

Oklahoma Department of Wildlife Conservation **Fishing in the Schools Manual**



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Introduction

Oklahoma Fishing in the Schools

The Oklahoma Department of Wildlife Conservation (ODWC) is the state agency responsible for managing and protecting Oklahoma's fisheries. This includes making sure fish populations stay healthy and that fishing opportunities remain available for future generations. A person who fishes is called an angler.

The Oklahoma Fishing in the Schools Program is one of many programs offered to schools across the state as part of the Oklahoma Department of Wildlife Conservation's Outdoor Education suite. Along with the Oklahoma National Archery in the Schools Program, Explore Bowhunting, Explore Bowfishing, Oklahoma Scholastic Shooting Sports Program and Hunter Education, these programs offer exciting hands on skills and life sports that can be introduced to students in the classroom.

It not only introduces students to the lifelong sport of fishing, but teaches them many important life lessons. These lessons include safety, ethics, harvesting, and more!

For additional information on our other Outdoor Education Programs see details on pg. 34.

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JENA DOWNELL

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ON THE COVER: Students from Shiloh Christian Academy during a fishing field trip.
(Photo by Karina Tison)

Oklahoma Sport Fishing

Sport fishing is fishing for enjoyment. In Oklahoma, more than 1 million residents and non-residents people go fishing each year. Some people fish for fun, while others fish to provide food for themselves or their families.

Anglers play an important role in fishery management because their actions can affect fish populations and habitats. When anglers are well informed and educated, they are better able to help protect and conserve fish and waterways.

The Oklahoma Fishing in the Schools program was created to introduce new anglers to the sport of fishing. The program also teaches students how to be responsible anglers and helps them understand the important role they play in conserving and managing Oklahoma's fisheries.

History of the Oklahoma Department of Wildlife Conservation

- 1895** – Rainbow trout first stocked in Oklahoma by U.S. Fish and Wildlife Service.
- 1907** – Wildlife Department created. First game warden appointed.
- 1925** – First fishing licenses established.
- 1929** – Byron fish hatchery opens.
- 1934** – Holdenville fish hatchery opens.
- 1945** – "Oklahoma Game and Fish News" ("Outdoor Oklahoma") began publication.
- 1947** – Cooperative Fisheries Experimental Station established at University of Oklahoma. (Now exists as Oklahoma Fishery Research Lab.)
- 1948** – First private pond stocking policy adopted.
- 1950** – First walleye stocking in Canton Reservoir and Tenkiller Reservoir.
- 1959** – Lake Carl Etling wintertime trout stocking program begins.
- 1967** – Blue River Public Fishing and Hunting Area land purchased.
- 1969** – The first lifetime combination license was sold for \$150.
- 1970** – First successful natural reproduction by striped bass in Lake Keystone.
- 1974** – First natural reproduction by striped bass in Lake Texoma.
- 1977** – Striped bass hybrids first stocked in Oklahoma (Sooner Lake).



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The Medicine Park fish hatchery opened in 1915. Today, it is known as the J.A. Manning Fish Hatchery, and it is still operating.

Oklahoma Sport Fishing

- 1976** – “Outdoor Oklahoma” television show began.
- 1979** – Operation Game Thief established.
- 1980** – Lower Mountain Fork River year -round trout stocking program begins.
- 1983** – Fish habitat development program initiated.
- 1985** – Saugeye first stocked in state (Lake Thunderbird).
- 1986** – Lake Watonga wintertime trout stocking program begins.
- 1988** – Aquatic Resources Education Program established.
- 1991** – Brown trout introduced to the tailwaters below Broken Bow Reservoir.
- 1993** – Durant Hatchery was renovated, increasing annual production by 1.7 million fish. Department fish hatcheries stocked almost 30 million fish over the course of two years.
- 1994** – Robbers Cave State Park wintertime trout stocking begins.
- 1998** – Stream management program begins.
- 2003** – Hunting and fishing licenses available online.
- 2005** – First Wildlife EXPO.
- 2007** – Paddlefish Research & Processing Center established.
- 2008** – Lake Record Fish Program established to recognize Oklahoma anglers and fish.
- 2011** – Oklahoma Fishing in the Schools Program established.
- 2014** – Oklahoma Fishing in the Schools Program reaches 200 schools across the state.
- 2016** – Oklahoma Fishing in the Schools Program reaches 300 schools across the state.
- 2020** – “The Dock” was created for anglers to show off their catch. To submit your photo go to https://www.wildlifedepartment.com/fishing/the_dock
- 2024** – Boating access coordinator hired by ODWC to increase fishing access over Oklahoma
- 2025** – Oklahoma Fishing in the Schools Program reaches more than 400 schools across the state.



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The Oklahoma Department of Wildlife Conservation is the agency responsible for managing Oklahoma's fisheries.

2 Fishing Tackle & Supplies

Fishing tackle, supplies and equipment are essential to the success of any angler. This doesn't mean you need to buy the most expensive product on the shelf. But knowing what equipment is needed will help you succeed in your fishing trip.

The basic equipment any angler uses is nothing more than a rod and reel with a line, hook and weight. The type of rod and reel, and the sizes of the line, hook and weight will all depend on the species of fish you intend to catch.

The Reel

All fishing reels typically consist of some sort of spool that holds line, with a crank to reel in the line. There are different types of reels that vary in form and function, and have varying degrees of difficulty on their use.



Spincast reel.

Spincast reels are the most basic and easiest to use. A spincast reel is the recommended choice of any beginning angler since it is easy to operate and difficult to tangle. It is also very versatile in that it can be used in just about any form of fishing.

The spincast reel is the most versatile and easiest to operate.



Spinning reel.

Spinning reels are another type of reel and one of the more common reels used by experienced anglers. This reel is different from the spincast reel in that the spool is open, and the reel hangs underneath the rod instead of sitting on top. The reel is a bit more difficult to use.



Baitcast reel.

Baitcast reels are sort of a hybrid between the spincast and spinning reel. The line is exposed on the spool similar to the spinning reel, but the reel is back on top of the rod, and the line is released by pushing a button with the thumb on the back similar to the spincast reel. This is a very advanced reel often used by experienced anglers.

The last reel is a very specific reel associated with a type of cast. The **fly reel** is used specifically for "fly fishing." Like the spinning reel, the fly reel hangs underneath the rod, but is designed so that instead of your bait or tackle being the weight, the line is the weight that is cast.



Fly reel.

Fishing Tackle & Supplies

The Rod

The type of rod you use will depend on the type of tackle you plan to use and which reel you have. Casting reels (baitcast and spincast) sit on top of the rod. So those rods will differ from a rod for a spinning reel which hangs below the rod.



PURE FISHING

Rod handles for spincast & baitcast (bottom) and spinning (top) reels.

The length of a rod can vary from 5 to 6.5 feet for spinning and casting rods for freshwater fishing. The length depends on user preference. But for beginners, 5.5 feet is a good starting point.

Rods also have a term called “action” associated with them. The action is how much flexibility the rod has. The lighter the action, the more flexible the rod will be. A rod with heavier action is much stiffer. Your preferred action depends on the size of lure and fish you plan to catch. For beginners, a medium action is a good starting point.

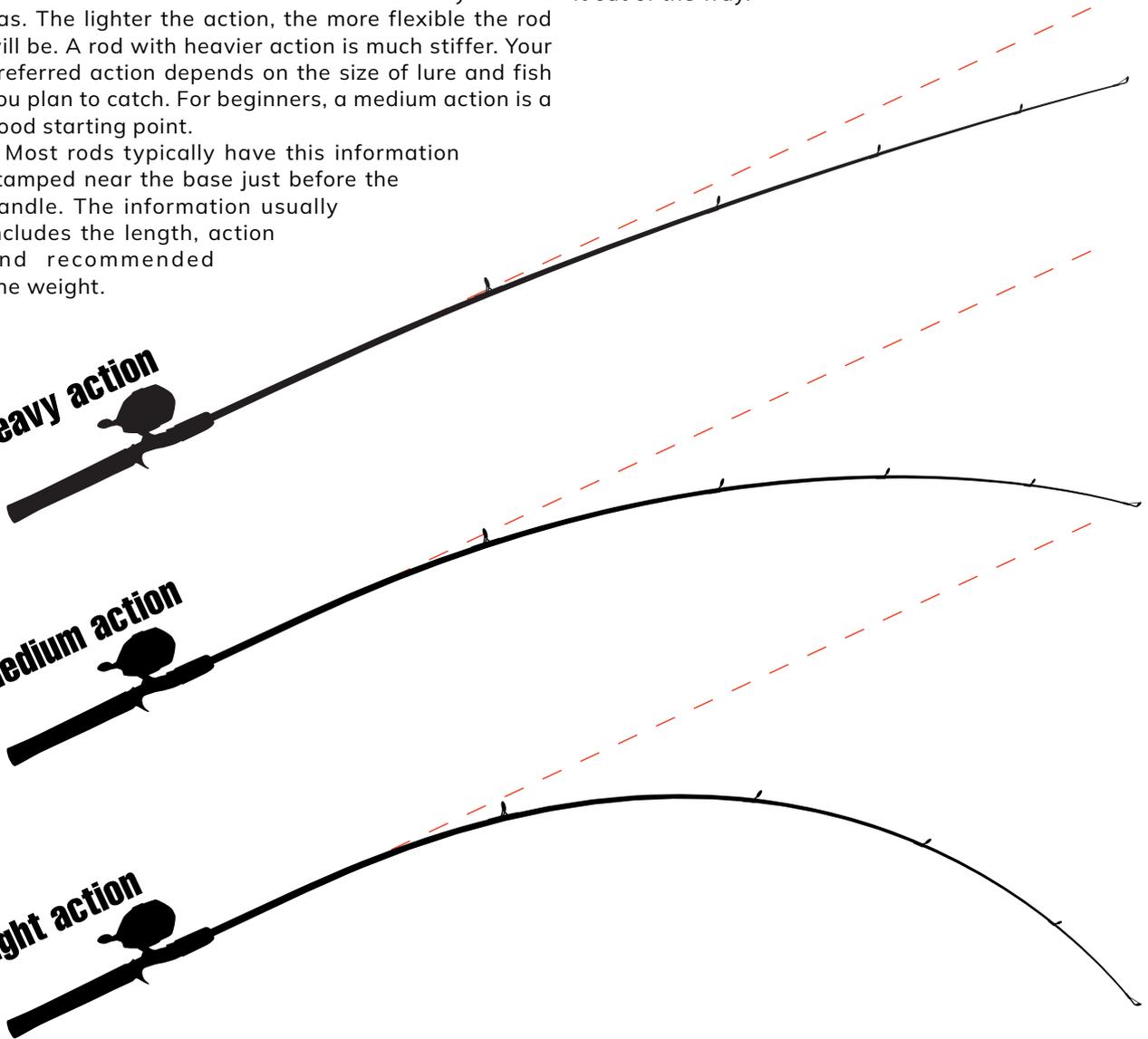
Most rods typically have this information stamped near the base just before the handle. The information usually includes the length, action and recommended line weight.

Fly rods are different in that they are longer, usually 7 to 10 feet, and vary in action depending on the weight of line you are using. They are normally two pieces, with the reel sitting below the grip, keeping it out of the way.

Heavy action

Medium action

Light action

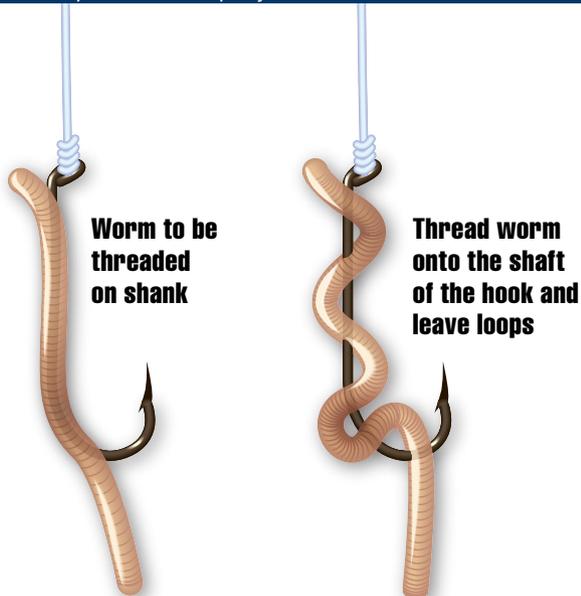


2 Fishing Tackle & Supplies



Trying to pick out a lure at any sporting goods store can be a challenging task. Artificial lures come in many shapes, sizes and color. Practice and experience is the best way to learn what lures work for each situation.

Two examples of how to put your worm on a hook.



Bait

Bait is one of the most important decisions an angler makes. Bait can be live, such as worms, crickets or minnows. Bait can also be dead or nontraditional, such as cut fish, corn or dough balls. Worms are a common bait, and can be used to catch just about any species of fish in Oklahoma. For the beginner, worms are the best choice, and they make catching sunfish which are plentiful easy to catch. Live bait is better than any nontraditional or artificial bait since it is natural, but live bait typically is not reusable and doesn't last forever.

Artificial Lures

The choice in artificial lures is almost unlimited. The size, color combination and type are difficult choices an angler has to make when using artificial lures. The purpose of the artificial lure is to imitate something natural. The benefit is that they are typically reusable, and some lures can be used for years.

Plugs/Crankbaits

Plugs, often referred to as crankbaits, have the shape and action of a baitfish or aquatic food. Some

Fishing Tackle & Supplies

2



DANIEL GRIFFITH

Try different colored lures to see which color is working the best.

PURE FISHING



Crankbait with lip. Targeted species: largemouth bass, smallmouth bass, spotted bass, white bass, striped bass, striped bass hybrid, walleye, sauger, and saugeye.

plugs are made to stay on top of the water, some are designed to go just below the water surface, and some go deep. The depth they travel will depend on the size of the bill or lip on the front of the lure. The larger the lip or bill, the deeper the lure will go when pulled through the water. Crankbaits are usually made of plastic and sometimes contain small metal beads in them that rattle as the lure is pulled through the water. This rattle sends vibrations through the water that are felt by fish, creating interest in the bait.

PURE FISHING



Spinnerbait with a skirt and two blades. Targeted species: largemouth bass, smallmouth bass and spotted bass.

2 Fishing Tackle & Supplies



A topwater buzzbait. Targeted species: largemouth bass, smallmouth bass and spotted bass.



A larger jig with a skirt. Targeted species: largemouth bass, smallmouth bass, spotted bass.

Spinners/Spinnerbaits

Spinners are metal lures that have spinning blades that rotate through the water. This metal blade imitates another fish swimming through the water. Spinnerbaits, primarily used for bass fishing, have a weighted head with a skirt to hide the hook.



Assorted soft plastic baits. Targeted species: largemouth bass, smallmouth bass, spotted bass.

Jigs

A jig is simply a hook with a weighted head, and a soft plastic or skirt over the hook. Similar to soft plastics, jigs do not have a built-in action, so they require some additional skill on the angler's part to work the lure.



Bee and grasshopper flies. Targeted species: sunfish and trout.

Buzzbaits

Similar in design to a spinnerbait, the buzzbait is used as a topwater lure. It is a popular lure primarily for bass fishing. It has a propeller-like blade that creates a surface disturbance as it is pulled across the water's surface. This disturbance on the surface will draw a fish's attention, just as a topwater crankbait does.

Soft Plastics

Soft plastic baits come in many sizes and shapes. They are designed to imitate something that would be a natural food for fish. Plastics require a little more work on the angler's part since they don't have the action of other artificial lures. More skill and finesse are required to properly imitate the natural food source you are trying to imitate with the lure.



A small jig with a plastic tail. Targeted species: sunfish, crappie, largemouth bass, smallmouth bass, spotted bass, walleye, saugeye and sauger.

Flies

Flies are associated with fly fishing and are typically hooks with hand-tied materials around them. They are designed to imitate a fly or other insect. Commonly used materials include thread, feathers, fur, wool, nylon, tinsel, Mylar and chenille. The assortment of flies is seemingly limitless. Tying flies is a hobby of many experienced anglers.

The Tackle Box

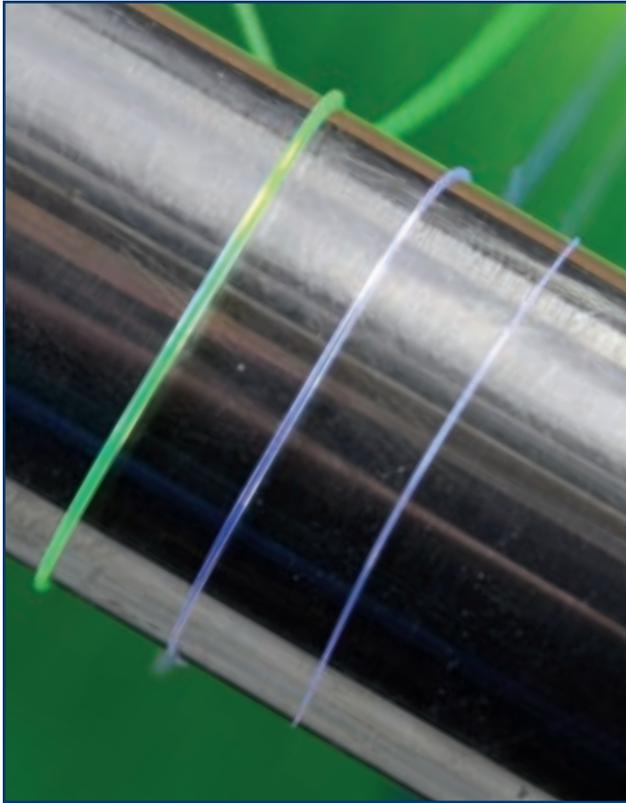
The tackle box is every angler's best friend. It holds your tackle and helps organize the various tackle an angler will acquire through time. Tackle boxes come in different shapes and sizes. For the beginner, something small and simple is all that is needed.



A small red tackle box.

Fishing Tackle & Supplies

2



Different sizes of monofilament line, shown 30#, 14# & 4# (from left to right).

The Line

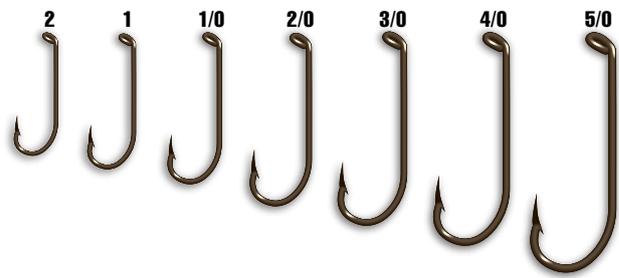
Fishing line is typically a monofilament material that is designed to be nearly invisible in water. The larger the pound-test number, the stronger the line. The downside of stronger line is its thicker diameter. Thicker line means it will be easier for fish to see it in the water. For a beginner, and with most spin-cast reels, an 8 to 12 pound test line is recommended.



A split shot weight.

The Weight

Weights, also called sinkers, are an important part of your fishing rig. Weights come in different shapes and sizes for different uses. The weight of the fishing line and hook is not enough to hold your bait down in the water. A sinker helps hold your bait or hook down in the water. The weight also provides additional casting support to help throw your bait into the water. One of the most common weights is the split shot. The fishing line is placed in the groove and the weight is crimped around the line with pliers. Use caution when crimping split shot on the line; crimping too hard can damage the line.



The Hook

Hooks come in different shapes and sizes. The basic parts of a hook are the eye, shank, bend and barb. The purpose of the hook is to grab the fish and keep the fish from getting away. The barb is an important feature that keeps fish from sliding back off the hook. Some hooks don't have a barb, because certain fishing regulations require you to use a hook without barbs. The most common hook, and a good hook to start with, is a simple Aberdeen hook. The Aberdeen hook usually has a u-shape bend and a longer shank.

Hooks should always be handled with care when fishing, to avoid injury.

Once the type of hook is selected, then the size of hook is chosen. Using a hook that is too large might not allow a smaller fish to get the hook in its mouth. Using a hook too small could allow a larger fish to bend or break the hook. Most anglers usually have a few hook sizes on hand so they can switch should they believe the current hook being used is too small or too large.

Cork/Float/Bobber

A float, generally called a bobber, is a plastic bulb or cork that attaches to your line and floats in the water. The bobber is placed above the hook and weight on the line, and can usually be adjusted up or down on the line to allow your bait to stay at a certain depth below the surface. Another purpose is to indicate to the angler when a fish has taken the bait. A bobber is a great tool for a beginning angler, since it will help to indicate when the angler should reel in the fish. Bobbers come in different shapes and sizes.

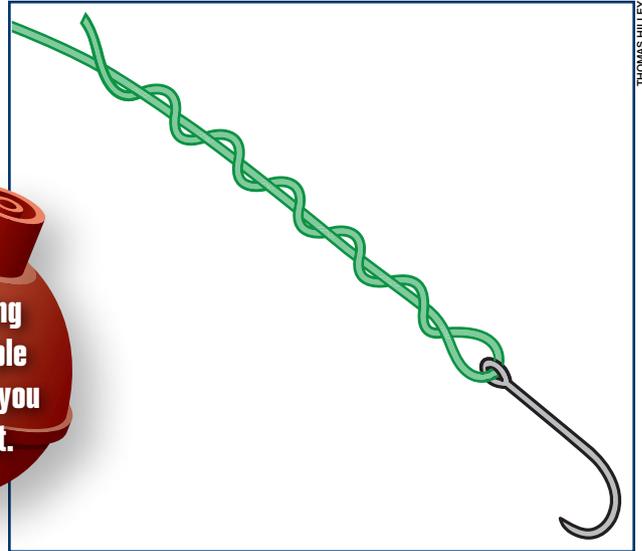


Knots & Casting Techniques

Knots

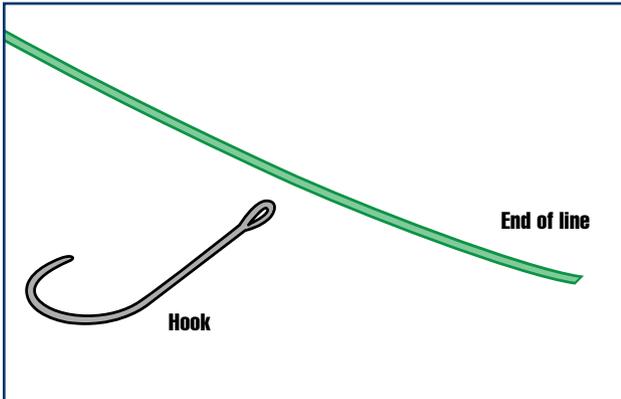
A good fishing knot is important to the success of any angler. Tying a fishing knot takes practice to learn but will help reduce the chance of losing a fish because of the line breaking or the knot coming undone. The purpose of a fishing knot is to provide a strong knot while not degrading the quality of your fishing line. Tying a regular knot in fishing line will reduce its strength significantly. If you are using 12 pound-test line and tie a simple knot in the line, the strength of the line at that knot will be much less than the advertised 12 pounds. An improper knot will easily result in a broken line and loss of the fish, bait and lure. The improved clinch knot is one of the easiest fishing knots to tie and is a knot many anglers learned when they were beginners. Read on for instructions on how to properly tie an improved clinch knot.

Practice tying a knot multiple times to help you remember it.

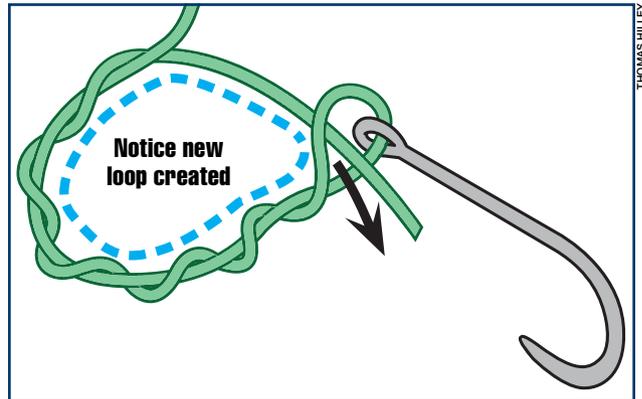


Step 3: Twist the line around five or six times.

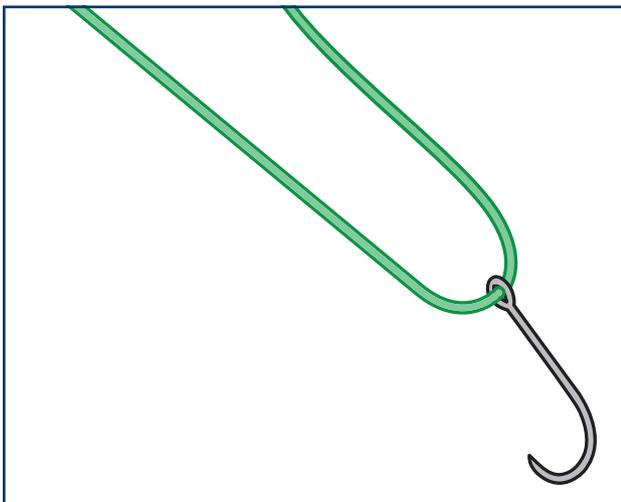
How to tie an improved clinch knot:



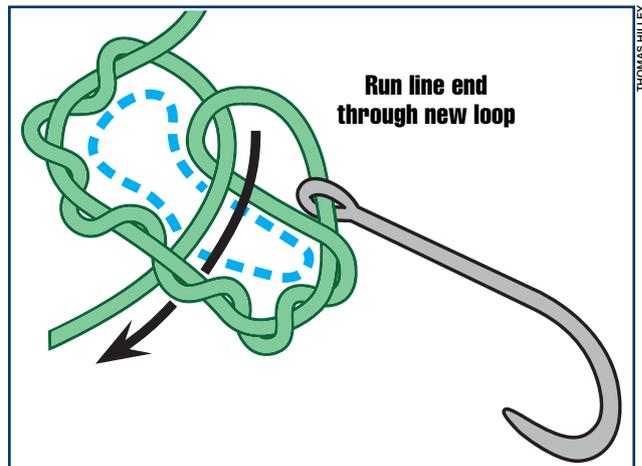
Step 1: Have your hook and the end of your fishing line.



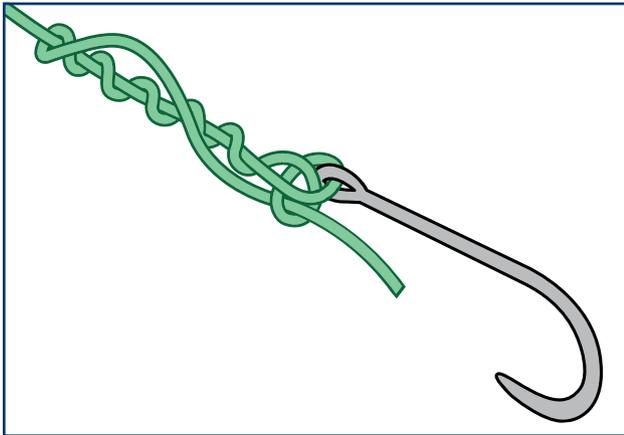
Step 4: Run the end of the line through the loop above the hook's eye, but notice the new loop you are creating as you run the line through the loop.



Step 2: Run the end of your line through the eye of the hook.

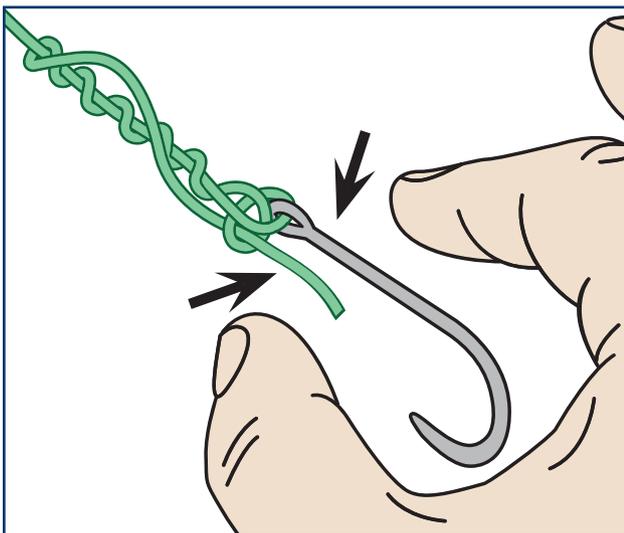


Step 5: Now run the end of the line through the new loop you created in the last step.



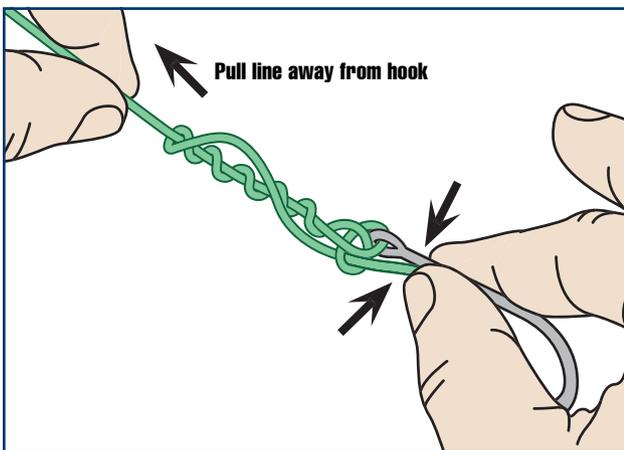
THOMAS HILLEY

Step 6: Straighten your line for the next step.



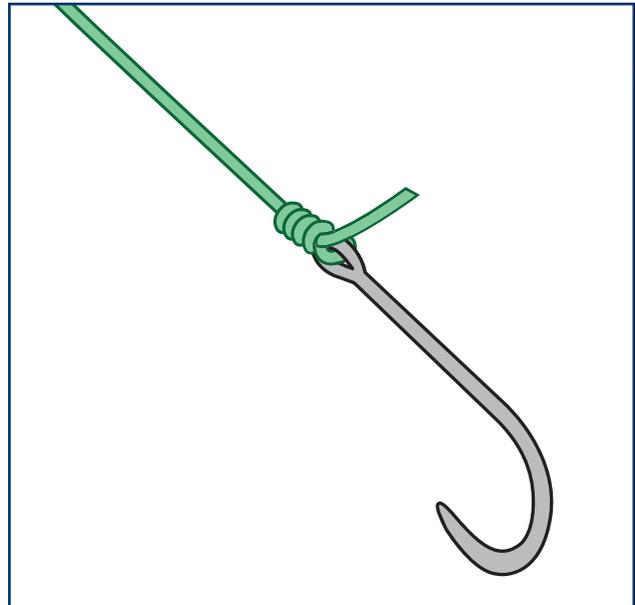
THOMAS HILLEY

Step 7: Hold down the end of the line and the hook together with one hand.



THOMAS HILLEY

Step 8: With the end of the line and hook in one hand, gently pull the other end of the line away from the hook. Remember you have a hook in your other hand, so be careful not to pull too hard or you could hook yourself.

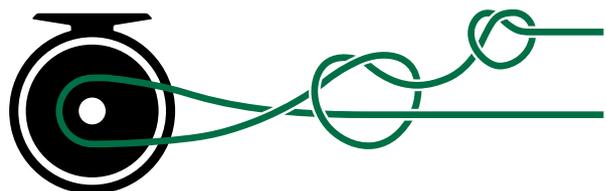


THOMAS HILLEY

Step 9: Once your knot is pulled down tight, this is what you should have. If you have excess line hanging from the knot, you can cut it. But don't cut it too close to the knot or it will come undone.

When using monofilament line it helps to "wet" your line before pulling it tight. To "wet" your line either place the line in your mouth or water. The moisture provides a lubricant that will help the line cinch down easier, but will also protect the line from being damaged by the friction.

Arbor Knot



THOMAS HILLEY

Another useful knot is the arbor knot. It can be used to tie your fishing line to your reel.

Knots & Casting Techniques

Casting

Knowing how to properly cast is an important part to becoming an angler. There are many different ways to cast, but the simplest and easiest to do is the overhand technique using a spincast reel. The key thing to remember when casting is SAFETY! Remember you have a hook swinging from the other end of the line! Make sure nobody is in the way to avoid any serious injury. And be aware of any other objects such as trees that could be hooked to help avoid damage to equipment and save time from possible tangles.

Anyone who can drink a cup of water can cast. Before casting, practice this simple motion of drinking from a cup.



Just like picking up a cup from a table, your elbow should be at your side and bent at a 90-degree angle.



Keep your elbow pointed down at your side, then bring the cup to your mouth.

Now using a spincast rod and reel, repeat the same thing.



1: Hold the rod pointed out in front of you, and be sure your feet (toes) are pointed in the direction you wish to cast.



2: Push the button on the back of the reel, hold in the button, and slowly bring the rod over your shoulder. (Notice how your elbow should remain pointed down and at your side.)

Knots & Casting Techniques

3



3: Now look behind you to make sure nobody is standing there or that no objects are in the way before you finish your cast.



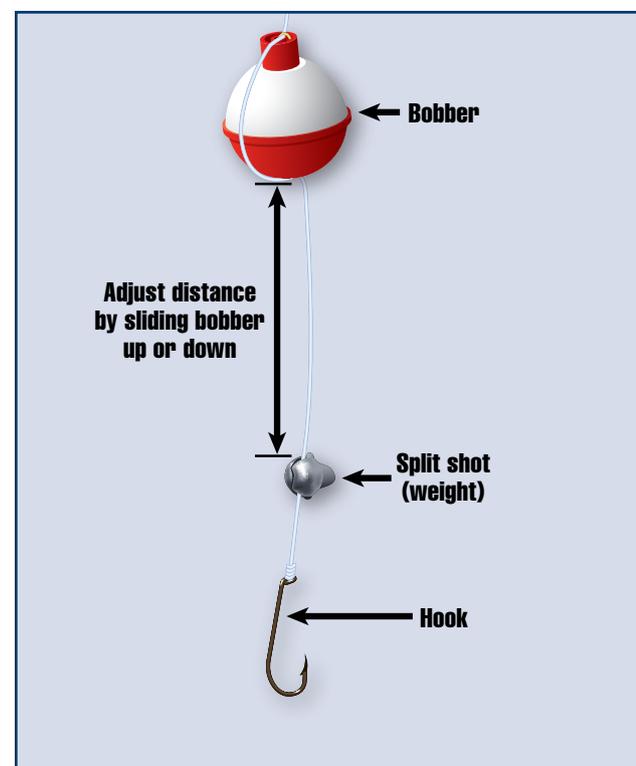
4: When you are sure the area behind you is clear, bring the rod forward while keeping your elbow down, and release the button right after the rod points directly up.

4 Fishing Techniques

This chapter covers some basic fishing techniques that will help you land your first fish. There are hundreds of different fishing techniques, and it takes years of experience for any angler to master them.

Spincast Fishing

While many think of fishing from a boat, the majority of anglers will start off fishing from a dock or shore. One of the simplest fishing rigs to use is a spincast rod and reel, with a small hook, split shot weight and a bobber. When used with live bait, typically a worm, this method is guaranteed to bring success if fish are present and biting.



For this method, place a small split shot weight on your line to provide weight that will keep your bait submerged. The hook is typically below the weight and holds your bait. The bobber helps suspend your bait in the water so fish can see it. You can also adjust the bobber up and down your line to adjust the depth of your bait in the water.

The bobber also acts as an indicator when a fish is on your hook. When the bobber goes underwater, you have a fish on the hook. For best results, it is recommended that you "set the hook" before you start reeling in your fish. To do that, simply jerk the rod tip up quickly, but not too hard or you could pull the hook out of the fish's mouth.

Once you have set the hook, you can reel in the fish, but be sure to keep the rod tip pointed up. This will allow the rod to reduce the strain on the line so that it doesn't break.

Eventually you will see your fish coming up to the water's surface. Be careful not to jerk the fish out of the water but to gently pull it up. For larger fish, using a dip net to pick up the fish is recommended.

Where to Fish

One of the first things to do is decide where you want to go fishing. Finding a body of water close to home is more convenient, but there are many places to go fishing all across the state!

The best resource for finding a nearby place to fish in Oklahoma is wildlifedepartment.com.

Once you have picked a place to go fish, you'll want to fish near overhanging branches, structure in the water, points, and drop-offs.

Remember to always obtain landowner permission when fishing private ponds.

Close to Home Fishing



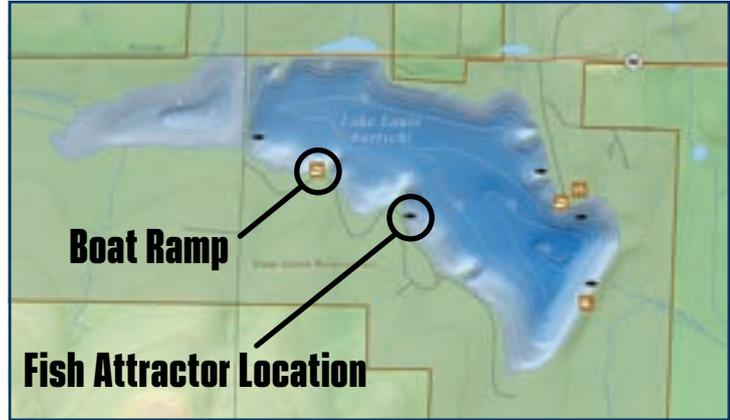
Where to fish



Where are the Fish

Fish don't just randomly swim around in the water. There are places they prefer to be. As an angler, knowing where fish prefer to be is good information to have.

LANCE MEEK



Finding “structure” in the water or changes in elevation are key places to look for fish. Structure can be anything such as a log or rocks under the water. Downed trees or structure hanging over the water can also be a point of focus for fish. Fish will typically congregate around these objects for cover or shelter. A change in elevation also can be a focus point for fish, so fishing from a point or steep bank can result in success.

Some fish school together, and finding one normally means more are in the same area.

Also look for fish attractor sites. These sites are marked with small, typically orange-and-white buoys. The structure at these sites is typically man-made items or sunken cedar trees that provide cover for fish. These sites concentrate fish for anglers.

Maps are a useful tool for any angler to find places where fish might be found. Maps may show contours, changes in

elevation, boat ramps, or the location of fish attractors. You can find all of these resources on our website.

Other Fishing Methods

As you progress, you may want to try other methods of angling. Some require using different types of rods and reels, with different types of live bait or artificial lures. Other methods include bowfishing, juglining, noodling, limblines, and snagging.

Scan the QR code for “How To” videos on different fishing tips and techniques. Check back often for new videos.



STEVE WEBBER



5 Fish Identification

Being able to correctly identify fish is an important part of fishing. A responsible angler knows the fishing regulations and understands how many fish of each species can be kept, as well as the size a fish must be before it can be kept.

Knowing how to identify fish helps anglers follow the correct rules and regulations for each species. Different fish may have different limits or size requirements, so proper identification is important for staying within the law.

Anglers can find more information about fish identification, as well as current fishing rules and regulations, in the Oklahoma Fishing & Hunting Regulation Guide. This guide is available at local license dealers or online at wildlifedepartment.com.

Sunfish Bluegill



- Typically have vertical bars on the side of their bodies
- Dark gill flap with a black spot at the base of the dorsal fin

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Redear Sunfish



- Red border on its short gill flap
- No black spot at the base of the dorsal fin

Green Sunfish



- Large bass-like mouth
- Orange flanked gill flap, with blue-green color lines on cheek

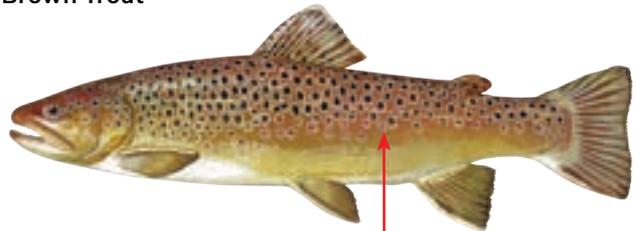
Trout

Rainbow Trout



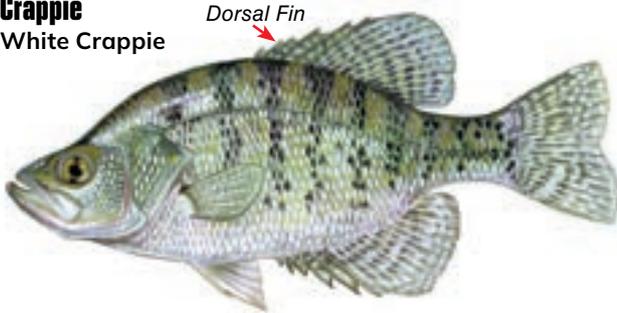
- Black spots on tail
- Iridescence on sides

Brown Trout



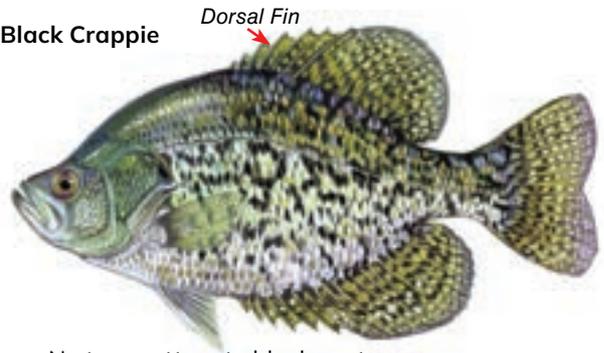
- Few or no black spots on tail
- Orange and red spots on side

Crappie White Crappie



- Distinct vertical bands of blue/gray spots
- 5-6 bony spines in dorsal fin

Black Crappie



- No true pattern to black spots
- 7-8 bony spines in the dorsal fin.

Catfish Blue Catfish



- Straight anal fin

Channel Catfish



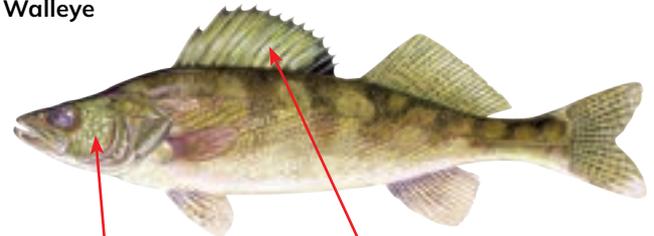
- Curved anal fin

Flathead Catfish



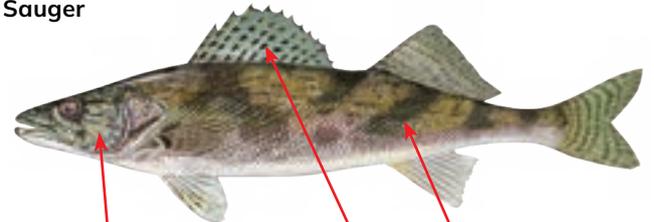
- Tail not forked

Walleye, Sauger & Saugeye Walleye



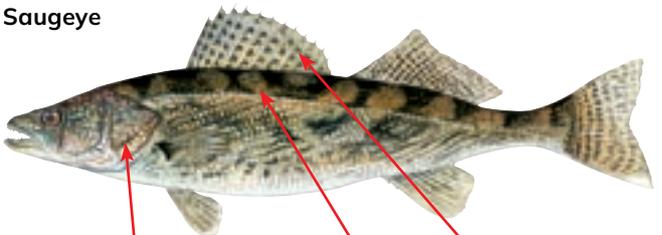
- Few or no cheek scales
- No spots on spiny dorsal fin

Sauger



- Cheek covered with scales
- Distinct spots on spiny dorsal fin
- Tan body with distinct brown blotches

Saugeye



- Cheek covered with scales
- Body gold with distinct brown blotches
- Spiny dorsal fin with distinct spots and bars in webbing

Fish can change color depending on the amount of light they receive, and may appear darker or lighter.

5

Fish Identification

Black Bass

Largemouth Bass



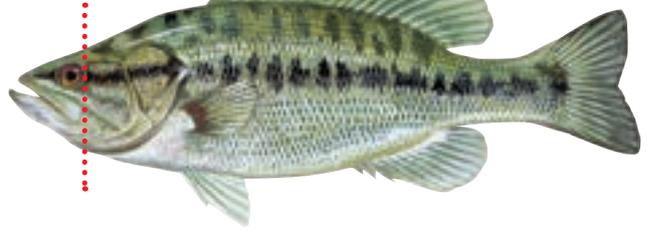
- Mouth hinge well behind eye

Smallmouth Bass



- Mouth hinge in front of eye

Spotted Bass



- Mouth hinge even with back edge of eye

Distinguishing Black Bass

The presence or absence of a tooth patch is another way to distinguish black bass. The majority of largemouth bass have no tooth patch on the tongue, while smallmouth and spotted bass do have a tooth patch on the tongue.



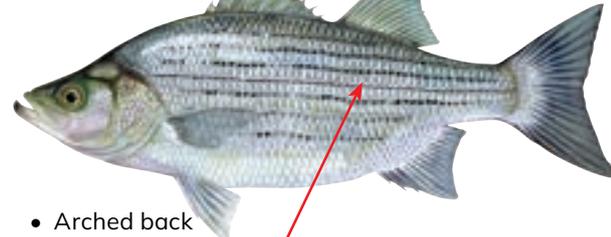
Largemouth Bass
Most largemouth bass have no tooth patch on the tongue.



Smallmouth Bass
Smallmouth and spotted bass display a tooth patch on the tongue.

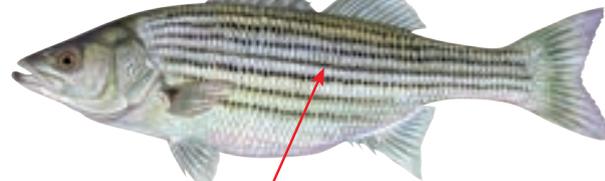
White Bass, Striped Bass and Hybrids

White Bass



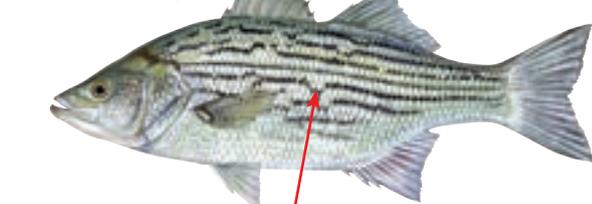
- Arched back
- Faint lines, usually unbroken

Striped Bass



- Back not arched
- Strong, unbroken dark lines

Striped Bass Hybrid



- Back slightly arched
- Some broken lines

Distinguishing White Bass

White bass are also distinguished from striped bass and striped bass hybrids by tooth patches on the tongue. White bass have a single tooth patch, striped bass and striped bass hybrids have two tooth patches.



White Bass
One round or heart-shaped patch on tongue



Striped Bass & Striped Bass Hybrids
Two long patches on tongue

The state fish of Oklahoma is the white bass, also referred to as a sand bass.

Fish Identification

Oklahoma is home to 176 species of fish. Many of these fish can only be found in specific parts of the state, while others range across the entire state. For additional information on other fish found in Oklahoma, visit wildlifedepartment.com and check out the "Field Guide to Fishes of Oklahoma."

COLIN BERG



Oklahoma is known for having one of the best paddlefish fisheries in the world!

Blake Shelton holds a paddlefish he caught.



BRANDON BROWN

The rock bass is a sunfish that can be found in dense cover in Ozark streams area of northeastern Oklahoma.



BRANDON BROWN

Fantail darter in a bed of rock found in northeastern Oklahoma.



MATT MAUCK

A state record alligator gar.

5 Fish Identification

Species Profiles

Most fishing in Oklahoma takes place in the state's many reservoirs, lakes, and ponds. However, about one-third of Oklahoma anglers enjoy fishing in the state's diverse streams each year.

Oklahoma's streams offer exciting fishing opportunities and are home to many fish species that are not usually found in lakes or reservoirs. The Little River in southeastern Oklahoma alone contains more than 100 different fish species, which is more than the total number of fish species found in 26 U.S. states.

Photos on pages 21 and 22 provided by Brandon Brown.



Bowfin are long, snake-like fish found mainly in southeastern Oklahoma. They are sometimes confused with the highly invasive snakehead fish. During the spawning season, male bowfin develop bright neon green colors.



Banded sculpin live in clear, cool streams in the Ozark region of northeastern Oklahoma. They have special green and yellow lenses in their eyes that can retract to protect them from ultraviolet light, similar to wearing sunglasses.



The northern hogsucker is found only in Ozark streams in northeastern Oklahoma. Its camouflage coloring helps it blend in with the stream bottom and avoid predators. Look closely—how many can you find?

The Red River pupfish is found in southwestern Oklahoma. This species can survive in extreme conditions, including water temperatures over 100°F and salinity levels higher than seawater.



Plains killifish live in western Oklahoma in shallow streams with sandy bottoms. Like the Red River pupfish, they can tolerate very high salinity levels.



Greenside darters are fairly common in northeastern Oklahoma and are among the state's most colorful fish. They are sensitive to pollution and need cool, clean, flowing water to survive.



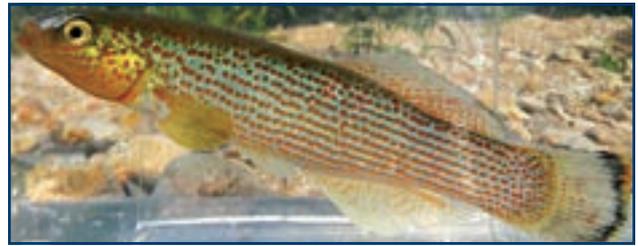
During spawning season, colorful male longear sunfish build nests by making round depressions in the streambed. They aggressively defend these nests from other fish and intruders.



Orangebelly darters are found in southeastern Oklahoma. Like other darter species, they mainly feed on aquatic insect larvae.



The cardinal shiner is considered a species of greatest conservation need in Oklahoma because it has a very limited range. Both males and females have light blue, powdery spots on their noses.



Members of the topminnow family, northern studfish spend most of their time swimming just below the water's surface. They prefer areas with slower-moving water.



Blue suckers are known as "big river" fish because they are found only in large river systems such as the Red, Arkansas, and Neosho rivers.



The freckled madtom is a small member of the catfish family and usually grows to about five inches long. These fish spend most of their time hiding under rocks and fallen debris.



Red shiners are one of the most widespread minnow species in Oklahoma because they can survive in a wide range of environmental conditions.

Fish Cleaning & Cooking

Fish Cleaning

While many people enjoy fishing for sport, many others catch fish to use as food. Fish has always been an important part of the diet. And being able to clean and cook a fish that you caught is great, especially for those who enjoy the taste of fish!

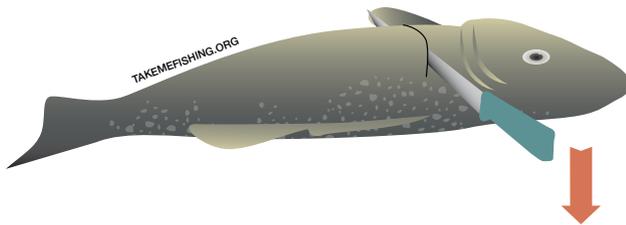
When cleaning your fish, filleting means cutting out the meat of the fish without the bones. Larger fish, like largemouth bass, catfish, striped bass and walleye, are usually filleted. A filleted fish has its skin and all of its bones removed before cooking.

Fillet knives have a long, thin blade that's very sharp and specifically designed for filleting fish. To work properly, the knife must be really sharp. If you have any slime on your hands or the fillet knife handle, wash it off to prevent slipping.

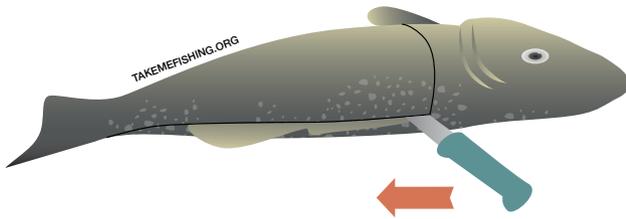
Tip: When learning how to fillet a fish, you can also wear metal- or rubber-mesh fish-cleaning gloves to protect your hands.

Here are the steps to fillet a fish:

1. Place the fish on its side on a flat surface.

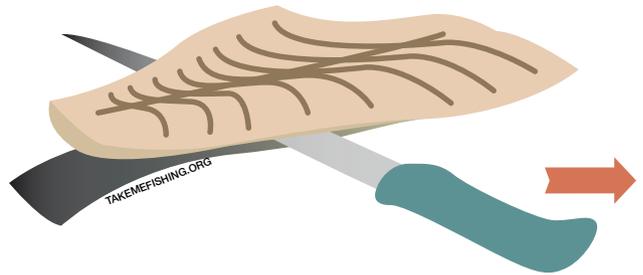


2. Cut the fish behind its gills and pectoral fin down to, but not through, the backbone.



3. Turn the fish so that its back (dorsal fin) is facing you. Make a long slice along the back of the fish from the cut you made behind the gills all the way to the tail.
4. Repeat this slicing motion until you can lift the meat part way away from the back bone with your thumb.

5. Once you can lift the meat partially away, continue to run the tip of the knife along the ribs of the fish till you lift the fillet most of the way off the carcass.
6. Push the blade of your fillet knife all the way through the body of fish from the dorsal (top) side through to belly at the anal vent, and pull the knife towards the tail to separate the fillet from the rest of the fish.
7. Repeat these steps on the other side of the fish.
8. Put the fillet on the table with the skin side down. Insert the knife blade about a half-inch from the tail, gripping firmly, and put the blade between the skin and the meat at an angle.



9. Using a little pressure and a sawing motion, cut against, but not through, the skin.
10. Remove the fillets from the skin.
11. Wash each fillet in cold water.
12. Pat dry with a clean cloth or paper towel. The fillets are ready to cook or freeze.



Fish Cleaning & Cooking

Fish Cooking

Cooking is the next-to-last step in finishing a great fishing trip. Below is a simple recipe for cooking your fish fillet.

Pan Frying Fish

Pan frying is a popular way to cook fish, and it is the quickest and easiest way to cook your catch at your campsite, at the park or on shore. Here are basic steps:



DANIEL GRIFFITH

Step 1: First, coat the fish fillet with flour. Feel free to add your favorite seasonings to the flour before coating.



DANIEL GRIFFITH

Step 3: Coat the fillet with bread crumbs.

Step 4: Heat some cooking oil in a skillet. Test the heat by dropping a small piece of fish into the skillet. If it sizzles, the oil is hot enough.



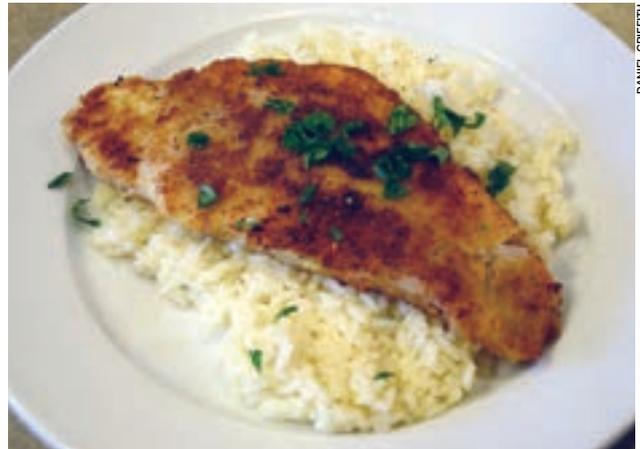
DANIEL GRIFFITH

Step 5: Add your fish to the skillet, cooking on each side for 3 or 4 minutes, or until the coating is brown.



DANIEL GRIFFITH

Step 2: Dredge the flour-covered fillet in a beaten egg.



DANIEL GRIFFITH

Step 6: Enjoy with fellow anglers or family and friends.

The final step to a successful fishing trip is enjoying the taste of your catch.

Angler Responsibility

Anglers are responsible for everything they do. It is the individual's responsibility to follow the rules and regulations, and to make good ethical decisions when fishing.

Angler Responsibilities and Ethics

- Always think of safety when around the water and dealing with tackle.
- Follow the rules and regulations outlined in the "Oklahoma Fishing & Hunting Regulations."
- Value the resource and treat it with respect.
- Respect other anglers and be courteous to others on or near the water, giving them the space they need.
- Practice proper fish-handling techniques and release fish immediately back to the water if you decide not to keep them.
- Do not move bait from one place to another.
- Share fishing knowledge and skills.
- Does not pollute.
- Supports conservation.

Private Ponds

In Oklahoma, many great fishing opportunities are found on private property. Landowner permission must be granted to the angler who wants to fish in a private pond. It is up to the angler to ask for that permission. Fishing a private pond without permission is considered trespassing and could result in a fine. Responsible

Now anglers under the age of 18 do not need a fishing license.

anglers who gain permission to fish in private ponds always leave the pond the way they found it. Anglers should not leave trash or anything behind. Trash found around a pond should always be picked up to help out the landowner.

Angler Code of Ethics

It is important as an angler to have a personal code of ethics. Ethics are not always rules or regulations that we are required to follow by law, but they are beneficial to the sport of fishing and its future.

Preparing for a Successful Fishing Trip

The definition of a successful fishing trip varies for each person. For many people, just having an opportunity to get away and enjoy the outdoors is enough. Some might measure the success of a trip on the number of fish caught, or the size of a fish caught. Whatever your definition, preparation is important if you want to come home with a great story to share.

As an angler, you are responsible for your actions when fishing.

Water Safety

Anglers who use boats should always put emphasis on water safety. Every angler who is on the water should wear a personal flotation device regardless of whether he or she knows how to swim. Children and non-swimmers should always wear them when near the water.



ANDREA CREWIS

Angler Responsibility



JASON JENKINS

Aquatic Nuisance Species

The Aquatic Nuisance Species (ANS) Program was created in 2008 to educate the public about invasive species in Oklahoma. Oklahoma's waters are home to many plants, invertebrates, and fish. However, some of these species are not native and are considered invasive.

Aquatic nuisance species are non-native aquatic organisms that cause serious harm to aquatic ecosystems. Learning how to identify these species and how to prevent their spread is an important step in reducing their impact.



ODWC

Don't Dump Bait

Bait and non-native plants and animals hitchhiking in bait can harm our lakes and rivers.

Do not dump unused bait back into the water. Instead, dispose of bait on land or in fish approved dumpsters.



Protect Oklahoma's Fishing for the Future

Everyone can help protect Oklahoma's lakes and rivers for future generations by preventing the spread of aquatic nuisance species. ANS threaten the health and balance of aquatic ecosystems across the state.

Boaters and anglers can accidentally spread invasive plants and animals when moving from one body of water to another. You can help stop the spread by cleaning, draining, and drying your boat and equipment, and by properly disposing of unused bait.

Fisheries Management

The Oklahoma Department of Wildlife Conservation is the agency responsible for the fisheries in the state. Fisheries biologists across the state stock, sample and collect data on the many bodies of water. These data are used to help create the rules and regulations that help the Department maintain the resource. Fish are found in lakes, ponds, rivers, streams and wetlands. The fish and habitat found in each of those areas are unique.

Data Collection Methods

Netting

Biologists use three types of nets to collect fish. The trap net, gill net and hoop net vary in shape, size and purpose.

Trap Net

This is a funnel-shaped net with a rectangular frame, having a fence or lead on the front. The net is set perpendicular to the shoreline on a preferred 30-degree slope to a depth no greater than 20 feet. Anchors are attached to both ends to hold it in place. The net is designed so that when fish swim into the fence or lead, they try to swim around it and go into the funnel. The target species for this net is crappie and walleye.



A baby paddlefish from Tishomingo Federal Fish Hatchery.

Gill Net

This is a net made of monofilament netting with varying mesh sizes to collect open-water fish species. The net will have foam floats on the top and a lead-lined core on the bottom to hold the net down. Anchors are used at each end to hold it in place. The mesh size will determine the size of fish that will be caught as they try to swim through the net. The typical targeted species is temperate bass, walleye, saugeye, catfish and shad.

Hoop Net

Similar to the trap net, but lacking the fence or lead, the hoop net is funnel-shaped to trap fish in compartments. Hoop nets are usually set in shallow water, and a bait bag is inserted into compartments to attract fish. The target species is channel catfish and bullhead catfish.



Wildlife Department employees with a net full of blue catfish.

Electrofishing

Electrofishing, sometimes referred to as shocking, is a fast way for biologists to collect a sample of fish along the shoreline. This can be performed with a boat or backpack, with a gasoline-powered generator that supplies voltage when leads are dropped into the water. The voltage and amperage can be adjusted through a control box to target a specific species. This method stuns the fish temporarily, allowing for them to be dipped up by someone working a net. Fish of all sizes are collected in a live-well where they can be later counted, measured and weighed, then released back into the water. Target species are typically bass, trout, sunfish and catfish.



An ODWC employee actively electrofishing.



An Oklahoma Wildlife Department employee standing next to artificial fish habitat.

Habitat Improvement

Good habitat is important for a good fishery. Sometimes habitat improvements must be made to help a certain species in a body of water. Biologists use natural or man-made methods to improve fish habitat.

Brush Piles

Cedar trees are cut down and hauled to a body of water. A cement block is tied to the tree to keep it submerged. Trees are arranged in piles to provide cover for fish. When you see a "Fishing Area" buoy in Oklahoma, it typically means that cedar trees have been sunk in that location. Target species are crappie, sunfish and catfish.

Spider Blocks

This manmade solution can be thought of as an artificial tree. It consists of recycled plastic tubing inserted into cinder blocks and buckets, held in place by cement. Spider blocks are typically arranged in rows. These sites provide cover for all types of fish and are also typically marked with buoys. Target species are crappie, bass, sunfish and catfish.

Law Enforcement

Fishing regulations help conserve the resource for future generations. Game wardens work year-round across the state to make sure anglers are following the regulations. Wardens help protect the resource that we all use. People who follow the regulations benefit most from the work law enforcement does. Always remember that a game warden is your friend, working to protect what you love most about fishing.

The Angler as a Management Tool

One of the best management tools a biologist has is the angler. The angler's success in a body of water helps tell the biologist that something positive is happening there. Biologists also collect data from anglers by asking them survey questions.

The Wildlife Department has about 85 staff members that manage Oklahoma's fisheries.

Oklahoma Streams

The two major rivers in Oklahoma are the Arkansas and Red rivers. The fishes that you would expect to find in a stream depend largely on what part of Oklahoma the stream is located in. Different regions in Oklahoma support different communities of fishes because of the unique ecosystem of that region. For example, in the Ozark region of northeastern Oklahoma, streams typically have clear, cool, hard water with gravel-bottoms, and



Fisheries Management

are fed by cold springs that help maintain stable flows.

The Leopard Darter is a federally threatened species that calls southeastern Oklahoma home. Streams in central and western Oklahoma typically have braided channels and sandy bottoms. Some are fed by saltwater springs, which can cause them to have higher salinities than seawater! Due to these harsh conditions the fish diversity is much lower in central and western Oklahoma.

Importance of Streams

Streams are home to a wide variety of fish species, but they also provide important habitat for many other animals. These include dragonflies, crayfish, snakes, and turtles, which depend on streams for all or part of their life cycle.

Streams also offer many recreational opportunities for people. Activities such as fishing, floating, snorkeling, swimming, and wildlife viewing all take place in and around Oklahoma's streams. In addition, streams play an important role in the environment by moving sediment and nutrients downstream and onto floodplains.



People rely on larger streams to supply water for homes, businesses, and agriculture. Because of this, it is important to maintain high water quality in Oklahoma's streams. Streams can also serve as transportation routes and provide hydro-power that generates electricity.

Stream Fisheries in Oklahoma

The lower Illinois River and the lower Mountain Fork River are year-round trout fisheries. These fisheries are supported by regular stocking of non-native rainbow and brown trout.

Smallmouth bass are highly valued in eastern Oklahoma streams because they are known as one of the hardest-fighting freshwater fish. Popular destinations for smallmouth bass anglers include the upper Illinois River and the Barren Fork River.

Striped bass are prized for their strength and large size, with some fish weighing more than 40 pounds. Anglers often target striped bass in flowing water below dams, such as those at Eufaula, Tenkiller, and Keystone lakes.

Other fish species that provide excellent fishing opportunities in Oklahoma streams include walleye, sauger, channel catfish, blue catfish, and white bass.



Fisheries Management

8

Problems Facing Streams

Freshwater ecosystems are losing species at a much faster rate than land ecosystems. Many of these losses are caused by changes to stream habitats and water flow.

Across the United States, major changes to streams began in the mid-1800s. Dams were built, channels were dredged or straightened, and poor land-use practices damaged streambanks. These actions caused erosion and made stream habitats less stable. Pollution has also been a problem. Some areas of Oklahoma are still recovering from contamination caused by improper mining practices.

Another major issue is the introduction of non-native species. The effects of these species are often unpredictable, but once they become established, they can harm native plants and animals.

Care for Your Streams!

One of the easiest ways to protect streams is to keep plants growing along streambanks. These plants provide many benefits to the stream environment. They help filter extra nutrients from runoff, provide shelter for fish, and offer shade that keeps water temperatures cooler.

Plant roots also help prevent erosion by holding soil in place along the streambank. When visiting streams, always pick up your trash so others can enjoy the area. Every stream visitor should aim to leave no trace and help protect these valuable ecosystems for the future.



8 Fisheries Management

America is home to large numbers and varieties of wild creatures. Yet, only a few decades ago, wildlife's survival was very much in doubt. Early settlers harvested an abundance of wildlife, wiping out some species and reducing others to just a fraction of their original numbers.

Because of this, Congress passed the act known as the Dingell-Johnson (DJ) Act on Aug. 9, 1950. Previously an act known as the Pittman-Robertson Act was passed in 1937. Together, these acts are administered through the Office of Conservation Investment (OCI).

Since then, numerous species have rebuilt their populations and extended their ranges far beyond what they were in the 1930s.

Federal funding from OCI pays for up to 75 percent of project costs, with the Oklahoma Department of Wildlife Conservation paying at least 25 percent. Shooting ranges are funded at the rate of 90 percent federal and 10 percent state. License sales and other income lets the Wildlife Department make a lasting impact on species popula-

tions. The Department receives about \$28 million each year from federal excise taxes for sport fish and wildlife restoration.

OCI has greatly aided in a nationwide effort to enlist science in the cause of wildlife conservation. About 26 percent of OCI funding to the states is used for surveys and research.

Surveys provide solid information on the numbers and activities of species, which helps biologists make management decisions. This includes season dates, bag limits, habitat improvements, etc.

Research findings have enabled managers to keep wildlife in balance with their environments and to permit more people to enjoy the wildlife without endangering the future of any species.

Aquatic Education is designed to make each angler aware of how his or her behavior affects others and the resource. It also helps introduce new anglers to the sport of fishing by teaching the basic knowledge an angler needs.

Cycle of Success for Wildlife and Sport Fish Restoration Programs



Activity Guide

1. Name the agency responsible for managing Oklahoma's fisheries:

2. Identify each type of reel.





3. What is the most common hook used in fishing?

4. What type of artificial lure could be used to catch a crappie? (Give one example.)

5. Who is responsible for an angler's actions?

6. Name three species of sunfish listed in this manual.

7. To help improve fisheries, biologists place habitat in the water to provide cover for smaller fish and a place to concentrate fish for anglers. What is one type of habitat improvement discussed in this manual, and what species does it benefit?

8. Name three other types of fishing that do not use a rod and reel.

9. Safety is important to a successful cast, and you should always look _____ you before casting.

10. What piece of tackle is used to help suspend your lure or bait in the water?

11. How many times do you twist the line when tying an improved clinch knot?

Activity Guide

12. A fish _____ is typically an orange-and-white buoy that marks the location of structure for fish.

13. Which sunfish is identified by its large bass-like mouth and blue-green lines on the side of its face?

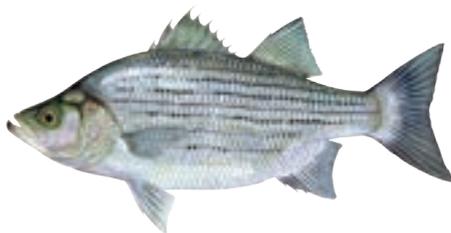
14. True or False: For regulation purposes, Oklahoma anglers must know how to tell the difference between a white crappie and a black crappie when fishing. (Hint: Go online to the “Oklahoma Fishing” guide to read the regulations about white and black crappie.)

True False

15. What three bass are in a group called “the black bass”?

16. What is the state fish of Oklahoma?

17. Which of these fish is a brown trout? (circle)



18. Go to wildlifedepartment.com and find the “Field Guide to Oklahoma Fish.” Find one fish species in the guide that you didn’t see in this manual and explain how you would identify it.

19. What is one thing you learned from this manual that you didn’t know before?

Use wildlifedepartment.com
for all of your fishing needs

Scan the QR code to view
Oklahoma Fishing Reports



Activity Guide



ADDITIONAL INFORMATION

Outdoor Education

The Wildlife Department is leading the way in education programs offered in schools across the state and directly to the public. Offered programs cover a wide range of outdoor related pursuits such as hunting, fishing, archery, and shooting sports. You can take a more in depth look into each program by scanning the QR code.



Game Warden Directory

There is a Game Warden Directory that has all of the contact information you would need to get in touch with your local game warden. Scan the QR code to see the directory.



Helpful Fishing Resources

The Wildlife Department also has plenty of information on fishing that is useful for both the new and experienced fisher. You can find information on a variety of species, regulations, and public fishing areas. Scan the QR code to explore these topics.



Public Fishing Areas

The Wildlife Department has several shooting ranges across the state available for public use. Scan the QR code to see shooting range locations and rules.



Close to Home Fishing

There are 46 ponds and small lakes open to the public statewide, offering quality fishing opportunities to anglers of all skill levels. Agreements with multiple municipalities around Oklahoma make all of this possible. Each pond is intensely managed and receives extra attention when it comes to fish stocking, harvest, special events, angler access, and water quality.





A PUBLICATION OF THE DEPARTMENT OF WILDLIFE CONSERVATION