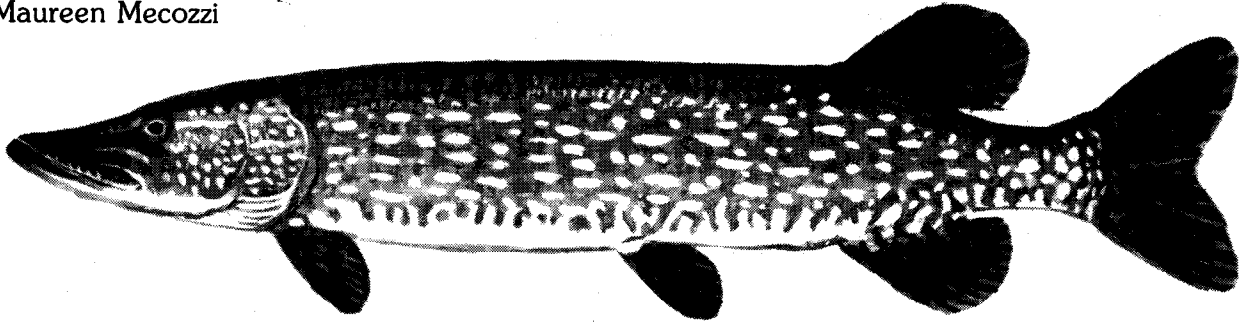


NORTHERN PIKE

(*Esox lucius*)

By Maureen Mecozzi



Common Names

Northern, Great Lakes northern pike, pickerel, jackfish, common northern pike, snake, snake pickerel.

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

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"They are mere machines for the assimilation of other organisms."

— George Brown Goode,
Natural History of Useful Aquatic Animals,
1884

With the exception of *Homo sapiens*, there is perhaps no other species so dedicated to gluttony as *Esox lucius*, the northern pike. Wisconsin's second largest predator fish (the muskellunge, a close relative of the northern, is first), the northern pike is a voracious feeder that finds most creatures — even squirrels and sandpipers — fair game.

Anglers have a special affinity for northern pike. This most accomodating of fish bites readily during the daylight hours, sparing those in pursuit of fishing thrills the agony of rising before dawn. Northern pike are far less wary than muskellunge: on average, it takes about eight hours of fishing to

hook a northern, while anglers must log nearly 100 hours on the water to get a glimpse of a muskellunge.

Some biologists believe that the small size of the northern pike's brain (1/1305 of its body weight) accounts for its lack of concern about predators. Others insist that because they are equipped with such a fine set of teeth, northern pike needn't fear anything that swims, flies, or walks. In fact, the greatest threat of predation for northern pike comes from the species that casts: Anglers rate the northern pike as one of the top gamefish in the state and pursue this fighting fish with gusto.

Identification

Like its relative the muskellunge, the northern pike is a hard-muscled, tube-shaped fish with an elongated body and a flat, duckbill snout. With its **dorsal** (on the back) and **anal** (behind the anus) **fins** set close to the **caudal** (tail) **fin**, the streamlined northern pike is capable of cutting through the water at speeds of 8-10 miles per hour as it seeks to devour nearby prey with its formidable teeth.

The northern pike's teeth are the stuff of legend. The **canines** (conical, pointed teeth) that ring the wide lower jaw and the short, sharp brushlike teeth that line the roof of the northern pike's mouth and tongue spell instant death to unwary prey.

The back, head and upper sides of the northern pike range in color from light to dark olive green — and northern pike are the only members of the northern pike family with light, bean-shaped markings that run the length of the body in horizontal rows. Their pearly-white bellies contrast sharply with their orange-yellow, tiger-striped fins. The caudal fin is moderately forked and the tips of all the northern pike's fins are rounded.

The northern pike is easily distinguished from the muskellunge by its bean-shaped markings, rounded fins and scales that cover the whole cheek and the upper half of the **operculum** (gill cover). Northern pike have five to seven pores on each side of the lower jaw, while muskellunge have six to nine (Fig. 1).

A cross of northern pike males and muskellunge females produces a hybrid known as the tiger muskellunge. "Tigers" have irregular light vertical bands on a dark background; rounded caudal,

pectoral (on the side behind the gills) and **pelvic** (on the belly) **fins**; five to seven pores on each side of the lower jaw; and fully or partially scaled cheeks and partially scaled operculums.

Several Wisconsin lakes are home to the rare silver pike — a solid silver or gray mutant that has the same physical features as the northern pike but lacks the distinctive northern pike coloring and markings.

Distribution

The northern pike is widely distributed throughout Wisconsin (except in the unglaciated southwest, where it is sparsely dispersed in large river systems and impoundments) and can be found in the waters that drain into lakes Michigan and Superior and the Mississippi River (Fig. 2). The fish is rarely hooked in the southeastern waters of the state, however, where populations are seriously depressed from fishing pressure and disruption of habitat — a sad fact, considering that one of the larger cities in the area, Kenosha, got its name from the Native American word for northern pike: "Kinoje" or "Ke-no-shay."

Northern pike are popular with anglers because they put up a good fight and are relatively easy to catch — and each year, about 50% of the northern pike population present at the beginning of the season will wind up on the end of a hook. To offer continued opportunities for good northern pike fishing, the Department of Natural Resources annually stocks 10 to 20 million northern pike **fry** (newborn fish) and 25,000 to 60,000 northern pike fingerlings (6-10 inches) in Wisconsin waters.

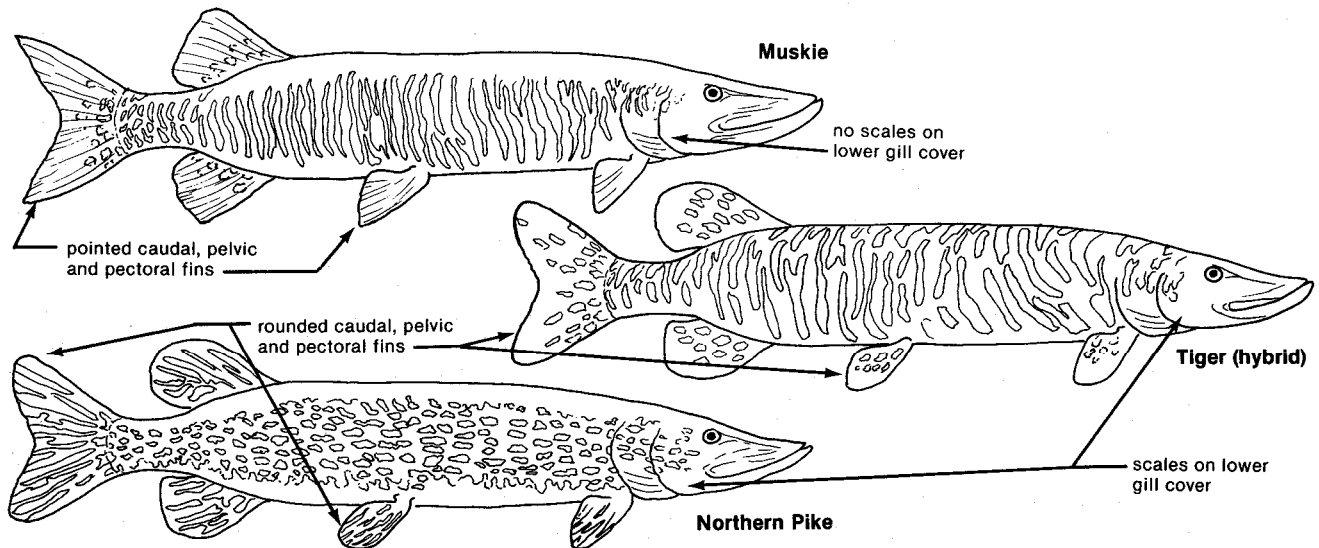


Fig. 1. Comparison between muskellunge and northern pike.

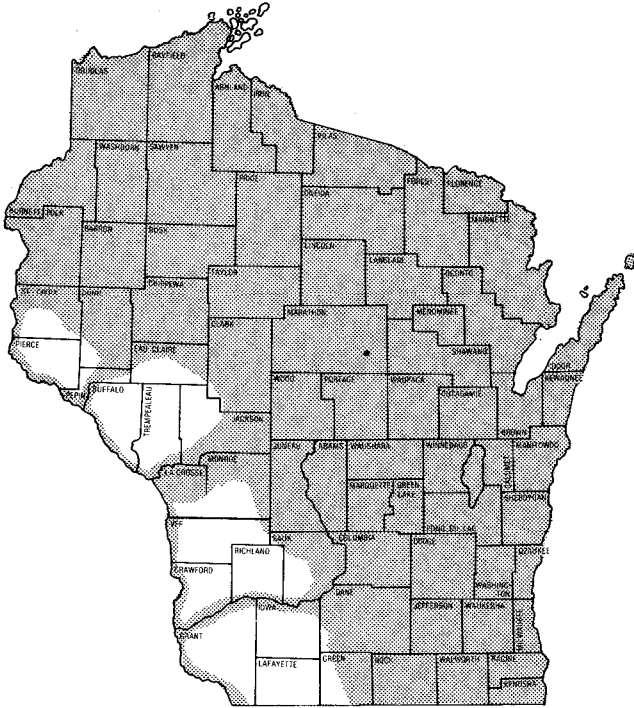


Fig. 2. Generalized distribution of Northern Pike in Wisconsin.

Habits and Habitat

Northern pike prefer shallow, cool water and are most abundant in shallow lakes with extensive weed beds. As lake waters warm during summer, northern pike often seek cooler waters near inlet streams or springs; in deep lakes, large northern pike can be found beating the heat in the cooler depths near the bottom. They aren't called "northern pike" for nothing: this species is most active in cold water, and northern pike are caught more easily in winter than in summer. The hardy northern pike tolerates low oxygen levels and is less often a victim of **winterkill** (low oxygen and/or low temperature) conditions than other game fish.

This secretive predator feeds by sight, lurking alone amid weed beds until unsuspecting prey swims by, then lunging out from under cover and snatching the prey with its powerful jaws. The size of the northern pike's prey — perch or sucker, frog or shrew — is important: Northern pike have been known to choke on prey too large to swallow. Larger northern pike will also eat smaller northern pike. In short, the northern pike is a carnivore capable of eating any living vertebrate that can fit down its gullet.

Because northern pike bite less frequently in the "dog days" of summer, some anglers assume northern pike shed all of their teeth at that time each year. Careful observation has shown that the teeth are not shed entirely at any one time; rather, worn-out or broken teeth are replaced as they are lost by new teeth, which grow alongside the old ones. With food supplies at a peak in August, the northern pike is generally well-fed and less inclined to bite; the fish also seek cooler, deeper waters in very hot weather and consequently are harder to reach.

Life cycle

Northern pike begin to spawn as soon as the ice begins to break up in the spring, in late March or early April. The fish migrate to their spawning areas late at night and the males will congregate there for a few days before spawning actually begins.

Marshes with grasses, sedges, rushes or aquatic plants and flooded wetlands are prime spawning habitat for northern pike. Mature females move into flooded areas where the water is 12 or less inches deep, followed by a "spawning group" of one to three males. The males curve their caudal fins and slap them against the female as she sheds her eggs and they release their **milt** (sperm). From 5 to 60 eggs will be released in each spawning act, which lasts from 3 to 10 seconds and will be repeated about once a minute for an hour or more. Many northern pike are injured by the vigorous fin slapping action; some die shortly after spawning is completed.

Due to predation by insects and other fish — including the northern pike itself — the number of eggs and fry will be reduced over 99% in the months that follow spawning, leaving only a fraction to survive to fall.

The eggs hatch in 12 to 14 days, depending on water temperature, and the fry begin feeding on **zooplankton** (microscopic aquatic animals) when they are about 10 days old. Small fish — darters, minnows, bass and perch juveniles — become part of the northern pike's diet when it reaches fingerling size; as the insatiable young fish grows, it will require five to six pounds of food for every pound of body weight it gains.

Northern pike grow most rapidly during the first two years of life, although the rate of growth will vary from lake to lake. Males may mature in 1 year, always in 2, with an average length of 16 to 18 inches; females may mature in 2 years, always in 3, at about 20 to 22 inches (Fig. 3). Northern

pike usually live about 7 years, although there have been reports of individuals surviving for 25 years in nature and 75 years in captivity.

Age (years)	Length (inches)
1	10
2	18
3	25
4	28
5	32
6	35
7	37

Northern pike fingerlings fall prey to aquatic mammals, waterfowl and diving birds, and many other fishes; the mortality rate is high. Yet those that survive do a more-than-credible job of avenging those casualties by swimming to the top of the aquatic food chain, where they dominate all other species — muskellunge included.

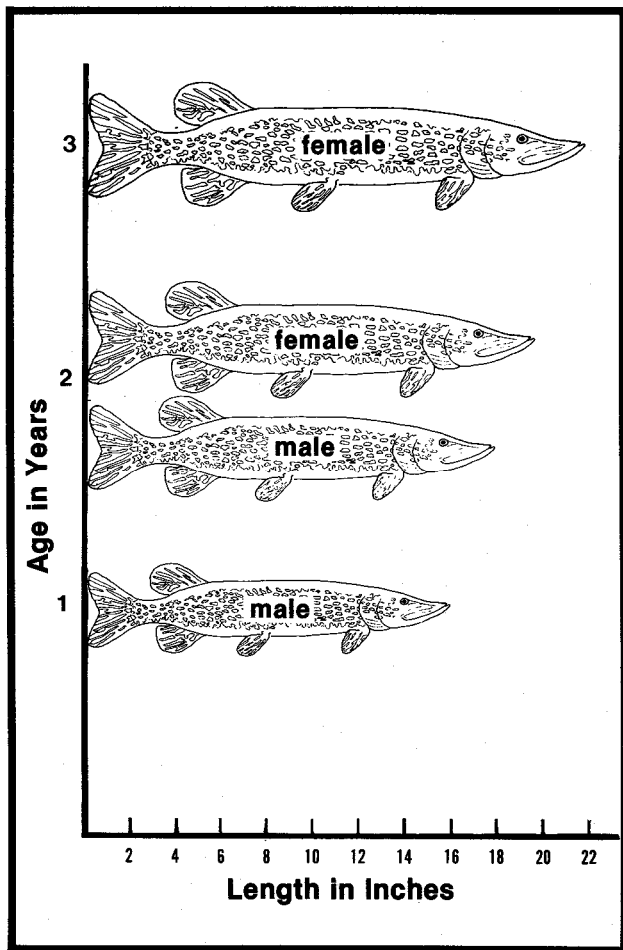


Fig. 3. Comparison between males and females at maturity.

Fishing for northern pike

There was a story going around way back when about a 19-foot, 550-pound, 267-year-old northern pike hauled out of a lake in Wurttemberg, Germany in 1497. The skeleton of this monster, preserved in the Cathedral of Mannheim, was later found to contain vertebrae from several fish. But the Mannheim Hoax, as the story came to be called, has since fueled countless tales about northern pike bigger than Moby Dick just waiting to get a piece of some fool angler's bait (and a piece of the fool angler as well.)

As fish stories go, this one is a considerable distance from the truth. Wisconsin's record northern pike was a 38-pounder hooked in Lake Puckaway in 1952; the national record is held by a 46-pound northern pike caught in a New York reservoir in 1940. Northern pike weighing 50 pounds and more have been caught in Europe within the past 15 years. Common northern pike catches in Wisconsin, however, are in the 18-20 inch, two-pound range — by Mannheim standards, hardly worth putting on a cracker.

The northern pike angler, then, is advised to leave the harpoon at home and come equipped with a sturdy rod; medium-weight line with a wire leader (to avoid severing a line on the northern pike's sharp teeth); a full complement of spoon-type lures, streamer flies, and other bait impostors (Fig. 4); bobbers; and, if live bait is preferred, small suckers and chubs up to 8 inches in length. Tip-ups rigged so the fish can run with the bait work well during the ice fishing season.

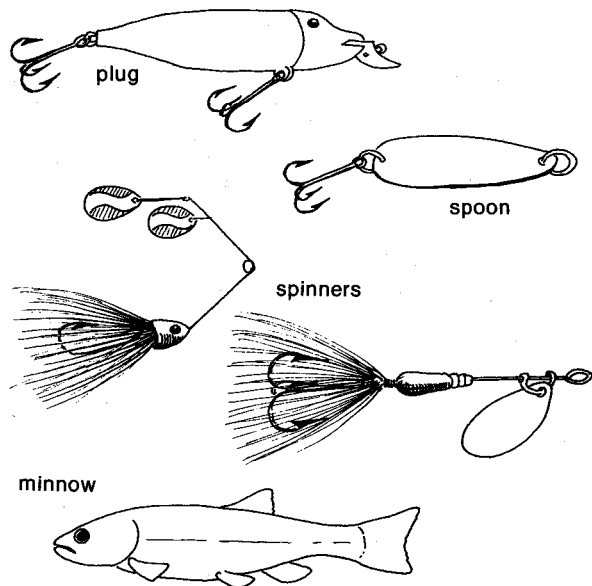


Fig. 4. Examples of baits and lures.

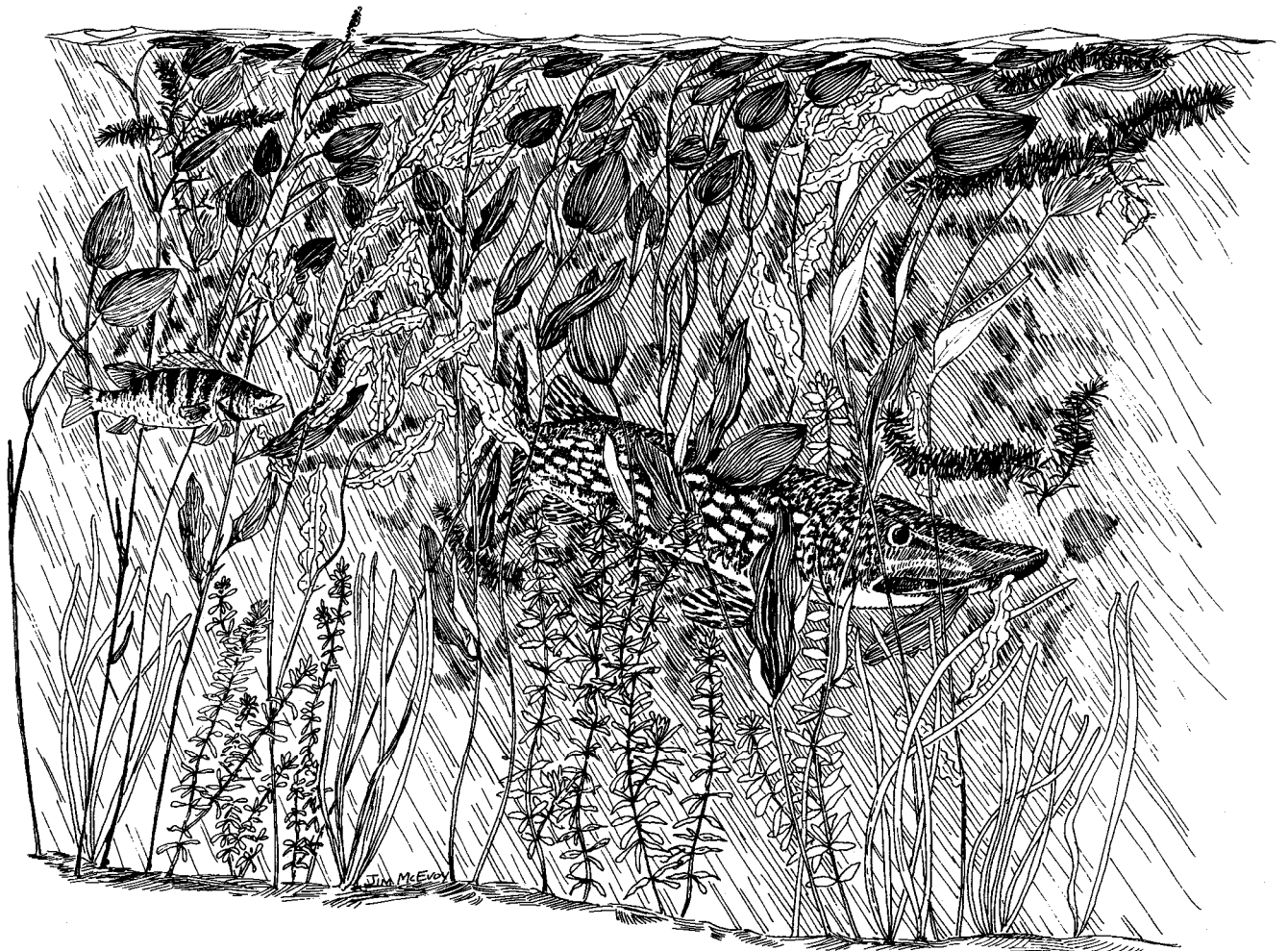
Fish for northern pike in marshy areas or weed beds when the water is cool — the best times are late spring and early summer, late summer and early fall, and in winter soon after the ice forms. If you're hoping to hook a northern when the water is warm, fish the cool depths. Northern pike feed by sight and bite best during the daylight hours; keep the bait moving and you're sure to get a strike.

After a northern pike takes the bait, it will usually run a short distance, then swallow the bait. When using minnows, anglers should wait for this to happen before they set the hook. A northern pike may strike a lure repeatedly, or follow a lure right to the boat before charging.

Once hooked, the stubborn northern pike will challenge the angler by thrashing unseen down in the depths, then lying still on the bottom for long periods of time. Just as the angler becomes convinced that what he or she hooked was nothing more than a lively old boot, the northern

pike will pull mightily on the line, careening around submerged obstacles like a fish on the way to victory in an aquatic Grand Prix.

Tangling with a northern pike is such a pleasure that many anglers prefer to "catch and release" — catch the fish, then let it go, so it may be caught again another day, perhaps to become the subject of the next Mannheim Hoax. To catch and release, don't land the fish; reel it in next to the side of the boat and remove the hook as gently as possible with pliers, or cut the hook off with a wire cutter. When you catch and release, it's especially important to use quick-strike rigs (Fig. 5), and not let the fish completely swallow the bait. The northern pike may swallow the hook so deeply that you will not be able to retrieve it without killing the fish. The best thing to do under this circumstance is to cut the line and leave the hook inside the fish — it will disintegrate eventually and cause no harm to the fish.



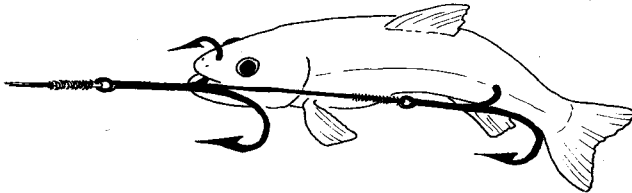
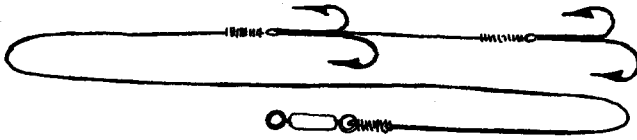


Fig. 5. Quick-strike rig and how to attach a minnow.

Trophy specimens to be mounted should be frozen as soon as possible. On the plate, skinned and broiled or fried northern pike flesh is tasty, white and firm, but has lots of Y-shaped bones that are difficult to remove, especially if the fish is small. (You'll find detailed filleting instructions in DNR publication FM-401 85, "How to Prepare Boneless Northern Pike Fillets.") A caution before you bite on the northern pike that bit your bait: Some larger, older northern pike are contaminated with PCBs (polychlorinated biphenyls), pesticides and mercury. Predators at the top of the food chain, northern pike accumulate toxins in their bodies as they feed on smaller fish which contain trace amounts of contaminants. Anglers should be aware that DNR publishes a Fish Consumption Advisory every six months listing waters that contain northern pike unsafe to eat.

Environmental concerns

Destruction of spawning habitat is the greatest danger facing Wisconsin's northern pike populations. The DNR purchases wetlands and marshes when possible to protect and preserve northern pike spawning habitat.

This important predator is a key to maintaining the balance of other fish populations in Wisconsin waters. However, in many lakes that were formerly muskellunge waters, the more aggressive northern pike has become the dominant species.

For information on bag limits, legal size and seasons for northern pike, pick up a copy of Wisconsin's fishing regulations at the nearest DNR office.

Additional reading

Becker, George C. **Fishes of Wisconsin**, University of Wisconsin Press, Madison, 1983.

Bergh, Kit, **Northern Pike Fishing: The Angler's Complete Handbook**, Dillon Press, Inc., Minneapolis, 1977.

McClane's **New Standard Fishing Encyclopedia and International Angling Guide**, Holt, Rinehart, and Winston, New York, 1974.

"How to Prepare Boneless Northern Pike," Wisconsin Department of Natural Resources, publication FM-401 85.