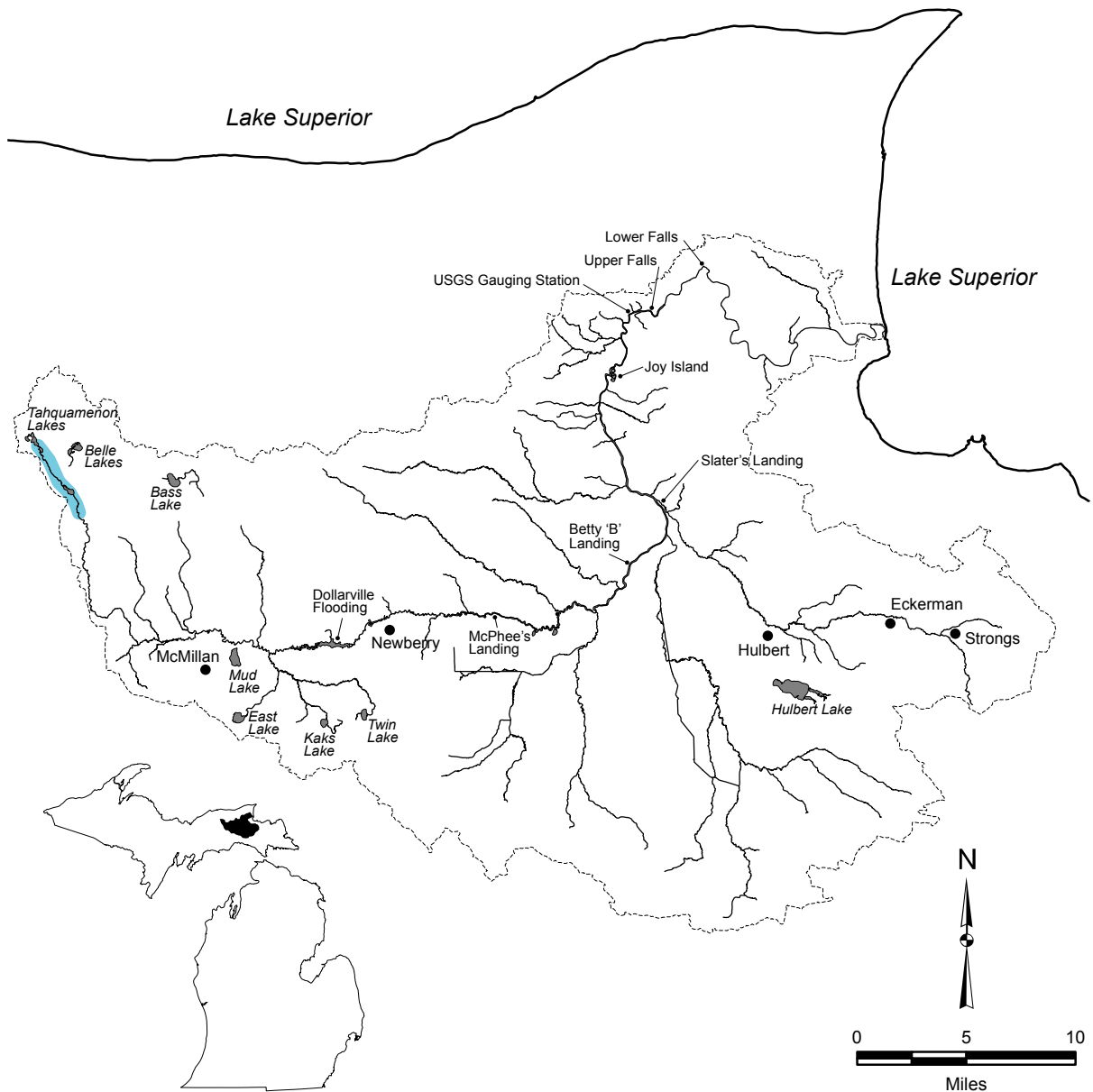


Western banded killifish *Fundulus diaphanus menona*

Habitat:

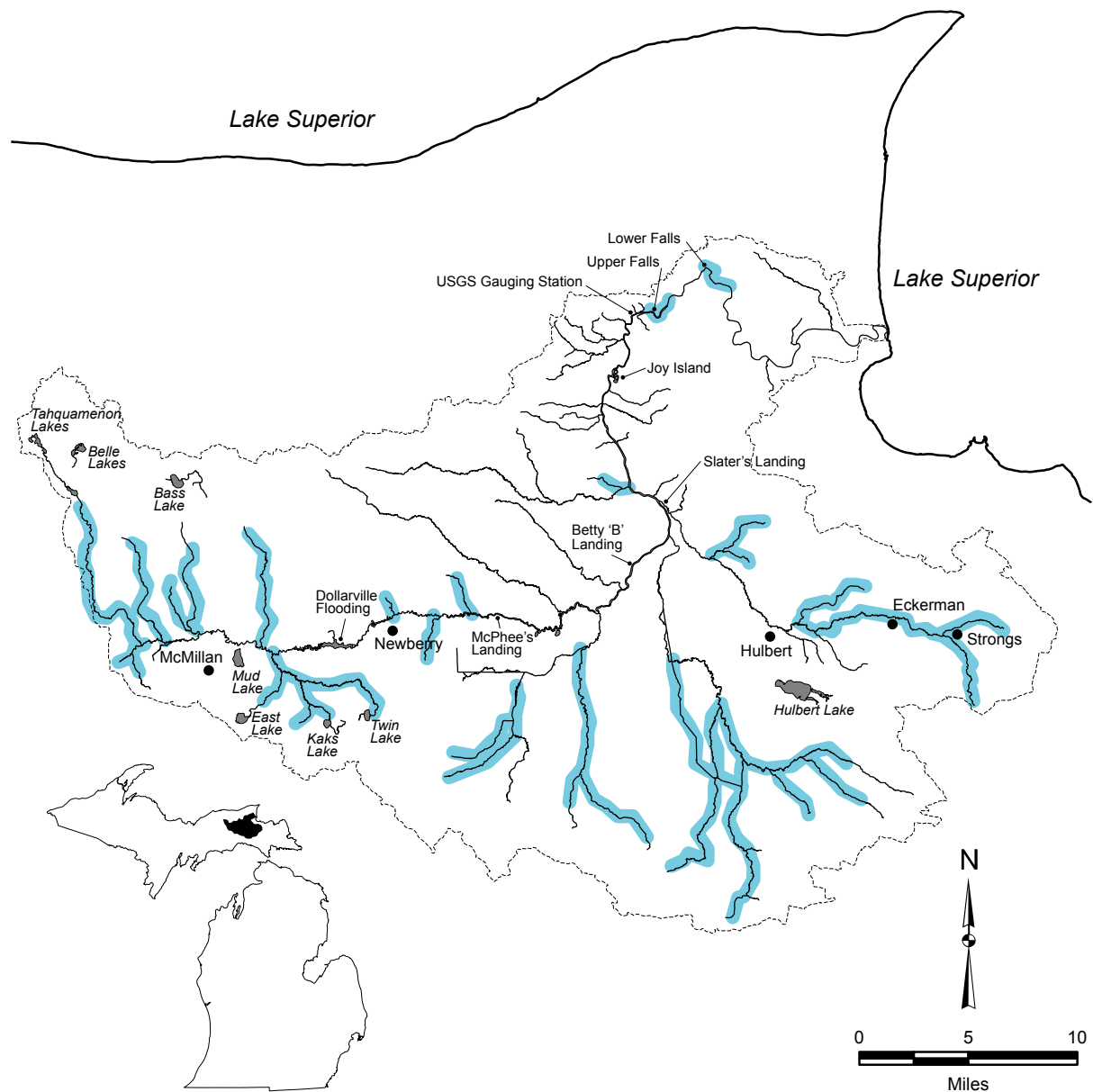
- feeding - quiet backwaters at the mouths of streams and lakes
- substrate of sand, gravel, and a few boulders
- also found over detritus substrate where patches of submerged aquatic vegetation are present
- spawning - quiet areas of weedy pools



Brook stickleback *Culaea inconstans*

Habitat:

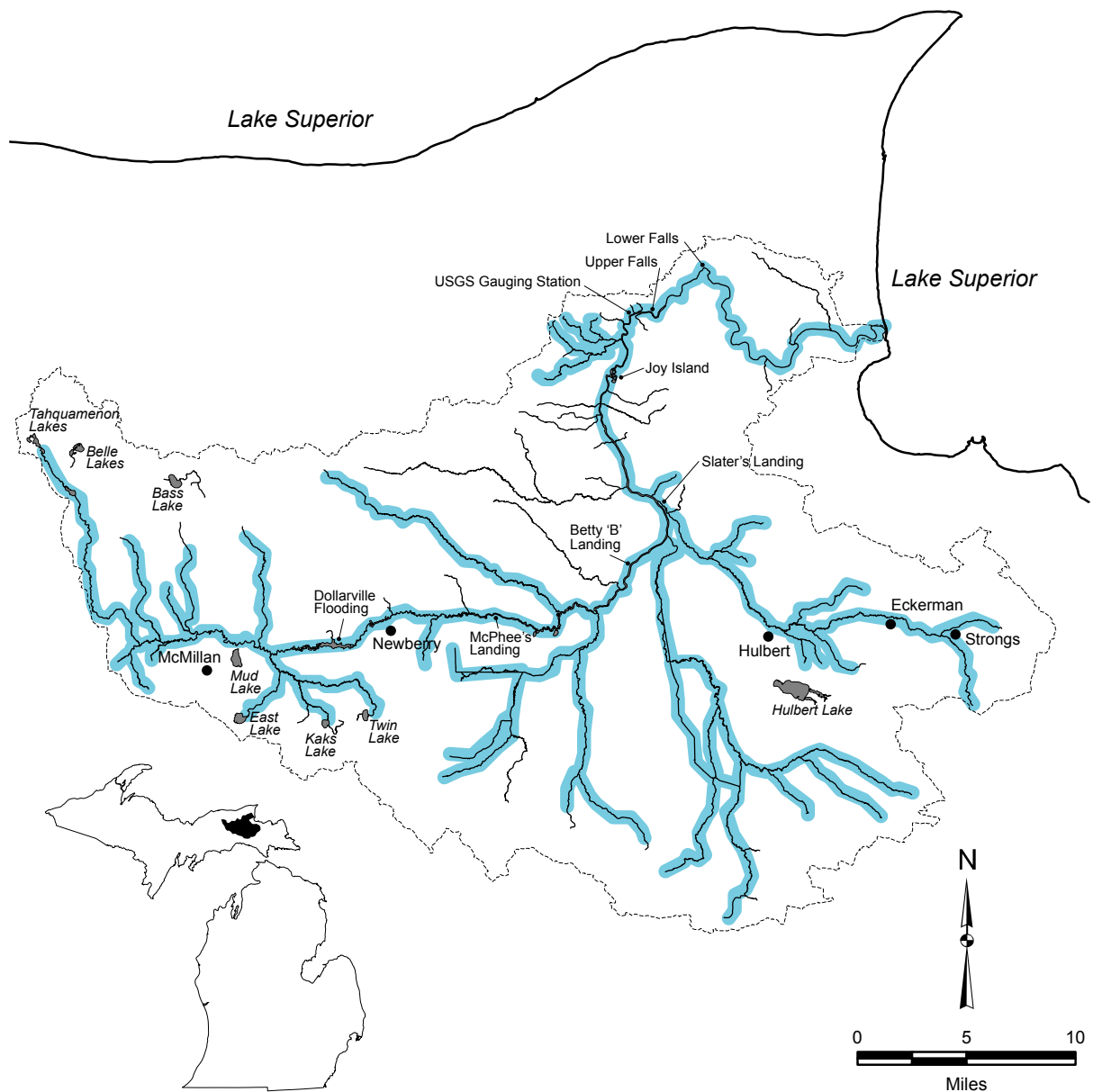
- feeding - clear, cold, densely vegetated streams, and swampy margins of lakes
- low gradient
- muck, peat, or marl substrate
- not tolerant of turbidity
- spawning - shallow cool (<66°F) water
- aquatic reeds or grasses necessary



Mottled sculpin *Cottus bairdii*

Habitat:

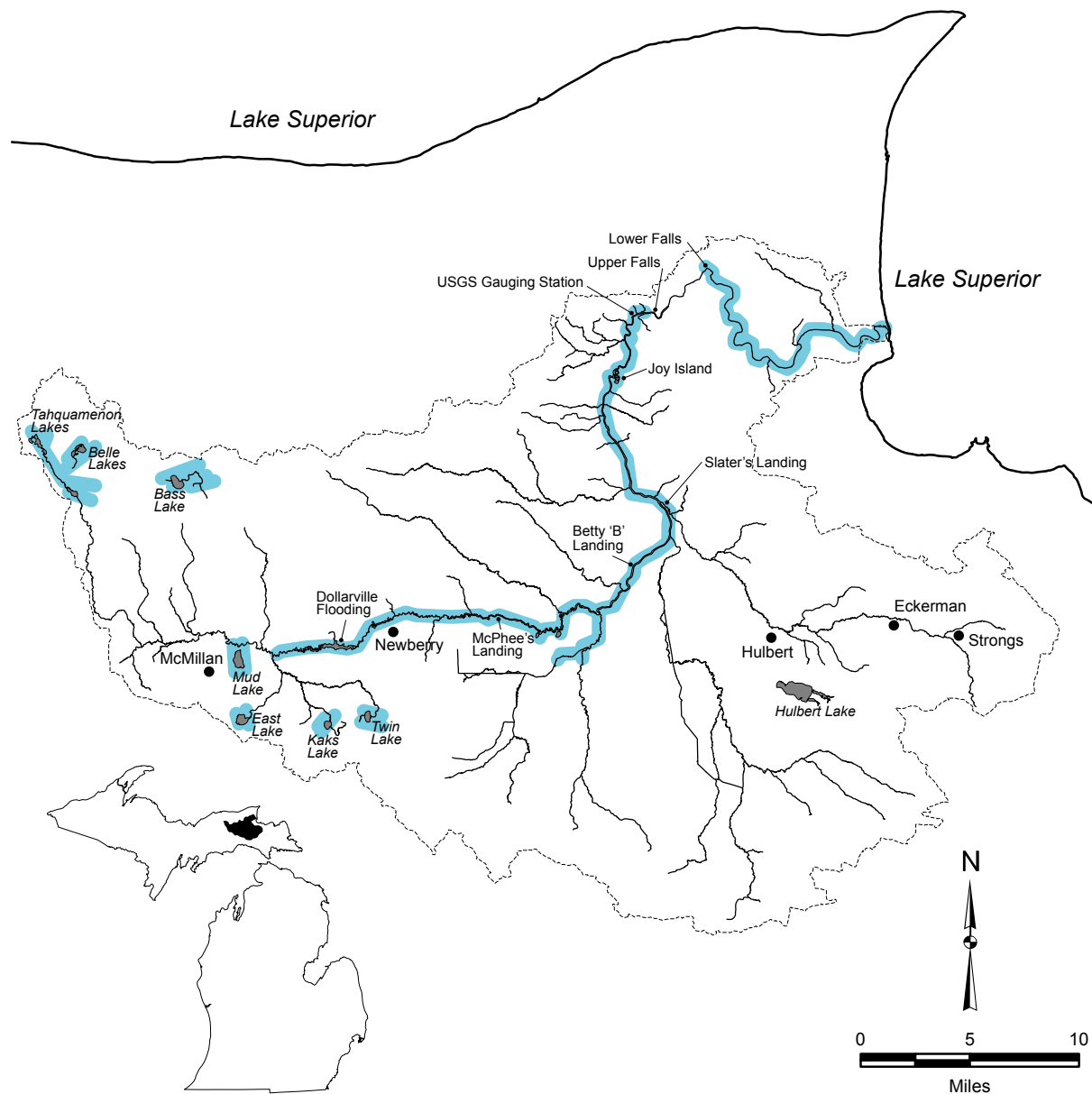
- feeding - cool to cold streams
- riffle and rock substrates preferred
- clear to slightly turbid shallow water
- spawning - nests under logs or rock



Rock bass *Ambloplites rupestris*

Habitat:

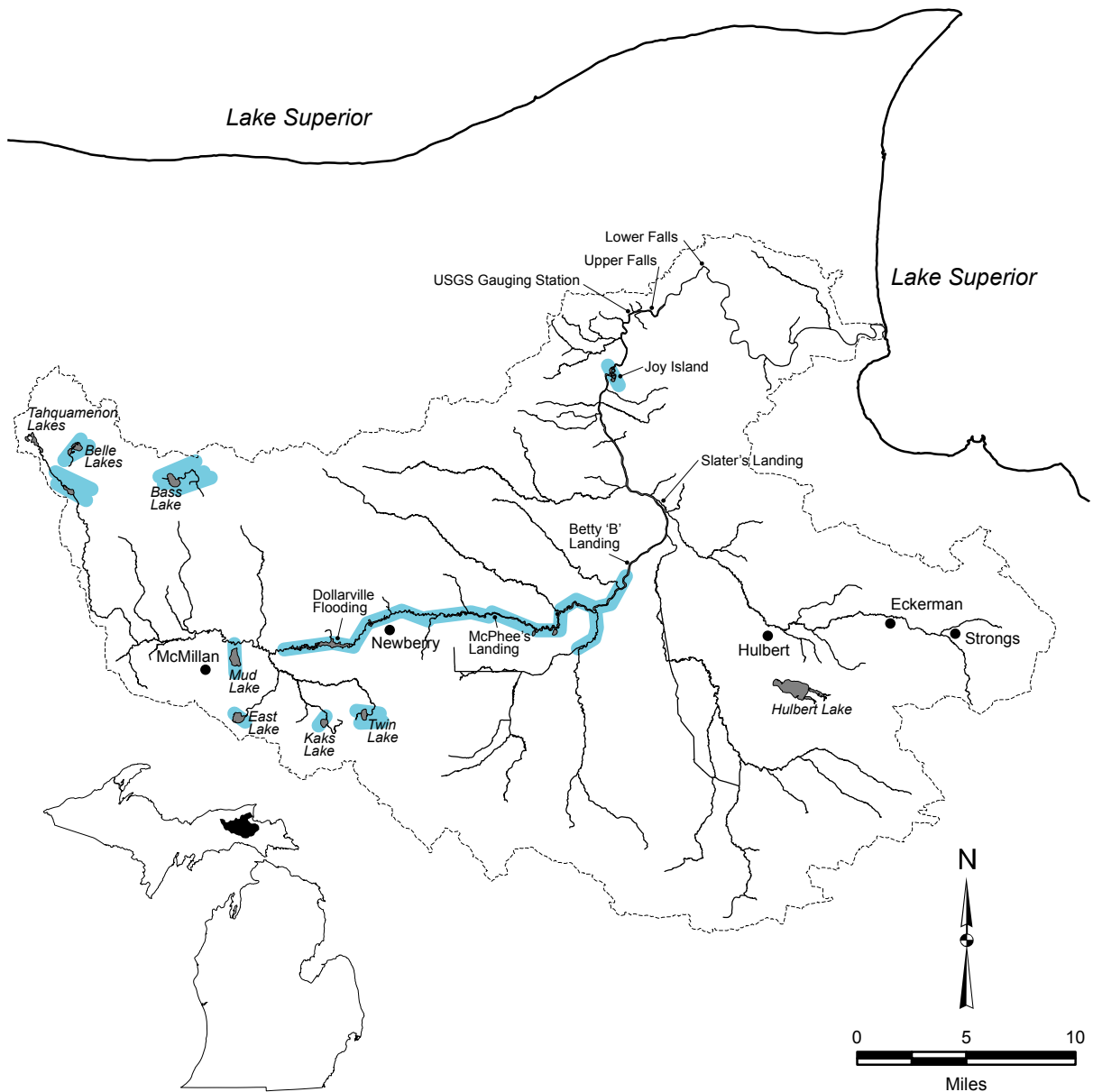
- feeding - clear, cool streams, rivers, and lakes
- rocky to sand substrate
- woody or vegetative cover
- spawning - sand or gravel nests
- shallow water
- winter refuge - deep water



Pumpkinseed *Lepomis gibbosus*

Habitat:

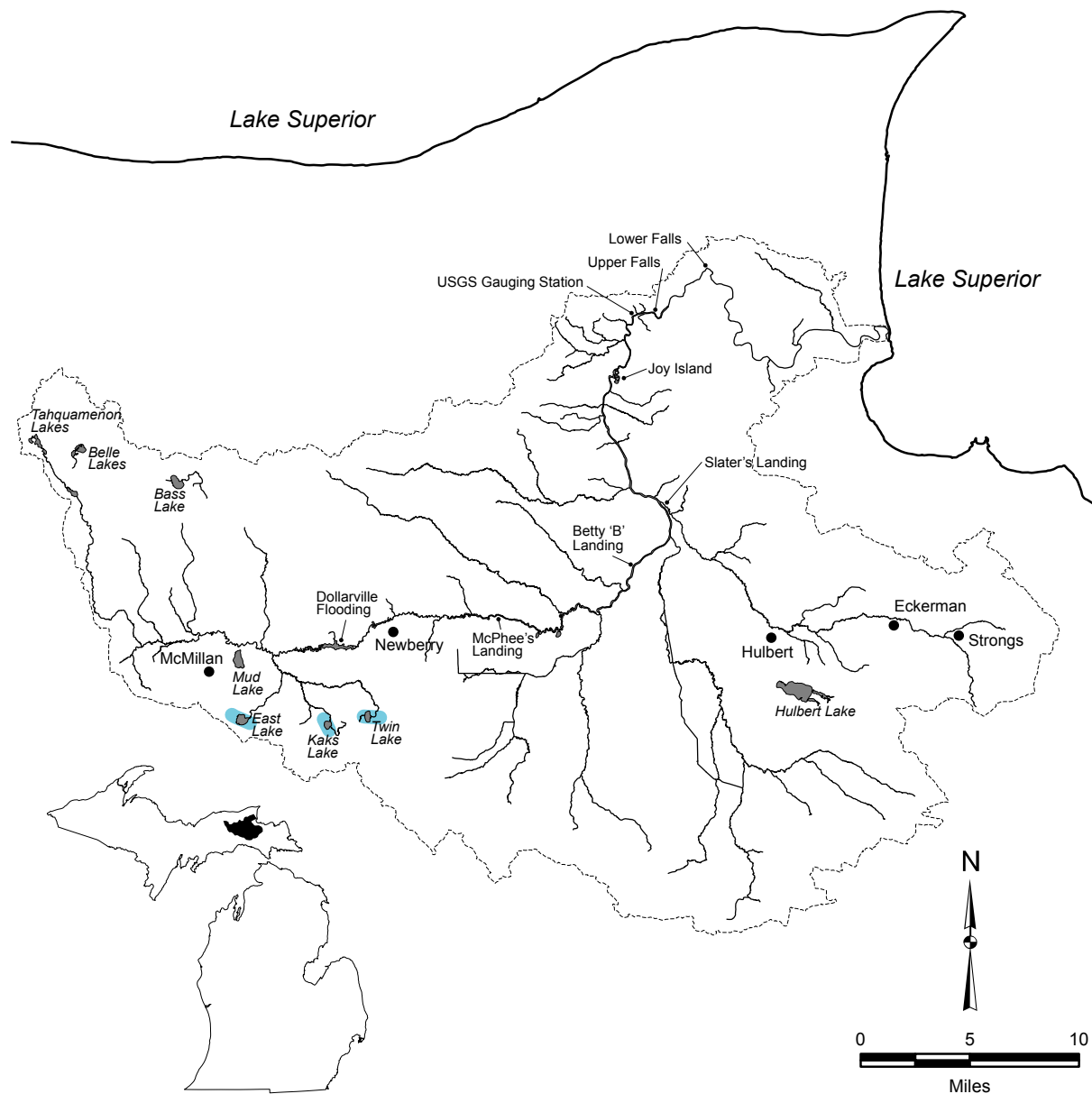
- feeding - non-flowing clear water in streams and rivers; also lakes and impoundments
- muck or sand partly covered with organic debris substrate
- dense beds of submerged aquatic vegetation
- spawning - nest in sand, gravel, or rock substrate
- in shallow water near submerged vegetation



Bluegill *Lepomis macrochirus*

Habitat:

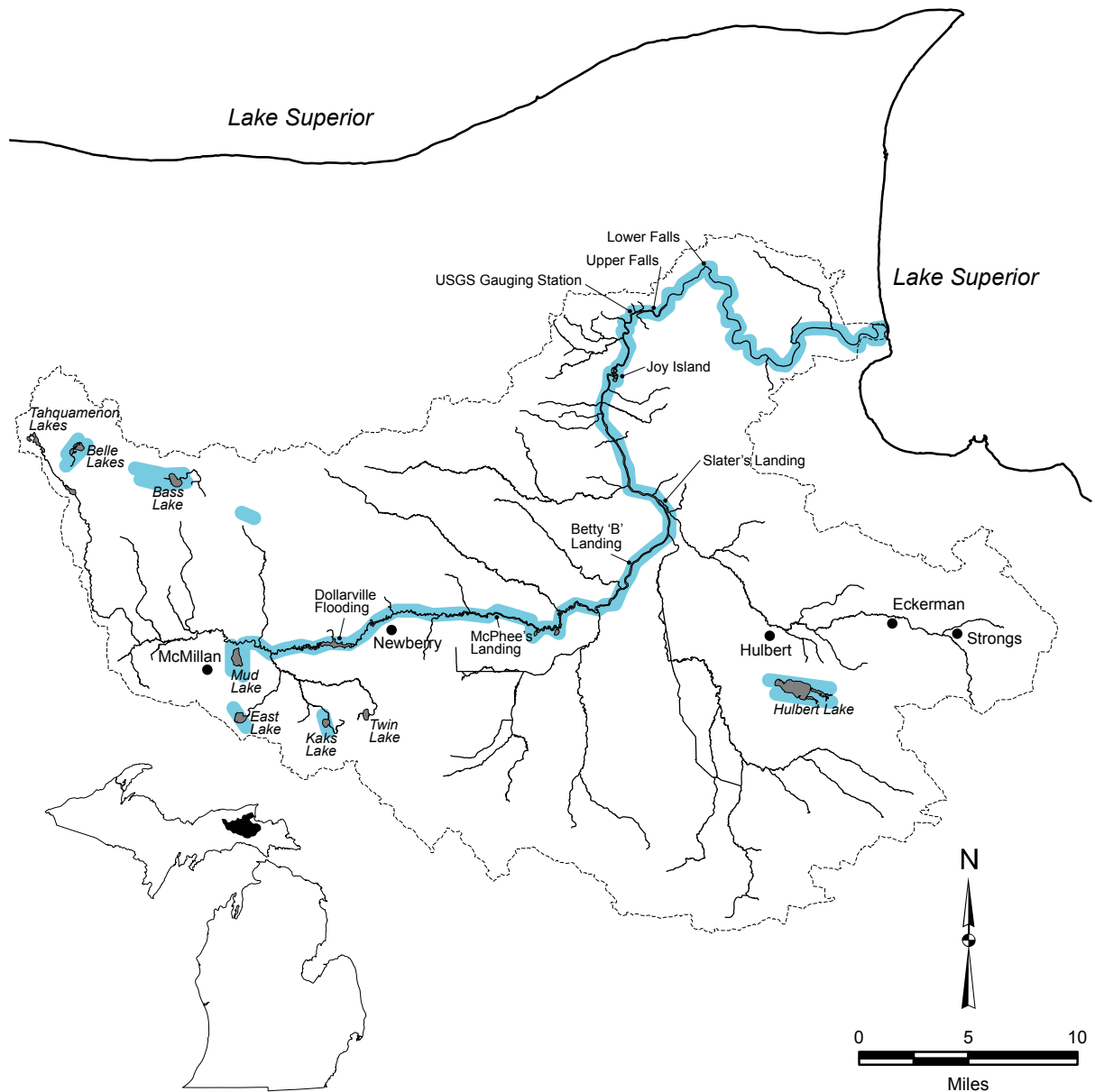
- feeding - non-flowing clear streams and rivers; also lakes and impoundments
 - sand, gravel, or muck containing organic debris substrate
 - scattered beds of aquatic vegetation
 - cannot tolerate low oxygen or continuous high turbidity and siltation
- spawning - nests in firm substrate of gravel, sand,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



Smallmouth bass *Micropterus dolomieu*

Habitat:

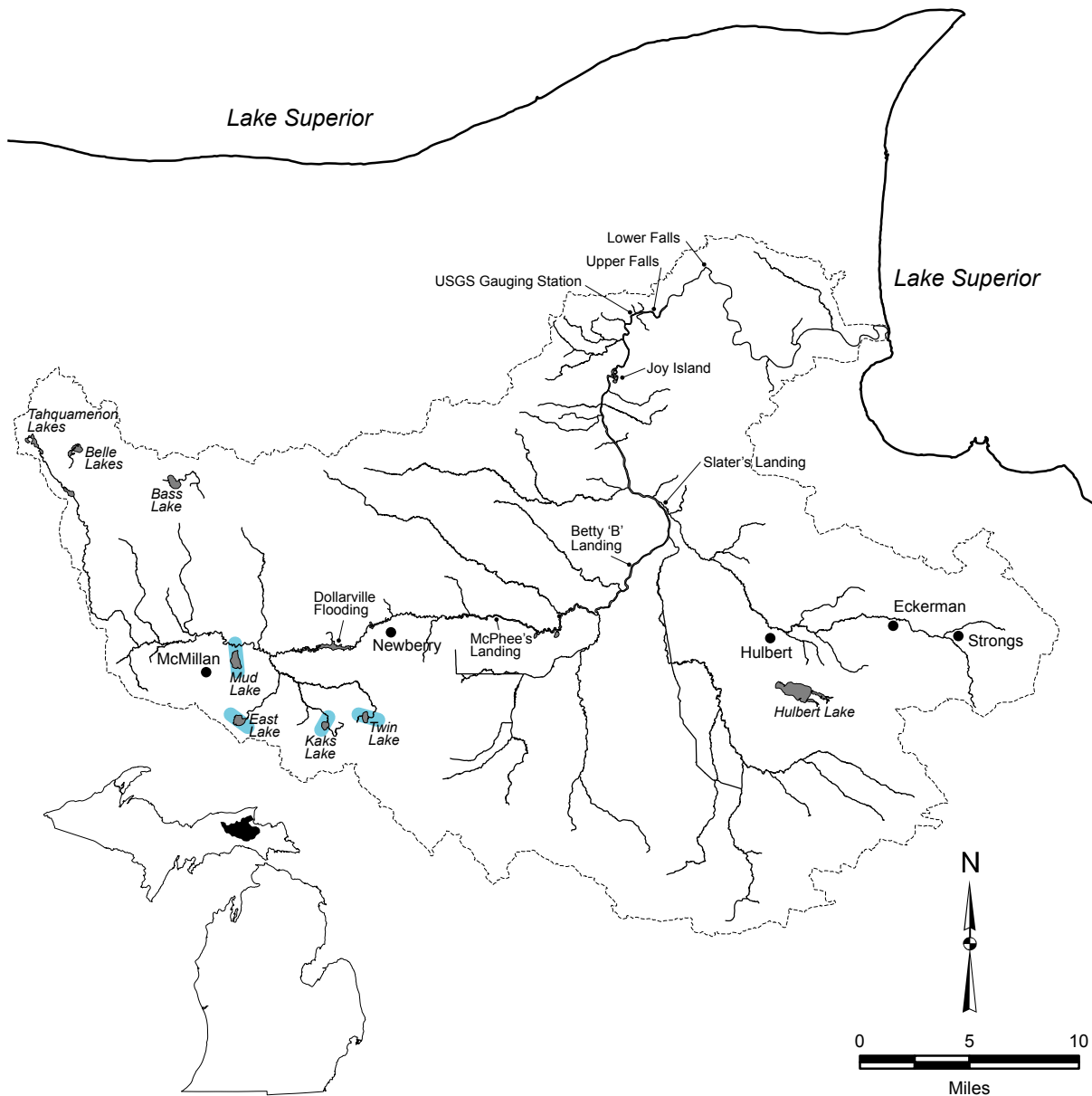
- feeding - clear, cool, deep lakes and rivers
- streams where 40% consists of riffles over clean gravel, boulder, or bedrock substrate
- in pools with a current and >4 feet of depth
- gradients between 4 and 25 feet per mile
- spawning - nest in sandy, gravel, or rocky substrate
- gradients 7 to 25 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:

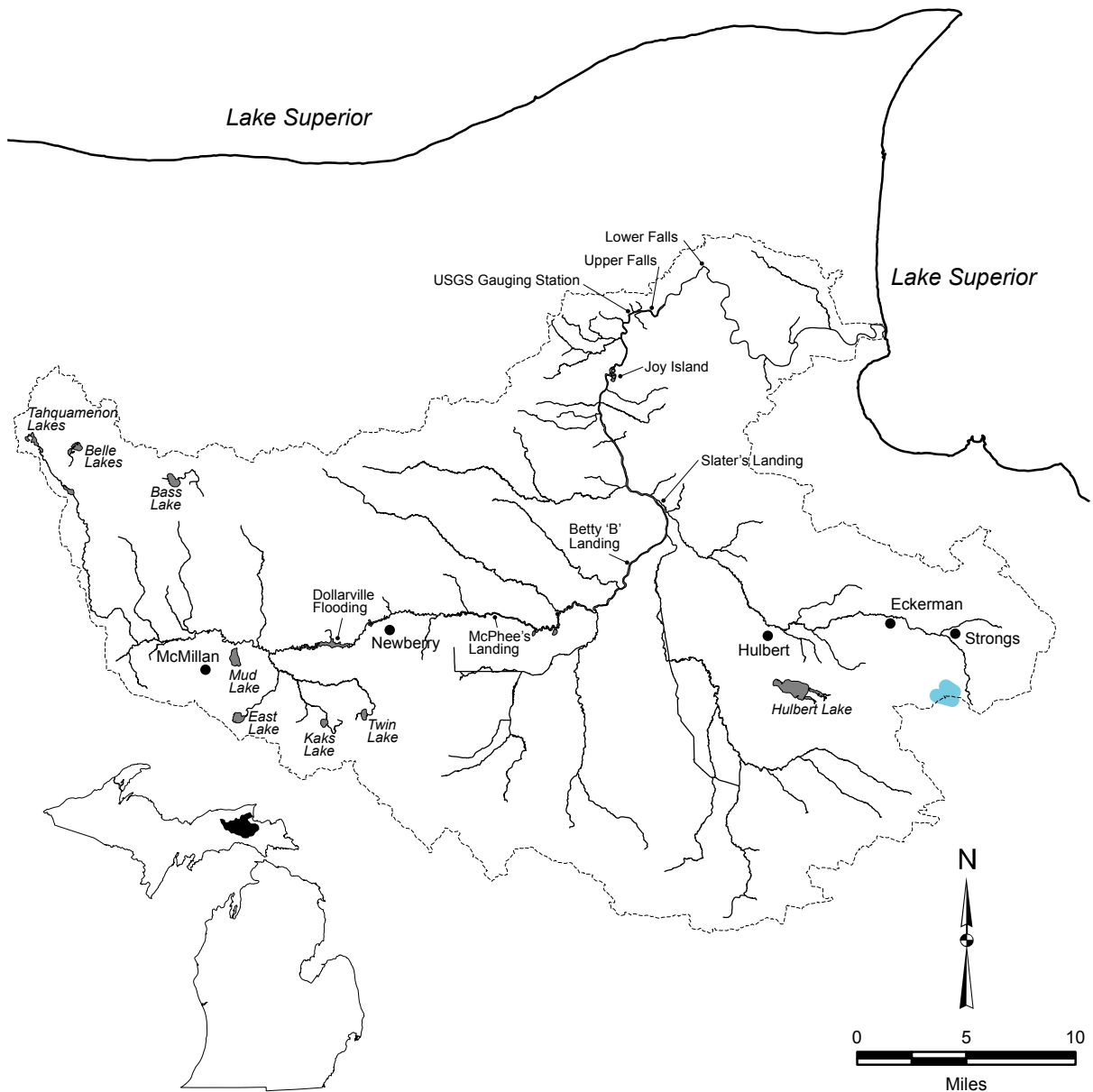
- feeding - non-flowing clear waters - lakes, impoundments, and pools of streams
- abundant aquatic vegetation
- soft muck, organic debris, gravel, sand, and hard non-flocculent clay substrates
- spawning - nest in gravelly sand to marl and soft mud substrates
- emergent vegetation
- quiet shallow bays; 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

