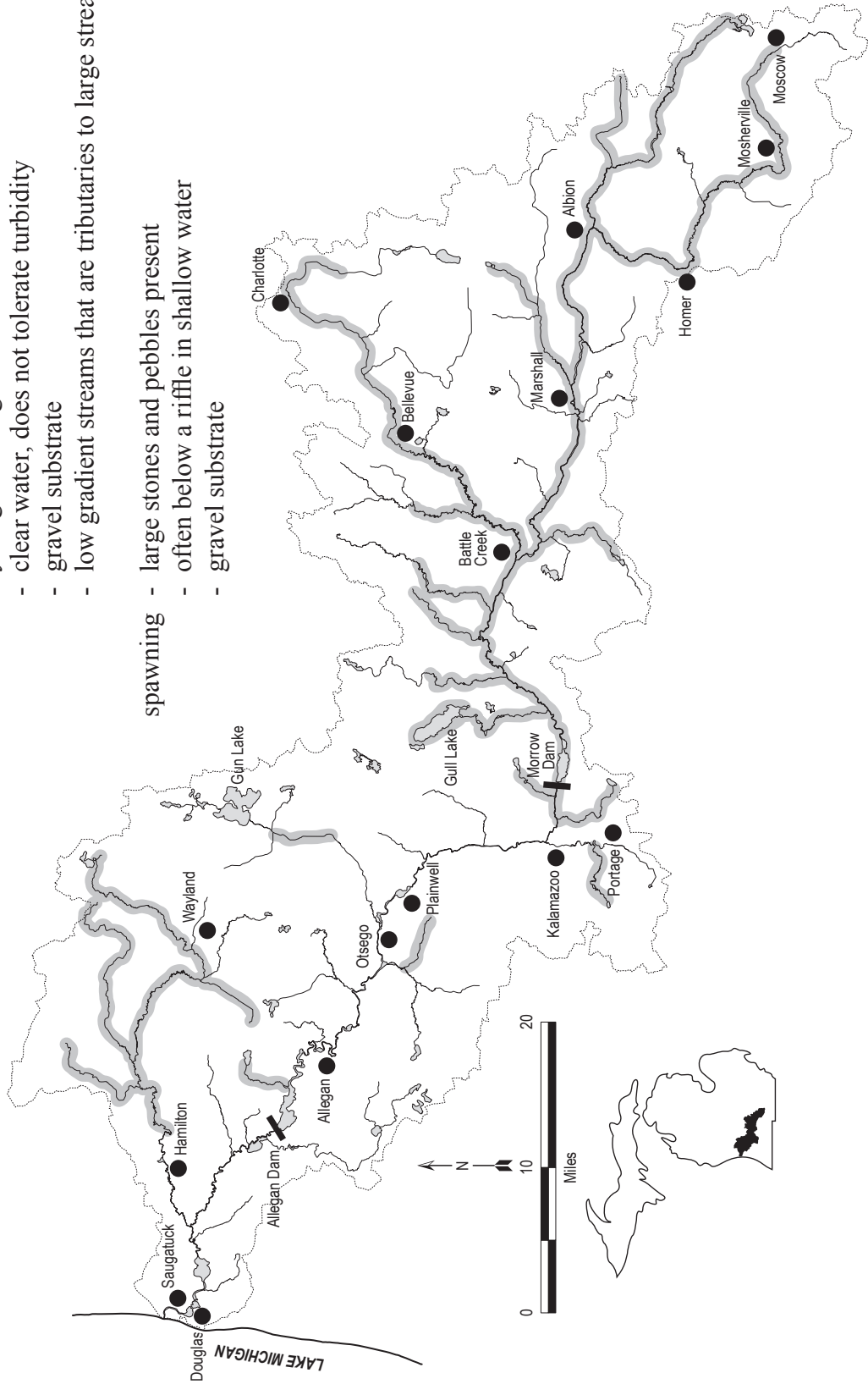


**Hornyhead chub (*Nocomis biguttatus*)**

**Habitat:**

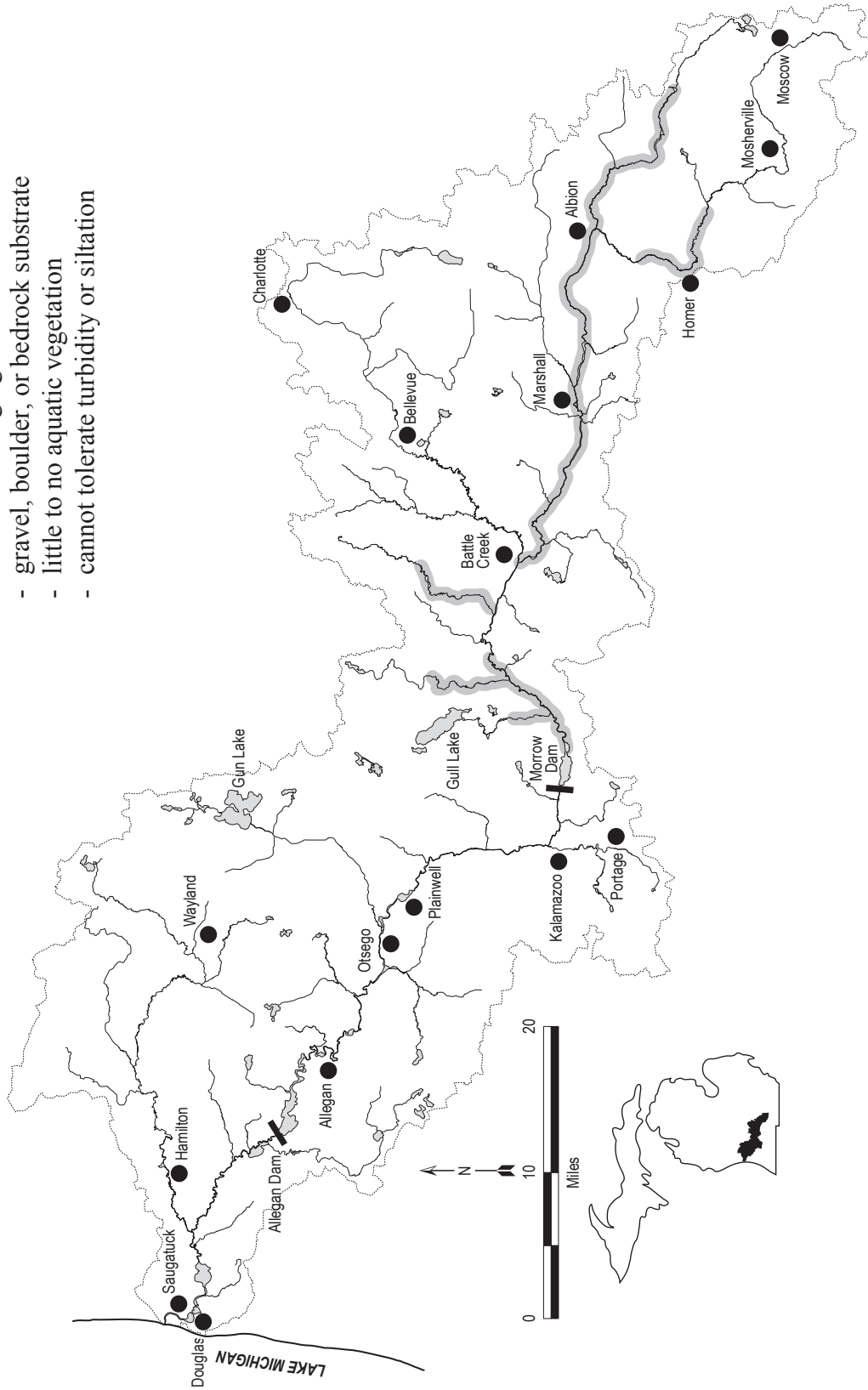
- feeding - adults: near riffles
  - young: near vegetation
  - clear water, does not tolerate turbidity
  - gravel substrate
  - low gradient streams that are tributaries to large streams
- 
- spawning - large stones and pebbles present
  - often below a riffle in shallow water
  - gravel substrate



**River chub (*Nocomis micropogon*)**

**Habitat:**

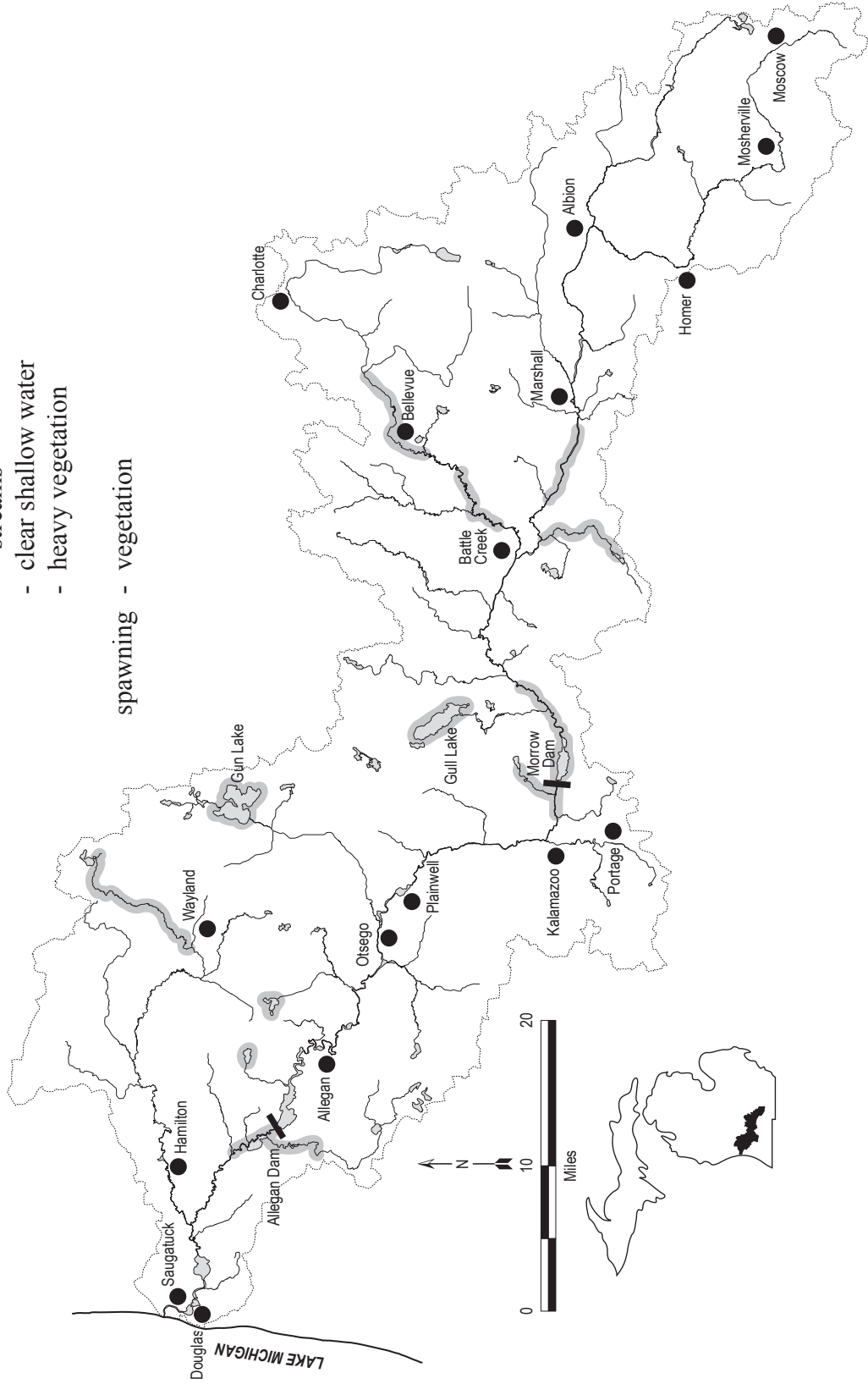
- feeding - moderate to large streams
- moderate to high gradient
- gravel, boulder, or bedrock substrate
- little to no aquatic vegetation
- cannot tolerate turbidity or siltation



**Golden shiner (*Notemigonus crysoleucas*)**

**Habitat:**

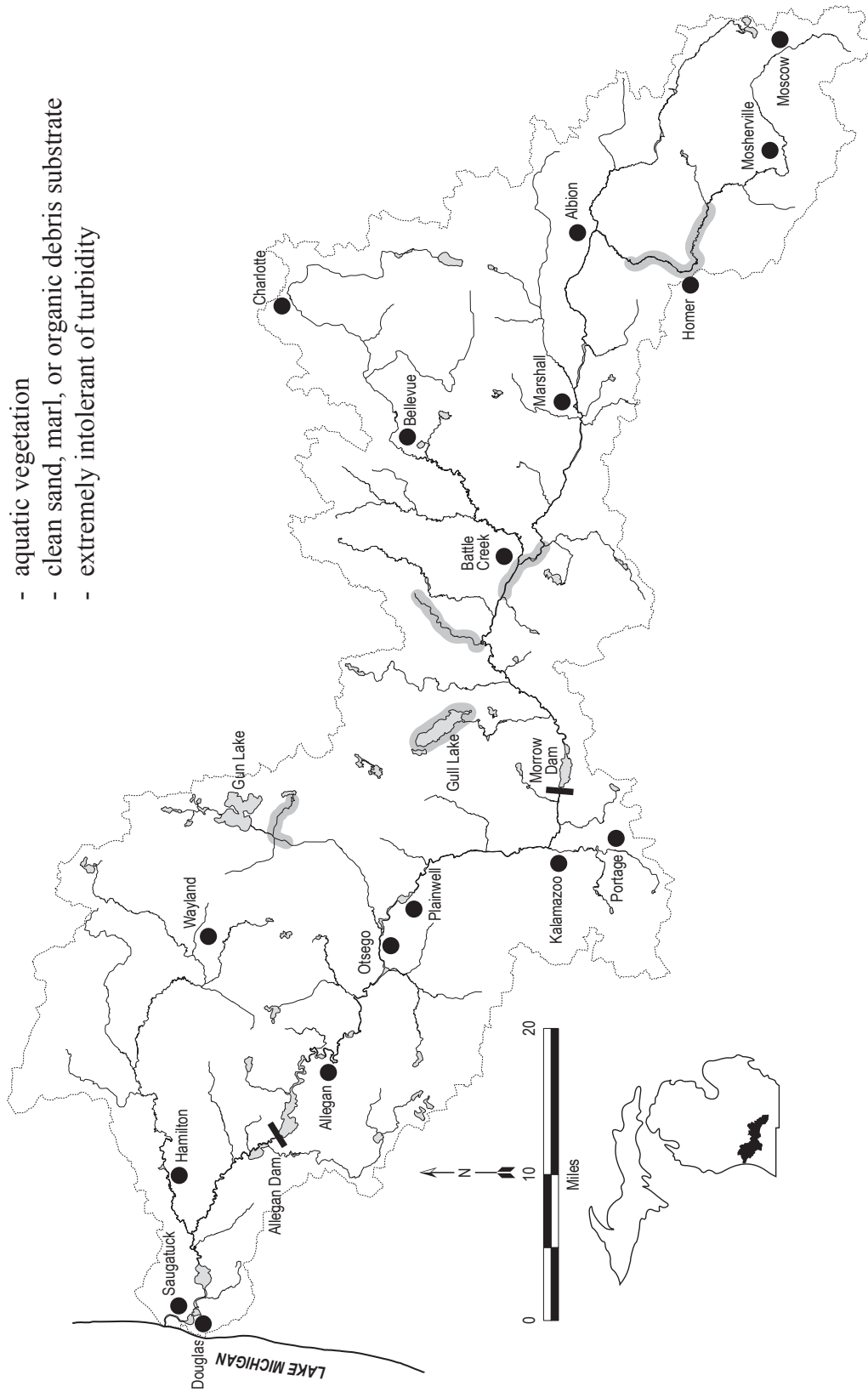
- feeding - lakes and impoundments and quiet pools of low gradient streams
- clear shallow water
- heavy vegetation
- spawning - vegetation



**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

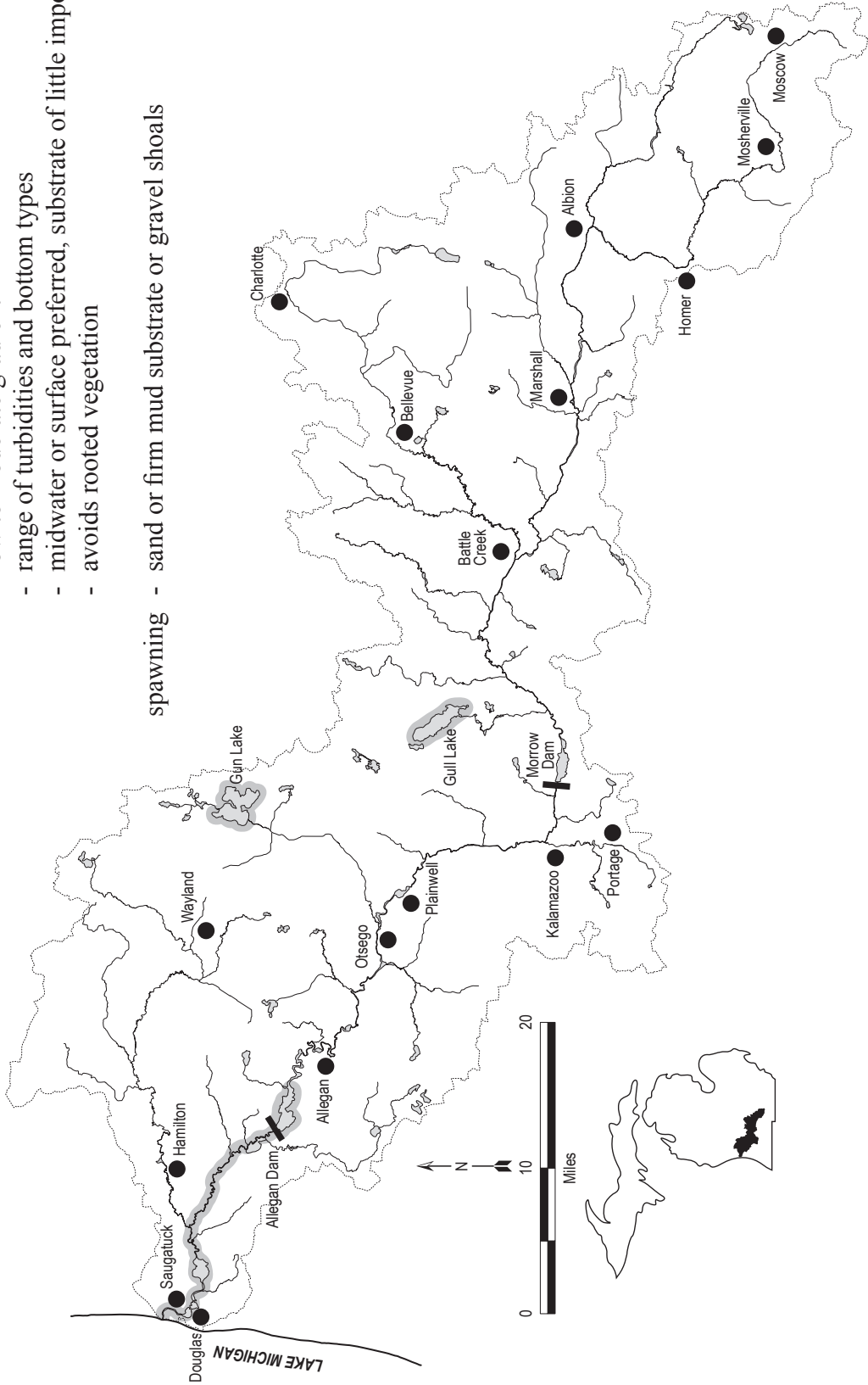


**Emerald shiner (*Notropis atherinoides*)**

**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

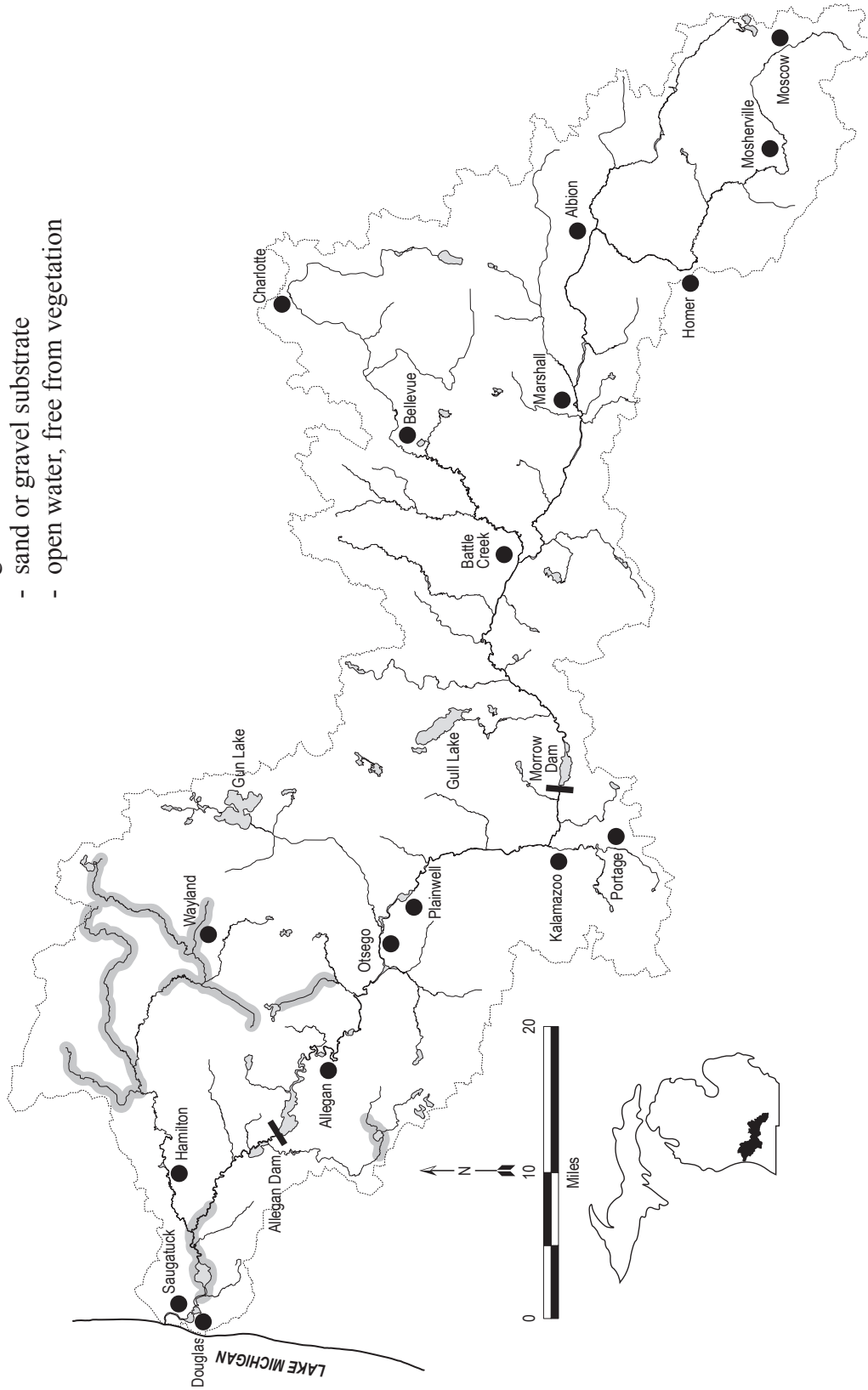
spawning - sand or firm mud substrate or gravel shoals



**Bigmouth shiner (*Notropis dorsalis*)**

**Habitat:**

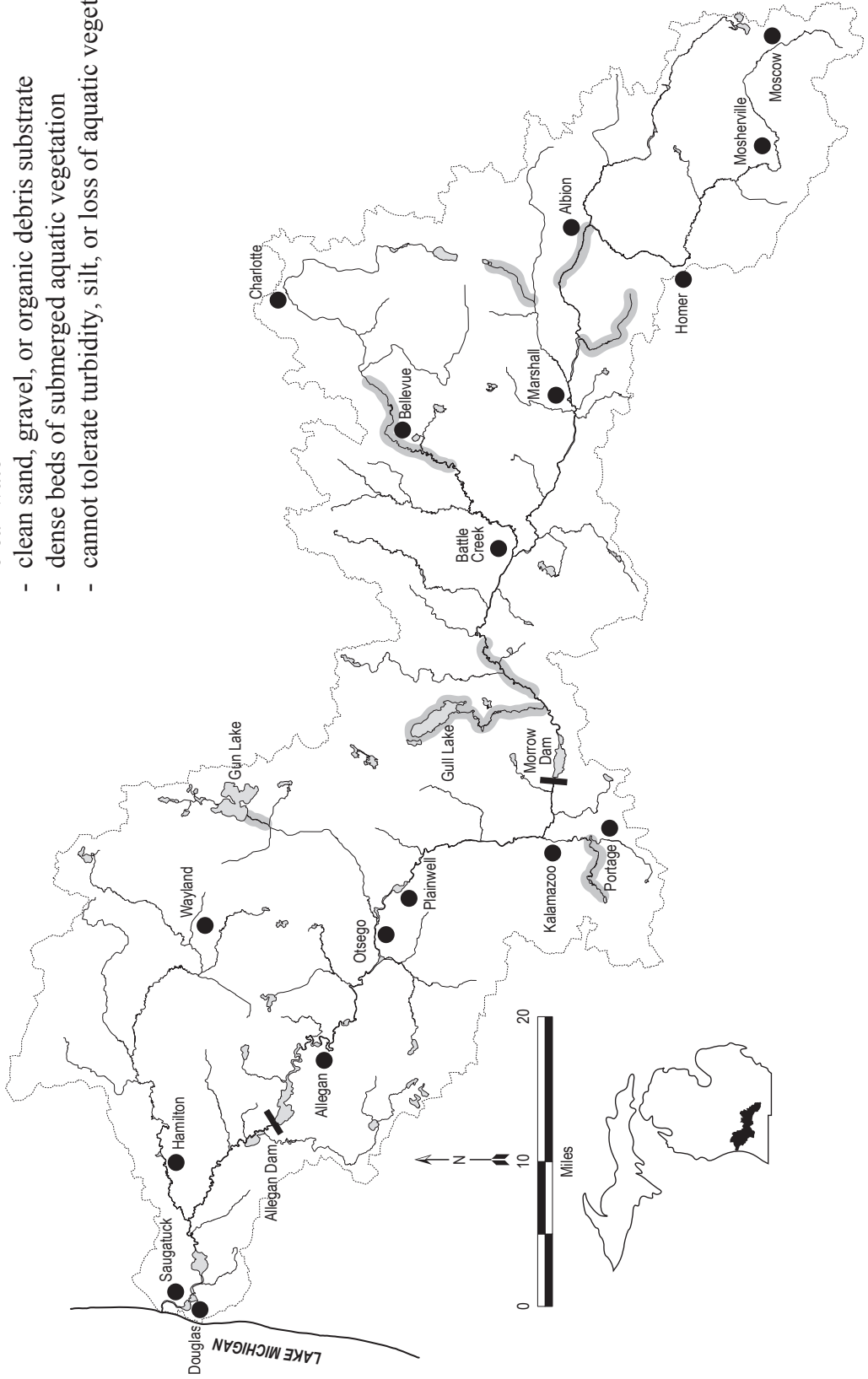
- feeding - small clear streams
- good flows
- sand or gravel substrate
- open water, free from vegetation



**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

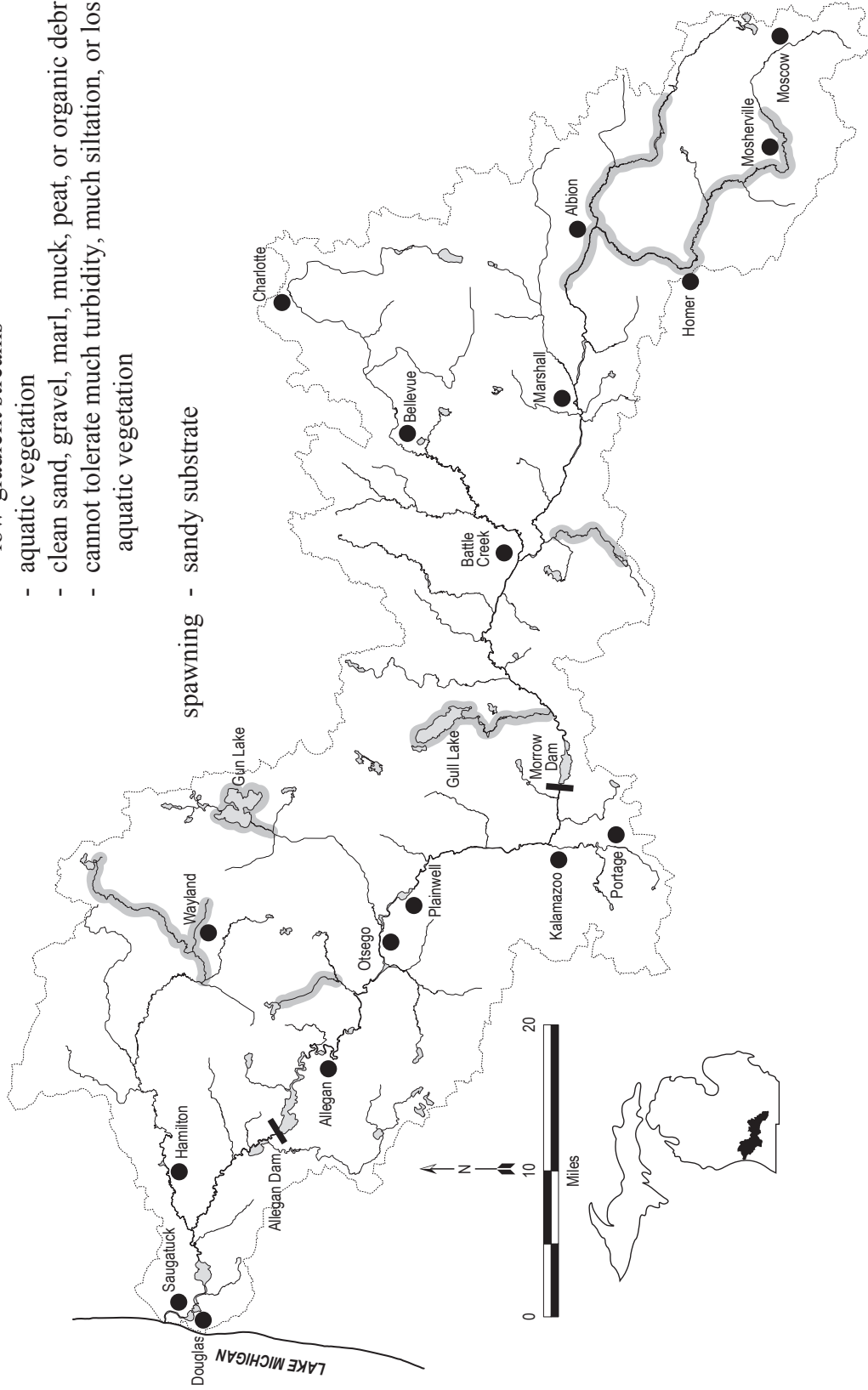


**Blacknose shiner (*Notropis heterolepis*)**

**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**

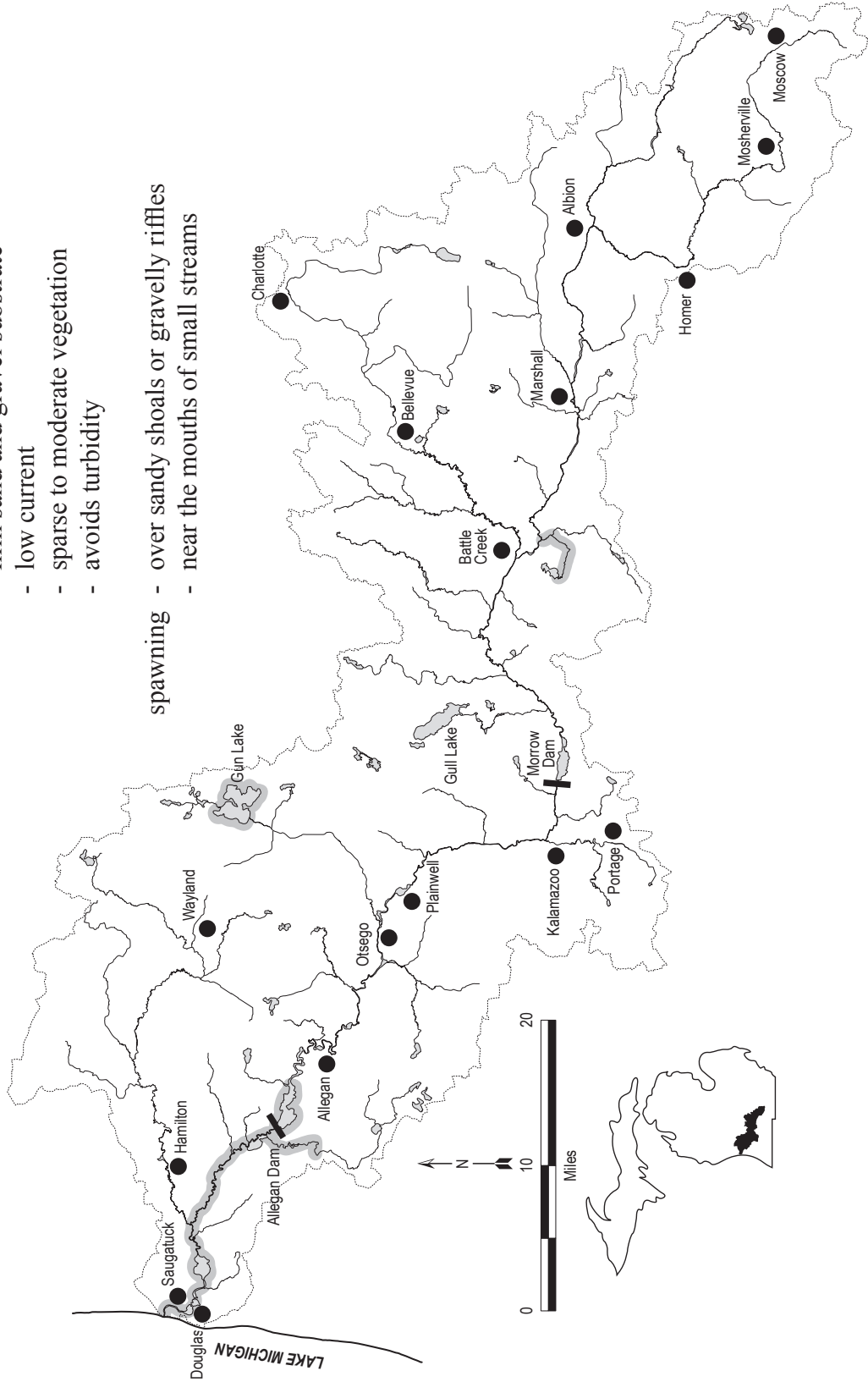




**Spottail shiner (*Notropis hudsonius*)**

**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 honeyhead chub, chesnut lamprey, and redhorses
  - sandy-gravel, gravel or bedrock substrate
  - shallow high gradient water

