

Learn to Fish with Texas Parks and Wildlife

Angler Education Program **Instructor Guide**



Life's better outside.®

ANGLER EDUCATION INSTRUCTOR GUIDE

JUNE 2022

TEXAS PARKS AND WILDLIFE DEPARTMENT MISSION

To manage and conserve the natural and cultural resources of Texas and to provide hunting, fishing and outdoor recreation opportunities for the use and enjoyment of present and future generations.

ANGLER EDUCATION PROGRAM MISSION

Our program's goal is to increase participation in recreational fishing and teach youth and adults how to be safe and ethical anglers.



Your angler dollars help clean up rivers and streams, restore fish populations, and create public access to waterways. Every purchase of fishing tackle carries a tax that goes from the U.S. Fish and Wildlife Service to state fish and wildlife agencies for fisheries research, habitat improvement, aquatic resource education programs and fishing and boating access.

TEXAS PARKS AND WILDLIFE DEPARTMENT

Aquatic Education • 4200 Smith School Road • Austin,

Texas 78744 1-800-792-1112 • www.tpwd.texas.gov

PWD BK K0700-813 (06/22)

TPWD receives funds from the USFWS. TPWD prohibits discrimination on the basis of race, color, religion, national origin, disability, age, and gender, pursuant to state and federal law. To request an accommodation or obtain information in an alternative format, please contact TPWD on a Text Telephone (TTY) at (512) 389-8915 or by Relay Texas at 7-1-1 or (800) 735-2989 or by email at accessibility@tpwd.texas.gov. If you believe you have been discriminated against by TPWD, please contact TPWD, 4200 Smith School Road, Austin, TX 78744, or the U.S. Fish and Wildlife Service, Office for Diversity and Workforce Management, 5275 Leesburg Pike, Falls Church, VA 22041.

This page is intentionally left blank.



**Thank you for joining the TPWD Angler Education Team
as a certified volunteer Angler Education Instructor.**

My Info

Volunteer Portal (my contact info and where I enter reports)

www.tpwd.texas.gov/volunteer

My User ID: _____

My Password Hint: _____

Instructor Resources Portal (forms, certificates, and teaching resources)

www.tpwd.texas.gov/education/angler-education/instructor

Password: gofish

Please do not share this webpage or password with others.

My Trainers Name: _____ **Training Date:** _____

Phone: _____ **Email:** _____

Acknowledgements

We wish to thank past and present TPWD staff, interns, and Volunteer Area Chiefs and Instructors for their support in the development and revisions of the Angler Education Program Instructor Guide. We value their input and have incorporated many of their suggestions. We will continue to use best practices and research as outlined by the national Aquatic Resources Education Association to improve our program and publications.

Contact Information

Texas Parks and Wildlife Department
Aquatic Education Program
4200 Smith School Road
Austin, TX 78744

Agency website: <https://tpwd.texas.gov>

Program website: <https://tpwd.texas.gov/education/angler-education/>

Email: angleredu@tpwd.texas.gov

Headquarters (Austin):

Aquatic Education Manager
(512) 389-4732

Program Assistant
(512) 389-8183

Regional Aquatic Education Specialists:

Austin/Central Texas
(512) 389-4472

Dallas – Fort Worth/North Texas
(469) 644-2705

Houston/Southeast Texas
(713) 201-8110

Table of Contents

My Info	2
Acknowledgements	3
Contact Information.....	3
Angler Education Program Overview	6
What can Certified Instructors teach?.....	7
Angler Education Instructor Position Description	9
Instructor Standards and Policies	10
Program Funding	13
Learning Styles	15
Maslow’s Hierarchy	15
Adult Learners versus Child Learners	16
Engage Your Audience	17
Angler Recruitment and Retention	18
Class / Event Presentation Model	19
Class Skills Checklist	22
Activities.....	26
Equipment	27
Casting	30
Knots	35
Tackle Assembly	38
Fish ID	45
Fish Habitats	50
Safety for Fish, People, and the Environment	56
Regulations	62
Ethics and Stewardship.....	68
Essentials for Instructors.....	76
Insurance for TPWD Volunteers	77
Angler Education Classes and Event Descriptions.....	79
Planning Checklist for Class/Event.....	80
Working with Children.....	81
Instructor Resources Webpage	82
Angler Education Instructor Kit	84
Supply Order.....	85
Reports and the Volunteer Portal	88
Report Form Samples.....	90

TPWD Aquatic Education and Fishing Programs	95
Community Events.....	95
Fishing Included at TPWD State Parks.....	95
Tackle Loaner Program	95
Neighborhood Fishing Program	96
Fish Art Contest	96
Boater Education Program.....	96
Aquatic WILD	97
Texas Aquatic Science	97
Texas Waters.....	97
TPWD Key Messages for Conservation	98
Become an Angler Education Area Chief.....	99

SUPPORT THE SPORT!

- Buy a fishing license to support fishery management, hatcheries, and education.
- Observe fishing regulations and be an ethical angler.
- Respect other anglers and recreational water users.
- Share the joy of fishing with youth and adults.

*All images courtesy of TPWD, unless otherwise noted.
Cover photo: Powderhorn Wildlife Management Area, Calhoun County.*

Angler Education Program Overview

The TPWD Aquatic Education Program with federal funding was established in 1992. Initially, the team worked with various partners to provide education about aquatic habitats and sport fishing. Programs and sub-grants included Adopt a Wetland, Aquatic WILD and 4-H Sportfishing. Some of these have since split off and expanded into successful programs.

The Angler Education program mission is, *Increase participation in recreational fishing and teach youth and adults how to be a safe and ethical angler.* This guide provides the standards, best practices, and resources to teach conventional fishing to youth and adults using a fun and hands-on format. Activities may be modified by instructors to suit the participant's age and knowledge, or the class size.

Together with staff, Certified TPWD Angler Education Instructors provide youth and adults with the opportunity to learn about fishing, to preserve our aquatic habitats and fishing legacy for present and future generations.



Figure 1. Adult and child catching a fish.

The program offers the following Instructor certifications for adults ages 18 and up:

- ✓ Angler Education Instructor (conventional fishing)
- ✓ Fly Fishing Instructor *
- ✓ Area Chief ** (Train the Trainer)

**Fly fishing Instructor certification is provided for adults with some fly-fishing experience.*

****Only TPWD Angler Education staff or Certified Area Chiefs may provide Instructor training and certification workshops.** An Instructor, who feels comfortable teaching and who has an interest in training other adults to become instructors, may take training to become an Angler Education Area Chief. Contact the Aquatic Education team to find out more information.

The Instructor Certificate has the TEA-approved CPE credit listed on the certificate for teacher professional development.

What can Certified Instructors teach?

Angler Education Instructors may teach:

Basic Fishing Classes:

For youth and adults. Introduction to freshwater or saltwater fishing. Participants are awarded a certificate and pin.

Advanced Fishing Classes:

For youth and adults. Provide additional knowledge and skills for both freshwater or saltwater fishing. Participants are awarded a certificate and pin.

Fishing Outreach Events:

Casting activity, derby, exhibit or presentation about fishing, habitats, or TPWD Aquatic Education Program promotion. Participants are not awarded a class certificate or pin.

Fly Fishing Instructors* may teach:

Basic Fly-Fishing Classes:

For youth (ages 10+) and adults. Introduction to become familiar with fly-fishing. Participants are awarded a certificate and pin.

Intermediate Fly-Fishing Classes:

For youth (ages 10+) and adults. Provides additional knowledge and skills. Participants are awarded a certificate and pin.

Fly-Fishing Outreach Events:

Casting activity, fly-tying class or demo, exhibit booth or presentation promoting the TPWD Aquatic Education Program. Participants are not awarded a class certificate or pin.

**Fly Fishing Instructor certification is provided for those with some fly-fishing experience, at a supplemental or separate workshop.*

In addition to the above, all instructors may provide:

Specialty classes provide an in-depth look at target species or specific techniques. These often rely on the expertise of the Instructor. Examples may include Bass Fishing; Flounder Fishing; Carp Fishing; Micro-fishing; Rod building; or Catch, Clean and Cook.

What to expect

Whether you are new to fishing, have been fishing for many years or are an avid angler, pro or guide, by the end of this workshop you will have the knowledge and skills to teach fishing basics using fun, hands-on activities to youth and adults in your community.

What TPWD provides

- A curriculum that is hands-on and fun for participants
- FREE educational materials for youth and adults, including certificates and fish lapel pins
- Loaner equipment where available
- Network of volunteer instructors
- Instructor pin or patch
- TEA-approved CPE credit for teachers
- Annual recognition of active volunteers

Who can use this program?

(Adults, age 18 and up)

- Teachers (State Board for Educator Certification credit available)
- Youth group or scout leaders
- City and county parks and recreation staff
- Local community groups or Fishing Clubs
- Faith-based organization leaders
- Homeschool providers
- Nature center, Camp, or Afterschool staff

Personal Goals:

I'm taking this workshop because:

I would like to learn:

In the next week, I plan to:

In the next 6 months, I plan to:

Notes:

Angler Education Instructor Position Description

Angler Education Instructors enjoy spending time with youth and adults, have good communication and organizational skills, and have a desire to share the joy of fishing with others.

Angler Education instructors must be at least 18 years of age, of high integrity, able to work independently, and have completed an Angler Education Instructor Workshop.

What is expected of Angler Education Instructors?

1. Create and maintain an online volunteer profile on TPWD's Volunteer Portal; authorize an annual criminal background check.
2. Use hands-on activities and create a positive, fun learning environment for classes and events using the skills and best practices outlined in this guide.
3. Report all classes and events online or submit required paperwork to TPWD's Aquatic Education Program in a timely manner. TPWD receives an in-kind match for the Instructor's service hours from the USFWS Sport Fish Grant which funds this program. After a period of 3 years with no reports, the Instructor will be marked inactive.
4. At least 4 weeks prior to the class or event: order materials to allow time for processing and shipping; reserve equipment and schedule a pick-up date.
5. Maintain the dignity and integrity of TPWD with the public as you teach.

How does TPWD support Angler Education Instructors?

1. Provides free literature and participant awards (certificates and fish pins).
2. Provides loaner equipment (where available) for use in classes and events. Check the TPWD website for locations near you.
3. Provides annual recognition, including a 100-hour pin, to all active instructors who submit timely reports.
4. Publishes an online semi-annual newsletter, *Reel Lines*, that provides teaching ideas and program updates.
5. Provides accident and injury insurance (secondary) coverage for registered volunteers who are injured while performing volunteer work for TPWD. (See Insurance Policy in the Essentials for Instructors section.)

Instructor Standards and Policies

1. Accept the guidance and decisions of TPWD and the Angler Education staff.
2. Wear appropriate and professional clothing when representing TPWD, along with a name tag, Instructor pin or patch.
3. Be punctual, dependable, and carry out duties promptly and reliably. Know the subject, practice and prepare hands-on activities to the greatest extent possible.
4. At least 4 weeks prior to class or event: order materials to allow for processing and shipping; reserve equipment and schedule a pick-up date and time.
5. Communicate with the Angler Education staff to recruit additional volunteers or advertise the class or event if they are open to the public. Please remember to notify staff about any cancellations.
6. Stay connected and updated on program policies, best practices, and resources through the website, semi-annual Reel Lines newsletter, and social media pages.
7. Assist with other fishing or angler education special events in your area.
8. Be friendly, warm, and courteous to all participants; use encouraging and positive language.
9. Refrain from the use of profanities, obscenities, and negative behavior when working in the capacity of a TPWD volunteer instructor.
10. Do not consume alcoholic beverages or use tobacco products (including E-cigarettes or vape devices) before or during a class or event.
11. Refrain from stating personal opinions or philosophies, especially any that may conflict with the mission and purpose of TPWD and the Angler Education Program.
12. Fees for classes and events cannot be charged. The federal aid grant does not allow for program income.
13. Fundraising or seeking donations may NOT be done as a representative of TPWD or on behalf of TPWD.
14. Use of the TPWD logo or TPWD Proud Partner logo must be preapproved. Download the logo use agreement from the Instructors webpage and submit to the Aquatic Education Manager.
15. Evaluate your classes and events to improve self-performance.

FAQs:

How long is my certification good for?

What is the benefit of being a Certified Instructor?

Can non-certified volunteers help me at a class or event?

Notes:



Figure 2. Family fishing event near Fort Worth, TX.

I enjoy the outdoors and love teaching children skills to make them love the sport of fishing. From my experience, I see that many children have few opportunities to learn how to fish. When parents get involved in the learning, children find it more meaningful for them.

*~Irma R., TPWD Certified Angler Education Instructor and Area Chief,
San Benito, TX*

Program Funding

Fishing is an easy, fun, and inexpensive way for people to enjoy the great outdoors and spend time with family and friends. Recreational fishing in Texas contributes billions to the state economy and supports tens of thousands of jobs.

The U.S. Fish and Wildlife (USFWS) Sport Fish Restoration Program (SFR) is a federal program created to restore and better manage America's declining fishery resources. The SFR Program is one of the most successful "user pay - user benefit" programs, and is authorized by the Dingell-Johnson Sport Fish Restoration Act of 1950. The Wallop-Breaux Amendment was passed in 1984 and expanded boating and fishing programs.

How it works: excise taxes on fishing equipment (paid by manufacturers) along with motorboat and small engine fuels, import duties, and interest are collected and appropriated from the Sport Fish Restoration and Boating Trust Fund. These funds are apportioned to States and U.S. Territories based on a formula: 40% of land area (includes inland & coastal water area (square miles) plus 60% of the number of paid license holders.

TPWD receives annual SFR funding to support, protect and manage the natural aquatic resources, and ensure that sport fishing opportunities are offered in the State of Texas for years to come.

Some of the SFR grant funds are allocated to the Aquatic Education Program. The program is funded 25% by the state and 75% by the federal grant funds. The Instructor's documented service (from reports) is used as an in-kind match towards the grant. Funding is used for programs, supplies and equipment which are provided free of charge to our instructor network. **That is why our Instructor's service reports are so important!**

My time is valuable to me and TPWD!

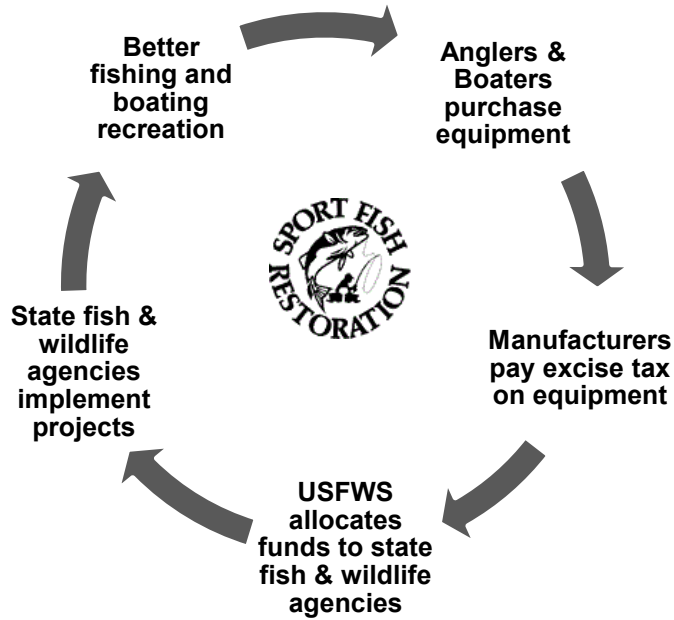
How much does the Angler Education Program receive for the volunteer instructor's service time in-kind match?

\$_____ per hour

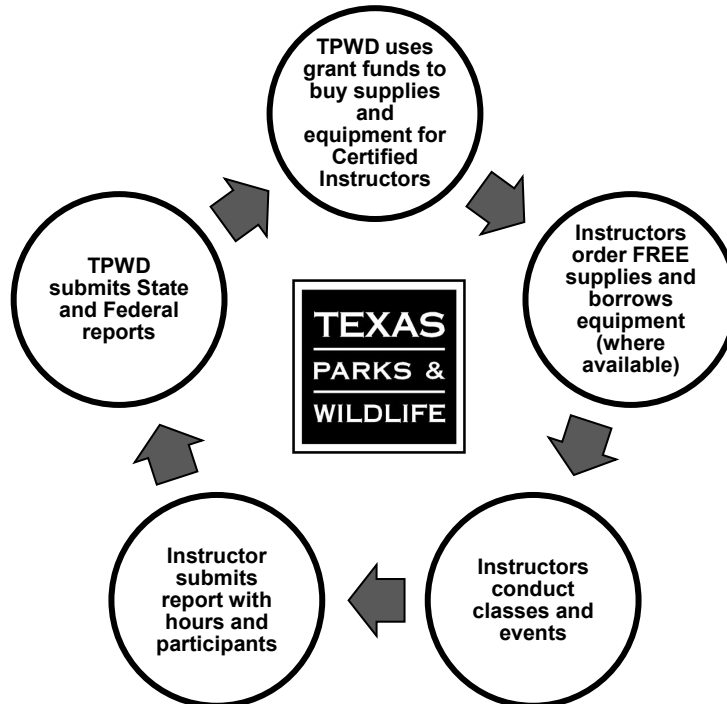
If I am a TPWD employee, do I submit reports?

Yes, please submit a report, but leave the hours field empty. This way, the classes and participants can be included on various agency reports.

Sport Fish Restoration Cycle

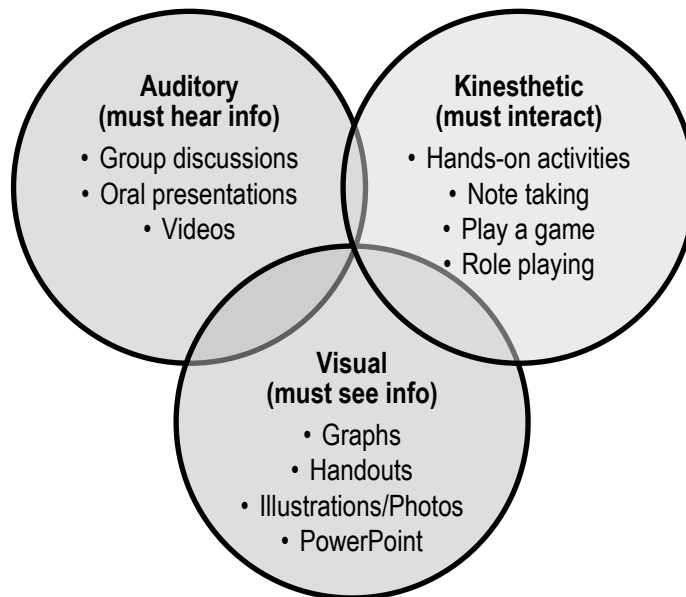


Angler Education Program Cycle



Learning Styles

Be sure to include a variety of activities so that you *reel in* all learners.



Maslow's Hierarchy

People learn best when their basic needs are met.

NEEDS	WHAT THE INSTRUCTOR CAN DO
Physiological	Provide a safe and positive atmosphere. Point out restrooms and water locations. Review schedule and break times (if applicable).
Safety	Point out any safety hazards, let them know you have a small first aid kit on hand.
Security	Avoid use of sarcasm, or negative feedback. No judgements: let them know there are no dumb questions.
Love and belonging	Welcome participants to the class/event as they arrive and introduce yourself. Use participant names (provide name tags or stickers).
Esteem	Provide a respectful environment. Recognize participant's achievements.
Self-actualization	Provide resources for exploration (future learning).

Other conditions that encourage and support learning:

- When asking questions, pause to give participant time to think.
- Repeat the participant's question back to the entire audience (in case others did not hear the question), then answer the question.
- Good lighting and adequate space (avoid crowding, allow for personal space.)
If outside, instructors should always face the sun so participants can focus on the activity and instructor without squinting.

Adult Learners versus Child Learners

When designing or planning your class or event, keep these differences in mind. Be willing and able to switch presentation or delivery technique according to audience.

	CHILD LEARNERS	ADULT LEARNERS
Application	Generally accept that the learning will be meaningful at some point in the future.	Generally require the learning to have an immediate application or purpose.
Independence	Typically dependent on the teacher shaping the learning environment and their understanding of the topic.	Autonomous, self-directed, and independent in their approach to the learning environment.
Prior experience	Sometimes rather limited.	Usually a rich resource.
Readiness to learn	Set by environment, interest level, and external factors.	Associated with a transition, job duties or need to perform a task.
Motivation	External	Internal
Learning design and orientation	Focused on subject matter and content.	Best when focused on a problem or tool.
Participation in the learning	Usually mandated.	Usually voluntary.

Engage Your Audience

- ❖ Make it fun!
- ❖ Teach in small chunks. Spend about 10-30 minutes per topic.
- ❖ When possible, ask open-ended questions, to encourage participation.
 - Don't be afraid if you do not know the answer.
 - Respond with *"It depends..."*
 - Or
 - "That's a good question, I don't know the answer. Let's look it up together"*
 - Or
 - "I'll find out the answer and get back to you."*
- ❖ Respond to incorrect answers in a positive way. *"I see where you're going, but remember that . . ."*

What are signs of learning during an activity?

1. _____

2. _____

3. _____

4. _____

What are signs of losing your audience during an activity?

1. _____

2. _____

3. _____

4. _____

Encourage participants to use their critical thinking skills, ask:

- Could you explain further?
- Can anyone think of another way?
- How does _____ affect that?
- What happens if _____?

What are some other questions you could ask participants?

Angler Recruitment and Retention

When promoting a new outdoor activity such as fishing, research indicates there are five key things that greatly impact an individual's decision to adopt the new sport.



1. **Positive Initial Experience:** People generally do not adopt a new activity if they have a poor experience. Be sure to make your class or event rewarding and fun. Use hands-on activities to engage your audience.
2. **Support from Family, Friends and Community:** People tend to adopt new activities in pre-established groups. People are reluctant to take up fishing by themselves. But if they have a family member, friend or group that like to fish, they are more likely to continue the sport. Incorporate families into fishing classes or events when possible. Offer ideas or resources (local clubs, meet-ups, social media groups) for them to find a social network.
3. **Access to a Mentor:** Many people are generally not self-starters; they need someone to show them the way. As an Instructor, you can show them the ropes, so they feel confident they can continue in the activity. Remember to keep it simple.
4. **Access to the Resource:** People need to know “where to fish.” Be sure to mention local state parks (no fishing license required), county or city parks. Let them know about TPWD’s Fishing Reports (online), stocking program (including the Neighborhood Fishing Program.)
5. **Access to Equipment:** Perceived barriers to this can be cost and style. Use broadly available and inexpensive equipment in your class or event (leave your favorite \$250 rod-n-reel at home). Inform participants about the Tackle Loaner Program available at many TPWD State Parks (see webpage).

Class / Event Presentation Model

This model can be used for classes or events held indoors or outdoors. The skills and topics as outlined below can be combined at the discretion of the Instructor to fit the class/event setting.

For example, Fish ID and Regulations can be combined with Casting if using the Backyard Bass activity.

For a small group with only two instructors, keep the group as one with instructors rotating topics in front of the whole group.

For large groups or events, split the group into smaller groups and rotate them through stations (use one or two Instructors per station). Stations can be combined if staffing is low. Rotate the groups every 20 minutes.

Actual fishing after the class or event provides a wonderful capstone activity for the participants.

- Indoor classes taught at a school, library or community building may not have access to waterside fishing. Some schools teach Basic Fishing over several weeks and schedule a fishing field trip or family outing for a later date.
- For outdoor events with access to water, allow a minimum of three (3) hours for the class/event. Example: 6 stations at 20 minutes each; 45 min for actual fishing; 15 minutes for awards = 3 hours.

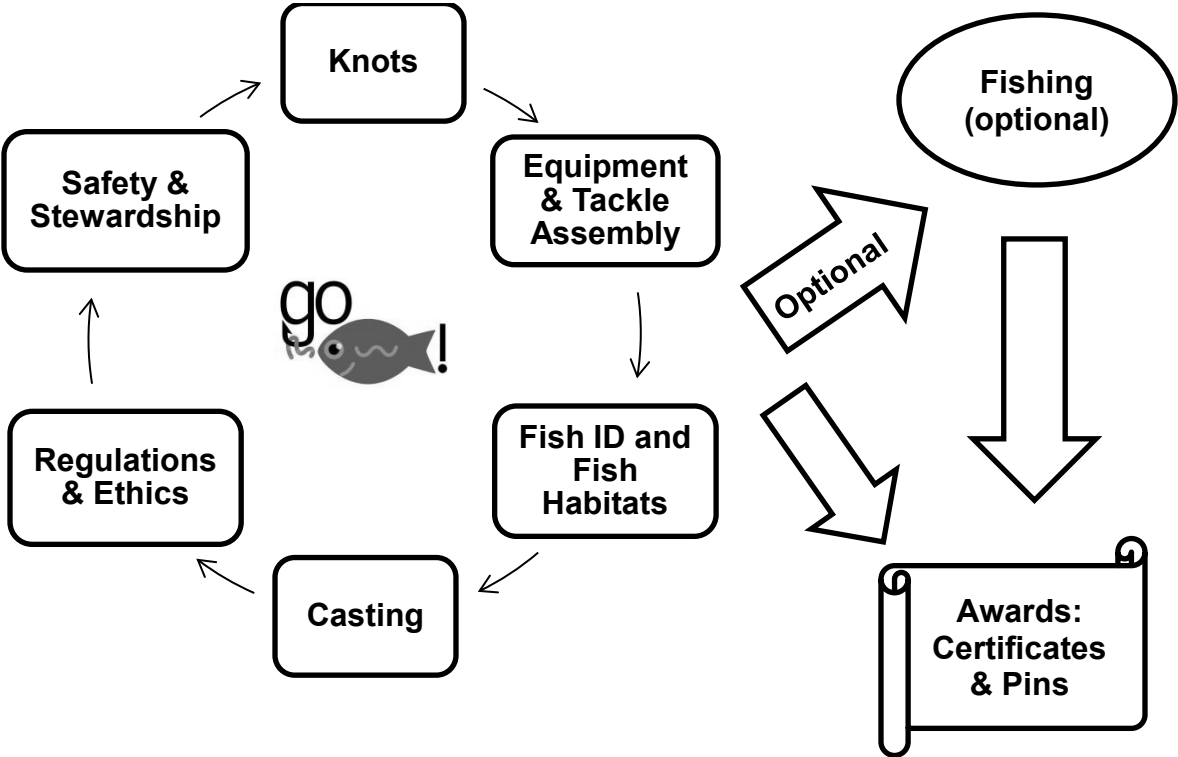
Note: For very large groups, divide into 2 groups – one group goes fishing (incorporate casting & safety at the waterside), while the other group rotates through the remaining stations; then switch midway through the event. See the “Fishing Event Planning Guide” on the Instructor Resource webpage for additional information.

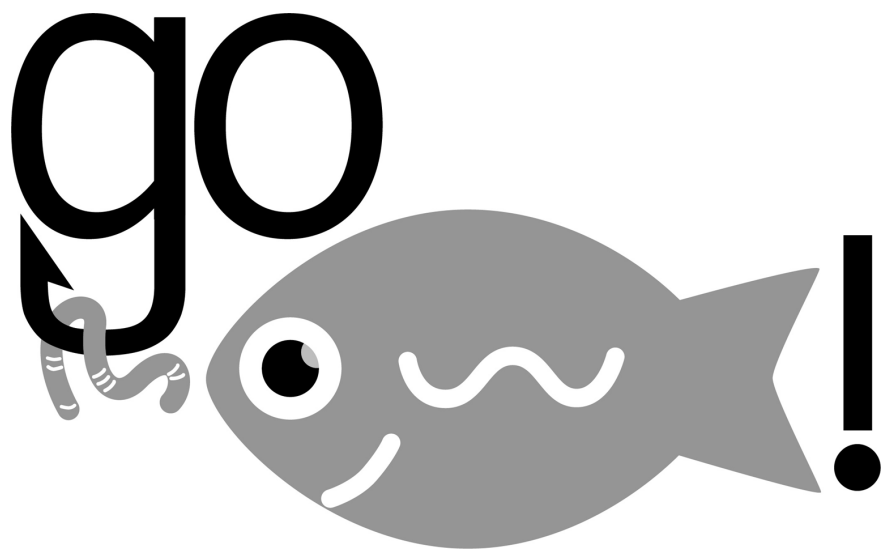
Best Practices:

See the *Fishing Event Planning Guide* on the Instructors Resource webpage for additional information and forms for large public classes and events. The guide provides a helpful timeline and planning worksheets.

- Set up a registration/check-in table. Optional: Use registration forms, surveys and issue station checklists to participants.
- Have a rod-n-reel check-out station for loaner gear.
- While participants are fishing, assistant instructors can write up the Basic Angler Certificates (give certificates and fish pins to both youth and adults).
- Have “First Fish” Certificates on hand to award to those who have caught their very first fish.

Indoor or Outdoor Set-Up





Class Skills Checklist

To earn a Basic or Advanced Certificate and fish pin, participants (youth and adults) must complete all skills listed in the table. Be sure to provide certificates and awards pins to both youth and adult participants.

Class skills can be based on freshwater or saltwater fish species and habitats, or a combination of both.

See the program supply catalog and order forms on the Instructor Resources webpage for a complete list of participant literature, awards, and other items.

First Fish Certificates are also available.



Figure 3. Children holding their First Fish certificates.

BASIC ANGLER SKILLS CHECKLIST

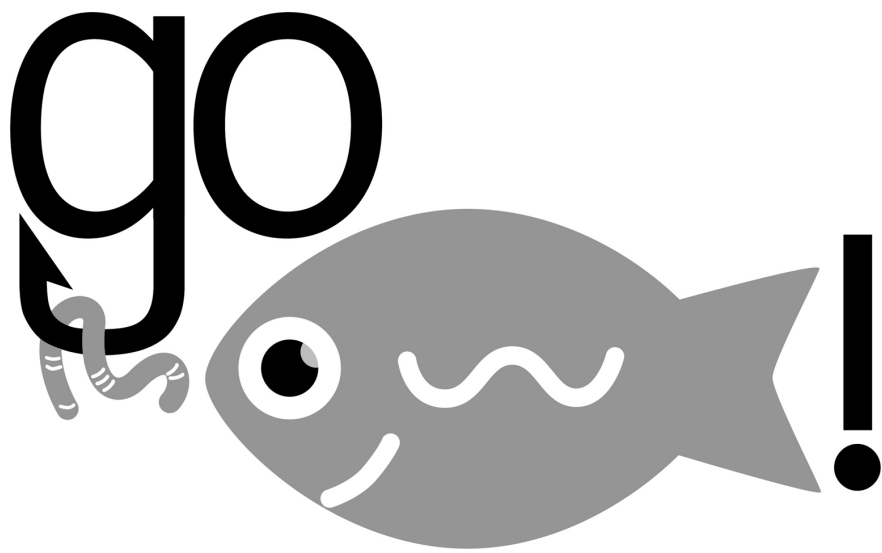
Participants are awarded a Basic Angler Certificate and either a Bluegill fish pin OR a Redfish fish pin. If focusing primarily on freshwater fishing, issue the Bluegill pin; if focusing on saltwater fishing, issue the Redfish pin.

EQUIPMENT:	Recognize a spincast rod/reel, know how to assemble the rod and feed the line.
CASTING:	Learn to cast safely with a spincast reel/rod and know how to set drag.
KNOTS:	Learn to tie 2 fishing knots (Palomar and Improved Clinch).
TACKLE ASSEMBLY:	Assemble basic tackle (hook, sinker, and bobber). Identify a bait or lure to catch two different fish species.
FISH ID:	Identify 3 sportfish species. Know the official State fish species (freshwater and saltwater).
FISH HABITAT:	Explain the elements of good fish habitat and describe how things are connected in a food web.
SAFETY FOR FISH, PEOPLE AND THE ENVIRONMENT	<p><u>Fish</u>: Discuss how to mash down the hook barb, and safely handle a fish.</p> <p><u>People</u>: Identify 10 items that should be taken on a fishing trip. Discuss water safety and lifejackets.</p> <p><u>Environment</u>: Recognize the benefit of using lead-free sinkers, and recycling fishing line.</p>
REGULATIONS:	Demonstrate how to measure a fish, and how to look up fishing regulations. Know what age you get to buy a fishing license.
ETHICS & STEWARDSHIP:	Develop an understanding of the impacts of litter. Discuss 2 ethical dilemmas. Name the top 3 aquatic invasive species.

ADVANCED ANGLER SKILLS CHECKLIST (Basic Angler Skills plus the following)

Participants are awarded an Advanced Angler Certificate and either a Largemouth Bass fish pin OR a Spotted Seatrout fish pin. If focusing primarily on freshwater fishing, issue the Largemouth Bass pin; if focusing on saltwater fishing, issue the Spotted Seatrout pin.

EQUIPMENT:	Compare and contrast 4 different rods and reels (spincast, spinning, baitcaster, fly rod).
CASTING:	Learn to cast two additional types of rod and reels OR practice flipping and pitching casting techniques with the spincast rod/reel. Optional: Learn to throw a cast net.
KNOTS:	Learn 2 additional fishing knots (Arbor, Double Surgeon's Loop or Snelled); review the Palomar and Improved Clinch knots.
TACKLE ASSEMBLY:	Match 3 fishing scenarios with appropriate bait or lure.
FISH ID:	Identify 3 additional sportfish species; name the external fish anatomy and describe their functions.
FISH HABITAT:	Describe 2 different types of aquatic habitats and good places to fish in each habitat.
SAFETY FOR FISH, PEOPLE AND THE ENVIRONMENT:	<p><u>Fish</u>: Know how to handle and safely release fish back into the water.</p> <p><u>People</u>: Know how to look up fish consumption bans.</p> <p><u>Environment</u>: Discuss what to do if an invasive fish species is caught.</p>
REGULATIONS:	Define slot, possession, and bag limits. Demonstrate how to look up regulations. Explain why it's important to observe regulations.
ETHICS & STEWARDSHIP:	Be able to identify the top 3 aquatic invasive species and discuss one regional invasive species. Discuss additional ethical dilemmas and stewardship actions and responsibilities.



Activities

The activities have been designed to encourage hands-on teaching for both youth and adult audiences and minimize the “lecture” approach. Activity background and procedures are provided to help everyone feel comfortable teaching the joy of fishing. Some Angler Education Instructors may be professional educators but do not have a great deal of knowledge about fishing, while others may have a great wealth of fishing experience, but do not have a teaching background.

Many of the activities touch upon the state education standards, Texas Essential Knowledge and Skills (TEKS). However, these are not in the guide, we leave it up to the professional educator to determine what TEKS are addressed in the activities.

The topics and activities listed in this guide provide the basics to introduce someone to the sport of fishing. Instructors are free to supplement the activities with additional information. The *Texas Aquatic Science* book (Texas A&M University Press) and website (<https://texasaquaticscience.org/>) are a great supplement to use in both formal and informal education settings. Learn to fish videos are available on the TPWD Aquatic Education “Learn to Fish” webpage, <https://tpwd.texas.gov/education/angler-education/>

Each activity includes the following components:

An **objective** is included for both the Basic and Advanced level fishing classes.

The **key message** is the main idea or talking point to express to the participants.

The **time** to teach the topic is based on a typical 3-hour class/event. This is a suggested time and can be increased or decreased to fit your needs.

A list of **materials** is provided, many of these items are included in the Angler Education Instructor kit. You can add to it as you see fit.

The **background** information is provided for the Instructor’s base knowledge. It is not necessary to memorize this information but is provided as a reference point.

The **suggested activity procedure** provides a step-by-step guide and is broken down into the basic and advanced levels.

Additional activities and resources include supplemental activities, books, magazines, and websites.

Equipment

OBJECTIVE

Basic: Participants will be able to recognize a spincast rod-n-reel, know how to assemble the rod and feed the line.

Advanced: Participants will be able to compare and contrast 4 different rods-n-reels (spincast, spinning, baitcast, and fly rod).

KEY MESSAGE

Fishing does not have to be an expensive sport; start with the basics.

TIME 10-20 minutes

MATERIALS

Basic:

- *Basic Guide for the Beginning Angler* (1 per participant/family)
- *Fishing Tips for Beginners* card (1 per participant)
- Spincast rod and reel(s)

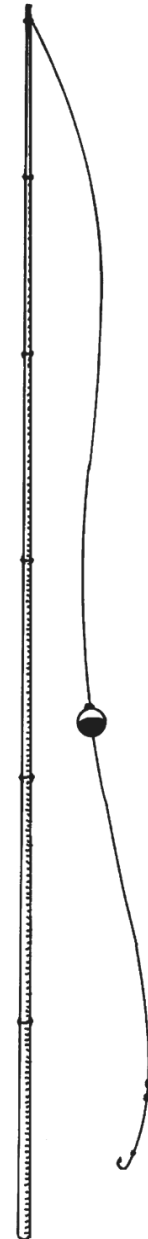
Advanced:

- *Basic Guide for the Beginning Angler* (1 per participant)
- Spincast rod and reel(s)
- Pictures or actual rod and reels: spinning, baitcaster, fly rod

BACKGROUND

Using a line, hook and bait, people have fished for thousands of years. With the vast choices in a sporting goods store, beginners may feel overwhelmed when it comes to purchasing their first fishing rod and reel. **Note that the cane pole or spincast rod-n-reel is the best for beginners.** Things to consider: Where will you be fishing? What fish species do you want to target? This will determine the type of rod-n-reel, rig, bait or lure you will use.

Rods are made of various materials, fiberglass, graphite, bamboo; they are available in different lengths and varying pieces such as a 1-piece, 2-piece or telescopic. The **action** of the rod refers to the flexibility of the rod. **Slow (light) action** rods are very flexible and bend from near the reel. **Medium action** rods are versatile and will bend from the top half or one-third of the rod. **Fast (heavy) action** rods are stiff and only bend from near the tip. Fly rods are very long and flexible. Saltwater rods are sturdy and thick and are resistant to corrosion.



Reels include the spincast (closed-faced, can't see the line), spinning (open-faced), baitcast and fly reel. Spincast and baitcast reels are mounted on the top of the rod. Baitcast reels are not recommended for beginners or children because of the dexterity required to control the line on the reel. The spincast reel is the best for beginners; simply push the button with your thumb to release the line. Spinning and fly reels are mounted underneath the rod.

Fishing line materials are varied too. The most common type is monofilament line. Other types include Fluorocarbon, Braided. All types come in different colors and sizes called pound-test. As the pound-test increases, the diameter of the line increases. For most freshwater applications, 10-lb test line will work; for saltwater its best to use 20-lb test line. Fly line is purchased by weight.

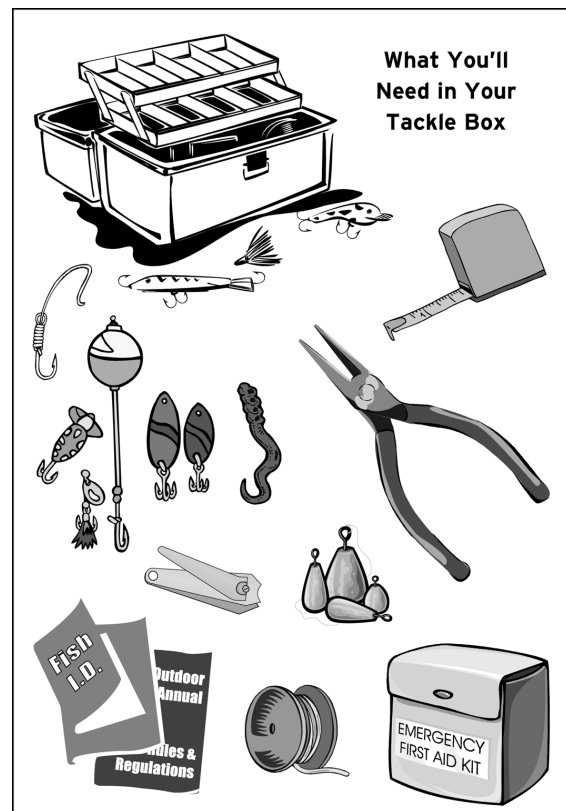
Maintenance of equipment is important. Sun and heat will degrade fishing line and should be replaced at least once a year to prevent losing your catch! Saltwater rods-n-reels should be gently rinsed with freshwater to prevent corrosion after every use. If the rod tip breaks off, rod tip replacement kits can be purchased to repair the rod rather than replace it. Reels may need occasional cleaning, oil, or lubricant.

A simple **tackle box** should include the following items:

1. Hooks (various sizes)
2. Sinkers / Weights (various sizes)
3. Bobbers (various sizes)
4. Artificial lures (various types and sizes)
5. Fingernail or line clippers to cut fishing line
6. Measuring tape or ruler to make sure your fish meets the legal length limits
7. Pliers or hemostats (use to mash down the hook barbs, open/close split-shot sinkers and remove hooks from fish), fish gripper tool for saltwater fish
8. Small first aid kit
9. Small spool of fishing line
10. Reference guides: Outdoor Annual (rules and regulations book OR download the App); Fish ID card or book (know what you caught)

Optional items:

- Net to help land your fish safely
- Stringer or cooler with ice if keeping your fish



Casting

OBJECTIVE

Basic: Participants will be able to cast safely with a spincast rod-n-reel and know how to set the drag.

Advanced: Participants will be able to cast the spinning rod-n-reel, the baitcast rod-n-reel or the fly rod-n-reel; OR practice flipping and pitching casting techniques with the spincast rod-n-reel. *Optional: Participants can practice throwing a cast net.*

KEY MESSAGE

Cast safely and accurately.

TIME 20 – 45 minutes

MATERIALS

Basic and Advanced:

- Basic: Set of spincast rod-n-reels rigged with casting plugs
- Advanced: Set of other rod-n-reels (see above) rigged with casting plugs
- Rod holder or table
- Fishing targets (Backyard Bass, hula hoops, or buckets, etc.)
- *Optional: Cast nets and small plastic or stuffed fish or animals to catch*

ADDITIONAL EQUIPMENT FOR BACKYARD BASS ACTIVITY

- 1 large blue tarp & 8 tent stakes (optional) – if in a gym, can use blue painter's tape to outline your casting area or "lake"
- 5 to 7 spincast rods/reels with casting plugs
- 1 to 2 tables
- 15 to 20 "Backyard Bass" fish with pictures of freshwater and saltwater fish (without the names) taped to the back and numbers written to represent the fish's length. Vary the lengths for each species (some that meet the regulations; some under or over the regs). Use images from the laminated Common Freshwater and Saltwater Fish ID cards, and clear packing tape.
- Fish stickers or laminated Common Freshwater & Saltwater Fish ID cards to distribute to the participants
- An enlarged copy of the saltwater and freshwater regulation charts showing length and bag limits from the Outdoor Annual. Use plastic sheet protectors, clear contact paper, or use a large inexpensive plexiglass poster frame.
- Caution tape and stakes to create the casting zone and keep folks from walking through the play zone
- Fish ruler (optional)

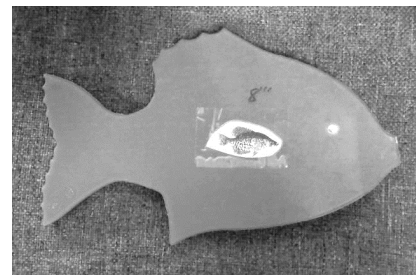


Figure 4. Backyard bass with fish image taped on the back.

BACKGROUND

There are many ways to cast a rod-n-reel, the best technique for beginners is the simple overhand cast. It is also the best and safest method to use with large groups casting in a confined area. Teaching participants to cast safely and accurately before they head to the water will improve everyone's experience. (See casting techniques for different rod-n-reels below.)

Side casting can be used if there are trees overhead. Advanced casting techniques include flipping or pitching used by many bass anglers. While casting a far distance is fun, it may not be necessary – instead, aiming for accuracy to a specific location where the fish might be is more important.

For a detailed description and illustration of casting techniques see the *Basic Guide for the Beginning Angler* book.

Always emphasize **safety**. Remind participants to look behind, overhead and around before casting to avoid hitting anyone nearby, any obstacles or nearby aquatic wildlife (ducks, turtles, etc.).

Hula hoops or buckets can be used as targets. In an empty parking lot, use parking spaces as imaginary boats. Designate where each person stands to cast. A large blue tarp to represent the waterway (lake or river) can also be used.

The **drag** function regulates the tension of the line and exerts pressure on the fish to wear it out. If it is set too tight, the line may break. If it is set too loose, the fish will take the line and run with it, possibly wrapping it around obstacles causing the line to break.

Note: If the line is not casting properly, check to see if the line is wrapped around the rod tip. If two participants cross their lines, have the person whose line is on the top raise their rod (without reeling in) and have the person whose line is on the bottom lower their rod and slowly reel the line in.



Figure 5. Decorated bucket used as a casting target. Image courtesy of Connie Petrukevich, TPWD volunteer Area Chief.

PROCEDURE

1. Allow 2 - 4 participants to cast at a time (depends on # of helpers and size of casting area.)
2. Explain to each participant how to safely cast the line (look behind themselves before casting to make sure there are no obstructions/trees, or people).
3. Show participants how the spincast rod-n-reel works. Before the initial cast, let them push the button to release and retrieve the line and casting plug.
4. Explain that since there is a short casting area and a lot of people around, it is best to use an overhand cast. Demonstrate the cast emphasizing the importance of accuracy instead of the power to catch the Backyard Bass.
5. Demonstrate how to use a flick of the wrist when casting to provide the speed needed to cast the line.
6. Show them how to guide the casting plug into the pocket of the plastic fish. (Pointing the rod tip down will aid in guiding the plug where you want it to go.)
7. After they catch a fish (do not tell them the name of the fish!), take the rod from them and give them the fish; direct them to the ID table to identify what type of fish they caught and determine if they can keep it based on the length (if it was a real fish).
8. At the ID table, have participants match the picture of the fish on the plastic fish to the fish ID card to learn the fish name, then use the regs chart to determine if the fish meets the length limits. This is a great way to incorporate math concepts (read and use charts and rulers). Give each participant a sticker and/or a fish ID card. If they want and time permits, allow them to get back in line to cast again.

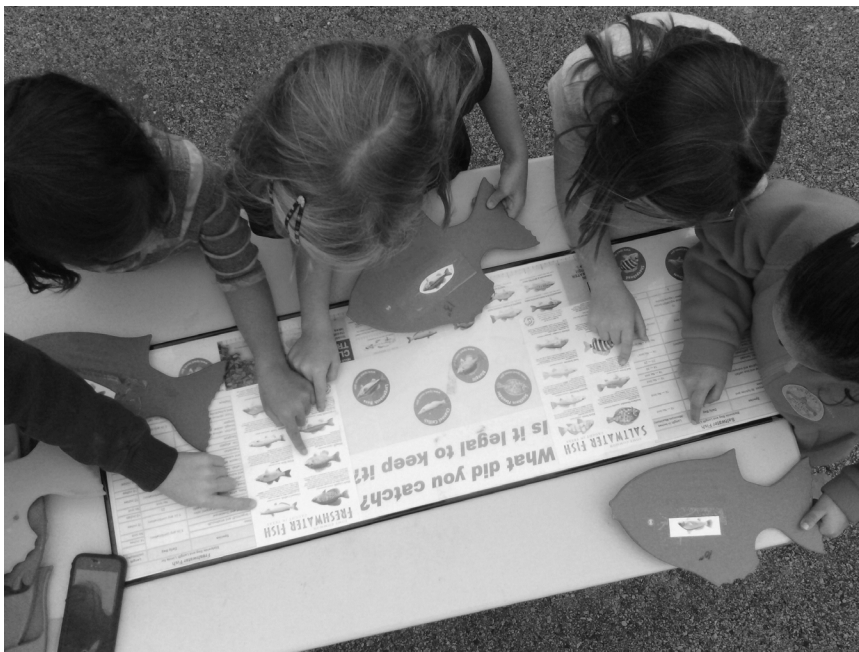


Figure 6. Children looking a poster to learn how to identify fish and look up regulations.

CAST NET THROWING ACTIVITY (OPTIONAL)

Set-up

1. Place small stuffed fish or animals around on the ground in a wide-open space without any obstacles.

PROCEDURE

Practice throwing the cast net on land. The goal is to open the net as wide as possible in the air while releasing it with both hands simultaneously from one end as it's slung in the air in one smooth release. To throw the net:

1. Make sure you have stable footing.
2. Step on the leash loop.
3. With the net gathered, use your non-dominant hand to hold the center of the net; with your dominant hand grip the outer edge of the net and spread it out from the center.
4. Turn or twist your upper body backwards in the direction of the net's outer edge, keep your feet planted and spin your body and the net forward releasing both hands.



Figure 7. Volunteer throwing a cast net.

ADDITIONAL ACTIVITIES AND RESOURCES

- If using a school gym, use the basketball court lines to delineate shallow and deep water, or use blue painter's tape to outline shallow and deep water. Have participants place the fish species in the correct areas (sunfish – shallow water, catfish and largemouth bass in deep water.)
 - Use chairs turned upside down with legs sticking up to simulate trees.
- Instead of using Backyard Bass targets, use hula hoops or buckets and award points to the various hoops and buckets.
- If using a parking lot, assign participants to “boats” aka parking spaces. Leave 2 empty parking spaces in between the “boats”. Have them model good safety by wearing a lifejacket and practice safe casting without hitting the other “boats.”
- Advanced options might include having a kayak or canoe that participants can practice casting from. If using this option, ask the participants to model good safety by putting on a lifejacket. The kayak or canoe can be placed on innertubes for additional balancing skills.

Knots

OBJECTIVE

Basic: Participants will be able to tie 2 fishing knots (Palomar and Improved Clinch).

Advanced: Participants will be able to tie 2 additional fishing knots (Arbor, Double Surgeon's Loop or Snelled). Review the Palomar and Improved Clinch knots.

KEY MESSAGE A good fishing knot will keep you from losing your hook or lure and the fish.

TIME 20 minutes

MATERIALS

Basic & Advanced:

- Knot tying illustrations (X-Large Flash cards available in Instructor's Kit or online.)
- *A Basic Guide for the Beginning Angler Book*
- 10 eye bolts (1/4" x 2" blunt end)
- 1 large eye bolt (5/16" x 3-1/4" blunt end)
- 11 nylon cords, 1-2 feet in length each



Figure 8. Volunteer teaching youth how to tie fishing knots.

BACKGROUND

The first thing an angler must do is learn to attach a hook to the line to prevent the hook from coming off (and losing the fish). Teach how to tie a knot first, then how to assemble the terminal tackle.

The Palomar knot is the easiest and strongest fishing knot because the line is threaded through the eye of the hook twice. The **Improved Clinch knot** is a common knot used by many anglers. The number of twists or wraps varies from one angler to the next. However, 5 is a good number. The **Arbor knot** is used to secure the line to the fishing reel. This is a good knot to know when it comes time to replace the fishing line on your reel. The **Double Surgeon's Loop knot** is used to join two lines together. The **Snelled knot** was originally used with eyeless hooks, it makes a good strong connection when fishing with bait.

Basic Knots:

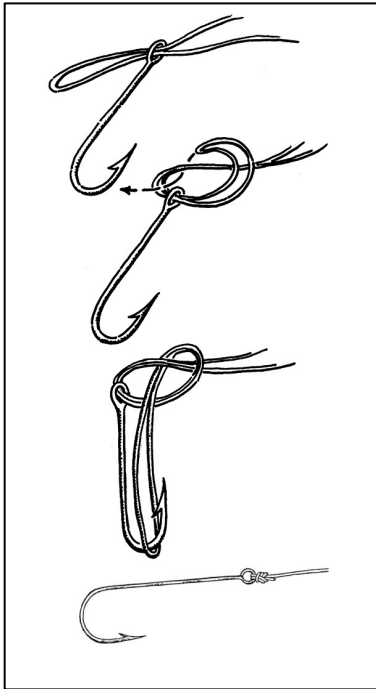


Figure 9. Palomar knot.

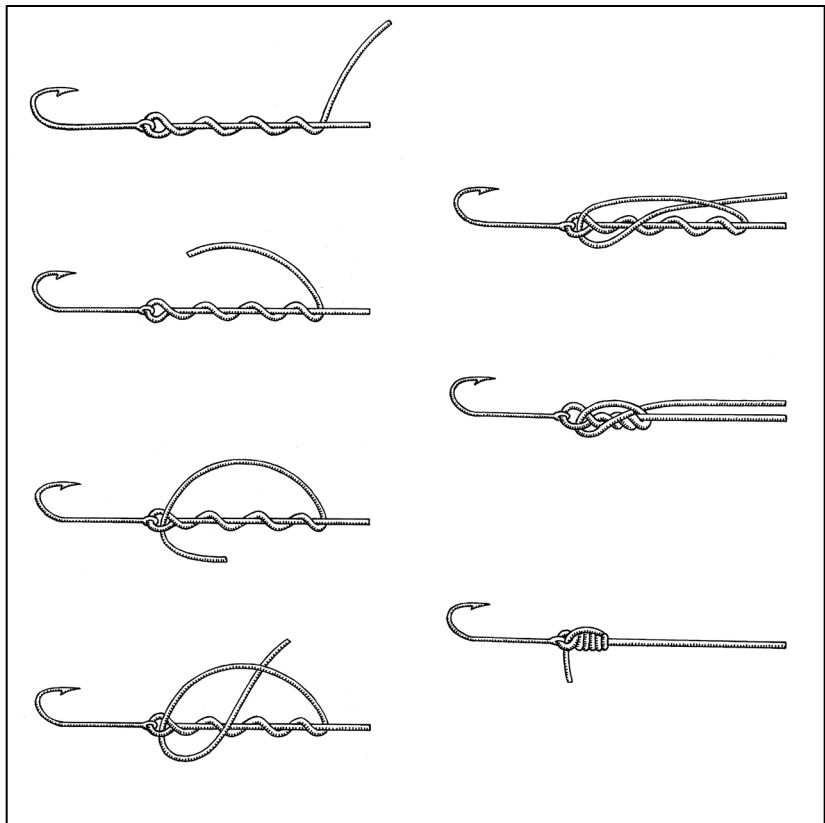


Figure 10. Improved Clinch knot.

Advanced Knots:

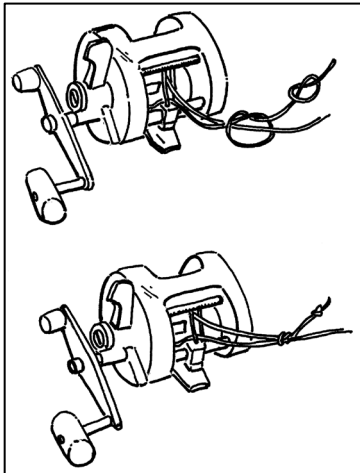


Figure 11. Arbor knot.

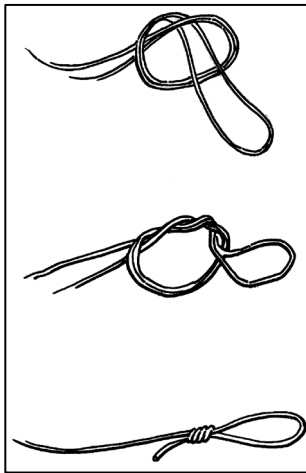


Figure 12. Double Surgeon's knot.

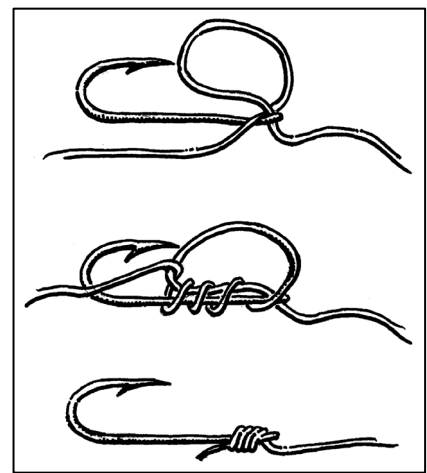


Figure 13. Snelled knot

Tackle Assembly

OBJECTIVE

Basic: Participants will be able to assemble basic tackle rig (hook, sinker, and bobber); and identify a bait or lure to catch two different fish species.

Advanced: Participants will be able to match 3 fishing scenarios with appropriate bait or lure.

KEY MESSAGE

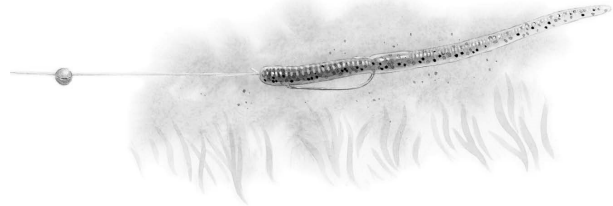
Use an appropriate rig, bait, or lure for the fish you want to catch.

TIME 20 minutes

MATERIALS

Basic & Advanced:

- *A Basic Guide for the Beginning Angler Book*
- 10 Barbless hooks
- 10 Plastic red/white bobbers (1- or 1.5-inch round)
- 10 Split shot sinkers (preferably lead free)
- Monofilament line, (10 lb. test) about 2 feet per person
- Needle-nose pliers (2-3 pairs)
- Line or nail clippers (2-3 pairs)
- Used fishing line collection container
- Various lures in a small tackle box or container with 1 each: diving plug, topwater plug/popper, fuzzy jig, spinner bait, spoon, fly, a few soft plastics, and a rattle trap (Instructor can supply more if desired)
- Optional: swivels and various sinkers to assemble various fishing rigs



BACKGROUND

Teach tackle assembly after the knot tying section.

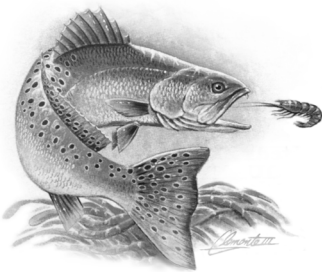
Hook, Line and Sinker. There are many different types of hooks, fishing line, sinkers, and bobbers, also called “terminal tackle.” For the basic tackle assembly activity, use a barbless Aberdeen or J hook, split shot sinker (lead free) and a 1-inch or 1.5-inch plastic red and white bobber. Fishing line is discussed in the equipment section.

Hooks

The five basic parts of a hook (from top to bottom) are the Eye, Shank, Bend, Barb, and Point. Barbless hooks are safer for both the fish and the person (easier to pull out). Circle hooks are good for beginners because you don't have to "set" the hook. They are also safer for the fish because they typically can't swallow the hook due to its broad shape. Treble hooks should only be used for "catch and keep" fishing due to the potential harm they could cause to a fish.

Common hook types include, Aberdeen, J hook, circle hook, treble and weedless hooks. Hooks come in many different sizes, the smallest size is 32 (almost microscopic, about 1-2mm in length) to the largest, 19/0 (pronounced 19 – aught; 14 inches in length). The bigger the number (from 32 to 1), the smaller the hook. For the "aught" (# / 0) numbered hooks, the size increases with the number. So, a 2/0 hook is smaller than a 4/0 hook.

Choose a hook size based on the fish species you want to catch (match the hook size to the mouth size of the fish you want to catch.)



Fish species	Hook size (small to large)
Micro-fishing (minnows, shiners, darters)	32 to 14
Sunfish, Crappie	12 to 6
Rainbow Trout	8 to 4
Channel Catfish	4 to 1/0
Bass	1 to 2/0
Spotted Seatrout	4/0 to 5/0
Red Drum	4/0 to 5/0
Flounder	3/0 to 4/0

Sinkers

To protect the habitat consider using lead free sinkers. Sinkers come in various shapes and sizes: bell, bullet, egg, pyramid, and split shot. The weight of a sinker aids in the casting of the line. For a simple rig, use a #3 split shot sinker and attach it to the line about 6-12 inches above the hook.

Bobbers

Just like all the tackle items mentioned above, bobbers are available in an array of materials, sizes, and colors. The most common bobber is the red and white plastic bobber. Bobbers help get the bait in the fish-feeding zone and let the angler know when a fish is biting. Bobber placement on the line depends on how deep you want the hook to be underneath the water's surface. For best visibility to the angler,

orientation of the bobber depends on the water and weather conditions. Place the bobber color that's easiest to see on top of the water.

Fishing Rigs

There are many different rig set ups such as The Texas Rig, Carolina Rig, Wacky Rig, Jig Rig. These can be discussed in an Advanced Class or Specialty Clinic. Descriptions of these rigs are available on the Instructors Resource webpage, https://tpwd.texas.gov/education/angler-education/instructor/instructor-resources/rigs_with-text_tpw-mag-feb-2013.pdf

Swivels

The use of a snap or barrel swivel is optional. They can be tied to the end of the fishing line to attach a leader line or a lure. Swivels help prevent twisting of the fishing line.

Baits and Lures

Different fish species are attracted to different types of bait or lures. Many factors should be considered when choosing a bait or lure. What is the shape and size of the fish mouth? Does the fish have a keen sense of smell or sight? Does the fish rely on its sensitivity to vibrations in the water to identify food? Where in the water column does the fish spend most of its time? Does the fish like to hang out near structures?

*Bait = Feed 'em
Lures = Fake 'em out*

Presentation of the live bait or lure is key to imitating the prey and attracting fish. Depending on the bait or lure, you may retrieve it straight on in a steady motion, either slowly or quickly. You might twitch or jerk it; or raise and lower the rod-n-reel to make the lure go up and down (like a yo-yo). You might want to “jig” it – let the lure fall to the bottom, slightly raise the rod to move the lure across the bottom, retrieve the line until it is taut, and repeat.

Bait includes minnows, worms, crabs, dead or live shrimp, and other organisms. Prepared bait and other food items can also be used. Examples are stink bait (for catfish), canned or frozen corn kernels, hot dog pieces or chicken liver. Hook placement is important when fishing with live bait – to keep the bait alive and moving.

“Don't Dump Your Bait”. It is important to teach anglers how to legally use and dispose of bait to prevent accidental introductions of invasive species. Certain counties have special bait species restrictions. Personally caught live bait can only be used in the water body where it was caught. Keep a receipt for commercially

purchased live bait; live fish and bait (and the water) cannot be transported from the water body where it was caught to another water body.

What to do with leftover bait?

Take it home to use on a future trip, offer it to another angler, or place it in the trash.

The use of game fish or part of a game fish as bait is illegal in Texas. See the TPWD Outdoor Annual or Outdoor Annual App for more information.

Natural Baits:								
	Sunfish	Crappie	Channel Catfish	Black Bass	Rainbow Trout	Flounder	Red Drum	Seatrout
Worms	✓	✓	✓	✓	✓			
Crickets								
Grass-hoppers	✓	✓	✓	✓				
Minnows	✓	✓	✓	✓	✓	✓		✓
Finger Mullet						✓	✓	✓
Crayfish	✓		✓	✓				
Shrimp*			✓		✓	✓	✓	✓
Crab							✓	

**Only use native Gulf of Mexico shrimp. Introducing imported or non-native shrimp (live, dead, or frozen; whole or pieces) to the aquatic environment is illegal under Texas law.*

Artificial Lures simulate natural baits when they are retrieved or as you troll behind a paddle craft or motorboat. They vary in size, shape, and color. See the *Basic Guide for Beginner Angler* book for illustrations.

Plugs are classified as topwater and crankbaits (diving plugs). They typically have one to three treble hooks. All are shaped like baitfish or other prey. Topwater plugs or **poppers** have an indentation that will cause it to skip across the water surface or swim just below the surface when retrieved.

Diving plugs have a plastic lip on the front that will help it to dive under the water when retrieved. The size of the lip determines the diving depth of a plug, the larger the lip, the deeper it will go. The depth will vary from shallow, middle, or deep and is also indicated on the store packaging.

Jigs are effective at catching a wide variety of fish. They have a weighted head and soft plastic skirt over the hook; available in various weight and hook sizes.

Spinnerbaits have blades that rotate around a straight wire and have tails made of rubber, animal hair, feathers, or other material. Many have metal blades that rotate to attract fish.

Spoons are metal, spoon-shaped lures that look like a baitfish. They typically have a treble hook and are available in silver, gold, or painted colors. Weedless spoons are designed with a single hook instead of a treble hook to prevent getting caught in areas with heavy grass or weed cover.

Soft plastics come in many shapes, colors, and sizes. They are designed to mimic natural bait such as worms, small fish, tadpoles, or salamanders. They can be used with or without jig heads.

Rattle traps are small baitfish shaped lures with two treble hooks and have beads inside that make noise when retrieved.

Flies are small lightweight lures made with feathers, thread, fur, or hair to mimic small insects or other prey and are typically used with fly-fishing.

Artificial Lures:								
	Sunfish	Crappie	Channel Catfish	Black Bass	Rainbow Trout	Flounder	Red Drum	Seatrout
Plugs	✓	✓		✓		✓	✓	✓
Spoons			✓	✓	✓	✓	✓	✓
Jigs	✓	✓	✓	✓		✓	✓	✓
Spinner-baits	✓	✓		✓	✓			
Soft Plastics			✓	✓		✓	✓	
Rattle Trap				✓				
Flies	✓	✓	✓	✓	✓	✓	✓	✓

Advanced:

Part one – tackle assembly:

1. Pass out monofilament line and terminal tackle and allow them to practice tying a knot of their choice with a barbless hook.
2. Discuss different types of hooks and sinkers, and their uses.
3. Demonstrate how to tie the Carolina and Texas rigs.
4. Allow participants to practice tying one of the rigs.

Notes:

Part two – baits and lures:

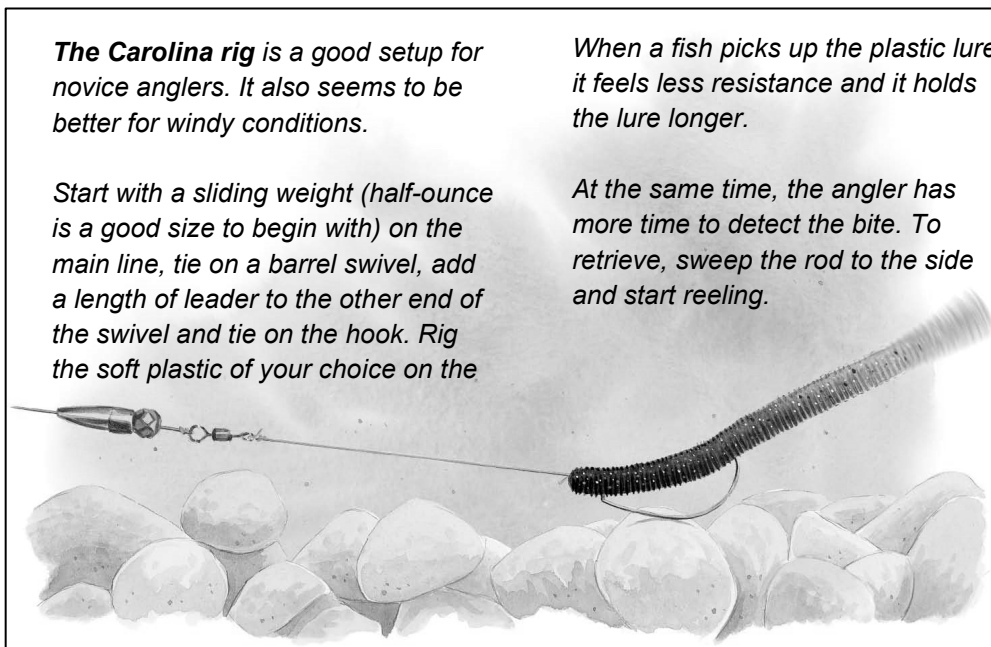
1. Refer participants to the *Basic Guide for the Beginning Angler* book to review the various types of natural baits and artificial lures.
2. Pass around the lures, one by one, letting the participants handle the lure and discuss what type of fish each lure would be used for.
3. Pick 3 fish species and discuss what bait or lure to use for each.

The Carolina rig is a good setup for novice anglers. It also seems to be better for windy conditions.

Start with a sliding weight (half-ounce is a good size to begin with) on the main line, tie on a barrel swivel, add a length of leader to the other end of the swivel and tie on the hook. Rig the soft plastic of your choice on the

When a fish picks up the plastic lure, it feels less resistance and it holds the lure longer.

At the same time, the angler has more time to detect the bite. To retrieve, sweep the rod to the side and start reeling.



ADDITIONAL RESOURCES

- TPWD Instructor Resources webpage – Fishing rigs, https://tpwd.texas.gov/education/angler-education/instructor/instructor-resources/rigs_with-text_tpw-mag-feb-2013.pdf
- Take Me Fishing, www.takemefishing.org

Fish ID

Note: Fish ID activities can easily be combined with Fish Habitat and Backyard Bass activities.

OBJECTIVE

Basic: Participants will be able to identify 3 sportfish species and know the official state fish species (freshwater and saltwater).

Advanced: Participants will be able to identify 3 additional sportfish species and name the external anatomy and describe their functions.

KEY MESSAGE

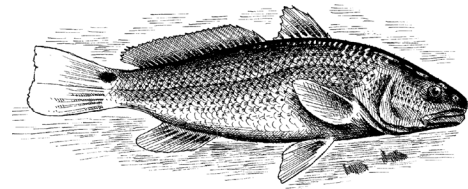
You must know what you caught to determine the regulations for that fish.

TIME 20 minutes or longer

MATERIALS

Basic:

- *A Basic Guide for the Beginning Angler* book
- *Common Freshwater and Saltwater* ID cards
- *Common Texas Sunfish* ID Cards
- Illustrations of fish (large flash cards of fish are available in the Instructors Kit, or on the TPWD website, or a Fish Poster)
- Paper and colored pencils or markers
- Name That Fish Activity Handout



Advanced:

All of the above, plus:

- Fish Anatomy Fill in the Blank Activity Sheet
- *Texas Freshwater Fish ID Pocket Guide* or *Saltwater Fish ID Pocket Guide*
- Fish ID Dichotomous Key activity

BACKGROUND

It is not only fun, but it is important for anglers to recognize and identify sportfish species to know if they can keep it or must release it based on any applicable fishing regulations. In Texas we have two officially designated state sportfish: the **state freshwater fish** is the Guadalupe Bass (*Micropterus treculii*); the **state saltwater fish** is the Red Drum, also called Red Fish (*Sciaenops ocellatus*).

There are also many protected fish species (threatened or endangered), and invasive or exotic fish species. It is good to know what fish species are threatened or endangered so you can immediately release them if accidentally caught. However, if you catch an invasive species such as tilapia or grass carp you must, by law, immediately remove its head or intestines.

Ichthyology is the scientific study of fish. What are fish? Fish are cold-blooded vertebrates that are adapted for life in water, they have gills and fins. Although whales, porpoises and dolphins have fins and live in water, they are mammals that are fish-shaped but do not have gills. Jellyfish, starfish, and cuttlefish are not fish, even though they have "fish" in their common name.

Body Shape and Color: The majority (80%) of a fish body is made up of muscle. The body muscles along with their fins, help fish move through the water. Shapes of fish range from horizontal or vertical disc-shaped (flounder or sunfish) to torpedo shaped (trout), to long ribbon shaped (eels).

Coloration and camouflage help fish survive. Southern flounder can change coloration to blend in with muddy or sandy bottoms of bays. Many fish have two-tones or "counter-shading." Their lower bodies are lighter, so when seen from underneath, they blend in with the sun shining into the water. They are darker on their upper bodies so when seen from above, they blend in as the water gets deeper. Some fish have "disruptive coloration" of stripes or spots to blend in.

Scales: Most fish have scales, exceptions include catfish, sharks, and rays. Scales provide protection for the fish, once they are lost, they cannot be replaced. The scales grow in size as the fish grows. If you look at a scale under a microscope, you will see growth rings like that of a tree ring. Fish also have a protective coating called "slime" that covers their bodies and helps prevent infection. When handling live fish, it is important to wet your hands to minimize any disturbance to their scales and slime coating and gently return them to water.

Fins: Fish use their fins to move through the water. Most fish have two sets of paired fins and three unpaired fins. Exceptions include rays and jawless fish.

Paired fins: the **pectoral fins** are located on the lower sides behind the head and **operculum** (the gill cover) and are used for locomotion, braking, staying in one place and for fine-tuning a fish's position. The **pelvic fins** are located on the lower body a little further back from the pectoral fins and aid in positioning, braking and balance.

Unpaired fins: the **dorsal fin** (on top of the body) may be one short or long fin or divided into two sets. When divided, the front set will typically have spines, and the back set can have a combination of spiny and soft rays. The tail fin or **caudal fin** may be rounded, square, pointed or forked and assists with speed and maneuverability. The anal fin is located on the underside of the fish in front of the tail fin. Some fish species (catfish and trout) may have an **adipose fin** located behind the dorsal fin and in front of the caudal fin.

Senses: Fish can see, smell, taste, and “hear.” They have eyes, ears, a nose, and mouth. Different fish species have different **mouth** shapes. Mouths turned upward indicate top water feeders. Bottom feeders will have mouths angled downward. Some fish have **barbels** that contain taste buds. Many saltwater fish have sharp teeth. The sheepshead has strong, human-looking teeth they use to crunch barnacles.

Fish eyes are similar to people's eyes, they have a cornea, iris, pupil, lens, and retina; but they do not have eyelids – so they may seek someplace shady verses full sun to rest. They can see in all directions but are nearsighted. They can also see color. But remember, that color changes in the water column depending on how far the sun's light waves penetrate the water column.

The **lateral line** allows the fish to feel vibrations, it is located on the sides of the fish and extends from behind the operculum to the tail. The pores in the lateral line consist of hair cells that detect noise and movement vibrations. Fish have **inner ears**, but do not have a middle or external ear. Biologists will examine the **otolith** found in the inner ear to determine the fish's age.

Internal organs: Like people, fish have a brain, heart, liver, stomach, kidneys, intestines, gallbladder, spleen, bladder, and a reproductive system. Instead of lungs, fish have **gills** to obtain dissolved oxygen from the water. The exception are lungfish, they have lungs in addition to the gills. Many fish also have a **swim bladder** that they use for buoyancy.

SUGGESTED ACTIVITY PROCEDURE

Basic:

Option 1: Drawing Activity (need additional supplies: paper, markers, colored pencils, or crayons.)

1. Split participants into small working groups of 2-4 people. Assign a fish species to each group and ask them to draw the fish and its habitat, including what they eat.
2. Distribute Fish ID Cards or Fish ID books to each group for reference.
3. Have each group present their drawing to the entire group without saying the name of the fish to see if others can guess the name of the fish species.

Notes:

Option 2: Name That Fish.

1. Hold up the pictures of individual fish flash cards and have the group guess the name.
Or
1. Use the “Name That Fish” handout (see Instructor Resources webpage) or the “Test Your Fish IQ” PowerPoint activity to have the participants guess the fish names based on fish silhouettes.

Option 3: Pictionary (need index cards with fish names, a flip chart and pens OR chalkboard/ whiteboard and dry erase markers.)

1. Split the group into 2 or more groups and play Pictionary using the fish species.
2. Give each team one minute to draw the fish species and guess the name.

Advanced:

Fish ID: Dichotomous Fish ID activity

1. Distribute pictures of fish without the species name.
2. Allow participants to identify the fish species using the dichotomous key.
3. Repeat for two or more additional species.

Fish Anatomy:

1. Distribute the Fish Anatomy hand-out to participants.
2. As a group or as individuals, label the fish anatomy.

ADDITIONAL ACTIVITIES AND RESOURCES

- Aquatic WILD:
 - Fashion a Fish (Adaptations)
 - Gone Fishing!
- Fish Anatomy in the Classroom activity (uses real fish specimens), see TPWD Instructors Resource webpage
- Fish Prints – use art to identify body parts of a fish
- Fish Art Contest,
https://tpwd.texas.gov/spdest/visitorcenters/tffc/education/fish_art/
- *Freshwater Fishes of Texas*, by Earl W. Chilton (1997)
- *Freshwater Fishes of Texas*, by Chad Thomas, Timothy H. Bonner & Bobby G. Whiteside. (2007)
- Guide to the Sunfish of Texas,
https://tpwd.texas.gov/publications/pwdpubs/pwd_rp_t3200_2168/pwd_rp_t3200_2168.pdf
- Outdoor Annual App and online publication has identification tips and illustrations for some species.
<https://tpwd.texas.gov/regulations/outdoor-annual/>

Fish Habitats

Note: Fish Habitat activities can easily be combined with Fish ID activities.

OBJECTIVE

Basic: Participants will be able to explain the elements of good fish habitat and describe how things are connected in a food web.

Advanced: Participants will be able to describe 2 different types of aquatic habitats and good places to fish in each habitat.

KEY MESSAGE

To catch a fish, you must think like a fish. Where do they live and what do they eat?

TIME 10 minutes or more

MATERIALS

Basic & Advanced:

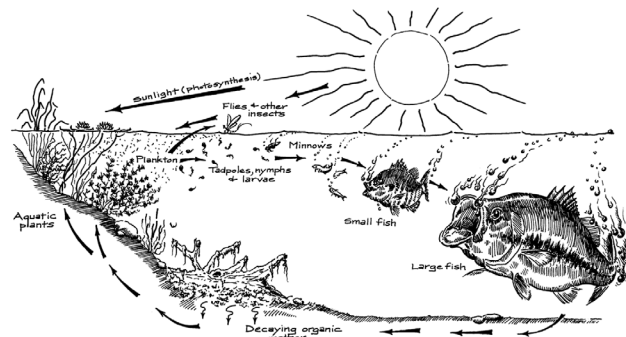
- *A Basic Guide for the Beginning Angler* book
- *Common Freshwater and Saltwater* ID cards
- *Common Texas Sunfish* ID Cards
- Freshwater or Saltwater Habitat Mat (available in TPWD Instructor Kit)
- Food Web Flash Card (available in the Instructor Kit, or online)

BACKGROUND

There are five essential habitat elements that every living thing (people and animals) need to survive: Food, Water, Shelter, Space, and a Place to Raise Young. Knowing where fish live, how they live, and what they eat will improve your chance of catching a fish.

Freshwater habitats include creeks, rivers, ponds, and lakes. Saltwater habitats include the ocean, bays, and estuaries. Fish and other aquatic animals and plants have adaptations that allow them to live in one or the other.

A simple **food chain** begins with the sun. Plants absorb sunlight and use this energy in the process of photosynthesis to create carbohydrates (sugar). This form of “food” provides energy to the plant itself and to animals that eat the plant, creating a flow of energy as one organism consumes another.



Food webs are made up of a network of food chains found within an ecosystem. While a food chain can be viewed as a simple one-way street for energy flow, from one level to the next, food webs become a maze of intricately woven strands of energy pathways flowing through the multiple predator – prey relationships for a diversity of species.

Food. What natural food does the fish you are trying to catch like to eat? Algae or plants? Insects or insect larvae? Worms? Tadpoles or frogs? Crayfish? Shrimp? Barnacles? Smaller fish? Where would you find its natural food? Use a natural or artificial bait, or a lure. Cast your line where the bait would be naturally found.

Water. Water quality is also important. Fish need oxygen. Dissolved oxygen is introduced into the water by photosynthesis from plants and algae, and as water mixes with the surface air when it tumbles over rocks in a stream. Wind and wave action can also play a part. Cold water holds more oxygen than warm water. In the summer, when the water is warmer, fish may hang out in deeper water where the oxygen is more abundant. Fish don't want to hang out in a place that is not ideal if they have another choice.

Shelter. Texas has many different aquatic habitats where fish live: Freshwater ponds and lakes, streams, and rivers; and saltwater bays and estuaries, and the ocean. Within each of these habitats fish find shelter among various structures such as rocks, cut banks or underwater ledges; dead or living plants also provide structure. Fish may also seek shelter from the bright sun, so look for shady areas.

Space. Discover what type of habitat the fish prefers. Shallow or Deep water? Fast or slow flowing water? Still water? Rocky, vegetated, or muddy areas?

A Place to Raise Young. A “redd” is a spawning nest, usually a cavity created in the gravel by the fish to lay its eggs. Our state freshwater fish, the Guadalupe Bass, is one of many species that spawns on gravel nests. An ethical angler would avoid fishing the “redds” during spawning season to safeguard the population. Some saltwater fish migrate to/from the bays to the open ocean to spawn. For example, Southern flounder migrate from the bays to the open water in early winter to spawn. The flounder daily bag regulations change in November and December to help protect their populations.

Fish want to eat, conserve their energy, and seek shelter from prey. Look for fish in eddies, behind rocks and logs. They might be hiding under rock ledges, among underwater plants, under piers. If you were a fish, where would you hide?

SUGGESTED ACTIVITY PROCEDURE

Fish ID and Fish Habitat activities may be combined into one activity using the TPWD Habitat Mats (freshwater or saltwater).

Basic:

Option 1: Go Fish

For a large group of 12 or more. Play this active game to learn habitat requirements of fish (adapted from Project WILD’s activity, “Oh Deer!”) Participants represent habitat components and fish when playing a “tag game” to simulate the influences that affect fish populations and habitat. See directions on the next page.

Option 2: The Creek Café or Bay Buffet

Habitat mats (3 ft x 5 ft) are available in the Angler Education Instructor Kits OR download the pdf. Use the freshwater or saltwater mat to make your fish habitat lessons hands-on. Create a freshwater or saltwater food web; discuss fish habitats and fishing strategies. See Instructor Resource website for the Creek Café or Bay Buffet lesson plan.

Notes:

Notes section with 12 horizontal lines for writing.

Advanced:

- 1. Divide the group into small working groups.
- 2. Assign groups an aquatic habitat from the book (pond, lake, river, bay, or gulf).
- 3. Ask the groups to research what kind of fish (including predators and prey) might live in their habitat. Give each group a choice to create a drawing, diorama, oral presentation or short skit of that habitat and the fish that live there, and present to the group.

ADDITIONAL ACTIVITIES AND RESOURCES

- *Aquatic WILD* - Fishy Who’s Who (fish habitat)
- Stream survey – collect stream invertebrates to gauge the health of a stream. Use the bug picking activity and macroinvertebrate key on the Instructor Resources website.
- *Texas Aquatic Science Curriculum* (Chapter 14) book or website

GO FISH!

Summary

Best for large groups of 12 or more. Participants, represent habitat components and fish, play a “tag game” to simulate the influences that affect fish population size. This activity is a modification of the Project WILD activity “Oh, Deer.” Adults have just as much fun playing this learning game as youth.

Time 30-45 minutes

Materials

- Large play area or gym.
- Flip chart or medium-sized white board and pen to track fish populations participant players over time. Large enough for group to view the graph.
- 2-3 pieces of gravel, pennies, or other small item to be held in hand.

Procedure

1. Review the five essential components of fish habitat with the group, (Food, Water, Shelter, Space, and Oxygen.)
2. Ask participants to count off in threes (1, 2, 3, repeat). Split the group into two groups: all the odd (O) numbers form one line, and all the even (E) numbers form another line facing each other.
 - The smaller (E) group becomes the “fish.”
 - The larger (O) group becomes the “habitat.”
3. Describe the habitat signs.
 - Shelter = hands forming roof over their head.
 - Food = Hands folded in front of their stomach.
 - Space = arms spread out
 - Oxygen = hands near mouth, palms facing inwards and moving back and forth like gills.



Figure 14. Teachers learn how to play Go Fish!

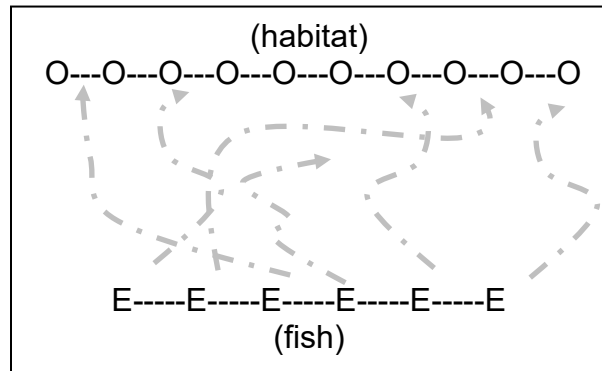


Figure 15. Diagram of Go Fish playing ground.

4. Explain that we will track the fish population over time using a simple math graph drawn on the flip chart or white board. The game facilitator or helper should draw out a graph. Remind participants that when using a graph, the independent variable, time, always goes on the X axis (horizontal), and the dependent variable, population, goes on the Y axis (vertical). For year 1, count the number of fish and enter it on the chart for season one.
5. During each round, participants choose at the beginning of each round which component he or she will be during that round. Both the fish and habitat must keep their “sign” for that round. They can choose to change the sign in future rounds.
6. Explain when the facilitator says, “Go Fish!” both the habitat and fish will turn around to face each other. The habitat people stay in place and will not move. The fish will “swim” over to find their match. Each fish must hold the sign of what they are looking for until getting to the habitat component person with the same sign. Only one fish may ‘tag’ a habitat person. (Now is a good time to remind them to walk not run to be safe.)
7. The fish need to find food, shelter, space, and oxygen to survive.
 - a. If they find their match, they take the habitat component (person) back over to the fish side – this represents that the fish survived and reproduced.
 - b. If they do not find their match, then the fish die and become part of the habitat (they stay on the habitat side.)
8. Start the activity with all players lined up behind their respective lines (fish on one side, habitat components on the other side) – with their backs facing the other line.
9. Then ask both lines to make their sign for food, shelter, space, or oxygen. When the participants are ready, **say “Go Fish!”**
10. After each round, count the number of fish and record it on the math graph.
11. Repeat the activity for 4-5 more rounds (remember that both the habitat and fish can change their signs for each round.)
12. On the 6th or 7th round, the Instructor can introduce an unethical angler who will try to catch as many of the fish by tagging them as the fish cross the play area to find their habitat match.
 - a. Discuss how this impacted the fish population and explain this is why we have size limits and daily bag limits to protect the fish populations.

13. On subsequent rounds, introduce one or more ecological limitations per round:
- Quietly ask habitat participants to not be “space”... this will represent a drought.
 - Quietly ask habitat participants to not be “oxygen”... this will represent poor water quality.
 - Quietly give a penny or pebble to habitat participants who have the food sign. Tell them to keep it hidden in their hand. After the round is played, ask if any students representing food had anything in their hand. Those pairs of food and fish did not survive due to the contaminated food and must return to the habitat side.
14. After 9 - 10 rounds, review and discuss the graph. How did the population change over time? What factors impacted the increase or decrease of the fish populations?

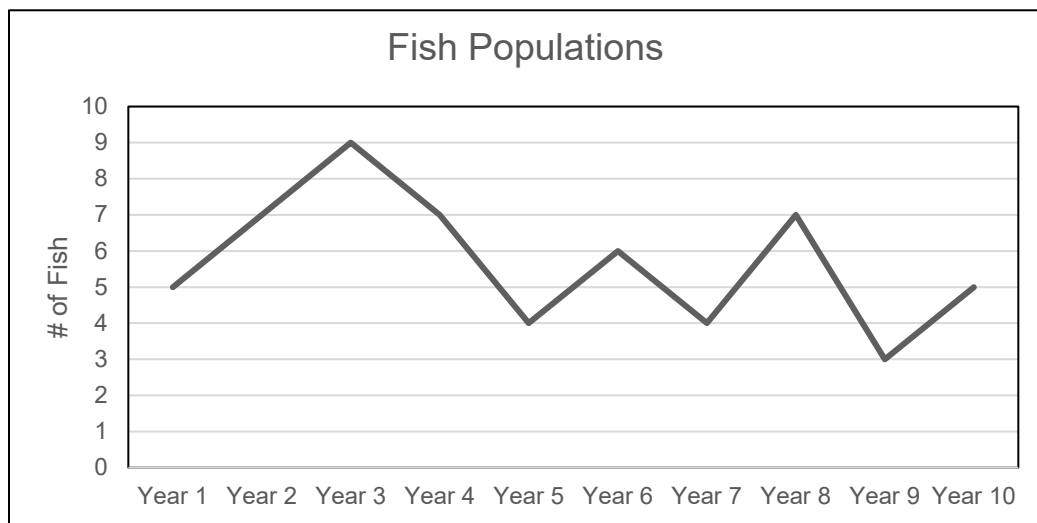


Figure 16. Graph of data from a typical game of Go Fish!

Safety for Fish, People, and the Environment

OBJECTIVE

Basic:

Fish: Participants will be able to discuss how to mash down the hook barb, and safely handle a fish.

People: Participants will be able to identify 10 safety items that should be taken on a fishing trip; discuss water safety and lifejackets.

Environment: Participants will be able to recognize the benefit of using lead-free sinkers and recycling fishing line.

Advanced:

Fish: Participants will be able to know how to handle and safely release fish back into the water.

People: Participants will know how to look up fish consumption bans.

Environment: Participants will know what to do if an invasive fish species is caught.

KEY MESSAGE

Everyone plays a role to protect people, fish, and the environment.

TIME 20 minutes

MATERIALS

Basic:

- Hook and needle-nose pliers
- Paper and pen/pencil for each person
- First aid kit
- Hat
- Sunglasses
- Sunscreen
- Insect Repellant
- Line or nail clippers
- Cell phone and waterproof case
- Pliers
- Lifejacket or throw cushion
- Water bottle
- Flashlight or glow light stick
- Large towel or cloth to cover above items

Advanced:

- Fish model (stuffed toy or water bottle catfish model)
- Lifejacket
- 5-gallon bucket of ice and water; small jar; 25-30 pennies
- Laptop and projector (or have participants look up info on their smart phones) to view the Fish Consumption Ban and Advisory webpage



Figure 17. Volunteer instructors teaching safety at a fishing event. Image courtesy of Fin Addict Anglers Club.

BACKGROUND

Safety is very important. Any activity around water is potentially dangerous. Fishing uses sharp hooks and is sometimes done in remote locations. As an Instructor, when arriving to a site, always be aware of other potential hazards (venomous snakes, fire ant beds, poison ivy, and deep water) and weather conditions.

Safety for Fish:

Use barbless hooks or mash down the barb on the hook to make it easier to remove the hook from the fish. If you plan to release the fish, use wet hands when handling the fish. Wet hands are less likely to damage the protective mucous coating on the outside the fish. This slimy layer helps protect the fish from disease and makes it easier for them to glide in the water. Do not hold a bass weighing more than 3 pounds by the mouth, as this could injure its jaw, instead support the body of the fish with both hands.

Use a landing net. Don't allow fish to flop around on the bank, dock, or boat floor. If keeping the fish, put them on ice or in a bucket of cool water. If releasing the fish, take the hook off the fish as soon as possible. Gently lower it into water until it swims away. You may need to slowly swish it in the water if it is not ready to swim immediately.

No fish is a "junk" or "trash" fish so respect it by releasing it unharmed if you are not keeping it. All fish play important roles in the aquatic ecosystem. The only exception is an invasive species such as tilapia or grass carp (does not apply to triploid grass carp—see the Outdoor Annual for more information). If you catch an invasive species, you must immediately remove the head or intestines.

Safety for People:

Everyone should wear a hat, sunglasses, and sunscreen when fishing. The hat and sunglasses not only protect you from the sun, but also from hooks. A dark brimmed hat will reduce sunlight reflections from the water. Polarized sunglasses will also help you see below the water's surface. One may also want to use a sunglass strap to prevent the loss of your favorite pair of sunglasses. If you plan to go wading in a river or lake, a wading staff is very useful to maintain balance and help determine water depth.

Make sure everyone has drinking water or access to water to keep hydrated. Sunscreen should be worn to protect your skin. Insect repellent may also be needed. Remember to wash your hands after using sunscreen or insect repellent, and before handling the fishing rig and bait or lure to avoid transferring unnatural odors to the gear.

Dress for the weather. Protect head, eyes, hands, feet, and skin from exposure to wind and sun. In warm or hot weather wear light colored and quick drying clothing. In cold weather, dress in layers, outer wear should include water repellent pants and jacket (jeans take a long time to dry!), wear gloves, a knit hat, and waterproof shoes.

Know the signs of hyperthermia (heat exposure) and hypothermia (cold exposure). Both are medical emergencies and should be treated as such. The Occupational Safety and Health Administration OSHA/NIOSH has a free Heat Index Advisory phone app that provides location specific information, including hourly heat index forecasts, symptoms and first aid. Even in the Texas, during the cooler fall, winter and spring months, wind combined with water temperatures of 50-60 degrees Fahrenheit can cause hypothermia. Wearing a lifejacket helps to provide warmth to your body core.

Youth should always be under adult supervision. All anglers should practice casting safety: keep at least one rod's length between you and the next angler; look behind you and to the side before casting to avoid hooking anyone or anything.

Some fish have sharp fins or teeth, proper handling of fish protects you and the fish. You can use a fish grabber or fish glove to protect yourself. In absence of a fish grabber, catfish should be held from underneath and behind the pectoral fins. Some fish like trout or bass can be held from the mouth, but bass over three pounds should only be held on the body to prevent injury to their jaw.

Always keep a simple first aid kit with your fishing gear. As a TPWD Volunteer Instructor you should not administer medicine or antiseptic ointments or try to remove hooks from a person. Instead, offer the first aid supplies to the participant or adult guardian. Call 9-1-1 for emergencies.

Fish and shellfish can accumulate contaminants from the waters in which they live. If planning to keep your catch for consumption, you can check the Texas Department of Health for fish consumption bans and advisories. The **Texas Department of State Health Services (TDSHS)** monitors fish for the presence of environmental contaminants and alerts the public through bans (closures) and advisories when a threat to human health may occur from the consumption of contaminated fish. Visit the TDSHS webpage or call for more info **(800) 685-0361 (shellfish)** or **(512) 834-6757 (fish)**.

If fishing on the coast, check the current water quality through the Texas General Land Office (GLO) Beach Watch program.

Water safety. Young children and non-swimmers should wear a life jacket when fishing from a pier, near deep or swift water. Extra caution should be taken when fishing on jetties, be aware of slippery conditions and sharp rocks. To rescue a person who falls in the water: REACH, THROW and GO! Don't jump in and risk drowning yourself.

Place throwable rescue ropes and discs or cushions around the water's edge during events so that anyone can toss it to someone in need.

To check the proper fit of a lifejacket, buckle and tighten all straps; the lifejacket should be snug around the torso and when lifted by the shoulders, the life jacket will not rise above the person's ears.



Figure 18. Adult and child wearing lifejackets on a fishing pier.

Safety for the Environment:

Protect wildlife from fishing line entanglement. Many anglers keep a small plastic bag or repurposed container in their tackle box to store used line; periodically you can take the line to a retailer who offers recycling. Some parks and fishing piers have fishing line recycling tubes. Use non-lead sinkers to protect wildlife – stainless steel or tin sinkers are better alternatives. Be sure to pack out all trash and fish entrails (guts).



Figure 19. Collect fishing line litter and place it in a trash bag.

Use established paths to access your favorite fishing spot to prevent excessive runoff and erosion from additional paths.

SUGGESTED ACTIVITY PROCEDURE

Basic:

1. Demonstrate how to mash down the barb on a hook using needle-nosed pliers and discuss how this provides safety for both the fish and people.
2. Conduct Safety First Activity – a memory game activity to spark discussion about what safety items we need to have with us, and why.
 - a. Before the class, lay out the ten (or more) safety items on a table and cover them with a beach towel or piece of fabric.
 - b. Ask all participants to get out a piece of paper and pen/pencil and to leave it on their desk or table.
 - c. Explain to participants that there are 10 safety items that everyone should take on a fishing trip. They will walk around or past the table one time to view the items and then return to their table/desk to write down the items – they will have one minute. They should not start writing until the instructor says “go”.
 - d. Have everyone line up and quickly remove the towel or fabric. Allow everyone to view the items for a short time. After everyone passes the table, quickly cover the items again.
 - e. Start the timer and ask the participants to write down all the items.
 - f. When the time is up, ask if anyone thinks they got all 10 items (or whoever has the most items) and have them recite their list to the group.
 - g. Reward the winner with squiggles or other small reward.
 - h. Review and discuss with the group why each item is important.

Notes:



Figure 20. Safety First memory activity.

3. Discuss how to properly handle fish.
4. Demonstrate how a lifejacket should fit. Ask for a volunteer(s) to model the lifejacket. You may want to have two sizes of lifejackets, or if you only have one jacket, use two models – to demonstrate improper fit and proper fit.
5. Review, “Reach, Throw, Row and Go” terms as described in the *Basic Guide for the Beginning Angler* book.

Advance:

1. Introduce fish models and proper handling of fish – let participants practice with the models.
2. Review and discuss what essential items should be in a basic first aid kit (gloves, antiseptic or alcohol pads, band-aids, tweezers, gauze, and medical tape).
3. Discuss fishing in hot and cold weather and proper clothing – conduct a hypothermia demo:
 - a. Explain that cold water can affect a person’s judgement, strength, and coordination.
 - b. Fill a 5-gallon bucket with water and ice, drop 25-30 pennies in the bucket. Place an empty jar in the bottom center of the bucket.
 - c. Ask for 1-2 volunteers to place their hand and arm in the bucket for 2-3 minutes. Without removing their hands, ask them to pick up the pennies and put them in the center jar.
 - d. Discuss how the cold water affected their ability to quickly pick up the pennies.

ADDITIONAL ACTIVITIES AND RESOURCES

- Catfish water bottle model (see Instructors Resource webpage)
- OSHA / NIOSH Heat Index Tool,
<https://www.cdc.gov/niosh/topics/heatstress/heatapp.html>
- *Never Happens: True Stories About Water Safety*
(10-minute video; for mature audiences, age 15 and up.)
Watch true stories of water tragedies told by teen witnesses and survivors. The video "Never Happens" is dedicated to the families who lost loved ones in a water-related accident. Lives were lost and lives were changed forever. The young people in this video courageously tell their own stories. Young people believe it will never happen to them and the goal of this video is to change that behavior. <https://tpwd.texas.gov/fishboat/boat/safety/>

Regulations

OBJECTIVE

Basic: Participants will be able to demonstrate how to measure a fish, how to look up fishing regulations, and know what age you get to buy a fishing license.

Advanced: Participants will be able to define slot, possession, and bag limits; demonstrate how to look up regulations and explain why it is important to observe regulations.

KEY MESSAGE

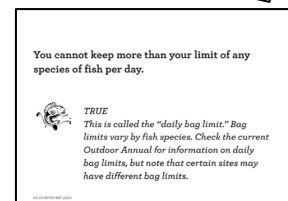
Support the sport – buy a fishing license and follow fishing regulations to keep fish populations healthy.

TIME 20 minutes

MATERIALS

Basic / Advanced:

- Outdoor Annual webpage or printed digest
- Outdoor Annual App for participant (download the app before class)
- DeBait Cards – True/False regulations card
- Fish ruler and rubber fish
- *Optional: Create an online quiz game using Kahoot or similar trivia software*



BACKGROUND

Before one goes fishing, it is important to learn about the regulations that accompany the sport. *Everyone must follow the regulations, including youth who are not required to have a fishing license.*

As an Instructor, don't attempt to answer specific regulations, always defer to the Outdoor Annual or a Game Warden.

It is not necessary to memorize all the regulations, but it is important to know how to look up the regulations. Before one goes fishing, they should look up the regulations for the place and fish species they plan to target.

Regulations are implemented to conserve and protect the populations of aquatic organisms, including fish. These combined regulations help keep the fish populations healthy and stocked for everyone to enjoy. 100% of license fees fund on-the-ground conservation efforts that help make Texas one of the best places in the country to hunt and fish.

Fishing regulations (size and bag limits) are determined by a process. Biologists conduct studies to determine trends for healthy fish populations. If a change is warranted, a notice is published, and stakeholders and the general public are invited to give input on the proposed changes. The Texas Parks and Wildlife (TPW) Commission listens to all parties and then votes on the proposed change. New regulations typically go into effect at the beginning of the new license year. TPW Commissioners are appointed by the Governor of Texas and confirmed by the Texas Senate.

Fishing and hunting regulations are published in the Outdoor Annual, available online or in the free Outdoor Annual App. Within the state of Texas, some parks and counties may have exceptions to the regulations – these are listed in the Outdoor Annual. Regulations in Spanish are also available online, <https://tpwd.texas.gov/regulations/outdoor-annual/>.

It is legal to display an image of one's fishing, hunting or combo license on a wireless device for the purpose of verification of possessing a valid license. However, one **MUST** carry a valid state ID for identification; for any fishing activities that require a tag, one must have their physical license with the tag to attach it to the fish.

A valid **fishing license** with a freshwater or saltwater endorsement is required to take fish, mussels, clams, crayfish, or other aquatic life in the public waters of Texas. A hunting license is required to take turtles and frogs. In addition, recreational anglers must have a Texas fishing license and saltwater endorsement to possess in state water any fish taken in federal waters or possess fish on a vessel in the tidal waters of Texas. If fishing from private land such as on the side of a lake or river (unless pond is completely private), a fishing license is required.

Anyone age 17 or older must have a fishing license to fish in public waters. Some exemptions or discounts apply to certain individuals (see the Outdoor Annual for more information). Annual, lifetime licenses, Year-to-Date or one-day recreational fishing licenses are available for purchase online or in person at a local outdoor retailer, at TPWD Headquarters and some field office locations. "Combo" licenses are available for people who hunt and fish. Anglers younger than 17 or exempt from fishing license requirements may purchase a Red Drum Tag if they anticipate fishing for Red Drum.

NOTE: Certified Angler Education Instructors are not exempt and must purchase a fishing license to fish in public waters. By purchasing a fishing license, you are supporting the Angler Education Program and our aquatic habitats and fisheries.



Figure 21. Adult and two youth preparing for kayak fishing.

If fishing from a boat or paddle craft (canoe, kayak, or SUP) **boating regulations** must also be followed. Youth 12 years and younger must wear a life jacket when the vessel is underway. Additionally, there must also be a life jacket on board for each person. Lights and sounding devices are also required. For more information about boating safety and boating laws, see the webpage, <https://tpwd.texas.gov/fishboat/boat/laws/>

Free Fishing Day in Texas is held on the first Saturday of June each year. Everyone can fish recreationally without licenses or endorsements. If you already have a license, consider inviting a friend or family member to go fishing with you and try out the sport.

Fishing licenses are not required in TPWD State Parks if fishing on state park property or in waters completely enclosed by a state park. However, park entrance fees, and daily bag and length limits do apply. Remember this does not apply to City, County, Community or National parks. View the list of TPWD State Parks at: <https://tpwd.texas.gov/state-parks/>

Game Fish are freshwater or saltwater fish that have size and bag limits. It is unlawful to use any game fish or part of a game fish as bait.

Waste of Fish: it is unlawful to leave edible fish or bait fish to die without the intent to retain it for consumption or bait.

Daily bag limit (anglers) refers to the quantity of a species of a wildlife resource, such as fish, that may be taken in one day. The daily bag limit is intended to control the number of fish (and other aquatic organisms) that are taken at once and to prevent overfishing. Daily bag limits are necessary to ensure that the fish population is sustainable. The bag limit varies depending on species and takes into account the availability of each species.

Possession limit (anglers) is the maximum number of fish a person may possess before returning to their residence. Possession limit is twice the daily bag on game and nongame fish. Possession limit does not apply to fish in the possession of or stored by a person at their residence.



Figure 22. Youth with a stringer of fish

Slot length limit regulates the size of a fish that can be legally harvested. This regulation helps protect fish (and other aquatic organisms) that are of spawning size before being caught. To sustain their population, fish must be able to reproduce. Fish and other species that are undersized or oversized must be placed back into the water. The slot length limit varies depending on species.

Seasonal regulations are also implemented to help protect fish during spawning seasons as well as species located in heavily fished areas. Other fishing regulations include fishing license requirements, limits on the number of fishing hooks and lines used, and regulations on fishing locations. To review all regulations, check out the Outdoor Annual online or app.

Bait regulations. There are several regulations that apply to bait. Always check the Outdoor Annual for the most current regulations.

- It is unlawful to use any game fish or part of a game fish as bait.
- Live fish, including personally caught live bait, cannot be transported from the water body where the fish were caught in or aboard a vessel in water from the water body where the fish were caught.
- Transport and use of commercially purchased live bait in water while fishing from a vessel is allowed, provided persons in possession of the bait have a receipt that identifies the source of the bait. Any live bait purchased from a location on or adjacent to a public water body that is transported in water from that water body can only be used as bait on that same water body.
- If using dead or live shrimp, whole or in pieces, only the use of shrimp native to the Gulf of Mexico may be used in Texas waters. If using frozen shrimp from a grocery store, be sure to check the package – if it is imported from another country, it may not be used.
- Some counties have specific bait fish regulations, know where you are fishing and the local regulations.

Texas Game Wardens. Since 1895, Texas Game Wardens continue to serve the citizens of Texas by providing professional law enforcement, water safety, and search and rescue, while working to conserve and protect the natural resources of Texas. Game Wardens proudly honor and respect our heritage while embracing the future. To find your local Game Warden, enter your county on the website at: <http://www.tpwd.texas.gov/warden>



Figure 23. Game Warden fishing with youth.

Always check the state's fishing regulations before heading out to fish. If keeping fish, be sure to have a ruler to verify the fish meets the length limit. The regulations are to ensure that fish populations are properly maintained for both present and future fishing generations.

Listed below are some sample trivia questions for each class level. Because the regulations change from year to year, the answers are not provided. The Instructor is encouraged to look up the answers before conducting the activity.

Trivia Questions – Basic Level:

1. What is the youngest age a person can buy a fishing license?
2. How much does a one-day license cost for a Texas resident?
3. How much does an All-Water Fishing license cost for a Texas resident?
4. Name 3 game fish.
5. What is the minimum length for a channel catfish?
6. What is the minimum length for a sunfish?
7. What is the maximum length for a red drum without a tag?
8. If using a red drum tag, where do you attach the tag?
9. What is the daily bag limit for white bass?
10. How do I find my local Game Warden to ask a question or report a problem?

Trivia Questions – Advance Level:

1. What is the definition of a “Daily Bag”?
2. What is the definition of the “Possession Limit”?
3. What dates are the flounder fishery closed?
4. What fish can be taken by hand fishing?
5. What are the rules for using a cast net?
6. If fishing at Nelson Park Lake in Taylor county, what are the harvest regulations exceptions for bass?
7. What are the harvest regulations for blue crab?
8. What are the harvest regulations for hammerhead sharks?
9. What kind of license is needed to take turtles and frogs?
10. How do I find my local Game Warden to ask a question or report a problem?

Ethics and Stewardship

OBJECTIVE

Basic:

Participants will develop an understanding of the impacts of litter; discuss 2 ethical dilemmas; and name the top 3 aquatic invasive species (zebra mussels, giant salvinia, and marine lionfish).

Advanced:

Participants will be able to identify the top 3 aquatic invasive species (zebra mussels, giant salvinia, and marine lionfish) and discuss one regional invasive species; and discuss additional ethical dilemmas and stewardship actions and responsibilities.

KEY MESSAGE

Do the right thing, even when no one is looking.
Leave a place better than you found it.

TIME Varies by activity; allow a minimum of 30 minutes for basic activities.

MATERIALS:

Basic:

- Marine Debris Poster; various litter items (paper, cardboard, can, plastic bottle, juice or milk carton, fishing line, six-pack ring, styrofoam)
- DeBait Cards
- *Basic Guide for the Beginning Angler Book*
- Printed photos (4"x6" or 5"x7") of invasive species (zebra mussels, giant salvinia, lionfish); safety pins or tape

Advanced:

- Aquatic Invasive Species PowerPoint
- DeBait Cards
- Bug picking equipment: aquarium nets, kick net or D-net, buckets, and trays, magnifying lens, macroinvertebrate ID book or handout



Figure 24. Fishing line trash.

BACKGROUND

Anglers have been long-time conservationists and good stewards of our waterways for generations. An ethical angler follows the rules and regulations and does the right thing even when no one is looking.

Ethics

To decide if your behavior is ethical, ask yourself: Is it legal? Would it be good if everybody did it? Would it make you proud?

Laws and fishing regulations provide an outline for angler's decisions and should always be followed, but it can be challenging to know what the right thing to do is in certain ethical dilemmas. An ethical angler is respectful of other water recreation users, including swimmers, boaters, paddlers, and other anglers.

Fishing is often sought as a relaxing and calming activity, so be courteous and keep your distance from other anglers. Remember to be quiet so that you do not scare the fish away! Also, keep in mind that you need to ask landowner permission when fishing on private property.

An ethical angler respects our natural resources and practices conservation. "Catch and release" is a great practice to ensure fish survival.

Remember to wet your hands, gently handle the fish, and return it to the water.

"Catch, keep and eat" is also acceptable and important for the survival of dense populations that have limited habitat and resources.

Remember to follow the length and bag limits. For more information about safely handling fish, see the *Safety for Fish, People and Environment* chapter.

An Ethical Angler:

- Supports conservation efforts.
- Practices catch and release when appropriate.
- Does not pollute; properly recycles and disposes trash.
- Practices safe angling and boating.
- Obeys fishing and boating regulations.
- Respects other angler's rights.
- Respects property owner's rights.
- Shares fishing knowledge and skills.
- Does not release live bait into public waters.
- Does their part to promote ethical sport fishing.

Stewardship

Loss of habitat, water quantity and quality, and invasive species threaten fish populations and other plants and wildlife. Anglers, community volunteers, and government agencies can work together to make our lakes, rivers, bays, and beaches healthy places for fish, wildlife, and people to live.

As the population of Texas continues to grow, so does the demand for water. Aquifers, lakes, and rivers become depleted due to drought and overuse. In coastal bays seagrass beds have declined due to water quality and disturbance. Texas has 5 species of seagrasses that provide food and shelter for fish and other wildlife. TPWD works with others to enhance seagrass beds and educate boaters and anglers how to protect the areas to prevent further disturbance. The Artificial Reef Program in the Gulf of Mexico was started in 1990. These reefs not only provide habitat, but also provide recreational fishing and diving opportunities. TPWD also works various fishing clubs and organizations to enhance underwater structures in freshwater lakes to increase habitat for fish.

Although many communities have recycling and community litter collection campaigns like those of “Keep America Beautiful” and their affiliates, litter continues to be a problem. Sometimes litter ends up in the environment accidentally – it may blow out of a trash can, truck bed or car. Many people do not realize that litter tossed into the street gutters eventually ends up in the creek or river. Since all rivers flow to a lake or the ocean, some of this litter ends up in our aquatic habitats. While a piece of paper may disintegrate in water after a few days, it takes months and years for other items to disintegrate in water. Some items like Styrofoam, plastic, and fishing line never disintegrate, they just break down into smaller pieces.

Non-point source pollution from pesticides and fertilizers, and improperly discarded oil or medication also threaten the environment’s health. Harmful traces of these pollutants along with microplastics have been found in fish and can cause serious health problems when eaten. Anglers can help by practicing Leave No Trace™ principles, picking up any trash they come across, recycling old fishing line, and teaching others to conserve and protect our natural resources.



Figure 25. Fishing line recycling tube.

Aquatic Invasive Species

An "invasive species" is defined as a species that is non-native (or alien) to the ecosystem under consideration and whose introduction causes or is likely to cause economic or environmental harm or harm to human health. They compete with our native species for food and space and are costly to manage. They affect all recreational water users: swimmers, paddlers, boaters, and anglers.

In Texas, the top three invasive species of concern are zebra mussels, giant salvinia, and marine lionfish. Other common invasive species include hydrilla and water hyacinth plants; asian carp, tilapia, and plecostomus (algae eaters) fish. Anglers can report problems and new sightings to www.texasinvasives.org.



Figure 26. Zebra mussels attached to a native mussel.

“Clean. Drain. Dry.” is a national campaign aimed at boaters and anglers to help stop the spread of invasive species. Boaters and anglers should clean, drain, and dry their boats and fishing gear after every use. This includes boots and buckets too.



Figure 27. Giant salvinia covers the water's surface.

Anglers should properly dispose of unused live bait or share with others instead of dumping it into a body of water. If fishing on the coast, only native Gulf of Mexico shrimp should be used by law.

Many species are introduced by people who dump their aquarium plants and animals into the waterways to “save” them. But these plants and animals may harm the habitat if they carry disease or are not native. It’s better to find them a new owner or humanely euthanize them.



Figure 28. Lionfish are an invasive species found in marine (saltwater) habitats.

Everyone plays a role. We can all do the right thing and leave a place better than we found it.

ADDITIONAL ACTIVITIES AND RESOURCES

- Aquatic WILD (Project WILD), Aquatic Roots activity
<https://tpwd.texas.gov/education/project-wild/project-wild-aquatic-overview>
- *A Guide to the Common Freshwater Invertebrates of North America*, by J. Reese Voshell Jr. (macroinvertebrate field guide with color illustrations)
- Getting out of a Bind activity (see Instructors Resource webpage)
- Leave No Trace, www.lnt.org
- Nurdle Patrol, <https://nurdlepatrol.org>
- Texas Aquatic Science and Student Portal (middle and high school), Chapter 9 – Invasive species; Chapter 14 – Water for People and the Environment. <https://tpwd.texas.gov/education/resources/aquatic-science>
<https://texasaquaticscience.org/>
- Texas Invasives, www.texasinvasives.org
- Texas the State of Water: Videos and TPW Magazine (10 issues dedicated to water), <http://www.texasthestateofwater.org>
- *Texas Waters: Exploring Water and Watersheds*. Download a free copy of the publication at: <https://tpwd.texas.gov/education/water-education/texaswatersprogram/texaswaters>
- TPWD water webpages, <https://tpwd.texas.gov/landwater>



Essentials for Instructors

Insurance for TPWD Volunteers

TPWD maintains excess medical accident and excess liability policies for “registered volunteers” who are injured while performing volunteer work or who cause damage to a third party. These policies provide excess coverage for expenses not covered by the volunteer's own insurance.

Coverage is subject to change with each policy period; please consult with the Program Manager with any questions.

To be eligible for insurance coverage and statutory liability protection, individuals may not receive any compensation from TPWD except for reimbursement of expenses and must have a profile in the TPWD Volunteer Portal.

HOW TO REPORT AN INCIDENT

Please notify the Aquatic Education Program Manager immediately if you are injured or involved in an accident while performing volunteer duties for TPWD. Contact the Program Manager at (512) 389-4732 who will complete a claim through the agency's Incident Reporting System.

INSURANCE

Medical Accident Policy - covers most medical and dental expenses associated with most types of accidental bodily injuries that require treatment by a doctor and that occur while the volunteer is engaged in or traveling directly to and from a TPWD supervised and sponsored activity. Claims must be made within 30 days of the injury, or as soon as possible.

Exclusions (not all listed):

- Injuries sustained due to use of recreational motor vehicles if used for recreation/pleasure or for horseplay
- Treatment for hernia
- Losses from disease or bacterial infections (except for those that occur with a cut or wound at the time of the accident)
- Counseling or psychiatric treatment
- The initial treatment or service must be within 60 days of a covered accident; treatment or services taking place more than a year after the accident are not covered

LIABILITY

Volunteer Excess Liability - covers situations where a “registered volunteer” is liable to a third party for damages (bodily injury, property damage, personal injury) from a covered accident; the coverage includes damages and legal defense of the volunteer. Claims must be made as soon as practicable.

Exclusions (not all listed):

- Auto accidents, even if a volunteer is driving his or her personal auto
- Use of aircraft and watercraft, including operation and loading/unloading property from them
- *This exclusion does not apply to non-TPWD owned watercraft that are under 26 feet and not used to carry people or property for a charge. See FAQs below.*
- Damages to the volunteer’s property
- Inmates or individuals on a work release program
- Damages caused during travel to or from the place of volunteer service
- Damages arising from a volunteer performing professional services, if the volunteer is a licensed professional
- Exposure to or transmission of a communicable disease, including COVID-19

FAQs

What does “excess coverage” mean?

Excess coverage is “extra” coverage beyond what a volunteer already has coverage for under their personal insurance. A volunteer will be reimbursed within the limits of the volunteer policies for covered expenses that exceed the volunteer’s own insurance coverage.

Is a volunteer “covered” while operating their personal vehicle for a volunteer assignment?

Yes and no. TPWD has no insurance coverage or statutory protection for volunteers who cause damages to others while operating their personal vehicle. However, if the volunteer is injured while traveling directly to or from their residence to a volunteer site, or traveling between volunteer sites, they can submit a claim under the Medical Accident Policy.

Can a volunteer operate a TPWD-owned watercraft?

Maybe. There is no insurance coverage for volunteers who cause damages to others while operating a TPWD watercraft. Divisions may also choose to prohibit volunteers from operating a watercraft for any reason. However, the volunteer may not operate non-motorized watercraft, unless the volunteer shows proof of liability insurance applicable to a government-owned watercraft.

Can a volunteer operate his or her personally owned watercraft?

Yes. The excess liability policy will cover a volunteer operating a personally owned (non-TPWD) watercraft that is less than 26 feet long, as long as they are not carrying passengers for a charge.

Angler Education Classes and Event Descriptions

Class type	Description/Objectives	Participant Awards
Basic Angler	Classes provide an intro to freshwater or saltwater fishing basics. See Skills List.	<ul style="list-style-type: none"> • Basic Fishing Certificate • Bluegill OR Red Fish Pin
Advanced Angler	Classes provide additional knowledge and skills for both freshwater or saltwater fishing. See Skills List.	<ul style="list-style-type: none"> • Advanced Fishing Certificate • Largemouth Bass OR Seatrout Pin
Basic/Advanced Combo	All of the above.	<ul style="list-style-type: none"> • Advanced Fishing Certificate • Largemouth Bass OR Seatrout Pin
Fishing Outreach	<ul style="list-style-type: none"> • A fishing event, derby or casting activity (does not cover all basic skills listed above). • A presentation about fishing; OR an exhibit booth to promote TPWD Aquatic Education programs • Meetings to plan fishing events. 	<ul style="list-style-type: none"> • First Fish Certificate (if applicable) <p><i>Class certificates and pins are NOT awarded.</i></p>
Specialty Clinic	<p>Clinics provide an in-depth look at target species or specific techniques. These often rely on the expertise of the Instructor.</p> <p>Examples may include Bass Fishing; Tarpon Fishing; Carp Fishing; Micro-fishing, or Catch, Clean and Cook.</p>	<p><i>Class certificates and pins are NOT awarded.</i></p>
TMF Trailer Event	Events where the TPWD Take Me Fishing Exhibit Trailer is used. Scavenger hunt is offered.	<p>Drawing for fishing rod-n-reel may be held.</p> <p><i>Class certificates and pins are NOT awarded.</i></p>

Planning Checklist for Class/Event

Follow these steps to prepare for a class or event:

Before the class/event:

- Decide on a date, location, and attendees (will this be open to the public, or a specific pre-arranged group such as a scout group or after school program).
- Submit supply order and reserve equipment at least 4 weeks before the class.
- Recruit others to help you teach the class. Decide who will teach which station.
- Go through instructor guide, read over each activity you'd like to do.
Use skills checklists to choose activities to cover all objectives.
- Gather additional teaching material or event supplies as needed.
- If fishing, remind participants (age 17 & up) to purchase a fishing license, unless fishing at a TPWD State Park.
- If conducting the class or event outside, remind participants to dress for the weather, wear a hat, sunglasses, sunscreen and bring water.

Day of the class:

- Arrive early and set-up equipment (and stations if needed).
- Have participants sign in on a TPWD roster or use event registration forms for each family group.
- If using the station model, split participants into smaller groups to rotate to each station at given times.
- At end of class/event, assemble everyone and distribute certificates, award pins and any literature not given away during stations.

After a class:

- Submit report – preferably online. (Remind assistant volunteers to report their time or have them sign the volunteer roster and list their hours. Remember that an Instructor cannot write in the hours for another person.)
- Clean, organize, and return any borrowed equipment in good condition; mark or identify any broken equipment.
- Send a “thanks for coming” email to participants if you collected emails.
- Send a Thank You email to your assistant volunteers.

For additional guidance, see the TPWD Angler Education “*Fishing Event Planning Guide*” on the Instructor Resources webpage.

Working with Children

Safety First

1. Make sure that children are supervised 100% of the time. No child should be left alone.
2. Remind participants to bring water, wear a hat, sunglasses and sunscreen and dress appropriately for the weather.
3. Inform participants about potential safety hazards (fire ant mounds, overhead trees, mud, snakes, etc.).
4. Carry a cell phone in case of emergencies and know local emergency numbers.
5. Create emergency plans for each class and each location.
6. Have a simple first aid kit handy but do not administer any medicines or antiseptic ointments yourself. Allow participants or the child's parent or guardian to apply the first aid. Call 9-1-1 for emergencies.
7. Provide lifejackets or emergency throw cushions (with rope) for waterside activities.

Working with Children and Participants

1. Never be alone with a child. Always have another trusted adult to help supervise children. If working with a school or civic group, enlist chaperones to help supervise.
2. Discuss class expectations (both what students will learn and what you expect them to do) in a positive manner at the beginning of the class/event. Inform chaperones how they can help during the class or event.
3. Keep the class interesting by using hands-on activities, let the participants "do" more and "listen" less.
4. Break up the class into short segments or stations that allow participants to participate and move around.
5. Provide positive feedback. It may be necessary to redirect a child's behavior (give them a "job"), or if necessary, ask another adult to quietly work with a child one-on-one.
6. Ask questions to involve them in a discussion and find out what they already know. Relate new ideas and skills to the participants present knowledge and skills.
7. Photos: be aware of privacy issues (especially for youth) – make sure you have permissions to take and use, publish, or post photos.

Instructor Resources Webpage

The program provides FREE literature and participant awards (certificates and pins), and equipment (where available) to Certified Angler Education Instructors to distribute and use in their class and events. View the online supply catalog for suggested distribution and use of the materials on the Instructor Resources webpage.

<https://tpwd.texas.gov/education/angler-education/instructor> (password is *gofish*)

Certificates

The program provides participant certificates free of charge to instructors to fill in by hand and distribute at the class or event. Online certificates are also available if instructors prefer to type up the certificates and print themselves.

Certificates available:

- Basic Fishing Certificate
- Advanced Fishing Certificate
- Basic Fly Fisher Certificate
- Intermediate Fly Fisher Certificate
- First Fish Certificate
- Outstanding Angler Certificate



Teaching Aids

Angler Education activities, publications, handouts, PowerPoints, and video links are also available on the Instructor Resources webpage:

- Art of Squiggles
- Bug picking and macroinvertebrate key
- Catfish water bottle model (fish handling)
- Dichotomous Fish ID key
- Fish anatomy fill-in-the-blank
- Test Your Fish IQ PowerPoints and Handouts (Fish silhouette ID activity)
- Fishing Rigs
- Habitat Mat pdf file
 - Creek Café or Bay Buffet food web activity (to use with Habitat mats)
- Marine Debris poster pdf file
- Trash Timeline activity
- Calendar fishing (fish species by month)
- When to Fish (time of day, weather, and tides)
-and more

Communications

- Reel Lines Newsletter is published two times per year in January and July; read about program updates and share teaching ideas
- Social Media (Facebook: *Texas Parks and Wildlife – Texas Angler Educators* or Instagram: *Go Fish! Texas*)

Other items

- Outdoor Annual App Flyer
- TPWD Proud Partner Logo Use Agreement

Equipment

Certified Angler Education Instructors may reserve and check out Instructor kits and Backyard Bass kits where available. Tackle loaner kits are also available for educators or youth group leaders for use on fishing outings. See the Instructor Resources webpage for a list of locations.

- **Angler Education Instructor Kit** contains all the tools you need to conduct a basic fishing class. Certified Instructors may borrow a kit or use the inventory list to make their own kit.
- **Backyard Bass Kit** contains spincast rod-n-reels, casting plugs and plastic fish targets for casting activities. The equipment should not be used for actual fishing. Tarps are not included.
- **Tackle Loaner Kits** contain ten spincast rod-n-reels and terminal tackle (hooks, bobbers and sinkers) to use for actual fishing.
- **Campus Tackle Loaner Kit program** is designed to engage families and young adults who have never fished or who already enjoy fishing yet might not have access to equipment. The set contains four spincast rod-n-reels and basic tackle needed for a fishing outing.

A limited number of kits are available for K-12 and College Campus host sites. As a host site, the campus may check out the kits to students and their families. Priority is given to Title 1 (K-12) schools, Historically Black Colleges and Universities (HBCU) and Hispanic Serving Institutes (HSI). Please contact the Aquatic Education Manager for more info and a host site application.



Figure 29. Campus tackle loaner kit.

Angler Education Instructor Kit

DO NOT USE ANY OF THE FOLLOWING SUPPLIES FOR ACTUAL FISHING

CASTING

- 5 - Spincast rod/reel combos
- 10 - Backyard Bass casting targets
- 5 - Yellow or orange casting plugs

KNOT TYING

- 10 - Small eye bolts (student)
- 10 - Small diameter nylon cords (student)
- 1 - Large diameter cord (Instructor)
- 1 - Large eyebolt (Instructor)

BASIC TACKLE ASSEMBLY

- 20 - Non-lead split shot sinkers
- 10 - Bobbers
- 10 - Large barbless hooks
- 1 - Spool of monofilament line, 10-lb test



Figure 30. Angler Education Instructor kit.

Optional items supplied by volunteer:

- 5 - Line Clippers (supplied by volunteer, and stay with volunteer)
- 3 - Needle nose pliers (supplied by volunteer, and stay with volunteer)
- 1 - Recycle container (plastic container or coffee can) for used line (supplied by volunteer)

LURE DISPLAY

- 1 - Small tackle box/container for lures
- 8 - Lures (with hooks cut off), 1 each: diving plug, topwater plug/popper, fuzzy jig, spinner bait, spoon, fly, a few soft plastics, and a rattle trap (volunteer can supply more if desired)

REGULATIONS, ETHICS AND SAFETY

- 1 - set De-Bait Cards (regulations, safety, and ethical dilemma cards)
- 1 - Fish Ruler
- 2 - Rubber fish to demonstrate how to measure a fish


TEACHING TOOLS

- 1 - Set of 12" x 18" flash cards
(15 cards: 9 fish ID, 1 knots, 2 fish handling, 1 fish anatomy, 1 food web, 1 tackle box)
- 1 - Freshwater Habitat Mat (3'x6'), and 12 toy freshwater fish (if available)
Creekside Café optional activity is available online and has pictures of bugs and other aquatic critters (supplied by volunteer).
- 1 - Saltwater Habitat Mat (3'x6') (optional – may not be with inland sites). *Bay Buffet optional activity is available online (supplied by volunteer).*


BOOKS (Class Sets—do not distribute or give away)

- 10 – A Basic Guide for the Beginning Angler
- 10 – Texas Freshwater Fish ID books
- 10 – Outdoor Annual Digests
- 10 – Texas Saltwater Fish ID books

Sample Supply Order Form for a Basic Class:



REQUEST FOR LITERATURE ANGLER EDUCATION



Submit Completed Supply Order Form To:
 Texas Parks & Wildlife Department
 Angler Education
 4200 Smith School Road
 Austin, TX 78744

Phone: 512-389-8183
 Fax: 512-389-8673
 Email: AnglerEdu@tpwd.texas.gov

Order Date: 1/19/2022 Preferred Delivery Date: 2/19/2022

Lead Instructor: Anita Fish Email: anita.fish@example.com Phone: (512) 389-4800

Class / Event Information:
 Basic Angler Advanced Angler Basic/Adv Combo Fishing Outreach Event Specialty Clinic

Ship To:
 Name: Anita Fish
 Street Address 1: 123 Drive Street
 Address 2: _____
 City: Anywhere, TX
 Zip: 77777

Class / Event Date(s): 03/02/2022
 Start Time: 10:00 am End Time: 2:30 pm
 Class / Event Name: Basic Fishing Clinic for Girl Scout Troop
 Location (Facility Name): City Park
 Address: 1 Park Drive Zip: 77777
 City: Pearland County: Harris
 Class / Event Contact Phone: (512) 389-4800
 Class / Event Contact Email: anita.fish@example.com
 Post on TPWD Calendar of Events website? Yes No
(To invite public attendees)
 Post on Volunteer Recruitment website? Yes No
 • How many volunteers do you need? _____


Items requested (See descriptions in online catalog)	Quantity	Ideal for Class Type:			Warehouse Comments
		Basic	Advanced	Outreach	
Angler Education Instructor Brochure (for adults)	3	✓	✓	✓	
Common Sunfish ID Card	20	✓	✓	✓	
Laminated Fish ID Card (Freshwater/Saltwater combined)	20	✓	✓	✓	
Tips for Beginners card	20	✓		✓	
Angler Activity Booklet	20	✓		✓	
Take Me Fishing: Basic Guide for the Beginning Angler (for ages 12 and up)	20	✓	✓		
Freshwater Fish ID Pocket Guide (for ages 12 and up)	20	✓	✓		
Saltwater Fish ID Pocket Guide (for ages 12 and up)	20	✓	✓		
Basic Fishing Certificate	20	✓			
Bluegill Fish Pin (for Basic Freshwater class)	20	✓			
Redfish Fish Pin (for Basic Saltwater class)		✓			
Outdoor Annual Digest (order class sets only)		✓	✓		
Outdoor Annual App Card	20	✓	✓	✓	
Advanced Fishing Certificate			✓		
Largemouth Bass Fish Pin (for Adv Freshwater Class)			✓		
Spotted Seatrout Pin (for Adv Saltwater class)			✓		
Fish Sticker Sheets (1 sheet = 6 stickers)	4			✓	
Plastic Catch-a-Smile Bag	20			✓	
Other:					
Other:					

For TPWD Use Only	Sent to WH:	Opportunity Name:	Filled by:	Date Shipped:
--------------------------	-------------	-------------------	------------	---------------


PWD 0589Z – K0700 (08/2021)

Figure 32. Sample Angler Education supply order form for a basic class.

Sample Supply Order Form for a large fishing event:



REQUEST FOR LITERATURE ANGLER EDUCATION



Submit Completed Supply Order Form To:
 Texas Parks & Wildlife Department
 Angler Education
 4200 Smith School Road
 Austin, TX 78744

Phone: 512-389-8183
 Fax: 512-389-8673
 Email: AnglerEdu@tpwd.texas.gov

Order Date: 1/19/2022 Preferred Delivery Date: 2/19/2022

Lead Instructor: Billy Bass Email: bigbillybass@example.com Phone: (512) 389-4800

Class / Event Information:
 Basic Angler Advanced Angler Basic/Adv Combo Fishing Outreach Event Specialty Clinic

<p>Ship To: Name: <u>William Bass</u> Street Address 1: <u>123 Drive Street</u> Address 2: _____ City: <u>Anywhere</u>, TX Zip: <u>77777</u></p>	<p>Class / Event Date(s): <u>03/02/2022</u> Start Time: <u>10:00 am</u> End Time: <u>2:30 pm</u> Class / Event Name: <u>Basic Fishing Clinic</u> Location (Facility Name): <u>Galveston Fishing Peir</u> Address: <u>1234 Seawall Blvd</u> Zip: <u>77777</u> City: <u>Galveston</u> County: <u>Galveston</u> Class / Event Contact Phone: <u>(512) 389-4800</u> Class / Event Contact Email: <u>bigbillybass@example.com</u> Post on TPWD Calendar of Events website? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>(To invite public attendees)</i> Post on Volunteer Recruitment website? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No • How many volunteers do you need? <u>10</u></p>
--	--

Items requested (See descriptions in online catalog)	Quantity	Ideal for Class Type:			Warehouse Comments
		Basic	Advanced	Outreach	
Angler Education Instructor Brochure (for adults)	50	✓	✓	✓	
Common Sunfish ID Card	350	✓	✓	✓	
Laminated Fish ID Card (Freshwater/Saltwater combined)	350	✓	✓	✓	
Tips for Beginners card	350	✓		✓	
Angler Activity Booklet	350	✓		✓	
Take Me Fishing: Basic Guide for the Beginning Angler (for ages 12 and up)		✓	✓		
Freshwater Fish ID Pocket Guide (for ages 12 and up)		✓	✓		
Saltwater Fish ID Pocket Guide (for ages 12 and up)		✓	✓		
Basic Fishing Certificate		✓			
Bluegill Fish Pin (for Basic Freshwater class)		✓			
Redfish Fish Pin (for Basic Saltwater class)		✓			
Outdoor Annual Digest (order class sets only)		✓	✓		
Outdoor Annual App Card	350	✓	✓	✓	
Advanced Fishing Certificate			✓		
Largemouth Bass Fish Pin (for Adv Freshwater Class)			✓		
Spotted Seatrout Pin (for Adv Saltwater class)			✓		
Fish Sticker Sheets (1 sheet = 6 stickers)	60			✓	
Plastic Catch-a-Smile Bag	350			✓	
Other:					
Other:					

For TPWD Use Only	Sent to WH:	Opportunity Name:	Filled by:	Date Shipped:
--------------------------	-------------	-------------------	------------	---------------

PWD 0589Z – K0700 (08/2021)

Figure 33. Sample Angler Education supply form for a fishing event. Instructor wants to advertise on the TPWD Events Calendar and wants to recruit volunteers to help at the event.

Reports and the Volunteer Portal

TPWD Volunteer Portal

Access the online volunteer system, www.tpwd.texas.gov/volunteer

If you need assistance logging in, please contact your regional TPWD staff person or the program assistant.

- ✓ Update your contact info
- ✓ Sign up for volunteer opportunities
- ✓ Report your classes, events, and service hours
- ✓ View your past logbook reports

Report Policy

The success of our program is based on the documentation of all the great work that each of you do. The Angler Education program receives funding from the U.S. Fish and Wildlife Service (USFWS) Sport Fish Restoration Program. Your service time is used as an in-kind match. Our fiscal year begins on September 1st and ends on August 31st. **All reports are subject to state and federal audits.**

All instructors and volunteers must **self-report** either online or sign-in on the volunteer roster provided at a class or event. If reporting for multiple days, a record of daily volunteer hours must be provided, like a timesheet. **(Lead volunteers cannot write in the hours on behalf of the assistant volunteers.)**

Please report online to expedite the reporting process. Use a computer, iPad, or smart phone to report online at www.tpwd.texas.gov/volunteer.

See the online video tutorial for help. We do accept paper reports, **but you can help us be more efficient by reporting online.**

If I signed in on the roster at the event, should I also report online?

If I am reporting my hours to the Master Naturalist program, do I report them to the Angler Edu program too?

What do I enter on the report if I don't know the ethnicities of the participants?

If I am a TPWD employee, do I report my hours?

Whether reporting online or on paper, please be sure to follow the reporting policies:

- ✓ All hours must be listed by specific dates (see example below). If using the paper roster at multiday events, **please use one roster per day** and list the date at the top of each roster.

You can still submit a report for a span of time (up to one month), but you must list the specific dates and hours in the online report under the service notes; or if using the paper form – use the timesheet (page 3) to provide a list of specific dates and corresponding hours. All documentation must be in writing, we cannot accept verbal confirmations.

- ✓ All classes and events must take place in Texas. Out of state reports are not accepted.
- ✓ Only fishing or aquatic education related classes / events may be reported. Other outdoor activities, such as archery or camping may not be reported to the Angler Education program.
- ✓ All online reports must be submitted within 45 days of the first date of the event. For class or events that took place more than 45 days ago, hard copy reports must be submitted via email or postal service for staff to enter into the database.
- ✓ Reports may not be submitted BEFORE the class takes place.
- ✓ Maximum of 12 hours per day can be reported.
- ✓ Travel time to / from the class or event may not be reported.
- ✓ If using the paper volunteer roster, all volunteers must print, sign, and list their hours on the paper roster. (Lead volunteers cannot write in the hours on behalf of the assistant volunteers.) Upload the roster to your online report.
- ✓ If teaching a class over several months or a semester to the same cohort of students, submit a monthly online report – but only count the students in the initial report. On subsequent online reports only enter your time and include a note in the report that the participants were previously reported.

Listed below is an example of acceptable and non-acceptable online or paper report information for hours spanning multiple dates:

Start date: 10/5/2020

End date: 10/8/2020

Total hours: 15

What IS accepted (specific dates)	What is NOT accepted (non-specific dates)
Service notes: 10/5/20 - 3 hrs. prep 10/6/20 - 5 hrs. class 10/7/20 - 5 hrs. class 10/8/20 – 2 hrs. clean-up	Service notes: 3 hrs. prep on day one, 5 one hr classes x 2 days, 2 hrs. clean-up on last day OR I worked 5 hrs. per day for 3 days


Report Form Samples

There are three types of reports available. Each form includes an assistant volunteer roster and an Instructor timesheet. Use these forms to track your class/event, then enter the data into the online report. Copies of the report can be uploaded to the online report for backup documentation.


- Standard Angler Education Classes and Events form – use for any class or event.
- Angler Education Short form – use if you want to track participant names.
- Angler Education Long form – use if you want to track the skills for each participant.

Sample Angler Education Classes and Event Report

Submitted by Anita Fish, with the assistant volunteer roster and Instructor timesheet (3 pages):



ANGLER EDUCATION CLASS / EVENT REPORT



Start Date: 2/16/22 End Date: 2/16/22 Class/Event Name: Basic Fishing Clinic
 Facility Name: McKinney Falls State Park City: Austin

Facility Type (choose one):
 City/Community/County Park Church/Rel Bldg. Community/Public Bldg. College/Univ
 Nature/Env. Edu Ctr. School/ISD Site Scout Facility/Youth Camp TPWD site or park
 Other: _____

Class/Event Type: Basic Angler Advanced Angler Basic/Adv. Combo Fishing Outreach
 Beginning Fly Fishing Int. Fly Fishing Beg./Int. Fly Fishing Combo Fly Fishing Outreach
 Specialty Clinic (Conventional or Fly Fishing)

Class Event Description / Notes: _____

Did you order supplies for this class or event? Yes No
 Did you borrow TPWD equipment for this event? Yes (please select equipment below) No
 Instructor Kit Backyard Bass Fishing Rods/Reels/Tackle Loaner kit (Convention or Fly Fishing)
 Fly Fishing Kit Fly Tying Kit Dip Into Texas Waters Wetlands Discovery Other: _____

ATTENDANCE For large events, use tick marks *||||*

	ADULT MALES:	ADULT FEMALES:	YOUTH MALES: (17 & under)	YOUTH FEMALES: (17 & under)
White	<i> </i>	<i> </i>	<i> </i>	<i> </i>
Black	<i>/</i>	<i> </i>	<i> </i>	<i> </i>
Hispanic	<i> </i>	<i> </i>	<i> </i>	<i> </i>
Asian	<i> </i>	<i> </i>	<i> </i>	<i> </i>
Other/ Unknown				
TOTALS:	<i>13</i>	<i>17</i>	<i>19</i>	<i>24</i>
How many of the above people have disabilities?				

Figures above are: Actual Figures Estimated Figures (If estimated, what was total event attendance? _____)

Lead Instructor Name: Anita Fish E-mail or Ph#: anitafish@example.com
 Lead Instructor Hours*: 10 Signature: *Anita Fish* Date: 2/16/2022

*If reporting multiple dates, please itemize your volunteer hours per day on the attached timesheet (page 3)

If other volunteers participated in this event, please have them document their volunteer hours on page 2 of this form.


If the event or class start date is within 45 days of submitting this report, please report online at www.tpwd.texas.gov/volunteer If this event was more than 45 days ago please submit this report via email to AnglerEdu@tpwd.texas.gov

For TPWD Use Only:
 Include on LBB Report Include on Fed Aid Report

1


PWD 589W – K0700 (07/2021)

Anita Fish's Assistant Volunteer Roster:



ANGLER EDUCATION VOLUNTEER ROSTER

*Use for multiple volunteers (age 18 and up), one sheet per event day.
Each volunteer must sign and enter their own volunteer hours on this form. Do not use ditto or arrow marks.
Certified Instructors are encouraged to report their hours online.*



Lead Instructor: Anita Fish Event Date: 2/16/22 Event Name: Basic Fishing Clinic
 Facility: McKinney Falls State Park City: Austin Class Type: Basic Angler

Volunteer Assistants (age 18 and up) (Please print first and last name)	Check if Certified Angler Edu Instr.	Signature (required)	Email address or phone number (please print)	Check if TPWD Staff	Check if reporting hours online	Hours Worked (including prep & clean-up hours)	For TPWD Use Only: Entered	Approved
Joe Rivers	✓	<i>Joe Rivers</i>	Joe@example.com			4		
Michael Beach	✓	<i>Michael Beach</i>	MBeach124@example.com			4		
Total Volunteer Hours							8	

The lead Instructor must submit the volunteer roster to TPWD for any volunteers not reporting online (signatures required).
 Note: Volunteers who plan to report their hours online, may also choose to sign this roster as back up – however they should check the "reporting online" box.
 Need technical support or help with online reporting? Call your regional Training Specialist or Headquarters at 512-389-4732 or 512-389-8183

Attach forms to your online report at www.tpwd.texas.gov/volunteer
 Or send event report and volunteer sign-in sheets to: AnglerEdu@tpwd.texas.gov

For TPWD Use Only:


Include on LBB Report Include on Fed Aid Report

PWD 05898B (7/2021)

TPWD Aquatic Education, 4200 Smith School Road, Austin, TX 78744 Phone: 512-389-8183; Fax: 512-389-8673


2

Anita Fish's timesheet:



TPWD Angler Education Certified Instructor Timesheet

(Individuals may use this form to report for multiple days. Use one sheet per month, per person.)



Instructor Name (Please Print): Anita Fish Report Month: February Year: 2022
 Class/Event Name: Basic Fishing Clinic
 Class/Event Location (Facility Name): McKinney Falls State Park City: Austin

Class/Event Type: Basic Angler Advanced Angler Basic/Adv Angler Fishing Outreach
 Beginning Fly Fishing Intermediate Fly Fishing Beg/Int Fly Fishing Fly Fishing Outreach
 Specialty Clinic (Convention or Fly Fishing) Instructor Workshop

Class/Event Notes:

Activity	Day of Month																															Total Hours	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
Class Prep											2	2			1																		5
Conducting Class/Event														4																			4
Wrap-up /Clean - Repair Gear															1																		1
											2	2			6																		10

Instructor's Signature: *Anita Fish* Date: 2/16/22

Report online at www.tpwd.texas.gov/volunteer
 or submit this form to AnglerEdu@tpwd.texas.gov

TPWD Aquatic Education, 4200 Smith School Road, Austin, TX 78744 Phone: 512-389-8183; Fax: 512-389-8673

For TPWD Use Only:

Include on LBB Report Include on Fed Aid Report


PWD 0589AA (07/2021)

Texas Parks and Wildlife Department maintains the information collected through this form. With few exceptions, you are entitled to be informed about the information we collect. Under Sections 552.021 and 553.023 of the Texas Government Code, you are also entitled to receive and review the information. Under Section 559.004, you are also entitled to have this information corrected. For assistance call 800-792-1112.

3

Sample Basic Fishing Class Report (Short Form)

Submitted by Joan Trout for a Basic Fishing class for High School students.
(Note: some of the students are age 18 and are considered "adults".)



ANGLER EDUCATION CLASS REPORT
(short form)

For TPWD Use Only:

Include on LBB report Include on Fed Aid report

Lead Instructor Name: Joan Trout e-mail address or pH#: jtrout@example.com
 Lead Instructor Signature: Joan Trout Lead Instructor Volunteer Hours: 23 Date: 2/1/2022 - 2/18/2022

Class Type:
 Conventional Fishing: Basic Angler Advanced Angler Basic/Adv Combo Go Fish SP Event
 Fly Fishing: Beginning FF Intermediate FF Beginning/ Intermediate FF combo

Class/Event Name: Fishing Fundamentals for Seniors Date(s): 2/1/2022-2/18/2022
 Facility Name: Ellen E. Trout High School City: Houston

Facility Type: City/Comm/County Park Church/Rel Bldg Comm/Public Bldg College/Univ Museum
 Nature/Env Edu Ctr School/ISD Site Scout Facility/Youth Camp TPWD site Zoo Other


STUDENT NAMES (PRINT)	M - Male	F - Female	Youth	Adult	Disabled	Ethnicity (Circle One) Key: As-Asian, Ai-American Indian, B-Black/African American, Hi-Hawaiian/Pacific Islander, Hi-Hispanic/Latino, O-Other, W-White	Junior/Basic Angler Skills OR Basic Fly Fishing Achieved (date)	Advanced Angler Skills OR Intermediate Fly Fishing Achieved (date)
1 Al E. Gator	✓		✓			Black/African American	2/18/22	
2 Helen Hywater		✓	✓		✓	White	2/18/22	
3 Crystal Ball		✓		✓		Other	2/18/22	
4 Sonny Day	✓		✓			American Indian/Alaskan Native	2/18/22	
5 Justin Thyme	✓		✓			White	2/18/22	
6 Anita Fish		✓		✓		Hispanic/Latino	2/18/22	
7						As Ai B Ha Hi O W		
8						As Ai B Ha Hi O W		
9						As Ai B Ha Hi O W		
10						As Ai B Ha Hi O W		
11						As Ai B Ha Hi O W		
12						As Ai B Ha Hi O W		
13						As Ai B Ha Hi O W		
14						As Ai B Ha Hi O W		
15						As Ai B Ha Hi O W		
TOTALS:	3	3	4	2	1			

*All assistant Instructors should log their hours and sign the Volunteer Roster (page 2). **If reporting hours for multiple days use the Instructor Timesheet (page 3).


Report online at www.tpwd.texas.gov/volunteer or submit this form to AnglerEdu@tpwd.texas.gov

PWD 589U-K0700 (07/2021) page 1 of 3

Joan Trout's timesheet:



TPWD Angler Education Certified Instructor Timesheet
(Individuals may use this form to report for multiple days. Use one sheet per month, per person.)



Instructor Name (Please Print): Joan Trout Report Month: February Year: 2022
 Class/Event Name: Fishing Fundamentals for Seniors
 Class/Event Location (Facility Name): Ellen E. Trout High School City: Houston

Class/Event Type: Basic Angler Advanced Angler Basic/Adv Angler Fishing Outreach
 Beginning Fly Fishing Intermediate Fly Fishing Beg/Int Fly Fishing Fly Fishing Outreach
 Specialty Clinic (Convention or Fly Fishing) Instructor Workshop

Class/Event Notes:

Activity	Day of Month																															Total Hours				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31					
Class Prep	0.5	0.5	0.5	0.5																															7	
Conducting Class/Event	1	1	1	1			1	1	1	1				1	1	1	1																		14	
Wrap-up /Clean - Repair Gear																																		2	2	
TOTALS																																				23

Instructor's Signature: Joan Trout Date: 2/18/22

Report online at www.tpwd.texas.gov/volunteer or submit this form to AnglerEdu@tpwd.texas.gov

For TPWD Use Only:

Include on LBB Report Include on Fed Aid Report

TPWD Aquatic Education, 4200 Smith School Road, Austin, TX 78744 Phone: 512-389-8183; Fax: 512-389-8673

Texas Parks and Wildlife Department maintains the information collected through this form. With few exceptions, you are entitled to be informed about the information we collect. Under Sections 552.021 and 553.023 of the Texas Government Code, you are also entitled to receive and review the information. Under Section 559.004, you are also entitled to have this information corrected. For assistance call 800-792-1112.

PWD 0589AA (07/2021) 3

TPWD Aquatic Education and Fishing Programs

Community Events

Texas Parks and Wildlife Department is often asked to participate in fishing derbies, outdoor shows, celebrations, and expos. We depend on our volunteer network to help us introduce fishing activities at these events. Sometimes angler instructors organize events in their own communities. For events where it is not feasible to offer an entire Basic or Advanced Angler training, we provide simple, hands-on activities for participants to introduce them to the sport of fishing.

Fishing Included at TPWD State Parks

<https://tpwd.texas.gov/fishboat/fish/programs/familyfish/>

Did you know you can fish without fishing license in TPWD State Parks?

Bring your fishing gear and family or friends to a TPWD state park, pay the park entry fee, and you're ready to wet some hooks. Some TPWD parks also have free loaner equipment. This program only applies to TPWD state parks and locations in the park's official boundaries: rivers and creeks, banks or piers, wade fishing in the surf along the shore of TPWD coastal state parks, or fishing from a boat on lakes or ponds that are fully enclosed in a TPWD state park. Daily bag, length limits and other regulations still apply. Ask at the park staff about these restrictions.

Remember this does not apply to City, County, Community or National parks.

Tackle Loaner Program

<https://tpwd.texas.gov/education/angler-education/tackle-loaner-program>

Individuals or groups may borrow basic fishing equipment from Tackle Loaner sites around the state. Just provide your own bait. Find locations on the Tackle Loaner website.



Figure 34. Tackle Loaner sign.

Neighborhood Fishing Program

<https://tpwd.texas.gov/fishboat/fish/management/stocking/neighborhood-fishin.phtml>

Texas Parks and Wildlife stocks channel catfish and rainbow trout big enough to catch and keep. Stocking takes place every two to four weeks during summer (catfish) and winter (rainbow trout) seasons. There should be a good supply of fish whenever you find time to visit! People, age 17 and up must have a fishing license. These parks may have different size and bag limits. Check with the park.



Figure 35. Adult and child fishing from pier.

Fish Art Contest

https://tpwd.texas.gov/spdest/visitorcenters/tffc/education/fish_art/

The Fish Art Contest sparks the imaginations of students while providing valuable lessons about fish and the importance of conserving Texas' aquatic resources. Art, science, and creative writing foster a connection to the outdoors and inspire the next generation of stewards. Contest is open to all youth in grades K-12. Participants must submit a completed entry form using the link below, an original illustration of a fish of your choice, and for grades 4-12, a one-page creative writing submission. This program is part of Wildlife Forever's national contest, Texas state winners will be automatically entered into the national contest. Deadline is March 31st every year.

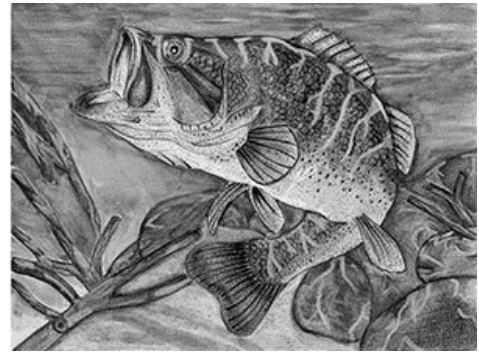


Figure 36. Artwork by M. Huang, grade 10-12.

Boater Education Program

<https://tpwd.texas.gov/education/boater-education/>

Learn about boating terminology, required equipment, legal requirements, and safe operation of a boat. Certification is available through instructor-led classes or online. All boaters born on or after Sept. 1, 1993, must take a TPWD-approved course to operate certain vessels on public waters. Share your knowledge and skills and become certified as a volunteer boater education instructor.



Figure 37. Child wearing lifejacket in a kayak.

Aquatic WILD

<https://tpwd.texas.gov/education/project-wild/project-wild-aquatic-overview>

Aquatic WILD is a Pre-K through adult activity guide and contains 48 activities that emphasize aquatic wildlife and habitats. It is suitable for use in the classroom and informal settings. TPWD offers Aquatic WILD through hands-on workshops for educators and youth group leaders. It is kid-tested and teacher-approved! Workshop fees apply.

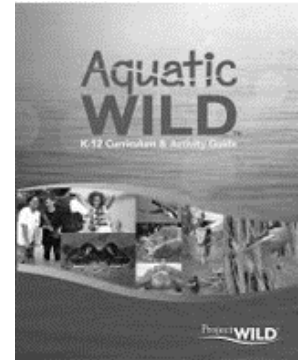


Figure 38. Aquatic WILD book.

Texas Aquatic Science

<https://tpwd.texas.gov/education/resources/aquatic-science>

Student portal: <https://texasaquaticscience.org/>

Texas Aquatic Science is a comprehensive aquatic science curriculum, from molecules to ecosystems, and headwaters to ocean, for middle school and high school students. The curriculum consists of an online student textbook, a teacher guide, specially produced videos, and supplementary materials. Student Textbooks area available from Texas A&M University Press and a Kindle version is available from Amazon.

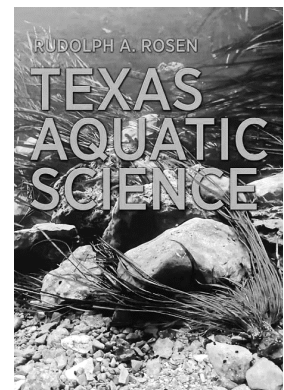


Figure 39. Texas Aquatic Science student book.

Texas Waters

<https://tpwd.texas.gov/education/water-education/texaswatersprogram>

This curriculum will inform and educate the citizens of Texas about the most precious natural resource Texas possesses, its water. Many challenges face our state concerning water, particularly in our aquatic habitats, the water for wildlife. Texas Parks and Wildlife values the natural and cultural resources of Texas, and we want there to always be drinkable, swimmable, and fishable waters in our great State. Earn a *Texas Waters Specialist* designation and give back to your community by performing volunteer service. Download a free copy.

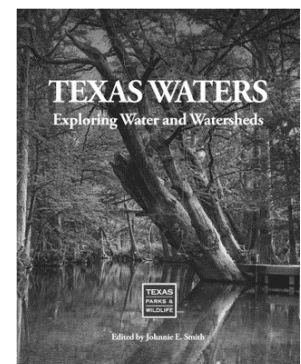


Figure 40. Texas Waters book.

TPWD Key Messages for Conservation

TPWD has developed three main themes to support conservation education. The themes were created to **educate, inform, and engage** citizens in support of conservation and recreation; encourage stewardship of natural and cultural resources; and increase access and participation in the outdoors.

▶ **Everything is connected.**

All living things, including people, are bound together. Any change, however small, affects us all. Understanding these connections helps people make wise choices for a better future.

▶ **Everyone plays a role.**

Everything we do affects our natural and cultural environment, directly or indirectly. Unlike plants and other animals, however, we can choose a role that determines our impact.

▶ **Life's better outside.**

Getting outside is fun and helps make people of all ages healthier, happier, and smarter. Time spent in nature also fosters better human connections, and ultimately it inspires people to take better care of our natural world.

I became a volunteer to be able to work with kids, and teach about fishing and outdoor activities, as well as stewardship of our lakes, rivers, and streams. Most importantly, I volunteer to pass on the passion of fishing that was instilled in me as a child and promote family unity with outdoor activities.

~Rodd G., El Paso, TX

Become an Angler Education Area Chief

Area Chiefs are volunteer train-the-trainers who provide Angler Education (AED) Instructor workshops for adults and support TPWD staff by taking the lead for local fishing classes and events for youth and adults in their area. They are exemplary in their ethics and their ability to represent TPWD in a positive manner.

What are the requirements to become an AED Area Chief?

- Current Angler Education Instructor or Fly-Fishing Instructor TPWD certification.
- Demonstrate leadership in teaching angler education to youth and adults:
 - Minimum of 1 report as the lead role for a class or an event.
 - Minimum of 25 AED service hours for the past year.
- Demonstrate the ability to provide accurate online reports; follow all state and federal report guidelines.
- Attend the annual Area Chief training workshop or participate in a mentored training program with AED staff.



Figure 41. Entrance to Angler Education Area Chief meeting.

What are the benefits of being an Area Chief?

- Only staff and Area Chiefs may train new AED Instructors. By becoming a volunteer trainer, you can create a local network of instructors who can support and sustain angler education activities in your region.
- Area Chiefs will have the satisfaction of knowing that their efforts are making a difference to increase participation in recreational fishing and teach youth and adults how to be safe and ethical anglers.

What are the responsibilities of an AED Area Chief?

- Organize, teach, or co-teach at least 1 AED Instructor workshop every 2 years to maintain Area Chief certification.
 - Area Chiefs who were trained 10+ years ago and have actively maintained their Area Chief status for 10 years will receive Legacy status and will be exempt from the minimum requirements.
- Attend the annual AED Area Chief meeting or meet with staff to get important Aquatic Education program updates.
- Be knowledgeable of current state and federal reporting guidelines, including online reports, on-time reports (within 45 days), and teach others to do the same.
- Provide positive, ethical leadership in your local area.
- Use the TPWD Angler Education curriculum to teach others using fun, hands-on activities; and observe all safety precautions.
- Take the lead for local classes or fishing events as your schedule allows.
- Mentor new AED Instructors in your local area; and communicate important program information to other local AED instructors.
- Provide input to evaluate and improve our program.
- Report any injuries (to volunteers) that occur when you are teaching or participating in an Aquatic Education activity to the Program Manager. (All registered TPWD volunteers are covered by secondary accident insurance.)
- Have fun!

How does TPWD support AED Area Chiefs?

- AED Program will provide equipment (where available) and supplies to support AED activities.
- AED Program will provide identification items for Area Chiefs (name badge, shirt, patches and pins, and business cards).
- AED Program will provide an annual Area Chief meeting to recognize achievements and inform trainers about program initiatives and changes.
- Area Chiefs may advertise their *free* classes and events on the TPWD Calendar of Events website. Workshop flyer templates are also available.
- TPWD Proud Partner Logo Use Agreement is available.



Figure 42. Group photo of TPWD volunteer Angler Education Area Chiefs.

