to avoid hooking fish deeply. It's more likely that you'll be moving an artificial lure through the water when you get a strike, making it less likely that the fish will have an opportunity to “swallow the hook.”
- Do not jerk a hook out of a deeply hooked fish. Instead, cut the leader close to the eye of the hook.
- Have the necessary tools to remove hooks, like forceps or needle nosed pliers, in easy reach, so you can rapidly remove the hook.
- Consider using barbless or circle hooks. Circle hooks, when used properly, usually hook the fish in the corner of the mouth.
- Trout become heat stressed when water is 70°F or higher. Avoid catch and release fishing for heat stressed trout, because many will die after they are released.

Just caught a trophy?

Take a picture of the fish and measure its length and girth (measurement around its fattest part) before releasing it. With a photo and your measurements, a taxidermist can produce an accurate, long-lasting, fiberglass replica of your catch. The best part is that you might be able to catch that trophy again, when it's even bigger! Qualifying catches can also be entered into the New York State Angler Achievement Awards Program. To find out more about this popular program, see www.dec.ny.gov/outdoor/7980.html.

Keeping and Cleaning Your Catch

Keeping Your Catch

Enjoying a fresh fish meal is a great way to finish a fishing trip. Before keeping your catch, however, make sure your fish is legal to keep by checking the current Freshwater Fishing Regulations Guide.

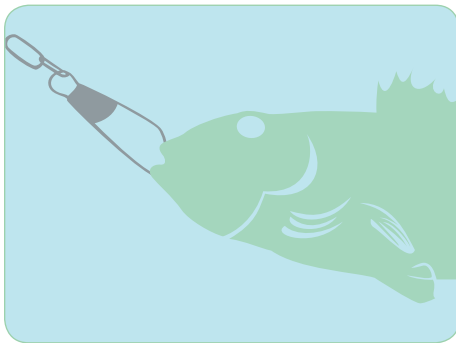
Keep it Fresh

For the best tasting fish, keep your catch fresh from the time it is caught until it is cleaned, cooked or frozen. This can be done either by keeping the fish alive during your trip or by properly preserving it to avoid spoiling.

Keep it Alive

Caught fish can be kept alive in three ways:

- *On a stringer:* When using a stringer, attach fish through the lower jaw not the gills. Fish will die more rapidly if the stringer is placed through the gills.
- *In a mesh fish basket immersed in cool water:* Fish baskets are often made out of steel wire mesh. Use them for smaller fish like sunfish and perch.
- *In an aerated tank:* Fishing boats often have aerated live wells. These fish holding tanks are another great way to keep fish alive and fresh.



Put fish that die on ice ASAP!

- If you cannot keep your catch alive, preserve it on ice until you can clean it. Placing fish in a cooler with ice will help keep them fresh. For the freshest fish, immediately field dress (see below) your catch and pack it in ice.

Cleaning Your Catch

When you're done fishing, you have to prepare your catch for cooking or storage. This is called "cleaning" fish. Fish can be cleaned using a number of methods. Filleting and pan dressing are the two most common ways to clean fish. Field dressing is another way to both clean and keep fish fresh until you get them home.

Filleting

Filleting is used to clean a variety of fish species, from larger trout and walleye, to smaller sunfish and perch. The filleting technique shown is one of several different techniques used. This method produces two boneless (or nearly boneless) pieces of meat (fillets), one from each side. All that is needed is a sharp fillet knife and a hard surface, such as a cutting board.

Safety tip: Remember to always move the knife away from yourself while cutting!



1. Begin by laying the fish flat on its side. Make a cut behind the pectoral fin down to, but not through, the backbone.



2. Without removing the knife, turn the blade and cut through the ribcage toward the tail with the knife blade running flat along (but not through) the backbone and just on the up side of the dorsal fin.



3. Stop cutting just before you separate the fillet from the body. While keeping the body in the same position, flip the fillet over with the skin side down.



4. Insert your knife between the flesh and the skin. Holding the knife almost flat and using a back and forth motion, remove fillet from skin.



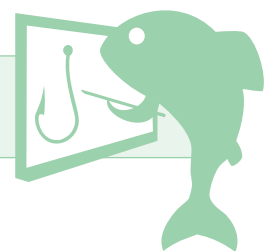
5. The fillet still contains the ribcage, so use the knife blade to carefully cut around and remove it.



6. Turn the fish over and repeat the previous five steps on the other side for the second fillet.

7. Rinse the fillets with cold, clean water.

Pike and pickerel have a lot of bones and need special filleting techniques not shown here.



Pan Dressing

Pan dressing is a common way to clean smaller fish like sunfish. This technique involves removing the scales (scaling), fins, head and guts of the fish; leaving the meat, skin, backbone and ribs. Almost no meat is lost by using this method. The bones can be easily removed after cooking.



1. Using a scale scraper, or just a butter knife the back of a fillet knife, scrape from tail towards the head, removing scales from both sides of fish.



2. Using a fillet knife, cut ¼- to ½-inch-deep along each side of the dorsal and anal fins for later removal.



3. Hold the fish upside down with its back resting on the table. Cut immediately behind the vent (anus). Slip knife forward just under the skin until you reach the pectoral fin.



4. Lay the fish flat. Make a deep cut on both sides of body behind the pectoral fin without cutting the backbone.



5. Pull the fish's head upward to break its backbone. The head will tear loose and the attached guts, pectoral and pelvic fins will come with it.



6. Remove the dorsal and anal fins, loosened in step 2, by pulling away and forward from the body (use pliers if needed). Cut off the tail.

7. Rinse with cold, clean water.



8. Ready for cooking!



Fish Cleaning Law

While on the water, walleye, largemouth and smallmouth bass, brook trout, lake trout or Atlantic salmon must be field dressed only, leaving the head attached. This allows enforcement officers to measure their length from head to tail. It is illegal to fillet, pan dress, skin or cut these species in any way that prevents their total length from being determined while still on the water.

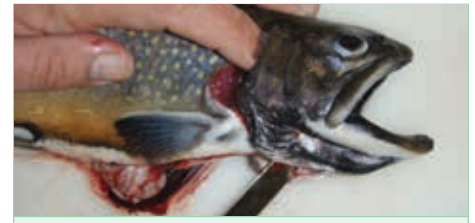
Other species may be filleted as long as the skin is left on to allow for species identification.

Field Dressing

Field dressing involves removing the gills and internal organs of the fish “in the field,” where you’re fishing.



1. Use a knife to make a cut from the vent (anus) to the gill arches. Keep the knife blade shallow to avoid cutting the stomach or intestines.



2. Next, cut the bridge that attaches the gills.



3. Remove the gills and internal organs.



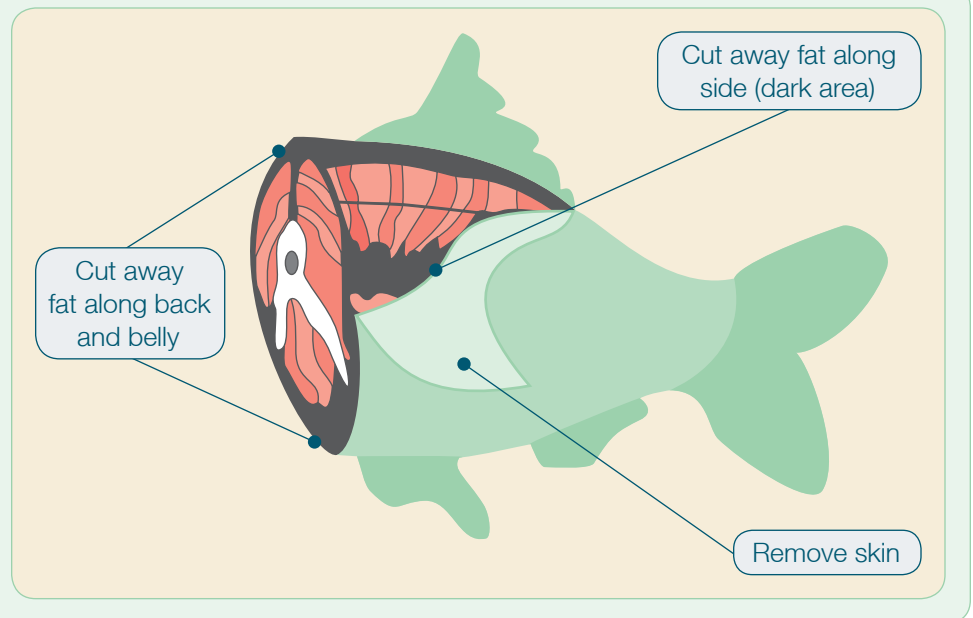
4. Some fish have a long, red kidney that runs along the backbone on the inside of the body cavity. Remove the kidney by scraping it with the knife blade or your thumbnail.



5. Rinse the body cavity with water and pack the fish in a cooler with ice.

Cleaning Fish for Healthier Eating

Chemicals, such as PCBs, dioxin and mirex, can accumulate in the fatty tissue of a fish. You can reduce the amount of some chemicals in a fish meal by properly trimming and skinning your catch. It is recommended to remove the skin and trim fatty areas like the belly flap, the lateral lines along each side, and the fat along the back and under the skin.



Storing and Preparing Your Catch

Storing Your Catch

The best tasting fish are those that are freshly caught, cleaned and cooked. Unfortunately, you can't always eat your catch immediately after cleaning. Here's some advice on properly storing fish to maintain its quality.

Refrigeration

Cleaned fish can be kept in the refrigerator for up to two days after being caught and cleaned. The closer the temperature is to freezing (32°F), the better the fish will keep.

Freezing

Freeze your catch if it will not be cooked within two days of being caught and cleaned. The sooner you freeze the fish, the fresher it will taste later on. To prevent freezer burn, wrap the fish tightly with freezer paper, aluminum foil or plastic wrap. After wrapping the fish, place it in a plastic freezer bag and remove as much air as possible.

Another way to preserve your catch is to freeze the fish in water. This method works well for fillets. Place fillets in a plastic freezer bag. Add just enough water to cover the fillets. Remove air from bag and freeze.

Cooking Your Catch



Fish can be an important part of a healthy diet. They are a good source of protein and have fewer calories than other kinds of meat. Most fish are good sources of many essential vitamins and minerals. Eating fish may even reduce the risk of heart disease. However, the best part is that fish are also tasty!

Ways to Cook Fish

Fish is a food that can be cooked in almost any way. The method of cooking often depends on how the fish was cleaned.

Fillets are the most versatile form of fish for various cooking methods. They can be cooked by frying, baking, broiling, smoking or grilling. Countless recipes call for fish fillets. Smaller pan-dressed fish are often pan fried or deep fried. Larger field- or pan-dressed fish, like trout and salmon, can be baked, grilled or smoked.

The flesh of properly cooked fish will be white (or light pink for salmon) in color and can be easily flaked with a fork. The fish should be moist and tender with a delicate flavor. Take care to avoid overcooking. This can make the flesh dry and chewy.

Broiling

Broiling is done in an oven broiler, which uses high heat from above to cook. Fillets are placed on a preheated, greased broiler pan. Cook fillets a few inches from the heat for about five to eight minutes, turning once during cooking. The high heat of an oven broiler can dry out fish, especially lean fish like bass, walleye and sunfish. Basting with butter or other sauces helps to keep fish moist and tender.

Baking

Baking is one of the easiest ways to cook fish. Place fillets on a greased, uncovered baking dish or pan. Preheat oven to 350°F, and cook fish for 20-25 minutes. Thin fillets will take less time. Larger dressed fish can take 45-60 minutes. Baste fish with butter, margarine or other sauces to keep it from drying out while baking. Add your favorite spice(s) for extra flavor. When the fish is done, its flesh will flake easily when tested with a fork.

Grilling



Grilling involves cooking fish on a barbeque grill. Thicker fillets, pan-, or field-dressed fish can be grilled. Thinner fillets tend to fall apart when turned over. Fish fillets are cooked over medium to high heat for about six minutes for a half-inch-thick fillet, turned once during cooking. Fish should be brushed with melted butter or marinade and then cooked until meat is white (or pink for salmon) and flaky, but still moist. Grilling times will vary for whole, field-dressed fish or foil-wrapped fish, so consult a cookbook.

Pan Frying



Pan frying is a quick and easy way to cook fillets and pan-dressed fish. Fish are cooked in a frying pan with about ¼-inch of oil at medium-high heat. Pan-fried fish can be cooked plain, but are usually coated with flour, breading or batter before frying. Briefly cook the fillets on each side until golden brown, turning only once.

Tips for Healthier Eating

Overall, fish is a great tasting and healthy food. However, certain species caught from a few waters in New York State contain contaminants that may be harmful to human health. See the “Safe and Responsible Angling” chapter for where to find health advisories on consuming fish, or visit www.health.ny.gov/fish.

Activities

1. Catch a fish and release it!

Make sure to use this chapter’s guidelines for catching and releasing a fish. Take a picture if you want to remember your catch.

2. Enter your catch!

If the fish you caught is big enough, enter it in the New York State Angler Achievement Awards Program. You will need its length and a picture too. See, “Just Caught a Trophy?” in this chapter for more information.

3. Eat your catch!

Fish are great to eat. Which way will you clean your fish and which way will you cook it? The choice is yours! See, the “Cleaning Your Catch” and “Cooking Your Catch,” sections in this chapter for some suggestions. Check the Fishing Regulation Guide to be sure your catch is in season and of legal size to keep.

Fishing for more information?

Web Resources

- How to properly catch and release a fish (video) www.youtube.com/watch?v=TQRGP4dY2rl
- Catching and Releasing Trout www.dec.ny.gov/outdoor/9224.html
- The Wild Harvest Table <http://wildharvesttable.com>

Books

- *New Cleaning & Cooking Fish (The Freshwater Angler)* by Sylvia Bashline



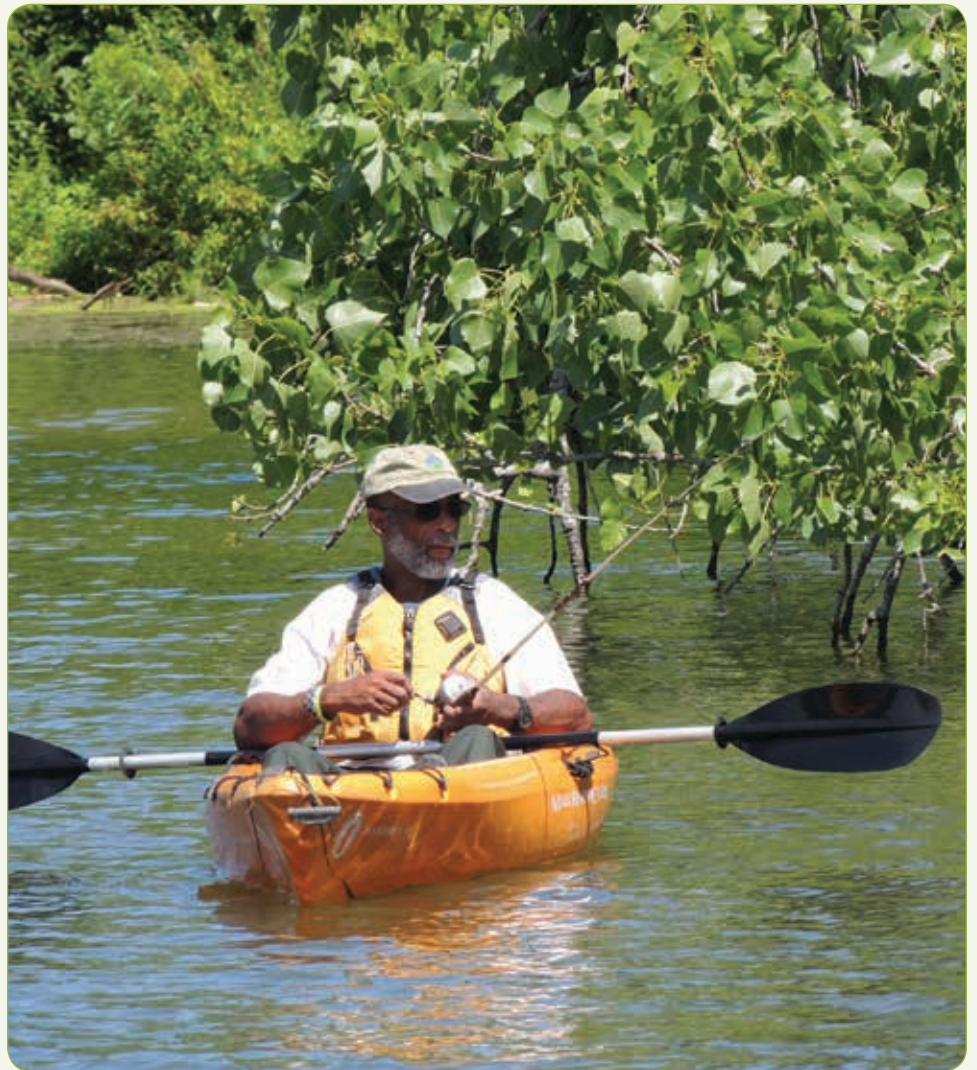




SECTION

4

Safe and Responsible Angling



The goal of any fishing trip is to have fun. But, nothing spoils a good time more than an easily avoided accident or the thoughtlessness of others in the form of litter or bad fishing manners. Just like any other form of outdoor recreation, fishing has both written and unwritten rules for staying safe and respecting others and nature.

Before you leave the house...

A safe and enjoyable fishing trip starts before you leave the house. Besides your fishing gear, you should bring along several other things:

- *Sunblock* – Since water reflects sunlight, you’re more exposed to ultraviolet (UV) rays while fishing. Use sunblock to prevent painful sunburn. 
- *Polarized sunglasses* – Polarized sunglasses cut the sun’s glare on the water and allow you to see fish and places they might hide. 
- *Hat* – A hat protects your eyes from the sun, helping you see your line and bobber better when a fish bites. 
- *Rain gear* – Sure it’s sunny when you leave the house, but you can’t always count on that to last. Be prepared for all weather conditions. 
- *Flashlight* – Important for fishing at night. 
- *Fishing Regulations Guide* – Special regulations apply to some fishing waters, so always check your regulations guide before you go. 
- *Ruler* – To figure out if your fish is large enough to legally keep. 

See page 28 in the Basic Tackle and Techniques chapter for other recommended things to bring when you go fishing.

Let someone know before you go.

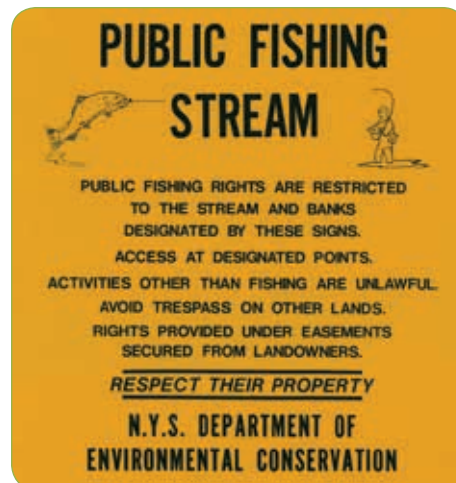
Make sure someone knows where you are going and when you expect to return...just in case!

Once you get to the water...

Once you get to the water, your first big decision is where to fish. In your eagerness to start fishing, don’t forget your manners. Keep the following tips in mind:

Respect property owners and other anglers.

- Respect private property! Only fish in areas where you have obtained permission from the property owner, or where the property owner has granted legal access to the public for fishing (see Public Fishing Rights at www.dec.ny.gov).



- Give other anglers the same amount of space you would like to have:
 - Before fishing in a crowded area, like a pier, make sure you can cast straight, without hitting others with your hook, or getting entangled with their lines.
 - Don’t make a lot of noise and disturb fish or other anglers.
 - Don’t “squeeze out” other anglers if they got to your favorite spot first.
- Give other waterway users, such as boaters and swimmers, the space they need to enjoy their activity. They have as much right to be there as you do.
- If you bring your dog fishing, keep an eye on it, so it doesn’t bother other anglers or wildlife.

Respect nature.

When you go fishing, you are out in nature and may come in contact with wildlife. Please:

- Don’t harass wildlife.
- Don’t feed ducks, geese, swans or other wildlife.
- Avoid nesting birds; disturbing them can cause them to leave their nests.



- Don't try to rescue young wild animals that look like they've been abandoned. Leave them alone, or if injured, call a licensed wildlife rehabilitator.
- Avoid wading through fish nests. Destroying nests means fewer fish in the future. Nests look like circles cleared of vegetation or debris, usually with a shallow depression.

Be mindful of natural hazards.

Nature also has some hazards to be aware of while you're fishing:

- Avoid poison ivy.



Frank Knight

- Watch for roots, rocks, stumps and other tripping hazards, and sudden drop-offs into deeper water if wading.
- Be careful when walking on wet surfaces. Rocks, roots, logs and stumps can be slippery when wet.
- Leave the water when you hear thunder. If you can hear thunder, you can be struck by lightning.



Stay safe and be considerate while afloat.

Boaters, please keep the following in mind:

- By law, everyone must wear a life jacket (personal floatation device or PFD) between November 1st and May 1st while riding in a moving boat that is less than 21-feet-long.
- By law, children under 12 must wear a PFD while in a moving boat less than 65-feet-long, unless in an enclosed cabin.

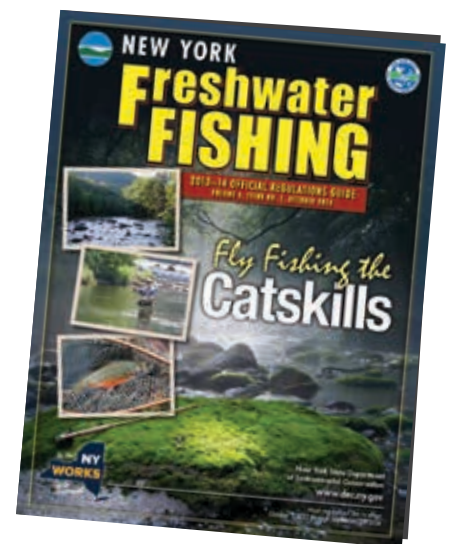
- By law, any person born on or after May 1, 1996, is now required to successfully complete an approved course in boater education in order to operate a motorboat. Approved courses include those offered by NYS Parks, the U.S. Coast Guard Auxiliary, or the U.S. Power Squadron. For more information, visit www.parks.ny.gov/recreation/boating/safety-courses.aspx.
- When fishing from a boat, please be considerate of shore anglers. Give them plenty of room to fish, especially if you are using a motor.
- Large wakes can be dangerous to those in small boats and annoying to anglers. Give anglers plenty of space when motoring by, and avoid passing between them and the shore.

Follow fishing regulations and help keep fishing great!

Check your fishing regulations guide for the regulations on the waters you plan to fish. If you use baitfish, be sure to review the baitfish regulations to prevent the spread of fish diseases. Always follow these regulations. They are designed to keep fishing great for years to come.



Courtesy of Take Me Fishing



Before you leave the water...leave the world a cleaner place!

Nobody likes arriving at a fishing spot and finding litter all over the place. Help keep our waterways beautiful. Bring a trash bag and carry out what you carry in. While carrying out your own trash, pick up something someone else left behind. Imagine how clean our waterways would be if everyone picked up just a few extra items when they leave.

Did You Know

An aluminum beverage can take up to 500 years to break down in the environment. Monofilament fishing line can take up to 600 years!



Health Advisories for Eating Fish

Fishing is fun, and fish are an important part of a healthy diet. Fish contain high quality protein and healthy fish oils. However, some fish also contain chemicals that may be harmful. The New York State Department of Health (DOH) has some advice that will help you make good choices about the kinds and quantities of fish you should eat. That advice comes in two forms, special health advisories that apply to some waters in the state, and the general health advisory that applies to all other waters in the state.

Special Health Advisories

When looking up advice on eating fish, start by finding out which New York State waters have special health advisories. Waters with special health advisories are located all around the state, even in the Adirondacks and Catskills. You need to know which waters they are because DOH advises kids under 15 and women under 50 not to eat any fish from such waters.

General Health Advisory and Other Tips

Most New York State waters do not have special health advisories. For those waters, DOH says you can eat up to four meals a month of fish you catch. This is called the general health advisory.

Here are some other helpful tips:

- Space out fish meals to about once a week for fish you catch.
- If you are fishing in the Adirondacks or Catskills, avoid or eat less yellow perch over 10 inches, largemouth or smallmouth bass, northern pike, pickerel and walleye. These fish tend to have higher mercury levels. Better choices are smaller yellow perch, brook trout, brown trout, rainbow trout, bullhead, bluegill/sunfish, rock bass and crappie.

- Some chemicals (like PCBs) are found at higher levels in the fat of fish. You can avoid some of these chemicals by skinning your catch, trimming off the fat, and then grilling, broiling or baking the fish. The fish that have the most of these kinds of chemicals are American eel, carp, lake trout, Chinook and coho salmon, striped bass, white and channel catfish and white perch. It is best to avoid or eat less of those fish.

Get more information for you, your family and friends at www.health.ny.gov/fish.

Checking health advisories is important, but be assured that New York State has thousands of great places to catch fish that are healthy choices for dinner.

What are those black spots in the fish I just filleted?

Those black spots are a common small parasite that penetrates the muscles of fish and produces a black color. Cooking kills the parasite, and the fish are safe to eat once cooked. The spots do not affect the fish's flavor.

Catch the Latest Advice

health.ny.gov/fish

Don't spread invasive species!

Invasive species can hurt native fish populations. They spread by hitching a ride to new locations in bait buckets and on fishing gear, boats and trailers. Anglers moving from one fishing spot to another can spread invasive species if they are not careful. Protect our fish populations by following these simple guidelines:



1. INSPECT & CLEAN your boat, trailer, waders and other fishing and boating gear. Remove all mud, plants and other organisms that might be clinging to it. Never release plants, fish or other animals into a water body unless they came out of that water body.



2. DRAIN & DRY everything that came into contact with water. Many aquatic invasive species and fish diseases are microscopic and can be transported in as little as a drop of water. Dry your gear for at least five days before using it in another water body. Difficult to dry gear, such as waders, may take even longer to dry. Be sure to completely drain your boat, including baitwells and livewells.



3. DISINFECT your boat or gear if you do not have the time to dry it before using it in another water body. The simplest way to do this is by soaking or flushing it with hot water that is at least 140°F (hotter than most tap water). Be careful as water of this temperature can cause burns and should only be used under adult supervision. Soak or flush the equipment to be disinfected for a minimum of 30 seconds. If hot water is not available, thoroughly flush all water-holding compartments with tap water. Household steam cleaners can also be effectively used to disinfect equipment. For additional disinfection guidance and information on how you can help stop the spread of invasive species, go to www.dec.ny.gov and search for "Prevent the Spread of Aquatic Invasives."

Did You Know

Did you know that aquatic invasive species can be transported in as little as a drop of water?



Did You Know

Some DEC boating access sites have special places called "Invasive Species Disposal Stations" to dispose of the weeds you pull off your boat.



We may be small...but we can be BIG trouble!



Some baitfish can be harmful if released into a lake or pond. In the past, anglers dumped (stocked) their unused baitfish into the lake at the end of their trip. Fish biologists called this "bait bucket introductions" because those dumped baitfish could start a new and potentially harmful fish population, or spread fish diseases. Never dump unused baitfish into the water you are fishing, unless you caught them in that water. If you catch your own baitfish, only

Safe and Responsible Angling

use them in the same body of water where you caught them. If you use purchased baitfish, please discard the unused fish, and the water they came in, on dry land. This will ensure that undesirable species (some invisible to the eye) are not introduced into a water body by mistake.

Whether crayfish, baitfish or worms, many species used for bait are not native to New York. It is best to discard them in the trash or at another location where they will not survive to compete with native species.

Did You Know

The acres of lakes and ponds with brook trout in the Saranac Wild Forest (Adirondacks Mountains) have decreased by 97 percent, due mostly to non-native fish introductions.

Activities

Find what is wrong in the picture. See answers below.



Fishing for more information?

Web Resources

- New York State Parks Safe Boating www.parks.ny.gov/recreation/boating/safe-boating.aspx
- Take Me Fishing – Boating <http://takemefishing.org/boating>
- National Safe Boating Council – Sidekicks Series www.safeboatingcampaign.com/sidekicks-menu.htm
- NYSDEC: Fishing Responsibly in New York State www.dec.ny.gov/outdoor/9223.html
- Take Me Fishing – Fishing Safety <http://takemefishing.org/fishing/fishopedia/fishing-safety>
- Take Me Fishing – Fishing and Conservation <http://takemefishing.org/fishing/fishopedia/fishing-and-conservation>

Books

- *New York State Boater's Guide. 2013.* New York State Office of Parks, Recreation and Historic Preservation, Bureau of Marine Services. www.nxtbook.com/nxtbooks/nysparks/boatersguide2013
- *Fishing for Dummies* by Peter Kaminsky and Greg Schwipps
- *The Complete Idiot's Guide to Fishing Basics* by Mike Toth



1. Not leaving the water as a thunderstorm approaches.
2. Trespassing.
3. Littering.
4. Bothering nesting waterfowl.
5. Dumping baitfish into the lake.
6. Not wearing a life preserver.
7. Crowding another angler.
8. Casting without looking behind you.
9. Boating too close to anglers.

Answers: