

# 10

## Fishing for Answers

### Questions to consider

- 1 How can knowledge of aquatic communities and food webs be used to improve fishing success?
- 2 How can knowledge of fish adaptations be used to improve fishing success?
- 3 How can knowledge of aquatic ecosystem types be used to improve fishing success?
- 4 How can knowledge of weather be used to improve fishing success?
- 5 Why are rules about fishing limits and seasons important?
- 6 What is an ethical angler? What are some rules of angling ethics?
- 7 How can people help conserve Missouri's aquatic ecosystems?



FIG. 10.1—Use what you have learned about aquatic ecosystems to catch fish.

Now that you've learned about Missouri's aquatic ecosystems, one of the most fun ways to use your knowledge is fishing. (FIG. 10.1) If you fish, you've always got a reason to be outdoors. Hike or take a canoe or boat to a fishing spot. Try camping near a lake, cook what you catch and have a picnic. Fishing gets you involved with nature. When you go fishing, you are called a **sport fisherman** or **angler**. To be a good angler, you need patience, fishing skills and knowledge of aquatic life. (FIG. 10.2)

### Here fishy, fishy

You can use what you have learned about fish, habitats, food webs, niches, trophic levels and aquatic ecosystems to help improve your fishing success. Fish may scour the bottom, hunt near the surface or swim anywhere between. Spawning brings fish together in one place. Their need for cover attracts them to structures such as rocks, logs and plants. Their need for comfortable temperatures and oxygen levels keeps them moving. Individual and species needs and preferences present a complicated challenge.

To catch a fish, you need to think about its food preference. Use bait that looks or smells like a fish's natural food. (FIG. 10.3) Fish tend to gather where there is plenty of food. Schools of minnows or other prey fish will attract larger fish to feed on them. Fish watch for hatching insects and migrating frogs. Signs of small fish activity can lead you to fishing hotspots. Minnows darting above the surface are often trying to escape from larger fish. Many small fish in the shallows could mean that larger fish are not far behind. Look for the signs of feeding fish. Rings spreading across the surface of a pond could mean that bluegill are feeding on insects. A splash in the shallows could be a largemouth bass eating a bluegill. Cast your line where you think fish are feeding.



FIG. 10.2—Anglers make it possible for the Missouri Department of Conservation to better manage all the state's fish populations. The Sport Fish Restoration Act places tax on items such as boat motors, fishing tackle and boat fuel. In 1978, Missourians voted for a one-eighth-of-one-percent sales tax dedicated to funding statewide conservation efforts. Along with federal Sport Fish Restoration funds, this Conservation Sales Tax pays for kids fishing programs, Stream Team volunteer water quality monitoring workshops, fish hatcheries and fisheries management.

## Finding fish

Fish use cover to escape predators and to help them ambush prey. Ask yourself, "If I were a fish, where could I hide from enemies and find food?" Some fish spend most of their lives near cover; others move out of cover to feed. Cover can be anything that will hide or protect the fish. Weeds, docks, brush, rocks and logs all provide cover. Shade can be cover because it makes the fish less visible to other fish, predatory birds and humans. Look under overhanging trees, cliffs or swimming platforms. Once you start looking, you'll see all kinds of cover. Weeds grow near the bank, fallen trees lean over the water, boat docks rim lakes, flooded timber reaches above the water's surface and loose rock often rings shorelines. A lot of cover cannot be seen. Underwater rocks and sunken logs, as well as fish shelters of sticks, brush or old Christmas trees that anglers have placed to attract fish rest on many lake and river bottoms. Cast close to these fish hide-outs.

Drop-offs, points, ridges and sandbars shape the beds of lakes and rivers. These features often attract more fish than do flat or gently sloping bottoms. You can find good places to fish from clues on land or in the water. Land points often extend into a lake; a path between flooded trees might be an old river channel; a break in a wave pattern reveals an underwater island and the weed edge tells where the water has become too deep to allow sunlight to penetrate to the bottom. (FIG. 10.4)

Hungry fish seem to favor places where one kind of habitat changes to another—in other words, border areas. The edge of a lake's shoreline zone, for example,



NOPPADOL PRATHONG

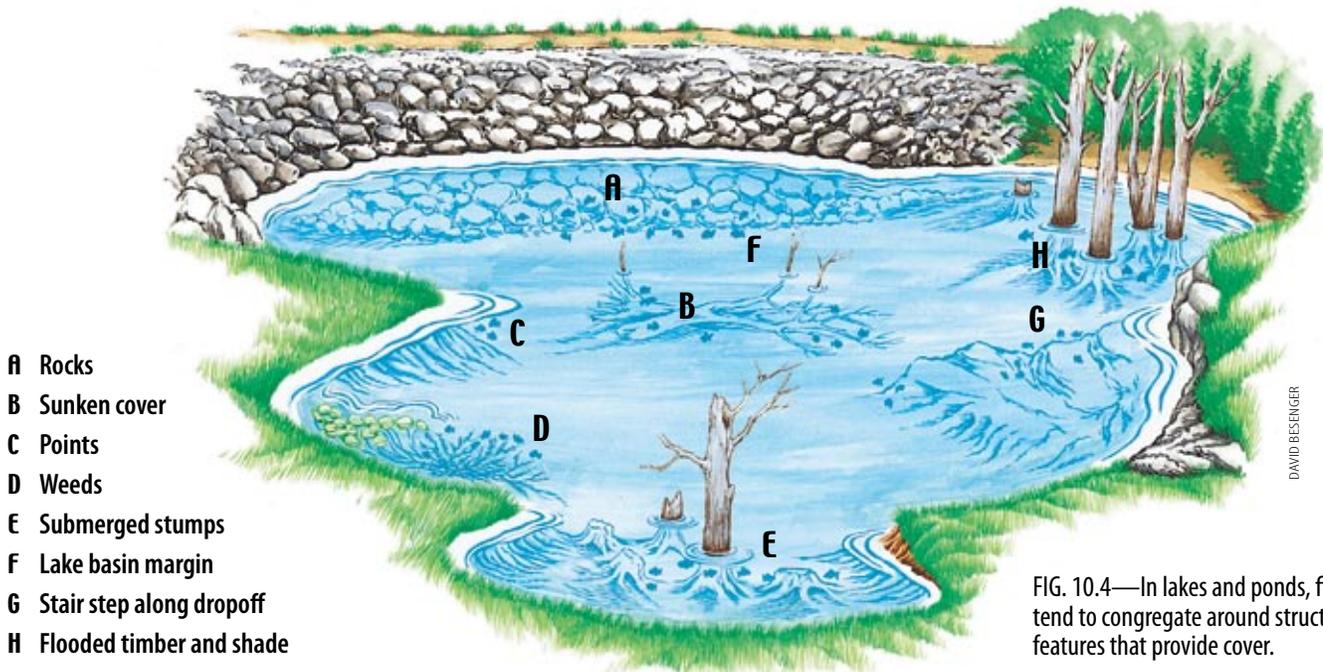


CLIFF WHITE

FIG. 10.3—Serious anglers watch the water to see what aquatic insects have just hatched. Then they choose a fishing lure, such as the one on the bottom, that looks like the mayfly in the top photo. This is called "matching the hatch."

usually produces the most fish. In rivers, fish often feed where the flow changes direction or slows down. You can see these from the surface. Also, look for the break between muddy and clear water. Places where mud bottom meets gravel bottom attract active fish.

In flowing water, there is less current near the



DAVID BESENGER

FIG. 10.4—In lakes and ponds, fish tend to congregate around structural features that provide cover.

bottom. Because of this, most stream fish rest with their bellies almost touching the bottom. They like to take advantage of low spots that have less current than the nearby water. They do this to save their energy and to avoid being pushed downstream. Most fish in a river face the flow of water and wait for food to come to them. Fish in current rarely move far for food. (FIG. 10.5)

## Gone fishin'

Fishing can be good at any time. However, fish seem to prefer eating during the low light conditions of morning and evening rather than in the bright sun of midday. Fish stay in shallower water in low light and choppy conditions but move to deeper water when the sun is bright and winds are calm. Cloud cover mimics these low-light periods and may help get fish to bite. Catfish, bass, crappie and many other species of fish will bite day or night. In some clear lakes, fishing is better at night than during the day. Big fish seem to be less picky about food and easier to catch when it is dark. Fishing at night is hard, even for experienced anglers. If you are just starting out, try fishing during the evening and see if you can continue after dark.

Weather affects fish, but not always in predictable ways. Fish are often near the surface in spring and early summer. Hotter weather sends fish deeper to find cooler temperatures such as in the open-water zone of a lake. Most fish stay out of the deep-water zone of the lake because there is little oxygen there. Warm fronts improve fishing, and the longer the front stays the better. Cold fronts often reduce fish movements. A light to moderate wind is better than no wind. Fish will move into shallower water to feed in windy conditions. Fishing is usually better where the wind blows into the shore than along protected shorelines. Fishing is good before and during a gentle rain but poor during and after a thunderstorm. If this all seems like too much to learn, just remember that any time you can safely fish is a good time to go fishing.

## Do the right thing

An **ethical** angler:

- ✓ Follows rules of ethical conduct in the use of aquatic resources and teaches others to do so, too.
- ✓ Values and respects the aquatic environment and all living things in it.
- ✓ Avoids spilling and never dumps any pollutants, such as gasoline or oil, into the aquatic environment.
- ✓ Puts all trash, including used lines, leaders and hooks, in proper containers and helps to keep fishing sites litter-free.
- ✓ Takes action to prevent the spread of invasive plants and animals, and never dumps live bait into the water.
- ✓ Learns and obeys angling and boating rules, and treats other anglers, boaters and property owners with courtesy and respect.
- ✓ Respects property rights, and never goes onto private lands or waters without permission.
- ✓ Keeps no more fish than needed for eating, and never wastes fish.
- ✓ Carefully handles and releases alive all fish that are unwanted or not allowed, as well as other animals that may be caught accidentally.
- ✓ Is careful not to harm to fish when doing catch-and-release fishing.

## Limits and seasons

In Missouri, the Department of Conservation makes and enforces rules for the wise use of fish, forests and wildlife. These rules help Missourians share limited resources and keep our ecosystems healthy. Hunting and fishing season rules protect species by limiting the time of year

- A Riprap banks
- B Deep river bends
- C Holes below riffles
- D Behind wing dams
- E Feeder stream mouths
- F Eddies

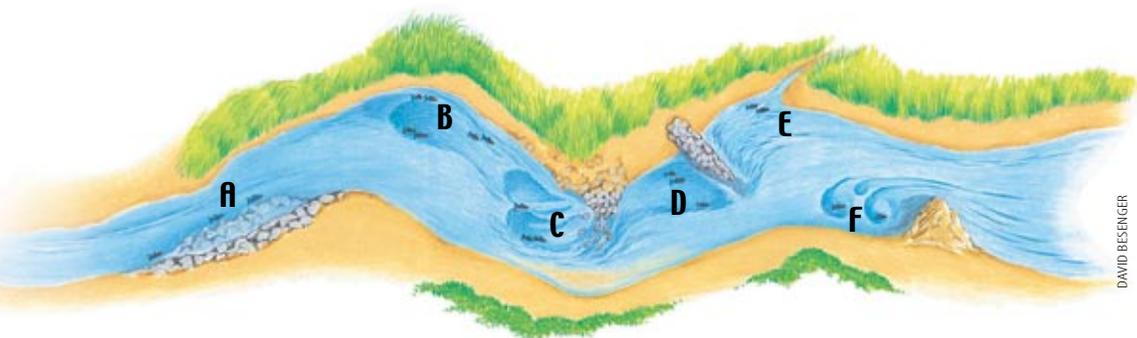


FIG. 10.5—In rivers and streams, fish stay in low current to save energy, but feed near swifter flows that may bring them food.

during which they may be taken. Length limits give fish a chance to grow and spawn before people are allowed to catch and keep them. Number limits assure that no one takes too many. Missouri's rules are based on scientific data and research provided by fisheries biologists. Taxes and the sale of hunting and fishing permits pay for this work. Up until your 16th birthday you can fish in Missouri without a permit. But before you go fishing, get to know the rules and follow them. This is one way you can help conserve Missouri's aquatic ecosystems for years to come. Conservation can help us to make sure our aquatic ecosystems and other resources stay diverse, balanced and healthy far into the future.

To learn more about conserving Missouri's aquatic resources, visit the Missouri Department of Conservation's Web site. You can also visit your local Conservation Department office or a conservation nature center. Better yet, go outside and visit your favorite local aquatic resource. Begin thinking of it as YOUR lake, pond, river, stream, swamp or marsh.



CLIFF WHITE

FIG. 10.6—Start or join a Stream Team and adopt a body of water.

Always bring a trash bag when you visit, and take a moment to leave the spot in better shape than you found it. Start or join a Stream Team and adopt a water body (you're not limited to streams). (FIG. 10.6) Learn more about checking water quality by taking a Stream Team Volunteer Water Quality Monitoring class. Volunteer to become a Master Naturalist. And if you're up to the challenge, choose a career in conservation and make aquatic resources your life's work. Above all, enjoy your aquatic resources and use them wisely!



## Fishing guides and float outfitters

Fishing guides provide boats, tackle and fishing experience to people who want help learning and enjoying the sport. Most guides work part time and have another job, mainly in the off season. In Missouri, canoeing is a popular sport. Outfitters rent canoes and other equipment to people who want to experience a river first hand.

CLIFF WHITE