Possible fish in minnow traps in TLB

Cyprinidae (17)

Blackchin shiner
Blacknose dace
Blacknose shiner
Bluntnose minnow
Brassy minnow
Common shiner
Creek chub
Emerald shiner
Fallfish
Fathead minnow
Finescale dace
Golden shiner
Longnose dace
Mimic shiner
Northern pearl dace
Northern redbelly dace
Spottail shiner

Catostomidae (2)

Longnose sucker
White sucker

Ictaluridae (3)

Brown bullhead
Channel catfish
Yellow bullhead

Umbridae (1)

Central mudminnow

Percopsidae (1)

Trout-perch

Fundulidae (1)

Banded killifish

Gasterosteidae (2)

Brook stickleback
Ninespine stickleback

Percidae (3)

Iowa darter
Johnny darter
Logperch

Gobiidae (1)

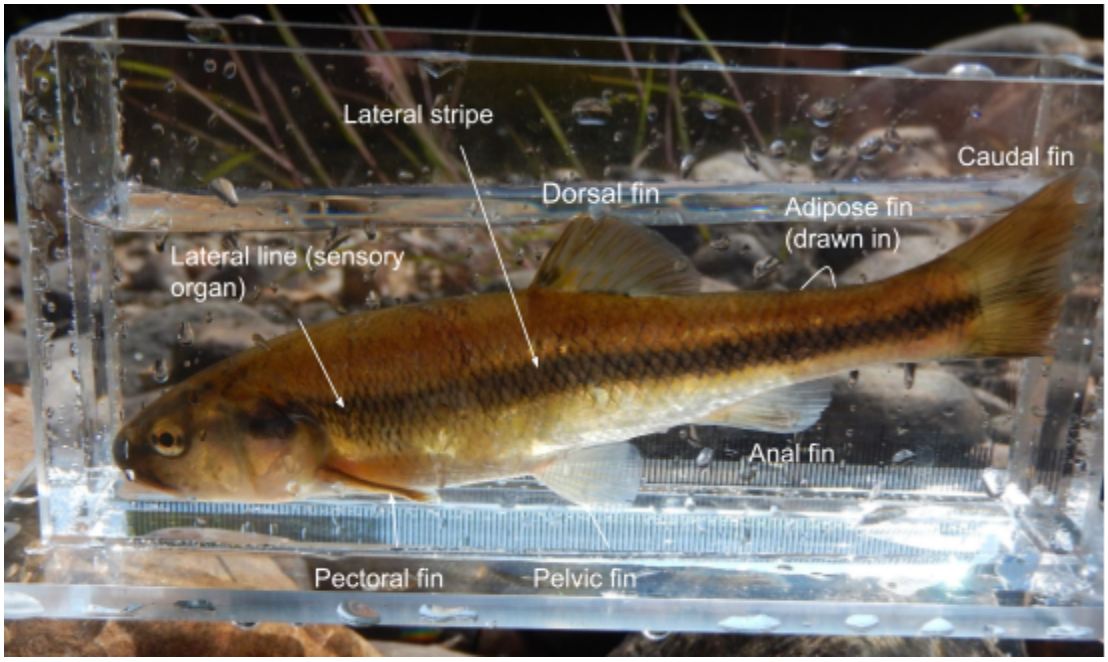
Round goby

Intro to Forage Fish

Forage fish are small fish that are a significant food source for many animals such as loons, terns, and larger fish. Forage fish aren't all minnows because minnows are only fish that belong to the family *Cyprinidae*. It is also important to note that not all forage fish are small species. Some fish that may wander into a minnow trap may be juveniles of large fish such as the Channel catfish. One minnow species, the Fallfish, is known to grow in excess of the length of a standard ruler. Not all small fish are minnows and not all minnows are small fish.

A key to identification, especially with small fish, is to look at the identifying parts of the fish rather than the whole. Once you know where to look, forage fish identification can be an exciting activity by trying to find as many species as you can. You'll be surprised by the number of fish that live in your lake that you never knew were there. Just remember to be careful when handling your fish and treat them with respect. This is not a complete list of fish in The Land Between (TLB). The fish in this document are ones small enough to enter a standard minnow trap and feed in lakes near the shore.

Fish anatomy diagram



Family key

1. Adipose fin present (may be fused to caudal fin).....2
1. Adipose fin absent.....3

2. Long barbels around mouth..... ..... ***Ictaluridae* (Catfish)- See Catfish key**
2. No barbels around mouth..... ..... ***Percopsidae* (Trout-perch)- Trout-perch (*Percopsis omiscomaycus*)** pg. 6

3. Single dorsal fin. Individual spines may be present in front of dorsal fin.....4
3. Two dorsal fins.....8

4. Rounded caudal (tail) fin.....5
4. Forked caudal fin.....6

5. Mouth large, extends to middle of eye... ..... ***Umbridae* (Mudminnows)- Central mudminnow (*Umbra limi*)** pg. 6
5. Mouth small, does not extend to eye..... ..... ***Fundulidae* (Topminnows)- Banded killifish (*Fundulus diaphanus*)** pg. 7

6. Individual spines in front of dorsal fin.... ..... ***Gasterosteidae* (Sticklebacks)- See Stickleback key**
6. No spines present.....7

7. Large mouth set on underside of head with thick lips, body round..... ***Catostomidae* (Suckers)- See Sucker key**
7. Mouth small, body variable..... ***Cyprinidae* (Minnows)- See Minnow key**

8. First dorsal fin with spines..... ..... ***Percidae* (Darters)- See Darter key**
8. Both dorsal fins soft..... ..... ***Gobiidae* (Gobies)- Round goby (*Neogobius melanostomus*)** pg. 19

Catfish (*Ictaluridae*) key

1. Square tail.....2
1. Forked tail.....**Channel Catfish (Juvenile) (*Ictalurus punctatus*)** pg. 4

2. Completely pale chin barbels..... ..... **Yellow bullhead (*Ameiurus natalis*)** pg. 4
2. Dark chin barbels..... **Brown bullhead (*Ameiurus nebulosus*)** pg. 4

Stickleback (*Gasterosteidae*) key

1. 4-7 spines (usually 5), pale spots..... **Brook stickleback (*Culaea inconstans*)** pg. 7
1. 7-12 spines (usually 9), dark blotches..... **Ninespine stickleback (*Pungitius pungitius*)** pg. 8

Sucker (*Catostomidae*) key

1. Snout overhangs mouth..... **Longnose sucker (Juvenile) (*Catostomus catostomus*)** pg. 8
1. Snout does not overhang mouth..... **White sucker (Juvenile) (*Catostomus commersoni*)** pg. 9

Minnow (Cyprinidae) key

1. Small scales.....2
1. Large scales.....6

2. Groove above upper lip not continuous.. 3
2. Groove above upper lip continuous.....4

3. Snout greatly overhangs mouth..... ..... **Longnose dace (*Rhinichthys cataractae*)** pg. 9
3. Snout does not greatly overhang mouth.. ..... **Blacknose dace (*Rhinichthys atratulus*)** pg. 10
4. Single lateral stripe..... **Northern pearl dace (*Margariscus nachtriebi*)** pg. 10
4. Two lateral stripes.....5

5. Small mouth does not extend to eye.... ..... **Northern redbelly dace (*Chrosomus eos*)** pg. 11
5. Large mouth extends to front of eye..... ..... **Finescale dace (*Chrosomus neogaeus*)** pg. 11

6. Black spot or blotch on dorsal fin.....7
6. No pigmentation on dorsal fin.....9

7. Head blunt, rounded, mouth small.....8
7. Head slightly pointed, mouth large extends to middle of eye.....**Creek chub (*Semotilus atromaculatus*)** pg. 12

8. Mouth under snout, caudal spot present. ..... **Bluntnose minnow (*Pimephales notatus*)** pg. 12
8. Mouth on front of head, no caudal spot.. ..... **Fathead minnow (*Pimephales promelas*)** pg. 13

9. Deep-bodied (much deeper than wide).. 10
9. Round or slightly deep bodied.....11

10. Golden colour, mouth very small..... ..... **Golden shiner (*Notemigonus crysoleucas*)** pg. 13
10. Silvery, mouth extends to front edge of eye.. **Common shiner (*Luxilus cornutus*)** pg. 14

11. Golden or bronze in colour, small mouth with deep groove on corners..... ..... **Brassy minnow (*Hybognathus hankinsoni*)** pg. 14
11. Silvery in colour, no deep groove at corners of mouth.....12

12. Black lateral line extends from tip of head to tail.....13
12. Lateral line faint or absent.....14

13. Chin pigmented..... **Blackchin shiner (*Notropis heterodon*)** pg. 15
13. Chin with no pigmentation..... ..... **Blacknose shiner (*Notropis heterolepis*)** pg. 15

14. Caudal fin with black spot at base..... ..... **Spottail shiner (*Notropis hudsonius*)** pg. 16
14. No caudal spot 15

15. Scales with dark leading edge, mouth large..... **Fallfish (*Semotilus corporalis*)** pg. 16
15. Scales silvery or outlined on back.....16

16. 8 anal rays, scales outlined on back.... ..... **Mimic shiner (*Notropis volucellus*)** pg. 17
16. 11-13 anal rays, scales not outlined on back, scales fall off easily when handled.... . **Emerald shiner (*Notropis atherinoides*)** pg. 17

Darter (Percidae) key

1. Long snout overhangs mouth, vertical barring over whole body..... **Logperch (*Percina caprodes*)** pg. 18
1. No long snout, pattern blotchy.....2

2. Colourful oval markings..... ... **Iowa darter (*Etheostoma exile*)** pg. 18
2. X and W markings down lateral line..... **Johnny darter (*Etheostoma nigrum*)** pg. 19

Species Accounts

Catfish species

Channel catfish (juvenile)

(*Ictalurus punctatus*)

Description

Juveniles are randomly spotted with a deeply forked tail and 4 pairs of dark barbels around the mouth.

Habitat

Variety of warm water habitats of lakes and large rivers.

Diet

Plant material, invertebrates, small fish

Fun Fact

These are the largest native catfish in Canada.

Yellow bullhead

(*Ameiurus natalis*)

Description

The back is black to olive with yellow sides. Chin barbels are completely pale. Caudal fin square.

Habitat

Bottoms of warm lakes among vegetation or fallen branches.

Diet

Crustaceans, worms, mollusks, invertebrates, aquatic plants, small fish, fish eggs.

Fun fact

Yellow bullheads can breathe through their skin and can survive on land for long periods of time.

Brown bullhead

(*Ameiurus nebulosus*)

Description

Dark body with blotches of brown. Square or slightly concave caudal fin. 4 pairs of dark barbels.

Habitat

Bottoms of warm water lakes with vegetation or fallen branches.

Diet

Crustaceans, worms, mollusks, invertebrates, aquatic plants, small fish, fish eggs.

Fun Fact

The most common predator of Brown bullhead are water snakes.

Trout-perch species

Trout-perch

(*Percopsis omiscomaycus*)

Description

Small fish with single dorsal fin with two spines on leading edge. 5 rows of spots on sides.

Habitat

Cool water lakes. Open water during the day, shallow water at night.

Diet

Crustaceans, invertebrates, small fish.

Fun Fact

These fish are vital for transporting nutrients from shallow habitats to where they can be preyed upon by Lake trout.

Mudminnow species

Central mudminnow

(*Umbra limi*)

Description

Small fish with vertical white barring on olive-brown background. Single black bar at base of caudal fin.

Habitat

Quiet vegetated waters of cool lakes.

Diet

Small crustaceans, invertebrates, mollusks.

Fun Fact

Central mudminnows can use their swimbladder as a lung to breathe atmospheric oxygen to survive in low oxygen environments.

Topminnow species

Banded killifish

(*Fundulus diaphanus*)

Description

Silver vertical bars on green background. Small upturned mouth and squared caudal fin.

Habitat

Warm surface waters at lake shores.

Diet

Crustaceans, invertebrates, mollusks, aquatic plants.

Fun Fact

These are related to the Mosquitofish of the southern U.S. and Mexico but Banded killifish never get abundant enough to control mosquito populations.

Stickleback species

Brook stickleback

(*Culaea inconstans*)

Description

Olive green body with pale spots or wavy lines. 4-7 individual dorsal spines but most often 5.

Habitat

Cool shallow waters of lakes, streams and wetlands.

Diet

Invertebrates, crustaceans.

Fun Fact

The number of spines will vary depending on the predation pressure in the system.

Ninespine stickleback

(*Pungitius pungitius*)

Description

7-12, usually 9, spines that lean to the side. Body grey with irregular black blotches.

Habitat

Cool shallow waters of lakes, streams, and wetlands.

Diet

Crustaceans, invertebrates, mollusks, worms.

Fun Fact

Some populations in western Canada have lost pelvic fins and underlying bones through evolution, particularly on the right side, which is also seen in Manatees.

Sucker species

Longnose sucker (juvenile)

(*Catostomus catostomus*)

Description

Snout greatly overhangs mouth. Scales are very small and randomly pigmented but belly is white.

Habitat

Cold bottoms of lakes and streams.

Diet

Invertebrates, worms, aquatic plants.

Fun Fact

These species spawn in the same locations as White suckers but avoid hybridization by spawning only a few days earlier.

White sucker (juvenile)

(*Catostomus commersoni*)

Description

Mottled with 3 distinct black blotches on sides. Mouth overhung by snout, not as much as Longnose sucker.

Habitat

Bottoms of a wide range of cool water habitats.

Diet

Crustaceans, invertebrates, mollusks, aquatic plants.

Fun Fact

Can often be seen migrating en masse upstream in spring to spawn.

Minnow species

Longnose dace

(Rhinichthys cataractae)

Description

Snout greatly overhangs mouth. Olive, grey, or black back with speckled sides. Large pectoral fins.

Habitat

Fast flowing streams and sometimes shallows of lakes.

Diet

Crustaceans, invertebrates, mollusks, worms.

Fun Fact

These fish are well adapted to life in areas of fast flowing water.

Blacknose dace

(Rhinichthys atratulus)

Description

Mouth is slightly overhung. Black stripe extends from snout to tail, body heavily spotted.

Habitat

Small streams with riparian vegetation. Occasionally lake edges.

Diet

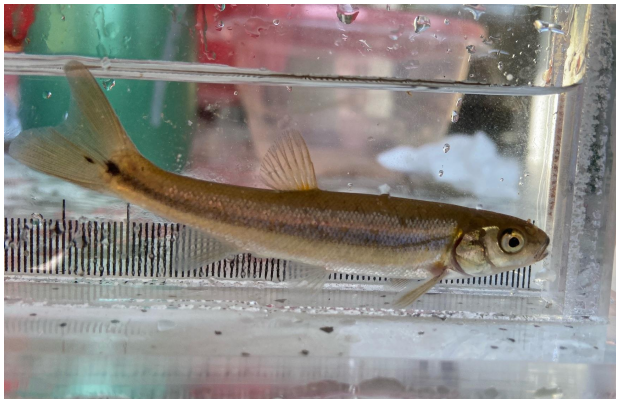
Invertebrates.

Fun Fact

Blacknose dace has been split into an eastern and western species which may both exist in Ontario but cannot be distinguished.

Northern pearl dace

(*Margariscus nachtriebi*)



Description

The back is dark, sides are silver-grey with scattered dark scales. The dorsal fin is rounded. The mouth extends to below nostril. Sometimes with red belly.

Habitat

Shallow vegetated edges of cool and cold lakes.

Diet

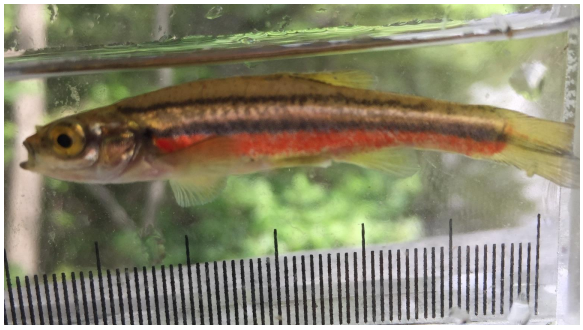
Crustaceans, invertebrates, mollusks.

Fun Fact

Despite the name suggesting it is closely related to daces, Northern pearl dace are most closely related to Lake chubs.

Northern redbelly dace

(*Chrosomus eos*)



Description

2 dark lateral stripes. Scales are very small and difficult to see with the naked eye. Mouth is very small.

Habitat

Heavily vegetated cool lakes and streams. Often associated with “tea-stained” water.

Diet

Crustaceans, invertebrates, plants, algae.

Fun Fact

These are some of Ontario’s most colourful minnows and can be seen with either bright red or yellow bellies.

Finescale dace

(*Chrosomus neogaeus*)

Description

2 lateral stripes. Lateral line incomplete, often ending below dorsal fin. Mouth extends to front of eye.

Habitat

Shallow vegetated edges of cool lakes. Often in “tea-stained” water.

Diet

Mollusks, invertebrates, algae.

Fun Fact

These often hybridize with Northern redbelly dace. The offspring are always female which reproduce by cloning.

Creek chub

(*Semotilus atromaculatus*)

Description

A slightly deep bodied minnow. Dark spots at the base of both dorsal and caudal fins. Dark lateral stripe may be faint. Mouth large.

Habitat

Variety of cool water habitats.

Diet

Crustaceans, invertebrates, small fish, aquatic plants, algae.

Fun Fact

In the absence of larger fish, this minnow becomes the top predator in the system.

Bluntnose minnow

(*Pimephales notatus*)

Description

Round snout that overhangs small mouth. Large scales with cross-hatched appearance. Dorsal fin rounded with black spot. Dark lateral stripe.

Habitat

Wide range of shallow, warm locations of lakes and streams.

Diet

Crustaceans, invertebrates, worms, algae.

Fun Fact

These are one of the most abundant minnows in Ontario because of their ability to live in a wide range of environmental conditions.

Fathead minnow

(*Pimephales promelas*)

Description

Rounded snout with small upturned mouth. Scales are crowded behind the head. Black blotch on front of dorsal fin often with second blotch on back. Sides silvery with black stripe.

Habitat

Wide range of shallow habitats.

Diet

Invertebrates, plankton, algae.

Fun Fact

Used as a “lab rat” to determine if other aquatic organisms will be affected by pollutants.

Golden shiner

(*Notemigonus crysoleucas*)

Description

Very golden in colour. Deeply decurved lateral line. Deep bodied with a small mouth.

Habitat

Cool, heavily vegetated waters of lakes and streams.

Diet

Crustaceans, invertebrates.

Fun Fact

Golden shiners often school to avoid predators; it is not known how this deters predators.

Common shiner

(*Luxilus cornutus*)

Description

Silvery and deep bodied. Mouth is fairly large. Scales large. 3 parallel dorsal stripes on back when viewed from top.

Habitat

Cool shallow habitats of streams and lakes.

Diet

Invertebrates, worms, aquatic plants, algae.

Fun Fact

Though these minnows protect their eggs from predators, they lay their eggs in other species nests.

Brassy minnow

(*Hybognathus hankinsoni*)

Description

Usually yellow-gold in colour. Mouth small with deep groove in corners. Mouth crescent shaped when viewed from below.

Habitat

Cool lakes and streams with sand, silt, or gravel bottoms.

Diet

Invertebrates, crustaceans, algae.

Fun Fact

Despite their name, Brassy minnows are not always brassy in colour. Be careful when identifying this species.

Blackchin shiner

(*Notropis heterodon*)

Description

Silvery minnow with a dark lateral stripe. Lips and chin are black. Back is yellow or straw coloured with large outlined scales.

Habitat

Clear, cool vegetated edges of lakes.

Diet

Tiny crustaceans, invertebrates.

Fun Fact

Blackchin shiners are especially sensitive to turbid (murky) water which can be caused by human activities.

Blacknose shiner

(*Notropis heterolepis*)

Description

Silvery minnow with a dark lateral stripe. Lower lip and chin are pale. Back yellow or straw coloured.

Habitat

Clear, cool, vegetated edges of lakes.

Diet

Tiny crustaceans, invertebrates.

Fun Fact

Blacknose shiners are sensitive to disturbances in waterbodies, especially removal of aquatic vegetation.

Spottail shiner

(*Notropis hudsonius*)

Description

Silvery with dark spot at the base of caudal fin. Long pointed dorsal and anal fins with concave trailing edges.

Habitat

Open cold or cool lakes and streams.

Diet

Crustaceans, invertebrates, small fish, algae.

Fun Fact

This is one of the most important prey species for large fish in the Great Lakes.

Fallfish

(*Semotilus corporalis*)

Description

Mouth large. Back dark and sides silvery. Spot at the base of caudal fin. Dark front edge to scales.

Habitat

Cool, clear streams and lakes usually with gravel bottoms.

Diet

Invertebrates,crustaceans, small fish.

Fun Fact

This is the largest native minnow species in Ontario with the largest recorded measuring 47cm long.

Mimic shiner

(*Notropis volucellus*)

Description

Silvery sometimes with black spots or dashes along lateral line. Scales are outlined on the back. 8 anal fin rays.

Habitat

Vegetated areas of lakes and streams.

Diet

Crustaceans, invertebrates, algae.

Fun Fact

This is a very abundant minnow but is often not identified because of its plain appearance.

Emerald shiner

(*Notropis atherinoides*)

Description

Long silvery fish. Large scales that fall off easily while being handled. Dorsal fin begins well behind pelvic fins.

Habitat

Cool open waters of lakes.

Diet

Plankton, invertebrates.

Fun Fact

These are the most important commercial baitfish in Ontario.

Darter species

Logperch

(*Percina caprodes*)

Description

Olive green back with dark vertical barring. Small mouth overhung by long snout. Long flattened pair of dorsal fins.

Habitat

Shallow areas of lakes and streams over sand and gravel bottoms.

Diet

Invertebrates.

Fun Fact

The species name *caprodes* means pig because of the Logperch's long snout.

Iowa darter

(*Etheostoma exile*)

Description

Olive- brown back with 8 dark saddles. Rounded, slightly separated dorsal fins. Sides and fins sometimes blue and orange.

Habitat

Wide variety of lake and stream habitats.

Diet

Crustaceans, invertebrates, mollusks.

Fun Fact

One of the most widespread darters in Canada because of its ability to live in a wide variety of habitats.

Johnny darter

(*Etheostoma nigrum*)

Description

Back yellow- brown with 6 dark saddles. Sides with V, M, X, and W markings along lateral line.

Habitat

Wide variety of bottom habitats of lakes and streams.

Diet

Crustaceans, invertebrates, mollusks.

Fun Fact

This is likely the most common darter in Ontario.

Goby species

Round goby

(*Neogobius melanostomus*)

Description

Back and sides yellow- grey with dark blotches. Distinct spot on back of first dorsal fin. Pelvic fins fused.

Habitat

Wide variety of lake and stream habitats.

Diet

Crustaceans, invertebrates, mollusks.

Fun Fact

Round gobies were introduced to the Great Lakes in 1990 and have spread through Ontario since. They may not have entered TLB but if they are caught they should be removed from the water and reported to the invasive species hotline.