Hornyhead chub *Nocomis biguttatus*

**Habitat:**
- feeding - adults: near riffles
  - young: near vegetation
  - clear water, does not tolerate turbidity
  - gravel substrate
  - low gradient streams that are tributaries to large streams
- spawning - large stones and pebbles present
  - often below a riffle in shallow water
  - gravel substrate
Clinton River Assessment Appendix

River chub *Nocomis micropogon*

**Habitat:**
- feeding - moderate to large streams
- moderate to high gradient
- gravel, boulder, or bedrock substrate
- little to no aquatic vegetation
- cannot tolerate turbidity or siltation
Golden shiner *Notemigonus crysoleucas*

**Habitat:**
- feeding: lakes and impoundments and quiet pools of low gradient streams
  - clear shallow water
  - heavy vegetation
- spawning: vegetation
Clinton River Assessment Appendix

**Pugnose shiner** *Notropis anogenus*

**Habitat:**
- feeding - very clear water of lakes, impoundments, and low-gradient streams
- aquatic vegetation
- clean sand, marl, or organic debris substrate
- extremely intolerant of turbidity
Emerald shiner *Notropis atherinoides*

**Habitat:**
- feeding - open-large stream channels and lake
- low to moderate gradient
- range of turbidities and bottom types
- midwater or surface preferred, substrate of little importance
- avoids rooted vegetation

- spawning - sand or firm mud substrate or gravel shoals
**Bigmouth shiner** *Notropis dorsalis*

**Habitat:**
- feeding - small clear streams
- good flows
- sand or gravel substrate
- open water, free from vegetation
Blackchin shiner *Notropis heterodon*

**Habitat:**
- feeding - lakes, impoundments, and quiet pools in streams and rivers
- clear water
- clean sand, gravel, or organic debris substrate
- dense beds of submerged aquatic vegetation
- cannot tolerate turbidity, silt, or loss of aquatic vegetation
Blacknose shiner *Notropis heterolepis*

**Habitat:**
- feeding - clear lakes, impoundments, and pools of small, clear, low-gradient streams
- - aquatic vegetation
- - clean sand, gravel, marl, muck, peat, or organic debris substrate
- - cannot tolerate much turbidity, much siltation, or loss of aquatic vegetation
- spawning - sandy substrate
Spottail shiner *Notropis hudsonius*

**Habitat:**

- feeding - large rivers, lakes, and impoundments
  - firm sand and gravel substrate
  - low current
  - sparse to moderate vegetation
  - avoids turbidity

- spawning - over sandy shoals or gravelly riffles
  - near the mouths of small streams
Rosyface shiner *Notropis rubellus*

**Habitat:**
- feeding - moderate sized streams
- moderate to high gradient
- gravel or sand substrate; intolerant of silt substrate
- clear water; intolerant of turbidity

- spawning - on nests of hornyhead chub, chestnut lamprey, and redhorses
- sandy-gravel, gravel or bedrock substrate
- shallow high gradient water