

Oklahoma Department of Wildlife Conservation

Fishing in the Schools Manual

Introduction

Oklahoma Fishing in the Schools

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 Conservations Outdoor Education programs. 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.

An extension of the Aquatic Resources Education Program, the Oklahoma Fishing in the Schools Program offers \ training to teachers, along with equipment to incorporate the program into the classroom.

The program was first introduced to schools in the state in 2011 and has grown from the original 50 schools, to almost 400 schools in seven years!

It not only introduces students in the classroom to the lifelong sport of fishing, but also incorporates safety, fish identification, management and outdoor ethics.

For additional information on our other Outdoor Education Programs see details on pg. 41.

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Locust Grove Public Schools teacher Brad Cowan and two students show off their catch after going fishing.



Owasso 8th Grade Center students practice casting as part of the program.



Students from Luther Public School experience success while out on a fishing trip.





A student from Cesar Chavez Elementary shows off a sunfish.



Muskogee Public Schools teacher Irvin Orton assists a student with a fish caught during a fishing trip.

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OKLAHOMA DEPARTMENT OF WILDLIFE CONSERVATION

Oklahoma Sport Fishing

What is sport-fishing? It's fishing for enjoyment. More than 700,000 people across the state of Oklahoma participate in fishing annually either for recreational purposes or to catch fish as a source of food. The Oklahoma Department of Wildlife Conservation is the agency in Oklahoma responsible for the management of the state's fisheries.

"Angler" is a term used to identify someone who is fishing. The angler is a key component to the management of a fishery. Well-informed and educated anglers have a better understanding of the resource and the role they play in its management. Oklahoma Fishing in the Schools was designed to introduce new anglers to the sport, and to create responsible anglers that understand the important role they play in the conservation and management of 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.
- 1909 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



Hatchery, and it is still operating.

Oklahoma Sport Fishing

Oklahoma (Sooner Lake).

- 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.

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





Fishing Tackle & Supplies

Fishing tackle, supplies and equipment are essential to the ferent from the spincast reel in that the spool is open, and the success of any angler. This doesn't mean you need to buy the reel hangs underneath the rod instead of sitting on top. The most expensive product on the shelf. But knowing what equip- reel is a bit more difficult to use, and inexperienced users ment is needed will help you succeed in your fishing trip.

The basic equipment any angler uses is nothing more than provides a much better option than a spincast reel. 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 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.

Spinning reels are another type of reel and one of the more device to hold line and retrieve line. common reels used by experienced anglers. This reel is dif-



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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. A fly reel is not as complex compared to other reels since the spool itself is merely a storage

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will easily tangle the line. But with practice, a spinning 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 again a more advanced reel used by experienced anglers, and without experience the line can easily become tangled.



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

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. feet, and vary in action depending on the weight But for beginners, 5.5 feet is a good starting point.

Rods also have a term called "action" associated with two pieces, with the reel sitting them. The action is how much flexibility the rod has. The below the grip, keeping it 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 of line you are using. They are normally out of the way.

Fishing Tackle & Supplies

The Line



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Common fishing hooks.

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 Hooks should fish and keep the fish from always be handled getting away. The barb is an with care when important feature that keeps fishing, to avoid fish from sliding back off the hook. Some hooks don't have a injury. barb, because certain fishing regulations require you to use a hook

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

Fishing line is typically a monofilament material that is designed to be nearly invisible in water. Fishing line is classified in pound-test. This measurement is a reference to the amount of force, in pounds, that is required to break the line. The larger the pound-test number, the stronger the line. The downside of stronger line is its thicker diameter. and they are referred to as a double or treble hook. The Thicker line means it will be easier for fish to see it in the water. Finding the right balance of pound-test and diameter for the type of fishing you are doing is important. For a u-shape bend and a longer shank. The longer shank a beginner, and with most spincast reels, an 8 to 12 pound- makes it easier to remove the hook from the fish. test line is recommended.

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 pro-



A split shot weight.

vides additional casting support to help throw your bait into the water. One of the most common weights is the split shot. A split shot is usually a round lead ball with a groove in it. The fishing line is placed in the groove and the weight is crimped around the line with pliers. The benefit of split shot is you can easily add more weight to your line without having to tie it on. Some split shot are reusable and will have small wings that allow you to uncrimp it from the line. Use caution when crimping split shot on the line; crimping too hard can damage the line.



Light action

Heavy action

Medium action

without barbs. Some hooks have more than one point, most common hook, and a good hook to start with, is a simple Aberdeen hook. The Aberdeen hook usually has

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. Hook sizes are generally referred to using numbers. The smallest size hook is 32, and the largest size is 20/0 (twenty aught).

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.



Fishing Tackle & Supplies

Fishing Tackle & Supplies



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 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. Topwater crankbaits usually



Crankbait with lip. Targeted species: largemouth bass, smallmouth bass, potted Bass, White Bass, striped bass, striped bass hybrid, walleye, sauger, and saugeye.

have a cup at the front to create more action in the water, which draws a fish's attention. 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.

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.

Try <u>different</u> colored lures to find out which color fish are biting best.

rbait with a skirt and two blades. Targeted species: largemouth bass, llmouth bass and spotted bass.

Fishing Tackle & Supplies

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



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



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

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.

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.



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



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

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.



ee and grasshopper flies. Targeted species: sunfish and trou

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 Soft plastic baits come in many sizes and shapes. They are acquire through time. Tackle boxes come in different shapes and sizes. For the beginner, something small and simple is all that is needed.



OKLAHOMA DEPARTMENT OF WILDLIFE CONSERVATION

Angler Responsibility

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

Angler Responsibilities:

- Always think of safety when around the water and dealing with tackle.
- Follow the rules and regulations outlined in the "Oklahoma Fishing" guide.
- 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.

Private Ponds

In Oklahoma, many great fishing opportunities are found on private property. Landowner permission must be granted might measure the success of to the angler who wants to fish in a private pond. It is up to the a trip on the number of fish angler to ask for that permission. Fishing a private pond with- caught, or the size of a fish out permission is considered trespassing and could result in a caught. Whatever your definifine. Responsible anglers who gain permission to fish in private tion, preparation is important if ponds always leave the pond the way they found it. Anglers you want to come home with a great should not leave trash or anything behind. Trash found around story to share. 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 flotation device regardless of whether he or she knows how to required to follow by law, but they are beneficial to the sport of fishing and its future.



- Supports conservation efforts.
- Practices selective harvest.
- Does not pollute and properly disposes of trash.
- Practices safe angling and boating.
- Obeys fishing and boating regulations.
- Respects other anglers' rights.
- · Respects property owners' rights.
- Shares fishing knowledge and skills.
- Does not release live bait into waters.
- Promotes ethical sport fishing.

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

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

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Water Safety

Anglers who use boats should always put emphasis on water safety. Every angler who is on the water should wear a personal swim. Children and non-swimmers should always wear them when near the water.



Angler Responsibility

Angler Responsibility



The Aquatic Nuisance Species Program was created in 2008 to help educate the public on invasive species in Oklahoma. While Oklahoma waters are teeming with plants, invertebrates and fish, some of these species are not native and classified as invasive. Aquatic Nuisance Species are nonindigenous aquatic species that pose significant ecological threats to aquatic ecosystems. Knowing how to identify and help prevent the spread of invasive species is crucial is helping reduce them.

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.

Remember that stock-



ing or releasing fish into public waters is prohibited.



Protect Oklahoma's Fishing for the Future

Help protect our lakes and rivers for future generations by preventing the spread of aquatic nuisance species. ANS are invasive, non-native species that threaten the ecological integrity of aquatic ecosystems in Oklahoma.

How are ANS Spread?

Boaters and anglers can unintentionally spread invasive plants and animals when they move from one body of water to another. Stop the spread by cleaning, draining and drying your boat; properly disposing of unused bait fish; and not transporting shad from water bodies known to have invasive fish.

Shad Restriction

Gizzard Shad are one of the most commonly captured bait fish. But they are similar in appearance to two juvenile invasive fish species, the bighead carp and the silver carp. Because of this, the Wildlife Department has placed a restriction on the transportation of shad.

- Bighead and Silver Carp have been found in:
- The Red River below Lake Texoma to the Arkansas state line:







Clean.

Drain.

Pressure wash your boat, trailer and equipment with hot water (140F) and remove all zebra mussels, plant fragments and mud that are visible.

Drain all water from your boat,

motor, bilge, live wells, ice chests and ballast.



Learn more about the aquatic nuisance species in our state and how you can help at wildlifedepartment.com

• Grand Lake O' the Cherokees;

• The Neosho River from Grand Lake to the Kansas state line, and

CHAPTE

• The Kiamichi River below Hugo Lake to the Red River If shad are collected from these four waterways for use as bait, they may only be used in the water body from which they were collected.

Do not transport shad from these four water bodies.

Dry.

If pressure wash is not available, allow the boat, trailer and equipment to dry thoroughly for at least five days before visiting a new water body.

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 **Electrofishing** or lead, they try to swim around it and go into the funnel. The target species for this net is crappie and walleye.



A U.S. Fish and Wildlife Service worker and a Wildlife Department employee remove a paddlefish from a gill net.

Gill Net

This 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



A Wildlife Department employee pulls up a hoop net.

inserted into compartments to attract fish. The target species is channel catfish and bullhead catfish.

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.



Wildlife Department workers electrofishing in a Tulsa city pond.



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.

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.



Fisheries Management

Law Enforcement

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 75 staff members that manage Oklahoma's fisheries.

HAPTER

Fisheries Management



Oklahoma Streams

The two major rivers in Oklahoma are the Arkansas and Red rivers. Moving waters in the northern part of the state drain into the Arkansas River while waters in southern Oklahoma drain into the Red River. Both the Arkansas and



Red rivers eventually join the Mississippi River and end up in the Gulf of Mexico! The fishes that one would expect to find in a stream depend largely on what part of Oklahoma the stream is located in. Different regions in Oklahoma support distinct communities of fishes because of the unique physical attributes of that region. For example, in the Ozark region of northeastern Oklahoma, streams typically have clear, cool, hard water with gravel-bottoms, and are fed by cold springs that help maintain stable flows. Multiple species, including the Wedgespot Shiner, require the clean, clear, cool waters



Fisheries Management

of the Ozark region to survive. In contrast to streams in the northeast, southeastern stream have warmer, moderately turbid, soft water with larger boulder substrates, and because these streams have less groundwater input their flows rely primarily on runoff and are characterized as being "flashy". 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

Aside from the remarkably diverse array of fish species that call streams home, streams provide important habitat for other species that use the stream for all or part of their life cycle such as: dragonflies, crayfish, snakes, and tur-



tles. Additionally, many terrestrial animals including birds, raccoons, and deer use the vegetated riparian area adjacent to streams. Streams provide important recreational opportunities for people including: angling, floating, snorkeling, swimming, and wildlife viewing. Streams play an integral role in the environment as they transport sediment and nutrients downstream and onto the floodplain. Humans rely on larger streams to supply water needs for domestic, industrial, and agricultural uses, which is why it is important we work to maintain high water quality standards in our state's streams! Streams may also serve as important transportation corridors and as sources of hydropower that generate electricity.







Stream Fisheries in Oklahoma

The lower Illinois River and lower Mountain Fork are year round trout fisheries sustained by stocking of nonnative Rainbow and Brown Trout throughout the year. Smallmouth Bass are highly sought after in streams of eastern Oklahoma for their reputation as being pound for pound one of the hardest fighting fish in freshwater. One of the favorite destinations for Smallmouth Bass anglers is the upper Illinois River and the Barren Fork. Striped Bass are valued for their drag screaming runs and large sizes that reach upwards of 40 pounds. Popular locations to target Striped Bass in moving water include the tailwaters below Eufaula, Tenkiller, and Keystone dams, among others. Some



additional species that provide excellent recreational opportunities for stream anglers include Walleye, Sauger, Channel Catfish, Blue Catfish, and White Bass.



Fisheries Management









Fisheries Management

Problems Facing Streams

Compared to terrestrial ecosystems, rates of species loss are occurring at a much faster rate in freshwater ecosystems. It is difficult to single out one factor as the primary driver behind this biodiversity crisis because threats brought on by human development are typically interdependent. Alterations to stream habitats and instream flows occurred on a nation-wide scale in mid-19th century from the construction of dams, dredging and channelization operations, and poor land use practices that resulted in destabilized banks, which led to erosion problems. Pollution has historically been an issue as well; areas of Oklahoma are still recovering from contamination related to improper mining practices. Additionally, the introduction of non-native species has been widespread. The environmental impacts of introduced species are highly





unpredictable; however, if established, introduced species can have harmful impacts on native species.

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Care for Your Streams!

One of the easiest ways to protect streams is by keeping the vegetated riparian buffer intact. Riparian plants provide numerous benefits to the stream environment. Riparian zones help filter excess nutrients from runoff, provide habitat such as root wads or log jams for fish to hide in, overhanging plants offer shade to keep water temperatures cooler, and plant roots help prevent excessive erosion by holding streambank soil in place. Lastly, always remember to pick up your trash when visiting streams so subsequent visitors can enjoy the beauty of the stream without having to stare at your garbage! It should be the goal of every stream visitor to leave no trace of your presence behind!

Knots & Casting Techniques

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 a knot multiple 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.

How to tie an improved clinch knot:



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



Step 2: Run the end of your line through the eye of the hook. created in the last step.



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



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 5: Now run the end of the line through the new loop you



Step 6: Straighten your line for the next step.



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



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.

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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.

Tip:

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 synch down easier, but will also protect the line from being damaged by the friction of the line pulling tight.



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Knots & Casting Techniques

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.

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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.)



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.



Fishing Techniques

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

Spincast Fishing

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While many think of fishing from a boat, the majority of anglers will start off fishing from a dock or shore. One of the hook. When the bobber goes underwater, you have a fish on simplest fishing rigs to use is a spincast rod and reel, with a the hook. For best results, it is recommended that you "set small hook, split shot weight and a bobber. When used with the hook" before you start reeling in your fish. To do that, live bait, typically a worm, this method is guaranteed to bring simply jerk the rod tip up quickly, but not too hard or you success if fish are present and biting.





For this method, place a small split shot weight on your 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 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 **Remember to** across the state! always obtain

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 know where on that body of water is the best place 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.

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.

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. One of the best resources for Oklahoma lake maps is the "Lakes of



Oklahoma" atlas, published by the Wildlife Department and the Oklahoma Water Resources Board.

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 don't require using a rod and reel at all, such as juglines, trotlines, bowfishing or throw nets. These other methods do have special regulations on how they can be used, which are different from rod and reel, and it is up to the angler to be responsible and know those rules.



landowner

permission when

fishing private

ponds.

Fishing Techniques

CHAPTE



Go online to youtube.com/outdooroklahoma for "How To" videos on different fishing tips and techniques. Check back often for new videos.



Fish Identification

Fish Identification

Being able to properly identify fish is an important part of fishing. The responsible angler knows the fishing regulations, and knows how many of each fish he or she can catch and keep, or what size a certain species of fish must be in order to keep. So, knowing how to identify fish will help you know what rules or regulations apply to that fish species. Anglers can find additional details on fish identificatin, along with the rules and regulations, by picking up a copy of the Oklahoma Fishing Regulation Guide at their local license dealer, or online at wildlifedepartment.com





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

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Crappie

White Crappie

Dorsal Fin Spines

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Black Crappie

No true pattern to black spots7-8 bony spines in dorsal fin



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Fish Identification



Black 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.





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





Fish Identification

CHAPTE

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.

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

Downward Views Inside Mouth of Lower Jaw and Tongue.



White Bass One round or heart-shaped patch on tongue



Striped Bass & Striped **Bass Hybrids** Two long patches on tongue



Wildlife Department employee holds a striped bass hybrid for a young girl at an Aquatic Resources Education clinic.

CHAPTER

Fish Identification



Walleye, Sauger & Saugeye 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

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Fish Identification



Body gold with distinct brown blotchesSpiny dorsal fin with distinct spots and bars in webbing



Fish Identification

Brown Trout Trout **Rainbow Trout** • Few or no black spots on tail • Black spots on tail • Orange and red spots on side _ • Iridescence on sides

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."



Blake Shelton holds a paddlefish he caught.

world!



The Alligator Gar is the largest fish in the state, with a current state record of 254.8 lbs.

Fish Identification



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



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

Fish Identification

Fish Identification

Species Profiles

While the majority of fishing in Oklahoma occurs within the states' numerous reservoirs, lakes, and ponds, around one-third of Oklahoma anglers enjoy fishing in our states diverse streams every year. Oklahoma's streams provide exciting angling opportunities and are home to a wide variety of fish species that are not typically found in lakes or reservoirs. Oklahoma has approximately 175 species of fish; the Little River in southeast Oklahoma alone has over 100 species of fish. That is more than 26 states have in total!



Banded sculpin inhabit clear, cool Ozark streams in northeastern Oklahoma. They have retractable green and yellow lenses to shield their eyes from ultraviolet light, kind of like fish sunglasses!



Bowfin are snake like fish found primarily in southeast Oklahoma. They are sometimes confused with the highly invasive Snakehead. Males develop neon green colors during the spawning season.



The Red River Pupfish is found in southwestern Oklahoma where they are able to tolerate water over 100°F with salinity levels exceeding that of seawater!



Plains Killifish occur in western Oklahoma in shallow, sandy- Greenside Darters are fairly common in northeastern Oklabottom streams. Like the Red River Pupfish this species can homa and are one of our most colorful fish. They are a sensialso tolerate incredibly high salinities.



The Northern Hogsucker is restricted to northeast Ozark streams in Oklahoma. Their camouflage coloration helps them hide from predators. Look closely, how many do you see?



tive species that require cool, clean, flowing water to survive.



During spawning the colorful male Longear Sunfish build nests by making circular depressions in the stream bed and will aggressively defend it against all intruders!



Orangebelly Darter occur in southeastern Oklahoma. Like other darter species they commonly eat aquatic insect larvae.



The Cardinal Shiner is considered a species of greatest conservation need in Oklahoma because of its restricted range. Both males and females have powder blue spots on their nose.



Members of the topminnow family, Northern Studfish spend most of their time swimming just below the surface of the water. This species prefers hanging out in spots with slower water velocities.



Blue Suckers are considered "big river" fish because they are only found in larger systems like the Red, Arkansas, and Neosho rivers.



The Freckled Madtom is a miniature member of the catfish family, only reaching around 5 inches in length. These fish spend the majority of their time hiding under rocks and fallen debris.



Red Shiners are one of the most widespread minnows in Oklahoma because it can tolerate a wide range of conditions.

Fish Cleaning & Cooking

Fish Cleaning

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> 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 8. 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.

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.

- 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.
- 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.

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.

Always have adult supervision when cleaning or cooking a fish.



For additional fish cleaning and cooking tips, go online to TakeMeFishing.org.

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:



Step 1: First, coat the fish fillet with flour. Feel free to add

your favorite seasonings to the flour before coating.



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



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.



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



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.

Activity Guide

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

2. Identify each type of reel.



6. Responsible anglers know all the rules and regulations associated with fishing. You plan to take a friend bass fishing but can't remember how many fish you are allowed to keep. Go online to the "Oklahoma Fishing" guide and find out how many largemouth bass you are allowed to keep in one day.

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. This manual taught you how to tie the improved clinch knot. Go online and find another type of knot an angler might use when fishing.

3. What does an angler use to hold his or her line in the water?

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?

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. Go online to find the closest body of water to your school. What is the name of it?

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.)
15. What three bass are in a group called "the black bass"?
16. What is the state fish of Oklahoma?
16. What is the state fish of Oklahoma? 17. Which of these fish is a brown trout? (circle)

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Activity Guide

Go to wildlifedepartment.com and find the "Field de to Oklahoma Fish." Find one fish species in the de that you didn't see in this manual and explain how would identify it.

What is one thing you learned from this manual that didn't know before?

additional activities, go online to dlifedepartment.com/education



Go to facebook.com/OKOutdoorEd and like ODWC Outdoor Education for more information and activities.



can also checkout wildlifedepartment.com/fishing/ fishingreport for Oklahoma fishing reports.

Outdoor Education

OKNASP

Schools across the state are discovering an exciting program that hits the bullseye. Through the Oklahoma National Archery in the Schools



(OKNASP) Program, students have the chance to excel today, tomorrow and throughout a lifetime in the unique sport of archery. Designed for students in grades 4-12, the curriculum covers archery history, safety, techniques, equipment, mental concentration and self-improvement. Over 600 Oklahoma schools are offering the OKNASP program as part of their regular classroom curriculum. For more information, contact:

Jay Rouk, jay.rouk@odwc.ok.gov or (405) 919-1623

Hunter Education

Hunter education covers a variety of topics including firearms safety, wildlife identification, wildlife conservation and management, survival, archery, muzzleloading and hunter responsibility. Hunter education certification is



available to students 10 years or older as a standard eight-hour course, or Oklahoma residents can complete their hunter education certification online. There are well over 400 Oklahoma schools offering hunter education as part of their in-school curriculum. For more information, contact:

Lance Meek, lance.meek@odwc.ok.gov or (405) 919-2817

Explore Bowfishing

Explore Bowfishing is one of the newest Outdoor Education programs currently being offered to Oklahoma schools that are incorporating the Outdoor Education programs in the classroom. This program merges the sport of fishing with archery by introducing students to the equipment and techniques used in bowfishing. Currently Oklahoma has over 250 schools participating in the Explore Bowfishing program across the state.



Jay Rouk, jay.rouk@odwc.ok.gov or (405) 919-1623

Explore Bowhunting

In 2010, the Wildlife Department began sponsoring another archery based program called Explore Bowhunting. This program is designed to teach students ages

11-17 the basic skills of bowhunting. The Archery Trade Association created this program. Through hands-on experiences, students gain confidence interacting with the natural environment and strengthen their appreciation for wildlife and the woods. In 2013, Explore Bowfishing curriculum was added to the program. Over 300 Oklahoma schools that offer OKNASP and HE are also offering this very exciting program. For more information, contact:

Jay Rouk, jay.rouk@odwc.ok.gov or (405) 919-1623

Oklahoma Scholastic Shooting Sports Program (OKSSSP)

The Wildlife Department recognizes that today's youth will be tomorrow's sportsmen. The OKSSSP is a high school trap-



based shotgun program that is focused on providing a fun, safe environment for participating in shooting sports and reconnecting kids with the joy of being outdoors. The OKSSSP will raise awareness of conservation-related sports, promote safety and responsibility, and raise self-esteem. We train teachers in basic shooting skills, trap-shooting basics, gun safety, how to get the kids started, etc. For more information, contact:

Damon Springer, damon.springer@odwc.ok.gov or (405) 317-6316

America is home to large numbers and varieties of wild receives about \$18 million each year from federal excise 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 science in the cause of wildlife conservation. About 26 others to just a fraction of their original numbers.

Because of this, Congress passed the act known as the and research. Dingell-Johnson (DJ) Act on Aug. 9, 1950. Previously an act known as the Pittman-Robertson Act was passed in activities of species, which helps biologists make manage-1937. Together, these acts are administered through the ment decisions. This includes season dates, bag limits, Wildlife & Sport Fish Restoration Program (WSFRP).

Since then, numerous species have rebuilt their populations and extended their ranges far beyond what they were life in balance with their environments and to permit more in the 1930s.

Federal funding from WSFRP pays for up to 75 per- of any species. cent of project costs, with the Oklahoma Department of Wildlife Conservation paying at least 25 percent. A steady aware of how his or her behavior affects others and the source of funding lets the Wildlife Department make a resource. It also helps introduce new anglers to the sport of lasting impact on species populations. The Department fishing by teaching the basic knowledge an angler needs.



Sport Fish Restoration

taxes for sport fish and wildlife restoration.

WSFRP has greatly aided in a nationwide effort to enlist percent of WSFRP funding to the states is used for surveys

Surveys provide solid information on the numbers and habitat improvements, etc.

Research findings have enabled managers to keep wildpeople to enjoy the wildlife without endangering the future

Aquatic Education is designed to make each angler



A PUBLICATION OF THE OKLAHOMA DEPARTMENT OF WILDLIFE CONSERVATION

