Warmouth *Lepomis gulosus*

Habitat:

- feeding - clear lakes and impoundments and very low-gradient streams
- abundant aquatic vegetation
- silt-free water
- mucky substrate often covered with organic debris

- spawning - nesting sites in loose silt, sand with silt, or rubble over silt near stumps, roots, or vegetation
Bluegill *Lepomis macrochirus*

**Habitat:**

- **feeding** - non-flowing clear streams and rivers; also lakes and impoundments
  - sand, gravel, or muck containing organic debris substrate
  - scattered beds of aquatic vegetation
  - cannot tolerate low oxygen or continuous high turbidity and siltation
- **spawning** - nests in firm substrate of gravel, sand, or mud
- **winter refuge** - deep water
**Redear sunfish** *Lepomis microlophus*

Habitat:

- feeding - non-flowing clear waters of streams and lakes
- some aquatic vegetation
- spawning - nest in silt or gravel substrate
**Northern longear sunfish** *Lepomis peltastes*

**Habitat:**
- **feeding** - clear moderate-sized shallow streams with moderate vegetation
- rocky substrates
- little to no current
- **spawning** - nests in gravel, sand, or hard rock substrate
Smallmouth bass *Micropterus dolomieu*

Habitat:

- **feeding**: clear, cool, deep lakes and rivers
  - streams where 40% consists of riffles over clean gravel, boulder, or bedrock substrate
  - in pools with a current and >4 feet of depth
  - gradients between 4 and 25 feet per mile

- **spawning**: nest in sandy, gravel, or rocky substrate
  - gradients 7 to 25 feet per mile
  - streams 20 to 100 feet wide

- **winter refuge**: larger deeper waters
  - with gradients between 3 to 7 feet per mile
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**Largemouth bass** *Micropterus salmoides*

Habitat:

- **feeding**: non-flowing clear waters - lakes, impoundments, and pools of streams
  - abundant aquatic vegetation
  - soft muck, organic debris, gravel, sand, and hard non-flocculent clay substrates
- **spawning**: nest in gravelly sand to marl and soft mud substrates
  - emergent vegetation
  - quiet shallow bays; no current
**White crappie** *Pomoxis annularis*

**Habitat:**
- Feeding: lakes and impoundments >5 acres, sluggish pools of moderate to large low-gradient rivers, no substrate preference, can tolerate severe turbidity and rapid siltation.
- Spawning: various substrates usually beside rooted aquatic vegetation, sometimes under banks.
**Black crappie** *Pomoxis nigromaculatus*

**Habitat:**

- **feeding**
  - larger clear non-silty low-gradient rivers; also in lakes and impoundments
  - clean hard sand or muck substrate
  - associated with submerged aquatic vegetation
  - does not tolerate silt or turbidity well

- **spawning**
  - nests in gravel, sand, or mud substrate
  - some vegetation must be present
  - sometimes nests under banks
**Greenside darter Etheostoma blennioides**

**Habitat:**
- **feeding** - young: in quiet water
- swift gravelly riffles or pools with current of streams and rivers
- **spawning** - filamentous algae necessary for egg deposition
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**Rainbow darter** *Etheostoma caeruleum*

**Habitat:**

**feeding**  - gravelly high gradient riffles
- clear, moderate to large streams
- in shallows (average 1 foot)

**spawning**  - gravel or rubble riffles
**Iowa darter* *Etheostoma exile***

**Habitat:**
- feeding - clear, slow moving streams and lakes
  - sandy to muddy substrates
  - intolerant of turbid water
  - lives in rooted aquatic vegetation
- spawning - in pond-like extensions of streams on organic matter or roots
  - in shallows
Fantail darter *Etheostoma flabellare*

Habitat:

- **feeding** - small, shallow (<18 inches) streams
  - some tolerance of turbidity and siltation
  - clear warm waters
  - slow to moderate current
  - gravel and boulder substrate

- **spawning** - gravel in slower water
  - lays eggs on underside of rocks, male guards and fans them

- **winter refuge** - moves downstream to larger and deeper waters
Least darter *Etheostoma microperca*

Habitat:

- feeding - moderate to warm temperature
- clear quiet low-gradient vegetated streams (wetlands, floodplains)
- soft substrate

- spawning - spawning occurs on stems of plants
- male guards a territory in a vegetated area
Johnny darter *Etheostoma nigrum*

Habitat:

- **feeding**
  - sand and silt substrate
  - little to moderate current
  - shallow areas of streams, rivers, lakes, and impoundments
  - tolerant of many organic and inorganic pollutants and turbidity

- **spawning**
  - underneath rocks
  - in stream pools or protected shallows of lakes
**Yellow perch** *Perca flavescens*

Habitat:

- **feeding** - clear lakes and impoundments; also Lake Huron
- low gradient rivers
- abundance of rooted aquatics
- muck, organic debris, sand, or gravel substrate
- does not tolerate turbidity and siltation
- **spawning** - shallows of lakes, tributaries of streams
- occurs over rooted vegetation, submerged brush, fallen trees
- may occur over sand or gravel
Northern logperch *Percina caprodes semifasciata*

Habitat:

- feeding - gravel riffles, deeper slower sections of rivers
- medium size streams; also lakes, impoundments, and Lake Huron
- sand, gravel, or rock substrate
- avoids turbidity and silt

- spawning - riffles or sandy in-shore shallows
Blackside darter *Percina maculata*

**Habitat:**
- feeding: small to medium streams
  - low to medium gradient
  - gravel and sand substrate
  - tolerate some turbidity
- spawning: gravel and sand substrate
Walleye *Sander vitreus*

Habitat:

- **feeding** - larger, deeper streams and in large, shallow, turbid lakes and impoundments; also Lake Huron
  - gravel, bedrock, and firm substrates preferred
  - does not tolerate a lot of turbidity or low oxygen
- **spawning** - rocky substrates in high gradient water in rivers
  - boulder to coarse gravel shoals in lakes
- **winter refuge** - avoids strong currents
**Freshwater drum** *Aplodinotus grunniens*

**Habitat:**
- **feeding**
  - deeper pools of rivers and Lake Huron
  - in shallows
  - prefers clear waters and clean substrates
  - can adapt to high turbidity levels
- **spawning**
  - pelagically, in open water, over sand or mud substrate
  - occurs in bays or lower portions of marshes
Round goby *Neogobius melanostomus* - non-native species

Habitat:

- **feeding**: rock, cobble, riprap, and vegetate areas of rivers and lakes
  - young found over sand substrate
- **spawning**: rocky substrate with large interstitial spaces
- **winter refuge**: rocky substrate with large interstitial spaces
  - deep water