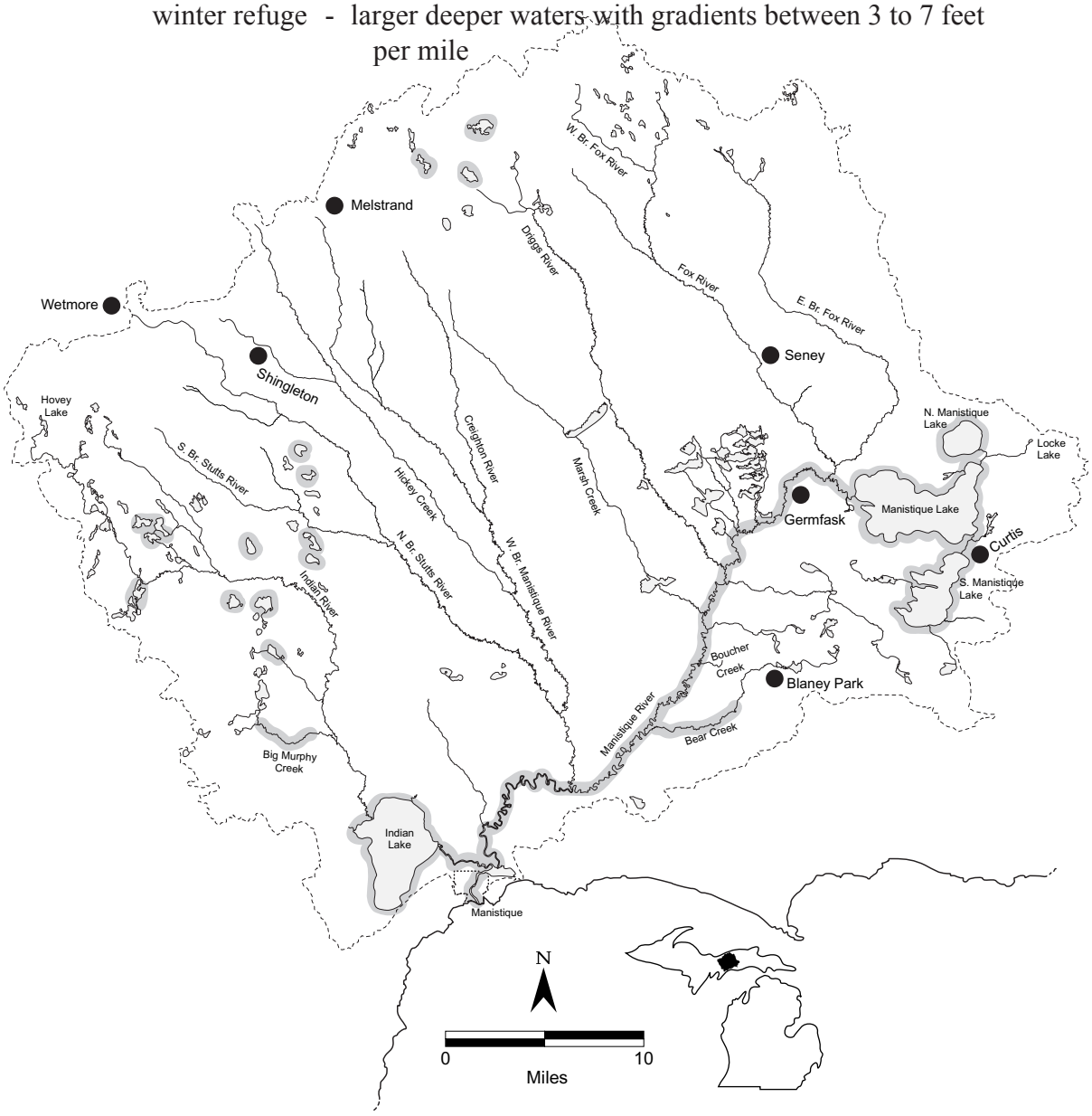
**Smallmouth bass** (*Micropterus dolomieu*)

**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

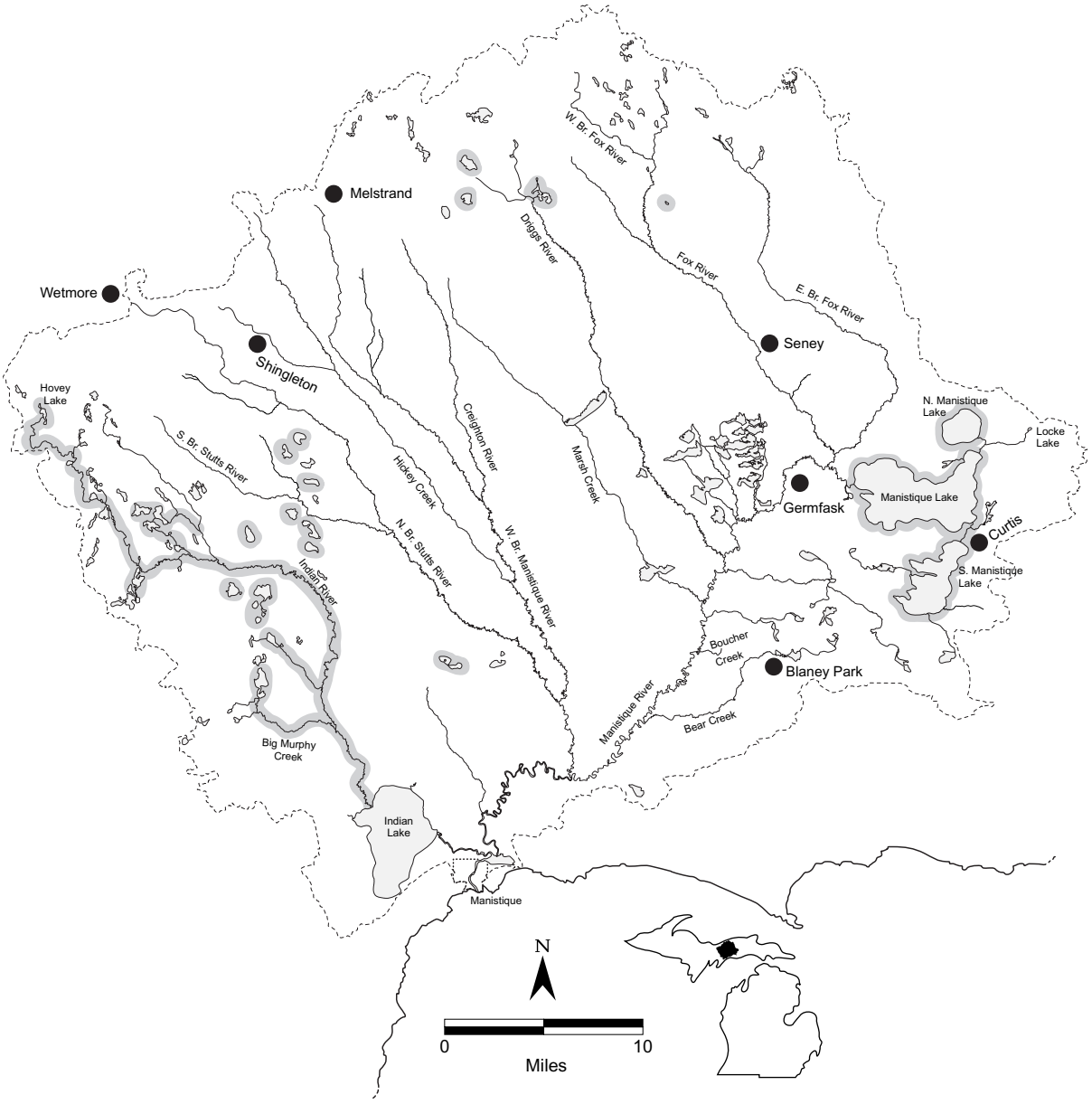


**Largemouth bass** (*Micropterus salmoides*)

**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

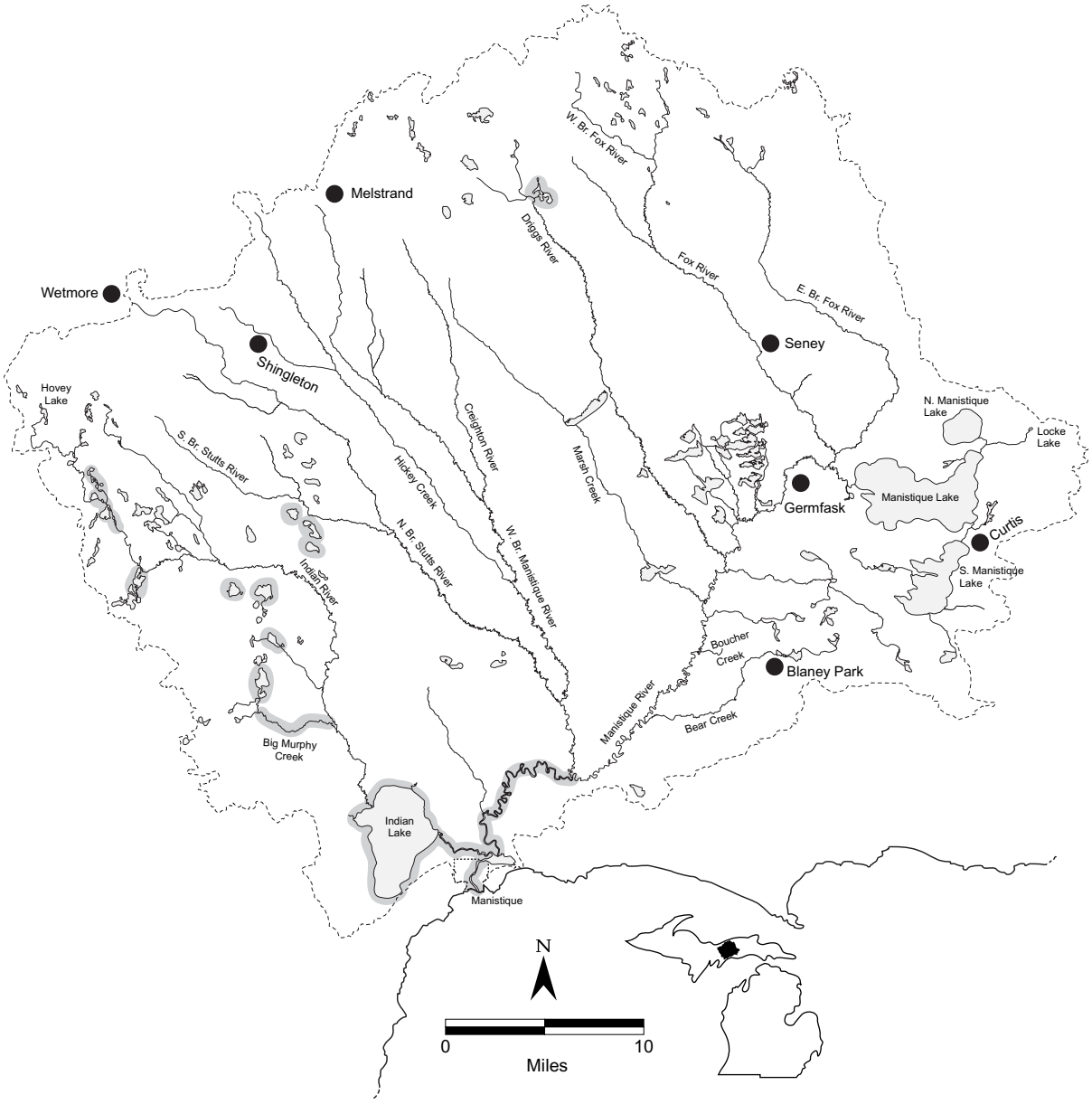


**Black crappie** (*Pomoxis nigromaculatus*)

**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

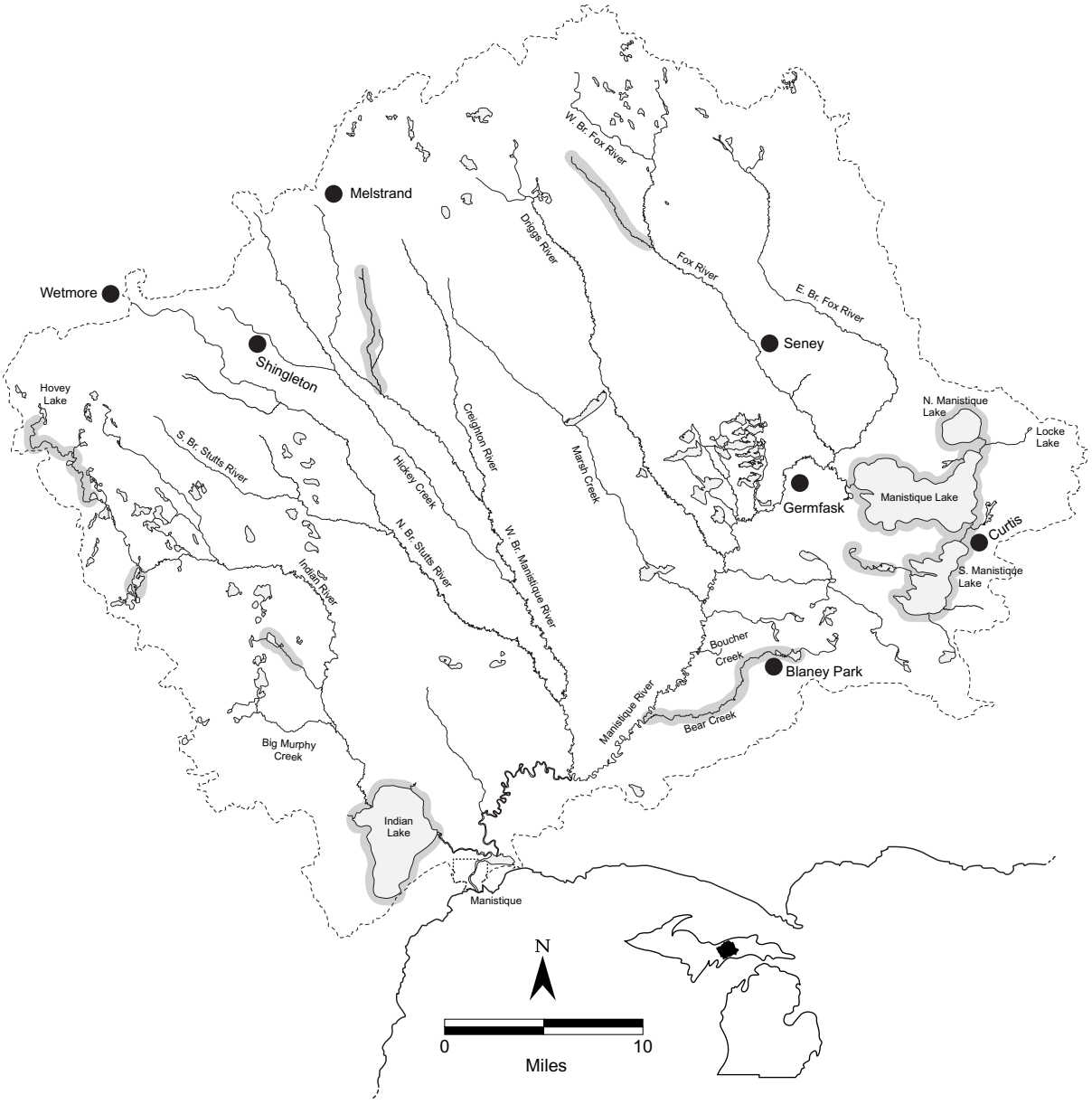


**Iowa darter** (*Etheostoma exile*)

**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



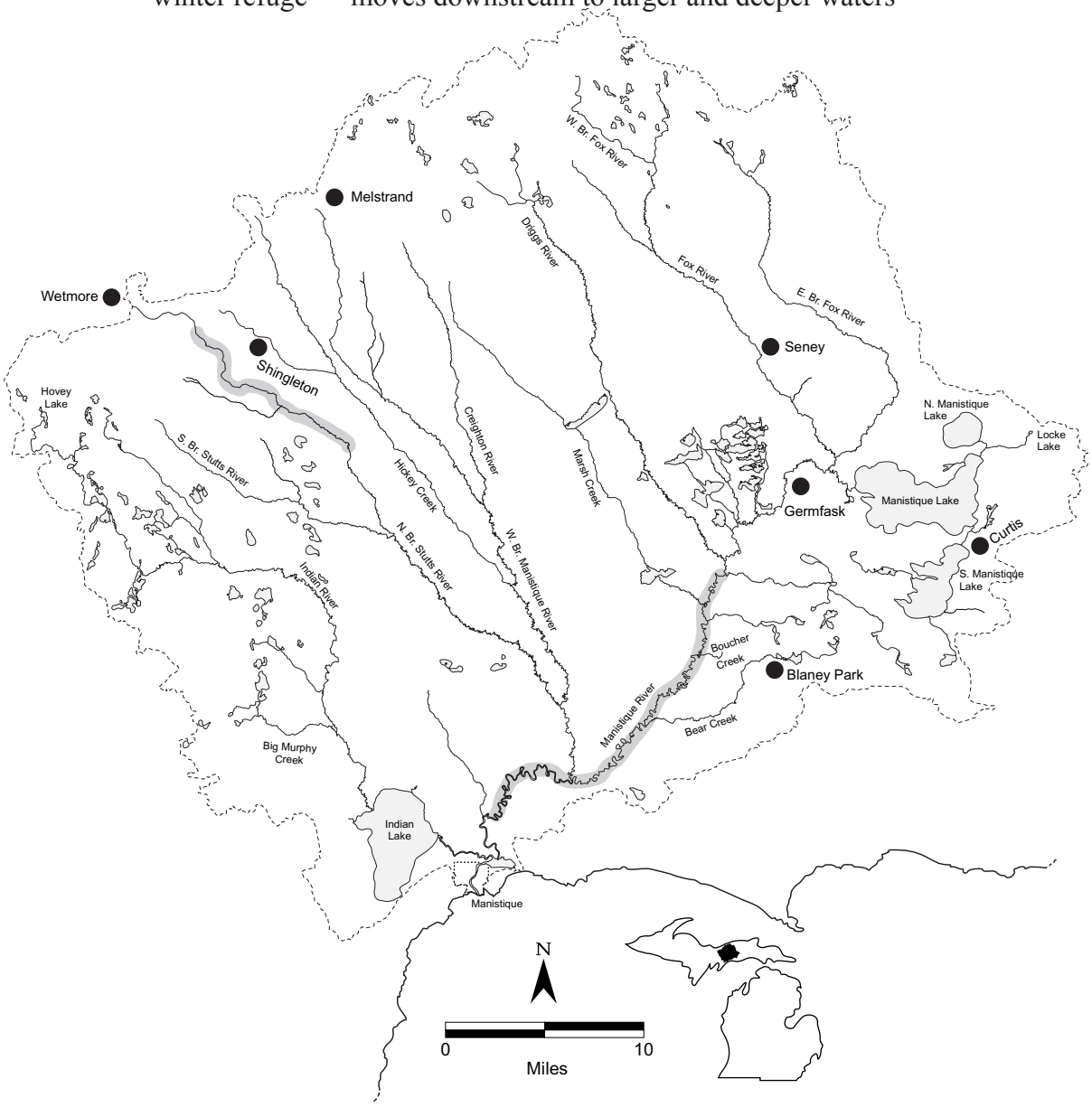
**Striped fantail darter** (*Etheostoma flabellare lineolatum*)

**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

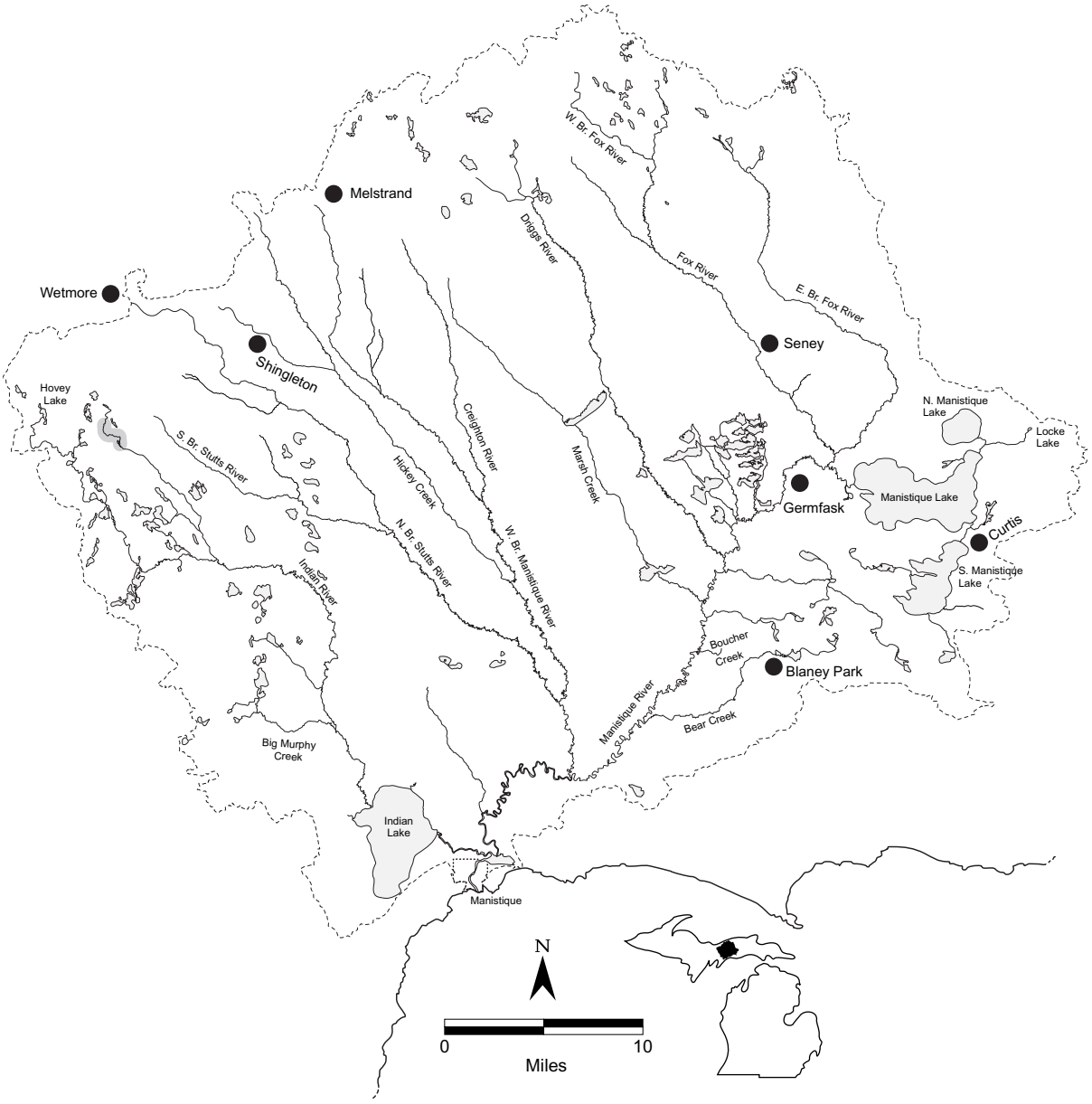


**Least darter** (*Etheostoma microperca*)

**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

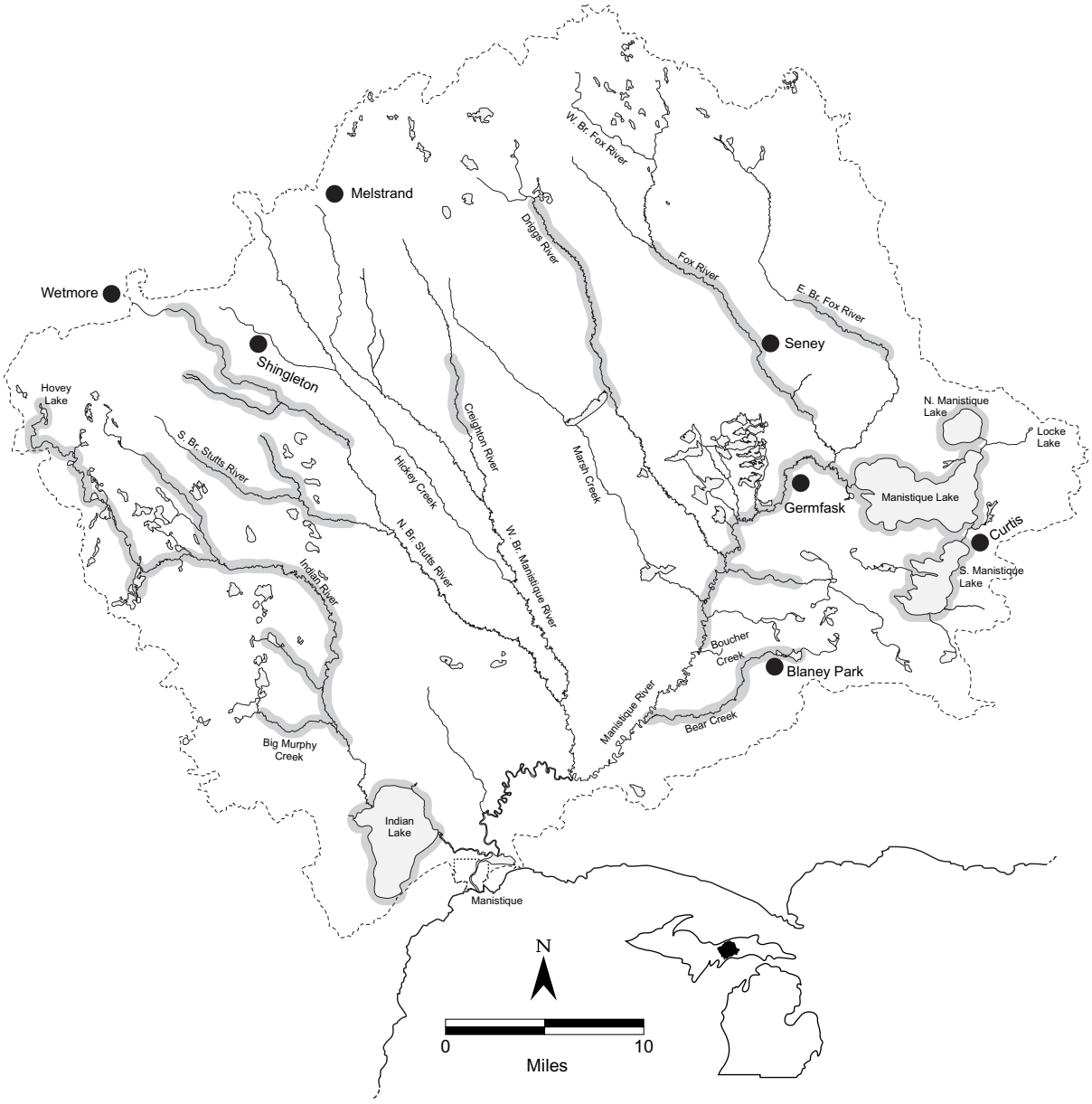


**Johnny darter** (*Etheostoma nigrum*)

**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

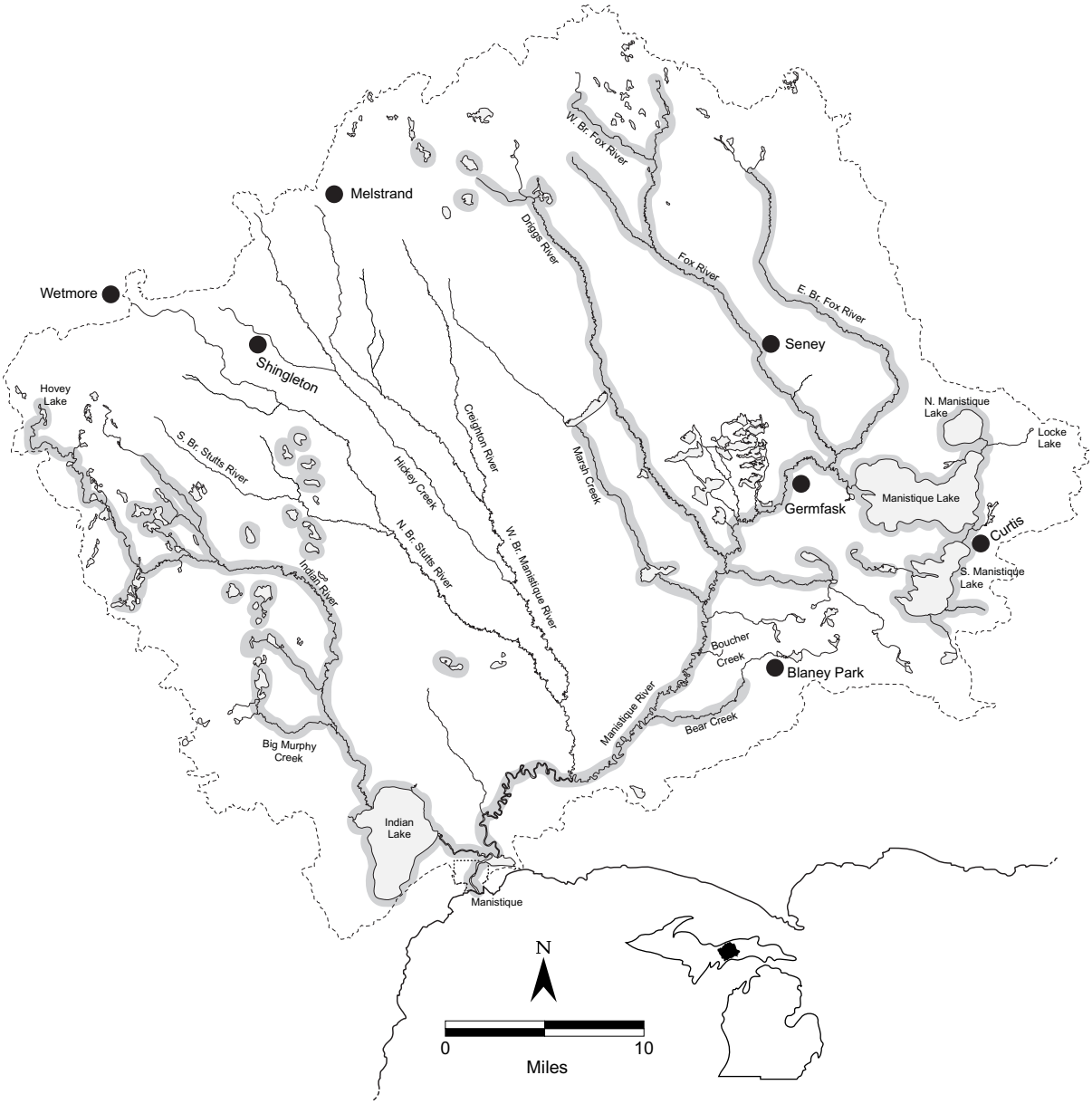


**Yellow perch** (*Perca flavescens*)

**Habitat:**

feeding
- clear lakes and impoundments; also Lake Michigan
- 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

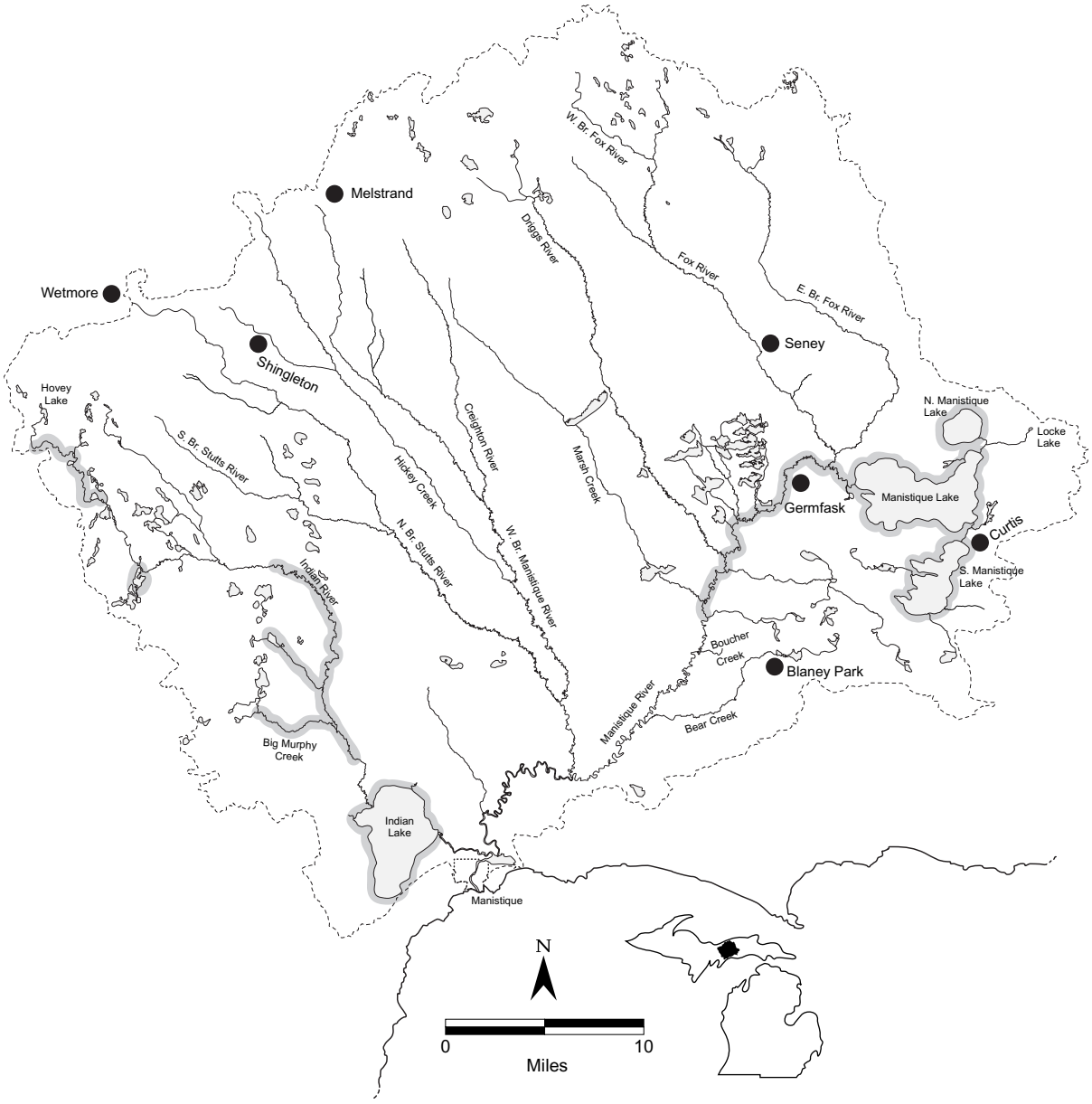


**Northern logperch** (*Percina caprodes*)

**Habitat:**

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

spawning - riffles or sandy in-shore shallows

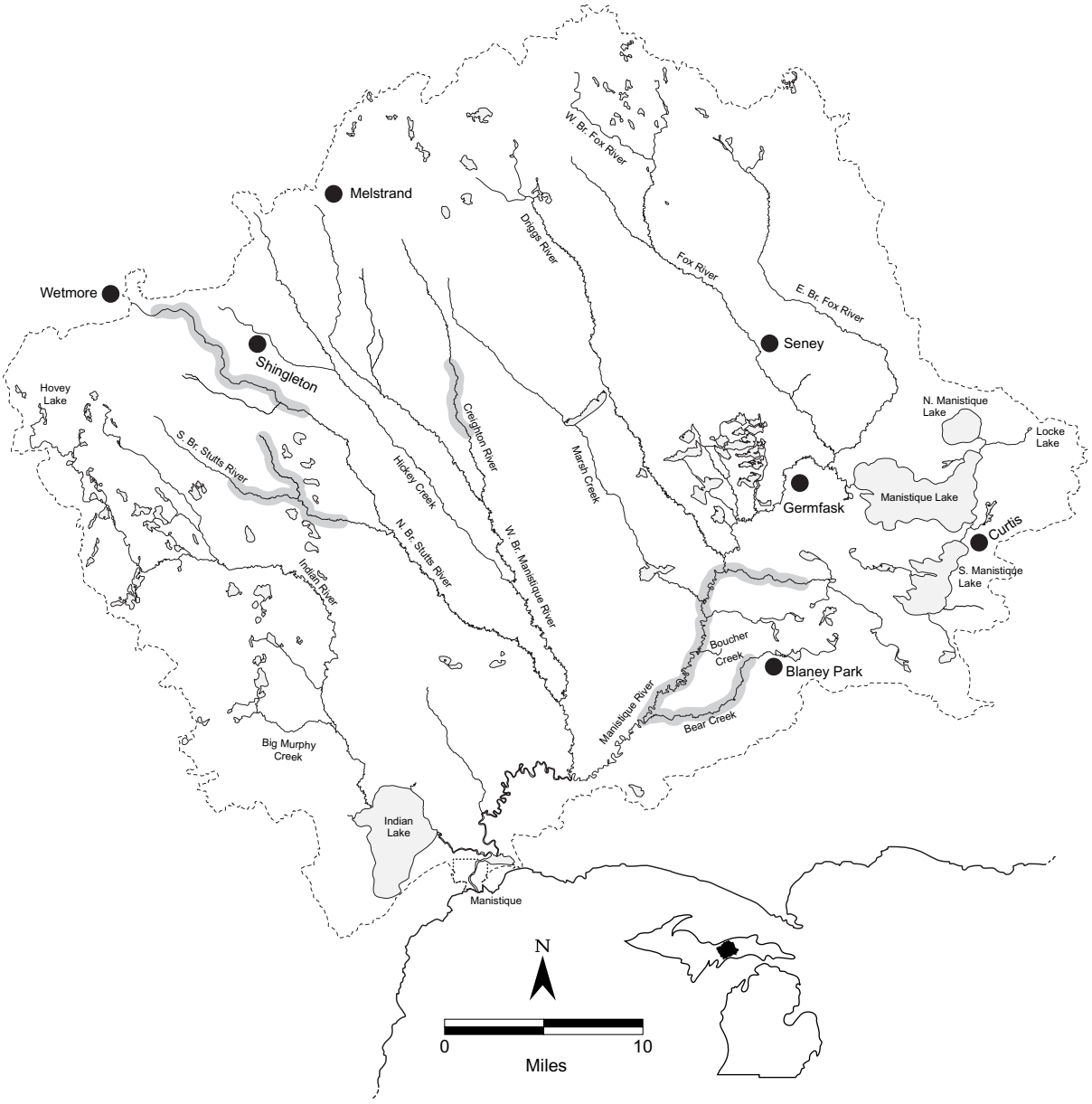


**Blackside darter** (*Percina maculata*)

**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 Michigan
- 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