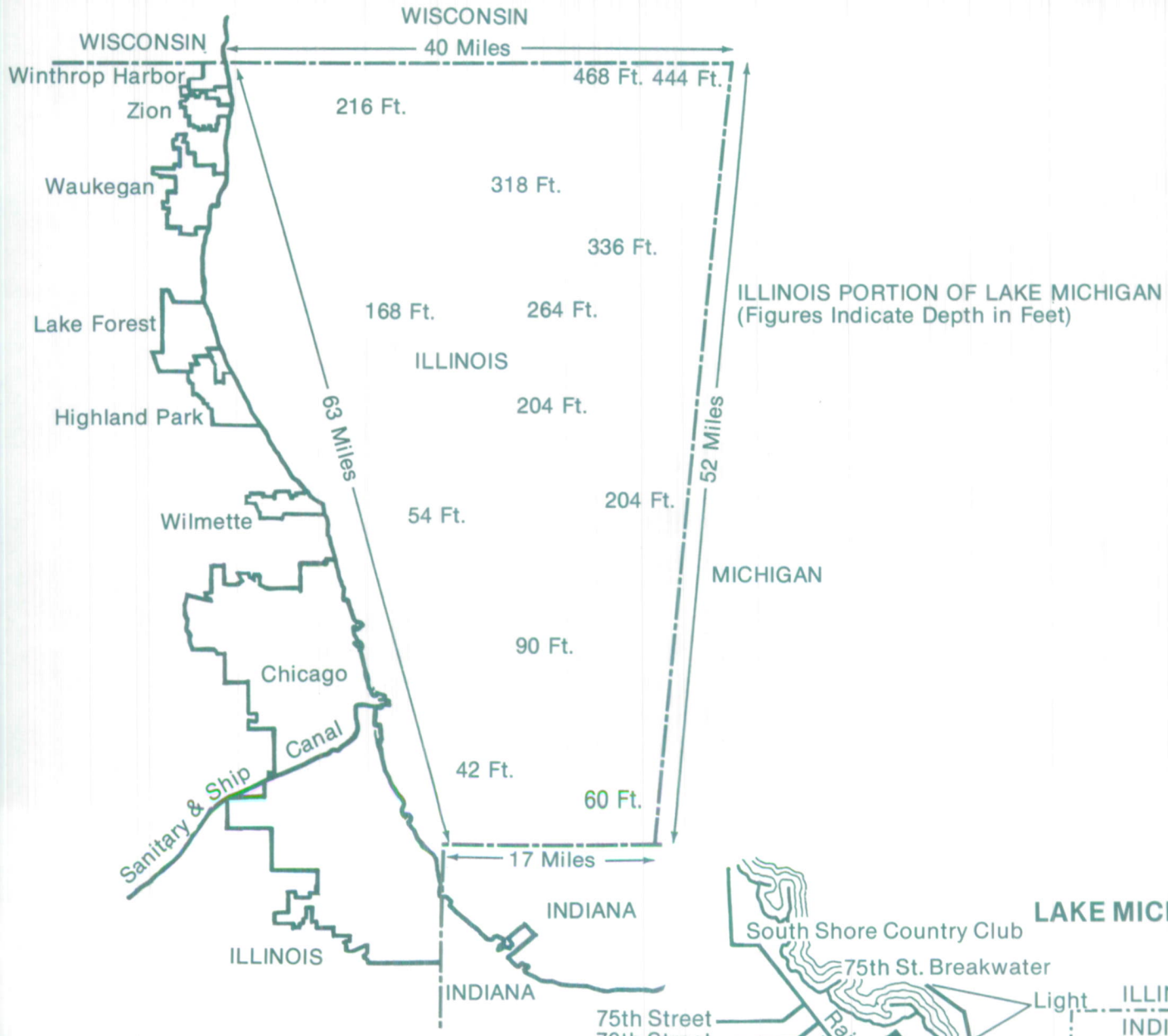
FISHING LAKE MICHIGAN

Illinois
Department of
Natural Resources

FISHING REGULATIONS IN THIS PUBLICATION
ARE SUBJECT TO CHANGE


WISCONSIN
WISCONSIN
40 Miles
Winthrop Harbor
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Waukegan
Lake Forest
Highland Park
Wilmette
Chicago
Sanitary & Ship Canal
ILLINOIS
INDIANA
INDIANA
17 Miles
63 Miles
52 Miles
468 Ft. 444 Ft.
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168 Ft.
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204 Ft.
204 Ft.
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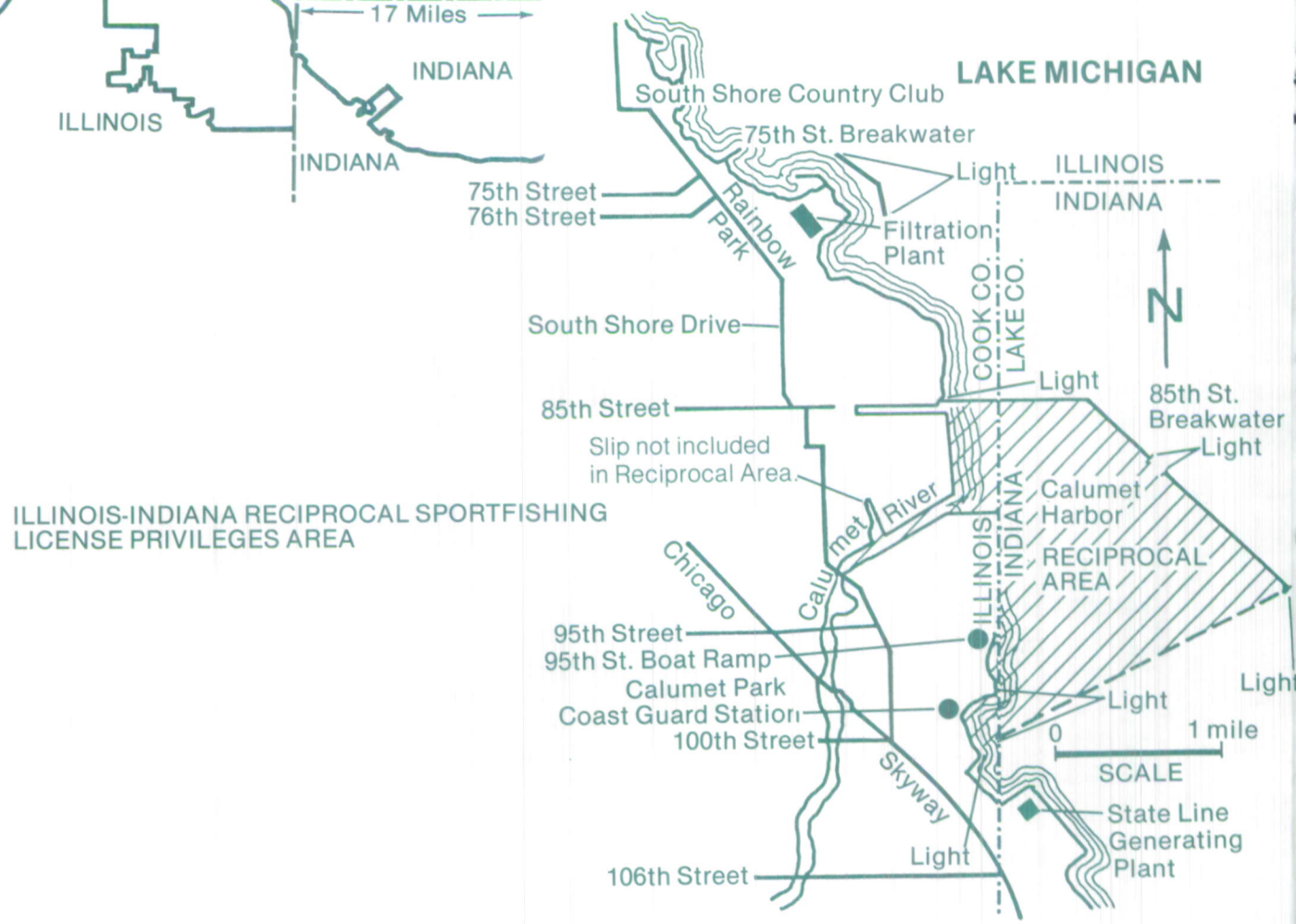
ILLINOIS
MICHIGAN
ILLINOIS PORTION OF LAKE MICHIGAN
(Figures Indicate Depth in Feet)


LAKE MICHIGAN
South Shore Country Club
75th St. Breakwater
Light
ILLINOIS
INDIANA
75th Street
76th Street
Rainbow Park
Filtration Plant
COOK CO.
LAKE CO.
N
South Shore Drive
Light
85th St. Breakwater
Light
85th Street
Slip not included in Reciprocal Area
Calumet River
Calumet Harbor
ILLINOIS
INDIANA
RECIPROCAL AREA
ILLINOIS-INDIANA RECIPROCAL SPORTFISHING LICENSE PRIVILEGES AREA
Chicago
95th Street
95th St. Boat Ramp
Calumet Park
Coast Guard Station
100th Street
Light
Light
0
1 mile
SCALE
Skyway
State Line Generating Plant
Light
106th Street

ILLINOIS DEPARTMENT OF NATURAL RESOURCES
DIVISION OF FISHERIES

FISHING LAKE MICHIGAN

by
Tom Trudeau
and
Richard Hess
Lake Michigan Biologists

Revised: April 1998

INTRODUCTION

Lake Michigan is the largest lake in Illinois and is well situated to provide fishing opportunities for the Chicago metropolitan area. Sea lamprey control, regulation of commercial fishing and an aggressive stocking program have restored the sport fishery in Lake Michigan. With its diverse sport fishery and accessibility to many Illinois citizens, Lake Michigan is a most valuable natural resource. Approximately 500,000 anglers utilize the Illinois portion of the lake each year and there are about 135 licensed charter boat operators.

DESCRIPTION OF LAKE MICHIGAN

Lake Michigan is the sixth largest lake in the world and is the only one of the Great Lakes that lies entirely within the boundaries of the United States.

Lake Michigan is approximately 307 miles long and has a maximum width of 118 miles. Its surface area is 22,400 square miles (14,336,000 acres). The mean depth is 276 feet and the maximum depth is 923 feet. Water temperatures tend to be homothermos except during the summer months when thermal stratification normally prevails and is most pronounced. The lake has a relatively smooth, gently sloping bottom in its southern third and an irregular bottom with extensive reef systems and a number of islands in the northern two-thirds. Green Bay, in then northwestern part of the lake, is 118 miles long and averages 23 miles in width.

Illinois has jurisdiction over 976,640 acres (7%) of the Lake and only 63 miles (4%) of the total shoreline but has about 65% of the population of the four states bordering Lake Michigan. Illinois has no permanent streams discharging into Lake Michigan.

Lake Michigan's waters and its biota are generally typical of North American oligotrophic (infertile) lakes. The original species in Lake Michigan included, among other species, 10 species of whitefish, ciscoes and chubs and the lake trout. Some of the species have become rare or extinct and several other fish species have been introduced.

Native species such as the lake sturgeon and lake herring have become rare in the lake. Five of the original seven species of chubs are considered to be extinct with only the bloater chub being abundant. Lake trout were devastated by the sea lamprey with collapse of the fishery occurring in the early 1950's. Heavy commercial exploitation may have accelerated that collapse. Lake trout have once again become abundant through extensive sea lamprey control and annual plantings of young trout. Fish that were introduced accidentally include the alewife, sea lamprey and smelt, three species that caused considerable change in the original fish population. Since the late 1980's other exotic species, such as white perch, zebra mussel and round gobies have been discovered in the Illinois portion of the lake.

Intentional species introductions include the coho, chinook and Atlantic salmon, and the brown and rainbow (steelhead) trout. Pink salmon released into Lake Superior have also been reported in the Illinois portion of Lake Michigan. Brook trout are native to streams and coastal areas in the northern part of the lake.

The major species taken by Illinois anglers include: yellow perch, smelt, coho and chinook salmon, rainbow (steelhead), lake and brown trout.

A commercial gill net fishery exists for bloater chub, though highly regulated through catch quotas, limited entry, restricted gear and fishing areas. Producing food is still important in the lake even though the taking of trout and salmon by commercial fishers is prohibited. Restoration of a self-sustaining lake trout population and control of the alewife population through annual stockings of trout and salmon is a major part of the overall lake management program. Successful control of the sea lamprey population, primarily through lampricide applications and barrier dams, along with efforts to further reduce sources of pollution and contaminants entering the lake are also management strategies being effectuated lakewide.

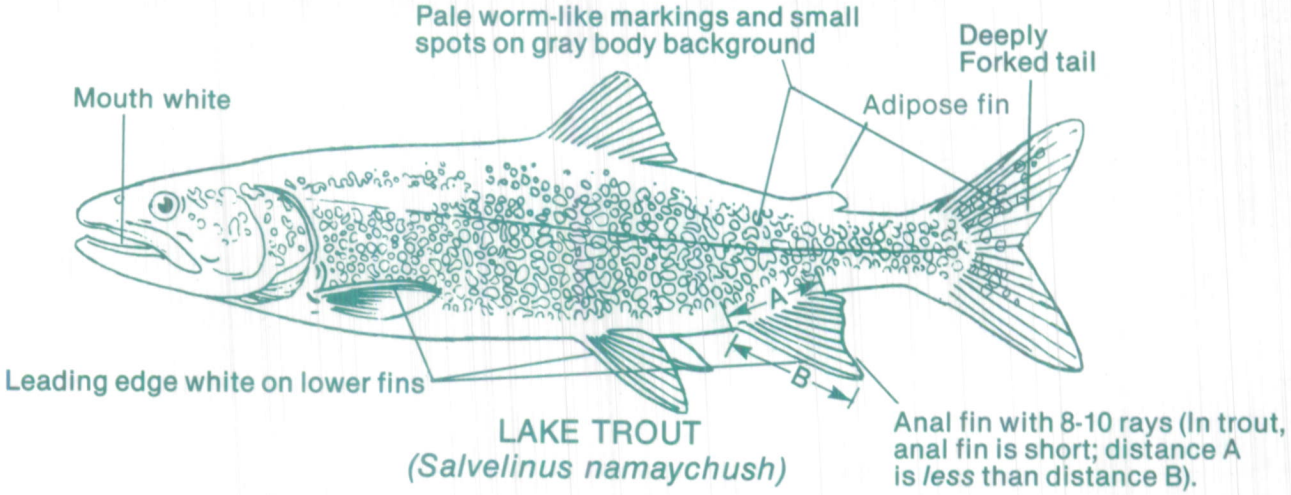
IDENTIFYING FEATURES OF THE SALMONIDS

Salmonids of Lake Michigan include both trout and salmon, all belonging to the same family of fishes (*Salmonidae* — trouts). Several of these species look very much alike and anglers will have to examine them closely for specific characteristics in order to tell one species from another. The angler should keep in mind that all fish of a single species may not have identical coloration or markings. The best external characteristics that anglers can rely upon are the shape of the anal fin, the number of rays in the anal fin, and gum and mouth color. A diagram of the entire fish is given to show the location and name of the various external characters, in each species. Sometimes salmon require the examination of internal organs (intestinal appendices) to verify species.

THE SPORT FISHERY

TROUT AND SALMON (Salmonids)

The salmonids include the lake trout, chinook salmon, coho salmon, pink salmon, rainbow (steelhead) trout, brown trout, brook trout and Atlantic salmon. Each of these species is pictured and described in the following section. Boat fishing methods for most salmonids are similar and are discussed in a later section.



LAKE TROUT
(Salvelinus namaychush)

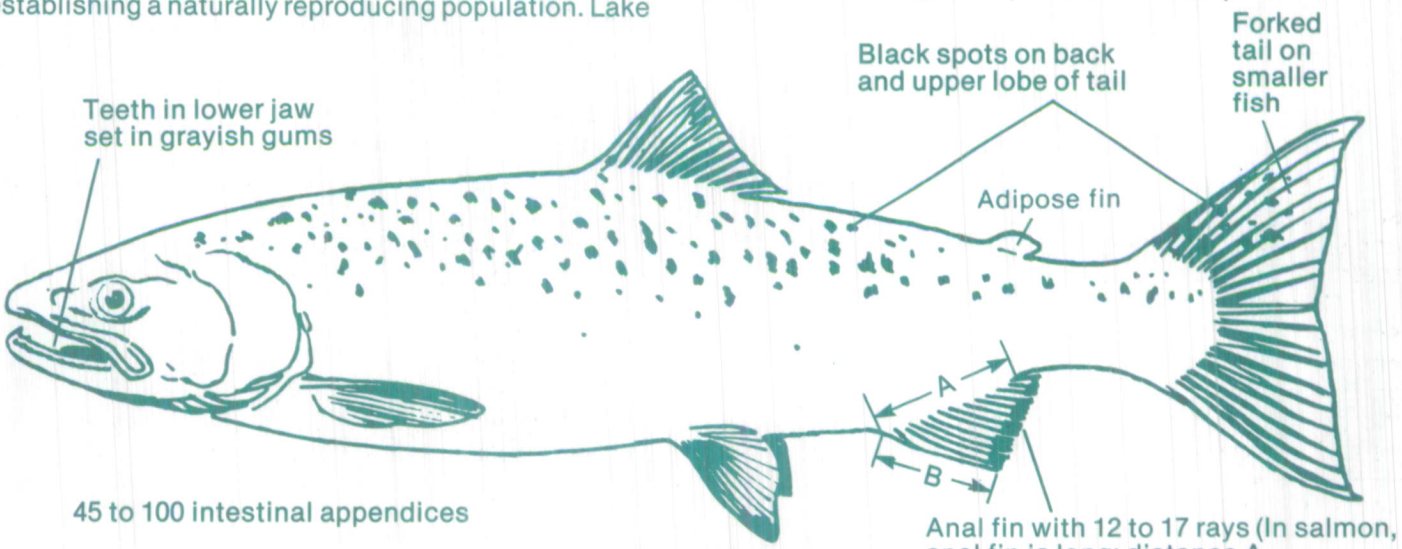
The lake trout also known as laker, can be distinguished by its white mouth, irregular whitish spots on the back and sides, deeply forked tail and a white leading edge on the lower fins.

The food of adult lake trout consists of fish, insects and small invertebrates. Sexually mature adults weigh 6 to 7 pounds at about 6 years of age. Lake trout may live 20 years or longer and attain weights of 30 pounds or more. They are usually found on the bottom between depths of 90 to 250 feet, but may be found at lesser depths when the water temperature is near 48°F. Generally, lake trout are caught only from boats in Illinois.

The lake trout in Lake Michigan have been maintained by an annual stocking program since 1965 by the U.S. Fish and Wildlife Service, with hopes of reestablishing a naturally reproducing population. Lake trout disappeared in Lake Michigan in the early 1950s due to the ravages of the sea lamprey and an intensive commercial fishery.

During the spring months, lake trout can be taken in the upper layers of warmer water, but as the season progresses and water temperatures go above 48°F., lake trout are normally taken near the bottom. During the summer months (July-September) they tend to occur near the bottom where temperatures are between 45° and 50°F. During the fall months mature lake trout move into shallow waters and reef areas in search of spawning areas.

Shiny metal spoons are successful lake trout lures when fished properly. Certain salmon lures and flies in combination with a dodger also are effective. Lake trout feed on alewives, smelt, chubs and sculpins.



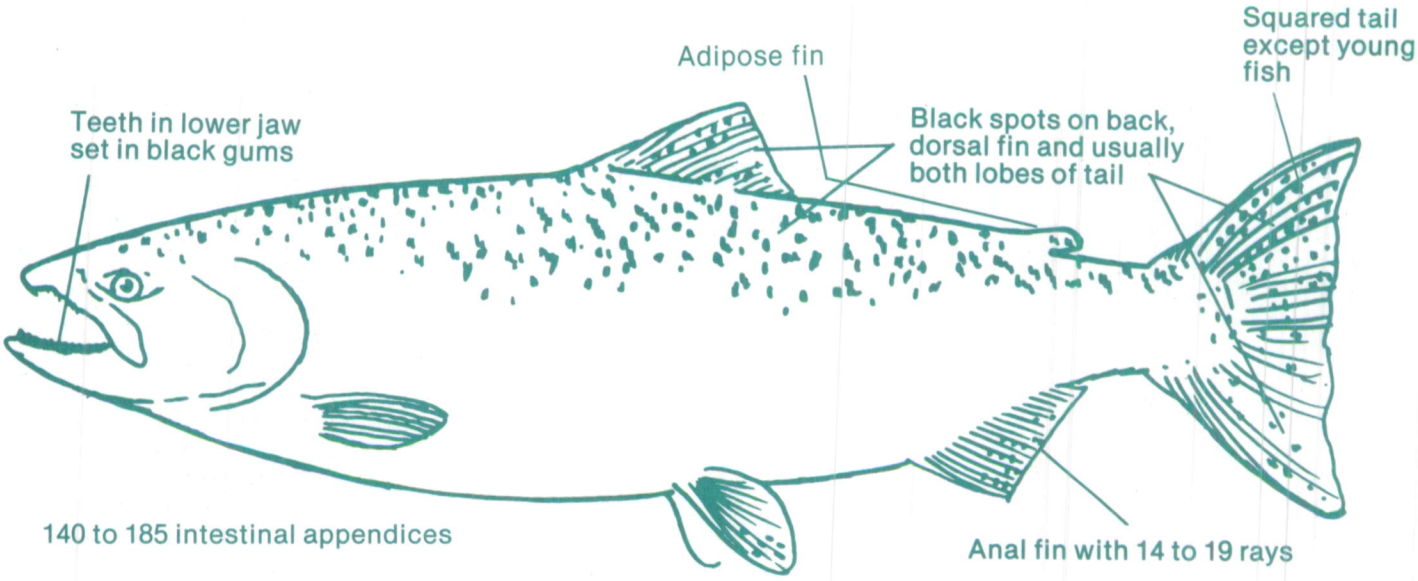
COHO SALMON
(Oncorhynchus kisutch)

The coho salmon, also known as the silver salmon, can be distinguished by the fine dark spots on the back and upper lobe of the tail fin, the long anal fin and gray gums.

Coho feed primarily on alewives, smelt and other small fish. Adult coho spawn during the fall in riffle areas of streams in redds (nests of gravel) which the females construct. After spawning is completed they die. Normally, coho have a three year life cycle; however, a few males will return to spawn at two years of age and are known as "jacks." Occasionally some coho may live to the age of four; these fish are the 20 pound coho that are caught infrequently in Lake Michigan. The average mature fall coho salmon will weigh 5 to 6 pounds before spawning.

Up to 75% of the salmonids caught annually in the Illinois portion of Lake Michigan are coho salmon. Because this species dies after spawning and the recruitment from stream spawning is very limited, an annual stocking program is necessary. In Illinois coho are reared in an accelerated fashion and in 6 months are stocked as 5-6 inch long fish in the spring. Due to the lack of clean, cool streams salmon do not reproduce in Illinois.

Shoreline fishermen are generally successful fishing for this species in the spring, using power lines and pole and line baited with nitecrawlers, small alewives or strips of larger alewives and small spoons. Snagging for mature coho is permitted in selected locations during the fall months. Trolling offshore in April, May and June is most productive when using spoons, plugs, spinners and flies and squids preceded by dodgers. Even whole alewife and smelt can be successful when trolled. Coho prefer temperatures in the mid 50's°F. and generally are found nearer the surface than chinook. Above 60°F. coho tend to go deeper or lakeward in finding their preferred temperature. Coho may be found in water temperatures from 45° to 60°F., with a peak feeding temperature at 54°F.



CHINOOK SALMON
(Oncorhynchus tschawytscha)

The chinook salmon is also known as the king salmon. It is distinguished by dark spotting on the back and usually on both lobes of the tail, a long anal fin and teeth set in black gums.

Chinook feed primarily on fish such as alewives and smelt. Most chinook have a four-year life span. Mature chinook spawn similarly to coho salmon, then die. A portion of a year class of chinooks may return before the normal four years to spawn. A summary of this behavior and their size at sexual maturity follows:

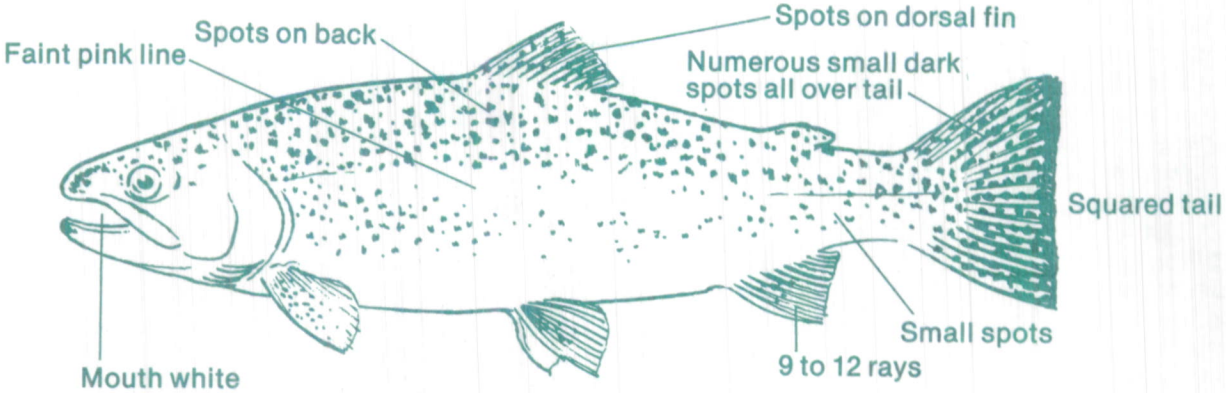
Age	Composition of 'Run'	Average size at Maturity
II	Males mostly	4 lbs.
III	Males and females	8 lbs.
IV	Males and females	15 lbs.

Some chinook may live longer than 4 years and reach 40 pounds or more.

The elusive chinook is typically found in deep water except when it starts its fall spawning run into rivers and/or harbors. For this reason the bank fishermen's catch of the chinook is restricted to early fall, casting with lures and snagging during the latter fall period. The chinook run usually peaks before the coho run.

The chinook fishery is maintained by annual stocking because it does not reproduce in adequate numbers in Lake Michigan tributaries. Chinook spend about 6 months in the hatchery until they are stocked as 2-3 inch long fingerlings each spring.

Chinook tend to prefer water temperatures in the mid 50's°F. and seem to be more light sensitive and harder to catch than coho. Chinook are active in water temperatures from 45° to 60°F. with a peak feeding temperature at 54°F.



RAINBOW (Steelhead) TROUT

(Oncorhynchus mykiss)

The rainbow trout is distinguished by its white mouth, black spots on the back and entire tail and its 12 or fewer anal fin rays.

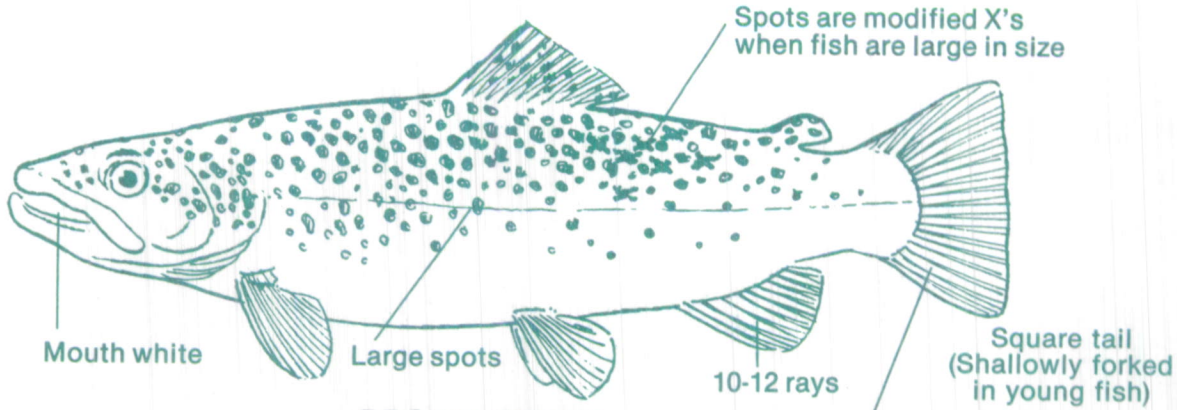
The rainbow and the steelhead are the same species, differing only in spawning behavior. The rainbow spends its entire life in streams, whereas the steelhead is anadromous in that it migrates to a stream to spawn after living in the ocean or a large lake.

Rainbow trout feed on insects and fish. Many spawn in early spring with eggs laid in gravel at the head of a riffle area, but some are fall spawners. Rainbow trout as well as other trout do not normally die after spawning, like Pacific salmon (coho, chinook and pink).

Rainbow prefer water temperatures of 55°-60°F. They are known as great migrators or wanderers.

Some rainbow reach a hefty 16 pounds at age six, although the average rainbow caught averages five pounds. The largest caught to date in Illinois weighed 31 pounds and 6.72 ounces.

May, June, July and August are the best months for boat fishing for rainbow. Bank fishermen catch rainbows in the spring, casting small lures or using bait such as small alewives, nitecrawlers and spawn sacs. Winter fishing for rainbows is good in the power plant warm-water discharges and they are occasionally taken while ice fishing in harbors.



BROWN TROUT

(Salmo trutta)

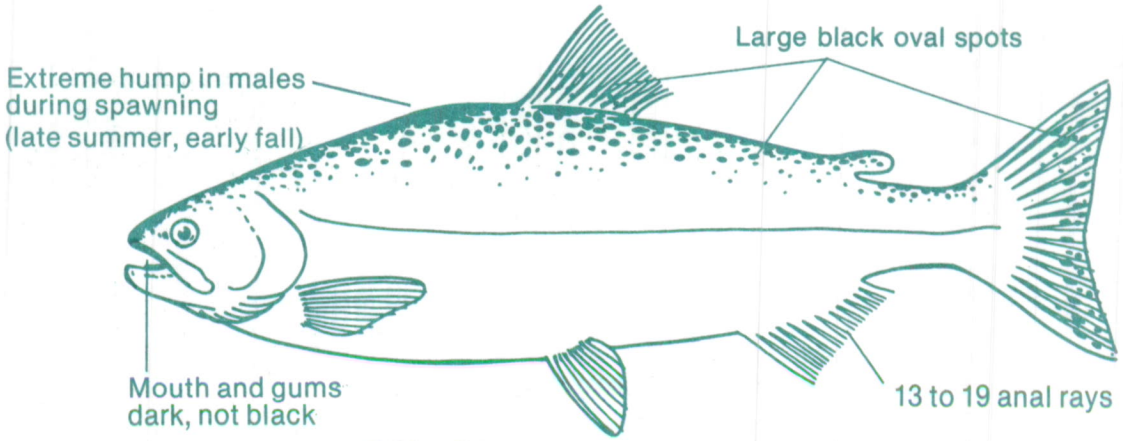
The most distinguishing characteristics of the brown trout include large black and sometimes reddish-orange spots with a pale border on the sides of the fish. These spots are modified Xs when the fish is large.

The food of the adult brown includes terrestrial and aquatic insects, worms, crayfish and fish.

Brown trout spawn in late autumn at the gravelly headwaters of streams. They grow rapidly and may live to an age of six years and reach weights of eight to ten pounds. Some may reach 30 pounds in Lake Michigan.

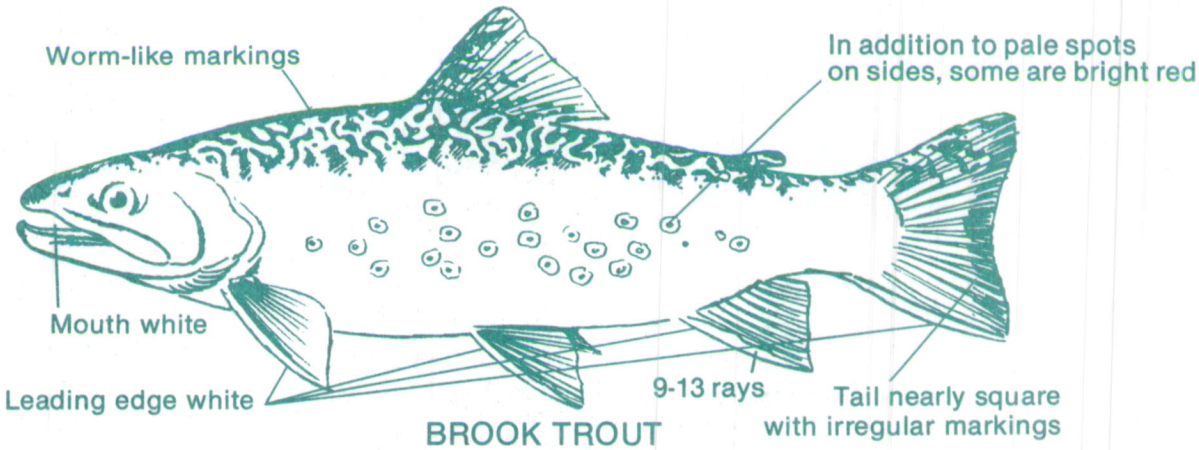
Brown trout prefer water temperatures between 55° and 65°F. and are typically found in near shore waters. This wary fish can be taken more readily in early morning and twilight hours. Light line is in order using conventional lures or natural baits.

Shore fishing methods are similar to the rainbow trout.



PINK OR HUMPBACKED SALMON
(Oncorhynchus gorbuscha)

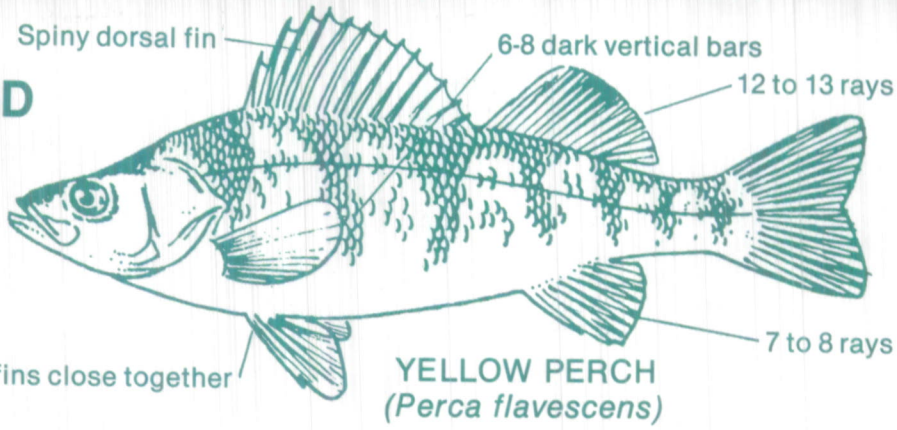
The pink salmon was unintentionally released in Lake Superior in 1956 and has spread to the other upper Great Lakes. The Pacific run of this species is said to average four pounds, but in Lake Superior 1-1½ pound fish are the normal size. Pink salmon have been taken in the Illinois waters of Lake Michigan. Pink salmon prefer water temperatures of about 54°F.



BROOK TROUT
(Salvelinus fontinalis)

Lake run brook trout are commonly called "coasters" in the Great Lakes. Normally found in shallow water, they reach 2-3 pounds. Brook trout, along with lake trout, are the only trout native to Lake Michigan. Brook trout prefer water temperatures in the upper 50's°F.

NON-SALMONID FISH SPECIES



YELLOW PERCH
(Perca flavescens)

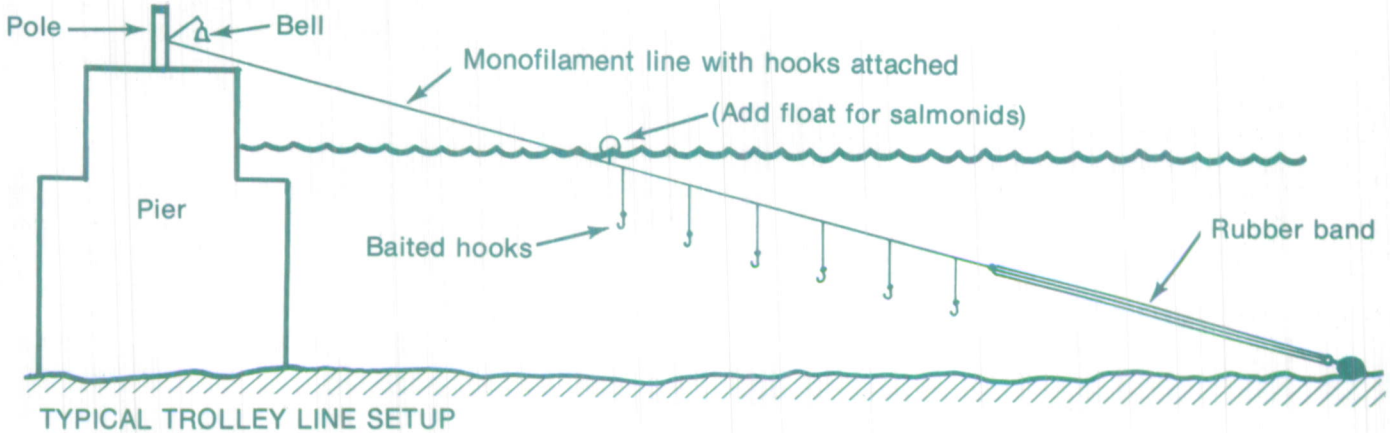
Yellow perch are yellow and brassy green in color, with 6-8 dark bars running vertically on each side of the body. Its food consists of small fish, insects, crayfish and snails. They spawn usually during May and June. The female lays from 10,000 to 40,000 eggs in long, flat, ribbon-like masses near rooted vegetation and sometimes over sand or gravel bars.

The average yellow perch caught is 8 inches in length and weighs 4 ounces; however, "jumbos" up to 1½ pounds are caught. Yellow perch are usually found in schools at depths less than 80 feet, most frequently on the very bottom. They prefer the warmer inshore shallow water areas.

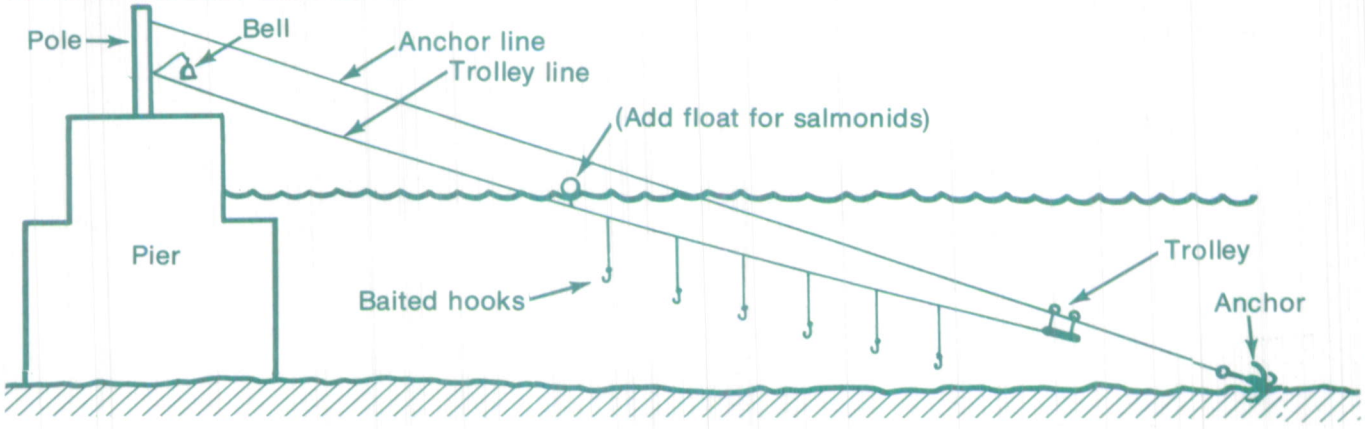
The best season for yellow perch fishing is during June, July and August. Baits used include worms, small crayfish and minnows. The perch is caught by bank and pier fishermen, using pole and line devices, as well as uniquely-designed trot line devices — the trolly line and the power line. Ice fishing in Chicago harbors during January and February can also be productive.

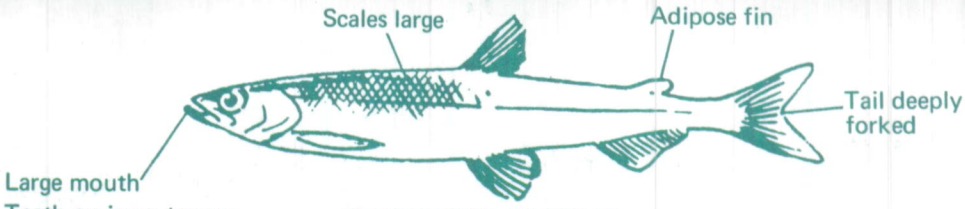
Trolley line fishing is popular along the Chicago lake front. Trolley fishing equipment includes an anchor with wire prongs attached to a heavy line. The anchor and line are thrown far out into the water and the line then stretched tight by attaching the loose end to a pole stuck in the ground or attached to a pier. A special lead weight with wheels (trolley) is attached to the heavy line. A monofilament line with several baited hooks is attached to the trolley. The trolley is lowered into the lake, taking the baited hooks down into the water. The end of the hook line is attached to a small bell. When a fish is caught, the bell rings and the fisherman pulls the line in to remove the fish and rebait the hook. A modification of the trolley method more commonly used today is called a power line, which uses a rubber band that stretches to considerable length. One end of the rubber band is attached to the anchor line and the other end to the line with the baited hooks. This is let out into the lake, and when fish are caught or the hooks are to be rebaited, the fisherman pulls the line in, stretching the rubber band. When the line is released the stretched rubber band will pull it out into the water again. Hooks can be fished near the surface of the water by use of a properly placed bobber tied to the monofilament line. This is particularly effective when fishing for coho salmon in early spring.

TYPICAL POWER LINE SETUP



TYPICAL TROLLEY LINE SETUP





RAINBOW SMELT
(Osmerus mordax)

Smelt are slender, greenish and silvery-colored fish named from the Anglo-Saxon word "smoelt," which means smooth or shining. A smelt looks like an oversized minnow but does not attain large size. Maximum length is about 16 inches, but the majority are from six to nine inches and average a little more than one ounce in weight. They have fang-like teeth, are cannibalistic on their own young and also feed on the young of other fish. Main food items are insect larvae and tiny animals. Smelt, in turn, serve as food for larger fishes such as the lake trout and salmon. Their small scales are loosely embedded in the skin, and in the case of males, feel rough to the touch during spawning. The fins are soft-rayed, and there is a small fleshy fin between the dorsal and tail fin called an adipose fin.

Smelt begin spawning runs in Lake Michigan as early as March 17 or as late as April 28. The peak of the run, and the best fishing, lasts about a week, usually starting between April 10 and 20. Smelt have an anadromous type of spawning behavior; they ascend streams and rivers from the lakes to spawn, much as salmon when they leave the ocean to travel up rivers. This is the reason smelt are concentrated along the shoreline in early spring. The remainder of the year smelt normally spend their lives in deeper, cooler water. About an hour after sunset is ordinarily the time when smelt move in close to shore, with the small fish often reaching the shallows first.

Best fishing places are along the Chicago Park District property on Lake Michigan and at beaches from Waukegan to the Illinois-Wisconsin state line.

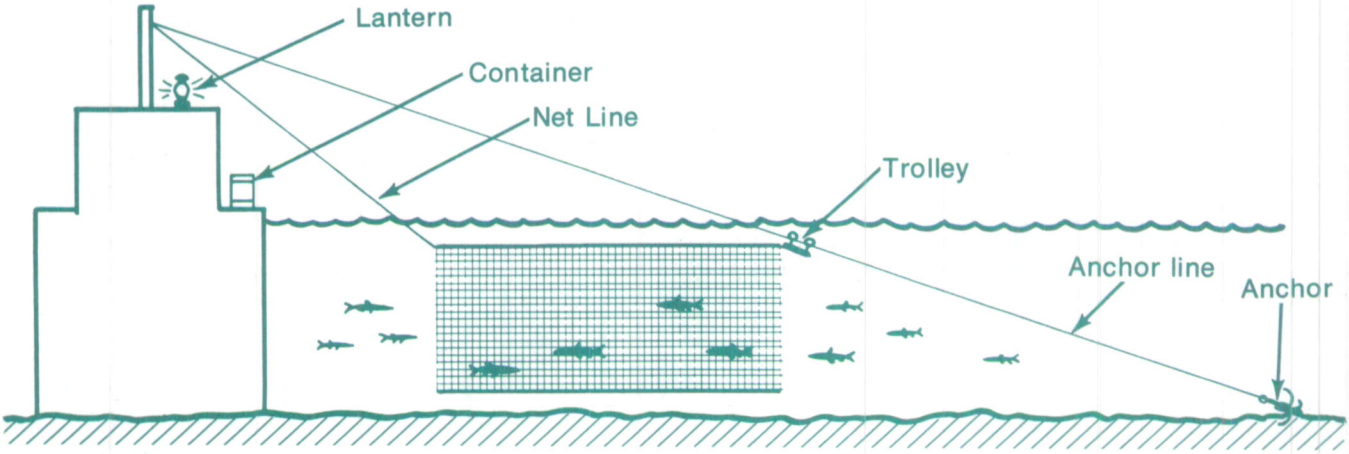
Portable boom nets, short gill nets on a trolley line, small seines and dip nets are used for smelt fishing.

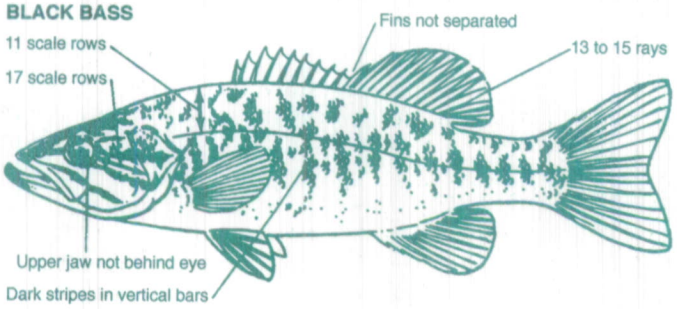
A gill net made of nylon thread is the most common type of gear used in Illinois. Threads are from ½ to ¾ of an inch apart in a crisscross manner and legally must not exceed 1½ inches diagonal stretch mesh. There are floats on the top line and lead weights on the bottom line. The net forms a fence-like obstruction in the water and when smelt try to swim through they become entangled, usually just behind the head. Some special equipment is required to maneuver the net in and out of the water. A one-to-two-pound lead anchor which has stiff flexible wire extensions that grab the bottom is attached to a heavy line and thrown out 50 to 100 feet. This line is pulled as taut as possible without loosening the anchor, and then tied to a pole, pier railing or some other stationary object on shore. A line of about 25 feet is fastened to the back of the net and the other end of this line is secured on shore near the anchor line. A trolley, which is a one-half-to-one-pound lead weight suspended below two brass wheels, is tied to the forward end of the gill net and then attached to the anchor line. The net line is used to pull in the net as the trolley rides up the anchor line. Most fishermen raise their nets every 5 to 10 minutes, or longer if fishing is slow. Gill nets up to 12 feet long and 6 feet deep may be used legally, and an angler is limited to one smelt net device at any one time.

A large dip or boom net, up to 12 feet in diameter, is another smelt fishing device. Mesh size may not be less than one inch diagonal stretch. It is suspended from the top of a portable boom which is tilted to hang over the water. The net is lowered into and raised out of the water by a rope or cable attached to a winch. Smelt are removed by a long-handled scoop net.

A seine is still another type of gear for smelt fishing. It is used on the beaches and is pulled through the water by two persons who usually wear waders or hip boots. When smelt are running heavy, one seine haul will provide enough fish to fill a minnow bucket. The mesh of a seine is made of nylon, either woven or knotted, and is 1/8 or 1/4 inch square. A legal smelt seine may not exceed 12 feet in length and 6 feet in depth and may not have mesh greater than 1½ inches diagonal stretch mesh. All fish other than smelt taken in smelt fishing devices must be returned immediately to the water.

TYPICAL SMELT GILL NET SETUP USED ON LAKE MICHIGAN





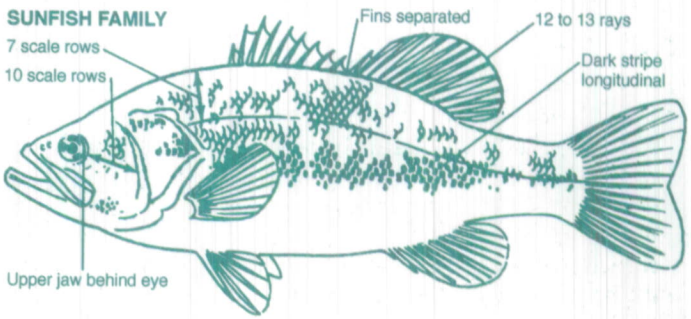
SMALLMOUTH BASS
(Micropterus dolomieu)

Smallmouth bass are distinguished from largemouth bass by their connected dorsal fin, the dark vertical barring on their sides,and their smaller mouth (their mouth is forward of the line drawn downward from their eye).

One of the preferred foods of smallmouth is crayfish. Crayfish are commonly found near rocky shorelines, along the bases of breakwalls, and on natural and artificial offshore structures. Smallmouth are commonly found near rocky structures feeding on crayfish, but can also feed on schooling fish anywhere in the water-column.

Smallmouth bass are commonly caught in the open lake during June, July, and August, but can be caught in harbors if rocky habitat is available.

Illinois stocked nearly 96,000 smallmouth bass fingerlings between 1969 and 1985. The bass caught today may be descendants of those stockings. Their success may be due to the increased water clarity from the Clean Water Act and zebra mussels, and reduced nest predation by yellow perch.

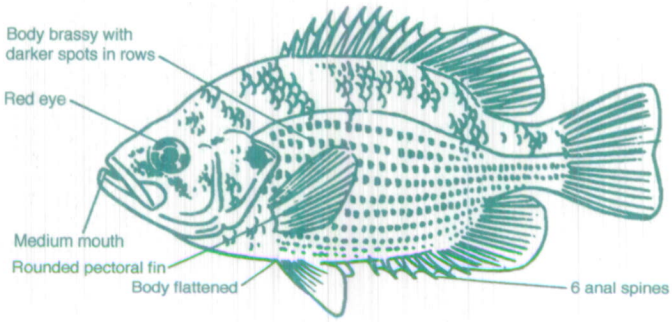


LARGEMOUTH BASS
(Micropterus SALMOIDES)

Largemouth bass can be identified by their separated dorsal fin, the dark longitudinal stripe, and their large mouth which extends beyond the line drawn downward from the eye.

Largemouth bass are commonly caught in harbors and are rarely caught in the open lake or along open lake structure. Largemouth may venture into the open lake in July and August once the lake stratifies and the nearshore water is warmest (70°F).

Largemouth bass have become more common in Lake Michigan since the water has cleared and vegetation has become established in harbors and protected areas. They feed on a variety of harbor organisms including crayfish, bluegills, pumpkinseeds, bullheads, and minnows.



ROCK BASS
(Ambloplites rupestris)

Rock bass are identified by their red-eyes and their brassy body color. They feed on a variety of invertebrates including crayfish and aquatic insects. Rock bass are commonly caught near rip-rap shorelines, boat launches, and breakwalls and are an ideal target fish for shorefishermen. They inhabit all of the lakeshore harbors and can be caught on most nearshore and offshore rocky habitat.

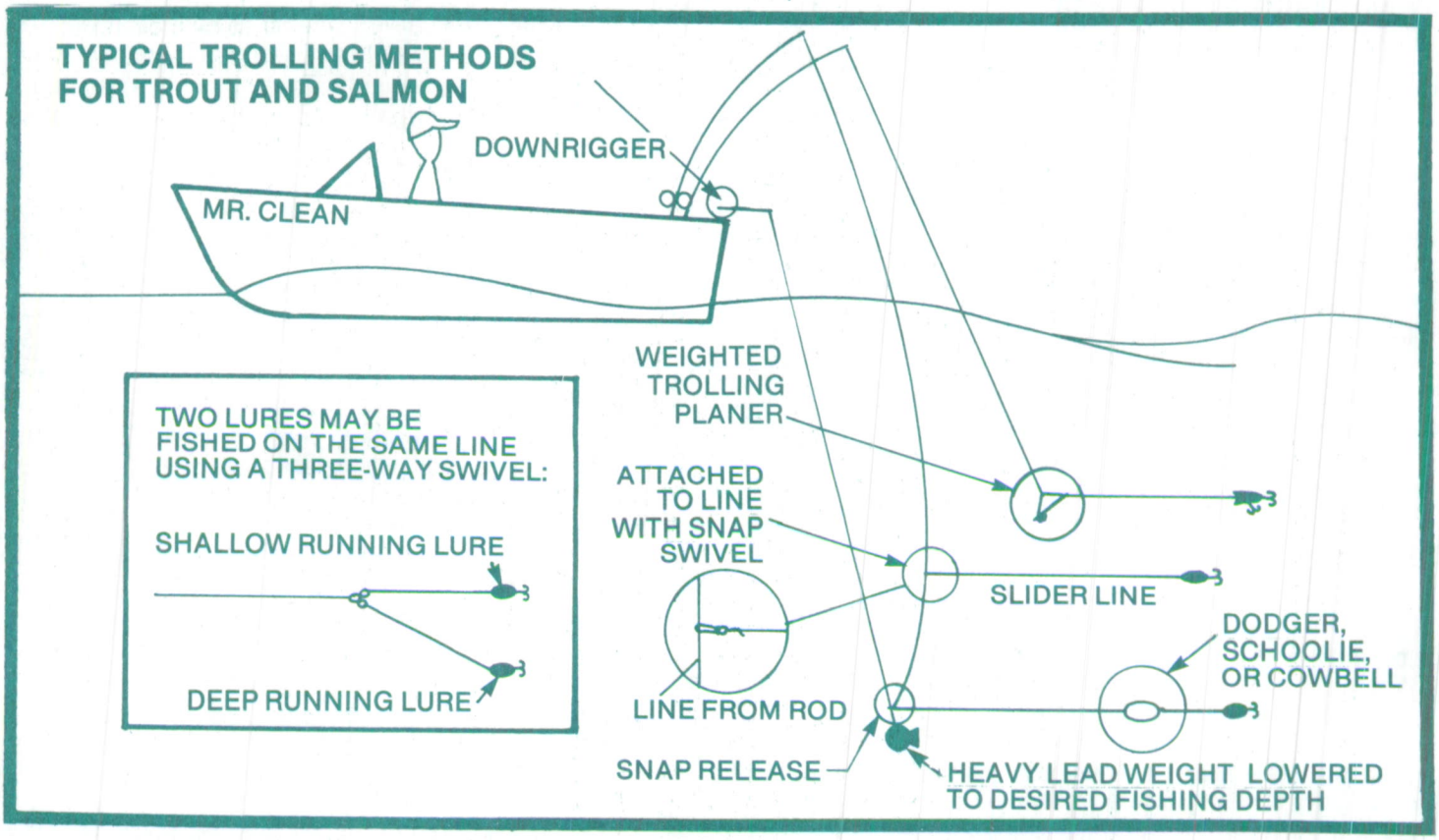
The rock bass population has benefitted from the increased water clarity and the associated changes in nearshore habitat.

The best times to fish for rock bass are around sunrise and sunset in June, July, and August. Rock bass can attain weights of up to 1 pound but fish in the 1/4 to 1/2 pound range are more common.

SALMON AND TROUT BOAT FISHING

Boat trolling offshore is a highly successful method for catching trout and salmon. It is a unique fishery, somewhat akin to ocean fishing. Usual equipment on the boat includes a marine two-way radio, compass, depth sounder and electric thermometer. Trolling fishermen use flat lines which are long lines with a lure attached to cover the surface waters frequently inhabited by rainbow trout and coho salmon in the spring. Flat lines are also trolled for brown trout in shallow water (10-20 feet). Downriggers are used to carry the lure to the desired depth. Trolling with wire lines is specifically designed for deep water fishing for lake trout. Outriggers allow the fishing of additional lines because they carry lines far to the side of the boat. Ski boards, recently introduced, serve the same function. Weighted planers are used to carry the lure to desired depths. Spoons, plugs and flies are the most commonly used lures. These may be fished behind attractors (dodgers or "schoolies"). Trolling with bait such as large alewife can also be productive.

Fishermen without properly equipped boats may charter a fishing boat. A listing of charter boat operators and associations may be obtained by contacting the Department's Lake Michigan Program office at 847/294-4134. Information on fishing Lake Michigan can be obtained by calling the Chicago office of the Department of Natural Resources at 312/814-2070.



FISHING REGULATIONS (subject to change)

Fishing regulations on Lake Michigan are generally the same as for the rest of the state with the exception that salmon and trout kept by an angler must not be less than 10 inches in length and of the daily catch limit of 5 salmon and trout (singly or collectively) except for lake trout where two fish is the daily limit. There are special regulations regarding fishing for smelt and snagging for salmon. A reciprocal sportfishing license agreement between Illinois and Indiana allows resident and non-resident anglers holding a valid sportfishing license from either state to fish certain waters in the Calumet Harbor area of the waters of Lake Michigan. All persons operating recreational watercraft in the reciprocal area shall comply with the boating regulations of the state in which he or she is licensed. Copies of the current fishing regulations may be obtained where fishing licenses are sold or by writing to the Department of Natural Resources, Suite 4-300, 100 West Randolph Street, Chicago, Illinois 60601-3279 or telephoning the Chicago office at 312/814-2070.

HYPOTHERMIA CHART

Water Temp. (°F)	Exhaustion or Unconsciousness	Expected Time of Survival
32.5	Under 15 Min.	Under 15-45 Min.
32.5-40.0	15-30 Min.	30-90 Min.
40-50	30-60 Min.	1-3 Hr.
50-60	1-2 Hr.	1-6 Hr.
60-70	2-7 Hr.	2-40 Hr.
70-80	3-12 Hr.	3 Hr.-Indef.
Over 80	Indef.	Indef.

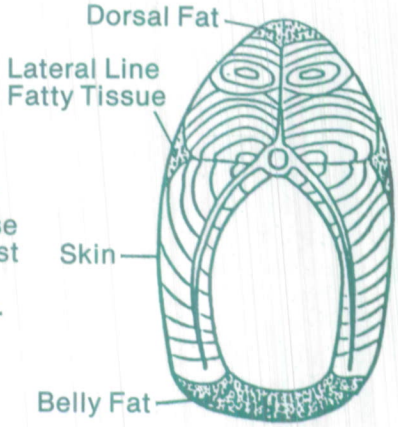
Immersion in chilled water drains the body of its warmth, precipitating hypothermia much more quickly than if the individual is exposed to cold air. This chart indicates the length of time a victim can survive total immersion in water of various temperatures. Outdoorsmen should be aware that hypothermia caused by immersion in water is not only a winter-time threat; many Illinois waters remain sufficiently cold to be a problem throughout the spring and summer.

Sea conditions and boating rules also should be known for wise and safe conduct while boating on Lake Michigan.

CONTAMINANTS IN LAKE MICHIGAN SPORT FISH

Levels of contaminants in Lake Michigan sport fish are generally showing a decline in concentration. However, certain contaminants are found in high enough concentrations in certain species to warrant the issuance of a Lake Michigan sport fish contaminant advisory.

Fish consumption advisories are used by health agencies to attempt to prevent human exposure to significant amounts of contaminants. Health officials recognize there is a positive association between consumption of contaminated fish and the elevation of contaminant levels such as PCB's in portions of the human body. They do not know, however, whether there is a critical level above which toxic effects are triggered or whether consumption of sport caught fish over a life time would cause such levels to be reached. They do know that many of the contaminants found in fish have chronic toxicological properties and many of these contaminants can be transmitted from the mother to the fetus. Because of these facts and the many unknowns health officials adopt a conservative policy which reduces exposure to the public and specifically avoids exposure to women and children. Sport caught fish, even those with low contaminant levels, can represent a major source of exposure if eaten often enough. Eliminating or reducing your frequency of consumption or eating smaller sized fish can also reduce your degree of exposure and accordingly any health risks which may be associated with exposure. It should be noted that those who do consume sport caught fish should prepare and cook the fish in ways which reduce the presence of fat soluble contaminants in the edible portion. These techniques include removal of the skin and fatty tissue associated with the belly, lateral line and dorsal area of the fish and cooking by baking, and broiling on a rack or barbecuing so the fatty oil can drip away from the finished meal.



Cross-section of a fish showing the location of the high-fat tissue. These areas contain the highest concentration of PCBs and other contaminants.

For information regarding the most recent Lake Michigan sport fish advisory, persons are advised to contact the Illinois Environmental Protection Agency at 217/782-3362 or the Illinois Department of Natural Resources at 847/294-4134.

SAFETY AFLOAT ON THE LAKE

Because of the almost oceanic nature of Lake Michigan, boating on the Lake requires thorough knowledge of the operation of the watercraft, and required safety equipment as well as the ability to recognize indicators of rough weather. Being able to detect changing weather conditions is very important because of the time involved in traveling extensive distances over the water and the abrupt changes that can take place in the weather resulting in very dangerous and treacherous water conditions.

This is especially significant as some of the most productive seasons for Lake Michigan fishing, spring and fall, coincide with the most turbulent and changing weather conditions on the lake. Innocent looking squalls have capsized many small boats. Colder water temperatures, those below 70°F, increase the risk of death from hypothermia (lowered body temperature). The body loses heat 25 times faster in water than in air of the same temperature. A person in water no colder than 50°F. can easily die from hypothermia in about one hour. Generally it is best to stay with a capsized floating boat and get out of the water if possible.

Preparation by the boater to prevent mishaps while on the water can be carried out beginning with a well-tuned engine and a full tank of gas and by having the proper mandatory running lights, flotation devices, a signalling device, and a fire extinguisher. Additional necessary equipment which adds to the safety of the trip is a VHF-FM, Marine two-way radio, a sea anchor towline and a floating lantern. Another important instrument frequently used by boaters on Lake Michigan is the compass. Unexpected fog, rough weather, darkness, or long distances offshore will require the use of a compass to reach your destination. A Lake Michigan navigation chart is also very helpful.

To insure your boat is properly equipped with the necessary safety devices a periodic inspection by the U.S. Coast Guard Auxiliary is recommended. Current regulations regarding boat safety and fishing information are available from Illinois Department of Natural Resources, Division of Law Enforcement, 524 S. 2nd, Lincoln Tower Plaza, Springfield, Illinois 62701-1787.

DETERMINATION OF WIND SPEED BY SEA CONDITION

Knots per hour*	Descriptive	Sea Conditions	Wind force (Beaufort)	Probable wave height (in ft.)
0-1	Calm	Sea smooth and mirror-like.	0	—
1-3	Light air	Scale-like ripples without foam crests.	1	¼
4-6	Light breeze	Small, short wavelets; crests have a glassy appearance and do not break.	2	½
7-10	Gentle breeze	Large wavelets; some crests begin to break; foam of glassy appearance. Occasional white foam crests.	3	2
11-16	Moderate breeze	Small waves, becoming longer; fairly frequent white foam crests.	4	4
17-21	Fresh breeze	Moderate waves, taking a more pronounced long form; many white foam crests; there may be some spray.	5	6
22-27	Strong breeze	Large waves begin to form; white foam crests are more extensive everywhere; there may be some spray.	6	10
28-33	Near gale	Sea heaps up and white foam from breaking waves begins to be blown in streaks along the direction of the wind; spindrift begins.	7	14
34-40	Gale	Moderately high waves of greater length; edges of crests break into spindrift; foam is blown in well-marked streaks along the direction of the wind.	8	18
41-47	Strong gale	High waves; dense streaks of foam along the direction of the wind; crests of waves begin to topple, tumble, and roll over; spray may reduce visibility.	9	23

*1 Knot Equals 1.15 Miles Per Hour

PORT

Yield right-of-way to boats in your DANGER ZONE

STARBOARD
DANGER ZONE
(Dead ahead to 2 points abaft your starboard beam)

REMEMBER THESE RULES

1. OVERTAKING-PASSING: Boat being passed has the right-of-way. KEEP CLEAR.
2. MEETING HEAD ON: Keep to the right.
3. CROSSING: Boat on right has the right-of-way. Slow down and permit him to pass.

WHISTLE SIGNALS

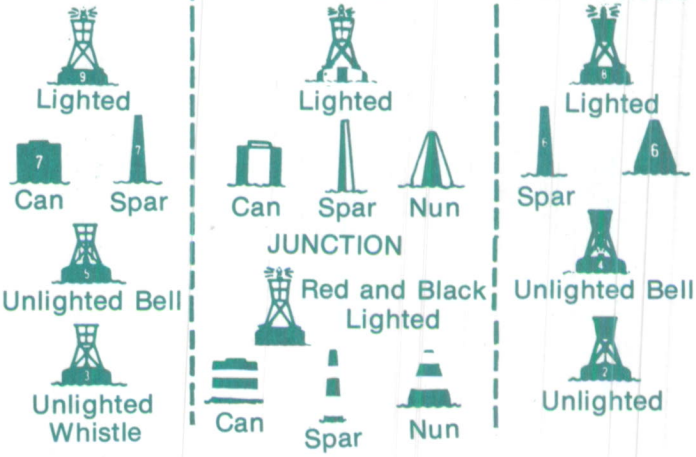
ONE LONG BLAST: Warning signal (Coming out of slip)
ONE SHORT BLAST: Pass on my port side
TWO SHORT BLASTS: Pass on my starboard
THREE SHORT BLASTS: Engines in reverse
FOUR OR MORE BLASTS: Danger signal

STORM WARNINGS

RED FLAG Small craft winds to 33 knots) | 2 RED FLAGS Gale (up to 47 knots) | SQUARE RED FLAG BLACK BOX (Storm) | 2 SQUARE RED FLAGS BLACK BOX (Hurricane)

CHANNEL BUOY GUIDE

Entering port or going upstream



USE COMMON SENSE AFLOAT

PUBLIC BOAT LAUNCHING FACILITIES IN THE ILLINOIS PORTION OF LAKE MICHIGAN

(A daily or seasonal launching fee may be required)

1. **NORTH POINT MARINA**
   Located in Winthrop Harbor
   10 boat launching lanes
   Number of vehicle parking spaces:
   200 for cards with trailer
   Services available: Fuel, boat repairs, bait/tackle, food, telephones, restrooms, fish cleaning station, charter boats, sanitary pump-out.

2. **THE PORT OF WAUKEGAN (WAUKEGAN HARBOR)**
   Located at end of Madison Street in Waukegan
   Owned by: Waukegan Port Authority, Phone: 847/244-3133
   8 boat launching lanes
   Number of vehicle parking spaces:
   600 for cars with boat trailers
   Services available: Gasoline, oil, charter boats, boat repairs, yacht club, food, telephone, sanitary pump-out, and fish cleaning station.

3. **PARK AVENUE LAUNCHING RAMP**
   Located at end of Park Avenue in Highland Park
   Owned by: Highland Park District, Phone: 847/831-3810
   1 boat launching lane
   Number of vehicle parking spaces:
   25 cars with trailers
   Area has no dockage stalls or mooring buoys.
   Services available: Yacht club
   Restrictions: Ramp is open from April 1 to October 15 with hours of 7 A.M. to 9 P.M.

4. **LLOYDS PARK IN WINNETKA**
   Located at end of Lloyd Place in Winnetka
   Owned by: Winnetka Park District. Contact Superintendent, Phone: 847/501-2040
   1 boat launching lane
   Number of vehicle parking spaces:
   50 cars with boat trailers
   Area has no mooring or boat docking stalls.
   Services available: Telephone, refreshments, restrooms
   Restrictions: 25 ft. maximum boat length, hours are 6 A.M. to 6 P.M., season is April 15 to October 12

5. **DAWES PARK IN EVANSTON**
   Located at end of Church Street in Evanston
   Owned by: City of Evanston, Department of Parks & Recreation, Phone: 847/866-2910
   4 boat launching lanes
   Must have season permit to launch.
   Number of vehicle parking spaces:
   30 cars with boat trailers
   Area has no dockage or mooring facilities
   Services available: Telephone, refreshments, restrooms
   Restrictions: Hours – 5 A.M. to 9 P.M. Season – May 1 to October 15; 25 ft. maximum boat length recommended.

6. **WILSON-LAWRENCE AVENUE IN LINCOLN PARK, CHICAGO**
   Located at end of Wilson Avenue (4600 North) in Chicago
   Owned by: Chicago Park District. Contact Director of Special Services, Phone: 312/747-0737
   7 boat launching lanes
   Number of vehicle parking spaces:
   160 cars with trailers
   Services available: Telephone, restrooms, refreshments, bait, tackle.
   Restrictions: Season – May 15 to October 15. No launching after 9 P.M., 23 ft. maximum boat length for launching.

7. **DIVERSEY HARBOR IN LINCOLN PARK, CHICAGO**
   Located at end of Diversey Parkway in Chicago (2800 North)
   Owned by: Chicago Park District, Phone: 312/742-7762
   3 boat launching lanes
   Number of vehicle parking spaces:
   125 cars with trailers
   Services available: Telephone, restrooms, refreshments, sanitary pump-out, fuel service.
   Restrictions: Season – May 15 to October 15. No launching after 9 P.M., 23 ft. maximum boat length for launching.

8. **BURNHAM HARBOR IN BURNHAM PARK, CHICAGO**
   Located at end of 12th Street (1200 South) in Chicago
   Owned by: Chicago Park District, Phone: 312/747-7009
   3 boat launching lanes on east side and 3 ramps on west side at the end of Waldron Drive
   Number of vehicle parking spaces:
   50 cars with trailers for east side; 37 for west side
   Services available: Telephone, restrooms, refreshments, sanitary pump-out, fuel service.
   Restrictions: Season – May 15 to October 15. No launching after 9 P.M., 23 ft. maximum boat length for launching.

9. **JACKSON HARBOR IN JACKSON PARK, CHICAGO**
   Located at northeast end of inner Jackson Harbor, off Lake Shore Drive in Chicago (6400 South)
   Owned by: Chicago Park District, Phone: 312/747-6189
   2 boat launching lanes
   Number of vehicle parking spaces:
   75 cars with trailers
   Services available: Telephone, fuel, refreshments.
   Restrictions: Season – May 15 to October 15. No launching after 9 P.M., 23 ft. maximum boat length for launching. No sailboats at Jackson Inner Harbor.

10. **CALUMET PARK IN CHICAGO**
    Located at end of 95th Street and Foreman Drive
    Owned by: Chicago Park District. Contact Director of Special Services, Phone: 312/747-0737.
    3 boat launching lanes
    Number of vehicle parking spaces:
    105 cars with boat trailers
    Area has no mooring or dockage facilities.
    Services available: Telephone, refreshments, restrooms.
    Restrictions: Season – May 15 to October 15. No launching after 9 P.M., 23 ft. maximum boat length for launching. No overnight dockage.

CATCH AND RELEASE FISHING

What is "Catch and Release Fishing?"

Catch and release fishing is the practice of returning fish back to the water quickly and in such a manner that the fish is likely to survive.

Why should anglers practice "Catch and Release Fishing?"

Fishing in Illinois is different now than it was 20 years ago. The number of anglers has increased dramatically during this period. Advancements in fish catching technology have also put increased pressure on the limited fishery resources.

As the growing number of anglers get better at catching fish, the big fish get caught faster than the water body can grow them, which means fewer and fewer big fish. The release of big fish back to the water can mean another angler might catch this fish again.

How should anglers catch and release fish in order to maximize the potential for the fish to survive?

Different species of fish have various tolerance levels for stress caused by being caught. For example, largemouth bass and walleye tend to expend their energy rapidly and seldom become seriously exhausted. Fish such as stripers, muskies and northerns are more sensitive to this type of stress and must be handled quickly to insure their survival upon release.

- Land the fish as soon as possible. Playing a fish until it is exhausted will cause it to build up lactic acid and will diminish its chances for survival.
- Refrain from using a dip net. Netting tends to disrupt the protective mucous covering the fish and that increases the possibility of disease once the fish is back in the water.
- No fish should be grabbed around the abdomen because the internal organs are fragile. Handle toothless fish by gripping their lower jaw. Grab a fish with teeth behind the gill covers. Don't squeeze directly on the gill covers and never handle a fish by depressing its eyeballs.
- Wet your hands before handling a fish to reduce the loss of the fish's protective mucous coating covering its body.
- Handle the fish with care when removing the hook. Avoid excessive handling and don't drop the fish.
- Keep the fish in the water as much as possible during hook removal. Long-nosed pliers can be used to dislodge the hook while the fish is in the water.
- Don't attempt to remove the hook if it is lodged in the gullet or throat. Don't attempt to jerk or pull on the line to remove the hook. Simply cut your line and release the fish. Fish released in this manner stand a good chance of surviving.
- Never throw a fish back into the water. Gently place the fish into the water and let it swim away.
- To revive a fish, hold it upright and move it back and forth (gently) so the water is forced over the gill filaments.
- Never place a fish on a stringer if there is a possibility that you might release it. A properly aerated live-well or an ice chest filled with water and a little ice is better for holding fish temporarily.
- To release lake trout taken from deep water, grasp the fish at the narrowing in front of the tail with one hand while supporting the body from underneath the head. Then, push the fish forcefully head-first down into the water towards the bottom. It is not necessary to deflate the air bladder by squeezing or puncturing with a needle.

On the other hand, if the fish is deeply hooked, and is legal to keep, the angler should keep and utilize the fish.

How does "Catch and Release Fishing" maintain good fishing and improve future angling opportunities?

Fish caught and released quickly and in a manner to maximize survival will be able to provide future anglers with a similar thrill. Released fish that live can be caught again.

When anglers keep only those legal fish which are of trophy size or are intended to provide a meal, the fishery resource benefits. Released fish provide an "insurance policy" for the water body. Release of the unwanted fish caught provides for future anglers to experience quality fishing.

Not all water bodies or fish species benefit from "catch and release fishing." Restrictive length and creel limits usually indicate which fish species and water bodies potentially could benefit.

What can tournament anglers do to practice "Catch and Release Fishing?"

. . . Require all tournament anglers to use properly aerated live-wells. Maintain adequate dissolved oxygen levels in holding tanks (at least 5 parts per million).

. . . Weigh-ins should be held to minimize handling stress. Fish should be transported in perforated plastic bags and held in water troughs while waiting to weigh in. Water temperature in the troughs should be maintained within 2-4 degrees of ambient lake or stream temperature.

. . . Refrain from holding fish when the surface water temperature exceeds 90°F. (commonly July and August). Water temperatures above this level can result in unavoidable high mortality of held fish.

Where should anglers practice "Catch and Release Fishing?"

Numerous Illinois waters have restrictive length and creel limits for specific fish species. Based on analyses of fish population and creel surveys by fisheries managers, anglers must restrict their harvest of selected fish in order to conserve and maintain quality angling opportunities on these waters.

Water areas with restrictive fishing regulations should be targeted by concerned anglers for "Catch and Release" practices. Specific fish species with restrictive regulations identify the fish in need of special concern by anglers.

TAGGED FISH IN LAKE MICHIGAN

Fisheries biologists attach external tags to many fish for research purposes. **Please report all tags found on fish caught.** If the fish is kept, return the tag to the address printed on the tag along with as much of the following information as possible: the date, location and type of fish caught, the length and weight of the fish, and the tag color and number. Tags found in fish that are released should be left in the fish but the above information should be reported to the address on the tag.

Fisheries biologists also insert internal tags in the heads of trout and salmon stocked in the lake. Fish carrying these tiny wire tags are marked externally by having their adipose fin removed. The adipose fin is the small fleshy fin on the back immediately in front of the tail. (Fish with the adipose fin **plus another fin removed** do not have a tag in their heads.) If you catch a trout or salmon with just the adipose fin missing **please retain the head** from the fish and provide it along with the catch information listed above to the Department's Lake Michigan Fisheries office in Des Plaines (847/294-4134). Angler cooperation in returning these heads is very important to the Lake Michigan salmonid management program. Cooperators will receive a history of their fish from the agency that tagged it.

HELP PREVENT THE SPREAD OF AQUATIC EXOTIC PLANTS AND ANIMALS

Aquatic exotic species are organisms that are not native to our waters. Some of these species, such as Eurasian water milfoil and zebra mussels, can clog boating areas and be harmful to lake and river ecosystems. By following just six easy steps, you can help prevent the spread of these species.

You Can Make a Difference

Exotic species can be accidentally spread by boaters who travel from infested to uninfested waters. Some species can be picked-up and transported on boating equipment including boats, trailers, motors, tackle, downriggers, anchors, axles, rollers, and centerboards. Others can be carried in water of livewells, bait buckets, motors, bilges, and transom wells. Even a small piece of Eurasian water milfoil attached to an anchor, or a handful of zebra mussels in a bait bucket can lead to infestation of the whole waterway. As a boater, you can help prevent this from happening. To avoid spreading exotic species, follow these easy steps before transporting your boat to another waterway.

BEFORE leaving the boat launch

- Inspect your boat, trailer and equipment and remove any plants and animals.
- Drain, on land, all water from the motor, livewell, bilge, and transom well. Some exotics may not be visible to the naked eye.
- Empty your bait bucket on land. Never release live bait into a waterway, or transfer aquatic animals between waterways.

AFTER leaving the boat launch

- Wash your boat, tackle, trailer, and other equipment to kill any exotic species not visible at the boat launch. This can be done with 104°F. tap water, or a high-pressure sprayer, or
- Dry your equipment for at least five days – some exotics can survive for long periods of time out of water.
- Learn what these organisms look like, and know which waterways are infested. Report any new infestations to Illinois-Indiana Sea Grant or your Department of Natural Resources.
- Talk with these agencies for recommendations and permits before applying any control methods.

State Laws

Laws in both Illinois and Indiana are written to prevent the spread of harmful exotic species. These laws make it illegal to possess live specimens of these species. For more detailed information on your state's regulations, contact the Illinois Department of Natural Resources (847) 294-4134.

Zebra Mussel *(Dreissena polymorpha)*

The zebra mussel is a bottom dwelling clam native to Europe that gets its name from the striped pattern on its shell. It was first discovered in Lake St. Clair near Detroit, Michigan in 1988. Individuals grow up to 2 inches in diameter and can live up to five years. They attach to almost any hard surface and cause problems where large populations become established.

The most serious threat to recreational boaters is from clogged cooling systems which could potentially damage the engines. A potential threat also exists to all lake water users including public water supplies, industrial water intakes, lake ecology, swimming and fishing. Large numbers of zebra mussels can colonize the inside of water intake pipes reducing water flows. Fish spawning habitat could be impacted possibly reducing populations of some species of fish. Winds eventually can wash dead shells on shore fouling beach areas.

Zebra mussel are found in Lake Michigan, the Illinois River and Mississippi Rivers. It may be a matter of time before zebra mussels spread to other streams and lakes throughout Illinois. Zebra mussels can be spread to other areas as both larvae and adults. The microscopic larvae called veligers can be drawn into livewells, bilges, and engine cooling systems. They may survive for a month where water remains trapped. Veligers also can be transported in bait buckets. Adult mussels can attach to boat trailers and engine lower units where they are capable of surviving a week or more out of the water.

Round Gobies *(Neogobius melanostomas)*

Round gobies were first discovered in the Great Lakes basin in 1990. Since then they have expanded their range from the St. Clair River to other areas around the Great Lakes.The distribution pattern of established round goby populations in the Great Lakes strongly suggest they not only arrived in the St. Clair River through ballast water discharge but they also have been transported to other areas of the Great Lakes through ballast water discharges. By 1993 round gobies had been found in the Grand Calumet River near Chicago and by the following year they were being found along the southern shoreline of Lake Michigan as far east as South Haven, Michigan.

Round gobies are native to the Black and Caspian Seas. This bottom dwelling species prefers a rocky or gravel substrate where they find shelter by utilizing crevices or hiding under rocks. Round gobies typically live to 4 years of age and can obtain a length of up to 10 inches. Their daily diet consists primarily of mollusks, crustaceans, insects, fish eggs, and small fish. They are aggressive feeders and are well adapted to displace native species such as sculpins, darters, and logperch.

Round gobies have large heads, soft bodies, and dorsal fins lacking spines. Although this species can be easily confused with the native sculpin species they can also be easily identified by their unique pelvic fin. Sculpins have 2 separate pelvic finds while the gobies have pelvic fins that are fused into a single fin having a suction cup-like shape.

Ruffe *(Gymnocephalus cernuus)*

The ruffe is a small cool or cold water species from northern Europe. It was introduced into Lake Superior in the mid-1980's through ballast water discharges from ocean-going vessels. Ruffe were first found in the Duluth harbor area of Lake Superior in 1986. Since then the ruffe has spread to the eastern waters of Michigan and to Thunder Bay, Ontario in Lake Superior. The ruffe also has been found in Lake Huron at Alpena, Michigan.

Because ruffe have a rapid growth rate, a high reproductive capacity, and are capable of adapting to a wide variety of environments, it is considered a serious threat to the fisheries of the Great Lakes.

Ruffe average 4 to 6 inches in length and resemble young walleye and yellow perch. They differ from these species by having a very large dorsal fin and a slightly down turned mouth.

Spiny Water Flea *(Bythothrephes cederstroemi)*

The spiny water flea was first observed in Lake Huron in 1984 and by 1987 had spread throughout the Great Lakes.

Spiny water fleas are approximately 1/2 inch long. They are a predacious zooplankton that compete with native zooplankton species. Because of their long barbed spine they are not readily eaten by plankton eating fish. They upset the ecosystem balance by eating other zooplankton species and are essentially competing with fish species utilizing the native zooplankton species as a food source. Fish do feed on spiny water fleas, but not with the same preference or at the same rate as native non-spiny species.

Accumulations of spiny water fleas (Cottonwood-like fuzz) are often seen attached to downrigger cables and fishing lines in August and September when they are most common in Lake Michigan.

As with most exotic introductions, the spiny water flea is here to stay and ecosystems like Lake Michigan are in constant adjustments to these changes.

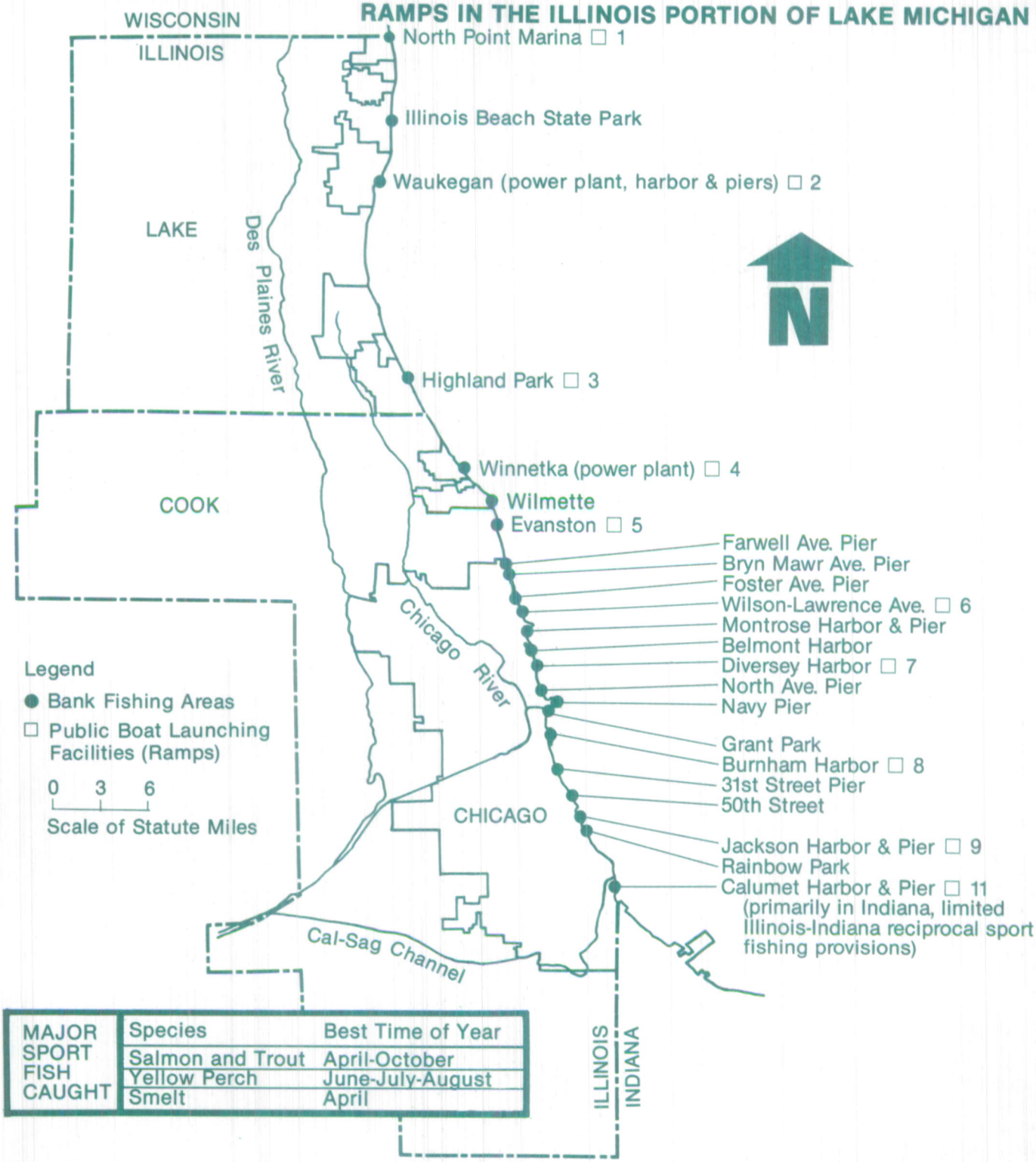
Eurasian Watermilfoil *(Myriophyllum spicatum)*

The red tips of actively growing plants identify Eurasian milfoil from other plants growing in our harbors. It was first identified in North America in 1814 and since then has spread throughout the Great Lakes as well as to smaller lakes where it has become a nuisance species.

Eurasian milfoil can choke recreational boating lanes and is often chopped by boat props resulting in mats of floating vegetation. Each fragment of Eurasian milfoil can either drift or be carried on boat trailers to new locations where it can establish new populations (asexual propagation) from these fragments. Eurasian milfoil becomes the dominant vegetation in lakes and harbors by out competing native plants for available light and space which allows this exotic to grow faster and taller than the native plants.

Help stop the spread of Eurasian milfoil by pulling all of the vegetation attached to your boat or trailer off before leaving the launch ramp.

MAJOR SPORT FISHING AREAS AND PUBLIC BOAT LAUNCHING RAMPS IN THE ILLINOIS PORTION OF LAKE MICHIGAN



MAJOR SPORT FISH CAUGHT	Species	Best Time of Year
	Salmon and Trout	April-October
	Yellow Perch	June-July-August
	Smelt	April

Best fishing for perch and smelt along shoreline areas such as harbors, piers and breakwaters. Salmon and trout fishing are best in open water by boat fishing.

Illinois
Department of
Natural Resources

The Illinois Department of Natural Resources received federal financial assistance and therefore must comply with federal anti-discrimination laws. In compliance with the Illinois Human Rights Act, Illinois Constitution, Title VI of the 1964 Civil Rights Act, Section 504 of the Rehabilitation Act of 1973 as amended, and the U.S. Constitution, the Illinois Department of Natural Resources does not discriminate on the basis of race, color, sex, national origin, religion, age or disability. If you believe you have been discriminated against in any program, activity or facility, please contact the Equal Employment Opportunity Officer, Department of Natural Resources, 524 S. Second St., Springfield, IL 62701-1787, (217) 785-0067 or the Office of Human Resources, U.S. Fish and Wildlife Service, Washington, D.C. 20240.

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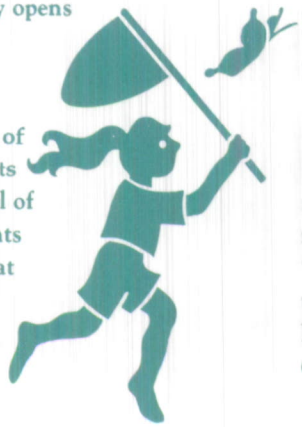
Rod R. Blagojevich
Governor

KIDS FOR CONSERVATION
TODAY & TOMORROW ™

What is KIDS FOR CONSERVATION? KIDS FOR CONSERVATION is an exciting Club for Illinois kids five through thirteen who want to learn more about preservation, protection, and wise use of Illinois' natural resources. It's an exciting concept that blends private and public interests and funds.

Why was KIDS FOR CONSERVATION formed? The need for sound conservation practices is often overlooked in Illinois, in spite of a dramatic increase in recreational activities and demand on our resources. Animals, plants and their habitats are matters of natural curiosity to Illinois children. This curiosity opens the door to many educational opportunities.



The Illinois Department of Natural Resources wants to help raise the awareness level of Illinois children and their parents about conservation issues, and at the same time establish a strong communication network with the young people of Illinois. Specifically, we need to inform others of the need to set aside unique and endangered natural areas; continue to manage and preserve existing resources; understand man's place in nature and our abilities to accommodate one another; take individual responsibility for preserving and protecting nature and leave a legacy of achievement for future generations.

What are some of the things I will be learning about? Every KIDS FOR CONSERVATION member household will receive a periodic magazine full of stories, games and puzzles. You'll learn about forests, foxes, ferns and fish records. You'll find out how to build a birdhouse, and discover more about Illinois history through stories and legends.

How can I become a member? Just fill out the attached registration form and send to the address indicated. And "KIDS," be sure to tell your friends about KIDS FOR CONSERVATION - they'll want to join too!

Illinois Department of Natural Resources

Kids For Conservation • Illinois Department of Natural Resources • 524 South second Street • Springfield, Illinois 62701-1787 • 217-524-4162

KIDS FOR CONSERVATION
TODAY & TOMORROW ™

First Name

Last Name

Address

City

State I L

Zip

Age

M/F

Note: One membership per household. Youngest member should fill out application.

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