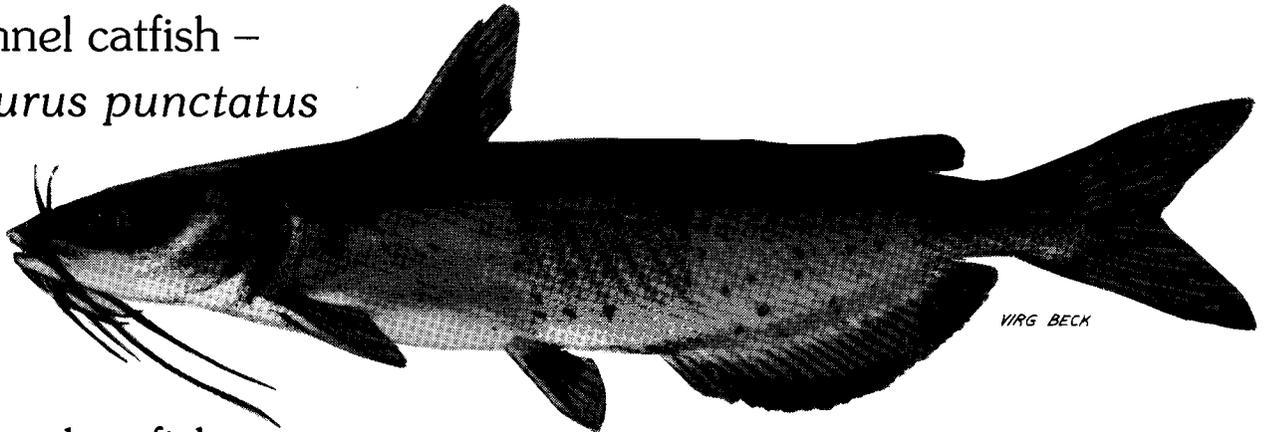


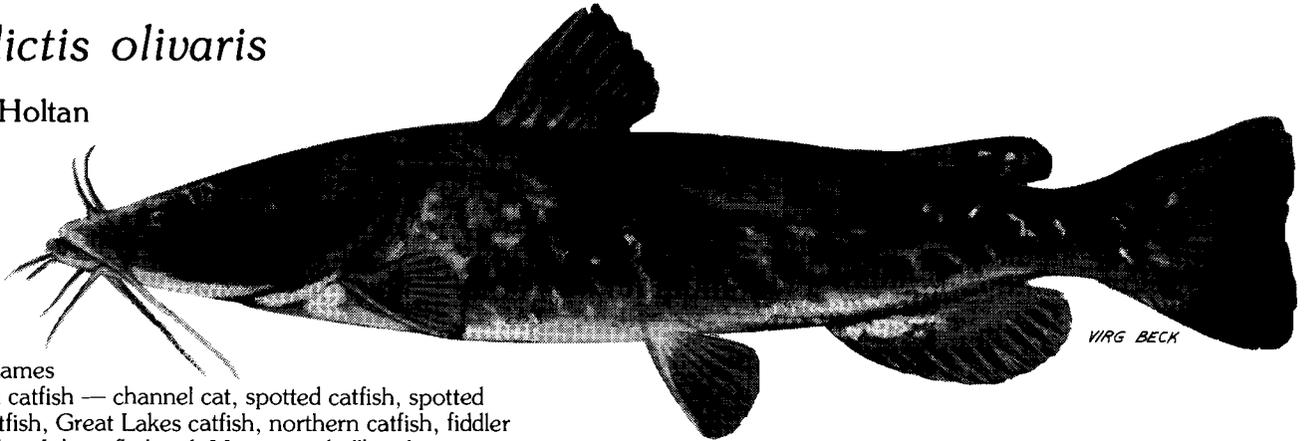
# CATFISH

Channel catfish –  
*Ictalurus punctatus*



Flathead catfish –  
*Pylodictis olivaris*

By Paul Holtan



#### Common names

Channel catfish — channel cat, spotted catfish, spotted cat, lake catfish, Great Lakes catfish, northern catfish, fiddler

Flathead catfish — flathead, Mississippi bullhead, Mississippi cat, shovelhead cat, shovelnose cat, yellow cat, mud cat, Hoosier, goujon

#### Wisconsin Department of Natural Resources Bureau of Fisheries Management

PUB-FH-713 98Rev.  
October 1998



This publication funded in part through the  
Dingell-Johnson Sport Fish Restoration Fund

*"...the first thing we done was to bait one of the big hooks with a skinned rabbit and sit and catch a catfish that was as big as a man, being six foot two inches long, and weighed over two hundred pounds. We couldn't handle him, of course; he would 'a' flung us into Illinois."*

— Mark Twain  
*The Adventures of Huckleberry Finn, 1884*

These bottom dwellers derive their common name, catfish, from the "whiskers" on their snouts, but they share other traits with earthbound felines.

Catfish prefer to rest during the day and prowl at night. Like their curious namesakes, catfish seek out and explore secluded spots. And flathead catfish will engage each other in "cat" fights to rival any back alley tomcats.

On the other hand, there are traits catfish don't share with the feline family. Channel catfish are anything but finicky, feeding on almost anything that floats by. Unlike sharp-eyed feline predators, catfish depend more on their well-developed senses of smell and touch to seek their dinner. Finally, some people might argue, a furry cat is a somewhat more appealing creature than the scaleless catfish.

That notion may run into some argument in communities along the Mississippi and lower Wisconsin rivers, where catfish are held in high

regard. Catfish dinners are featured in many riverfront restaurants as well as at the dinner tables of many anglers. In some river towns, flathead catfish in particular are considered a delicacy, even earning the nickname “candy bar.”

### Identification

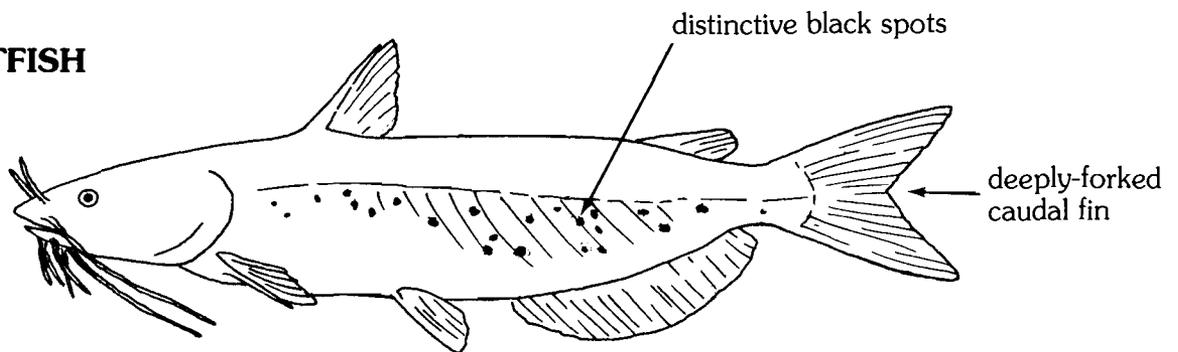
The channel catfish and the flathead catfish are Wisconsin’s largest members of the bullhead catfish family (Ictaluridae), which also includes the bullheads, the madtoms and the stonecat. The flathead is the granddaddy of Wisconsin catfish. It can be one fat cat, reaching weights of 30 to 40 or more pounds.

All members of the family are scaleless, having instead a thick, tough skin. Catfish are darkly colored, reflecting the murky depths where they linger. Channel catfish have blue to olive backs, whitish bellies and silvery sides mottled with distinctive black spots of varying sizes — the only species of this family to have such spots. The spots often disappear from older males, which are sometimes erroneously identified as another relative, the blue catfish. Blue catfish are not found as far north as Wisconsin. Flathead catfish have light brown to yellow sides (hence the common

name yellow cat) that may have darker brown or black areas. The belly is yellow to cream white.

Channel catfish are smaller and have a more slender body than flatheads. Both species have broad heads, but as its name implies, the flathead has the flattest and broadest. The two species can be easily distinguished by their **caudal** (tail) fins. The channel cat has a deeply-forked tail while the flathead has a squared tail fin with only slight forks. Catfish have eight whiskers, called **barbels** (fleshy sensors capable of feeling and tasting). There is one barbel at each corner of the mouth; one adjacent to each nostril; and four protruding from the lower jaw. A common misconception is that barbels sting if they are touched. While this is not true, catfish have three sharp **spines** (rigid supports) — one in their **dorsal** (back) fin and one in each of the **pectoral** (side) fins — with venomous mucus glands that secrete a painful but not dangerous poison. Handle catfish with care to avoid these spines. The **pelvic** (belly) fins and the **anal** (bottom rear) fin are supported by **rays** (soft, flexible supports). Catfish have an **adipose** (fatty tissue) fin on their backs just in front of the tail. Another distinctive feature of the flathead is a protruding lower lip; the channel catfish’s upper lip protrudes farther than its lower lip.

### CHANNEL CATFISH



flattened head

lower lip protrudes the upper lip

squared caudal fin

### FLATHEAD CATFISH

Figure 1. Some comparisons between channel catfish and flathead catfish.

## Distribution

Catfish are primarily river residents (though channel catfish also live in lakes and ponds) and are most prevalent in the major river systems of southwestern and western Wisconsin. The channel catfish has a wider range and is more abundant in Wisconsin than the flathead. Channel cats are found as far north as the upper St. Croix River and in the St. Louis River, which flows into Lake Superior. Flatheads are at the northern-most reaches of their range in the lower St. Croix. Both species are found in the Mississippi, Wisconsin and Fox rivers and in Lake Winnebago. Channel catfish have also been taken from Green Bay and tributaries of Lake Michigan.

## Habits and habitats

Catfish, especially channels, are more tolerant of turbid water than many game fish, with the exception of bullheads and carp. While they tolerate turbidity, catfish prefer clear, slow-moving water. During the day, both species seek out dark, deep pools, such as those below rock dams, wing dams or below the concrete aprons of larger dams. Pools with submerged logs, rocks or other debris offer prime habitat. These structures disrupt stream flows, creating swirling eddies that maintain the holes and give catfish some shelter from swift river currents.

A flathead, if undisturbed, will often return to the

same spot each day to rest. Flatheads tend to have a **home range** (area within which they remain), rarely traveling more than five miles from their resting spot. Studies have shown that flatheads captured in one location and released in another part of the same river system will return to the spot where they were captured. Channel catfish, on the other hand, don't have strong homing tendencies. They make extensive upstream migrations in spring to spawn and then tend to move downstream throughout the year.

After resting for most of the day, catfish move into shallows and muddy backwaters at night to feed. Young catfish feed primarily on insects, insect larvae and small aquatic zooplankton. As they grow, they also feed on snails, crayfish and small fish. Channel catfish are primarily scavengers, moving along shore feeding on any type of vegetable or animal matter that floats by; but they are also swift swimmers, and larger channel cats may feed heavily on small forage fish. Flatheads feed almost exclusively on live fish. While they will pursue fish, flatheads are known to wait motionless with their mouths wide open for fish to come to them. When a prey fish swims by, the flathead lunges forward and swallows it. Channel cats feed heavily following rains when they search the turbid water with their barbels for food washed into the river. Neither species feeds in the winter, when they congregate in deep pools, settling in the muddy bottom and going into semihibernation.

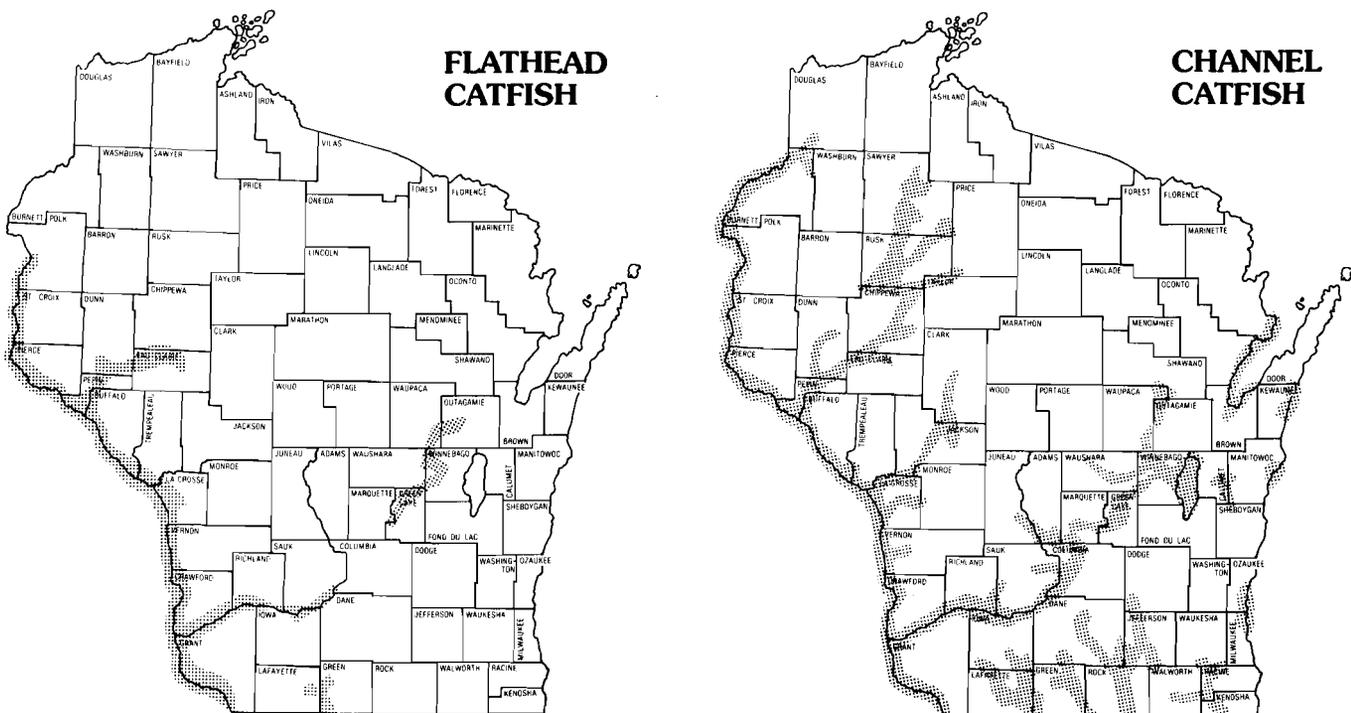


Figure 2. Generalized distribution of catfish in Wisconsin.

## Life cycle

Like a pregnant farm cat that finds an isolated spot in the hay mow to give birth to her kittens, catfish also seek out obscure spots — hollow river banks, rock overhangs and ledges, submerged tree roots and hollow logs — in which to build nests for spawning. Only it is the male catfish that finds the spot. Catfish use a vigorous fanning motion with their tails to clear away debris down to a sand or gravel bottom. They will even use their mouths to remove stubborn obstacles. Catfish spawn from May through July, when the water temperature reaches about 75 degrees Fahrenheit. Channel catfish make extensive upstream excursions to shallower, warmer water in search of prime nesting spots. Flatheads seek out nest spots near their home range. Both the male and female flathead may build the nest, while only the male channel catfish builds a nest.

Prior to spawning, a male flathead will swim adjacent to the female, rubbing against her with his belly and with his barbels. Eventually the male comes to rest on the bottom with his caudal fin encircling the female's head. With bellies touching, the female deposits a gelatinous mass of 30 to 50 eggs at a time, which are then fertilized when the male releases his **milt** (sperm). Spawning may last for several hours, with intermittent breaks, during which the male uses his caudal and pelvic fins and his snout to fluff and arrange the eggs in the nest. The male chases the female away from the nest after spawning and then returns to continue tending the eggs.

Channel cats often engage in biting and mild fighting prior to spawning. Like the flathead, a male channel catfish covers the female's head with his caudal fin and a female may respond by covering the male's head with her caudal fin. Female channel catfish lunge forward as they expel a gelatinous mass of up to 150 eggs at a time. Again, spawning may take several hours and the male will drive away the female when it is over. Male channel catfish also arrange eggs in the nest. Initially the male may ventilate the eggs with his fins as often as every five to ten minutes, although that action decreases with time.

Egg production varies with a female's size and age. Spawns range from 3,000 to 30,000 eggs, with large flathead females producing as many as 100,000 eggs. At optimum temperatures of 75 to 80 degrees, the eggs hatch in six to seven days. Males continue to guard the **fry** (newly hatched fish), herding them together near the nest. The fry absorb their yolk-sacs within several days and then begin to feed on zooplankton and aquatic insect larvae. After leaving the nest, the young catfish form large, black schools that remain in shallow

water for up to a week before dispersing. Catfish fry are vulnerable to predation by many other fish species. As they grow, catfish tend to spread out throughout a river system, and flatheads will even fight among each other to defend resting spots.

Catfish reach sexual maturity at different ages, depending on where they live. Channel catfish mature when they reach about 12 inches, while flatheads don't mature until they reach 15 to 19 inches. In Wisconsin, most channel catfish don't live much past eight years, while flatheads can live from 15 to 25 years. Growth rates vary, depending upon factors such as water and habitat quality. Channel catfish grow rapidly in their first few years of life, while flatheads seem to grow more as they age. Channel catfish grow to a maximum of about 30 inches and 15 pounds, although 20-25 inch channel catfish are more common. Commercial fishermen have reported flathead catfish from the Mississippi as large as 5 feet, weighing up to 100 pounds. Flatheads in the 30 to 40 inch range weighing 20-40 pounds are more common.

	Age (yr.)	Length (in.)
<b>Channel</b>	1	3
	3	9
	5	14.5
	10	26.5
<b>Flathead</b>	1	7.5
	3	16
	5	21
	10	24.5
	15	38
	24	43

## Fishing for catfish

The nocturnal habits that bring catfish out from their daytime hiding places offer anglers the best opportunity to hook one of these bewhiskered fish. But you better not be in a hurry; catfish are not fast eaters. Experienced catfish anglers will head out to their favorite riverbank with a variety of baits. If your goal is to land a giant flathead, forget any bait that's not big and alive. Flathead bait includes suckers, carp, shad, sunfish, bullheads and channel catfish (Fig. 3). To catch a 30 to 40 pound flathead, anglers use live fish that weigh a pound or more. If you're after the more common channel catfish, the list of baits is long and varied. A popular bait on the Wisconsin and Mississippi rivers is the "stink bait," which can be homemade or purchased at bait shops. Stink baits are odorous concoctions of such ingredients as cheese, meat, animal or fowl blood, oats, flour and anise. Channel cats will also hit on strips of fish or meat,

worms and night crawlers, fish or animal entrails, soap, dough balls, frogs, grasshoppers, clams, crayfish tails and the list goes on (Fig.3). Channel catfish will also strike at artificial baits such as plugs, spoons, jigs, spinners and even plastic worms.

The trick to catching catfish is to fish the bottom. That is especially important during the day, when catfish are hiding in a river's deepest holes. Daytime anglers do have success when fishing deep holes, especially those below dams and power plants. Reaching these spots usually requires fishing from boats or bridges. Nighttime anglers have good success fishing from riverbanks or in river backwaters. Many anglers cast out their baits, place the rod in a rod holder or prop it against a log or rock and then move away from the bank to wait for a bite. Wait until the line starts to move, indicating the catfish has completely taken the bait, before setting the hook. Channel catfish fishing is often excellent the first few days after a rain because rainwater washes food into rivers. Flatheads do their most active feeding from May through early June and again from July to September.

Tackle can vary from a simple throw line to heavy-duty rods and reels, depending on the size of cat the angler hopes to bring in. Channel catfish can provide considerable sport on lightweight spincasting outfits. But an angler would probably find such tackle inadequate for bringing in a fish the size of the state record 65-pound flathead taken in 1987 from the Fox River in Winnebago County, or the state record 44-pound channel taken from the Wisconsin River in Columbia County back in 1962. The world record flathead, caught in Kansas in 1998, weighed 123 pounds; the world record channel weighed 58 pounds and was taken from a

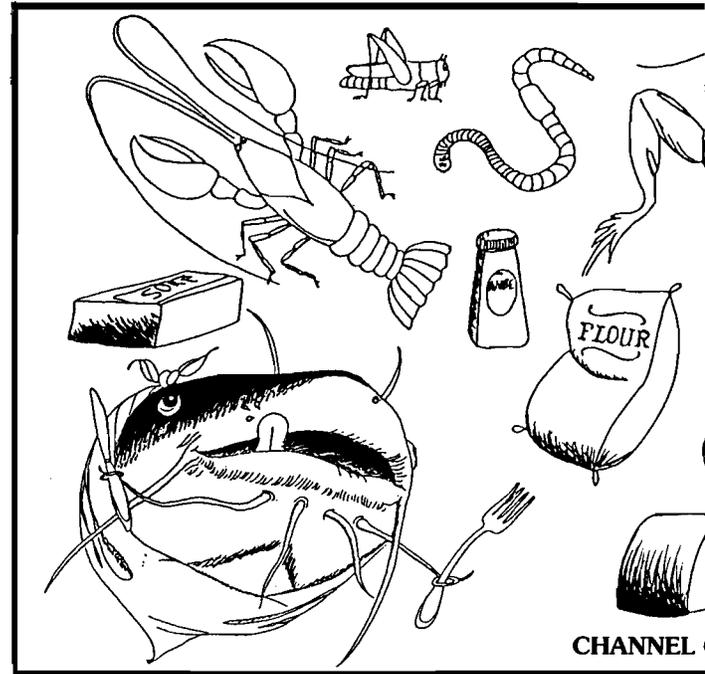


Figure 3. Channel catfish will eat almost anything.

South Carolina reservoir in 1964. Depending upon the bait and area being fished, the rigging can be a simple hook tied right to the line (a heavy bait will float down to the bottom in slow-moving waters) or a bottom rig — a sinker tied to the end of a line, with a hook attached to a leader tied several inches above the sinker — for fishing in fast-moving currents or with light baits.

**Setlines** (specially designed rigs that are set in place with one or more baited hooks), along with nets, are also used for the commercial harvest of catfish in Wisconsin. Catfish are the most valuable commercial fisheries on the upper Mississippi River (Fig. 4).

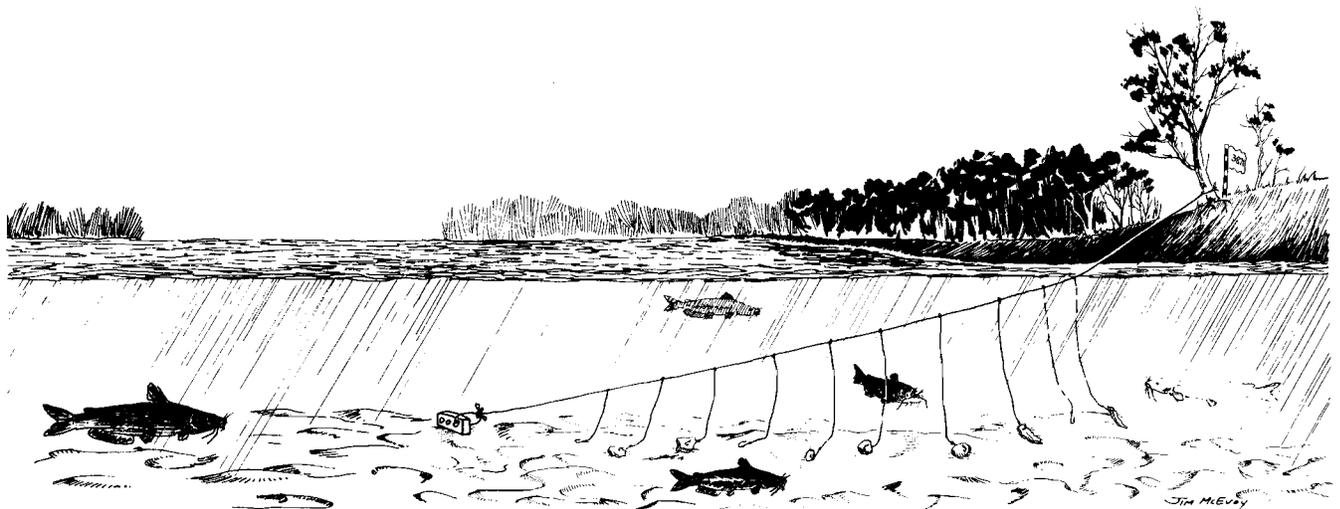
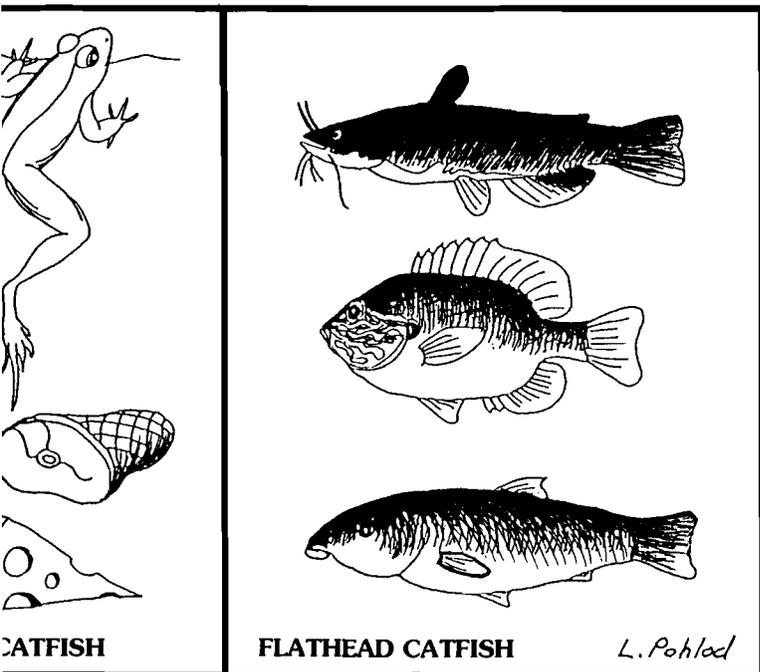


Figure 4. Setlines are often used to catch catfish. Specific regulations govern their use.



ng (left), while flathead catfish prefer live fish (right).

To the surprise of many people, catfish meat is white, crisp and juicy. Some anglers shun catfish because of the thick, tough skin. The skin can be removed relatively easy by making an incision around the catfish's head and down its belly. Grab the skin with a pliers and pull it down toward the tail (Fig. 5). Catfish can be filleted or cut into steaks. Breading and deep frying is a popular method of preparing catfish, but they can also be pan fried, broiled, grilled or stewed.

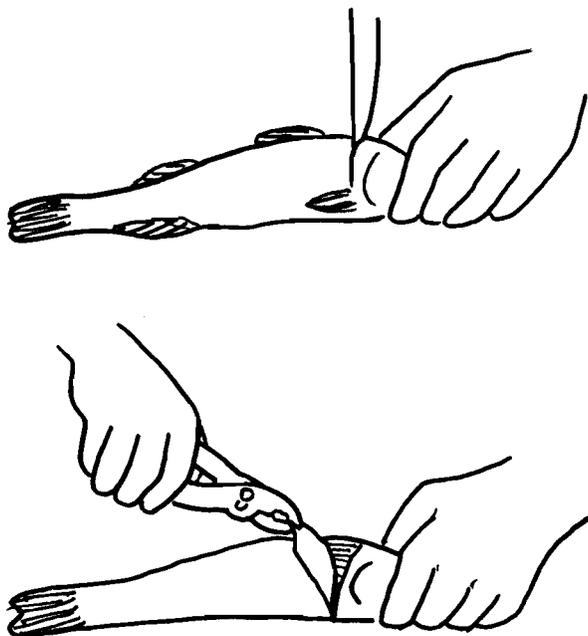


Figure 5. Catfish skin can be removed easily with a pliers.

## Management

Life on the Mississippi has changed dramatically for catfish since the days of steamboats. Heavy commercial barge traffic requires constant maintenance of a main channel in the river. To help determine how that activity affects catfish, Department of Natural Resources fish biologists have conducted several studies tracking catfish implanted with radio transmitters. These studies helped show the importance to catfish of deep pools and structures within the river system.

Fish managers are also studying whether catfish introduced to waters with stunted (reduced growth do to overcrowding) panfish populations will be successful enough predators to lower panfish populations and reduce stunting problems.

Catfish are protected by daily bag limits. Check current Wisconsin Hook and Line Fishing Regulations for limits.

## Environmental concerns

Catfish are oily fish with a high fat content. Because catfish live on the bottoms of our major river systems, they are exposed to pollutants such as PCBs (polychlorinated biphenyls) and pesticides that may accumulate in river sediment. Such toxins can accumulate in fat. As a result, large catfish (generally those over 21 inches) from some waters may harbor high levels of pesticides or other toxins in their bodies. Anyone catching catfish for food should consult the Fish Consumption Advisory published by the Department of Natural Resources every six months. The advisory lists rivers and lakes containing catfish unsafe to eat.

## Additional reading

- Becker, George C., **Fishes of Wisconsin**, University of Wisconsin Press, Madison, 1983
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- Scott, W.B. and E. J. Crossman, **Freshwater Fishes of Canada**, Bulletin 184, Fisheries Research Board of Canada, Ottawa, 1973