

Fish of Jug Bay Dichotomous Key



Handling Fish

After netting, be careful not to harm the fish.

- Always wet your hands before handling fish to avoid damaging the fish's protective mucous layer and scales.

Remember, fish cannot breathe air - they need water to breathe.

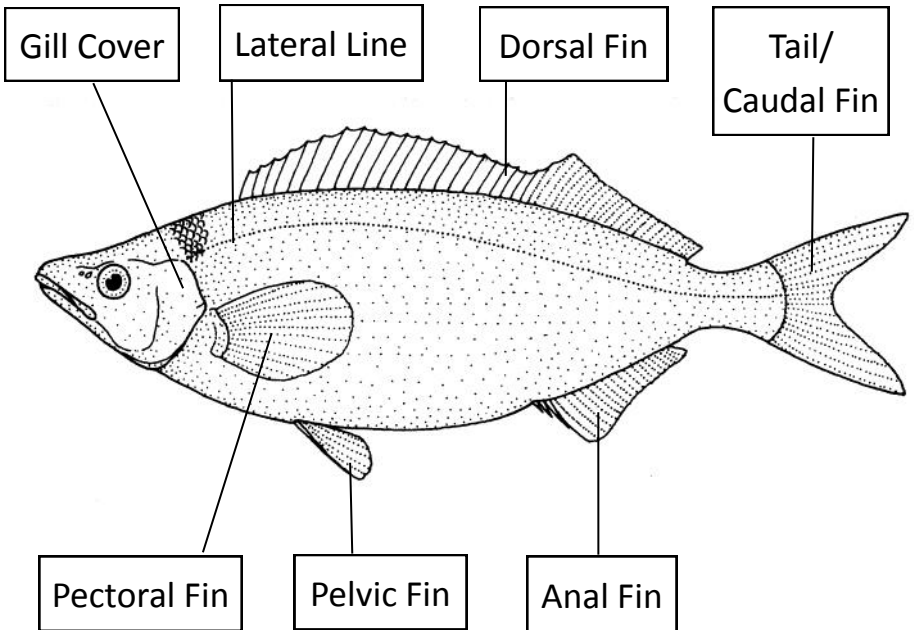
- Transfer fish from net to a water-filled container in the shade as quickly as possible.
- Change/bubble the water in the container as necessary to keep oxygen in (re-oxygenate) the water.

How to Use a Dichotomous Key

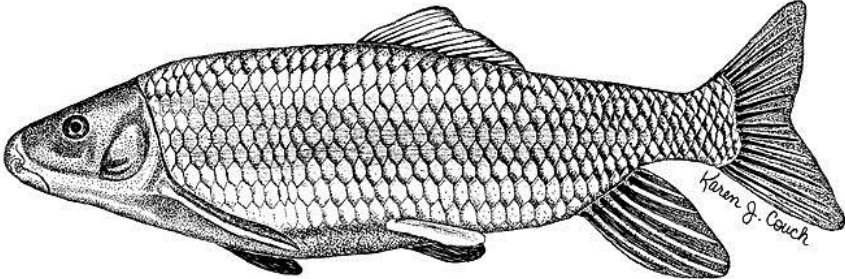
Dichotomous keys are identification tools for objects in the natural world. By choosing between pairs (usually) of descriptions, the user will be led to the correct identification of their specimen.

Note: Juvenile (young) fish may look different than the adults of the same species, making identification of juvenile fish difficult.

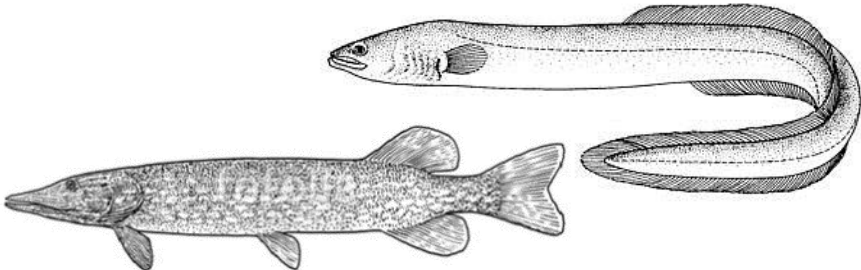
Parts of the Fish



A1. "Normal" fish shape.....Page 5 "B"



A2. Snake-like/long & skinny.....Page 29 "X"

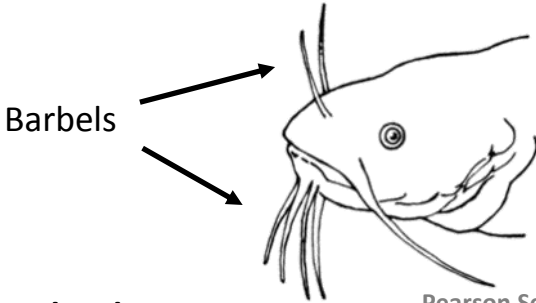


A3. Flat, no right pectoral fin, both eyes on right side:
Hogchoker - *Trinectes maculatus*



B1. Long barbels (whiskers).....Page 6 "C"

B2. No or short barbels.....Page 7 "E"



Caution!
Barbels may be sharp

Pearson Scott Foresman



Forked Tail

C2. Round/broom shaped tail:

Brown Bullhead - *Ameiurus nebulosus*



Caution: Barbels may be sharp

**D1. Gray or greenish-gray on top half of body:
Channel Catfish - *Ictalurus punctatus***



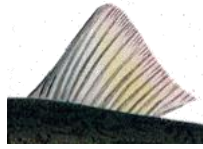
**D2. Blue on top half of body, long anal fin:
Blue Catfish* - *Ictalurus furcatus***



***Invasive species – Learn more on page 32**

Caution: Barbels may be sharp

E1. One dorsal fin.....Page 9 “F”



One Dorsal Fin

E2. Two separate dorsal fins.....Page 21 “P”



Two Separate
Dorsal Fins

E3. Two joined dorsal fins.....Page 26 “U”



Two Joined
Dorsal Fins

F1. Round/broom shaped tail.....Page 10-11 “G”



Round/Broom
Shaped Tail

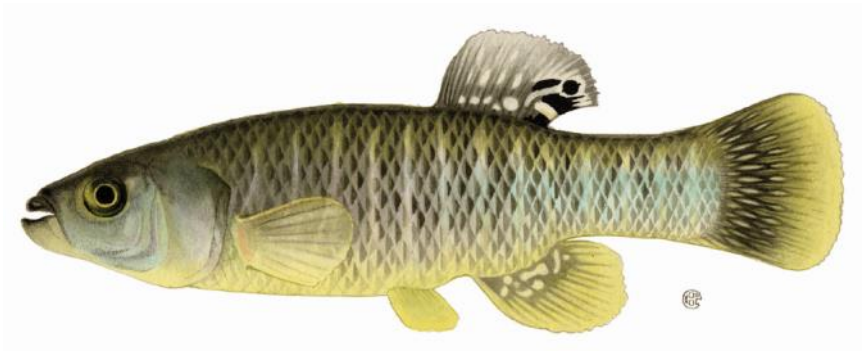
F2. Forked tail.....Page 12 “H”



Forked Tail

G1. Light colored vertical bands and/or light speckles:

Mummichog - *Fundulus heteroclitus*



G2. Dark and silver vertical bands, mouth at eye level, flat head:

Banded Killifish - *Fundulus diaphanus*



- G3.** Horizontal bands, dark at base of tail:
Eastern Mudminnow - *Umbra pygmaea*



- G4.** Dull grey or brown with no bands:
Mosquitofish - *Gambusia affinis*



H1. Normal mouth.....Page 13 “I”

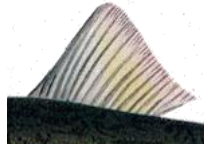


Normal Mouth

H2. Specialized mouth.....Page 14 “J”

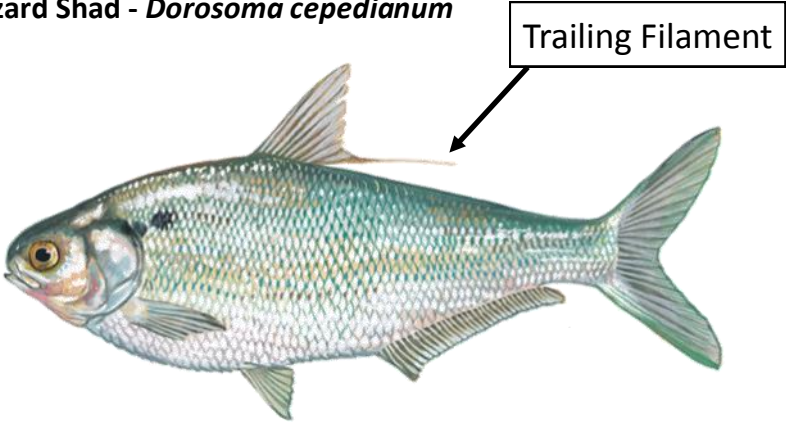


Specialized Mouths



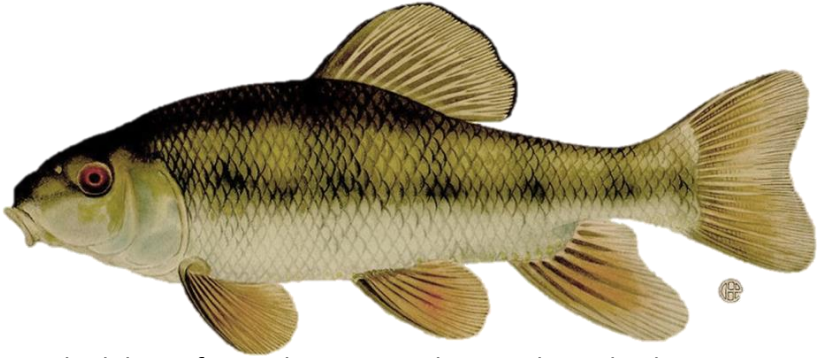
Normal Dorsal Fin

I2. Dorsal fin with trailing filament:
Gizzard Shad - *Dorosoma cepedianum*



J1. Large, thick lips pointing down, dark blotches on gold body:

Creek Chubsucker - *Erimyson oblongus*



J2. Large, thick lips of mouth pointing down, silvery body:

White Sucker - *Catostomus commersoni*



J3. Short barbels on either side of mouth, gold color:

Common Carp - *Cyprinus carpio*



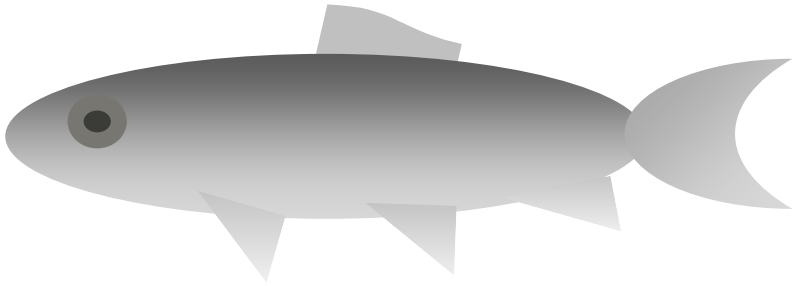
J4. Long jaw, narrow silver stripe, body almost transparent:

Bay Anchovy - *Anchoa mitchilli*

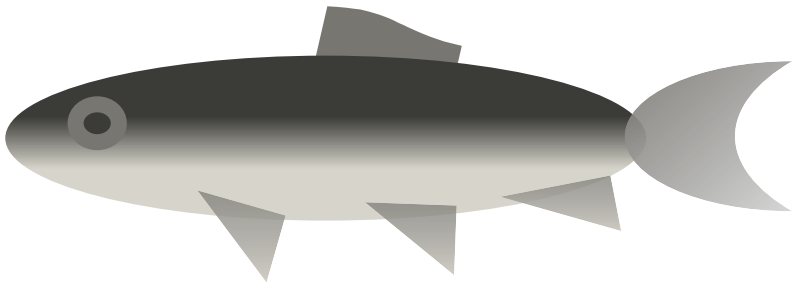


©Diane Rome Peebles

K1. Relatively uniform in color, silver.....Page 16 “L”



K2. Distinctly darker on top half.....Page 17 “M”



**K3. Relatively uniform in color, gold:
Golden Shiner - *Notemigonus crysoleucas***

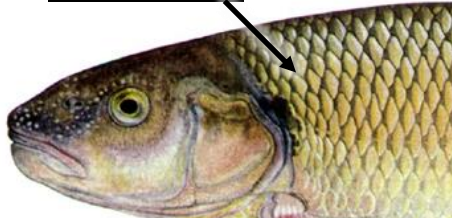


L1. Smooth belly scales, no spots behind gill.....Page 18-19 "N"



Smooth Belly Scales

No round spots

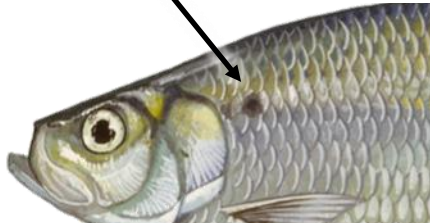


L2. Saw-tooth belly scales, round spot(s) behind gill.....Page 20 "O"



Saw-tooth Belly Scales

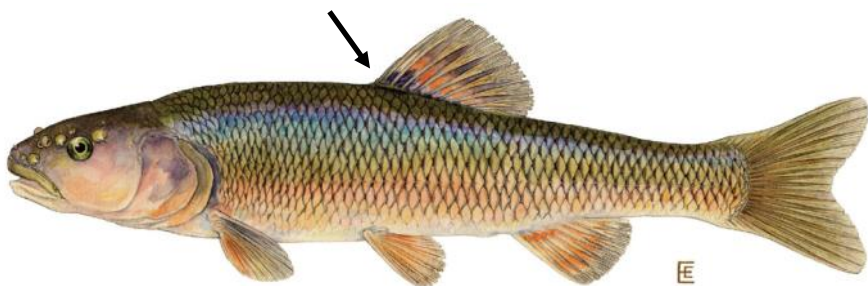
Spot



- M1.** Dark line from nose to tail:
Blacknose Dace - *Rhinichthys atratulus*



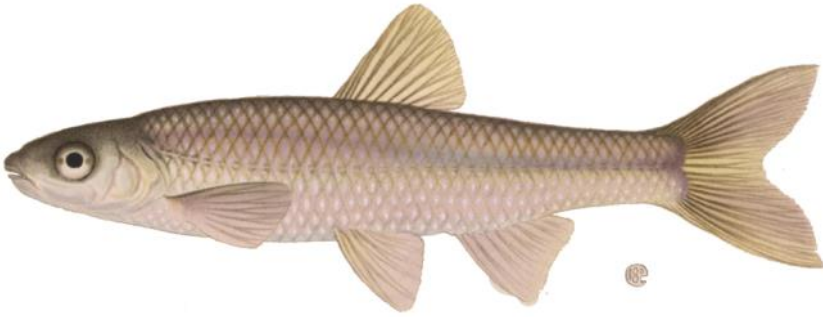
- M2.** Dark spot at dorsal fin origin:
Creek Chub - *Semotilus atromaculatus*



- M3.** Dark green on top half, red behind gill cover:
Rosyside Dace - *Clinostomus funduloides*



N1. Purplish sheen, complete lateral line, maximum 6 inches:
Eastern Silvery Minnow - *Hybognathus regius*



N2. Thick nose, white belly, usually 12-17 inches:
Fall Fish - *Semotilus corporalis*



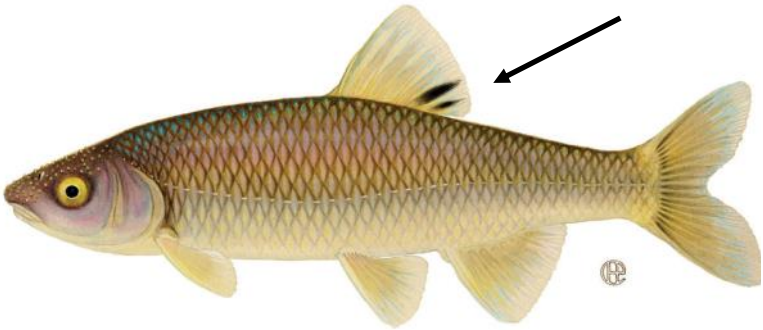
N3. Black lateral line, yellowish fins:
Swallowtail Shiner - *Notropis procne*



**N4. Spot by caudal fin, lateral line broken up:
Spottail Shiner - *Notropis hudsonius***



**N5. Dark spot on rear of dorsal fin, males have white fins:
Satinfin Shiner - *Cyprinella analostana***



**O1. Horizontal row of spots, triangular dorsal fin:
American Shad - *Alosa sapidissima***



©Diane Rome Peebles

**O2. One spot behind gills, distance between front of eye and tip of snout is less than eye diameter:
Alewife - *Alosa pseudoharengus***





Forked Tail

P2. Round tail:
Tessellated Darter - *Etheostoma olmstedi*



Q1. First dorsal fin shorter than second.....Page 23 "R"

First
Dorsal
Fin



Second
Dorsal
Fin

Q2. First dorsal fin same height or taller than second.....Page 24 "S"

First
Dorsal
Fin



Second
Dorsal
Fin



R1. Bright silver line:

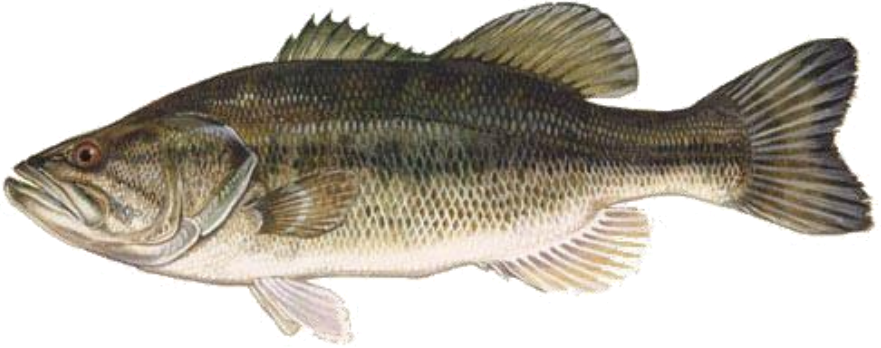
Inland Silverside - *Menidia beryllina*

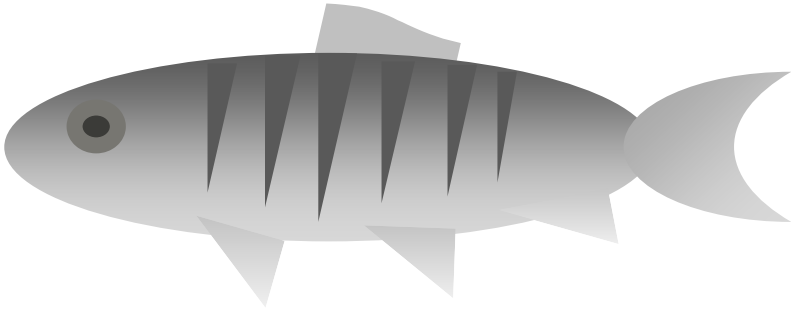


Smithsonian Environmental Research Center

R2. Blotches form irregular lateral band, gray to green color:

Largemouth Bass - *Micropterus salmoides*





S2. Horizontal Stripes:
Striped Bass - *Morone saxatilis*

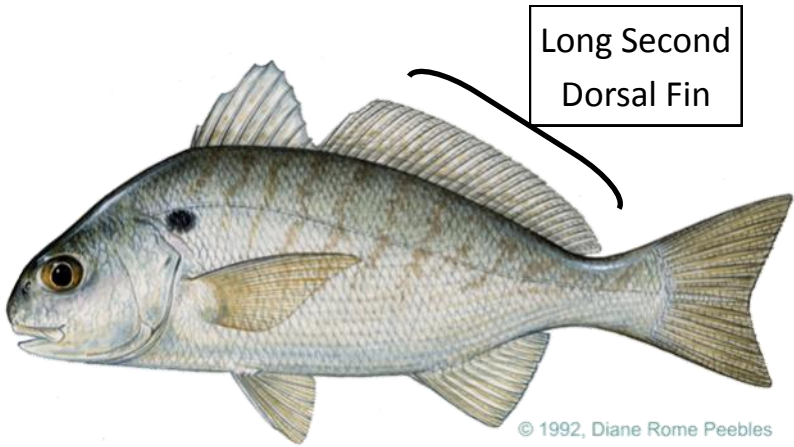


S3. No stripes, silvery body with white belly:
White Perch - *Morone americana*



T1. Shoulder spot, long second dorsal fin:

Spot - *Leiostromus xanthurus*



T2. Wide, dark vertical stripes on yellow or orange body:

Yellow Perch - *Perca flavescens*





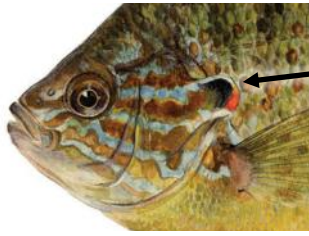
Forked Tail

U2. Round or broom-shaped tail:

Bluespotted Sunfish - *Enneacanthus gloriosus*



V1. Large, dark, round spot on gill cover.....Page 28 "W"



Round Spot

V2. Body dark with many silver spots, dark fins with circular transparent spots:

Black Crappie - *Pomoxis nigromaculatus*



V3. Body gray or silvery with faint bars, speckles on body and fins:
White Crappie - *Pomoxis annularis*



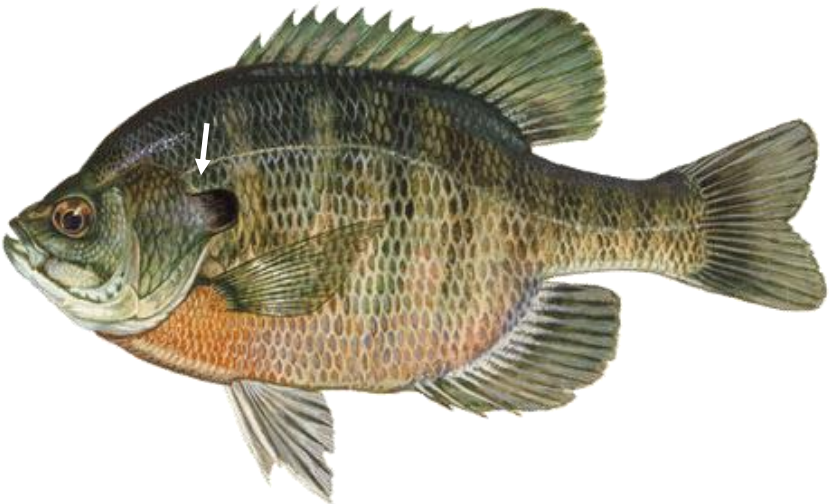
W1. Red or orange spot on black gill cover, wavy blue lines on face, orange and blue speckles on body:

Pumpkinseed Sunfish - *Lepomis gibbosus*

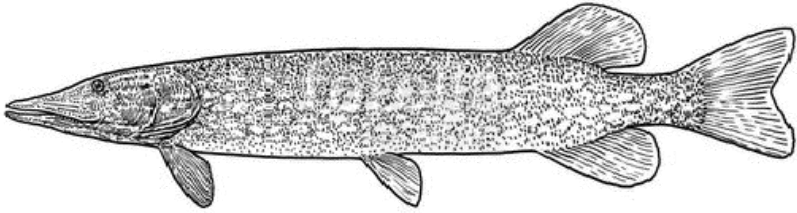


W2. Blue cheek, faint bars on body:

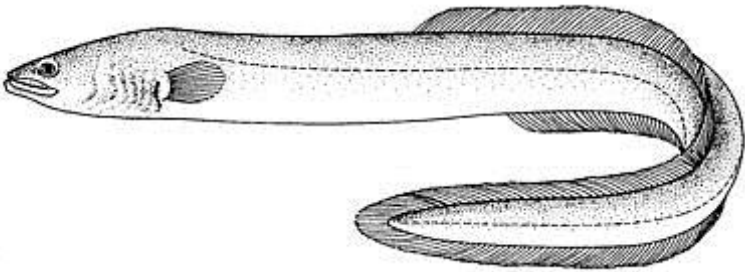
Bluegill Sunfish – *Lepomis macrochirus*



X1. Duckbill-shaped mouth, dorsal fin near tail.....Page 30 “Y”



X2. Snake-like body with long dorsal and anal fins.....Page 31 “Z”



Y1. Redish fins:

Redfin Pickerel - *Esox americanus*



Y2. Light colored fins and chain like pattern on body:

Chain Pickerel - *Esox niger*



Z1. Body uniform in color, small eyes:
American Eel - *Anguilla rostrate*



Z2. Snake-like pattern along body, large mouth with sharp teeth:
Northern Snakehead* - *Channa argus*



Susan Trammell

***Invasive species – Learn more on page 32**

Invasive Fish

Exotic invasive species:

- Non-native (Originally from a different ecosystem).
 - Introduced to the current ecosystem accidentally or intentionally, such as to control another species.
- Grow fast and reproduce quickly.
- Outcompete native species.
- Usually do not have predators.
- Cause harm to human health, the economy, and/or the environment.

In order to try to control the invasive fish population in the Patuxent River, any invasive fish caught **cannot** be returned to the water. It **must** be removed.





Continue to make Jug Bay a great fish habitat by:

- Properly disposing of trash and recyclables.
- Not releasing pets into the river.
- Following fishing regulations, including removing invasive species when caught.
- Planting trees and bushes along roadsides and river edges.
- Limiting fertilizer and pesticide use and using only as directed.
- Reducing carbon emissions by driving less and using less energy.
- Advocating for wetland and river protection.

Special thanks to Jug Bay Wetlands Sanctuary staff and volunteers for their fish surveys between 1987 and 1994 to identify the known fish species that occur at Jug Bay.



Illustrations of Alewife, Black Crappie, Blue Catfish, Bluegill Sunfish, Brown Bullhead, Chain Pickerel, Channel Catfish, Common Carp, Gizzard Shad, Largemouth Bass, Mosquitofish, Redfin Pickerel, White Crappie, White Perch, and Yellow Perch by Duane Raver, courtesy US Fish and Wildlife Service and Maryland Department of Natural Resources.

Unless otherwise noted, all other fish illustrations are by reproduced from Kraft, C.E., D.M Carlson, and M. Carlson. 2006. Inland Fishes of New York (Online), Version 4.0. Department of Natural Resources, Cornell University, and the New York State Department of Environmental Conservation.