



FISH IDENTIFICATION

Fresh Water Species

Kailey Mortensen

TABLE OF CONTENTS

SPECIES OF FRESH WATER FISH NATIVE TO NOVA SCOTIA	3
SALMONIDAE FAMILY	4
THE ATLANTIC SALMON (<i>SALMO SALAR</i>).....	4
BROOK TROUT (<i>SALVELINUS FONTINALIS</i>).....	5
BROWN TROUT (<i>SALMO TRUTTA</i>).....	6
LAKE TROUT (<i>SALVELINUS NAMAYCUSH</i>).....	7
RAINBOW TROUT OR STEELHEAD (<i>ONCORHYNCHUS MYKISS</i>).....	8
WHITEFISH SUBFAMILY	9
LAKE WHITEFISH (<i>COREGONUS CLUPEIFORMIS</i>).....	9
TEMPERATE BASS FAMILY (<i>MORONIDAE</i>)	10
STIPED BASS (<i>MORONE SAXATILIS</i>).....	10
SUNFISH FAMILY (<i>CENTRARCHIDAE</i>).....	11
SMALL MOUTH BASS (<i>MICROPTERUS DOLOMIEU</i>).....	11
OTHER FRESH WATER FISH SPECIES NATIVE TO CANADA	12
CHINOOK SALMON (<i>ONCORHYNCHUS TSHAWYTSCHA</i>).....	13
COHO SALMON (<i>ONCORHYNCHUS KISUTCH</i>).....	14
SOCKEYE SALMON (<i>ONCORHYNCHUS NERKA</i>).....	15
ARCTIC CHAR (<i>SALVELINUS ALPINUS</i>).....	16
WHITEFISH SUBFAMILY	17
CISCO OR LAKE HERRING (<i>COREGONUS ARTEDI</i>)	17
ROUND WHITEFISH (<i>PROSOPIUM CYLINDRACEUM</i>).....	18
SUNFISH FAMILY (<i>CENTRARCHIDAE</i>).....	19
LARGEMOUTH BASS (<i>MICROPTERUS SALMOIDES</i>).....	19
REFERENCES	20

SPECIES OF FRESH WATER FISH NATIVE TO NOVA SCOTIA

There are several freshwater fish species that are found in Nova Scotia that are a big part of recreational sport fishing. The most common species are those listed below. Please see the identification descriptions for each species to help you identify what you are catching in our Nova Scotian Lakes and River systems!

Salmonidae Family

- Atlantic Salmon
- Brook Trout
- Brown Trout
- Lake Trout
- Rainbow Trout

Whitefish Subfamily

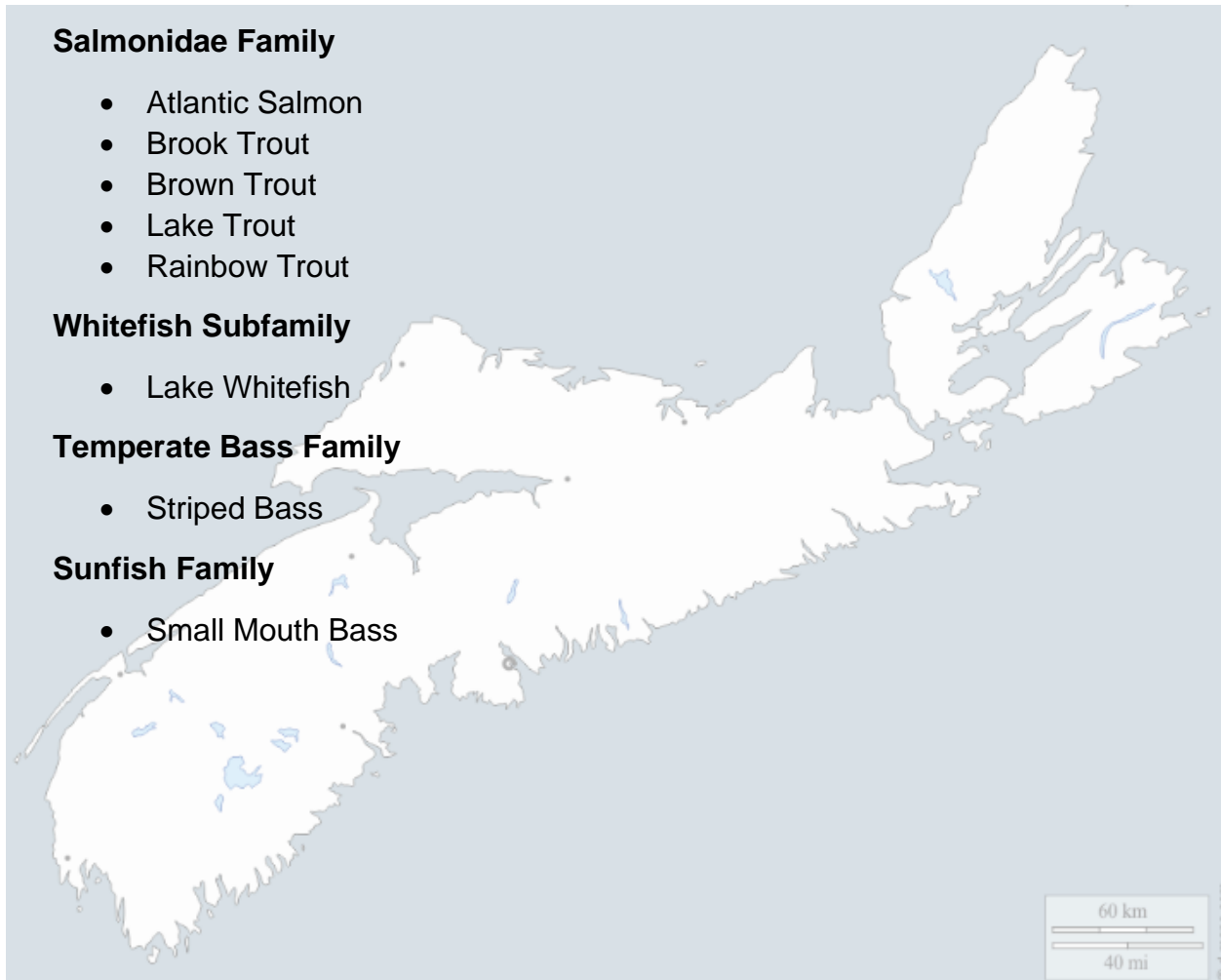
- Lake Whitefish

Temperate Bass Family

- Striped Bass

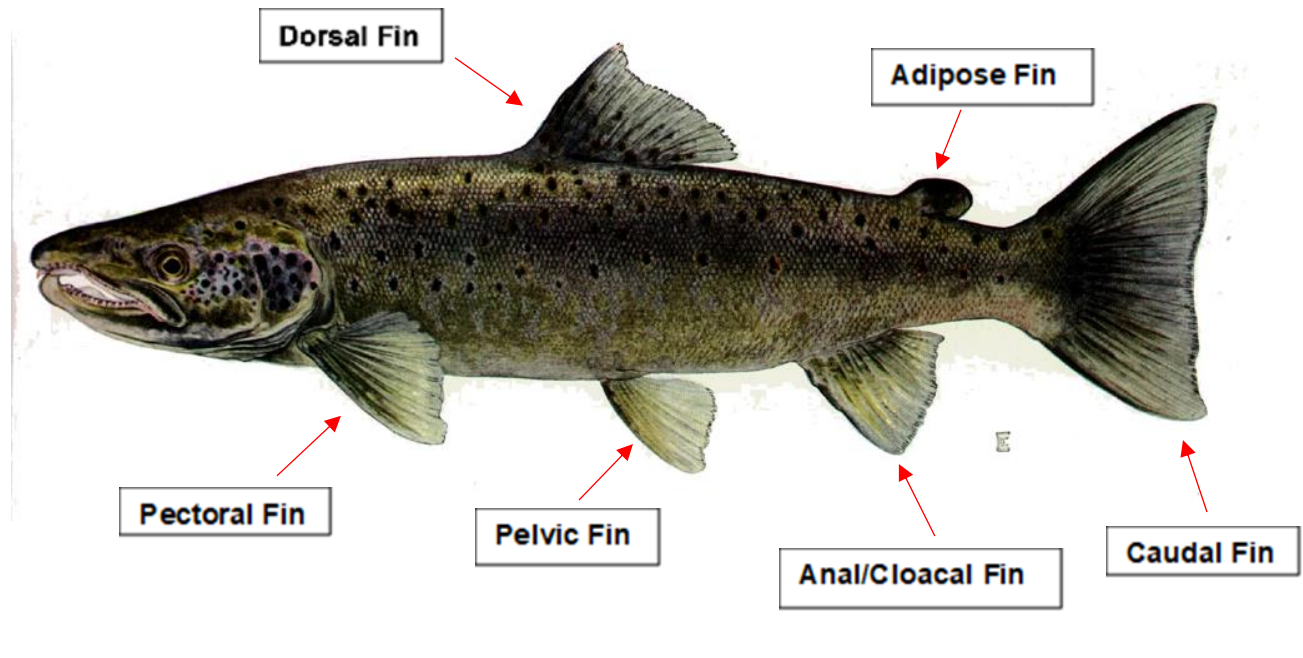
Sunfish Family

- Small Mouth Bass



SALMONIDAE FAMILY

THE ATLANTIC SALMON (*SALMO SALAR*)



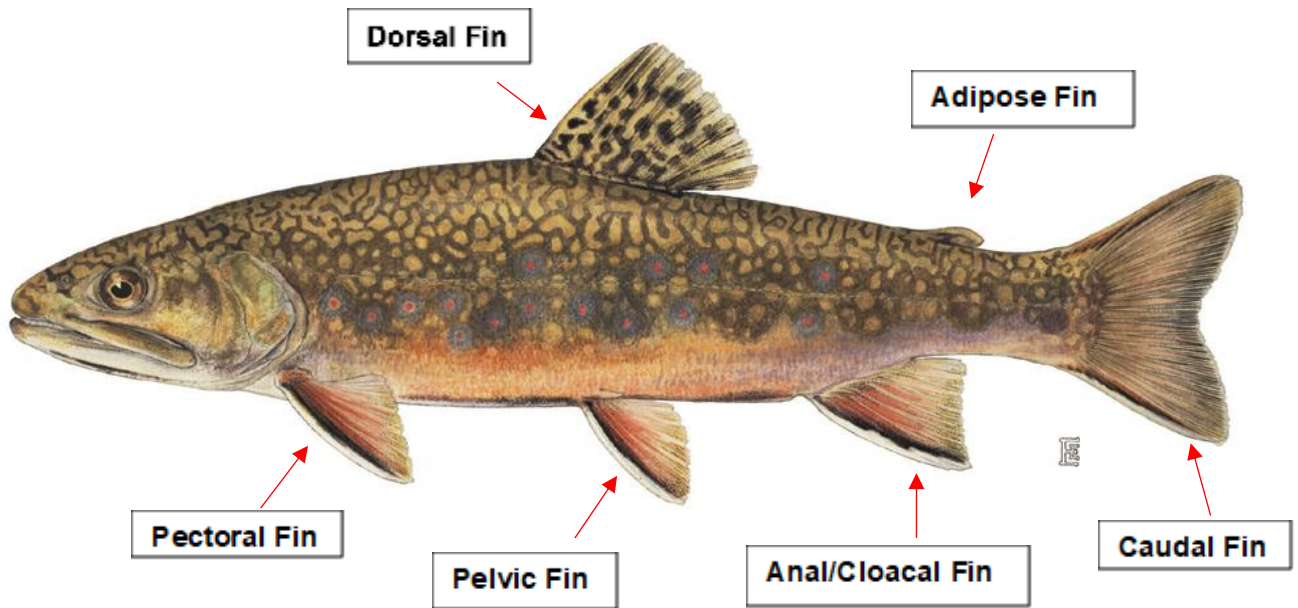
Identification

This species is the longest and heaviest in the *Salmo* genus; and can live both in freshwater and saltwater habitats.

Average size and weight: the average size ranges 71-76 cm; the average weight ranges 3.6-54 kg – but specimens that feed four or more winters in the sea can grow much bigger.

Markings and color: When Atlantic salmon are at sea their body color varies between dark shades of blue, brown and green. The sides of their body are silver colored with numerous scattered black spots. When they are in fresh water, their body color changes to a bronze/brown. They sometimes will have reddish spots on their head and body as well. They have a slightly spotted dorsal fin and adipose fin (unless clipped). They have dark pectoral fin and caudal fin that may appear slightly forked. The base of the tail is usually narrow and tapered. Their anal fin has 9-10 rays. The tongue is narrow and pointed and will have 4-6 small teeth. Protrusion of upper lip usually extends to rear edge of eye or only slightly beyond. Juveniles have 10 or 11 dark crossbars alternating with bright red spots.

BROOK TROUT (*SALVELINUS FONTINALIS*)



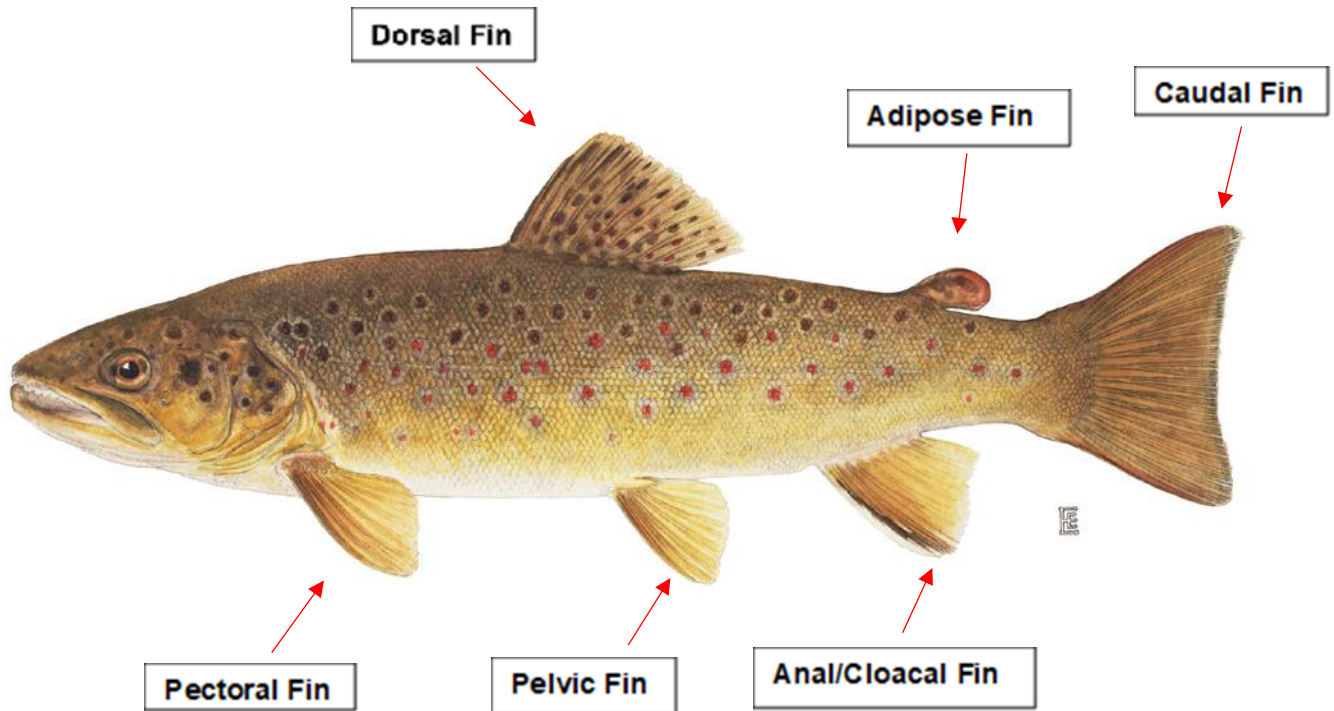
Identification

This species can live in both freshwater and saltwater habitats.

Average size and weight: The brook trout vary from 25 to 65 cm (9.8 to 25.6 in), and weights from 0.3 to 3 kg (0.66 to 6.61 lbs.).

Markings and color: Brook trout (*or speckled trout*) are dark green to brown in color. They have a distinctive marbled pattern called *vermiculation* of lighter shades across the sides and back, extending to the dorsal fins and often the tail. A distinctive sprinkling of red dots surrounded by blue halos are located above and below the lateral line. The belly and lower fins are reddish in color, with white edges. During spawning season, the males often become red or orange on the belly. Their mouth extends backwards beyond the eye.

BROWN TROUT (*SALMO TRUTTA*)

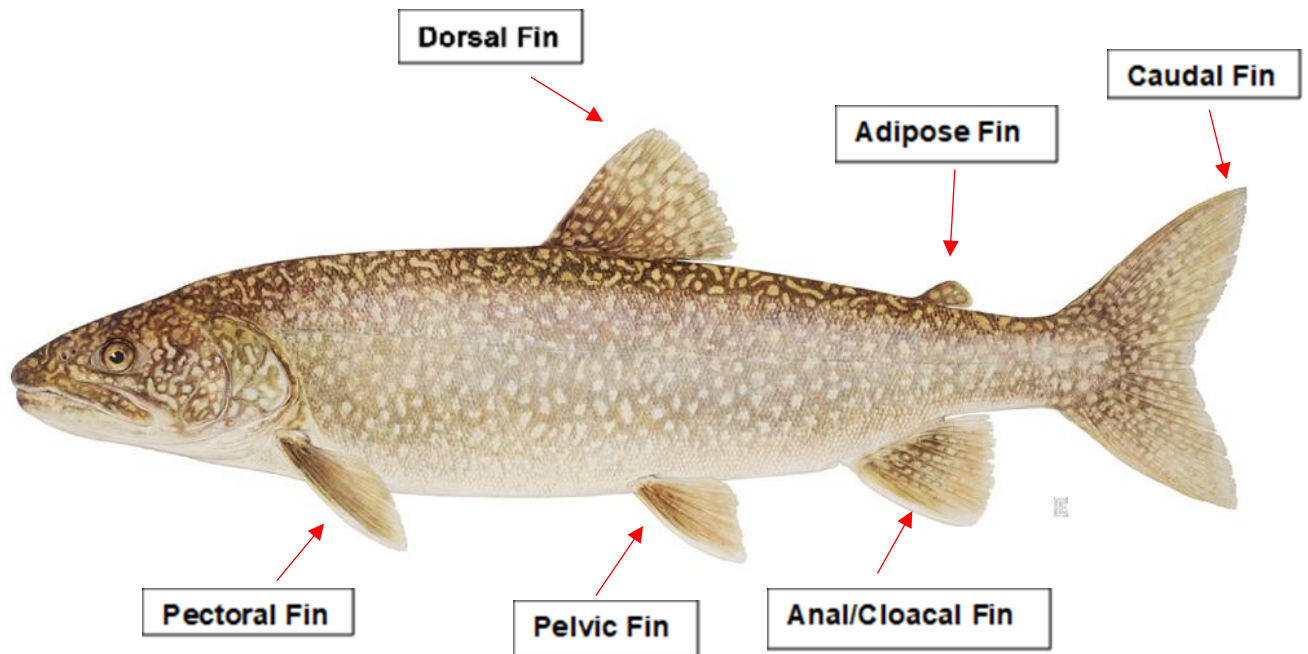


Identification

Average size and weight: The average size of a brown trout varies from 20 – 39 inches. They can weigh up to 60 lbs. matured. If they are in smaller rivers, they can weigh up to 2.2 lbs. being matured, sometimes less.

Markings and color: The body color is tan, brown, or olive brown (inland populations) or silvery (Great Lakes) grading to cream on belly. Their dorsal fin is heavily spotted and adipose fin (unless clipped) is spotted. They have light brown pectoral fins, square tail with little to no spots and 9-10 rays in the anal fin. No lateral line on the body unless it is juvenile. All spots are a reddish color or dark brown or black. Their upper lip extends past the eye. They have broad square tongue with 11 to 12 large teeth.

LAKE TROUT (*SALVELINUS NAMAYCUSH*)

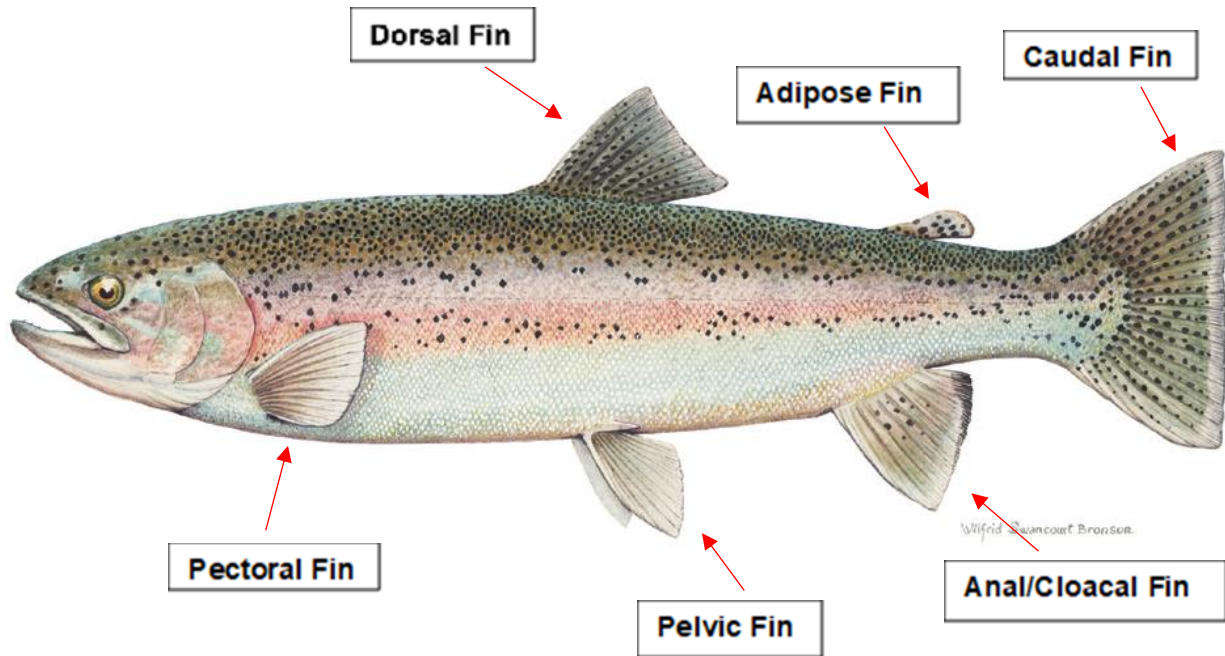


Identification

Average size and weight: Typically, they are 20-30 inches, maximum 40 inches. They weigh 15 – 40 lbs.

Markings and color: Their mouth is large and slightly oblique, with numerous small to medium-sized teeth on the upper and lower jaw. Spots on side, mottling or irregular blotches on back known as *vermiculation's*; juveniles have thick dark vertical bars (“parr marks”). Their body color is dark olive, dark green, or dark gray on back and sides grading to cream on belly. Vermiculation's lighter olive or gray; spots cream to light olive. Dorsal and tail fins with lighter spots and vermiculation's on a darker olive or gray background. The pectoral, pelvic, and anal fins uniformly colored olive, gray, or light orange, sometimes with a whitish edge or faint spots. They have a distinct forked tail. The dorsal fin has 12-14 rays; and the anal fin has 7-12 rays, usually 11.

RAINBOW TROUT OR STEELHEAD (*ONCORHYNCHUS MYKISS*)



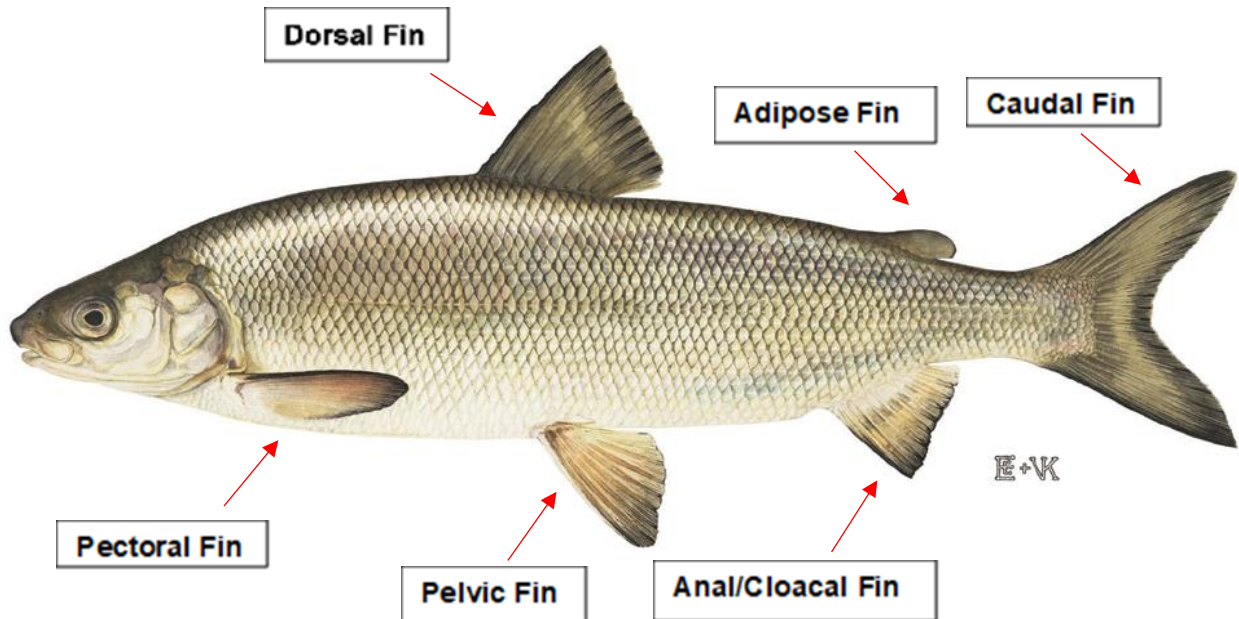
Identification

Average size and weight: Inland typically (12-16 inches, being a maximum of 22 inches weighing up to 5 lbs. In the Great Lakes they range from 20-28 inches being a maximum of 32 inches weighing up to 20 lbs.

Markings and color: The body has spots on the sides, with an obvious broad red to pink lateral stripe. The spots dark brown or black; round or irregular in shape. Inland populations; juveniles also with oval dark vertical bars ("parr marks"). Inland populations are densely spotted with a background of dark olive or green on the back, silver, bronze or olive on the sides, and cream below, with a broad, red, rose, pink, or purple lateral stripe. In the Great Lakes their background color is gray-blue or greenish-blue on the back and silvery on the sides and the red stripe is often faint and sometimes absent. Their mouth is large with numerous small to medium-sized teeth. Dorsal and tail fins tan, olive, or gray; both usually spotted throughout. Pectoral, pelvic, and anal fins tan, olive, or gray, usually without spots. Adipose fin is spotted. They have a slightly forked to square tail. The dorsal fin has 10-12 rays; and the anal fin has 8-12 rays.

WHITEFISH SUBFAMILY

LAKE WHITEFISH (*COREGONUS CLUPEIFORMIS*)



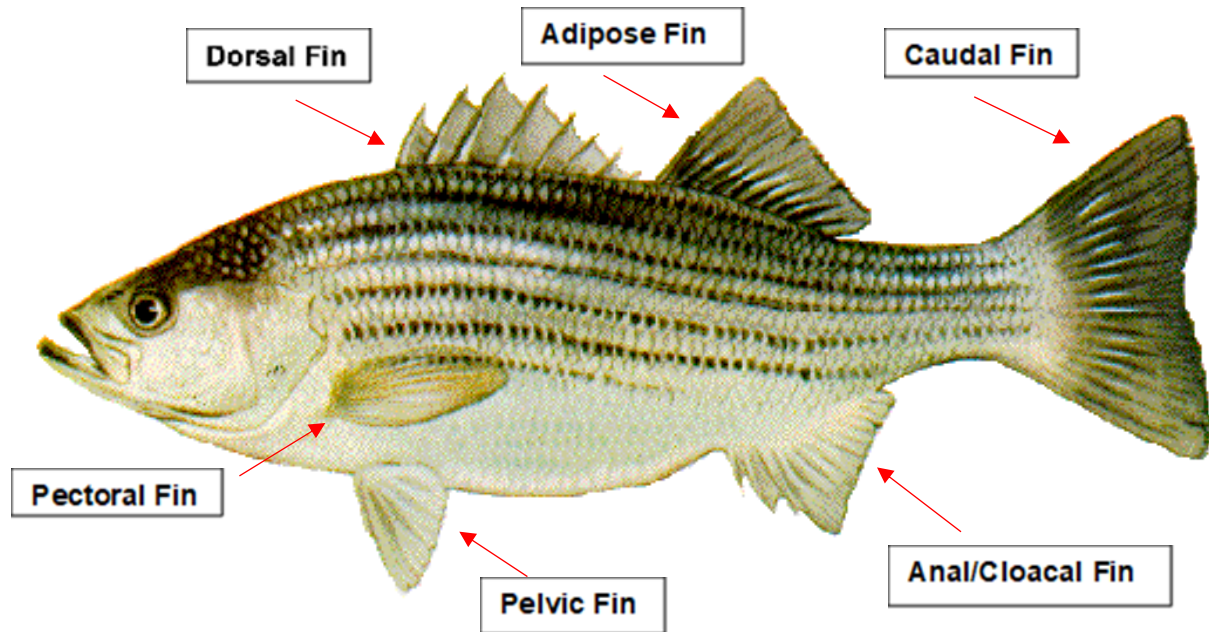
Identification

Average size and weight: They grow on average 16 – 24 inches. They weigh 1.4 – 5 lbs.

Markings and color: Their mouth is slightly oblique, with few teeth. Their body color is solid and generally silvery, but grading from brown, bronze or pale green on the back to silvery blue on the flanks to cream on the belly. Their fins are without spots or other markings. Their body is oval in the cross section. Their tail is forked. They have a single dorsal fin with 10-12 rays, usually 11; and their anal fin has 10-12 rays, usually 11.

TEMPERATE BASS FAMILY (*MORONIDAE*)

STIPED BASS (*MORONE SAXATILIS*)



Identification

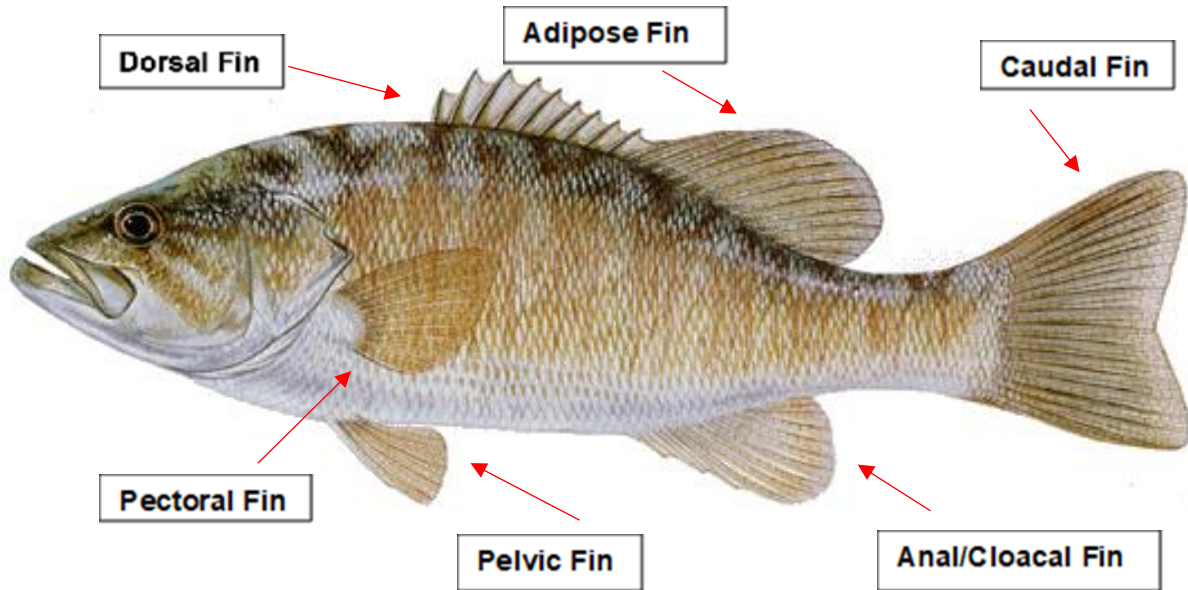
This species can live in both freshwater and saltwater habitats.

Average size and weight: The striped bass are the largest member of the sea bass family and is an anadromous species. The mature average size is 20-35 inches (50-90cm); and can weigh between 20-40 pounds (9-18 kg).

Markings and color: Striped bass have elongated bodies with an olive/blue back and silvery sides with 7-8 horizontal black lines. The dorsal fin has 8-10 spines and the adipose fin typically has 7-13 soft rays. Their gill cover has two sharp points. They have two distinct tooth patches on their tongue, and 3 spines on their anal fin.

SUNFISH FAMILY (*CENTRARCHIDAE*)

SMALL MOUTH BASS (*MICROPTERUS DOLOMIEU*)



Identification

This species can live in both freshwater and saltwater habitats.

Average size and weight: length: The average size is 1-20 inches (25-50 cm); and the average weight is 1-3 pounds (0.5-1.6 kg).

Markings and color: The smallmouth bass have a robust, smaller body that can vary in color pending on size. In clear water they tend to be darker with contrasting colors, and in turbid water they are less vibrant and lighter in color. Their heads are long with dark bars beyond the eye; and have a blunt nose and longer lower jaw. The dorsal fin has 7-9 spines and is joined to the adipose fin that is softly rayed. The caudal fin is slightly forked and softly rayed. The underside of the smallmouth bass is cream colored, and the pectoral fins are clear.

OTHER FRESH WATER FISH SPECIES NATIVE TO CANADA

The species of freshwater fish listed below are the remaining species of the Salmonidae, Whitefish Subfamily and Sunfish Family that are found in other parts of Canada. These species can not be found in Nova Scotia but are important because they are also part of recreational fisheries and sport fishing! To learn more about physical features of each species, please read the identification descriptions below.

Salmonidae Family

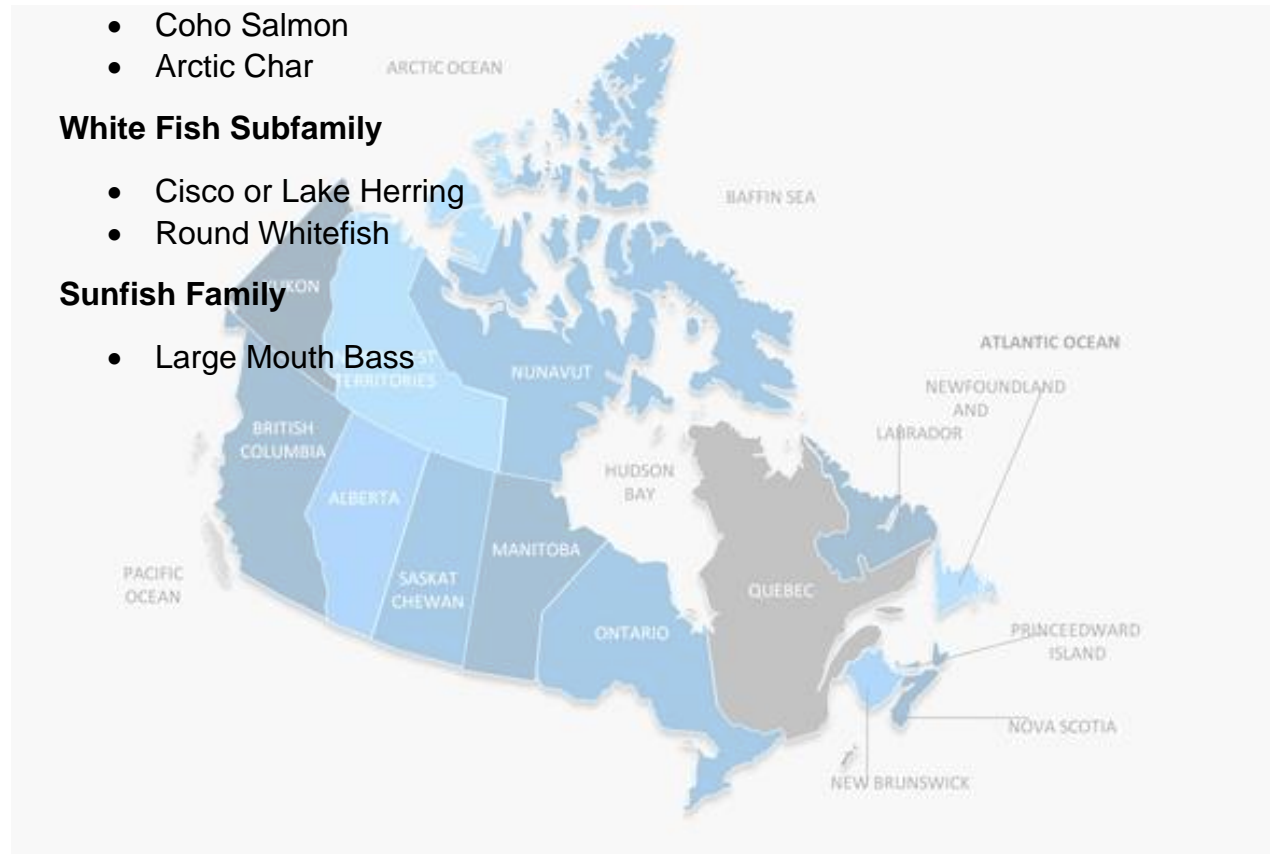
- Chinook Salmon
- Coho Salmon
- Arctic Char

White Fish Subfamily

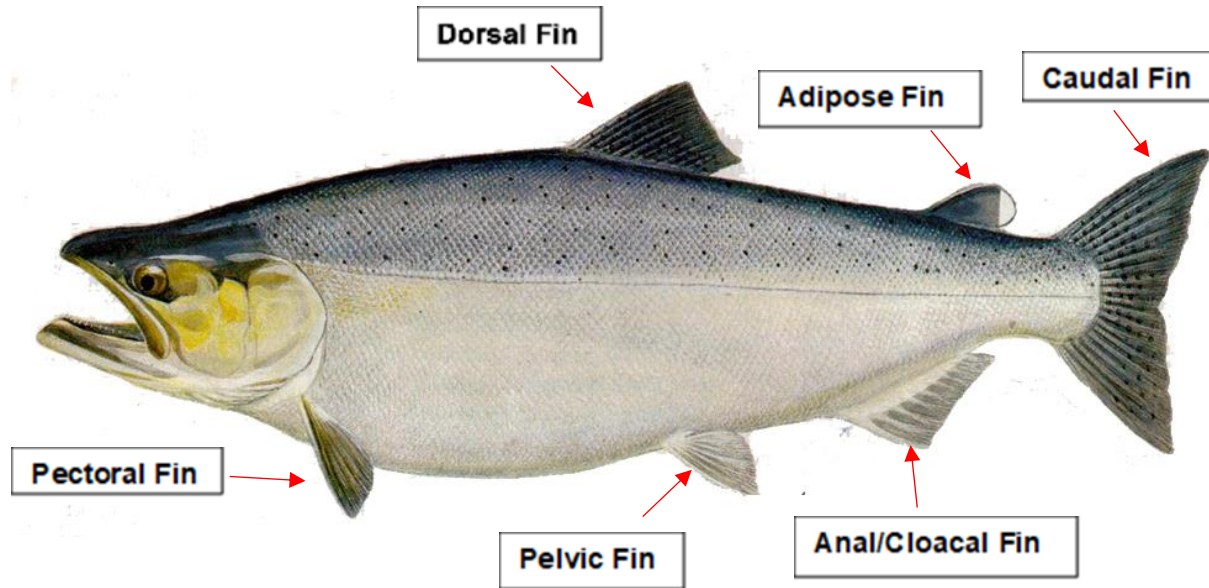
- Cisco or Lake Herring
- Round Whitefish

Sunfish Family

- Large Mouth Bass



CHINOOK SALMON (*ONCORHYNCHUS TSHAWYTSCHA*)



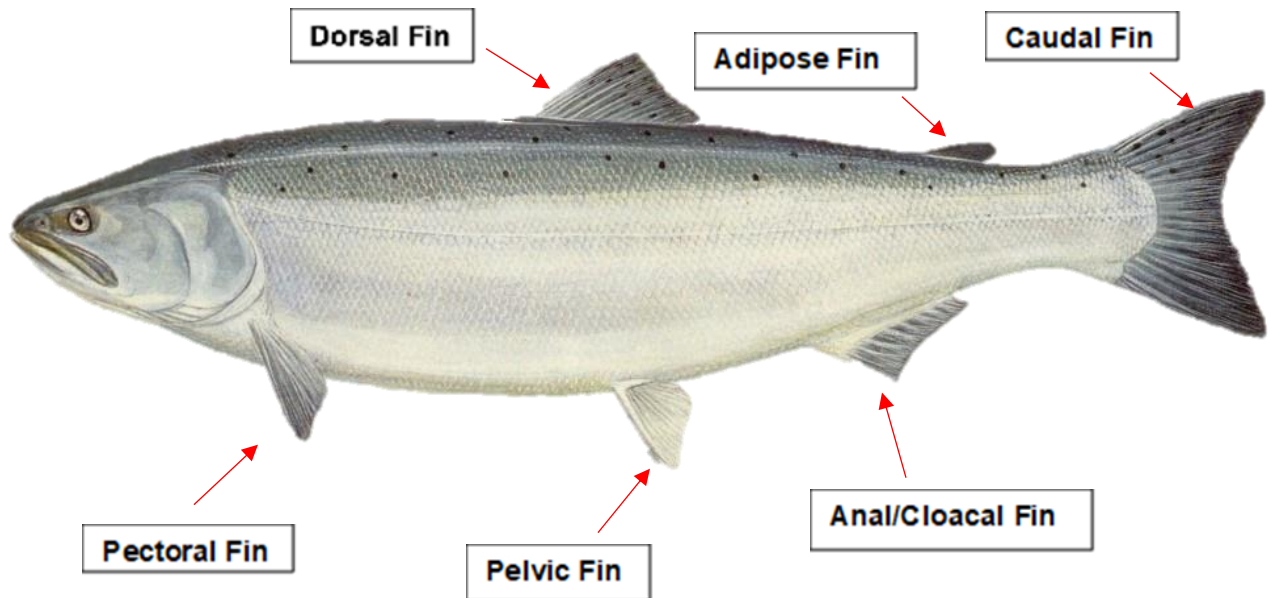
Identification

This species can live in both freshwater and saltwater habitats.

Average size and weight: Their size is on average 18 – 36 inches long. They can weigh from 10 – 50 lbs.

Markings and color: Their mouth is large with numerous small to medium-sized teeth. Dark spots on the sides; juveniles also with thick dark vertical bars (“parr marks”). Their body color is silvery, silver-blue, or light olive, grading to cream on belly and yellow/gold color on the head. The spots are dark brown or black; round or irregular in shape and are smaller than the pupil of the eye. The dorsal and tail fins tan or olive; both often spotted throughout. Pectoral, pelvic, and anal fins dark gray; anal sometimes spotted. They have a slightly forked tail. The dorsal fin has 10-14 principal rays; and the anal fin has 14-19 rays.

COHO SALMON (*ONCORHYNCHUS KISUTCH*)



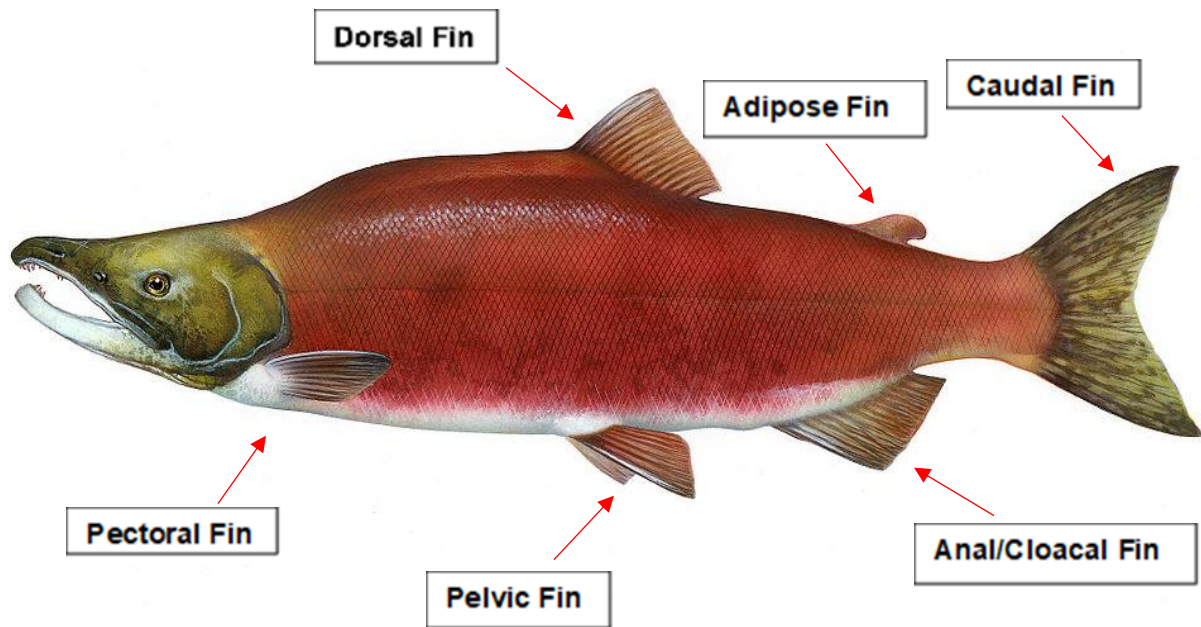
Identification

This species can live in both freshwater and saltwater habitats.

Average size and weight: Their size averages from 16 – 26 inches; maximum 30 inches. They can weigh from 7 – 11 lbs. sometimes reaching up to 36 lbs.

Markings and color: Their mouth is large with numerous small to medium-sized teeth. Their body patterning, color, and scales: spots on back and upper sides, but few and faint in some individuals, giving the appearance of a solid color; juveniles also with oval dark vertical bars (“parr marks”). Their body color is silvery, silver-blue, or light olive, grading to cream on belly. Their spots are dark brown or black; round or irregular in shape, substantially smaller than the pupil of the eye. The dorsal and caudal fins tan, olive, or gray; usually with few spots. Pectoral, pelvic, and anal fins dark gray; not spotted. Their tail is slightly forked and square. Single dorsal fin has 10-15 rays; and the anal fin has 12-17 rays.

SOCKEYE SALMON (*ONCORHYNCHUS NERKA*)



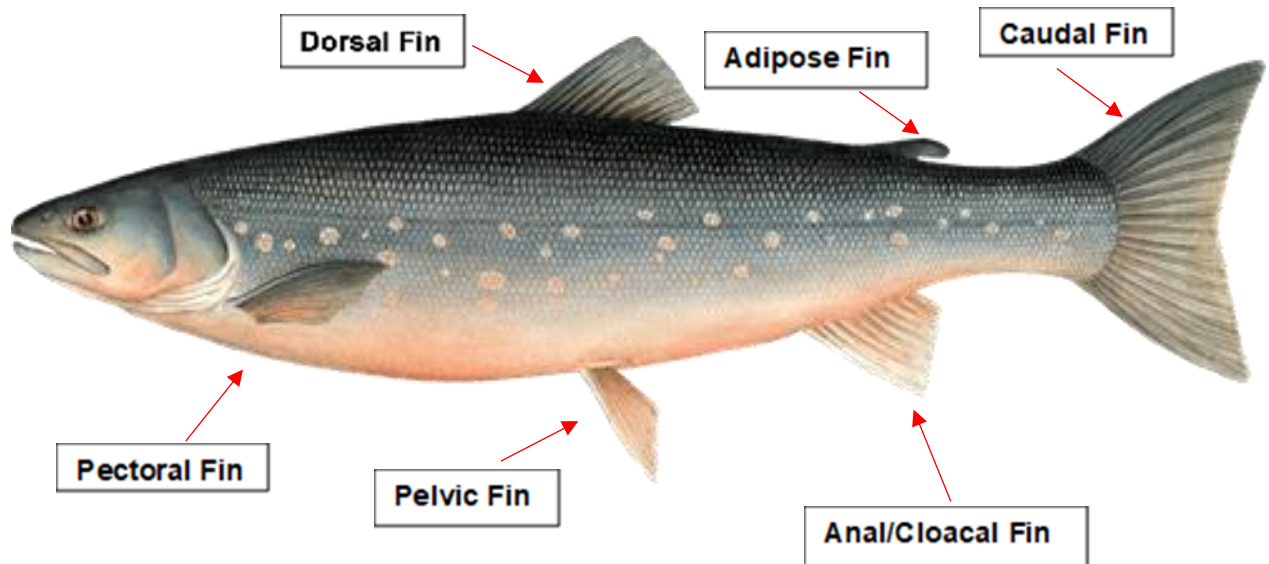
Identification

This species can live in both freshwater and saltwater habitats.

Average size and weight: Their size can be up to 2 feet – 2 feet 9 inches. They can weigh from 5.1 – 15.4 lbs.

Markings and color: The males display larger heads with elongated jaws, hooked snouts, and characteristic strongly developed teeth. The head of the female sockeye changes only slightly from the ocean form, with a slight elongation of the jaws and strong development teeth. In their ocean form color, they have no prominent spots on back or tail (small speckles may be present). Their body color while returning to the ocean is typically silvery. When they are near their spawning streams, the color gradually changes from silver with a dark back, to a bright red body with green on the head and tail. Males may display a vertical pattern of bars along the sides, and spawning females will usually display a dark vertical stripe. The dorsal fin and anal fin are square shaped with soft, dark rays. Their caudal fin is slightly forked.

ARCTIC CHAR (*SALVELINUS ALPINUS*)



Identification

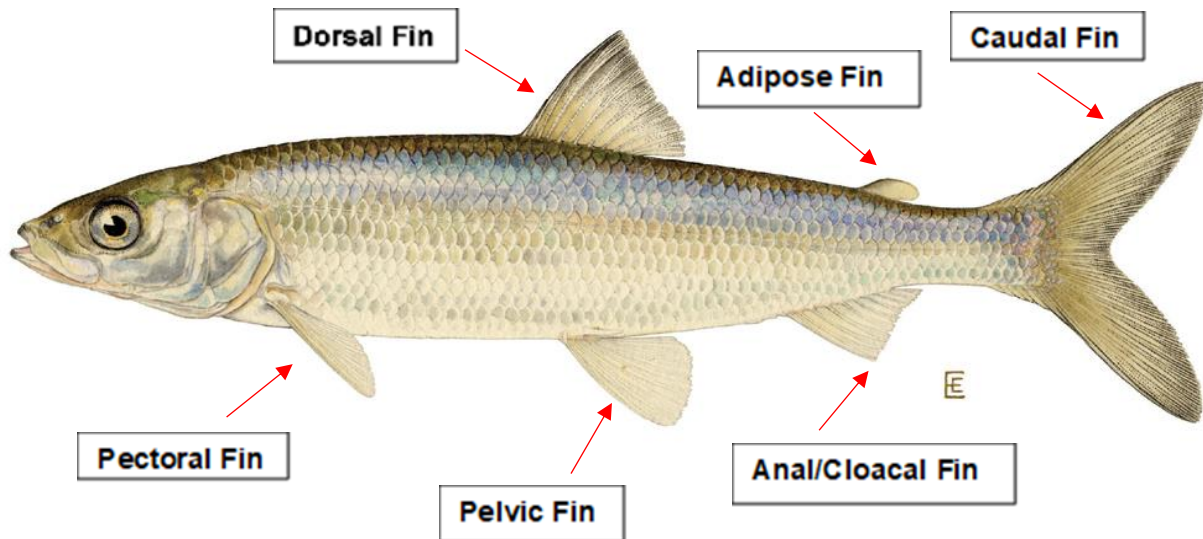
This species can live in both freshwater and saltwater habitats.

Average size and weight: They grow from 6 – 8 inches but can grow bigger depending on habitat. They weigh on average 7 – 10 lbs.

Markings and color: Arctic char are a dark blue/gray color body that fades into a pink color on the underside of the fish; with light pink spots along the lateral line. The edges of all fins on the lower part of the body are milk white. It is a long and slender fish with a small, pointed head; an adipose fin; a pointed pelvic fin; and a slightly forked tail that almost appears squared. It also has very fine scales, so deeply embedded that the skin has a smooth, slippery feel. Unlike the trout, it has teeth only in the central forward part of its mouth.

WHITEFISH SUBFAMILY

CISCO OR LAKE HERRING (*COREGONUS ARTEDI*)

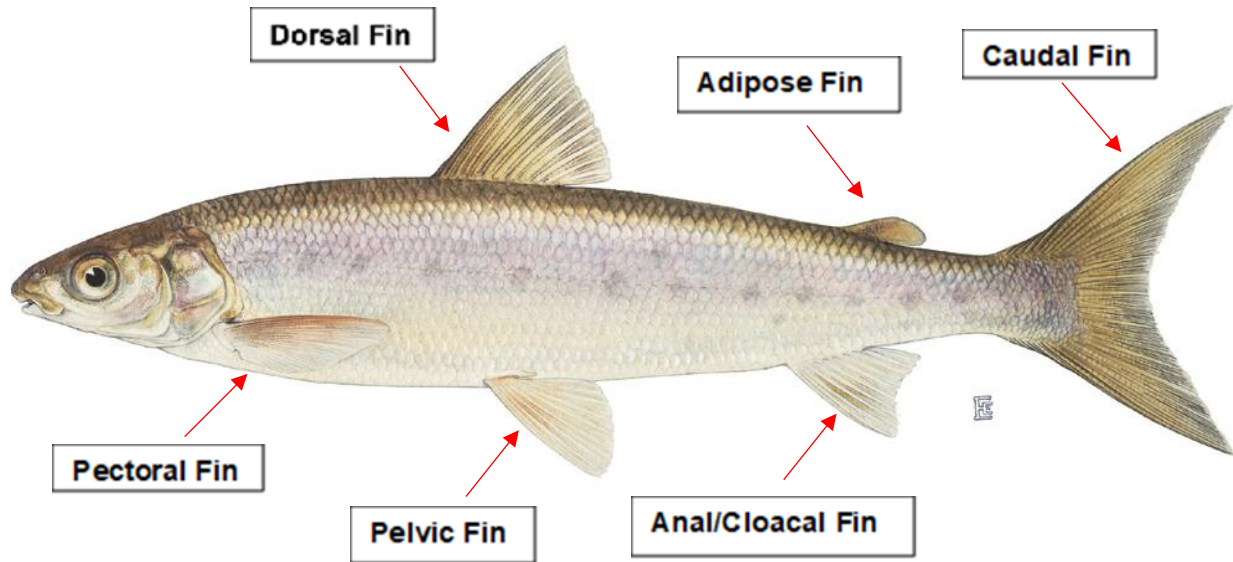


Identification

Average size and weight: They grow on average 12 – 18 inches. They can weigh up to 2 lbs.

Markings and color: Cisco have slender, elongate bodies with a dorsal and adipose fin, a pointed snout with long lower jaw. Cisco are silvery with faint pink to purple iridescence on the sides with blue/green to gray backs and a white underside. Fin colorations vary, but in general the outer portions of the dorsal and caudal fins are darkly pigmented. They have a forked tail. Their dorsal fin has 8-11 rays; and the anal fin has 10-13 rays.

ROUND WHITEFISH (*PROSOPIUM CYLINDRACEUM*)



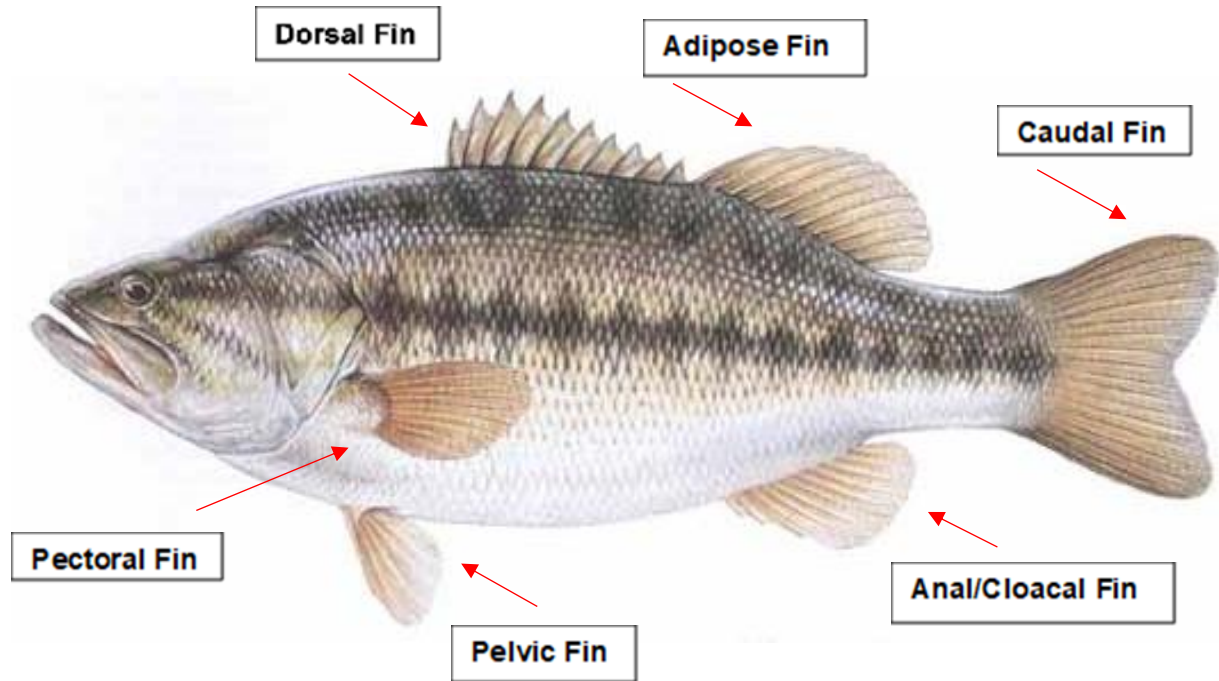
Identification

Average size and weight: They grow on average 14 – 18 inches; maximum 22 inches. They weigh up to 2 lbs.

Markings and color: Their mouth is slightly oblique with no teeth on the jaws, but a few small teeth on tongue. As an adult, their body color is solid. Juveniles (below 200 mm) usually have 2 or more rows of 10 or more diffuse, dark, round spots (“parr marks”) along lateral line and along the midline on back. Spots about the size of the pupil. Their body color generally silvery, but grading from brown, tan, or bronze (sometimes tinged with green) on the back to cream on the belly. Their fins are without spots or other markings; pectoral, pelvic, and often anal fins of adults often orangish, particularly at the base. Body shape is round in the cross section. They have a forked tail; a single dorsal fin with 13-15 rays; and the anal fin with 9-11 rays.

SUNFISH FAMILY (*CENTRARCHIDAE*)

LARGEMOUTH BASS (*MICROPTERUS SALMOIDES*)



Identification

This species can live in both freshwater and saltwater habitats.

Average size and weight: length: Largemouth bass grow 4-6 inches (10 to 15 cm) during their first year, up to 16 inches (40 cm) in the span of three years. The average weight is 12.15 pounds (5.5 kg).

Markings and color: Largemouth bass are typically dark green with dark blotches along the lateral line. The underside can either be light green or white. The dorsal fin has 9 spines and is barely separated from the adipose fin that has 12-13 soft rays. Their upper jaw reaches past the eye; and behind the eye there are three dark rays. Their caudal fin is forked with black colored rays throughout.

REFERENCES

Bass Comparison and Identification . (n.d.). Retrieved from Texas Parks and Wildlife :
<https://tpwd.texas.gov/regulations/outdoor-annual/fishing/freshwater-fishing/bass-identification>

Salmon and Trout Subfamily . (n.d.). Retrieved from Salmon Family:
<http://www2.dnr.cornell.edu/cek7/nyfish/Salmonidae/salmonidae.html>

Smallmouth Bass. (2018, 05 04). Retrieved from Fisheries and Oceans Canada :
<https://www.dfo-mpo.gc.ca/species-especes/profiles-profil/smallmouthbass-achiganpetitebouche-eng.html>

Striped Bass Identification. (n.d.). Retrieved from Great Eastern Seafood:
https://www.greasternsfd.com/page/menu_4/12409.html