

SPORTFISHES **of the Thousand Islands**



Habits & Habitats
of the River's larger fish

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SPORTFISH OF THE THOUSAND ISLANDS

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SPORTFISH OF THE THOUSAND ISLANDS

Of the estimated 85 species of fish in the Thousand Islands Region only 20 are included here as "sportfish". The ones included are not only those that an expert angler might pursue, but also those that an amateur might catch, though perhaps unintentionally. Many of the remaining species are small fish, not apt to be found at the end of a fisherman's line except as bait.



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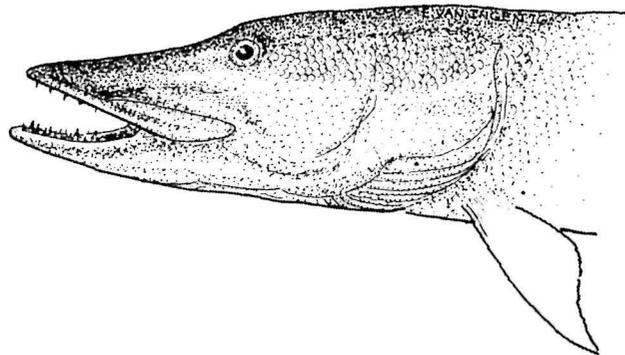
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NOTE:

Before going fishing be sure to have a thorough knowledge of the fishing regulations of the area. Summaries of the regulations are available wherever fishing licenses are sold, or by writing:

Ministry of Natural Resources
101 Water Street West
Brockville, Ontario
Telephone: (613) 342-8676



Where did they come from?

Comparatively late in the history of the region glaciers were shaping and forming the landscape, creating the valleys and rounded hills that are now flooded by the St. Lawrence River and protrude as a Thousand Islands. Naturally, as the glaciers advanced the fish were forced to disperse through whatever waterways were open to them. Most of the fish species presently found here re-entered as the glaciers retreated.

Lake trout, for example, came from the northwest when the Hudson Bay drainage was connected with the Great Lakes and upper Mississippi drainage systems. Later, from the south, as drainage patterns changed with the retreat of the glaciers, came the bowfin and gar. Yellow perch and pumpkinseed followed, probably from refuges in both the east and west.

Eventually, the St. Lawrence River became the sole outlet for the waters of the Great Lakes to escape to the ocean. As the river found a stable path, and aquatic plants became established, more habitats were created and filled by growing fish populations.

Throughout history, man as a part of nature, has had an impact on fish populations. He takes and now, through stocking, he returns. Though overfishing drastically reduced populations of sturgeon, stocking introduced species such as coho salmon. Due to man's influence as well as natural developments, fish populations in the Thousand Islands are ever-changing.

Today- an estimated 85 species

Some of the best fishing in the country is to be found in the Thousand Islands. Not only are there game fish aplenty, there is also an abundance in kind and number of all the smaller fishes. How are all these fish able to survive in our area? Here are some answers —

HOMES FOR ALL — Often you will find several species of fish living in the same habitat. One of the reasons they all survive is that they eat different things. Two kinds of sunfish, for instance, both like shallow, warm water, but one prefers to eat insects while the other prefers smaller fishes. The Thousand Islands area has food for all tastes, from tiny plankton and insects to small fishes and frogs.

PLENTY OF FOOD — Often you find several species of fish living in the same habitat. One of the reasons they all survive is that they eat different things. Two kinds of sunfish for instance, both like shallow, warm water, but one prefers to eat insects while the other prefers smaller fishes. The Thousand Islands area has food for all tastes, from tiny plankton and insects to small fishes and frogs.

FEEDING HABITS — Just as variations in diet allow several species to share the same habitat, many fish have different feeding habits — with the same result. In the springtime you can fish all day from the riverbank and catch nothing but perch or sunfish, but when the sun goes down, the bullheads start to hit! Perch will rest on the bottom until morning and thus there is no competition for food.

Other variations include fish who feed only at the surface, only at the bottom or only inbetween.

SPAWNING — Each fish species prefers to spawn when the water is a certain temperature, some when it's very cold, others when it's warm. Therefore they spawn at different times throughout the year as the temperature of the river changes, lessening the competition for spawning sites.

WHAT ABOUT WINTER? — An oft-heard question is how do fish survive winter? First, they are all forced to the deeper parts of the river, below the ice. Then, most remain inactive in the cold winter waters. For species such as pike, that do remain active, the limited food supply is sufficient.

The Thousand Islands Region, with its multitude of underwater habitats, supports a rich variety of river life. The sportsman who understands the ecology of fish — the interdependence between game fish and their environment — plays an important role in conservation. By being concerned about the river environment, a responsible fisherman can ensure that future generations will enjoy the same excellent sport fishing in the Thousand Islands that we enjoy today.

Although St. Lawrence Islands National Park does not include any of the river itself, we are nonetheless interested in every aspect of the river environment. Trained Park staff, based at Mallorytown Landing, conduct regular studies of changing fish populations in the region. They will be happy to answer any of your questions. Park Naturalists and Wardens can be found on the islands during the tourist season or by contacting:

St. Lawrence Islands National Park
P.O. Box 469, R.R. no. 3
Mallorytown, Ontario
K0E 1R0
Telephone: (613) 923-5241

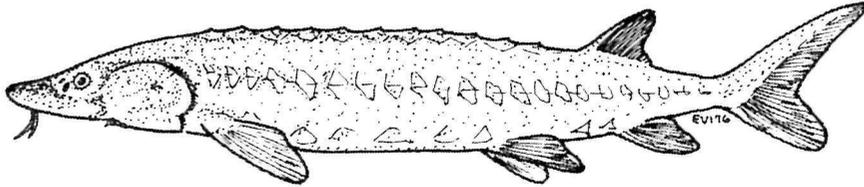
Fearlessly the armoured sturgeon cruises shallow waters. Boney shields cover his tough, scaleless skin deterring all potential enemies but the lamprey and man. As an adult, his awesome size alone is enough to discourage predators.

Constantly he scours the bottom for food. With barbels and sucker-like mouth he searches, sucking up bottom debris, then spewing it out to select from the loose material all edibles, plant or animal.

Lake sturgeons can live to an amazing age. One female caught in 1953 was discovered to be 154 years old! Females don't even reach reproductive age until 23 and males at 15. As adults,

they spawn only once every few years, sometimes moving upstream to their spawning sites even before the ice is out.

Though now highly prized for caviar or as smoked meat the sturgeon was once considered a worthless pest. Prior to the 1860's it was burned or fed to pigs, used as fertilizer or boiled to get oil for paints. When its value was first recognized, commercial catches were tremendous. Soon, of course, because its growth and reproduction are so slow, populations diminished. Dams cut off some spawning grounds and pollution took its toll. Today, only a few remain in the Thousand Islands, their very presence being confirmed only by the catch of an occasional exultant fisherman.



Lake Sturgeon

Acipenser fulvescens

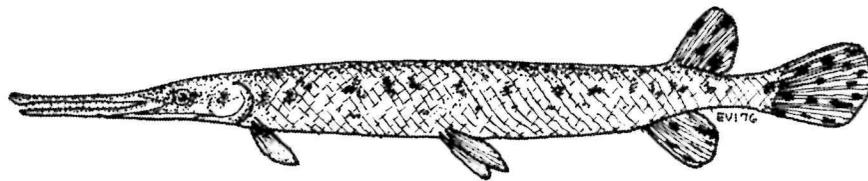
Longnose Gar

Lepisosteus osseus

Though the longnose gar or “garpike” is often disliked for its habit of eating other fish, it has a fascinating story. With its long, narrow, tooth-lined snout, it can gulp air at the surface and get enough oxygen to survive in stagnant, weedy water. On summer days you can often see large groups of gars resting, lying motionless in shallows just under the surface of the water. At night they come alive, pursuing their prey under the cover of darkness.

The eggs of the gar are poisonous to man, other mammals and birds, but not to other fish. Upon hatching, the young grow quickly, up to six times faster than other local species.

Scientists are fascinated by the tail and scales of gars because they resemble those of primitive fishes. The backbone extends up into the tail and the scales are thick, bony and rough as sandpaper. The gars, sturgeons and bowfin of North America are all “living fossils”.

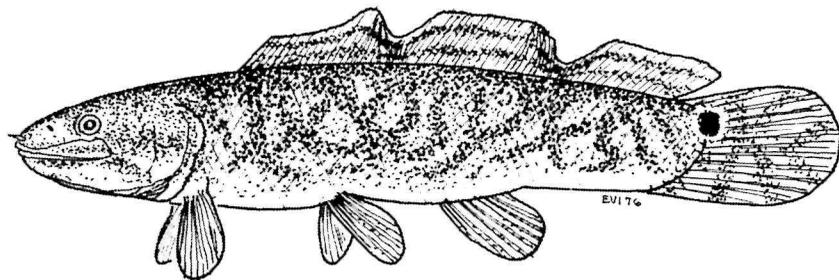


The bowfin shares warm, weedy shallows with the longnose gar, and, like the gar, can breathe air, absorbing the oxygen with its rudimentary lungs.

By scent as much as sight, the bowfin slowly stalks his prey, his long, low dorsal fin rippling with every move. A sudden intake of water unites predator and prey, usually another fish, crayfish or frog. As long as food is available, a bowfin will devour it, excreting whatever he cannot digest.

In preparation for laying their eggs, bowfins clear a spot for a nest by biting off plants in an area and taking them away. The eggs stick to the bottom and are tended by the male. An adhesive gland on the other end of the snout keeps the newly-hatched young on the nest for another week. Though usually a slow-moving fish, the bowfin is fiercely aggressive in defending his nest.

The bowfin has a special characteristic found in no other living fish, a boney plate underneath his lower jaw. It is this characteristic that makes him a “living fossil”.



Bowfin

Amia calva

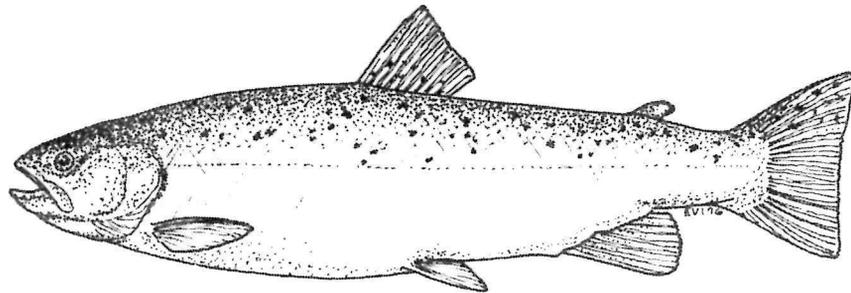
Coho Salmon

Oncorhynchus kisutch

Since the Atlantic salmon disappeared from the Thousand Islands around the turn of the century, the Pacific coastal coho, a similar fish, was introduced into the area in hopes of reviving the salmon fishing industry. However, it has not done as well as expected. Though the supply is continually being augmented by fish hatcheries, anglers catch only a few each year.

The snout of the male coho undergoes an amazing change at spawning time. Their top jaw becomes extended, thickened and down-turned at the tip while the bottom jaw swells and turns up at the tip. In this condition, they cannot close their mouths.

The habits of the coho in the St. Lawrence are particularly interesting since it is a fish which originally lived in the salt water of the Pacific and only moved up rivers to spawn. Its very survival here is a testament to nature's gift of adaptability.



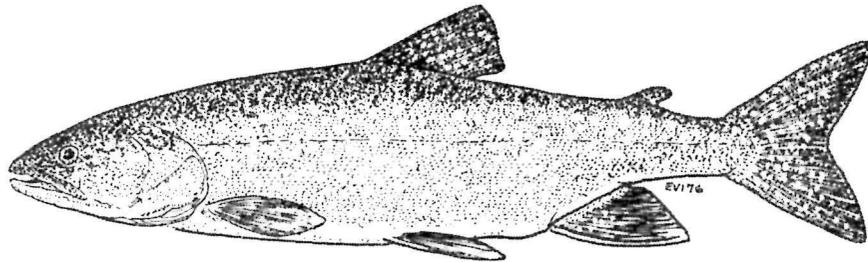
Lake trout or “lakers” are one of the fall-spawning fishes whose eggs incubate for the entire winter and hatch in the spring. The adults clear a nest on a boulder or rubble-strewn bottom in up to 120 feet of water, and there, at night, lay their eggs. After spawning, the trout travel as much as a hundred miles in search of a suitable place to spend the winter.

From spring breakup until the river warms, adults move toward the surface to partake of the abundance of shallower waters. Here they find all kinds of food: freshwater sponges, insects, crustaceans, other fish and even smaller mammals such as mice and shrews.

During the summer, lake trout are forced to seek cooler water in the river’s depths. Because of this, they can eat only crustaceans since all the small fishes (their favorite food) are close to the surface.

Populations of lake trout in the St. Lawrence have declined drastically of late. This decline has been attributed to the local disappearance of the tiny deep-water sculpin which was the main source of food for younger trout.

Pollution, too, has taken its toll. D.D.T., in particular, accumulates in the yolk of the egg and kills the embryo as it is absorbed.



Lake Trout

Salvelinus namaycush

Northern Pike

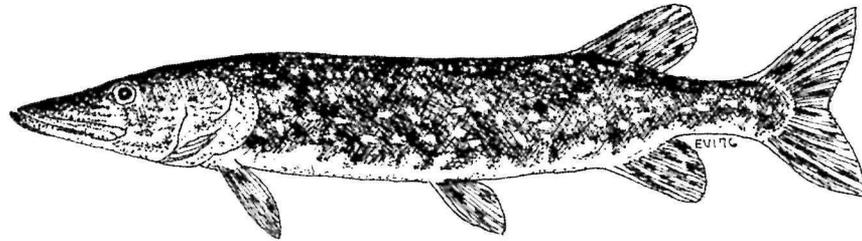
Esox lucius

Adult pike love the warm, weedy, slow-moving parts of the river, seeking deeper and cooler water only at the hottest time of the year. Within vague territories they hunt down any living animal they can capture for food. Even tiny pike only one week old are predacious. By the time they are adults, they are real opportunists. Their huge jaws and sharp teeth are perfectly suited to the capture of prey, as well as to their own defense. Only lampreys and man can do them harm.

Immediately after the ice is out, pike move onto floodplains to spawn, sometimes in only a few inches of water. They scatter their eggs at random, up to half a million for each female. The sticky eggs cling to plants and remain attached by an adhesive gland for a few days, even after they hatch.

Though so many eggs are laid, over 90% of them never reach maturity due to predation and other factors. One problem arises due to their spawning locations in that, when the water level falls before the young are swimming, many are exposed to the air and die.

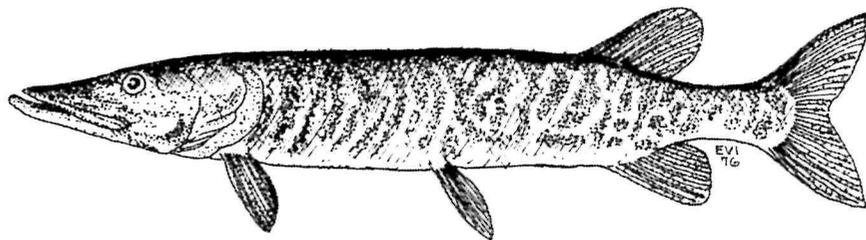
Muskie are very closely related to pike. They, however, have dark markings on a light background, while pike have light markings on dark. Young pike are sometimes called grass pike, after their long vertical markings which change to spots with age.



Lurking in the shadows of underwater plants, the muskie remains quiet and alone, but alert. His prey must provide a substantial meal or he will not budge. He prefers other fish, but frogs, muskrats, mice, shrews or waterfowl will do. With a flash of fury he seizes the unwary, catching it sideways in his powerful jaws, and returns to his hideout to devour it. Here he twists it about and downs it, head first.

Muskies, like their relatives, pike, spawn on plains flooded by spring run-off, scattering their eggs randomly. The newly-hatched young are often devoured in vast numbers by the tiny predacious pike who are born slightly earlier.

The young survivors grow rapidly, reaching twelve inches within six months. The possibility of catching a prize adult annually draws crowds of fishermen to the Thousand Islands, one of the best spots in the world for muskie fishing.



Muskellunge

Esox masquinongy

Carp *Cyprinus carpio*

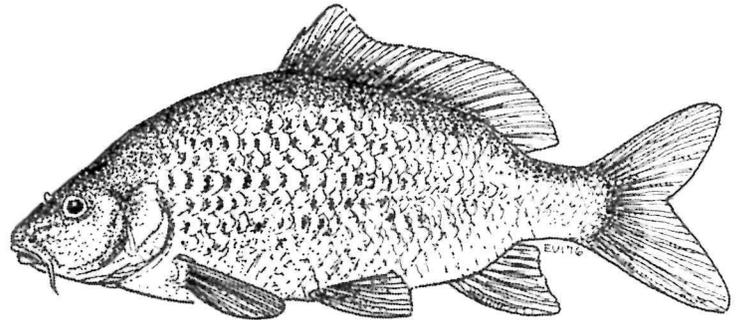
The carp is actually a member of the minnow family, introduced into North America from Europe in the 1800's.

Carp will eat anything small enough to catch, be it plant or animal. On the river's bottom, they root around, pulling up plants and stirring the water into a muddy, murky mess. Other fish and waterfowl that feed in shallow areas are consequently forced to flee in search of clearer water.

Molar-like projections on the fifth gill arch allow carp to grind up plant food easily. His coat of heavy scales keeps him safe from lampreys, leaving man his only enemy.

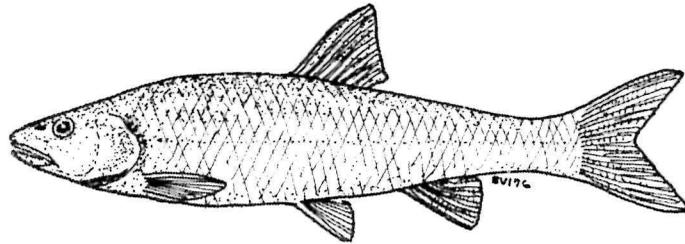
For several weeks in the springtime, those who live on the river can often hear carp thrashing around at the surface as they lay their eggs. Over the spawning period a large female can lay more than two million eggs.

Carp are one of the few fish still caught commercially in the area. Considered a delicacy by Europeans, the catch is usually shipped to markets in New York.



Fallfish, like carp are also members of the minnow family. The male has a fascinating way of building a nest in preparation for spring spawning. Because the eggs are non-adhesive, and are laid in fast-flowing water, some structure is necessary to keep them from being carried away. Therefore the male gathers stones in his mouth, one by one, and piles them up at the nest site. The female lays the eggs in the nest and once again the male gathers stones to cover them up.

The young fish remain in the fast waters while older fish seem to prefer slower areas, dashing out with lightning jabs to catch small fish or insects passing by.



Fallfish

Semotilus corporalis

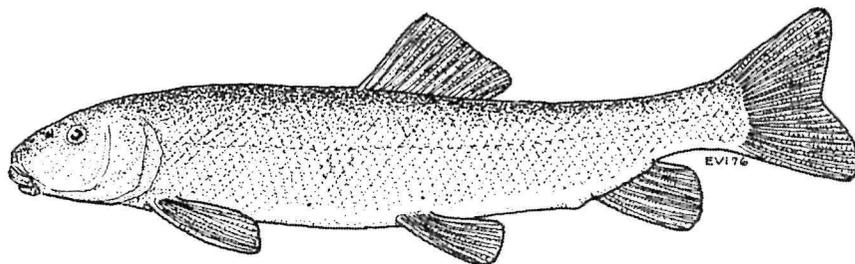
White Sucker

Adult white suckers live in twenty to thirty feet of water, moving to shallower water to feed, mostly at dawn and sunset. Since they inhabit the same type of environment as pike, muskie, bass and walleye, white suckers often form a major food source for these predatory fishes.

Using their homing instinct, white suckers return to the same places to spawn every spring, usually where the water is shallow and the bottom gravelly. Since the eggs they lay are adhesive, and will stick to the debris on the riverbed, there is no need to build a nest.

The newly hatched young are almost like a different fish, with their mouths at the end of their snouts instead of underneath in usual sucker fashion. For a couple of weeks the young feed near the surface on plankton and other small invertebrates, before they develop the sucker-live mouth.

Suckers are sold commercially as “mullet” and often raised by the thousands as bait fish, or feed for commercially grown trout.



“Bullhead” is an appropriate name for this dark-coloured fish with its massive head and sharp spines. An omniverous fish, it feeds at night in shallow, murky water. Using its barbels, and the taste glands which cover its scaleless skin it hunts for food on the bottom.

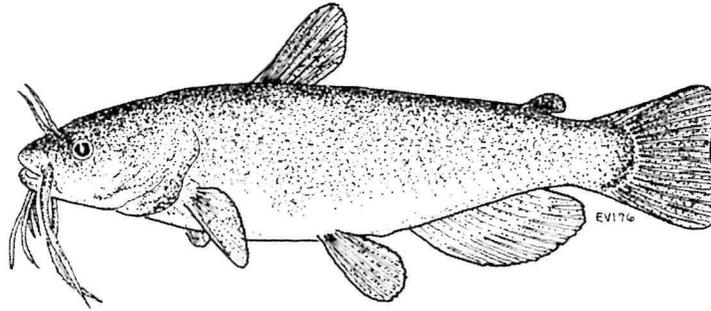
In May or June, bullheads clear a nest in mud, even inside old tires by docks. There is a fascinating ritual involved in courtship before the eggs are laid. The male and female caress each other with their barbels, swimming round and round the nest until eventually they rest over it and release some eggs and sperm, repeating the act until all the eggs are laid.

The eggs are covered in a jelly-like coat and require a great deal of care by the parents in order to hatch. The parents clean them continual-

ly by stirring, and even by picking them up in the mouths and dropping them back in the nest again. Though bullheads are usually responsible parents they do sometimes eat their own eggs.

The cold waters of spring draw many enthusiastic fishermen to the river's shore at dusk for an evening of bullhead fishing. Many lights shine along the Thousand Islands Parkway wherever shallow water adjoins a weedbed, and the bullheads are biting.

In the southern states fish farmers raise bullheads in huge shallow ponds for sale to supermarkets. The meat is very tasty, especially here, where cold water keeps the flesh firm.



Brown Bullhead

Ictalurus nebulosus

Channel Catfish

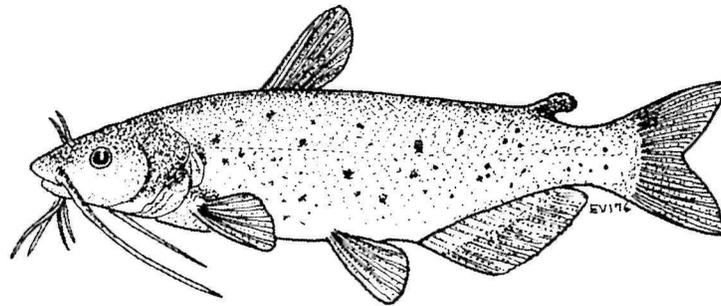
Ictalurus punctatus

“Channel cats”, the largest catfish in Canada, are very particular about where they build their nests at spawning time in late spring or summer. If they can’t find a dark protected spot, they lay no eggs at all. When they are successful in nesting the eggs are cared for meticulously — fanned and adjusted by the male.

Bulky and slow-moving, this huge catfish never ventures far from his home. He lurks in the shadows during daytime, moving to better feeding grounds only at night. Like other catfish, the channel cat searches out food with the innumer-

able taste glands that cover his skin and barbels, but unlike them, he lives in very clear water and so uses his sight much more. In addition to food from the bottom, this fish will take food at the surface, another unusual characteristic in catfish.

Today channel cats are raised commercially for market. Once they were prized for more than their flesh. Indians would take spines from each pectoral fin, round the bases, remove the barbs, then use the finished product as an awl for leather work or as a needle. Such tools have been found in Ontario and date from about 3,000 years ago!

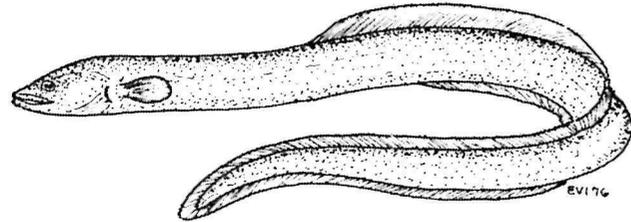


For centuries the only explanations of the lives of eels were offered by myths and legends. In 1922, after years of research their story finally came to light; a truly amazing one it is.

The eels of the St. Lawrence River, American eels, are born in the Sargaso Sea (east of the Bahamas and southwest of Bermuda). After laying millions of eggs, the adults apparently die, as they have never been known to return to the River.

The eggs hatch into transparent, ribbon-like creatures, a true larval stage called “leptocephalus” and head up the coast of North America. It takes a year of travelling for them to reach their homes, navigating only by instinct, with no parents to guide them. Many of course, fall prey to other fishes along the way. The ones that reach fresh water enter a new stage of life, becoming what are called “glass eels”, small and still transparent, but in their final form.

By the time of their arrival at small streams and rivers they are a greyish green colour and are called “elvers”. After several years of fresh water, the back becomes darker, the belly lighter, and they are referred to as “yellow eels”. It is several more years before they are sexually mature and ready to head for the sea. Females average 30” to 40”, about three pounds in weight, while males seldom more than 24”. A European eel, kept in captivity and so unable to undertake the arduous journey to its spawning grounds lived for 88 years! The mature eels are called “silver eels” after their metallic colour. Apparently, if exposed to a drastic change of light intensity, eels can change their colour in only a few hours, by redistributing the pigment in their skin cells.



American Eel

Anguilla rostrata

Micropterus dolomieu
Smallmouth Bass

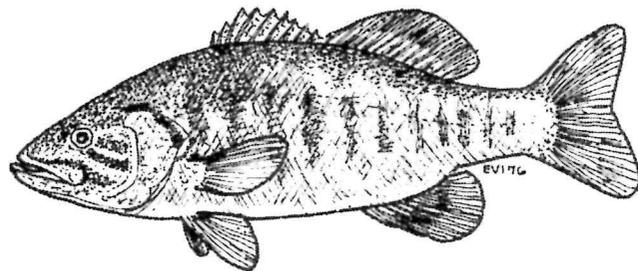
American Eel — *Continued*

In fresh water, adults usually spend their days buried in the muddy, silty bottoms of lakes and rivers. During the night these voracious carnivores grab other fishes and invertebrates, sometimes even eating dead fish caught in gill nets.

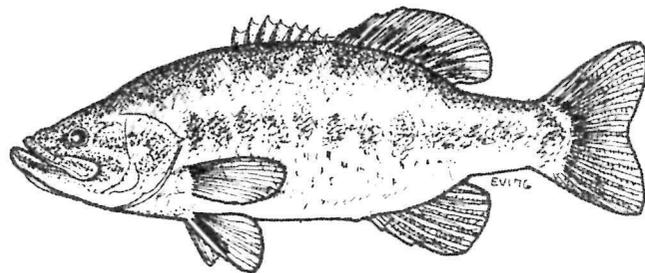
Because eels are so well-hidden during the day, they have few enemies for most of their lives. When, however, they travel the ocean en route to their spawning grounds, many are taken by sharks, sword-fish and other large predatory fishes.

Despite the fact that millions of eggs are laid by each female many factors exist to control the population. Many young are eaten during their long travels in the larval stage; the ones that survive to maturity are often killed before they are able to spawn; and each adult spawns only once before dying.

There are many questions about the lives of eels yet unanswered though since their amazing story came to light, research has continued. Eels are not just vicious, slimy creatures of the night; they lead fascinating and extraordinary lives.



SMALLMOUTH AND LARGEMOUTH BASS



The Thousand Islands offers some of the best bass fishing in Canada. "Black bass", or largemouth and smallmouth bass, spawn in the river's shallow bays and winter in its depths.

Bass have been enjoyed as sport fish throughout the history of our country. At one time they were also caught commercially. Fishing boats would come to shore, their holds laden with tons of fresh-caught bass. The fish were sent to local markets where at times they sold for the outrageous price of seven cents a pound. Soon overfishing drastically reduced the catch. By about 1936 commercial bass fishing had been stopped altogether. For the private fisherman, though, there was bass aplenty.

In late May or June, while most of the river is still very cold, the sun has warmed the shallows where bass like to spawn. When the temperature is just right, about 17°C, the fish move in. Smallmouth bass pick spots where the bottom is sandy, gravelly or rocky, in up to twenty feet of water, while largemouth bass prefer shallower water with a slightly muddy bottom.

The male build a nest by clearing an area on the bottom with strong sweeps of his tail. This is his territory and he guards it against all intruders.

Next he must try to entice a female into joining him. When one comes near, courting begins. The pair swim around and around the nest, rubbing and nipping at each other, almost like a dance. If the female chooses to stay and everything else is right, she lays up to 14,000 eggs. Often she lays some in one nest, and then moves on to mate with another fish. Wherever she lays her eggs, a male will tend them, keeping them free of silt and warding off predators.

Rock bass are the most successful of the predators. Attacking in groups, one of their members becomes a decoy. While the guarding male is chasing him, the rest of the group feed on the eggs and fry. As a result of this and other perils, only 60% of the nests produce any young fish at all. Of these, only a fraction survive to leave the nest.

The tiny fish or fry feed on plankton. As they grow, their diet changes to insects, then, as adults, to crayfish, frogs and other fish.

Largemouth Bass

Micropterus salmoides

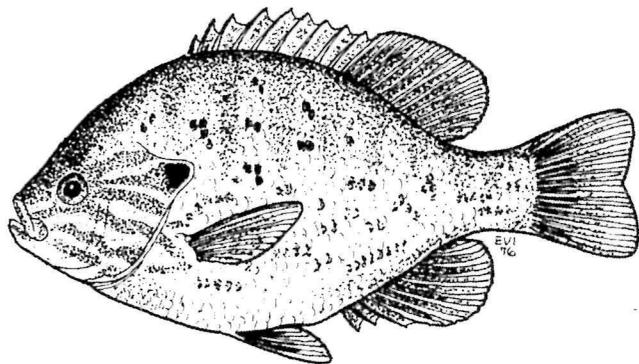
Pumpkinseed
Lepomis gibbosus

Bass — *Continued*

Summertime finds adult largemouth bass in warm, shallow water (less than twenty feet) over a muddy bottom. Smallmouth bass on the other hand, prefer rocky, less vegetated areas and colder, deeper water.

To be sure of the difference between the two kinds of “black” bass check the position of the upper jaw in relation to the eye. On largemouth it goes beyond the eye, while on smallmouth, it does not.

Sunfish, renowned for their voracious appetites and gregarious habits, frequent the river-shallows. Around docks they will not only attack any bait or lure, but will even strike dangling toes!

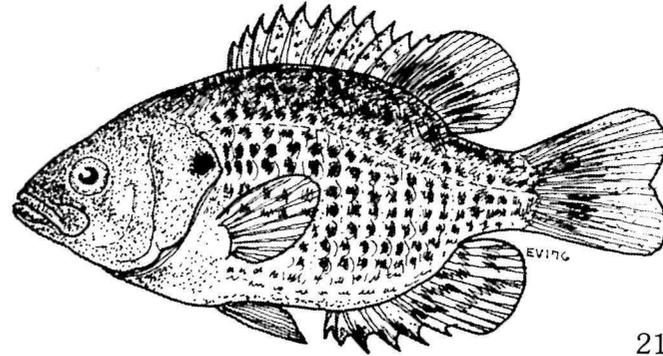
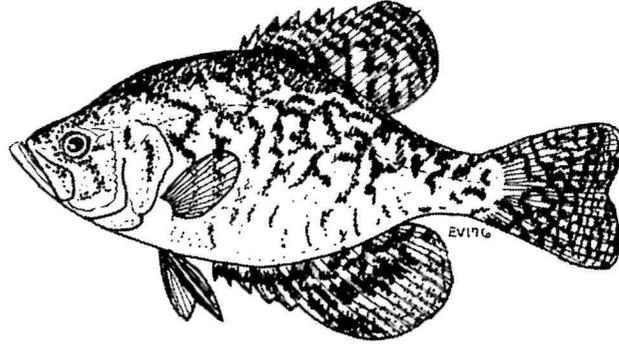


Rock bass are usually found over a rocky bottom as their name suggests, often in groups with pumpkinseeds, while crappies prefer a weedy bottom. The diet of all the sunfishes is mainly aquatic insects and small fishes. Pumpkinseeds prefer the former and crappies the latter.

As aggressive as sunfishes are in seeking food, they are more so in courting, and defending their nests at spawning time — late spring and early summer.

And how do you distinguish one species from another? The rock bass has its distinctive red eyes; the black crappie has a depressed forehead; and the pumpkinseed is decked out in colour with bright facial markings of light blue, red and yellow.

In certain isolated areas in the Thousand Islands another sunfish, the bluegill is common. It is similar to the pumpkinseed but lacks a light border around its dark gill cover spot.



Yellow Perch

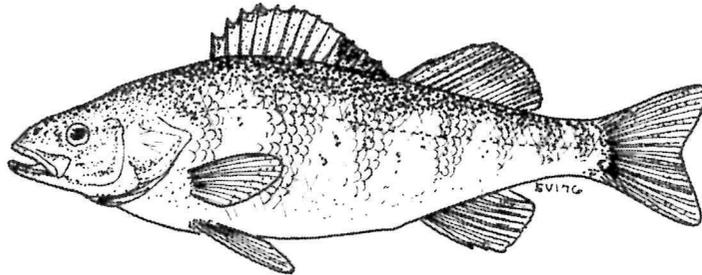
Perca flavescens

Most people recognize yellow perch by their bright orange pelvic fins. They are caught so often in the Thousand Islands that they have become the source of a local delicacy called “Thousand Islands Shrimp”. Perch fillets are boiled in water for three minutes, then transferred to ice where they curl up in shrimp-like fashion, and are served thus with a tasty sauce.

Perch adapt easily to different environments and so are found almost everywhere, usually in schools. You will never catch one at night because they lie on the bottom to rest until daylight.

Perch have special characteristics of which most people are unaware. They do not lay their eggs the way most fishes do, but exude them in a transparent jelly-like string that is folded up like an accordion and has a tube down the centre through which water can circulate. The tube of eggs is semi-buoyant, about seven inches long, and sticks to vegetation on the bottom.

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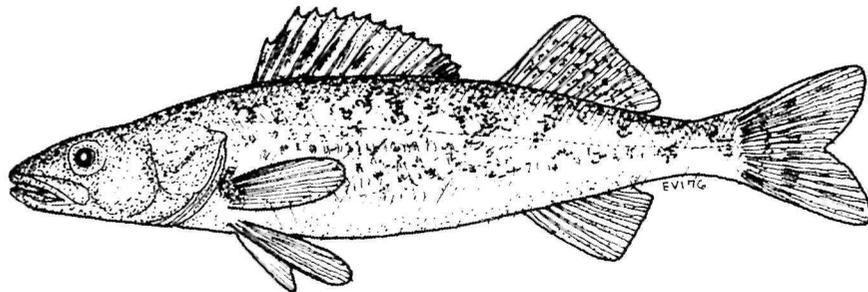
Walleye, often called pickerel, receive their name from a special layer covering their eyes which is extremely sensitive to light. They can live in many kinds of habitats but must adapt their activities according to the amount of light present. In clear water they spend the daylight hours as close to the bottom as possible and under the cover of weedbeds, boulders or sunken trees. At twilight or night-time they feed.

With ice and snow to shield them from the sun, walleye are active all winter. If food is short, they become highly cannibalistic, as well as eating just about any other species of fish.

In turbid water where the sun doesn't bother their eyes, they are active all day, swimming around the bottom in loose but discrete schools in firmly established territories.

The spawning activities of walleye are remarkable. Following a homing instinct, they rush to their spawning beds as soon as streams are open, often before the ice is off the lakes. After active courting the eggs are laid, all in one night, in the foaming water below impassible falls, or in the turbulent waves next to shoals. The eggs are scattered about on the rocky bottom and begin development. Even before the yolk sac disappears, the young begin to feed.

The population of walleye in the Thousand Islands is small; to catch one is quite an event.



Walleye

Stizostedion vitreum



Prepared by the Interpretive
Staff of St. Lawrence Islands
National Park.

FRESHWATER FISHES OF CANADA — by
W.B. Scott & E.J. Crossman published as:
Bulletin 184 — Fisheries Research Board of
Canada, Ottawa 1973 966 pp.

The “bible” of ichthyologists, this is an
advanced book which nevertheless contains infor-
mation which can easily be read by laymen.
Excellent illustrations.

FRESHWATER FISHES OF EASTERN
CANADA — 2nd Edition by W.B. Scott published
by University of Toronto Press — 128 pp.

An ideal book for the layman, good and per-
tinent descriptions of size, range, habits, food, etc.
Excellent photographs.

FISHES OF THE GREAT LAKES REGION
by C.L. Hubbs & K.F. Lagler published by the
University of Michigan Press, 4th printing 1974
213 pp.