



# Cooking, Cleaning, and Companions

**OBJECTIVES:** Students will be able to:

- describe two different methods of preparing a fish
- explain at least one benefit to eating fish as a regular part of a diet
- make an informed choice when considering fishing as an affordable leisure activity

**METHOD:** Students will prepare and cook the fish caught on their field trip.

**MATERIALS:**

- 1) Fillet knives
- 2) Spoons or fish scalers
- 3) Plastic bags, newspaper or other waste wrappings
- 4) Several copies of the DNR's Choose Wisely guide
- 5) First-aid kit

\*If using the recipe below gather ingredients, cookware, aluminum foil, and paper towels.

**SETTING:** Outdoors or in a large indoor kitchen

**DURATION:** Conduct as part of the fishing field trip or one 45-minute period.

**VOCABULARY:** Fillet

**STANDARDS:**

**Physical Education:** D 8.1, 8.2, 8.3; F 8.3, 8.6, 12.1, 12.5, 12.6. **Environmental Education:** D.8.3, 8.5. **Science:** A.12.5, B.8.6.

**BACKGROUND:** Encouraging students to prepare and cook their fish is an excellent way to entice students into another fishing adventure.

**OPENING:** Demonstrate the proper methods for cleaning and for filleting a fish.

**MAIN ACTIVITY:** Students will be preparing and cooking fish. Divide the students into groups so that each student has a fish to work with. Discuss the method most appropriate for preparing each fish as a group. Remind students to work with the knife blade pointed away from their hands. Some students may not want to be involved in cleaning the fish, but should at least read through the steps in their booklet and be familiar with the differences between cleaning and filleting. As students prepare their fish, encourage them to look at and record the contents of the fish's stomach.

Once all fish are properly prepared, students can use the recipe provided to bake or fry the catch. Assign some students to recipe preparation, some to the dipping of the fish, and some to the cooking. Serve the fish as finger-food on squares of paper towel unless cooking enough for a meal.

**CLOSING:** Encourage students to gather fish recipes from home and have a recipe exchange in a future class.

**ASSESSMENT QUESTION:** Describe three ways that you can continue to learn about fish and help to protect them after this course is over.

*ANSWERS: Take a friend fishing, help with restoration projects, write letters, get outside, don't transport bait or live fish and other VHS prevention tips, leave no trash at fishing sites, other possibilities*

**EXTENSION:**

**In Depth:** Have students research the health benefits of eating self-caught fish.

**Service Learning:** Have students work with a community group or elementary school to plan a fishing outing for younger children. Ask them to plan an experience that is both safe and enjoyable for the children. Remember, students 16 and over need a fishing license.

**MUSIC:**  
**For Your Indoor Dining Pleasure**

Food preparation should be a pleasant experience and can be made more so with music. Water and fish have inspired musicians through the ages. Here is a short list of selections that could enhance your fish fry; many more can be found with a quick Google search of “fishing songs” or “clean water songs.”

*Swimming to the Other Side* by Pat Humphries

*Clean Water* by Malvina Reynolds

*Fishing Blues* by Taj Mahal

*Take Me to the River* by Al Green (and immortalized by Big Mouth Billy Bass)

*Blue Boat Home* by Peter Mayer

*Trollin' on the River* by Alvin Rhodes (parody of Creedence Clearwater Revival's *Proud Mary*).

Bon Appétit!

• If you have downloaded this booklet, please see the appendix that follows for additional materials.

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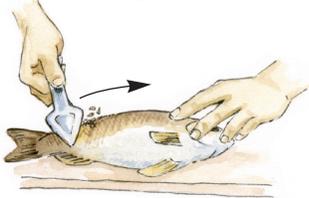
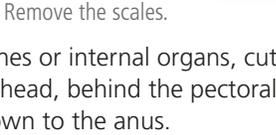
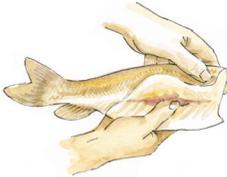
## Cooking, Cleaning, and Companions

Cooking and eating a fish you caught is one of life's simple pleasures. First, however, you have to prepare it. Preparing a fish provides an opportunity to learn more about fish anatomy and fish diets. After preparing, you're ready to cook and eat the fish. Fish are low in fat and calories and are a good source of protein.

### Staying Sharp

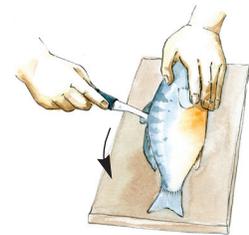
Cleaning is the technique used to prepare fish without removing bones. **Filleting** leaves the fish boneless, and occasionally skinless, and is generally used for larger fish. The most important step in preparing any fish is choosing a sharp knife of the correct size and shape. Most fillet knives have thin, slightly flexible blades five to eight inches long. A dull knife can be more dangerous than a sharp knife because you have to work harder to make the proper cuts. Make sure your knife is sharp, and hold it away from your fingers and body as you prepare your fish. Work patiently and attentively.

### Cleaning Steps

- Use a spoon or fish scaler to remove scales. 
- Without cutting through bones or internal organs, cut around the head, behind the pectoral fins, and down to the anus.   
Remove the scales. 
- Break the backbone by bending the head downward and twisting. Remove the head and internal organs.
- Check local rules, but generally you can dispose of wrapped waste in a trash bin or bury it deep in your garden. Fish waste does not belong in compost bins.   
Remove the internal organs. 

### Fish Fillet

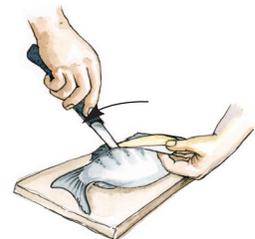
- Cut along the dorsal fin from head to tail and along the anal fin from anus to tail.
- Just behind the gill cover make a vertical cut through the flesh down to the bone. This cut extends from the back to the stomach. Deepen the cut made along the dorsal fin working from head to tail. Hold the knife nearly parallel to the row of bones extending upward from the spine to the back. This cut should extend downward only as far as the backbone.
- Repeat this procedure on the stomach side. Cut first from behind the gills to the anus, then along the anal fin cut you made earlier. These cuts should be just below the surface of the belly skin to avoid rupturing internal organs. As you cut up toward the backbone your fillet will come free.



Cut along the dorsal fin from head to tail.



Just behind the gill cover, make a vertical cut.



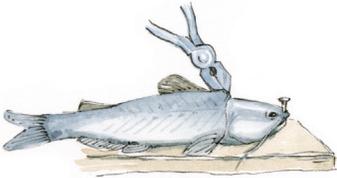
Hold the knife nearly parallel to the row of bones extending upward from the spine to the back.

## Tummy Talk

Check out your fish's stomach! Examining a fish's last meal will help you become a better angler. Knowing what the fish was eating can help you better match your next lure to this species' diet.



Hold the fish down with one hand just in front of the tail fin.



For catfish, remove the skin by cutting around the head and pulling the skin off with pliers.

- Do not cut the fillet from the tail. Flip the fillet so that it is lying skin-side down. Hold the fish down with one hand just in front of the tail fin. Beginning at the tail carefully skin the fillet, working away from your hand. Work slowly and patiently; cutting too deeply will result in cutting through the skin and not cutting deeply enough will result in lost meat.
- Check local rules, but generally you can dispose of wrapped waste in a trash bin or bury it in your garden.

A note about catfish and bullheads: skin removal is accomplished by cutting around the head and pulling the skin off with pliers.

## Flaky, Not Fishy

Fish are a tasty, healthy way to add a lot of muscle-building protein to your diet without adding fat. Many cookbooks have recipes specific to different species of fish, but fish can be prepared quite simply as well. Regardless of how much time you take with your fish preparation, fish should be flaky in texture and shouldn't taste fishy. The muscle layers of a properly cooked fish should separate effortlessly (flake) and the flesh will turn from translucent to white. Fish can easily be overcooked, making them taste dry. Fish can also be undercooked, which could transfer fish parasites to humans. And no fish tastes good if it was left too long in the sun after being caught, so remember to ice your fish and keep it cool! Give your own cooking skills a try by following the recipe below:

## The Famous Triple Dip Fish Fry

1 pound fish fillets	1) Pat fish dry with paper towels and set aside.
1 cup flour	2) In a shallow dish, mix flour, pepper, paprika, and salt.
¼ teaspoon ground pepper	3) In another shallow dish beat egg together with water to make an egg wash.
¼ teaspoon paprika	4) In a third shallow dish, place the crushed crumbs of your choice.
¼ teaspoon salt	5) Pick up a fillet and dip it in the first bowl until coated with flour. Next dip the fillet in the egg wash, then transfer it to the third dish and pat the crumbs evenly over the entire fish. Do this for each fillet, separating them by aluminum foil on a plate.
1 egg	
1/8 cup water	
1–1½ cups bread or cracker crumbs	TO FRY Heat ¼ inch of cooking oil in a heavy skillet. When a pinch of flour sizzles in the pan, it's hot enough for the fish. Cook a few fillets at a time until the fish are brown and crispy.
cooking oil	TO BAKE Coat a pan with cooking oil and place it in the oven. Heat oven to 450°F. Place fillets on the heated pan and cook about 6-7 minutes on each side, until crispy.



## Cut It Out!

Even though eating fish is healthy, you should be aware that certain lakes and rivers have special advisories about PCBs and mercury. PCBs and mercury are toxins that are found in high concentrations in the fish of some lakes. Check the DNR Website at [dnr.wi.gov/fish/consumption](http://dnr.wi.gov/fish/consumption) to investigate which ones have advisories.

You can safely enjoy fish from Wisconsin waters as a regular part of a healthy diet. Just observe these recommendations in the DNR's *Choose Wisely* fish consumption guide: cut the fat off of your fish; eat younger, smaller fish; and eat a wide variety of fish.

## Swimming Upstream

Fishing is an amazing way to spend time outdoors, learn about the natural world, enjoy time with family and friends, explore the state, and catch fabulous food. But maintaining a healthy fishery requires our attention and care. If you see something that concerns you while out on the water—litter, erosion, a thick mat of algae—do something about it! The future of fishing in this state rests in the hands of those who regularly use it. If you think fishing is a valuable and important pastime, it's up to you to make your voice heard and your opinions matter.

There are direct and indirect paths to helping protect our natural resources. Some people choose to dedicate their lives to natural resources in careers at conservation organizations like the DNR. If you are planning a career in natural resources, check the DNR Website for a sampling of jobs in the field. If you see one that looks great, interview someone in that job to find out what sort of skills you should be getting while still in school. You can also check university Websites to see what types of courses they offer for people interested in our natural resources.

You don't need a career in conservation to be a conservationist. No matter what career you choose, artists, economists, cashiers, mathematicians, and flight attendants, to name a few, can all advocate and volunteer on behalf of natural resources. There are many ways to stay involved with and learn more about

Wisconsin's fish and waters. Here are a few suggestions:

- Take a friend fishing. One of the best ways to gain support for the resource is to introduce others to it.
- If you like trout fishing, or are interested in starting, contact Trout Unlimited to see if they have a chapter near you. You could help with a restoration effort, or meet others who want to help trout.
- Start a fishing club at your school or join one in your community.
- Speak up! Write letters to your representatives and senators about your resource concerns and vote as soon as you are eligible!
- Get outside. Being an active observer is the first step to working for the changes you would like to see.

It's not always easy to improve our natural resources, but neither is it to swim upstream and plenty of fish do it every year. Keep your eyes on the water and your mind open. Even if you don't continue fishing, you will continue to live in a world where water resources and aquatic wildlife will play a role in the health and stability of our planet. Don't lose touch with the water in your world!

## Cheap Date

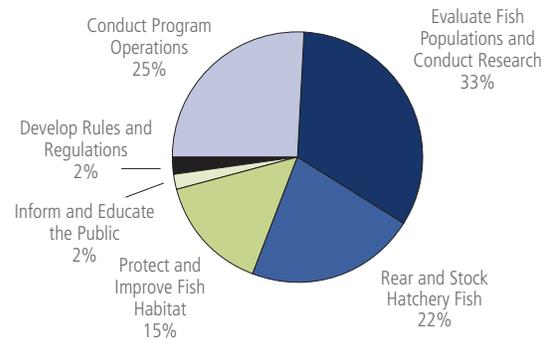
Take your date or a pal fishing! After a small annual investment, you can fish 365 days a year with whomever you want. Many Wisconsin communities are situated on or near fishable waters. Pack a picnic, call a friend or two, hop on your bike, and head for the water's edge.



A love of fishing has inspired generations of anglers to pay close attention to natural resources. Invite a friend to join you in enjoying the beauty and excitement that fishing offers.

## Where does your license money go?

Money collected through the Sport Fish Restoration Fund and fish license fees funds the fisheries program at the Department of Natural Resources. Within the fisheries program, the money gets divided into many different projects, illustrated in the pie chart below:



All that for less than the cost of one night on the town! *Data from 2006 DNR Fishing Report*

**Compare the cost of a day of fishing to other leisure activities.** Consider total costs of participation and how often you can use your investment. Here are some examples:

ACTIVITY	MINIMUM REQUIREMENTS	COST	ONE-TIME USE OR OPPORTUNITY	MULTIPLE USES OR OPPORTUNITIES
<b>Fishing</b>	License & Stamps Rod Reel Bait Tackle Other:			
<b>Prom</b>	Ticket Clothes Dinner Flowers Special Transportation Other:			
<b>A night out</b> Several options: movie, food, gasoline. List what you would do.				
<b>A night at home</b> Several options: games, music, snacks. List what you would do.				

NAME \_\_\_\_\_



# FIELD KNOWLEDGE

## Know Before You Go/Making the Catch

### Sections A & B

### Vocabulary Review

Fill in the blank using the words below.

- The \_\_\_\_\_ knot is an angler's old standby and works well to tie a smaller line to a hook or lure.
- Treating others as you would like to be treated is an example of \_\_\_\_\_ behavior.
- With \_\_\_\_\_ gear, the reel is designed to store line (not to cast or retrieve) and the rod is long and limber.
- \_\_\_\_\_ is a process used to clean fish that leaves them boneless.
- Water you can float a canoe down during at least one day of the year is considered \_\_\_\_\_ by the State of Wisconsin.
- People who own homes next to a natural body of water are considered \_\_\_\_\_ landowners.
- A \_\_\_\_\_ is a type of feather lure that takes on lifelike movement in the water.
- Many species of fish are regulated by " \_\_\_\_\_," which define the number of a species you may catch in one day.
- CPR for fish stands for \_\_\_\_\_, a series of actions an angler can take to improve a fish's chance of surviving release.
- The combination of tackle used on the end of a fishing line is called \_\_\_\_\_ tackle.

### Word Choices

marabou	filleting	riparian	universal
terminal	fly-fishing	ethical	consider proper release
careful piscivore release	improved clinch	total daily bag limits	navigable

This review is not found in the student guidebook and may be used as a test. Copies may be made for students.

# FIELD KNOWLEDGE

## Sections A & B Section Assessment

Return to the scenario given at the beginning of FIELD KNOWLEDGE to apply the concepts covered in this section in a discussion: “You and your friends are out fishing on Devil’s Lake. You’ve each kept your limit of one northern pike for the day, but the weather is perfect and you’re all enjoying yourselves so much that you decide to keep fishing for a few more hours. If you catch any more fish, you’ll release them. You sit back to watch the hikers on the ridge, when suddenly your bobber sinks and your line goes taut. You pick up your rod and struggle to reel in what turns out to be the largest northern pike you’ve ever seen! It’s much bigger than the fish you caught several hours ago and would feed many more mouths. What would you do? Would you keep it or release it? Why? If you release it, how will you go about making it a safe release for the fish?”

Students should understand that once you decide to keep a fish, it is **ILLEGAL** to later release that fish in favor of another. In this scenario, the students should release the second fish immediately using the Consider Proper Release procedures. The Statewide Fishing Restrictions in the DNR fishing regulations clearly states that it is illegal to “sort fish.” Any fish that a person takes into his or her possession which they do not immediately release is considered part of their daily bag limit. If students do not provide the correct answer when this scenario is discussed, make sure you spend time processing the correct answer as a class.

## Field Knowledge Assessment Activity

If students are asked to keep a fishing journal, it could be an appropriate comprehensive assessment technique. Another option is to have the students work in teams of two to expand their fish profiles from **Profile of a Swimmer** into large, visually compelling posters. Each pair should develop two posters that are both explanatory and attractive. Posters should include information on how to identify the fish, where to find the fish (both in the state and within a waterbody), what tackle and bait are most appropriate for catching the fish, regulations affecting the fish, land use decisions that can or are affecting the fish, and a quote about the fish, fishing, or conservation, as appropriate.

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# FIELD KNOWLEDGE

## Vocabulary Review

### Answer Key

1. Improved Clinch
2. ethical
3. flycasting
4. Filletting
5. navigable
6. riparian
7. marabou
8. total daily bag limits
9. Consider Proper Release
10. terminal

# Glossary

## Arbor knot

a knot used to tie fishing line to a reel

## Bait

live or dead animal material used to attract fish to a hook

## Baitcasting

a rod and reel combination designed for larger baits

## Barbels

slender, whisker-like taste receptors found on certain fish, such as catfish, bullheads, and sturgeon; used to find food

## Blood Knot

a knot used to tie two fishing lines of similar width together

## Bobber

a float used to keep terminal tackle at the desired depth in the water

## Cast

the action of sending fishing line out over the water

## Clinch Knot

a knot used to tie a fishing hook to a fishing line

## Consider Proper Release (CPR)

the steps to follow when releasing a caught fish

## Creel clerk

DNR fisheries staff who gathers information from anglers such as catch rates and the size and number of fish harvested on a particular lake. The number of boats and weather data are also recorded to help determine fishing pressure.

## Downrigger

a special type of fishing tackle that gets lures down into deeper water (e.g. Great Lakes)

## Ethical

good, respectable, acceptable

## Fillet

a cutting technique used to remove the bones from fish

## Fly

an artificial lure designed to imitate an insect

## Fly-fishing Gear

a rod and reel combination consisting of a long, flexible rod and a simple reel that holds the line but does not assist the angler in casting

## Guides

the loops found along a fishing rod that hold the fishing line in place

## Hellgrammite

the aquatic nymph stage of a dragonfly; used for fish bait

## Hook

the tackle used to attach a fish to fishing line, usually used with bait

## Improved Clinch Knot

a knot used to tie a fishing hook to fishing line

## Jig

a type of lure; a hook with a colorful weight attached to the top of the hook

## Lateral line

a canal along the side of a fish containing pores with sensory organs that detect vibrations

## Line

a thin, strong, often clear, cord used to attach a fishing hook to a reel

## Lure

a combination of colorful artificial bait and hook, attached to a fishing line, to attract fish

## Marabou

a type of feather that looks lifelike underwater and is attached to a lure to attract fish

## Nail Knot

a knot used to tie fishing lines of different diameters together

## Navigable

water being deep enough and wide enough to allow a boat to pass

**PFD**

a personal flotation device, or lifejacket, used to hold a person's head above water

**Palomar Knot**

a knot used to tie a fishing hook to a fishing line

**Plastic Tail**

a piece of plastic used to imitate worms, salamanders, eels, or frogs; usually tied below a jig or weight to attract fish

**Plug**

a lure designed to imitate a small fish or other aquatic animal

**Popper**

an artificial bug-like fly that pops as it is pulled along the water's surface

**Pork Rind**

a colored, cured strip of pork skin that is attached to a jig to attract fish

**Possession Limit**

the maximum number of a species that you can control, transport, etc., at any time; includes fish you have at home or in a vehicle. It is twice the daily bag limit.

**Rapala**

a type of fishing lure

**Reel**

a piece of tackle used to hold fishing line and to assist an angler in casting and retrieving line

**Riparian**

living or located on the bank of a natural waterbody

**Rod**

a fishing pole, used to extend the distance an angler can cast

**Sinker**

a weight used to hold terminal tackle below the surface of the water at the level desired by the angler

**Snap**

a piece of tackle used to assist the angler in attaching a hook or lure to fishing line

**Spincasting Gear**

a rod and reel combination with a push-button closed-bail reel; good for beginners

**Spinner**

a lure that has blades which spin as it is pulled through the water

**Spinnerbait**

a weighted lure with one or two spinning blades attached to it

**Spinning Gear**

a rod and reel combination with an open-bail reel designed for long backlash-free casting

**Spoon**

a lure that wobbles and flutters as it is retrieved

**Stink Bait**

smelly bait often used to attract catfish

**Stringer**

a string or wire that anglers hang fish from

**Swivel**

a piece of tackle used to connect a hook or lure to a fishing line

**Tackle**

fishing gear

**Terminal Tackle**

the combination of tackle used at the end of a fishing line, generally consisting of hooks, bait, lures, sinkers, snaps, and swivels

**Total Daily Bag Limit**

the total number of fish that an angler may keep in one day from all Wisconsin waters

**Uni Knot**

a versatile knot used in many fishing applications

**Viral Hemorrhagic Septicemia (VHS)**

an invasive disease that causes fish to bleed to death