



Basic and Intermediate Fly Fishing Instructor Guide



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TEACHING AN INTRODUCTORY FLY FISHING CLASS

OVERVIEW

As part of its Angler Education program, the Texas Parks and Wildlife Department (TPWD) supports two levels of introductory fly fishing training. **Basic Fly Fishing** training is an introduction to fly fishing, and is not meant to prepare participants to fly fish immediately. We hope that this introduction will inspire participants to continue with the **Intermediate Fly Fishing** activities, which will provide sufficient skills and knowledge necessary to begin fly fishing. In addition, we hope participants in our basic and intermediate classes will be inspired to seek out additional fly fishing opportunities through attending local fly fishing clubs or, for younger anglers, through the 4-H Sportfishing program or other youth programs.

TPWD's fly fishing classes are most appropriate for youth ages 12 through 18 and for adult beginners as well. Instructors may choose to teach the **Basic Fly Fishing** activities alone if appropriate for the participants and time frame. Instructors teaching **Intermediate Fly Fishing** activities will choose whether to teach the knowledge and skills of both levels separately, with intermediate activities following basic activities, or as a combined class. Each set of activities should take about half a day. We recommend offering time for casting practice and fishing after the class to increase participants' confidence and interest in fly fishing.

This outline of basic teaching strategies is meant to help experienced fly fishers share their love of the sport with beginners. Organizing a class often works well when teaching duties are shared among instructors who have expertise in particular areas, such as the teaching of fly casting or the teaching of fly tying, or when an instructor has particular knowledge about aquatic ecosystems. This allows instructors to capitalize on their strengths, giving the students the best possible instruction. It also allows the participants to be divided up into smaller groups, rotating through different teaching stations that have been organized

by the instructors to cover the knowledge and skills outlined in the program. The rotation of the student groups through each of the teaching stations will require that the instructor teach his/her module several times.

PHILOSOPHICAL APPROACH

1. Activities geared for youth should be age-appropriate, fun, and activity-based rather than lecture-based.
2. Instilling a *conservation ethic* is a very important component of all TPWD education programs.
3. Fly fishing should be presented as a life-long pursuit for people of all ages and abilities.
4. Fly fishing equipment comes in a variety of price ranges, allowing novices to get hooked on the sport without breaking the bank.
5. Texas has a wealth of good fly fishing sites and experienced anglers to mentor the novice.

BASIC FLY FISHING SKILLS CHECKLIST

1. Identify the different parts of fly tackle (including rod, reel, backing, fly line, leader and tippet).
2. Explain how fly rods and reels are different from other types of rods and reels.
3. Perform a safe four-part fly cast.
4. Learn how to tie the fly to the tippet.
5. Discuss different types of flies and when and where they might be used.
6. Tie one simple fly pattern, such as a foam-body fly or jig head nymph. (optional)
7. Explore an aquatic habitat, identifying the components of a healthy aquatic ecosystem, including different aquatic insects that serve as food for many fish.
8. Discuss safety equipment for fishing (life jacket, hat, sunglasses, water, knife and pliers for compressing barbs on flies).
9. Read four ethical dilemmas and justify responsible actions for each.

INTERMEDIATE FLY FISHING SKILLS**CHECKLIST**

1. Identify three different types of fly lines (floating, sinking and sink-tip) and explain when to use each.
2. Review and demonstrate the basic four-part cast.
3. Demonstrate the roll cast and safe distance casting (false casting and shooting line).
4. Tie two additional fly fishing knots and explain when each would be used (fly line to leader; leader to tippet; tippet to fly).
5. Tie two different types of flies and discuss situations when each would be used to catch fish. Relate fish biology and behavior to fishing strategy.
6. Identify cold-water, warm-water, and saltwater fish and fish habitats found in Texas, discussing fishing strategies in each habitat.
7. Explain where fishing regulations are found and demonstrate the ability to use the regulations book, the Outdoor Annual, to find bag limits, length limits, and possession limits for fresh and/or saltwater fish.
8. Simulate or demonstrate the proper and safe way to handle fish to catch and release.
9. Discuss the proper way to handle fish that are being kept (may include how to clean and prepare fish to eat).

ORGANIZATION

As with our other fishing programs, we suggest that fly fishing instruction be organized around activity stations. This allows the objectives to be taught in a hands-on manner rather than in a lecture manner. It also allows the objectives to be taught more efficiently for classes larger than a dozen students. Because teaching situations differ, it is fine for instructors to work within a different time frame and use somewhat different methods than we have outlined here. Our objective is to work with our partners (fly fishing clubs, scouts, etc.) to promote enthusiasm for fly fishing in Texas and teach basic skills that make fly fishing a life-long pursuit.

To teach the nine objectives in the **Basic Fly Fishing** course, try these four stations:

1. Equipment/Casting Station (Objectives 1, 2 and 3)
2. Knot tying and Fly Tying/Fish Behavior Station (Objectives 4, 5 and 6)
3. Aquatic Ecosystem/Fish Biology Station (Objective 7)
4. Safety/Ethics Station (Objectives 8 and 9)

For the **Intermediate Fly Fishing** course, try these four stations:

1. Equipment/Casting (Objectives 1, 2 and 3)
2. Knot-tying and Fly-tying/ Fish Behavior Station (Objectives 4 and 5)
3. Aquatic Ecosystem/Fishing Strategy Station (Objective 6)
4. Regulations/Safe Handling of Fish (Objectives 7, 8 and 9)

Total instructional time for both Basic and Intermediate Fly Fishing should be about half a day (three to four hours) for each level, with about 45 minutes at each station. This does not give very much time for breaks and moving from one station to another; however, the fourth station at each level will take less time than the others and could be used at break time, lunch time, or as an entire group activity. To be effective, each station must be well organized, and instructors must be prepared for the number of students expected.



BASIC FLY FISHING INSTRUCTION

STATION 1 Fly fishing equipment and basic casting

Setting

Can be an indoor area for Objectives 1 and 2, but must be an outdoor area with plenty of room for safe casting for Objective 3.

Objective 1

Identify the different parts of fly tackle (including rod, reel, backing, fly line, leader and tippet).
Refer to student handout, page 1.

Equipment needed per student

Fly rod
Fly reel with complete line attached
Diagram of equipment, with each part identified

Teaching Strategy

Using a diagram of the fly rod, reel, and line as well as demonstration equipment, the instructor points out and names each of the different parts of the equipment. Students may want to repeat the names of each part. Instructors should also explain how the equipment is assembled, but at this level, keep detail to a minimum.

Key points

1. Equipment does not have to be expensive. There are many places to buy less expensive equipment. The beginner will probably want to buy equipment for fishing in warm water in Texas.
2. For younger anglers, a 5 weight, 8 to 8 1/2 foot rod is best. For teens, a 6 or 7 weight rod up to 9 feet in length will work. Most starter rods are in two or three parts, and generally made of graphite or composites.
3. The reel is very simple and made primarily to hold the line.
4. The backing, tied to the reel, helps fill the spool, but is used primarily when fishing for very large fish (usually saltwater) or fishing in deep waters.
5. The fly line is attached to the backing on one end and to the leader on the other end. The tippet is at the very end ... the fish end!

Objective 2

Explain how fly rods and reels are different from other types of rods and reels.

Equipment needed

A spincasting or spinning rod and reel to use as a comparison with the fly rod and reel

Teaching Strategy

- A. Compare and contrast the different types of equipment.
 1. The fly rod is generally longer and more flexible than other fishing rods, and the tip of the fly rod may be broken more easily.
 2. The fly reel is much less complicated than other reels; it simply holds the line.
 3. The line used in fly fishing is composed of four different parts of line tied together, while other fishing tackle mainly uses one line.
 4. With fly fishing equipment, you are casting the line, not the lure.
 - B. Demonstrate how to attach the reel to the rod and how to thread the line through the guides. Tell students that they will learn how to tie the fly to the end of the tippet when they go to the fly tying station. Explain how to care for the equipment, putting the rod in a case when not in use to prevent breakage.
2. Power (speed up and stop) must be applied in the proper amount at the proper place in the stroke.
 3. There must be a pause at the end of each stroke. The length of the pause depends on how much line you have in the air.
 4. In order to form the most efficient, least air-resistant loops, and to direct the energy of a fly cast toward a specific target, the caster must move the rod tip in a straight line.
 5. The line and fly will go in the direction of the rod tip in its position at the end of the forward cast (the "stop" position).
 6. The length of the stroke must vary with the amount of line past the rod tip. Short amount of line out = short stroke, etc.
- B. Before beginning the cast, the instructor should explain the following casting points:
 1. Your thumb is on top of the rod handle. Grip is relaxed but firm.
 2. Stand facing your target. (The instructor will want to start students casting with their backs to the wind.)
 3. Notice while the cast is executed that the wrist doesn't bend, but the arm bends at the elbow. Try to keep your elbow down by your side.
 4. Begin with the rod pointed down, with the tip almost touching the water or ground. (Instructors will start with about 30 feet of line pulled out.)
 5. Your non-dominant hand (line hand) holds the fly line but follows the cast, ensuring that there is no slack in the line and that tension is maintained in the line.
 6. Instructor demonstrates the four-part cast several times.
 - a. The pick-up move starts by raising the rod tip continuously, but relatively slowly until most of the fly line is off of the ground or out of the water, causing the rod tip to bend forward. The pick up ends and the back cast begins when your arm is at about 45 degrees above the water or ground.

Objective 3

Perform a safe four-part fly cast.
Refer to student handout, page 2.

Equipment needed per student

Fly rod and reel, with backing, fly line, leader, and tippet attached
Piece of yarn attached to end of the tippet

Teaching Strategy

- A. Ask students to keep in mind the following five essentials of good casting: (From Bill Gammel's *The Essentials of Flycasting*.)
 1. Slack line should be kept to an absolute minimum.

- b. Accelerate the back cast, stopping abruptly when your hand is beside your ear or at about 1 o'clock, keeping your wrist straight. This is a speed-up-and-stop action. Then, pause long enough to allow the line to straighten out behind you.
 - c. The forward cast is also a speed-up-and-stop action. The forearm accelerates quickly forward, stopping abruptly when your thumb is at about 10 o'clock or about 45 degrees above the water or ground. Pause and allow the fly line to unfold in front of you.
 - d. The lay-down begins immediately after the fly line has unfolded in front of you. As the line begins to fall, follow it to the ground or water with the rod tip.
7. Keep in mind that you want to form tight, narrow 2- to 3-foot loops on both the back cast and the forward cast. Most good casts are virtually silent. If you hear a whistling or cracking sound, you are having difficulty with the cast.
 8. Divide students into pairs, with one instructor for no more than four to six students. Encourage student pairs to practice positive communication when giving feedback to each other about their casting. Position student pairs with about 40 feet in front and behind, and about 15 feet in between each pair. As one student practices the cast, the partner will watch for safety and provide positive feedback to the caster. To begin casting, each student partner not casting will pull about 30 feet of line out for the student who is casting.
 9. After several casts, the partners will trade places. The instructor will continue to watch the casters and provide positive feedback, encouragement and advice to make it easier.

STATION 2

Knot tying, fly tying and fish behavior

Setting

Inside area with tables, chairs and fly tying equipment set up.

Objective 4

Learn how to tie fly to tippet.

Equipment needed per student

Heavy sportsman's cord (cut into a 16" to 18" length)

Eye bolt

Heavy-strength monofilament line

Student handout, page 3, or *Fish Texas*:

A Basic Guide for the Beginning Angler (diagrams of tying various fishing knots) available through TPWD's Aquatic Education program

Teaching Strategy

Give each student a piece of cord and an eyebolt. Using these to simulate monofilament and a hook makes it easier for the beginner to see the knot and keeps them from hurting themselves on a hook as they practice. Demonstrate how to tie an improved clinch knot or a Palomar knot, going slowly so that your students can keep up with each step. Allow students time to tie the knot several times, and help those who need extra instruction. Next, allow them to use monofilament line to tie the knot.

Objective 5

Discuss different types of flies; when and where they might be used.

Equipment needed

Examples of different types of flies;
one or two saltwater flies, two or three warm water flies, and two or three cold water flies. Flies may be mounted with their names underneath, or simply bring examples of different types of flies and discuss the different types with the students.

Teaching Strategy

Show students different type of flies, allowing them time to ask questions. Relate the flies to the feeding behavior and anatomy of different fish.

Examples:

1. Most warm-water fish, like bass and sunfish, attack the fly. You will feel them bite. If fishing for bass, you will use a bigger fly than if fishing for sunfish, but the flies can resemble baitfish or insects. Very often it is important to remember that the movement of the fly is what attracts the fish. Fish feed near cut banks or structures where they like to hide and wait for prey. Young Guadalupe bass and some sun fish feed in riffles similarly to trout.
2. Most cold-water fish, like trout, may not attack the fly but sip it into their mouths instead. You may not feel a tug, especially when fishing with wet flies or nymphs. You will generally use a fly that resembles the insects that the fish are feeding on at that time, "matching the hatch." You might also use flies that resemble minnows, such as streamers, or terrestrial insects, such as ants and grasshoppers.
3. Most saltwater fish like redfish and sea trout are predators with teeth. They will also attack the fly. To catch saltwater fish, you will use flies such as Clousers that resemble the fish, crabs, shrimp or other animals the fish eat. These flies may be larger than trout flies, but may vary in size.

Objective 6

Tie one fly pattern, choosing a foam-body fly or jighead nymph that requires a minimum of equipment and time. (Make this an optional objective.)
Refer to student handout, page 4.

Equipment needed per student for a foam-body fly

#6 or #4 short-shanked fly hook
Foam body (white or yellow is usually best so that it can be decorated)
Rubber leg material
3X fly tying thread, waxed
Fly tying vise
Scissors
Bobbin
Half-hitch tool (optional)
Hackle pliers
Head cement
Bodkin

Teaching Strategy

- A. Instructor has materials ready for students to make a fly when students arrive. (Recommended: snack-size zip lock bags with materials for one fly in each bag, and enough bags for each student)
- B. Instructor demonstrates the steps in making the fly. (Doc Harrison suggests having samples of the fly at each step prepared ahead of time so that students can see what the fly looks like at each step.)
- C. Students make at least one fly.

STATION 3 **Aquatic ecosystem and fish biology**

Setting

Outside in the shallow part of a stream, creek, river, pond, or lake.

Objective 7

Explore an aquatic habitat and identify the components of a healthy aquatic ecosystem, including different aquatic insects that serve as food for many fish.

Refer to student handout, pages 5-7.

Equipment needed for each group of three to four students if an aquatic environment will be used.

(Texas Parks and Wildlife has Aquatic Studies kits designed especially for this activity that you may borrow. To reserve and borrow a kit, call your nearest Aquatic Education staff member.)

Safe footwear and appropriate clothing for wading
Forceps (tweezers)
Magnifiers or small field microscopes
Shallow pans, jars, or small plastic containers for holding specimens
Laminated "Bug Picking" directions
Cloths, pre-moistened wipes and water for clean-up
Small aquatic nets
Examples or images of different types of flies

Equipment needed for each group if you cannot do the activity in an aquatic environment or if you cannot collect aquatic organisms to show the students

Laminated fish identification cards or Fresh and Saltwater Fish Identification Pocket Guides (see the Fly Fishing Instructor Order Form)
Aquatic Ecosystem posters available through TPWD at www.tpwd.state.tx.us/products/

Teaching Strategy

- A. One of the best ways to promote the conservation of aquatic ecosystems among youth and to help them understand the fish that live there, is to do an activity that allows them to "get their feet wet." Try the "Bug Picking – Is your Creek Polluted?" activity with your students.
- B. If the situation does not allow for students to get in the water to investigate the aquatic ecosystem, then use the posters and the Freshwater and Saltwater Fish Identification Guides provided in the instructor kit to help students identify these important aspects of an aquatic ecosystem:
 1. What types of fish are depicted in the poster? Are they predatory fish or prey? Are they game fish or non-target species?
 2. What provides food for game fish?
 3. What provides shelter for prey fish?
 4. What other animals might eat the fish?
 5. What kinds of human activity could impact the aquatic ecosystem in each poster?
 6. What can humans do to minimize some of those impacts?

STATION 4 Safety and Ethics

Setting

Inside or outside where students may sit

Objective 8

Discuss safety rules for fishing.

Equipment needed per student

Life jacket or PFD (personal flotation device)
Hat
Sunglasses
Sun screen
Nail clippers
Water
Pliers to compress the barbs on a hook
Small first-aid kit
Hemostats to retrieve hook from fish (optional)

Teaching Strategy

Show examples of safety equipment and ask students how each item is important to their safety. Discuss safety issues carefully. Refer to student handout, page 8.

Life jacket or PFD – Since fishing always includes water, water safety is of primary importance. Always have a PFD or other flotation device handy. Everyone in a boat should always wear a PFD, even if not required, because you never know when you'll need it. Youth ages 12 and under must wear one according to the law. Remember the rule: "Reach, Throw, Row, and Go" for helping someone in distress in the water. Reach the person from the land first or throw a flotation device. If that doesn't work, get in a boat to go out to the person in distress. If neither option is available, go for help. Note: It is not advisable for a young person to swim out to help a person in distress.

Hat – Sun protection is important for skin and eyes. Skin cancer is becoming increasingly prevalent among younger people as well as older folks. All anglers should wear shirts that cover arms, pants that cover legs, and sunscreen for maximum protection. In cold weather, a hat will help to hold in body heat.

Sunglasses – Use polarized lenses to reduce glare from the water that can hurt your eyes. Anglers prefer amber-colored lenses to help them see fish in the water.

Sun screen – Sunburns can happen rapidly with reflection off of the water. Sunburn is not only uncomfortable but also dangerous.

Water – It is always important to drink plenty of water, especially when it is hot.

Nail clippers – These are needed to cut lines that may be encountered when wade fishing and to change flies. Clippers save on dental bills!

Pliers for compressing barbs – Demonstrate how to compress the barbs on a hook, and explain that barbless hooks prevent injury to both humans and fish.

First Aid Kit – Bandages and simple first-aid cream, along with Benadryl®, are always good to have when doing outdoor activities. Angler Education Instructors should never give any kind of medication to a youngster. Allow only the young person's parents to administer any kind of medication.

Objective 9

Read and explain the ethical response for four ethical dilemmas.

Equipment needed per student

Set of ethical dilemma cards

Teaching Strategy

Ask students to choose an ethical dilemma card. Then you may simply read the situation on the card and ask students to discuss the possible responses, focusing on the ethical response in each case. An angler education instructor's role is to facilitate and guide the discussion. It is important to note that peer/group influence is a powerful teaching strategy.

- A. Begin by discussing catch and release: What does "catch and release" mean? Exactly that. Immediately after you catch a fish, you let it go. Why would you practice catch and release?
- To protect breeding-sized fish
 - To protect young fish and allow them to reach breeding size
 - To protect people from eating fish caught from polluted waters
 - To ensure that fish will always be there to catch in the future
 - Some people just like to catch fish and have no interest in eating them

B. How do you practice catch and release?

- Never allow a fish to touch the ground, dock or boat deck. Fish are coated with a slime-like protective layer of mucous. This slimy coat prevents parasites, fungus, and bacteria from attacking the fish. Handling a fish roughly or carelessly can decrease or remove the mucous.
- To prevent damage to the mucous, pull the fish out of the water when the amount of line out is about the length of the rod or pole. Raise your tip straight up and the fish will automatically swing toward you.
- Wet your hands before touching the fish.
- Hold sunfish and catfish around the belly between your fingers and thumb. Hold largemouth bass by the lower lip between your thumb and forefinger.
- Remove hook as gently and as quickly as possible. The use of a pair of needle-nosed pliers or a hook disgorger may be required.
- Release the fish gently into the water. DO NOT drop or throw the fish back into the water.

ANGLER ETHICAL DILEMMAS

1. You are fishing for bass and all you seem to be catching are small sunfish. You take each sunfish off the hook and ...

carefully release it because all fish play a role in the aquatic ecosystem and we should conserve all aquatic resources.

2. You are fishing off of a jetty on the coast and notice that the person fishing next to you left some line on the rocks where he restrung his rod and reel. He also left a coke can and a candy wrapper. What should you do?

Even though it is not your trash, you should pick it up and dispose of it properly to help keep aquatic habitats healthy for wildlife.

3. You are traveling down a country road along the Blanco River and notice a perfect fishing spot on the other side of a fence. You have your gear and your fishing license with you, so you decide to stop. Before you cross the fence, you decide to ...

check with the landowner first to get the landowner's permission to fish. If you can't contact the landowner, you should find a public access point to the river, staying out of private land.

4. You get your line tangled in an overhanging branch and have to cut off a large length of line. You can see that some of the line is hanging in the water within reach. You decide to ...

get as much of the line as you can safely get, because you know that wildlife can get tangled in leftover fishing line and can die.

5. You are fishing in a small stream and not catching anything. Suddenly you hear a shout from upstream near a riffle and realize the angler is successful. The fish seem to be biting there. You decide to ...

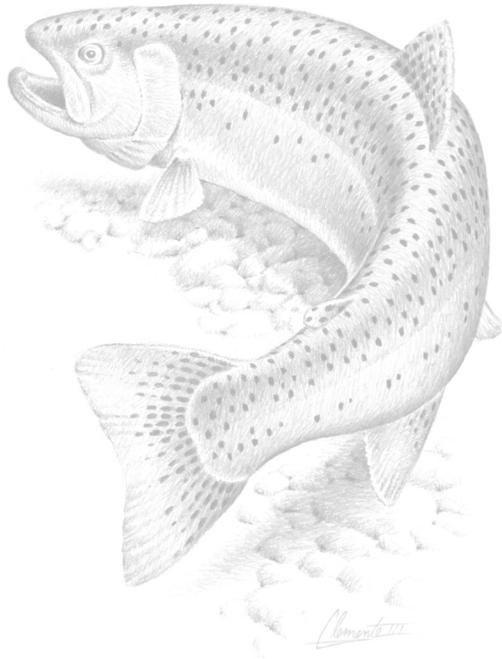
ask the person who is catching fish what type of fly and fishing strategy he/she is using. Sometimes anglers will offer to share their space with you, but remember not to crowd another angler.

6. You notice your neighbor pouring motor oil down a storm drain. You are concerned because you know that the storm drain empties into a small creek that flows into your favorite fishing hole. You decide to ...

explain to your neighbor what can happen to the oil and ask them politely to take used oil to a recycling center (or offer to take it yourself).

7. You have caught your limit, but your friend hasn't. Your friend suggests that you help him/her catch his/her limit. You decide to ...

explain to your friend that it is against the fishing regulations for you to help him/her catch his/her fish.



INTERMEDIATE FLY FISHING INSTRUCTION

STATION 1 Equipment and Casting

Setting

Outside area with plenty of room for safe casting, or a gym during inclement weather

Objective 1

Identify three different types of fly lines (floating, sinking, and sink-tip) and explain when to use each.

Equipment needed

The instructor needs examples of each of the three different types of fly lines to show the students.

Teaching Strategy

While showing the different types of fly lines, the instructor should make the following points:

- Floating fly line is the standard type used for all kinds of fishing, whether you are fishing at the surface or beneath the surface. If you plan to fish below the surface, you can use weighted flies or split shot.
- There are various sinking fly lines that are used when fishing deeper water in late winter or early spring for white bass. Sinking lines may be more difficult for a beginner to use because of the need to clear the surface prior to performing a back cast. A roll cast can be used effectively to bring the line to the surface before a back cast can be executed.
- Sink-tip line is tied onto the fly line to extend the fly line and provide a deeper level of fishing.

Objective 2

Review and demonstrate the basic four-part cast.

Equipment needed per student

Fly rod, reel, and line with bright-colored yarn tied on the end

Teaching Strategy

- A. Instructor demonstrates a basic four-part fly cast, then allows students to practice. Make sure students have plenty of room.
- B. After 15 minutes of practice casting, the instructor demonstrates some problem areas that create bad casts, helping students understand how to correct the problem areas. Wind knots can result from poor casting techniques. Refer to the following common casting problems and solutions:

A tailing loop is caused when the rod tip follows a concave path when the stroke dips in the middle, causing the line to cross over or collide with itself. Tailing loops can also be caused when the caster stops short on either the back cast or the forward cast.

A wide loop results from the rod tip following a convex or dome-shaped path in which the tip begins low, then rises, then falls again. The higher the curve, the wider the loop.

Objective 3

Demonstrate the roll cast and safe distance casting (false casting and shooting line).

Equipment needed per student

Fly rod, reel, and line with yarn tied on the end

Teaching Strategy

- A. To teach the roll cast, it is best to take students to a body of water.
 - The roll cast is useful if space for a back cast is limited and is necessary to lift a sunken fly line to the surface before making the standard back cast.
 - To make a roll cast, the cast has to be made with the line floating on the water's surface, since it is the surface tension of the water gripping the fly line that makes this cast possible.
 - Begin the cast by raising the rod slowly to slightly beyond vertical so the fly line will slide toward you.
 - Tilt the rod slightly outward so the line forms a belly behind your shoulder.
 - When the line stops sliding toward you, lower the elbow slightly and make a standard forward cast motion.
 - Your stroke (speed up and stop) should be applied between the position when the rod is perpendicular to the water and near the end of the cast.
 - The line will make a rolling loop and fall lightly on the surface of the water. The direction the line takes depends on the point where your rod tip stopped at the end of the cast.
- B. Demonstrate false casting, asking students to observe the following:
 - The false cast is a series of backward and forward casts made entirely in the air and is used to increase the length of line or to change the direction of the cast.
 - Execute the cast like the basic four-part cast, but do not return the line to the ground or water after the forward cast.
 - Begin each false cast as soon as the previous forward loop has straightened.

- The length of the forward and backward strokes is the same unless the line is lengthened.
 - On the final cast, stop the rod in the proper position and allow the loop to form. Then follow the line to the ground with the rod tip.
- C. Allow students at least 15 minutes to practice the false cast.
- D. Demonstrate shooting line, asking students to observe the following:
- Hold the line with your non-dominant hand (line hand) between the thumb and forefinger, keeping the line hand comfortably in front of the body.
 - With a well-formed loop on a forward cast and with the line on its way forward, release line at the moment of the abrupt stop in the forward cast. Release the line in a controlled manner with the line hand until the line has gone out through the guides. This will increase the length of line and distance of the cast.
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STATION 2 **Knot tying, fly tying, and fish biology and behavior**

Setting

Indoor, with tables and chairs to form work stations

Objective 4

Tie two more basic fly-fishing knots and explain when each would be used (e.g. fly line to leader and leader to tippet, with the improved clinch knot or palomar knot already learned to tie tippet to fly). As a reference, use the booklet, Fish Texas: A Basic Guide for the Beginning Angler, a free booklet available through the TPWD Aquatic Education program, which has directions and diagrams for a number of different knots.

Equipment needed per student

Eye bolts
Cord cut in 16" to 18" lengths
Knot-tying diagrams (instructors may choose which knots they want to teach);
suggested knots are simplified blood knot and double surgeon's loop

Teaching Strategy

Most folks learn to tie knots fairly quickly when the instructor shows how to tie each knot step by step, with students tying at the same time. Make sure you take time to watch and help each student as needed and allow the students to practice the knot several times before you teach the next knot. Give students time to try the knots on fly line or monofilament if possible.

Objective 5

Tie two different types of flies and discuss situations when each would be used to catch fish. Relate fish biology and behavior to fishing strategy.

Equipment needed per student

(Depends on the types of flies chosen by the instructor)

3X fly tying thread, waxed
Fly-tying vise
Scissors
Bobbin
Half-hitch tool (optional)
Hackle pliers
Head cement
Bodkin

Teaching Strategy

As the instructor shows each of the types of flies the students will make, he/she will lead a discussion of the species of fish the fly will most likely be used to catch, their biology and behavior that makes that particular fly attractive to fish. Prepare ahead of time by providing all of the materials needed to tie each fly in a plastic sandwich bag for each student. Also, prepare a series of demonstration flies that show how the fly looks at each step in tying it.

STATION 3

Aquatic ecosystems and fishing strategy

Setting

Indoors or outdoors

Objective 6

Identify cold-water, warm-water and saltwater fish and their Texas habitats. Discuss fishing strategies in each habitat.

Equipment needed

If outside near water, teachers can use the resource to talk about good fish habitats.
Laminated fish identification cards (provided by TPWD's Angler Education)
Fish Texas: A Basic Guide for the Beginning Angler

Teaching Strategy

- A. Ask students to look at the cards and pick out a cold-water fish (rainbow trout). Ask them:
 - Where and when can we find rainbow trout in Texas? You can check the TPWD Web site to find the stocking schedule: www.tpwd.state.tx.us/fish/infish/reports/fishstock.phtml
 - Are they native?
 - How would you describe the ideal habitat for a rainbow trout?
 - What techniques would you use to fish for them?
- B. Follow the same format as above to discuss warm-water fish and saltwater fish, using the Fish Texas booklet to show both fresh and saltwater habitats.

STATION 4 **Regulations and safe handling of fish**

Setting

Indoors or outdoors

Objective 7

Explain where Texas fishing regulations are found, and demonstrate the ability to use the Outdoor Annual to find creel limits, length limits, slot limits, and possession limits for different fish in different locations.

Equipment needed per student

TPWD's *Outdoor Annual*, Student Version for each student

Teaching Strategy

Allow the students to use an *Outdoor Annual* to answer the following questions.

1. How much does a fishing license cost?
2. Do I need any special or additional licenses?
3. I'm planning a fishing trip on the Texas border. Are there any special requirements?
4. What are the general fishing rules?
5. What are the boundaries of lakes in Texas?
6. What are the coastal boundaries in Texas?
7. How do you properly measure a fish or a crab?
8. How do you properly release a fish?
9. How do you identify a striped bass, white bass, yellow bass, and their hybrids?
10. What is the definition of fishing tackle?
11. What are the legal devices and restrictions for taking fish?
12. Where do I find the freshwater bag and length limits?
13. Where do you find the exceptions to the statewide harvest regulations?
14. Where do you find saltwater bag and length limits?
15. Where do you find shellfish regulations?

16. Where do you find shrimp harvest regulations?
17. Where do you find crab harvest regulations?
18. Where do you find oyster harvest regulations?
19. Where do you find information about waters where there is a fish consumption ban?
20. Where do you find information about reporting illegal fishing/hunting activity? (Operation Game Thief)

Objective 8

Simulate or demonstrate the proper and safe way to catch and release fish.

Refer to student handout, page 9.

Equipment needed

Real or toy fish that can be used for simulation unless you are on the water demonstrating actual fishing strategies

Teaching Strategy

Using real or stuffed fish, demonstrate how to handle a fish once it is caught. If you are practicing catch-and-release, stress that it is important to:

- Keep the fish underwater as much as possible.
- Handle the fish as little as possible because handling can take the protective slime off of its skin making it susceptible to disease. If you must handle the fish, wet your hands first.
- Do not squeeze the fish or put your fingers into its gills. This will increase the chances that the fish will survive.
- If necessary (especially with trout), you might need to help the fish begin breathing again by cradling the fish under its body with its mouth upstream and moving it gently back and forth in the water to resuscitate it. Try to do this in gently flowing water, not fast flowing water.

Objective 9

Discuss the proper way to handle fish that are being kept (may include how to clean and prepare fish to eat).

Refer to student handout, pages 9-10.

Equipment needed

Show example of a stringer and discuss wet wells in boats

Sharp knife if demonstrating how to kill and clean a fish

Safety glove to prevent cuts and grip fish better

Ziplock bags

Ice chest

Texas Freshwater or Saltwater Fish Identification guides

Teaching Strategy

Using the diagrams in the student handout (or actual fish), discuss and demonstrate the proper way to hold fish of different species. Be sure to point out that catfish have sharp spines in their pectoral and dorsal fins that can cause injury. Holding catfish properly is essential. Use the four points listed on that page to lead the discussion of fish handling.

If you are also going to discuss and demonstrate how to clean a fish, begin by discussing the need to keep fish cold both before and after cleaning. Use proper equipment and always cut away from yourself.

NOTE

Prior to deciding whether or not to consume your catch, anglers should be aware of fish consumption advisories and bans for particular water bodies. Information is available on the Texas Department of State Health Services Web site at www.dshs.state.tx.us/seafood/