

## Appendix B

### Distribution Maps of Fish Species

Known past and present fish distributions in the Ontonagon River system. Distribution of fishes were compiled from records located at the University of Michigan, Natural History Museum, Fisheries Library; Michigan Department of Natural Resources, Institute for Fisheries Research; and Michigan Department of Natural Resources, Baraga Operations Service Center. For species that are listed under Michigan's Endangered Species Act (Part 365, Endangered Species Protection, of the Natural Resource and Environmental Protection Act, Act 451 of the Public Acts of 1994), their status follows their scientific name. Categories are declining, rare, threatened, endangered, extinct, and locally extinct.

Habitat descriptions were compiled from the Fishes of Ohio (Trautman 1981), Freshwater Fishes of Canada (Scott and Crossman 1973), Fishes of Wisconsin (Becker 1983), Fishes of Missouri (Pflieger 1975), and Fishes of the Great Lakes Region (Hubbs and Lagler 1947).

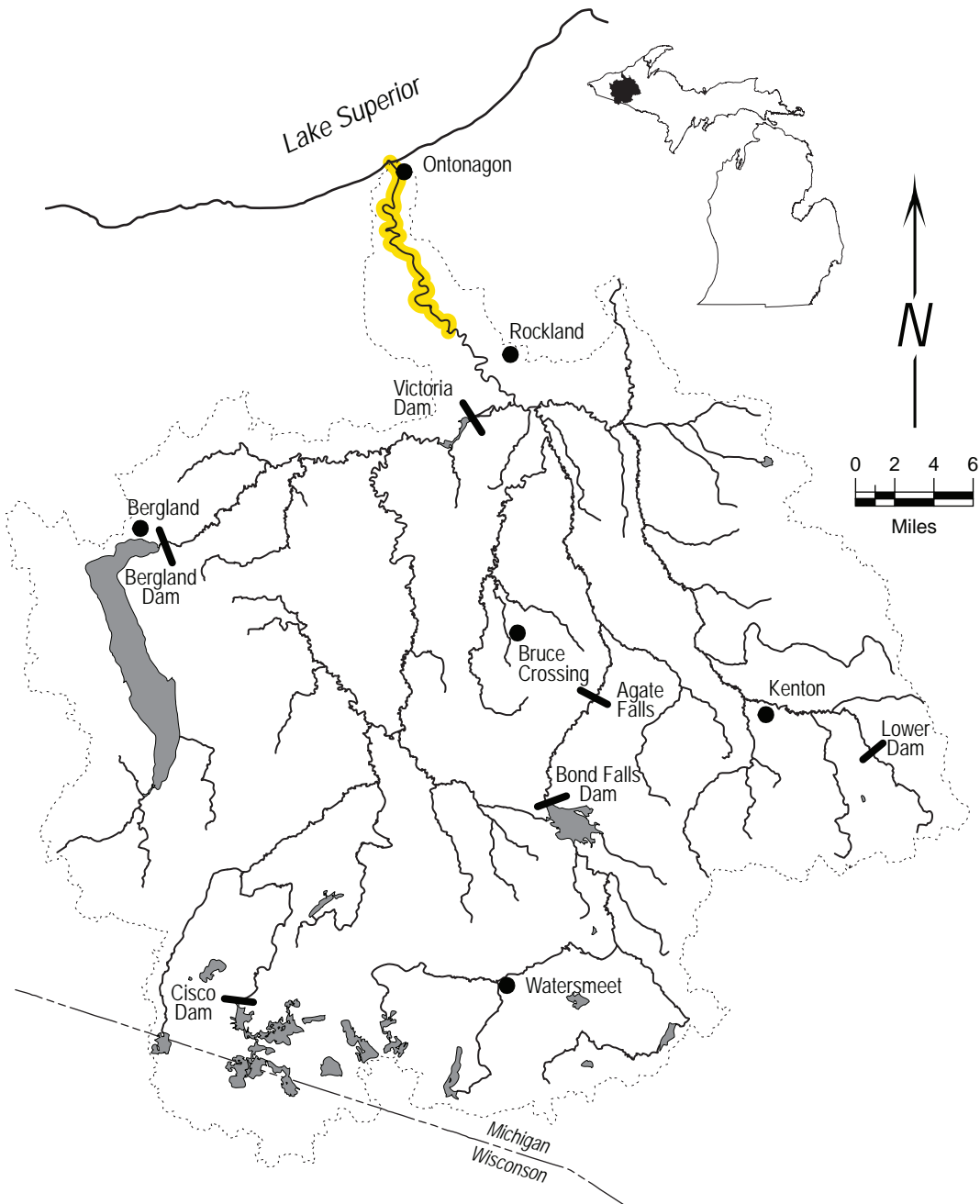
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**Northern brook lamprey** *Ichthyomyzon fossor*

Habitat:

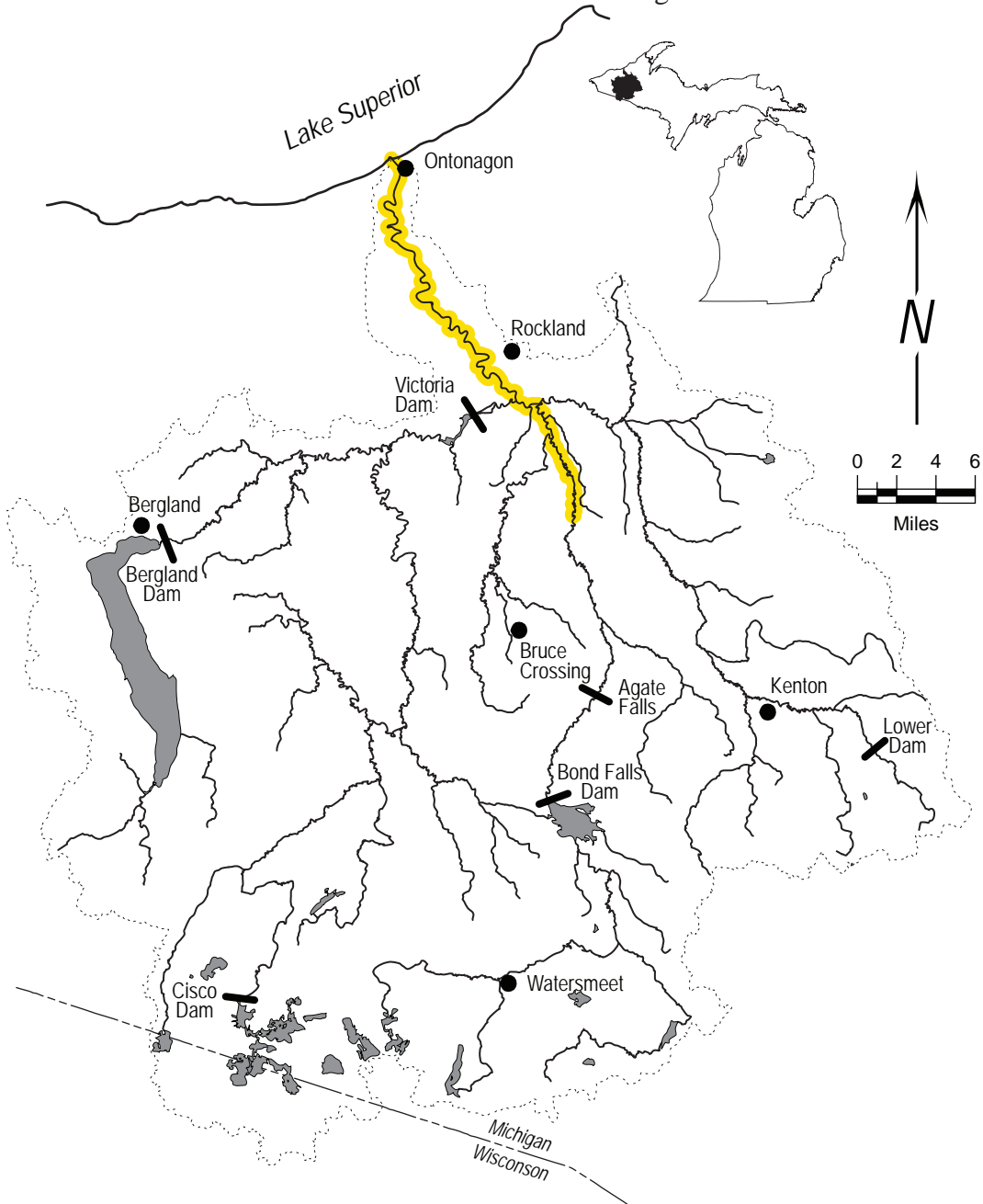
- feeding - young: low gradient, substrate with bars and beds of mixed sand and organic debris
- moderately warm water
- spawning - clear, high gradient streams (<15 feet wide)
- riffles with sand or gravel substrate



**Silver lamprey** *Ichthyomyzon unicuspis*

Habitat:

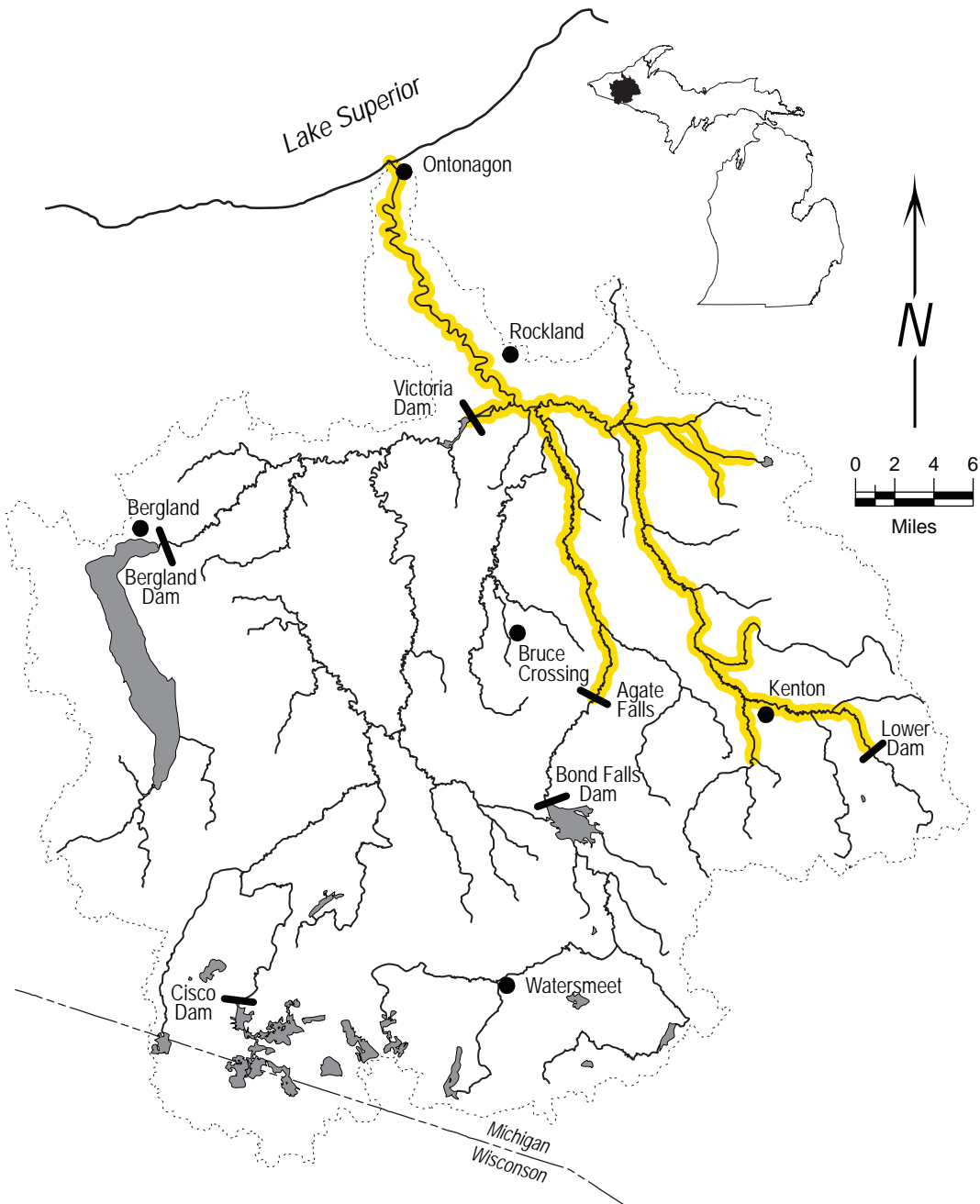
- feeding - young: sand, muck, or organic debris substrate
- adults: clear river water with prey species
- spawning - gravel and sand substrate
- moderate gradient
- moderate size stream
- cannot tolerate silt
- no dams
- winter refuge - ammocetes burrow for 4 to 7 years  
                  in mud and silt at river margins



**Sea lamprey** *Petromyzon marinus*

Habitat:

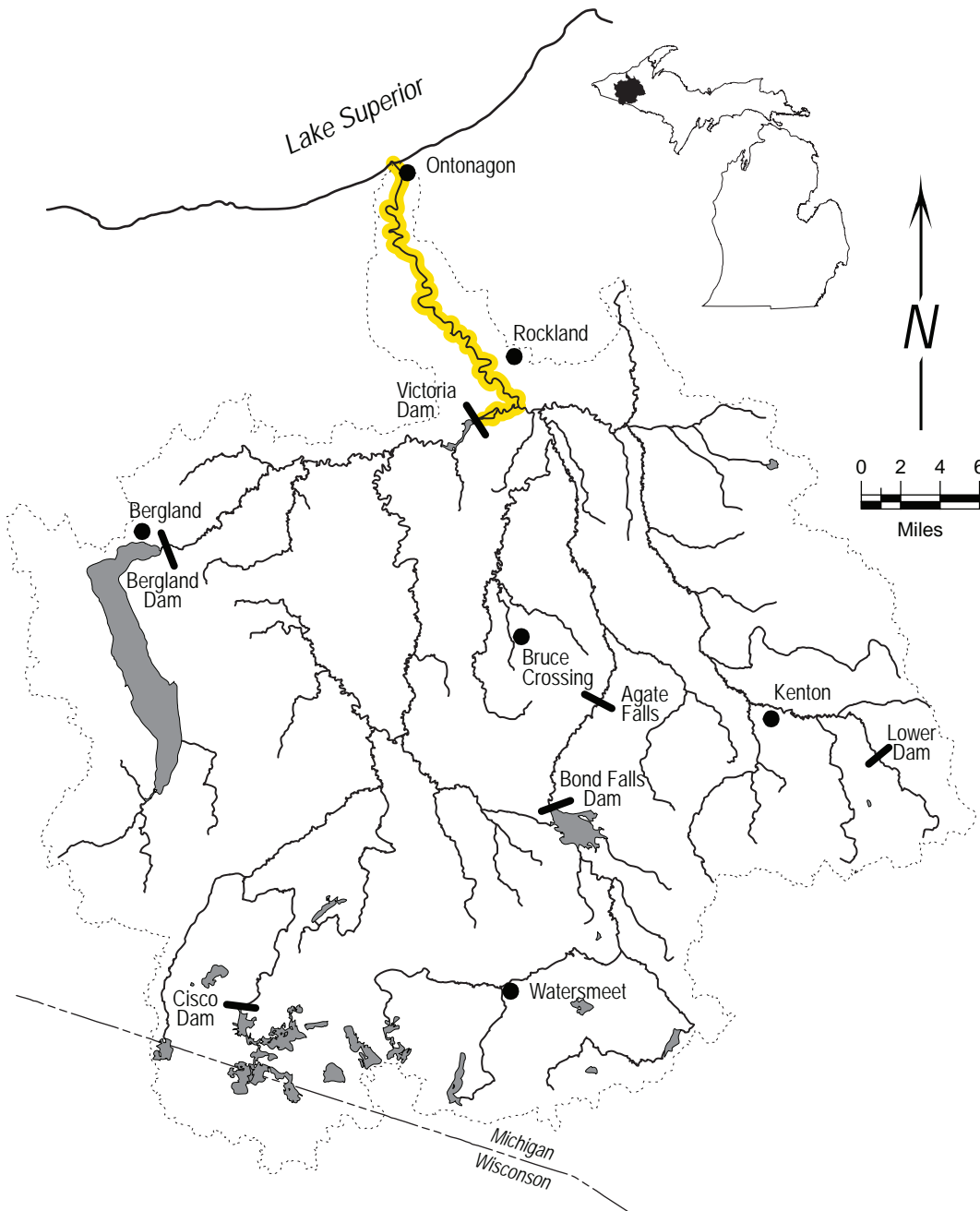
- feeding - young: substrate with beds of sand mixed with organic debris
- cannot tolerate silt
- adults: clear cool water of Lake Superior
- spawning - no dams
- riffles with sand and gravel substrates



**Lake sturgeon** *Acipenser fulvescens* - threatened

Habitat:

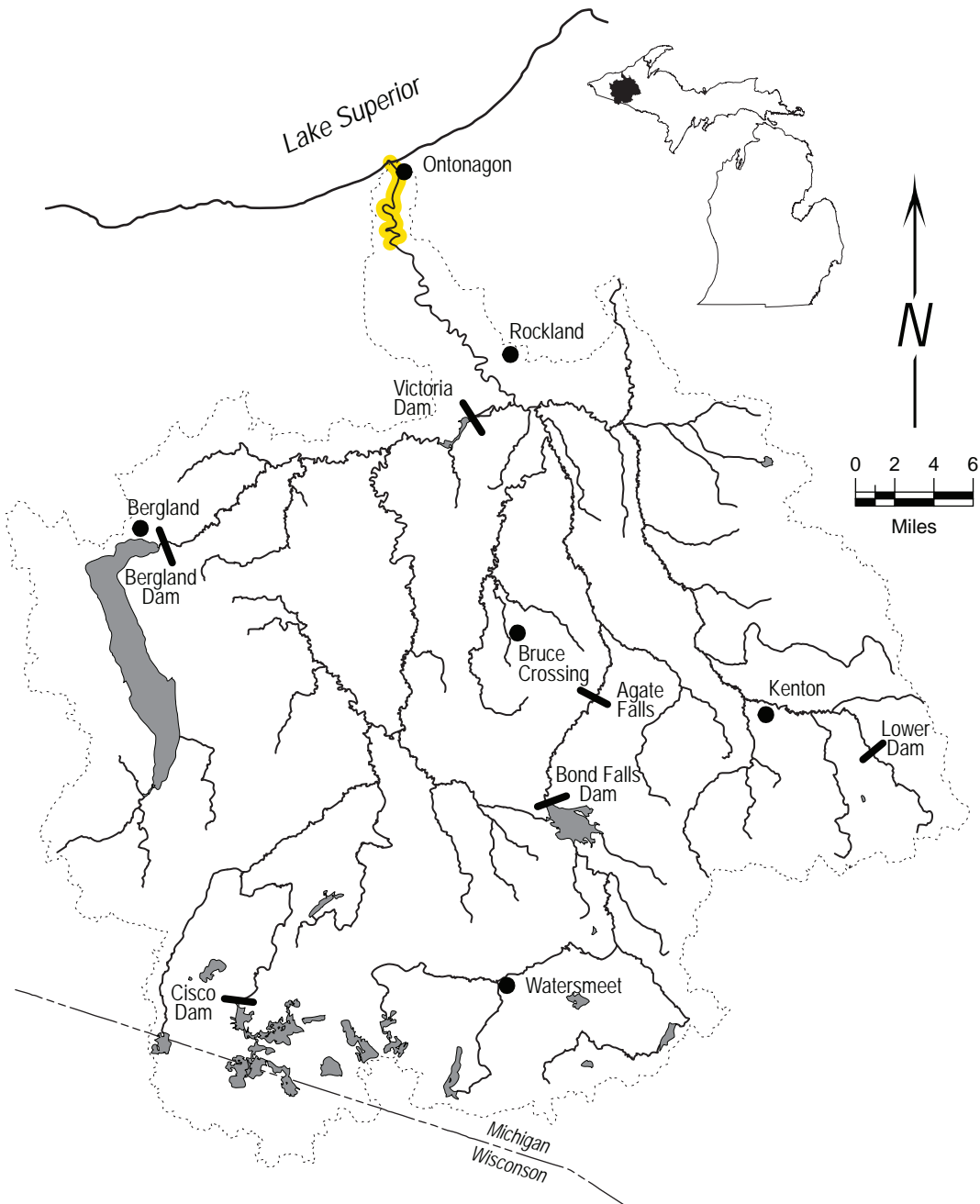
- feeding - shoal areas of large rivers, lakes, and impoundments
- gravel, sand, rock substrates
- spawning - in or before rapids, at the base of dams in rivers
- in 2-15 feet of water
- swift current
- rocky ledges or around rocky islands in Great Lakes



**Alewife** *Alosa pseudoharengus*

Habitat:

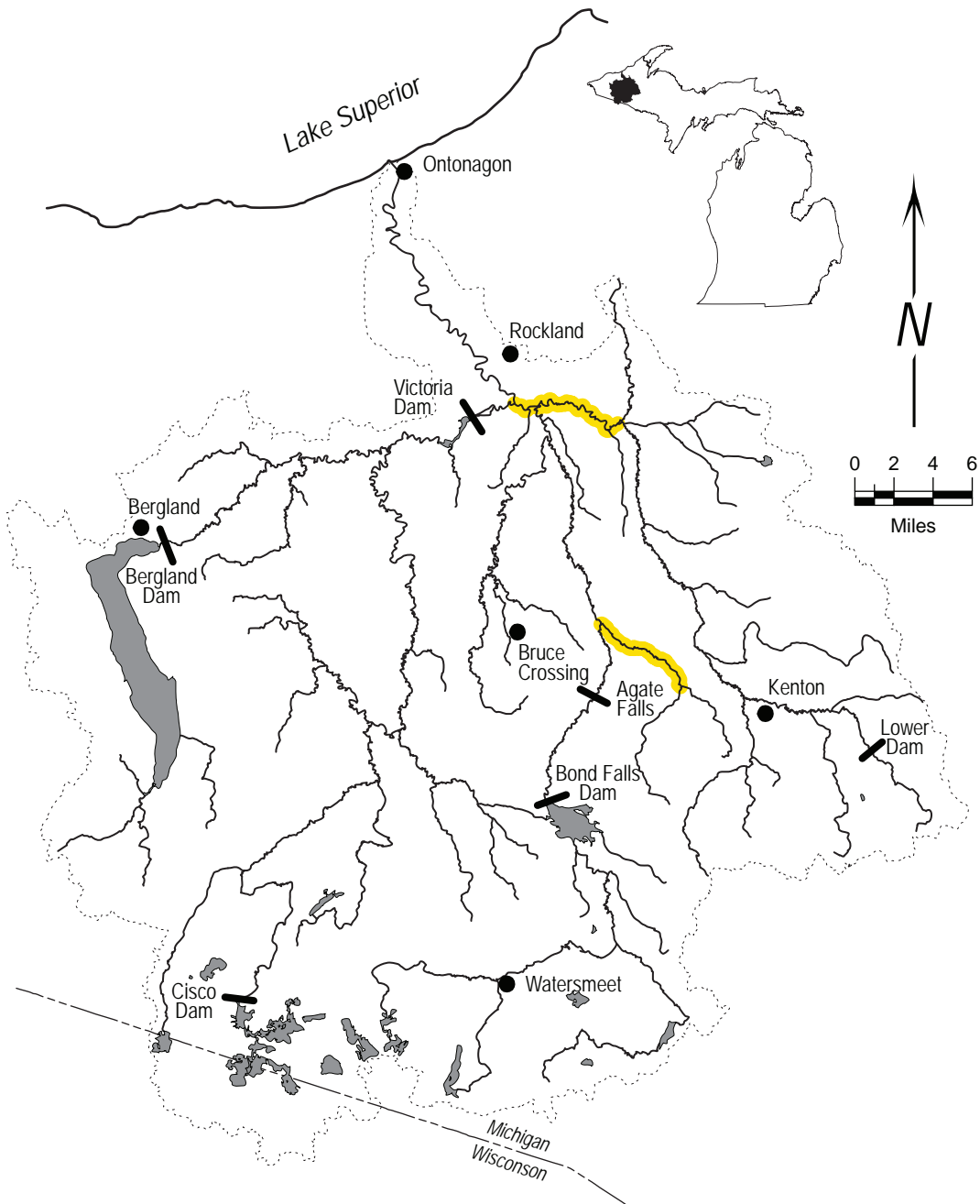
- feeding - adults: deep water of Lake Superior
- young: shallow water of Lake Superior
- prefers warmer waters
- spawning - streams or shallow beaches of lake
- sand or gravelly substrate
- winter refuge - deep water



**Lake chub** *Couesius plumbeus*

Habitat:

- feeding - large rivers and lakes
- over a variety of substrates
- spawning - tributary streams
- rock substrate

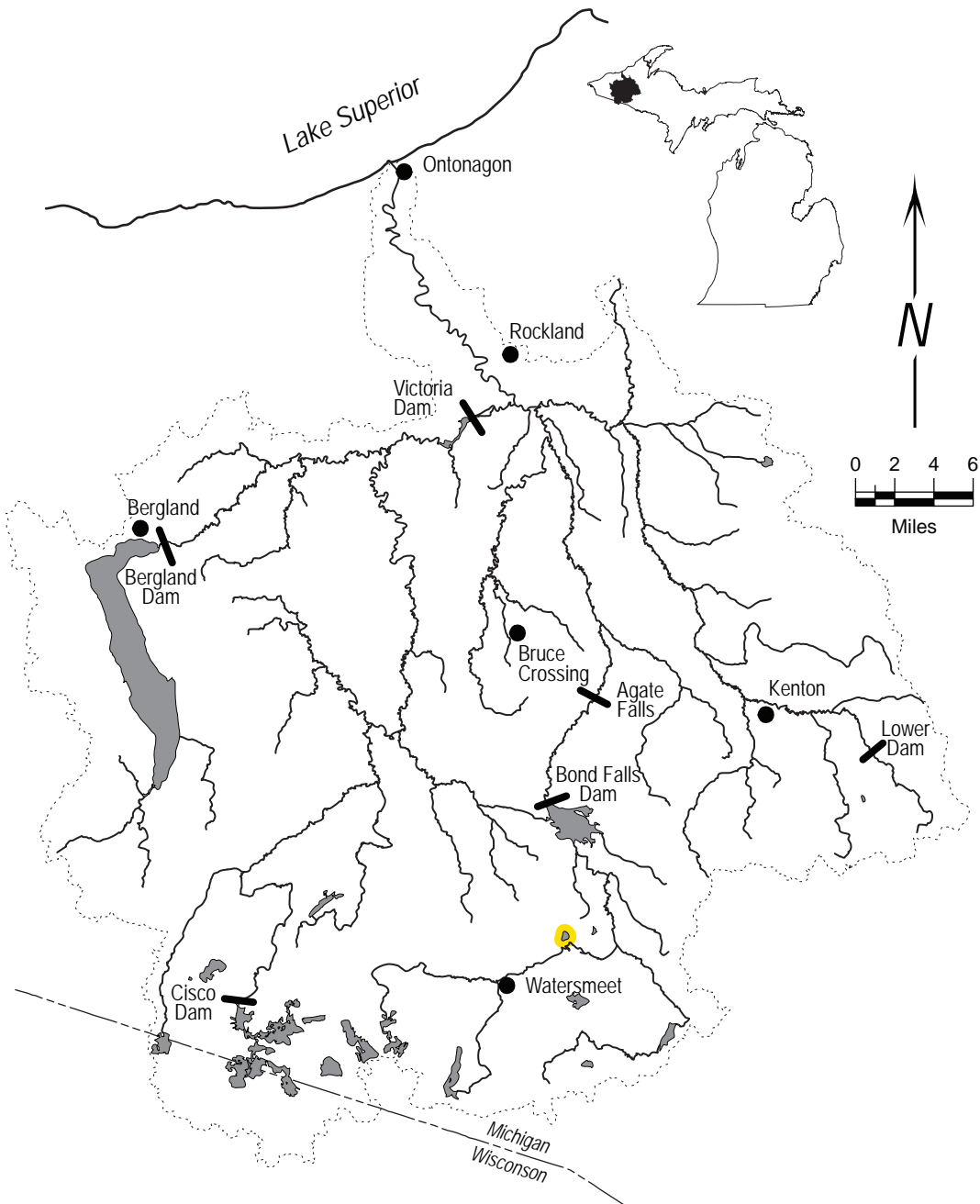




**Spotfin shiner** *Cyprinella spiloptera*

Habitat:

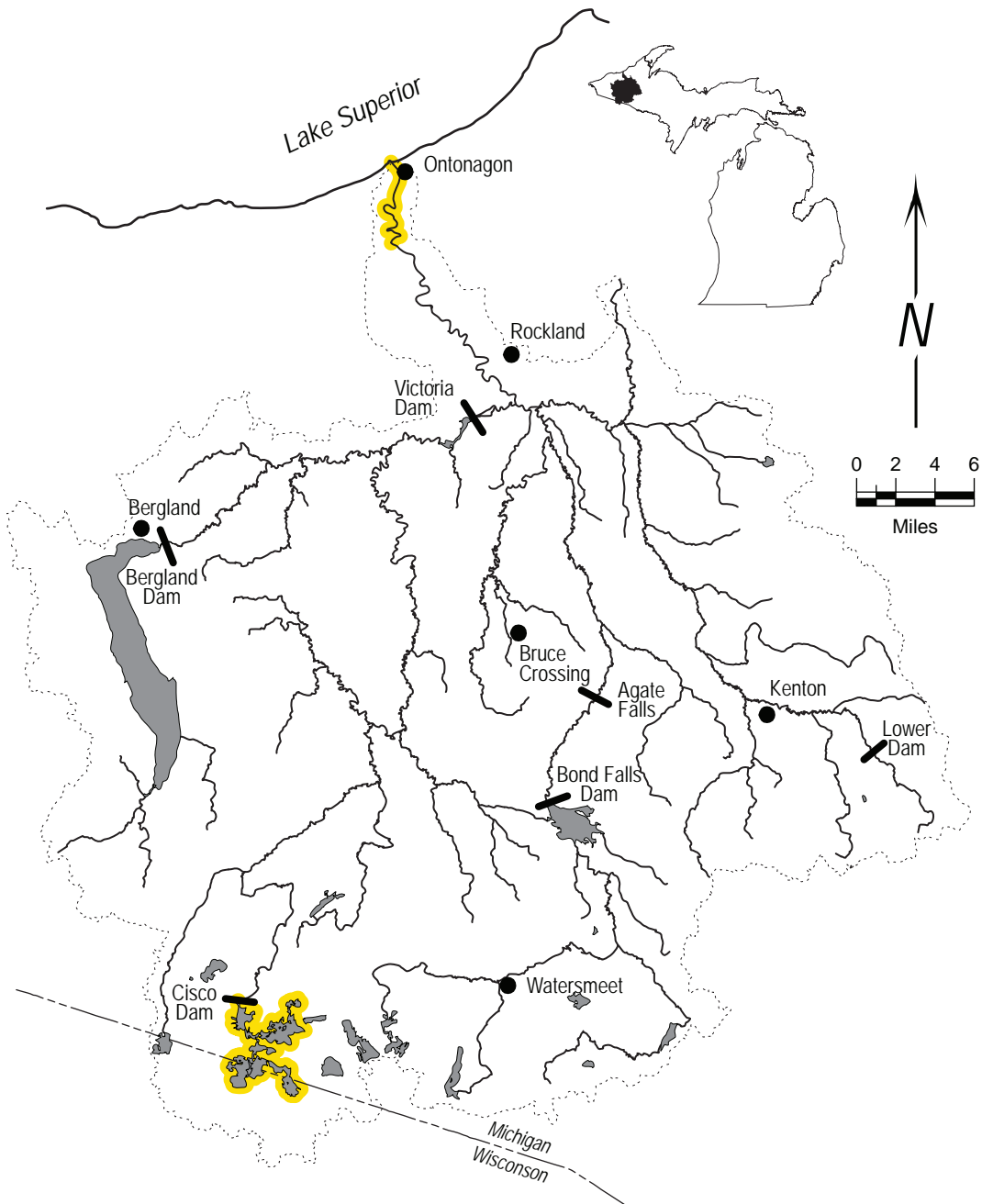
- feeding - clear water tolerant of turbidity and siltation
- some current
- shallow depths
- medium sized streams, lakes, and impoundments
- clear sand or gravel substrate
- spawning - swift current
- crevice spawner or on underside of submerged logs and roots



**Common carp** *Cyprinus carpio*

Habitat:

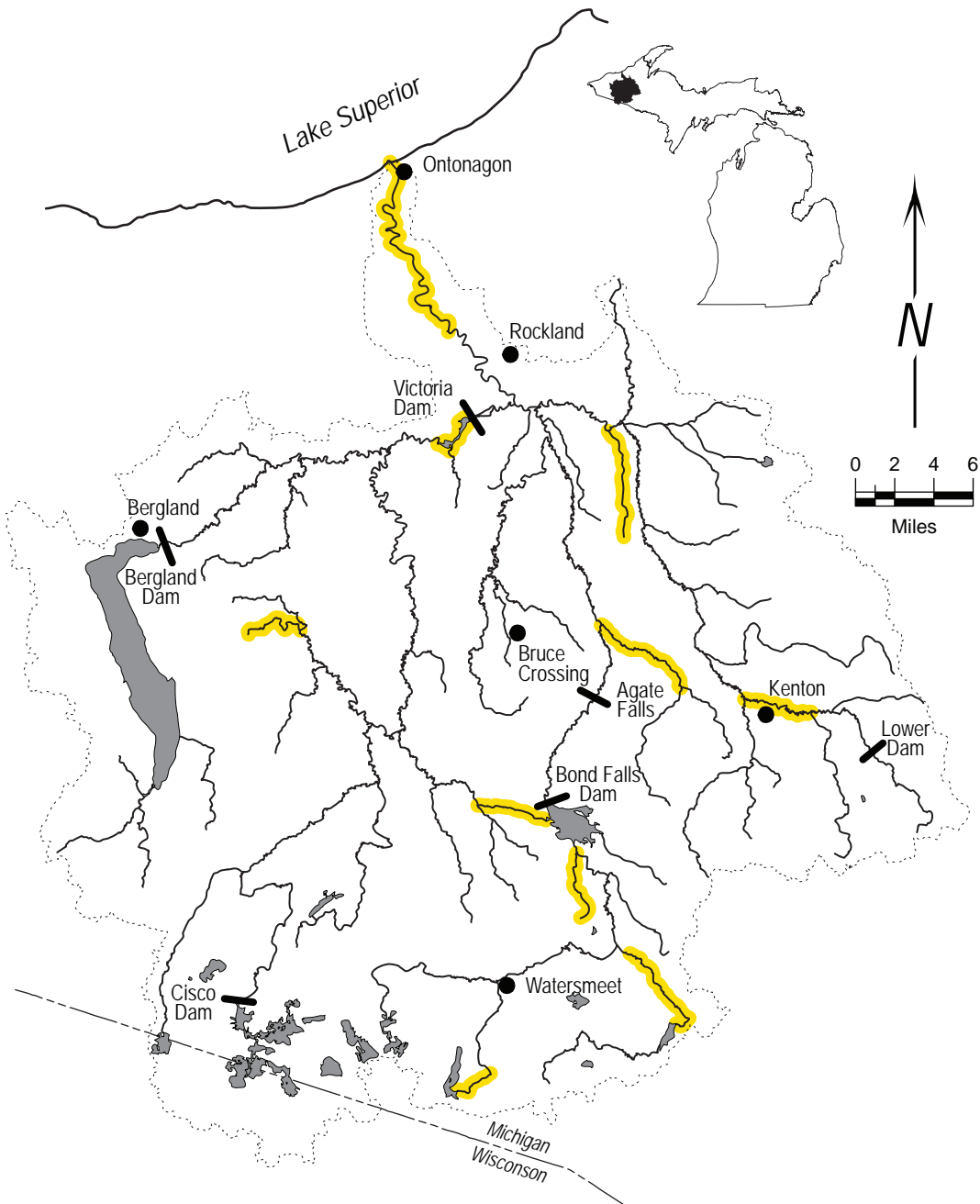
- feeding - low gradient fertile streams, rivers, lakes, and impoundments
- abundance of aquatic vegetation or organic matter
- tolerant of all substrates and clear to turbid water
- spawning - weedy or grassy shallows



**Brassy minnow** *Hybognathus hankinsoni*

Habitat:

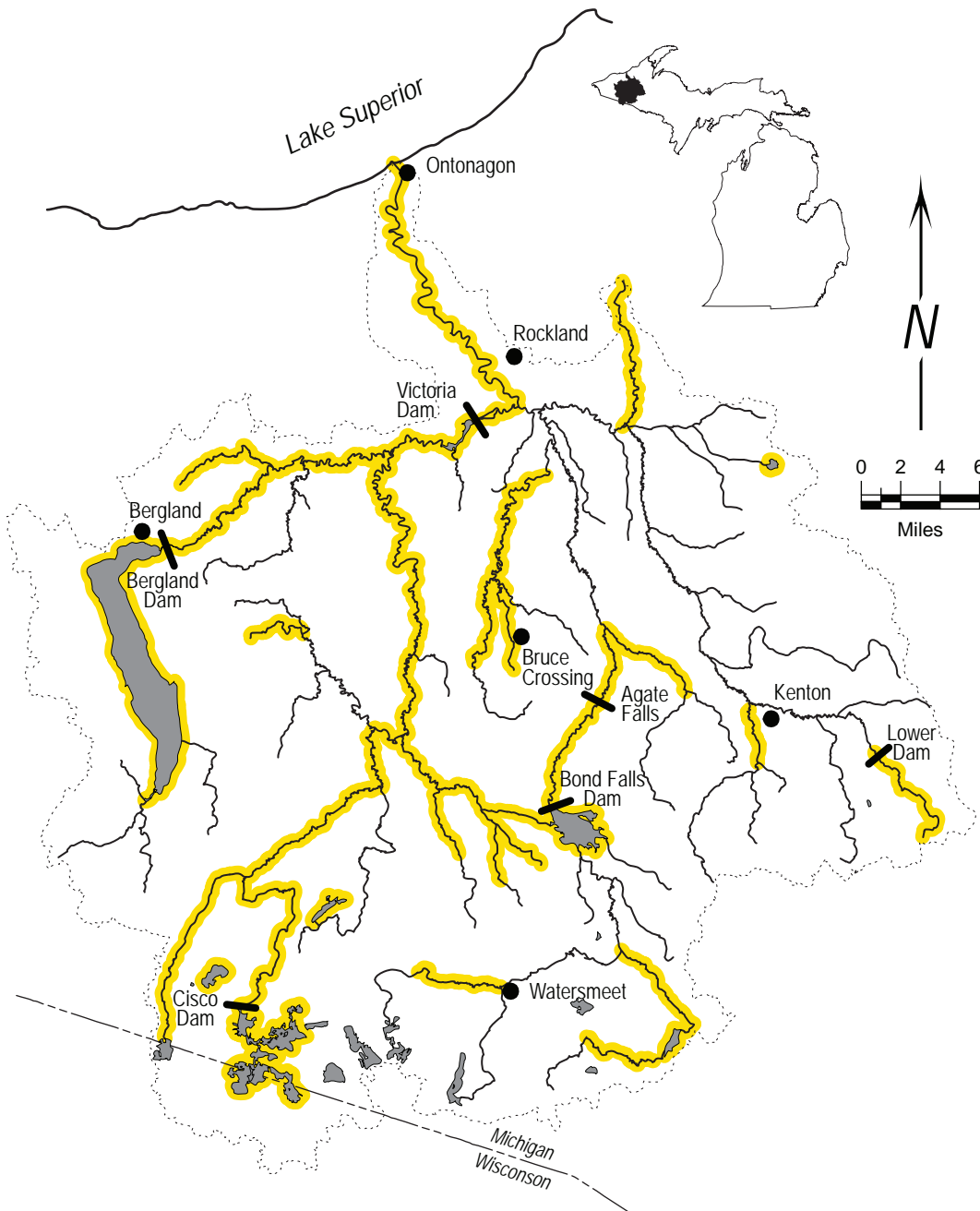
- feeding - cool acidic streams
- slow to moderate current
- sand or gravel substrate



**Common shiner** *Luxilus cornutus*

Habitat:

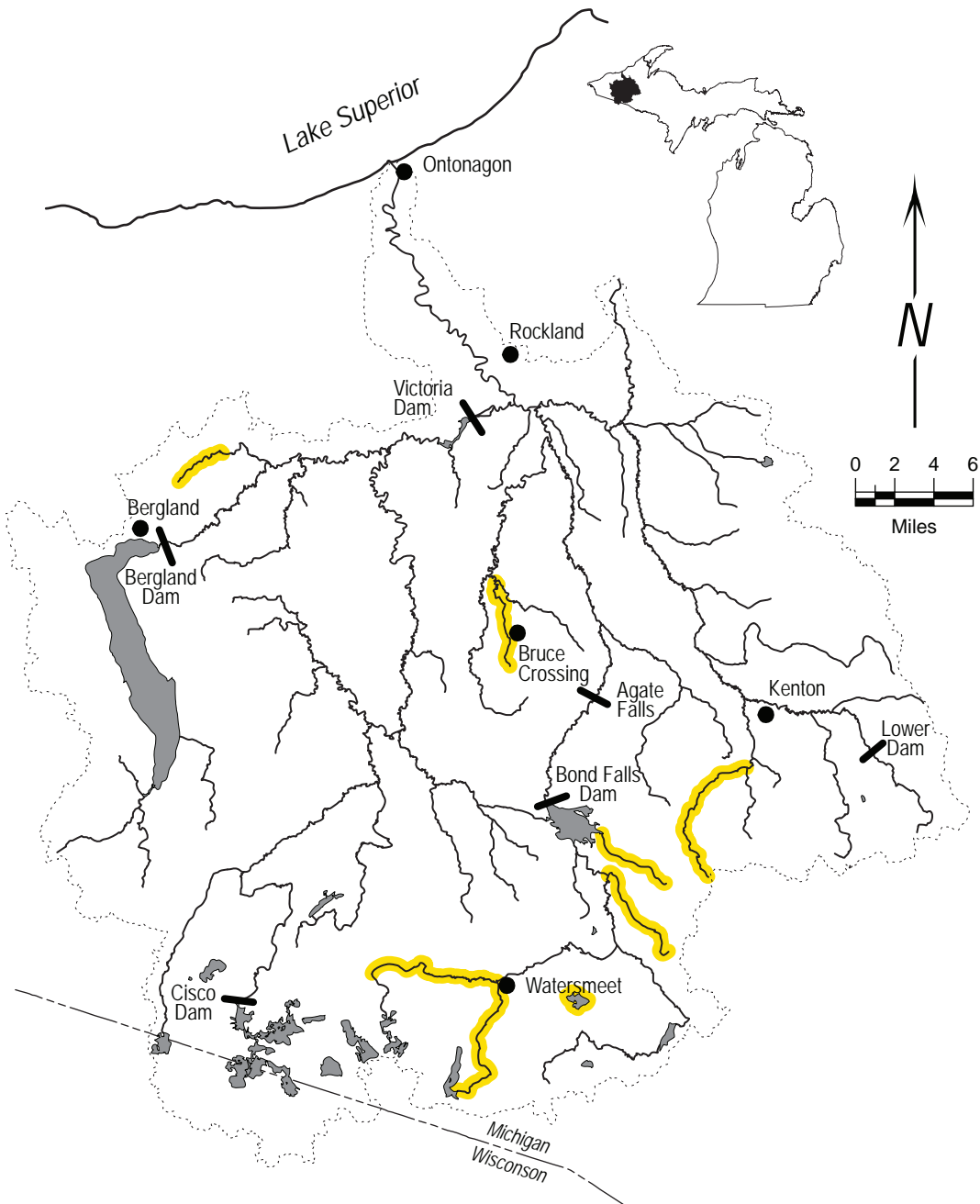
- feeding - small, clear, high-gradient streams and rivers, or shores of clear water lakes and impoundments
- gravel substrate
- can tolerate some submerged aquatic vegetation
- not very tolerant of turbidity or silted waters
- spawning - gravel nests of other fish, especially those at the head of a riffle



**Northern pearl dace** *Margariscus nachtriebi*

Habitat:

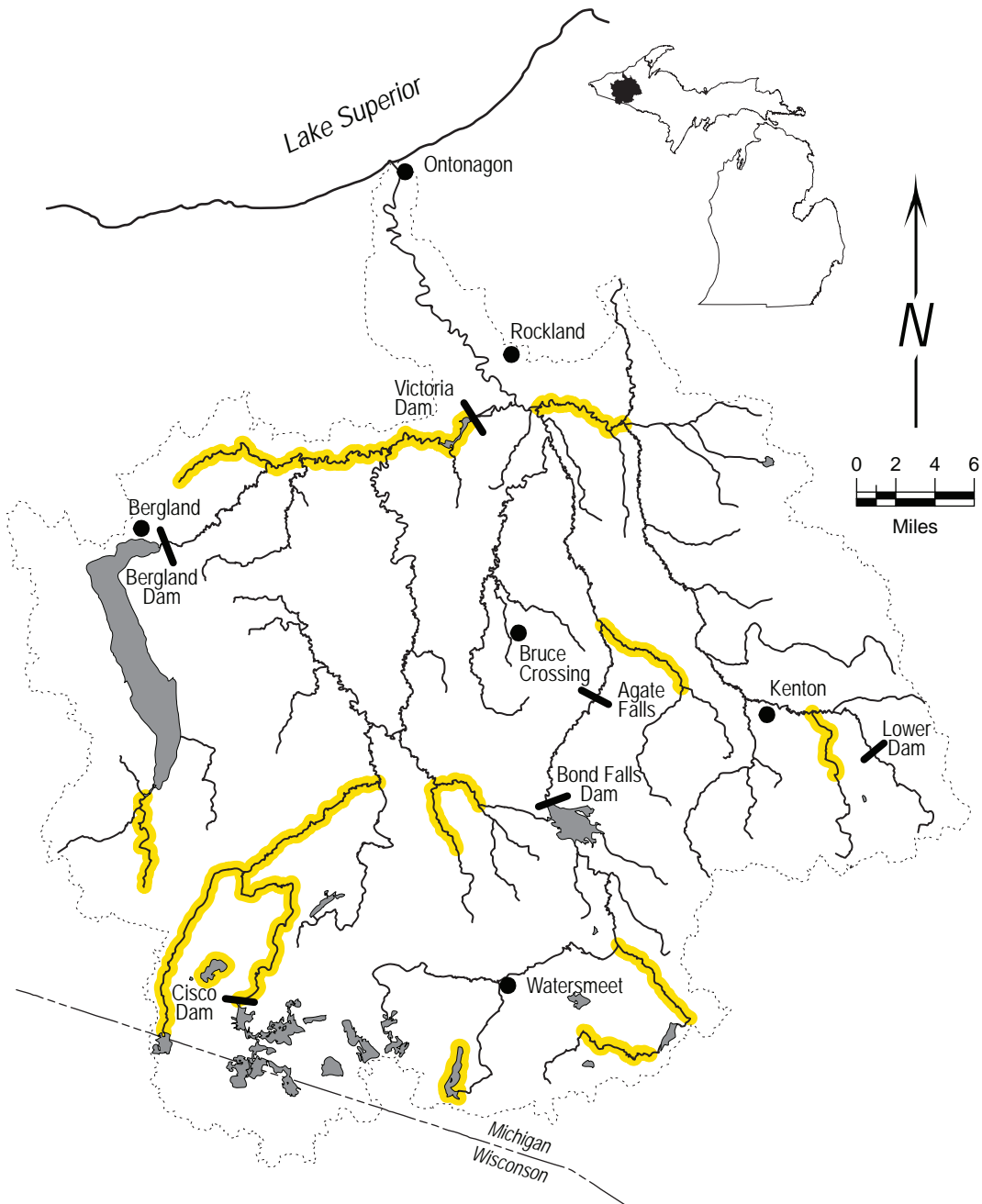
- feeding - cool, neutral to acidic streams and lakes
- clear to slightly turbid water
- spawning - males are territorial
- clear water, 18-24 inches deep
- sand or gravel substrate
- weak to moderate current



**Hornyhead chub** *Nocomis biguttatus*

Habitat:

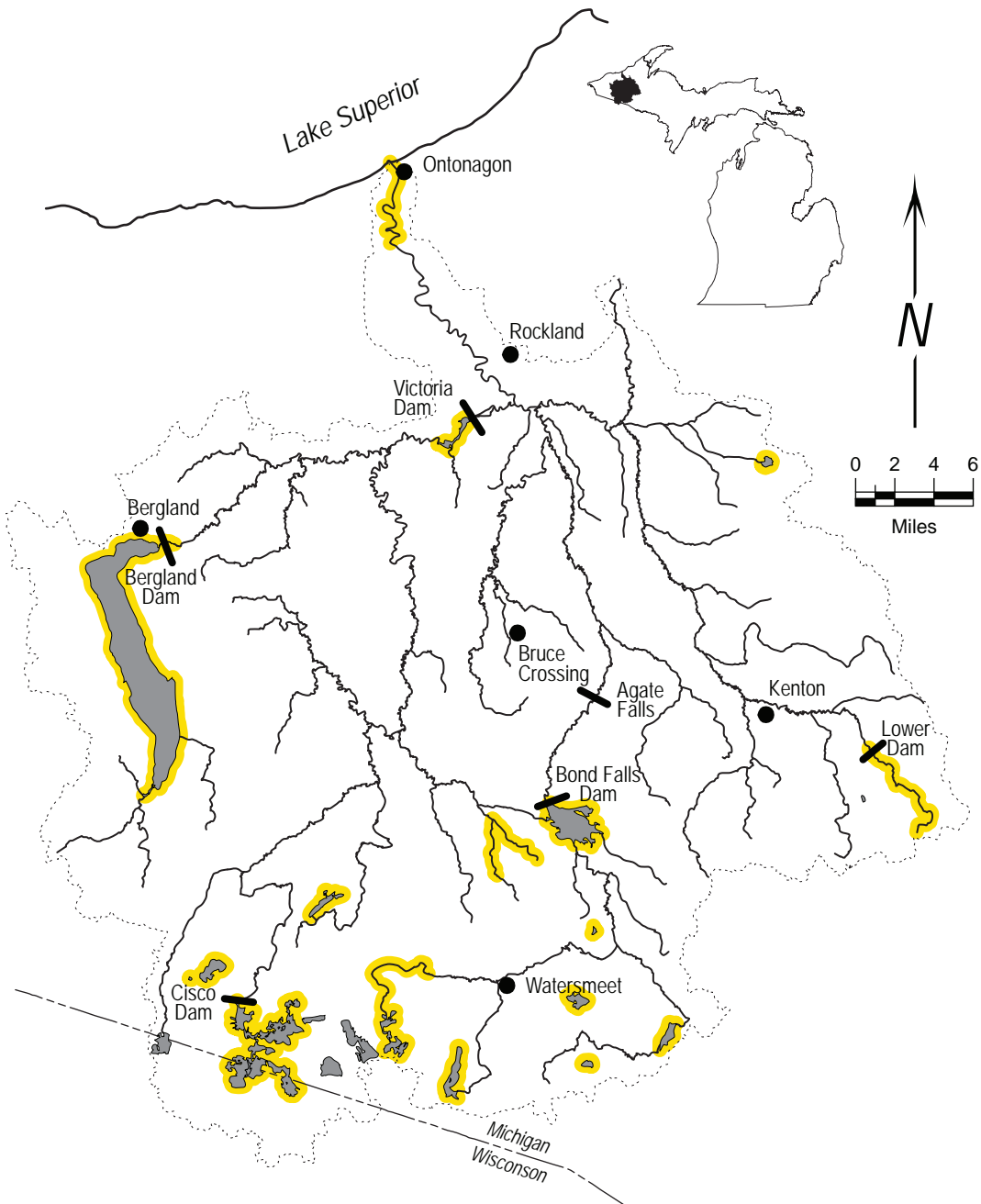
- feeding - adults: near riffles
- young: near vegetation
- clear water, does not tolerate turbidity
- gravel substrate
- low gradient streams that are tributaries to large streams
- spawning - large stones and pebbles present
- often below a riffle in shallow water
- gravel substrate



**Golden shiner** *Notemigonus crysoleucas*

Habitat:

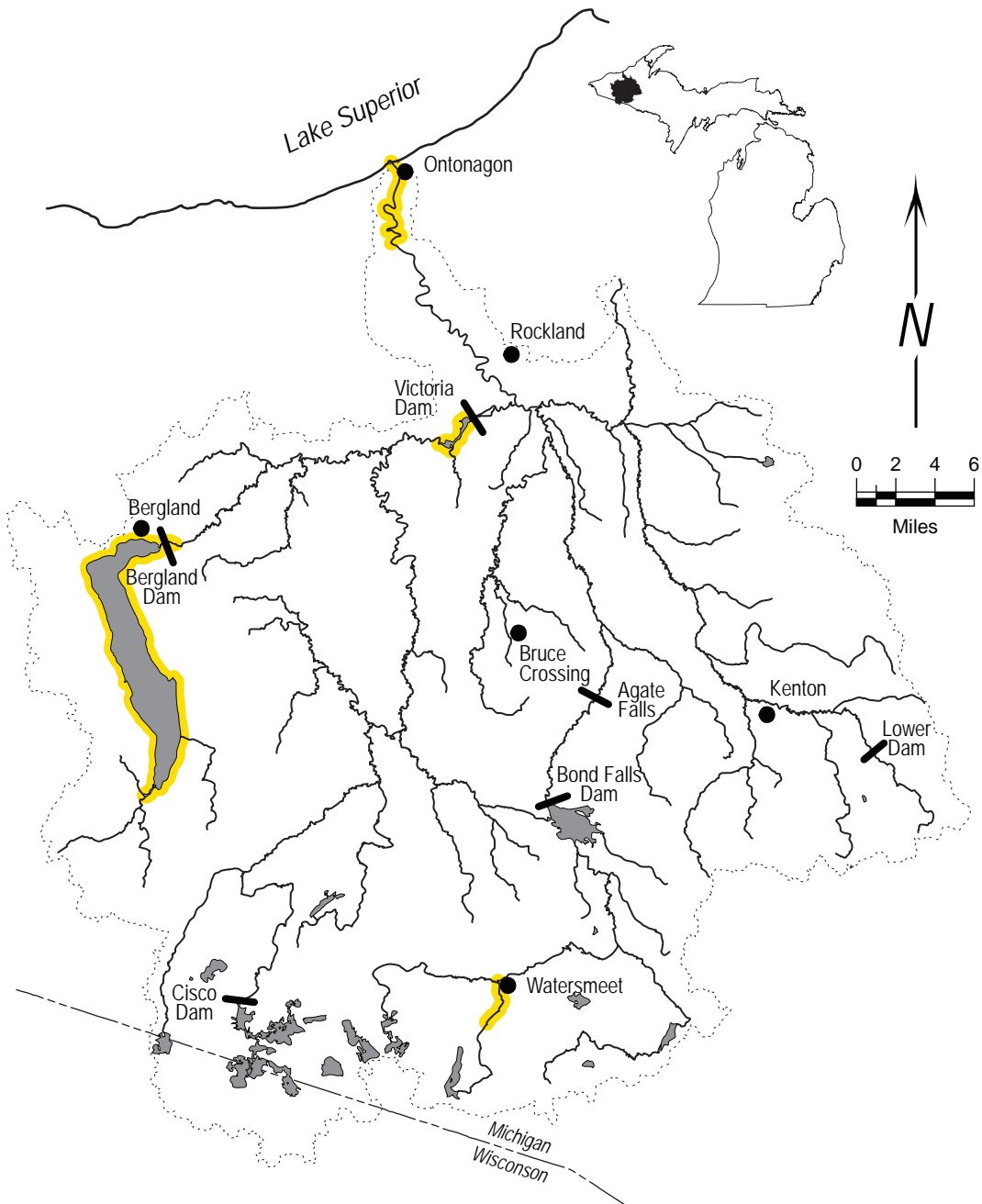
- feeding - lakes and impoundments and quiet pools of low gradient streams
- clear shallow water
- heavy vegetation
- spawning - vegetation



**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

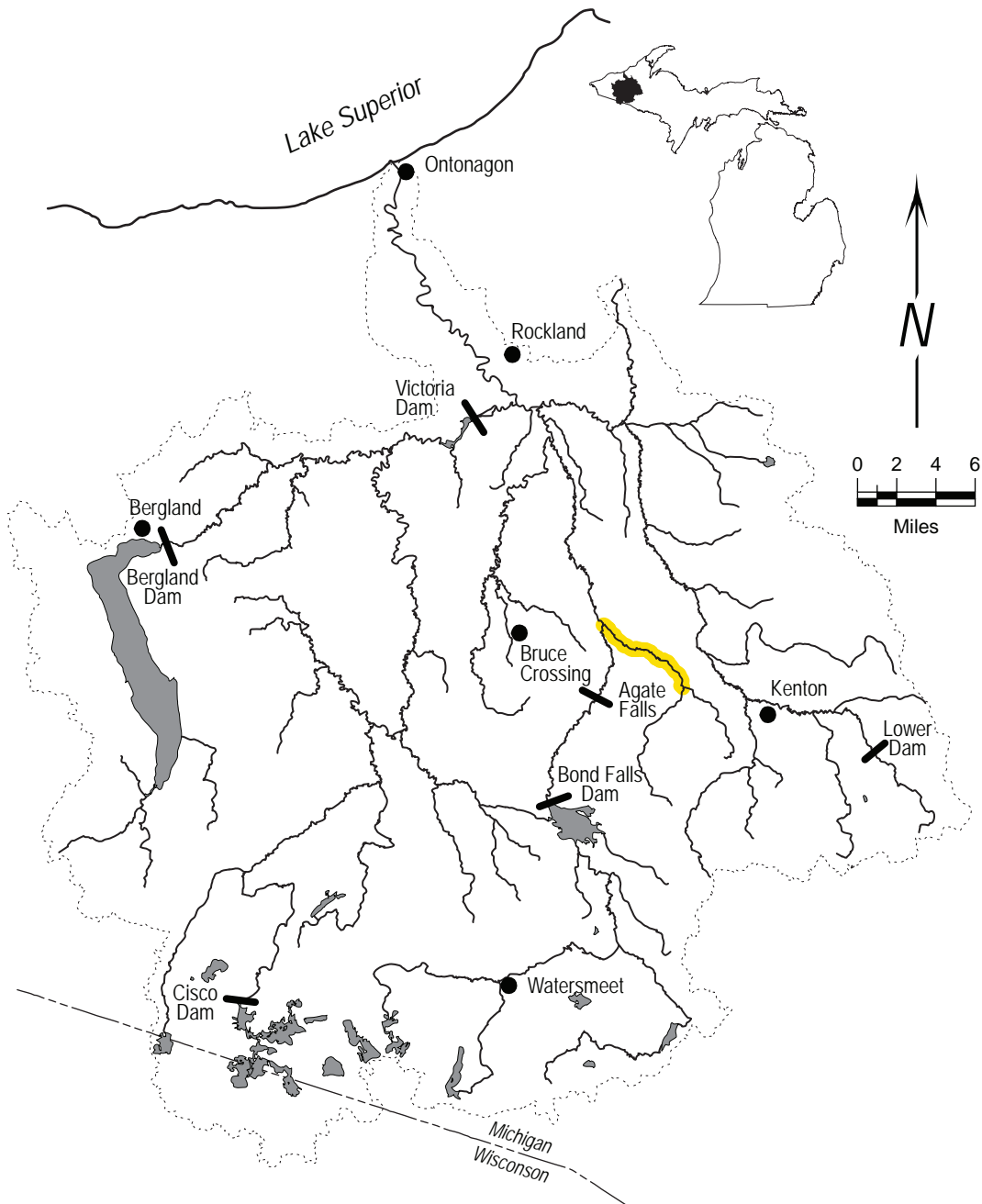




**Bigmouth shiner** *Notropis dorsalis*

Habitat:

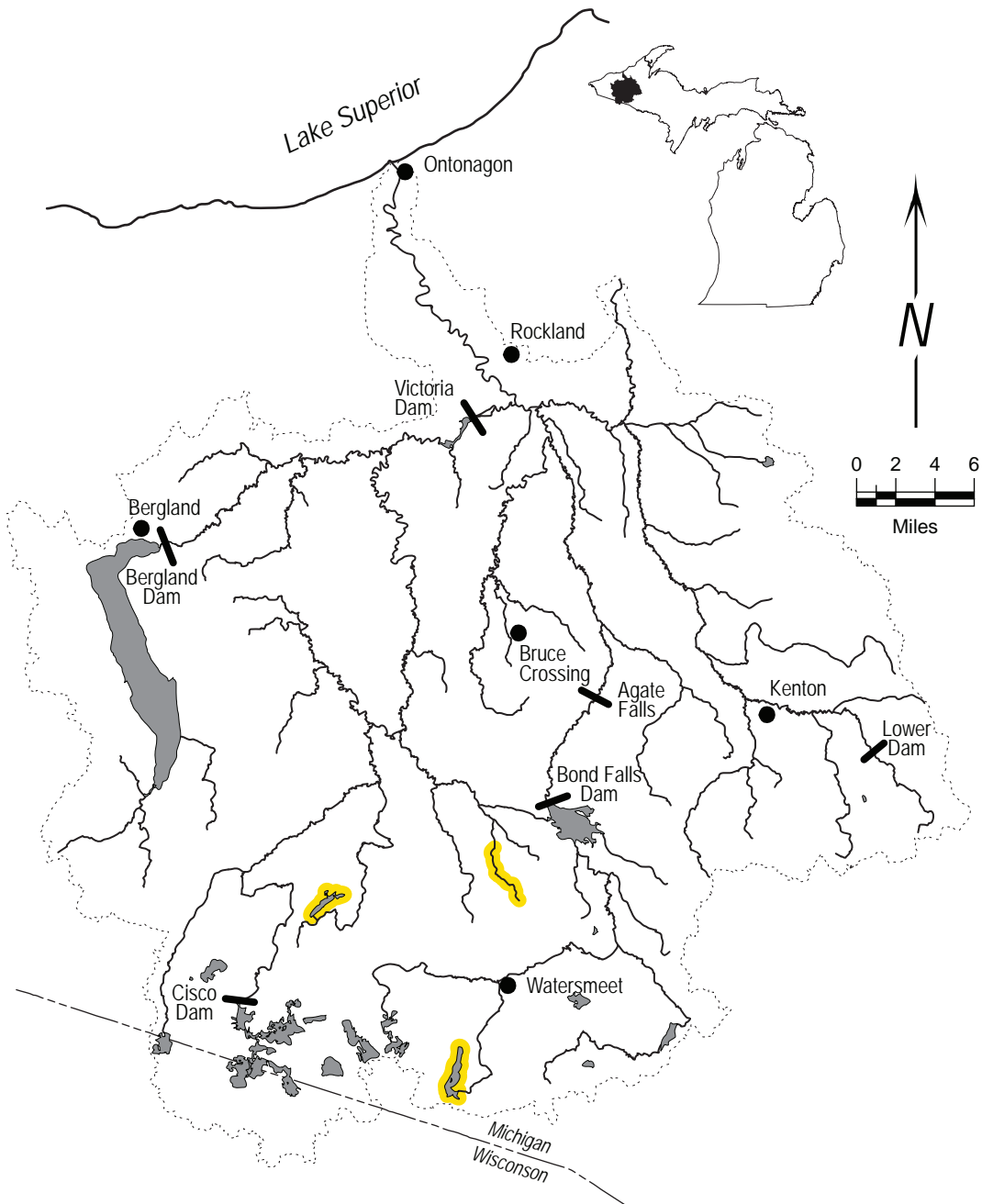
- feeding - small clear streams
- good flows
- sand or gravel substrate
- open water, free from vegetation



**Blackchin shiner** *Notropis heterodon*

Habitat:

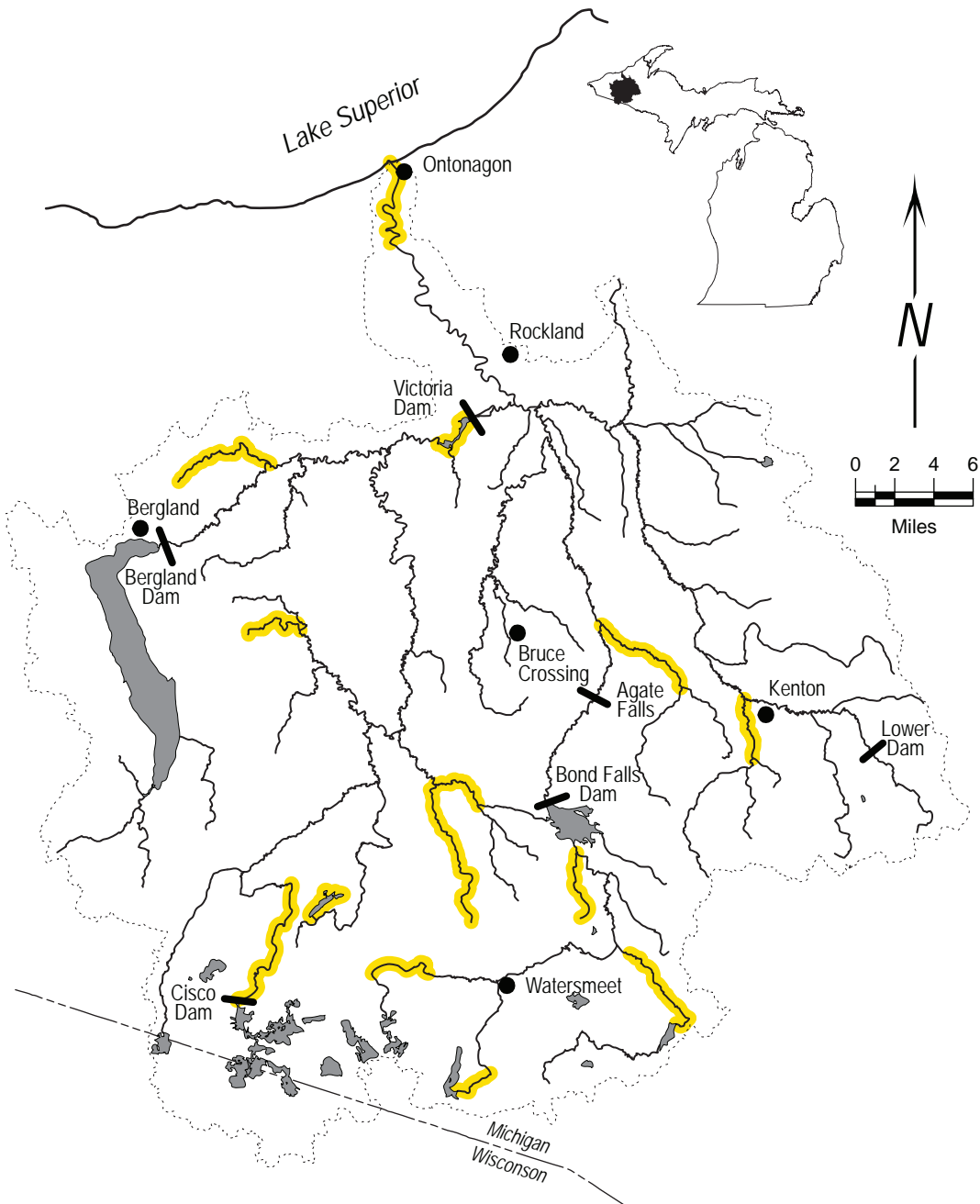
- feeding - lakes, impoundments, and quiet pools in streams and rivers
- clear water
- clean sand, gravel, or organic debris substrate
- dense beds of submerged aquatic vegetation
- cannot tolerate turbidity, silt, or loss of aquatic vegetation



**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

