



**STATE OF MICHIGAN
DEPARTMENT OF NATURAL RESOURCES**

SR45 Appendix

February 2008

**Tahquamenon River Assessment
Appendix**

James R. Waybrant

and

Troy G. Zorn

MICHIGAN DEPARTMENT OF NATURAL RESOURCES FISHERIES DIVISION

Special Report 45 Appendix
February 2008

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and
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Appendix A

Distribution Maps of Fish Species

Known present and past fish distributions in the Tahquamenon River watershed. Distribution maps were compiled from Bailey et al. (2004), Taylor (1954), and records at the Michigan Department of Natural Resources Newberry Operations Service Center and from the Michigan Department of Natural Resources Fish Collection System. No species found in the watershed is 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). Historical records indicate that the threatened lake sturgeon *Acipenser fulvescens* were at one time present in the lower river, but none have been documented in recent times.

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).

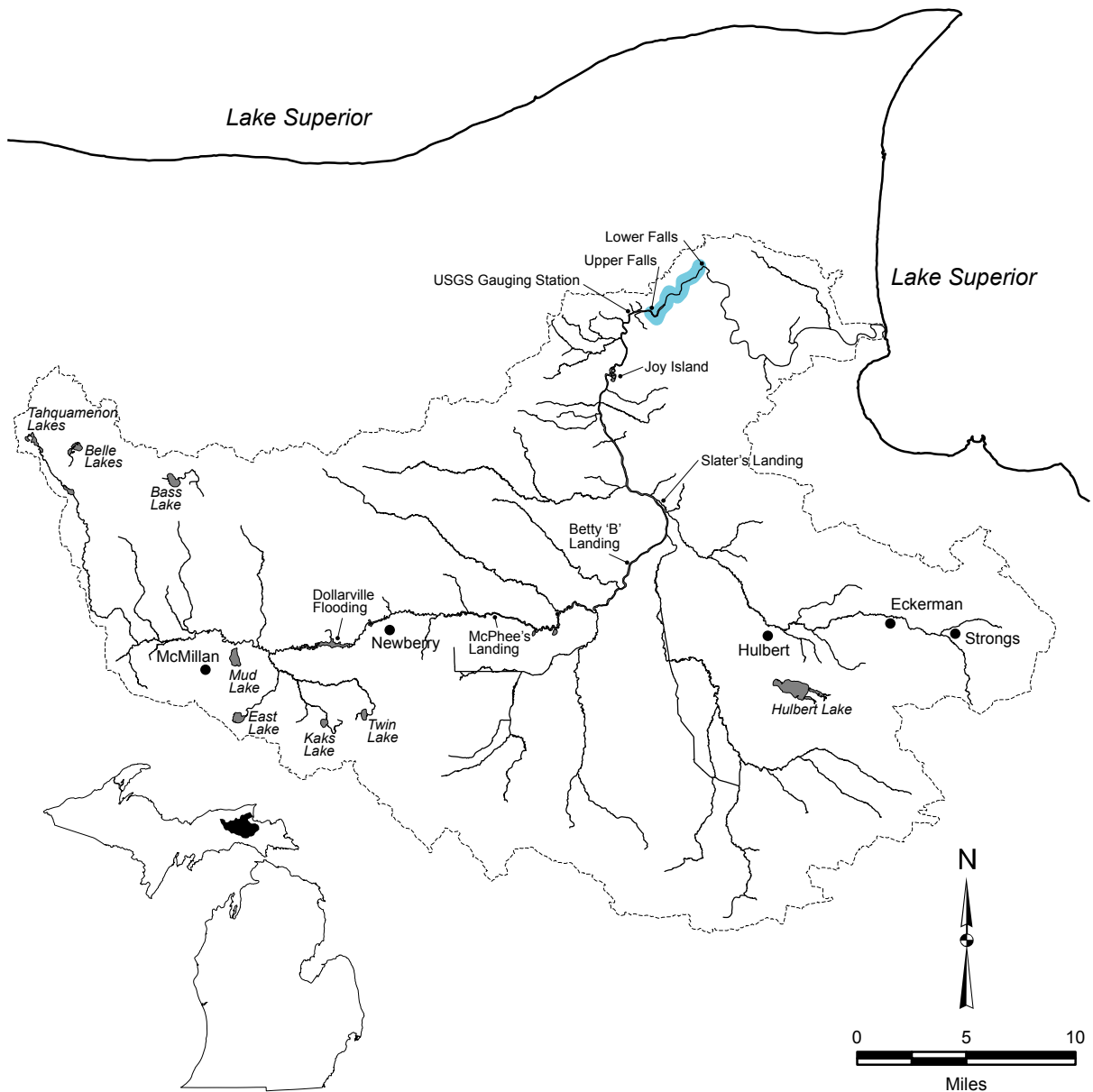
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Silver lamprey *Ichthyomyzon unicuspis*

Habitat:

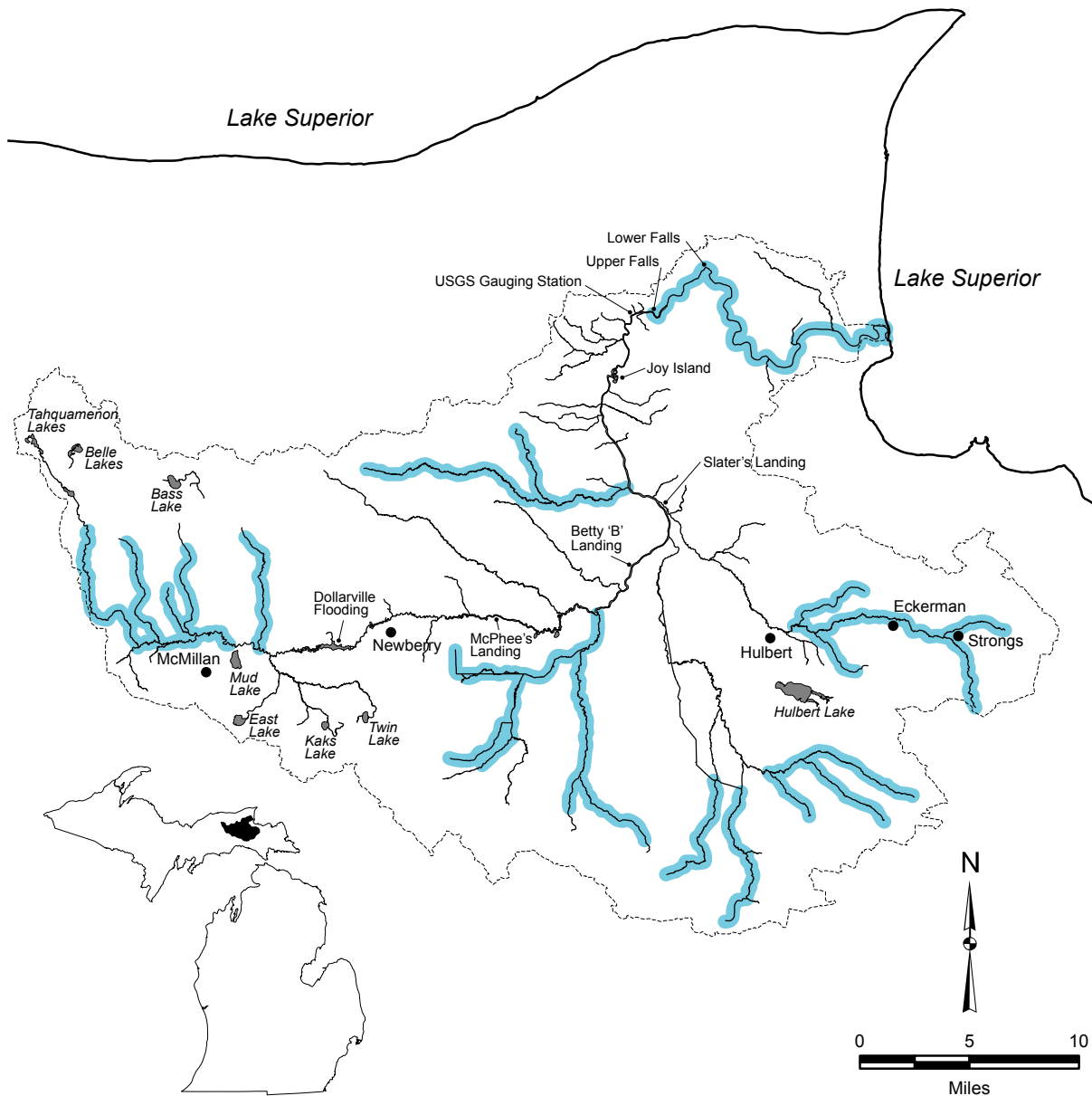
- feeding - young: sand, muck, or organic debris substrate
- adults: clear river water with prey species
- spawning - gravel and sand substrate
- moderate gradient
- moderate size stream
- cannot tolerate silt
- no dams
- winter refuge - ammocetes burrow for 4 to 7 years
in mud and silt at river margins



American brook lamprey *Lampetra appendix*

Habitat:

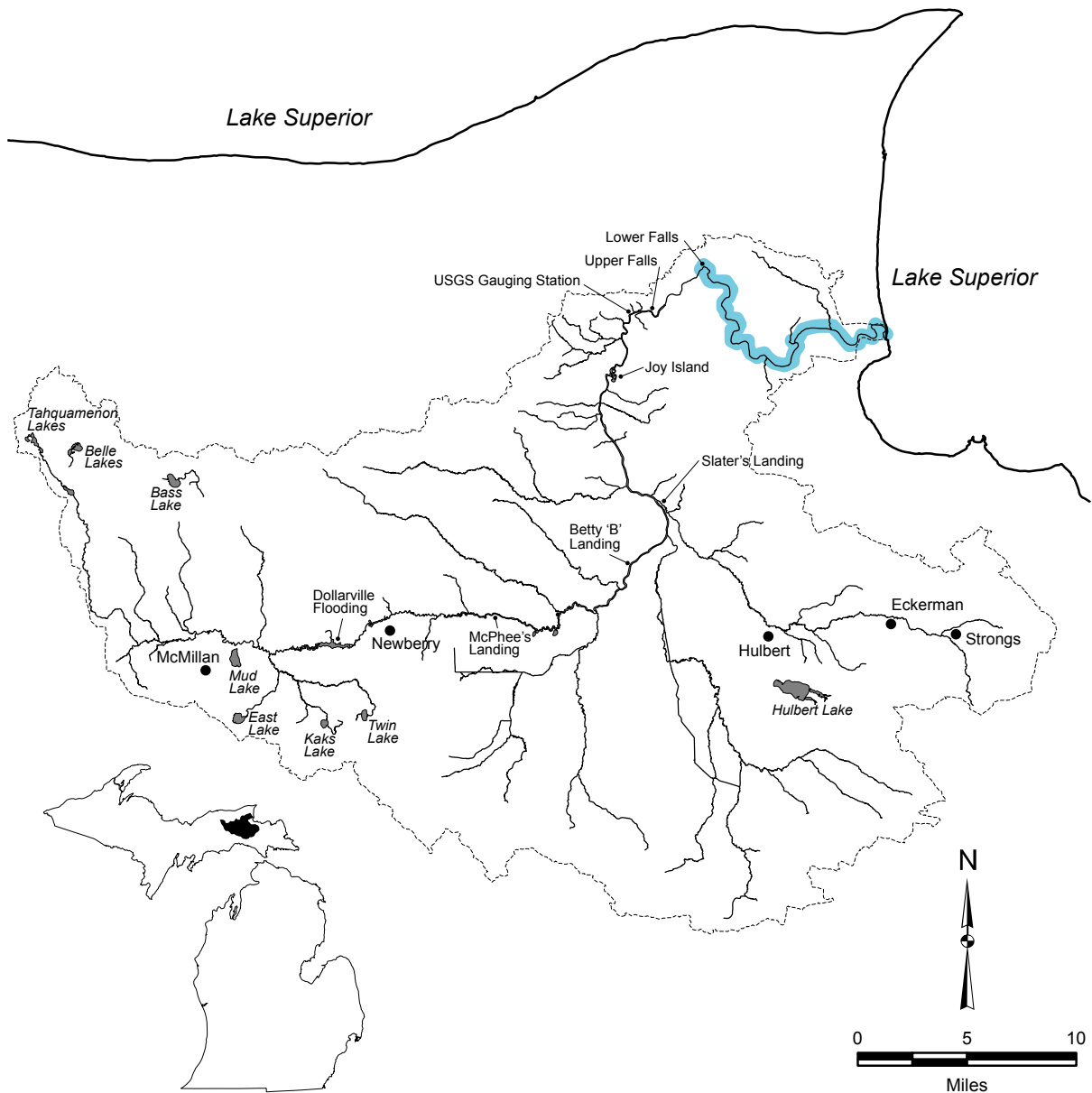
- feeding - young: low gradient, substrate with bars and beds of mixed sand and organic debris
 - clear cool stream water, sensitive to turbidity
- spawning - clear, high gradient streams (>15 feet wide)
 - cold water
 - gravel substrate
- winter refuge - sand or silt substrate for ammocetes



Sea lamprey *Petromyzon marinus*

Habitat:

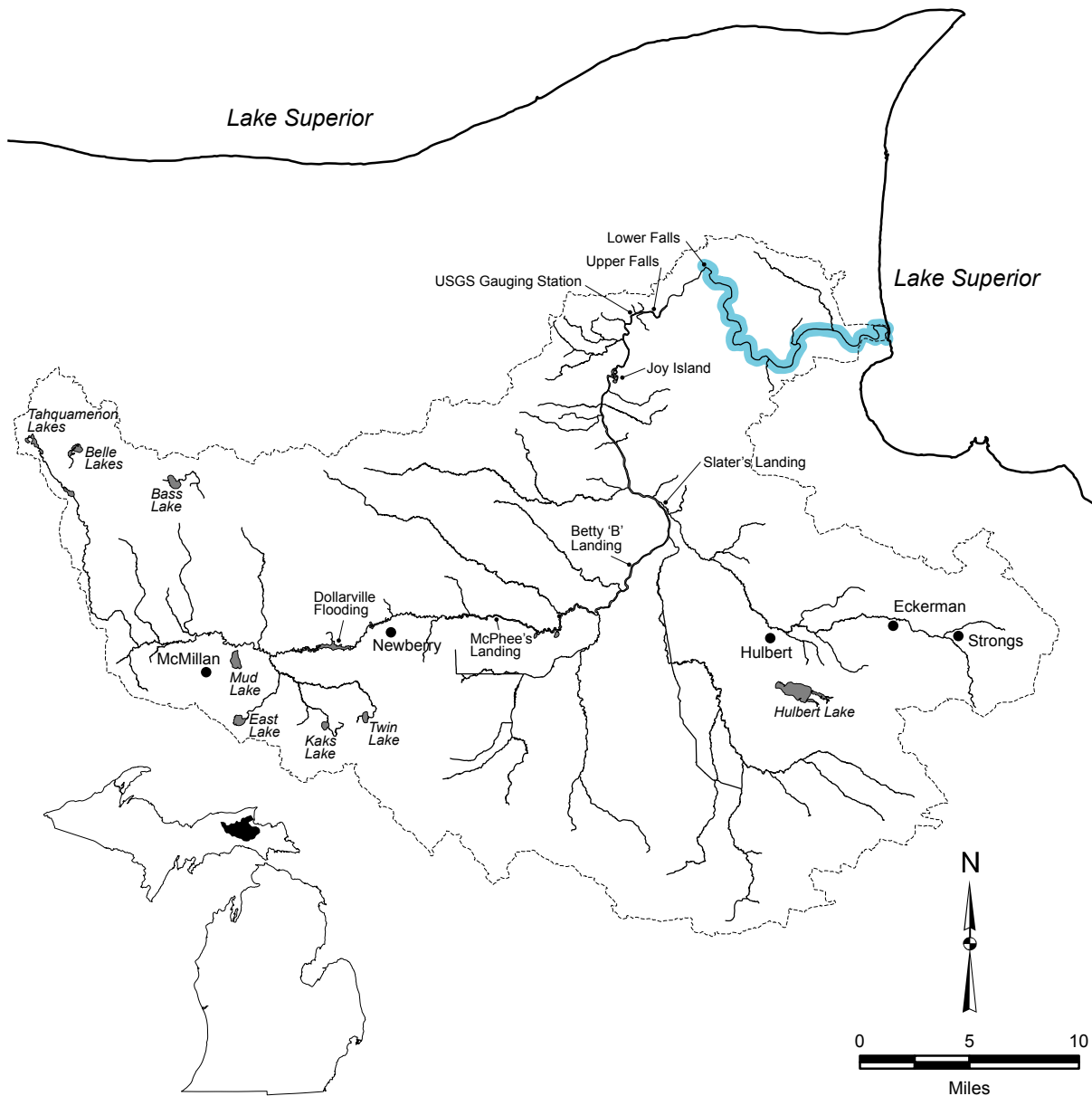
- feeding - young: substrate with beds of sand mixed with organic debris
- cannot tolerate silt
- adults: clear cool water of Lake Superior
- spawning - no dams
- riffles with sand and gravel substrates



Lake sturgeon *Acipenser fulvescens* – threatened

Habitat:

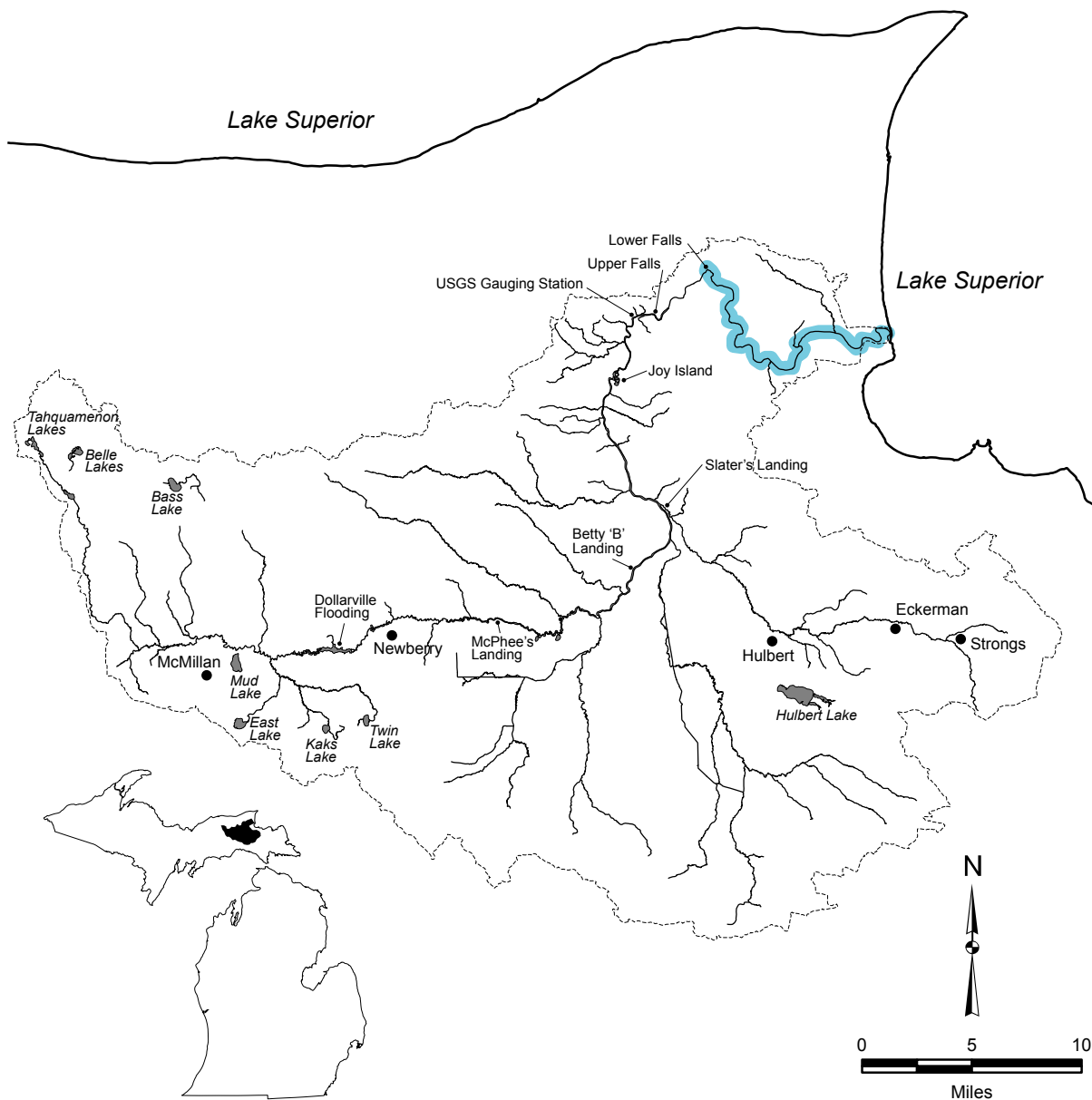
- feeding - shoal areas of large rivers, lakes, and impoundments
- gravel, sand, rock substrates
- spawning - in or before rapids, at the base of dams in rivers
- in 2-15 feet of water
- swift current
- rocky ledges or around rocky islands in Great Lakes



Common carp *Cyprinus carpio*

Habitat:

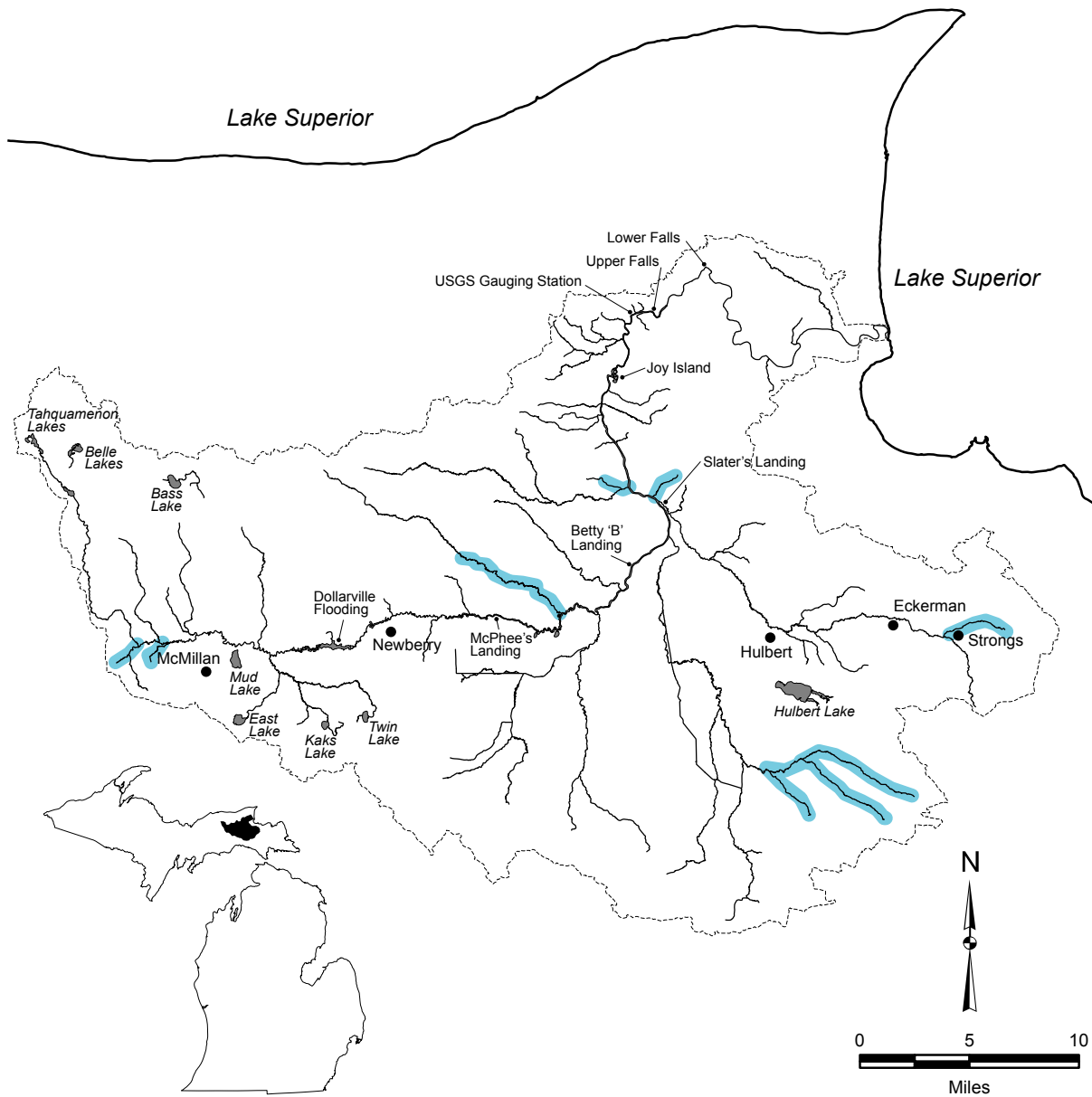
- feeding - low gradient fertile streams, rivers, lakes, and impoundments
- abundance of aquatic vegetation or organic matter
- tolerant of all substrates and clear to turbid water
- spawning - weedy or grassy shallows



Brassy minnow *Hybognathus hankinsoni*

Habitat:

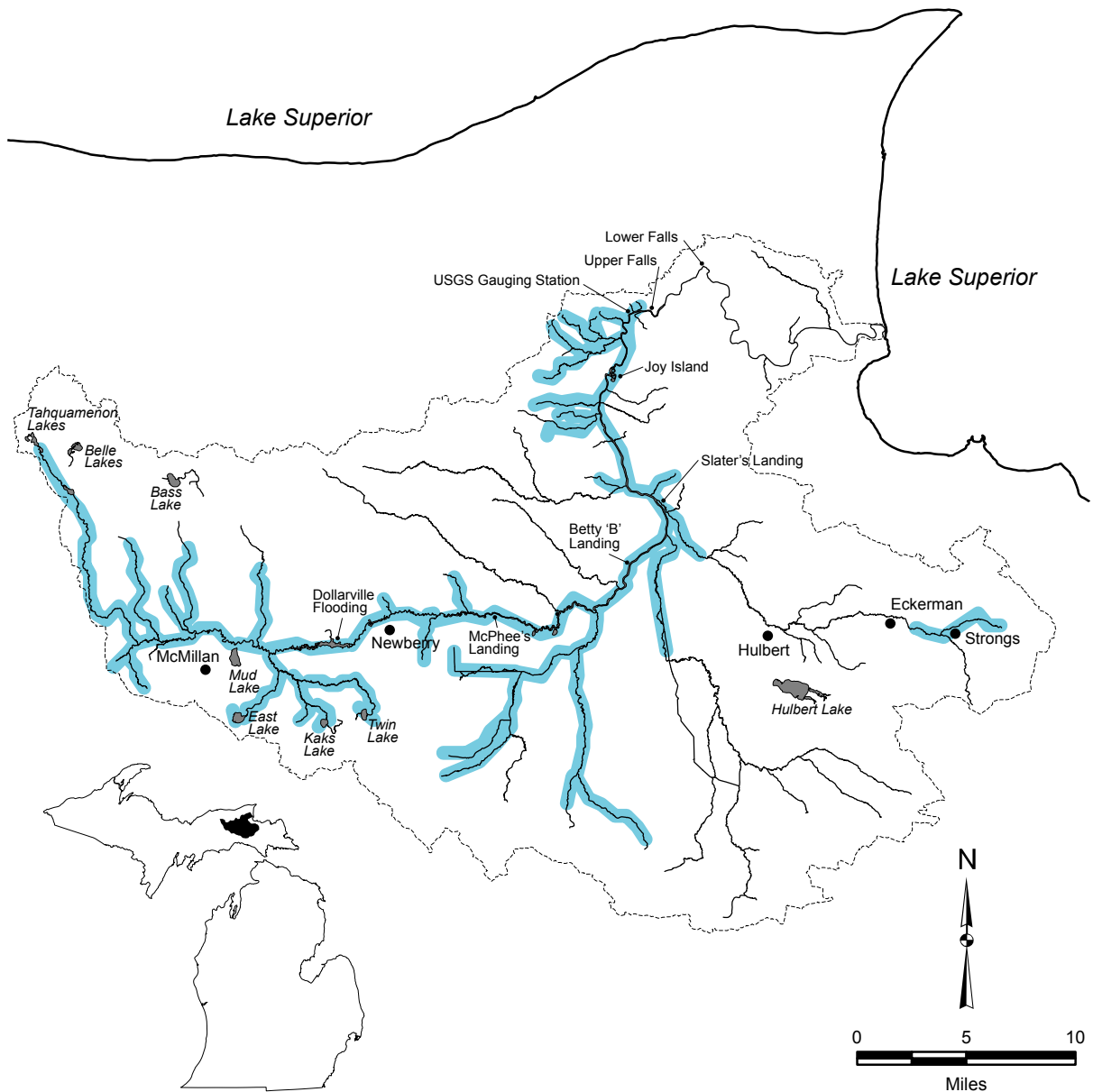
- feeding - cool acidic streams
- slow to moderate current
- sand or gravel substrate



Common shiner *Luxilus cornutus*

Habitat:

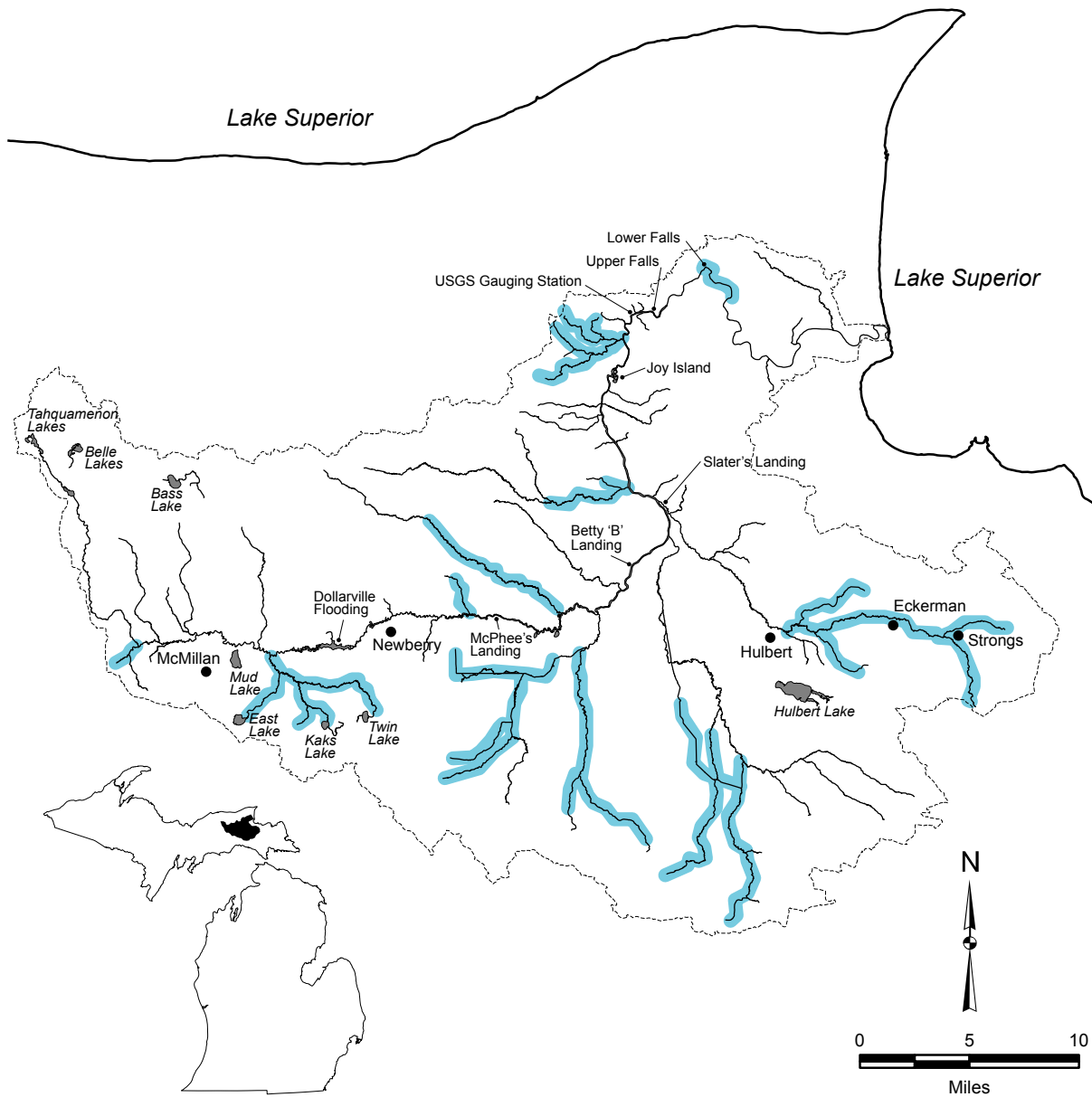
- feeding - small, clear, high-gradient streams and rivers, or shores of clear water lakes and impoundments
 - gravel substrate
 - can tolerate some submerged aquatic vegetation
 - not very tolerant of turbidity or silted waters
- spawning - gravel nests of other fish, especially those at the head of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



Northern pearl dace *Margariscus nachtriebi*

Habitat:

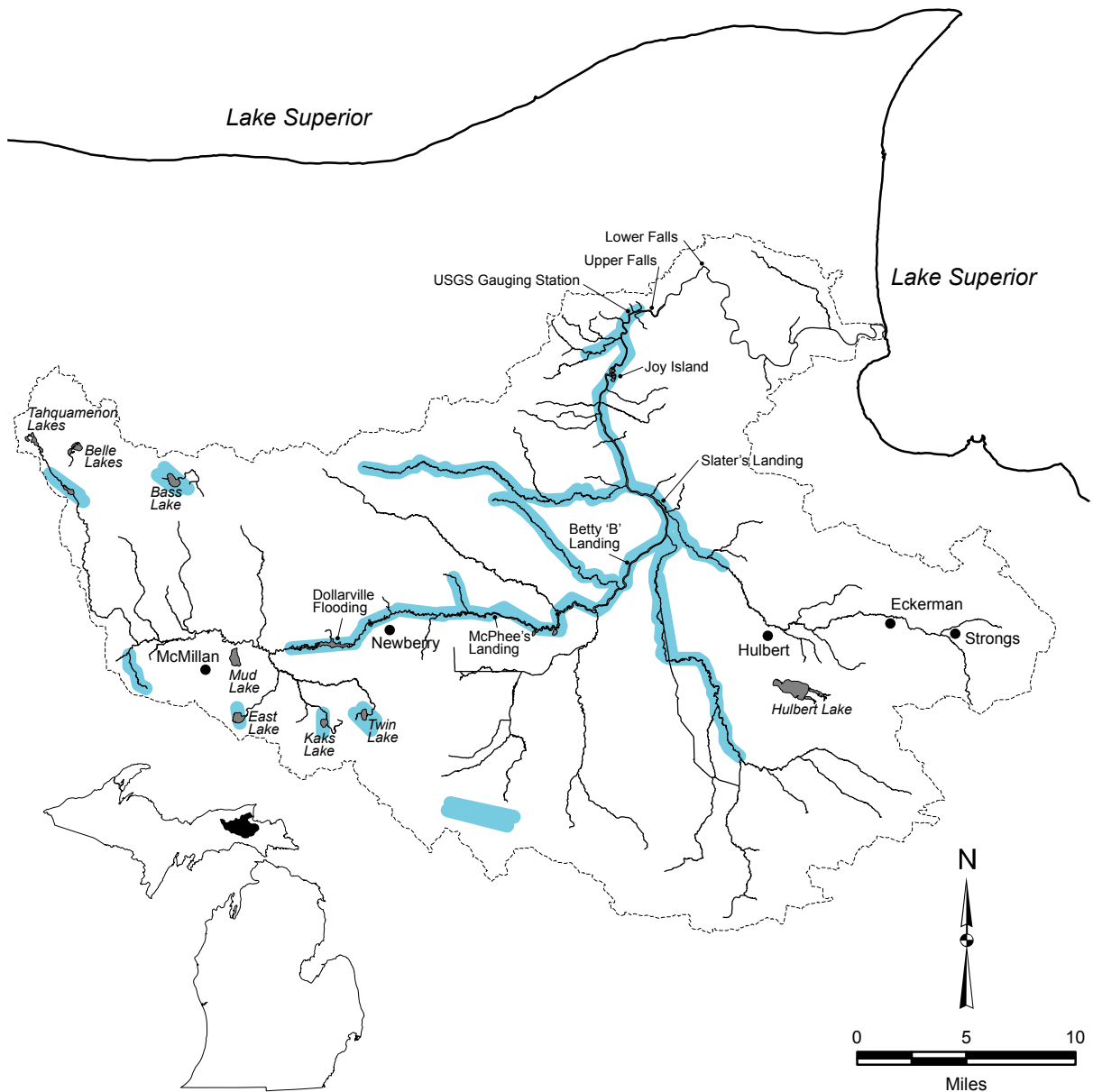
- feeding - cool, neutral to acidic streams and lakes
- clear to slightly turbid water
- spawning - males are territorial
- clear water, 18-24 inches deep
- sand or gravel substrate
- weak to moderate current



Golden shiner *Notemigonus crysoleucas*

Habitat:

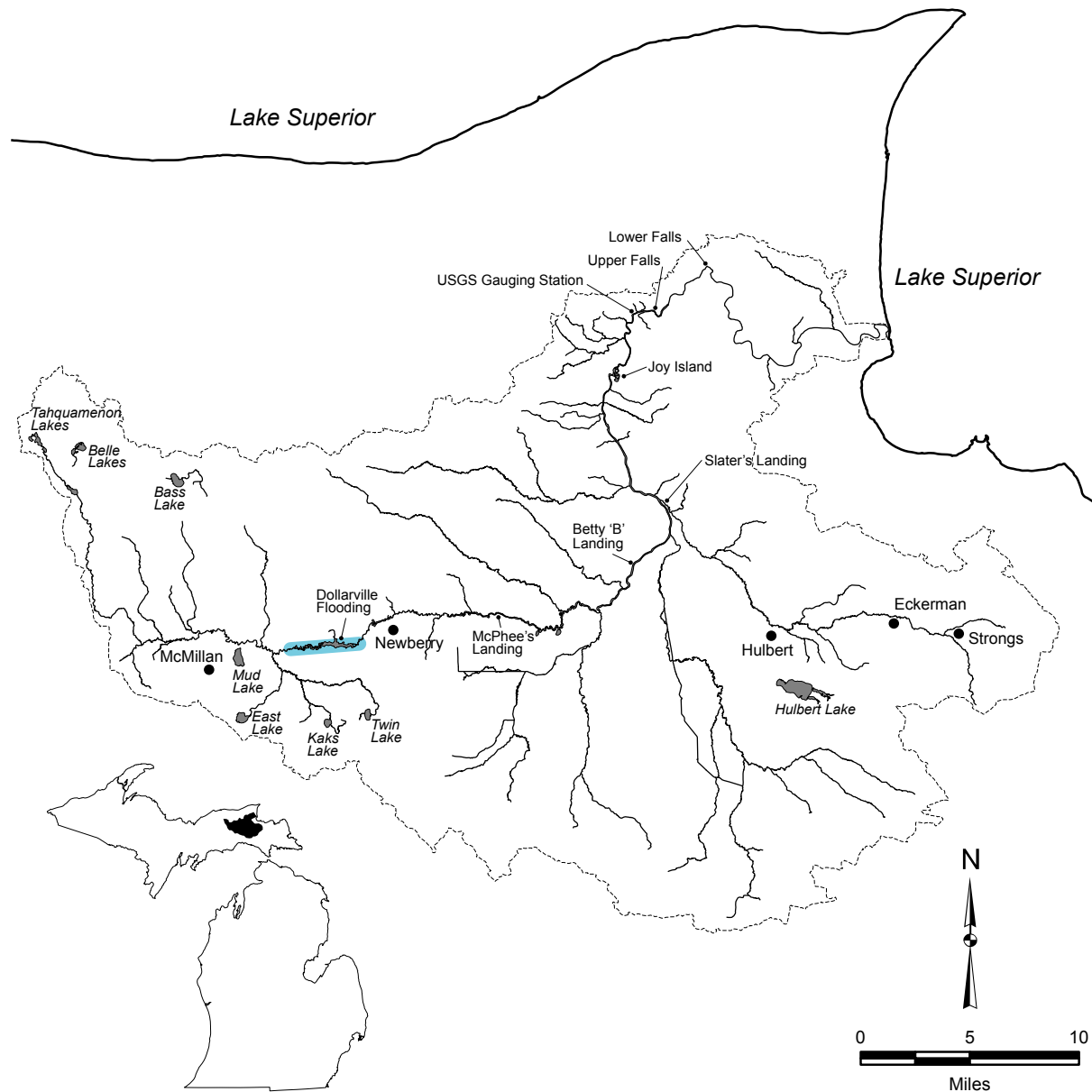
- feeding - lakes and impoundments and quiet pools of low gradient streams
- clear shallow water
- heavy vegetation
- spawning - vegetation



Blackchin shiner *Notropis heterodon*

Habitat:

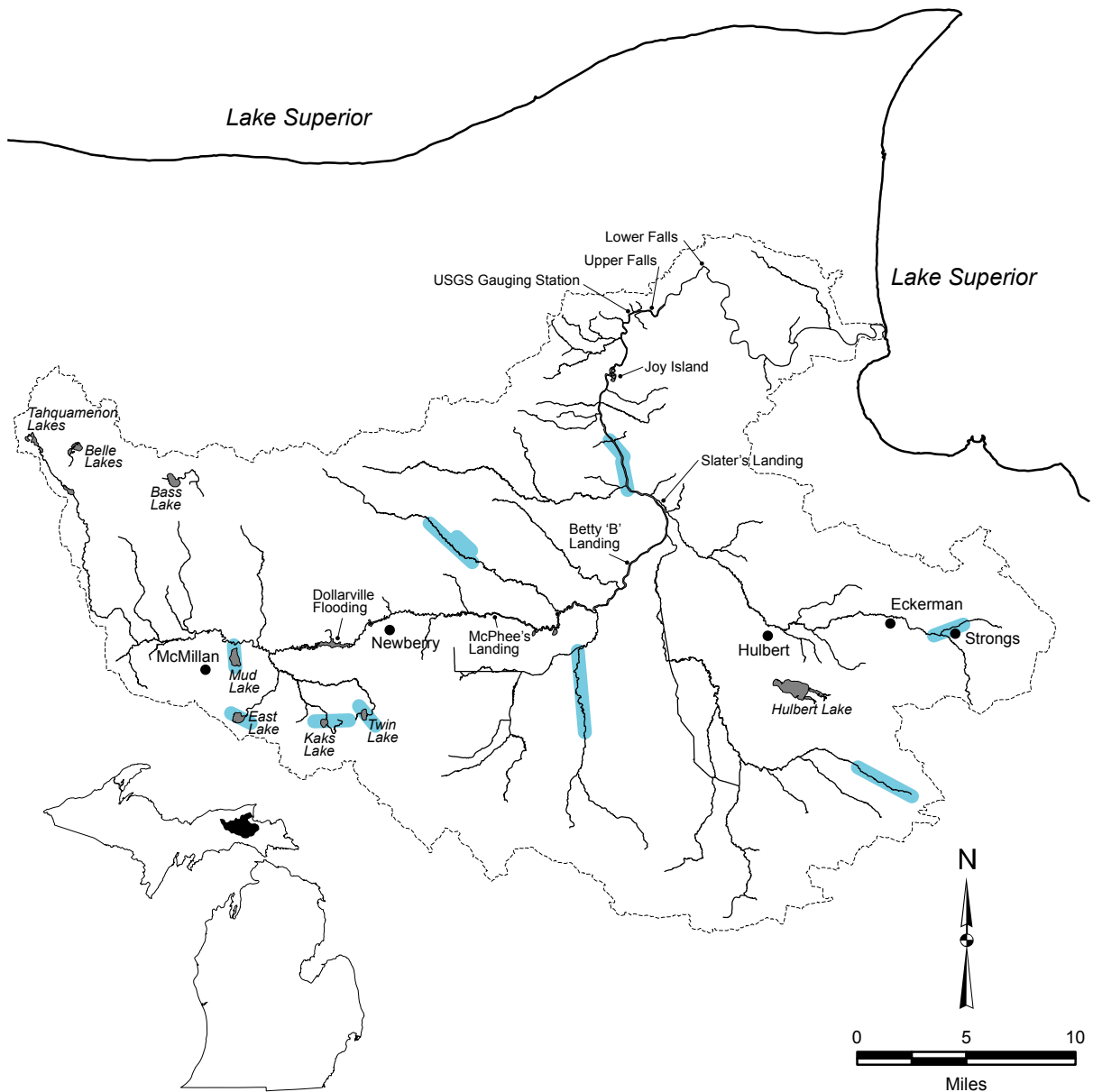
- feeding - lakes, impoundments, and quiet pools in streams and rivers
- clear water
- clean sand, gravel, or organic debris substrate
- dense beds of submerged aquatic vegetation
- cannot tolerate turbidity, silt, or loss of aquatic vegetation



Blacknose shiner *Notropis heterolepis*

Habitat:

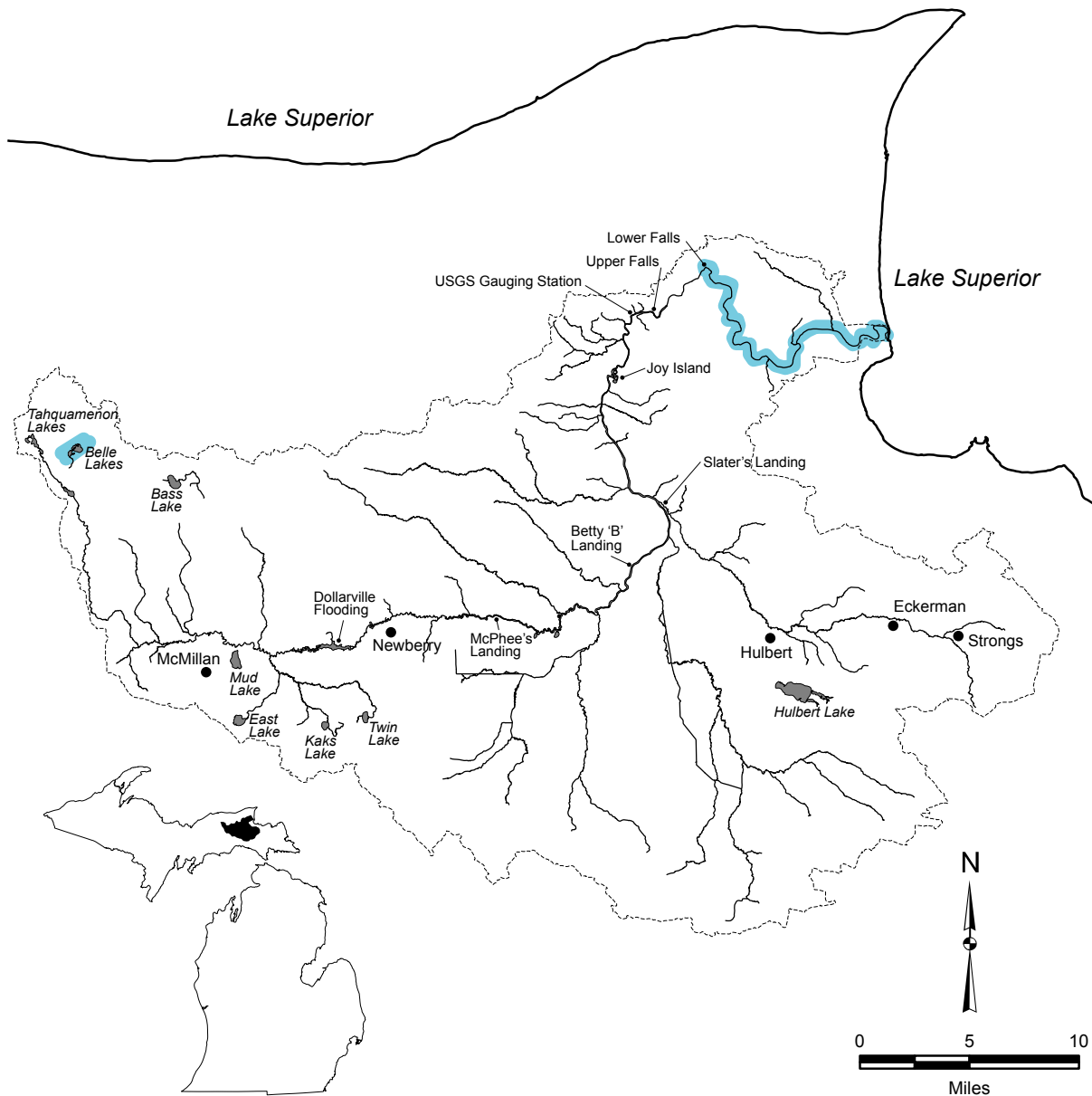
- feeding - clear lakes, impoundments, and pools of small, clear, low-gradient streams
- aquatic vegetation
- clean sand, gravel, marl, muck, peat, or organic debris substrate
- cannot tolerate much turbidity, much siltation, or loss of aquatic vegetation
- spawning - sandy substrate



Spottail shiner *Notropis hudsonius*

Habitat:

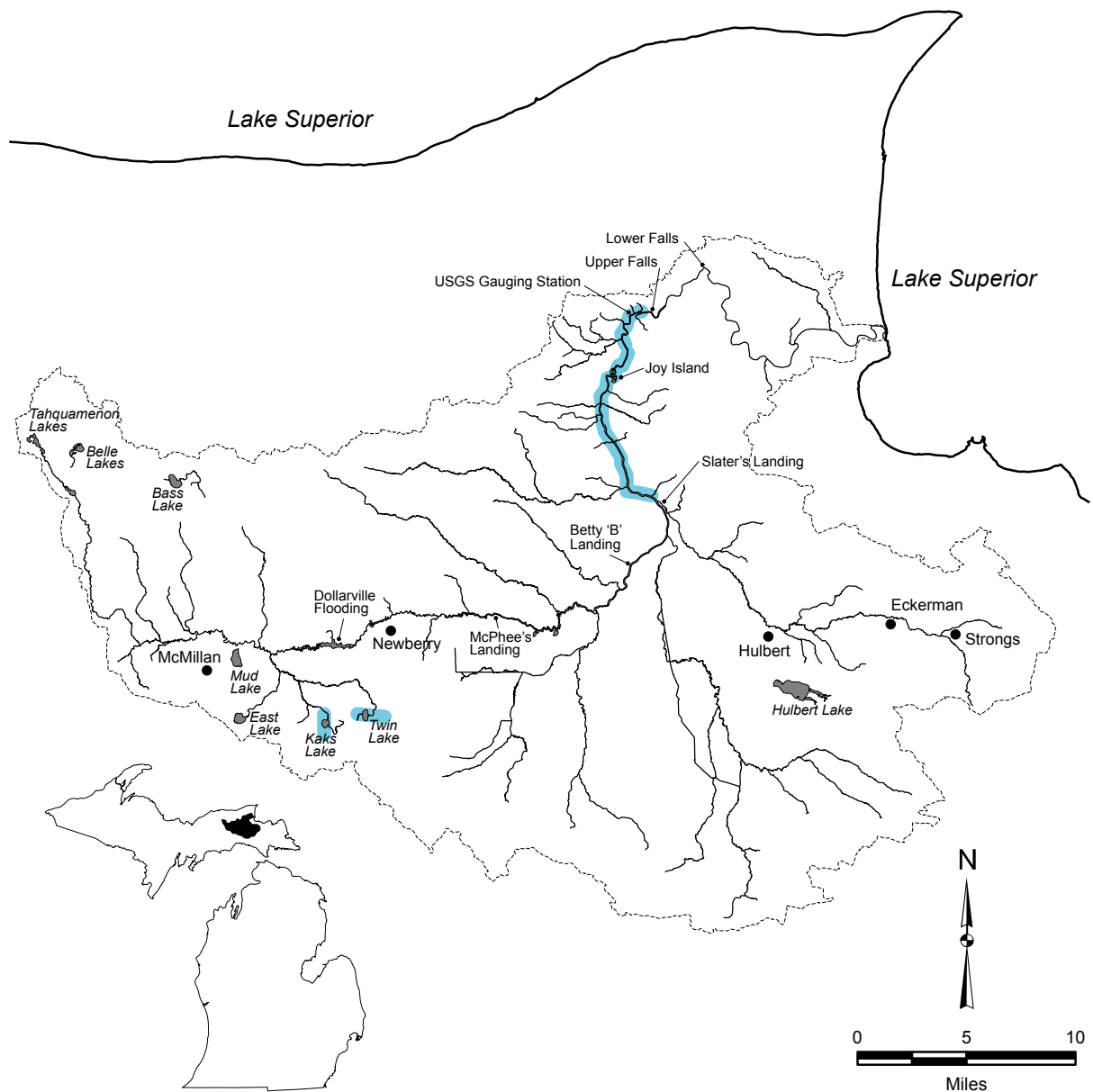
- feeding - large rivers, lakes, and impoundments
- firm sand and gravel substrate
- low current
- sparse to moderate vegetation
- avoids turbidity
- spawning - over sandy shoals or gravelly riffles
- near the mouths of small streams



Mimic shiner *Notropis volucellus*

Habitat:

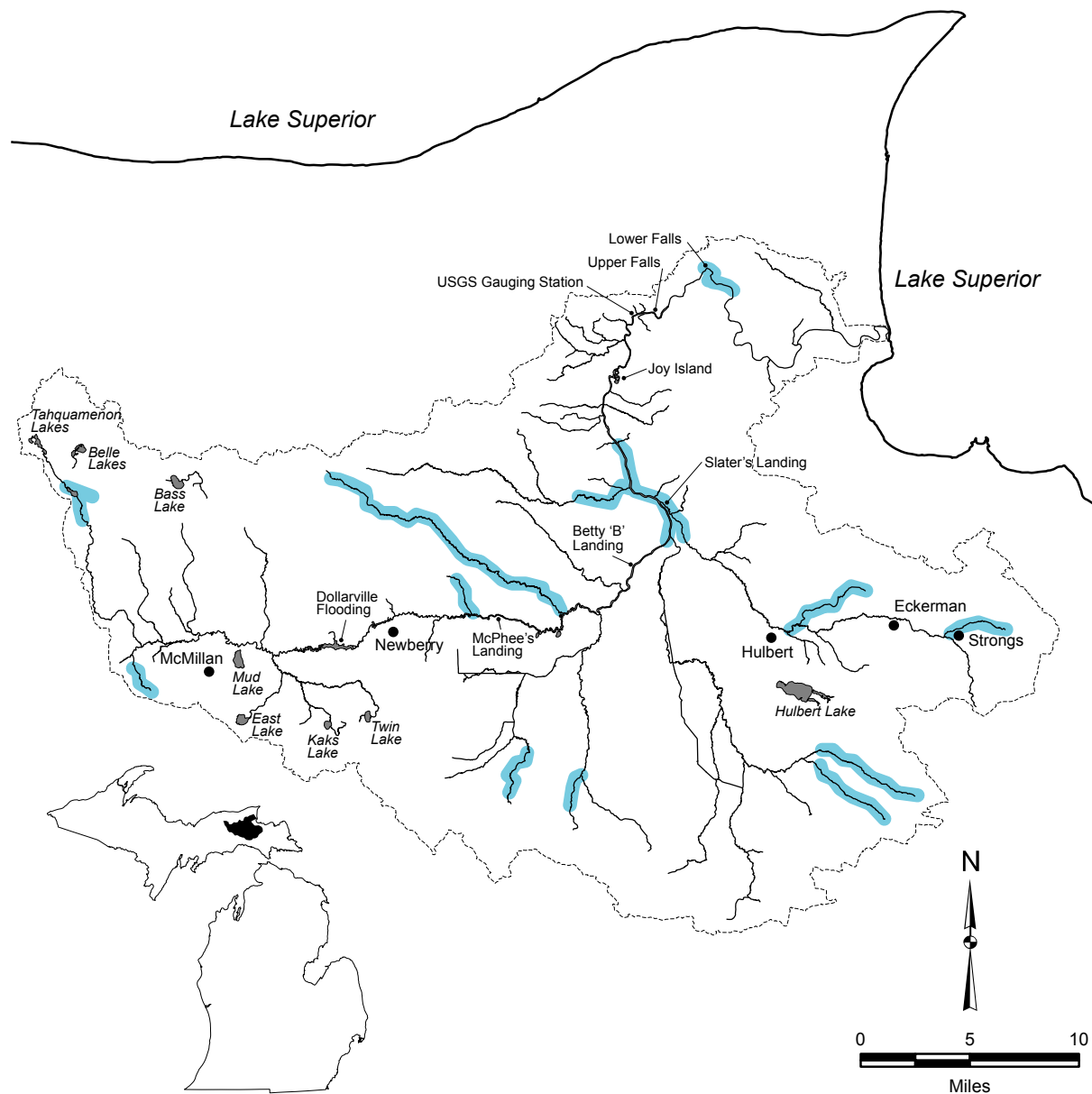
- feeding - pools and backwater of streams, moderately weedy lakes and impoundments
- quiet or still water
- clear shallow water
- spawning - aquatic vegetation necessary



Northern redbelly dace *Phoxinus eos*

Habitat:

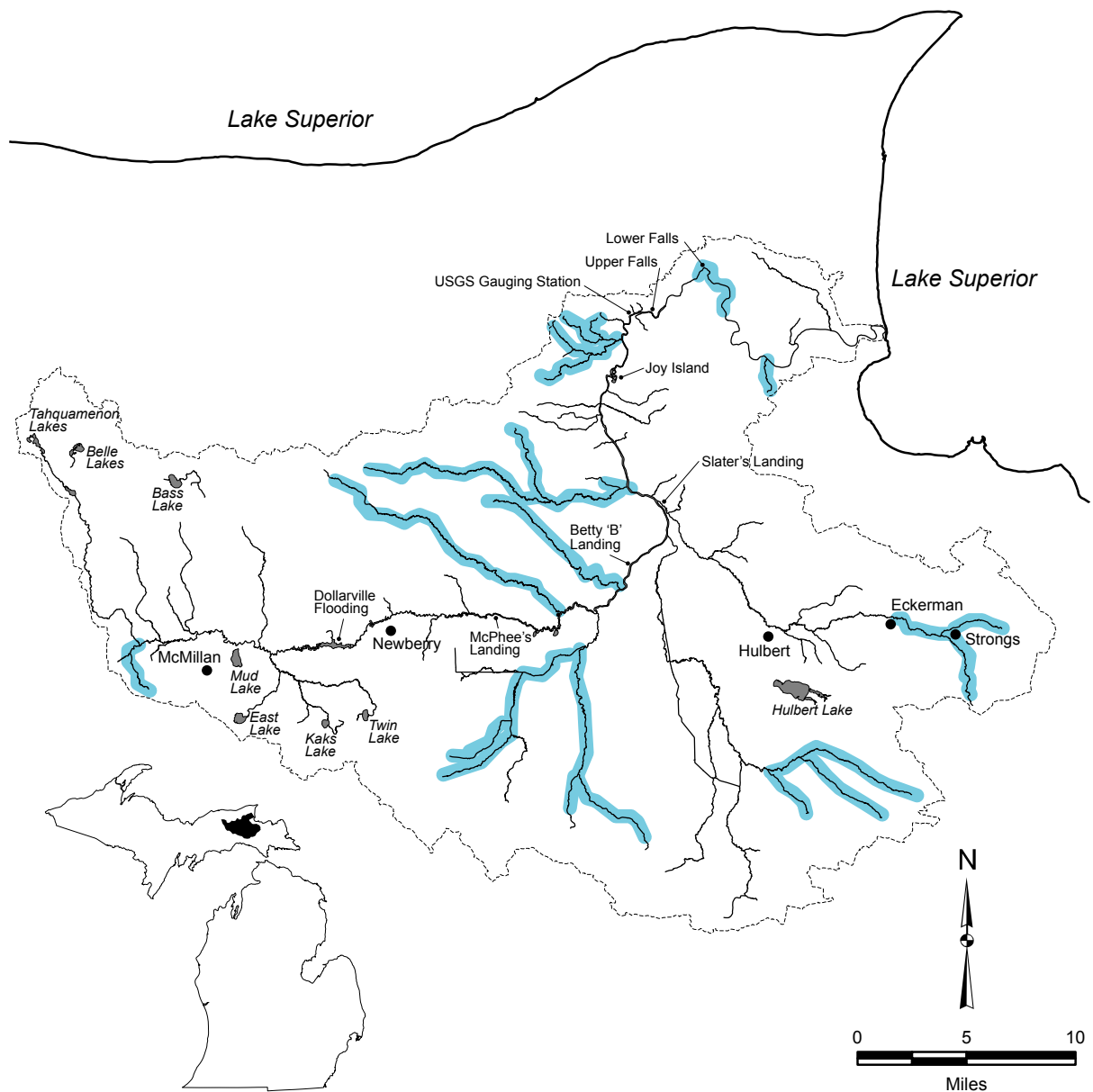
- feeding - slow current
- in boggy lakes and streams
- detritus or silt substrate
- clear to slightly turbid water
- spawning - filamentous algae needed for egg deposition



Finescale dace *Phoxinus neogaeus*

Habitat:

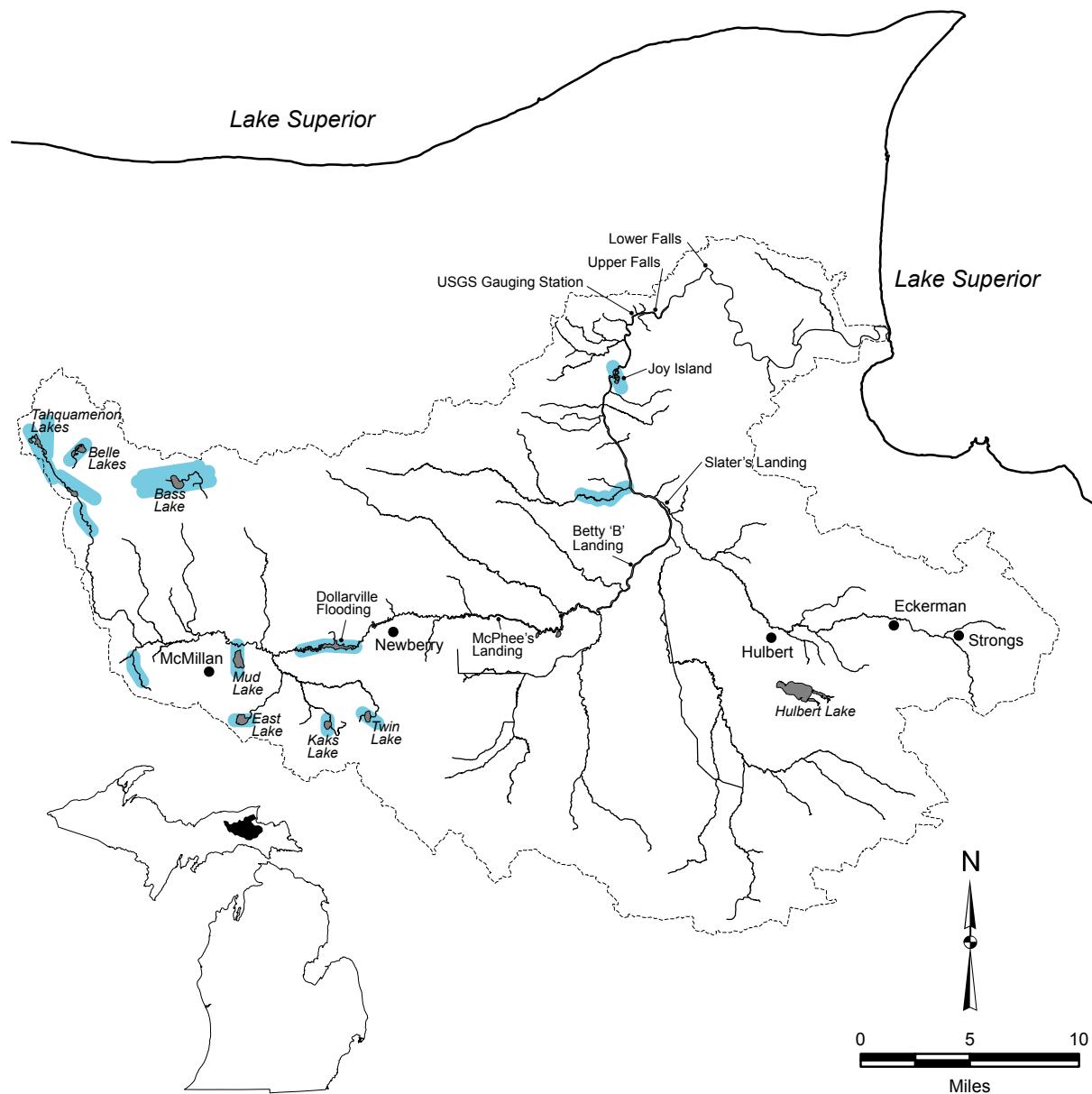
- feeding - cool bog lakes and streams
- neutral to slightly acidic waters
- various substrates



Bluntnose minnow *Pimephales notatus*

Habitat:

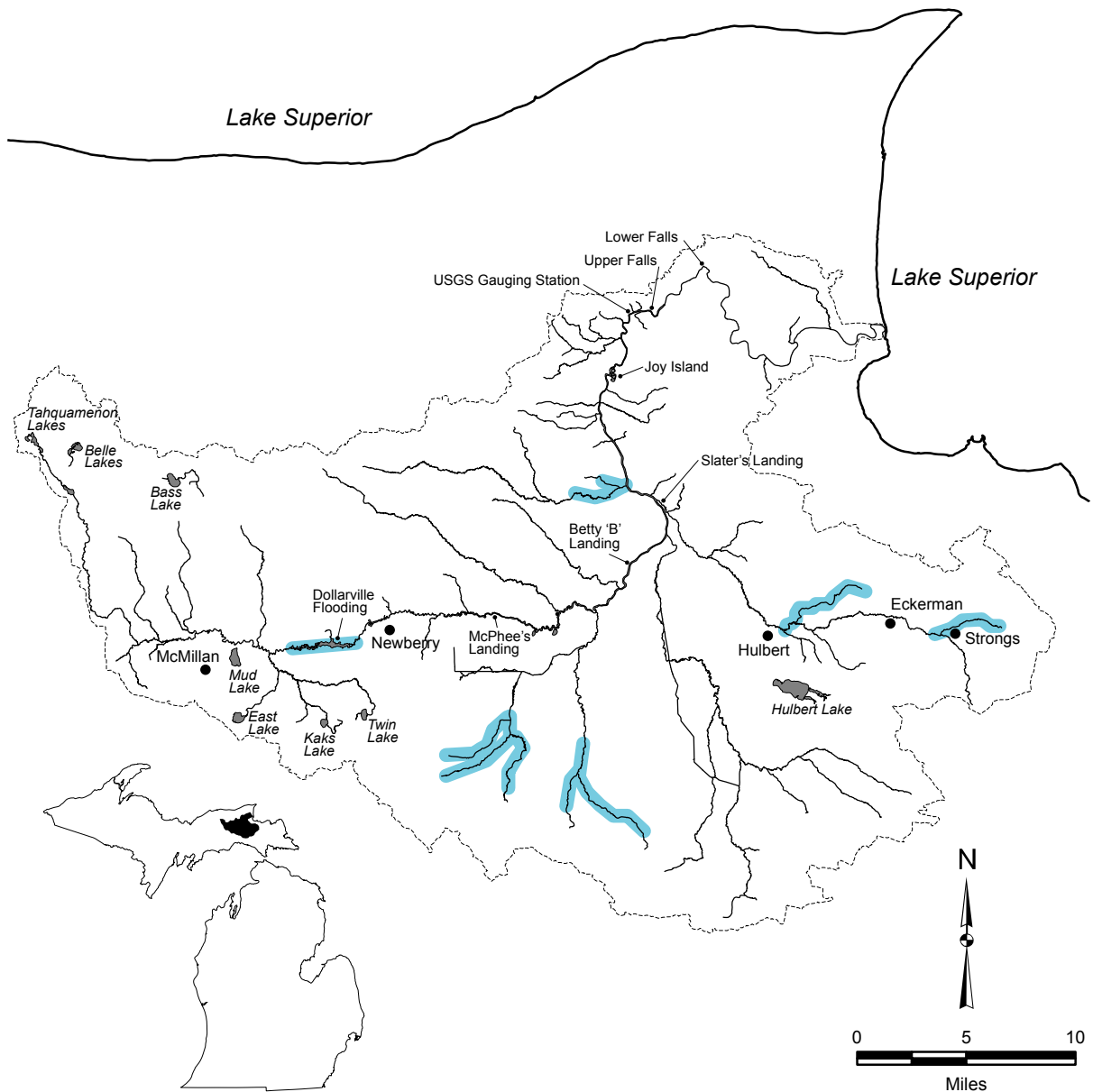
- feeding - quiet pools and backwaters of medium to large streams, lakes, and impoundments
 - clear warm water
 - some aquatic vegetation
 - firm substrates
 - tolerates all gradients, turbidity, organic and inorganic pollutants
- spawning - eggs deposited on the underside of flat stones or objects
 - nests in sand or gravel substrate



Fathead minnow *Pimephales promelas*

Habitat:

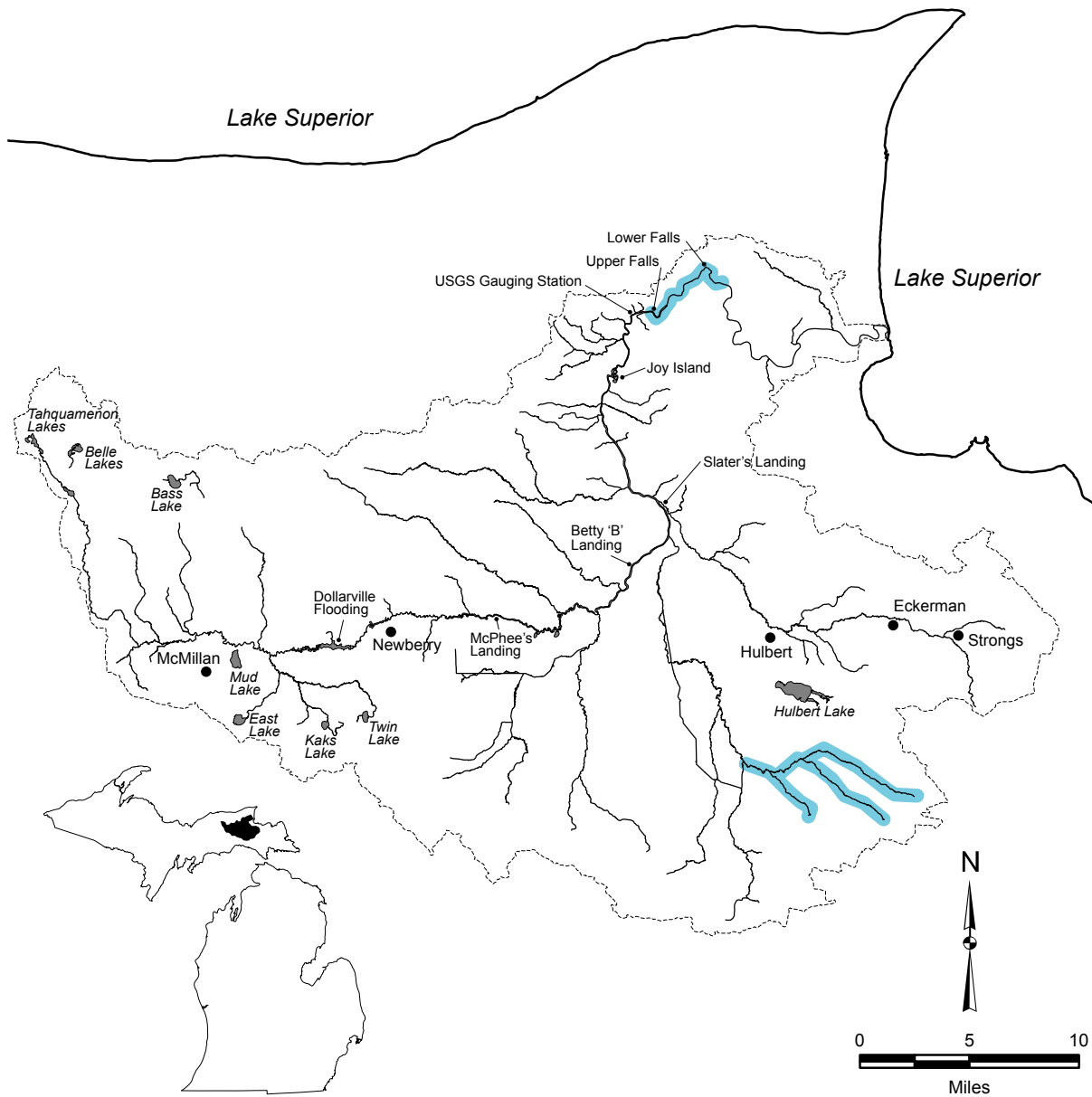
- feeding - pools of small streams, lakes, and impoundments
- tolerant of turbidity, high temperatures, and low oxygen
- spawning - on underside of objects in water 2 to 3 feet deep
- prefer sand, marl, or gravel substrate



Longnose dace *Rhinichthys cataractae*

Habitat:

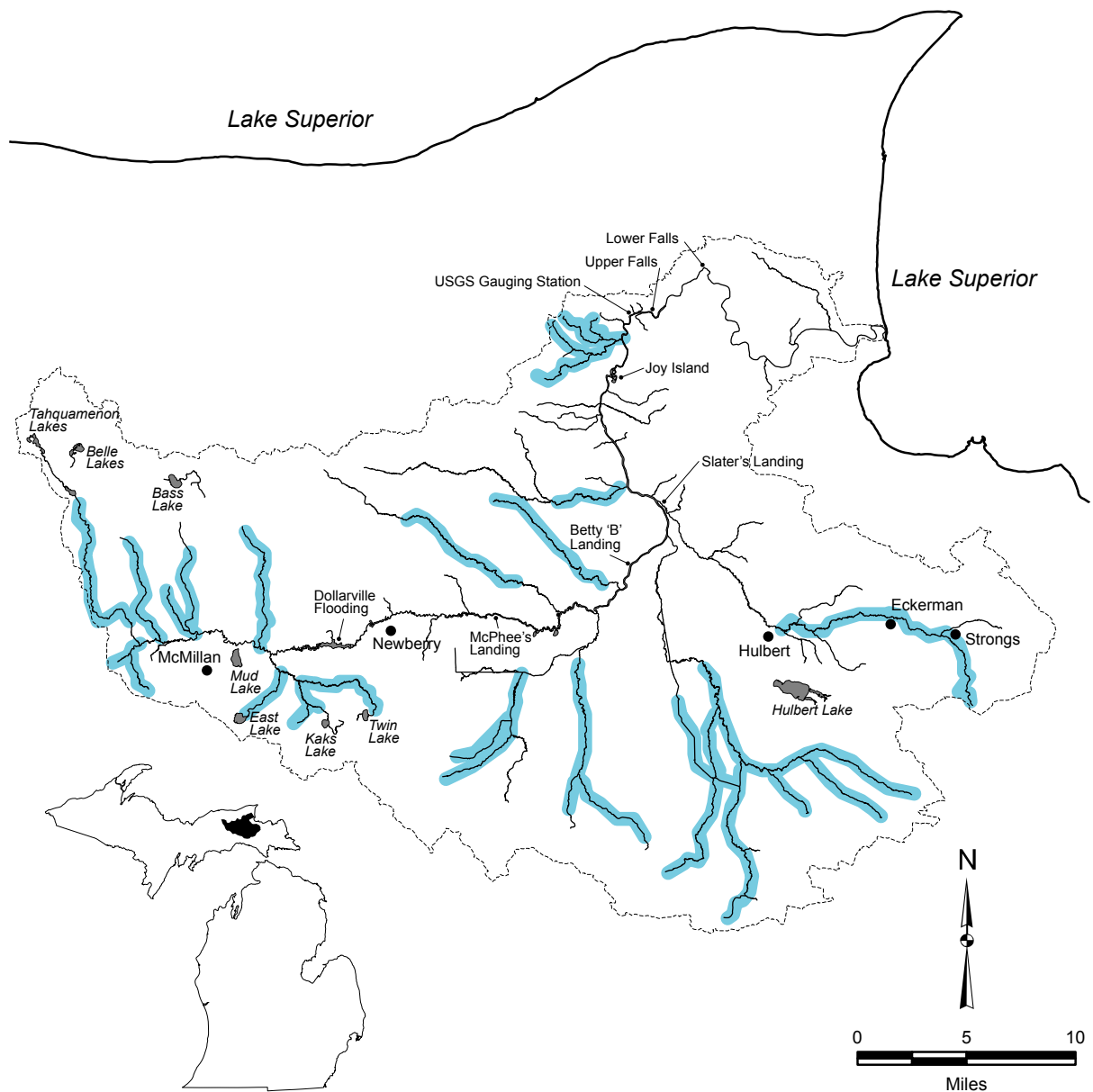
- feeding - lakes and streams
- high gradient
- gravel or boulder substrate



Western blacknose dace *Rhinichthys obtusus*

Habitat:

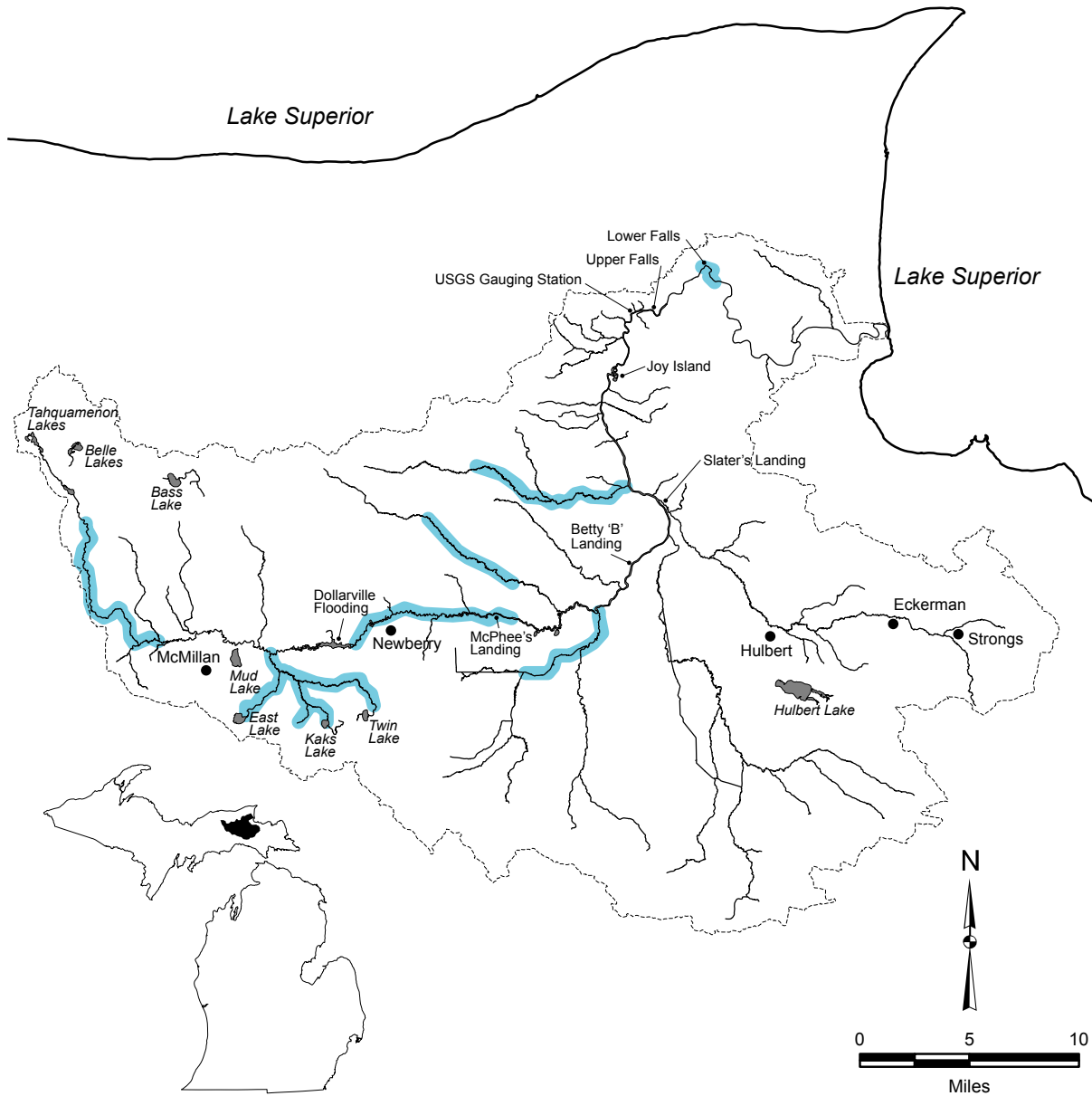
- feeding - moderate to high gradient streams
- sand and gravel substrate
- clear cool water in pools with deep holes and undercut banks
- does not tolerate turbidity and silt well
- spawning - riffles with gravel substrate and fast current
- winter refuge - larger waters



Creek chub *Semotilus atromaculatus*

Habitat:

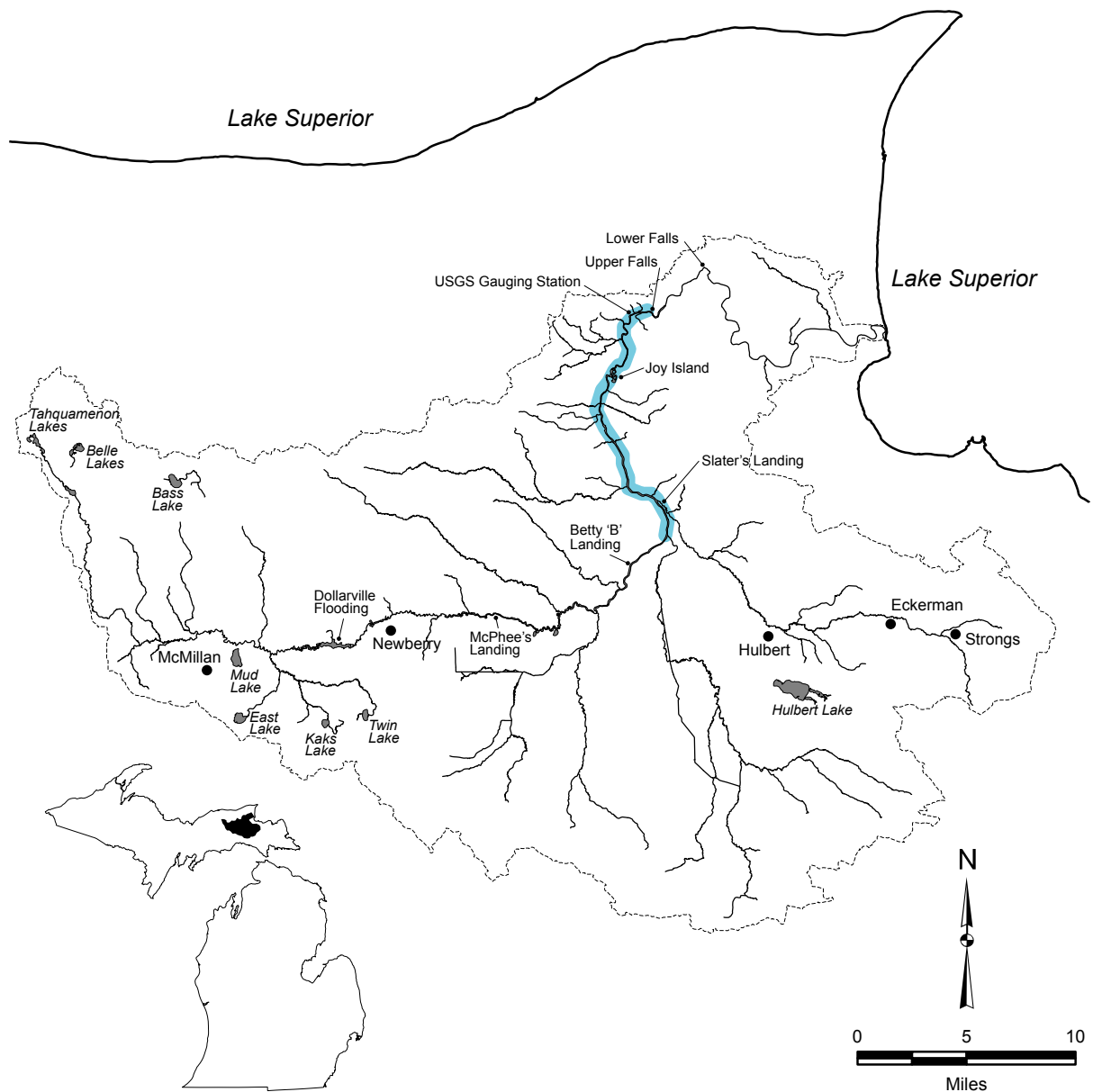
- feeding - streams, rivers, or shore waters of lakes and impoundments
- can tolerate intermittent flows
- tolerates moderate turbidity
- spawning - gravel nests
- low current
- winter refuge - deeper pools and runs



Longnose sucker *Catostomus catostomus*

Habitat:

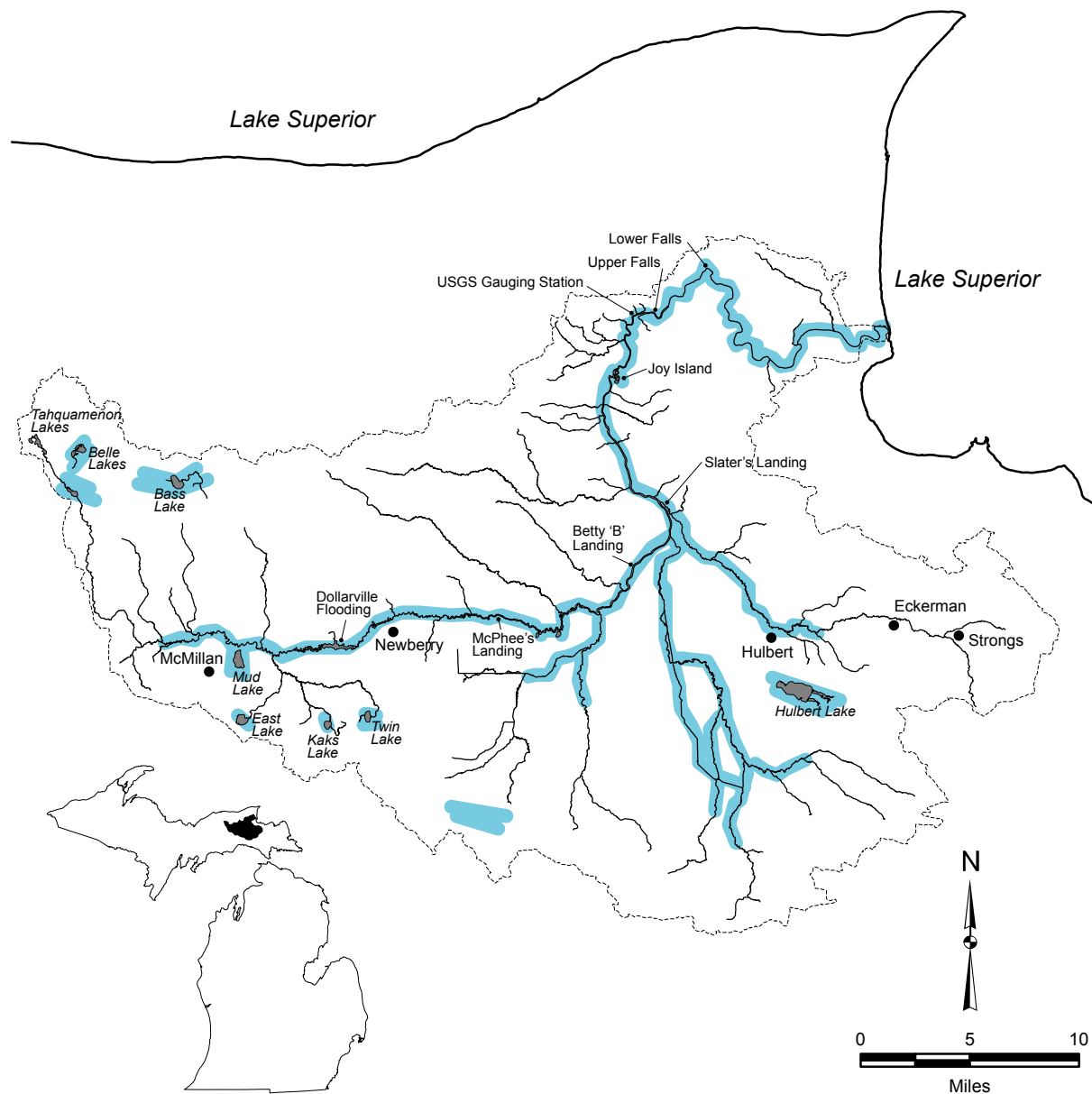
- feeding - clear, cold rivers and lakes
- spawning - in streams or lake shallows
 - current
 - gravel substrate



White sucker *Catostomus commersonii*

Habitat:

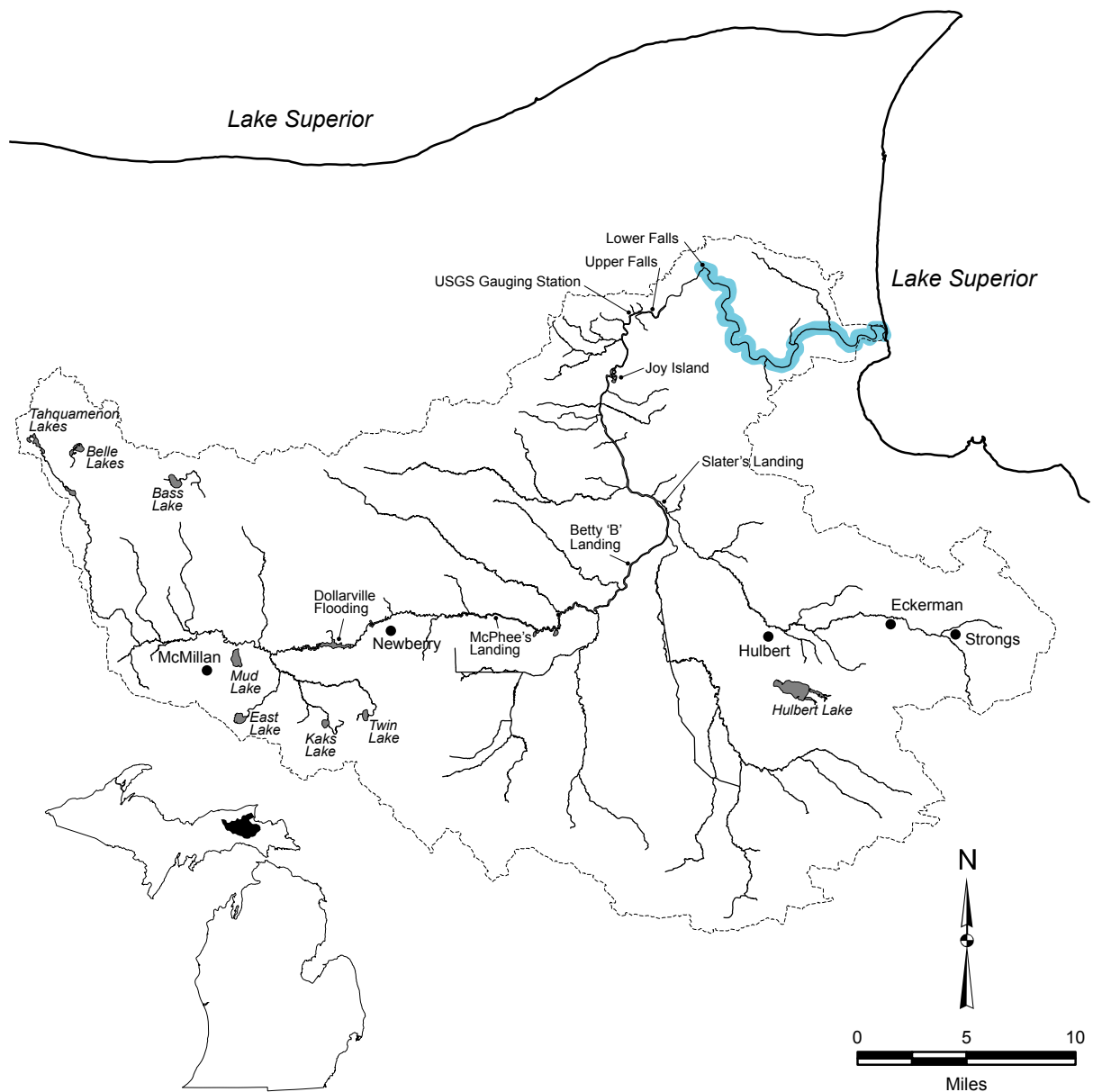
- feeding - streams, rivers, lakes, and impoundments
- can inhabit highly turbid and polluted waters
- spawning - quiet gravelly shallow areas of streams



Silver redhorse *Moxostoma anisurum*

Habitat:

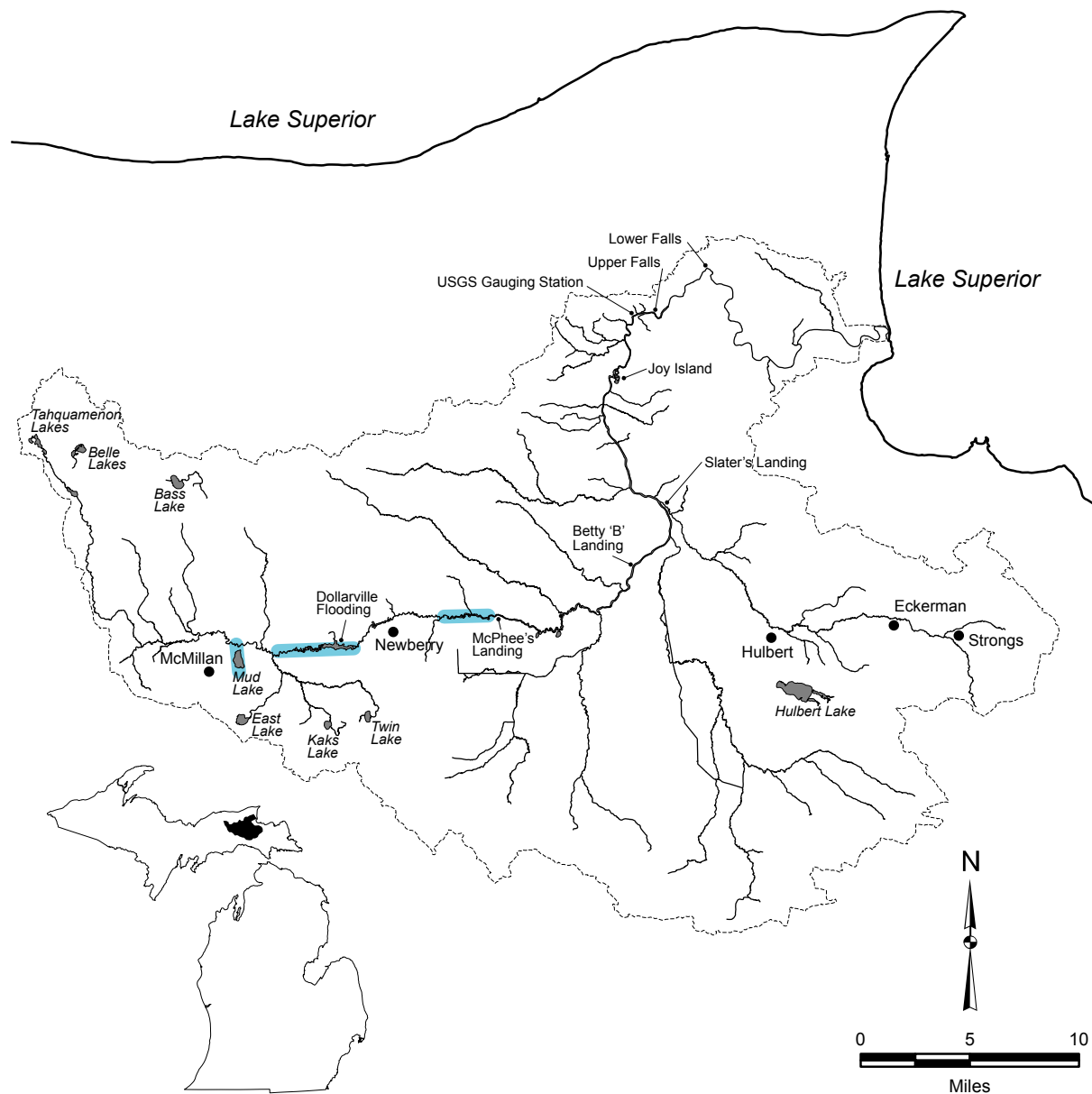
- feeding - streams, rivers, lakes, and impoundments
- low current
- pollution and turbidity intolerant
- spawning - swift current in rivers, do not spawn in tributaries
- males territorial
- gravel to rubble substrate



Black bullhead *Ameiurus melas*

Habitat:

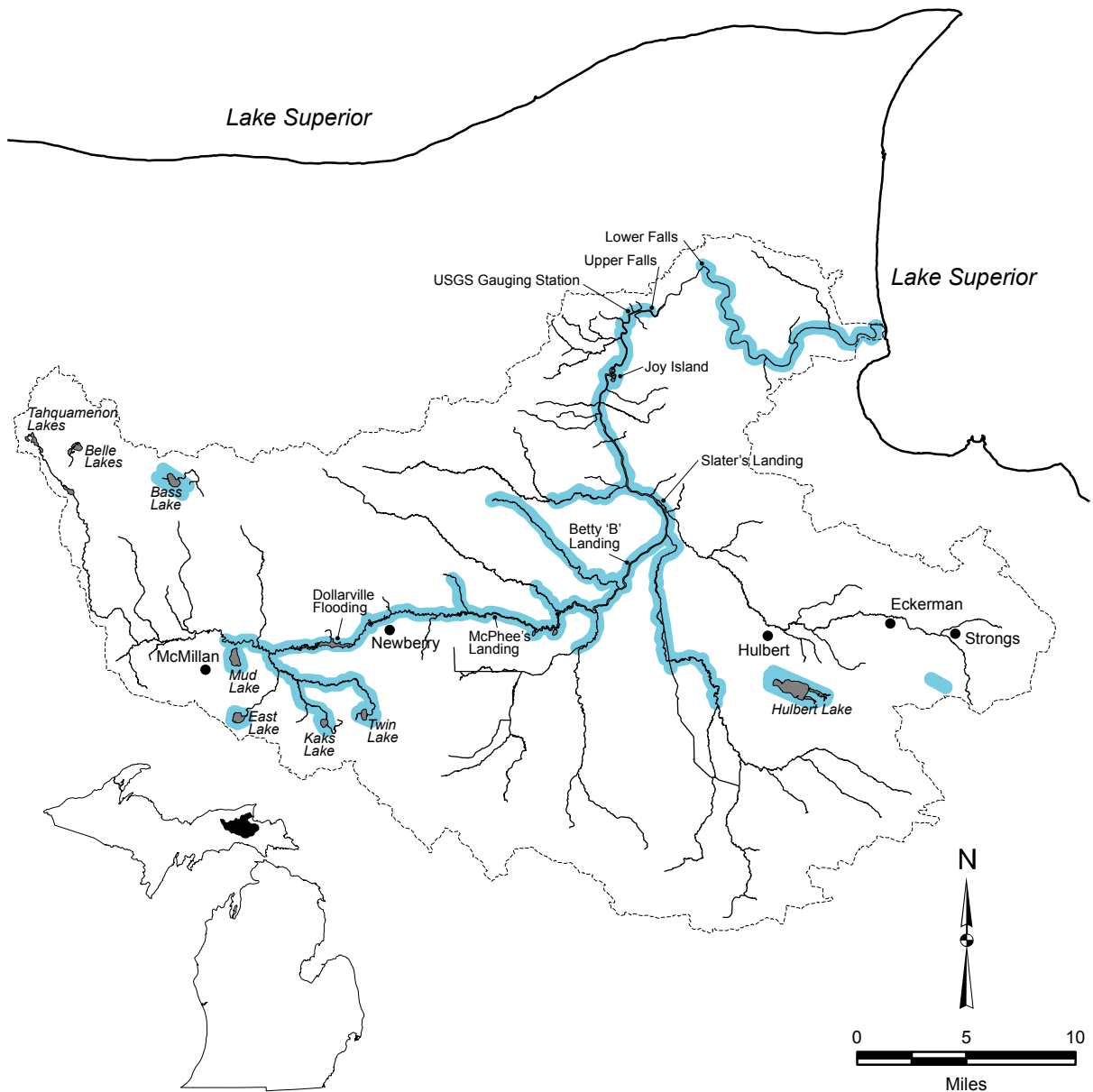
- feeding - turbid water
- silt bottom
- low gradient small to medium streams, pools, and headwaters of large rivers; also in lakes and impoundments
- can tolerate very warm water and very low dissolved oxygen
- spawning - nest in moderate to heavy vegetation or woody debris and under overhanging banks



Brown bullhead *Ameiurus nebulosus*

Habitat:

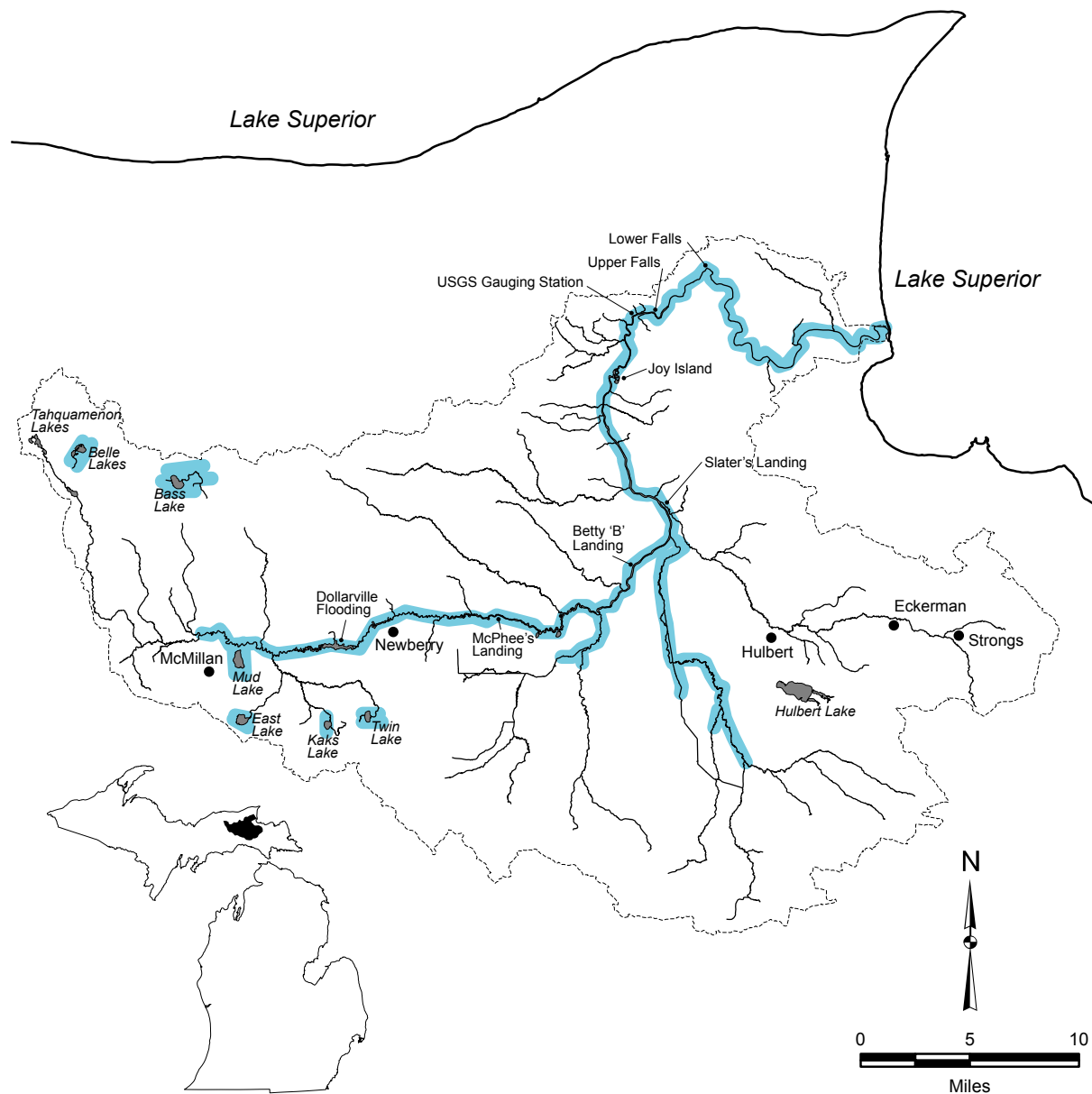
- feeding - larger streams and rivers, lakes and impoundments
- clear cool water with little clayey silt
- moderate amounts of aquatic vegetation
- sand, gravel, or muck substrate
- not tolerant of turbid water
- tolerant of warm water and low oxygen
- spawning - nest in mud or sand substrate among rooted aquatic vegetation
usually near a stump, tree, or rock
- winter refuge - in muddy bottoms



Northern pike *Esox lucius*

Habitat:

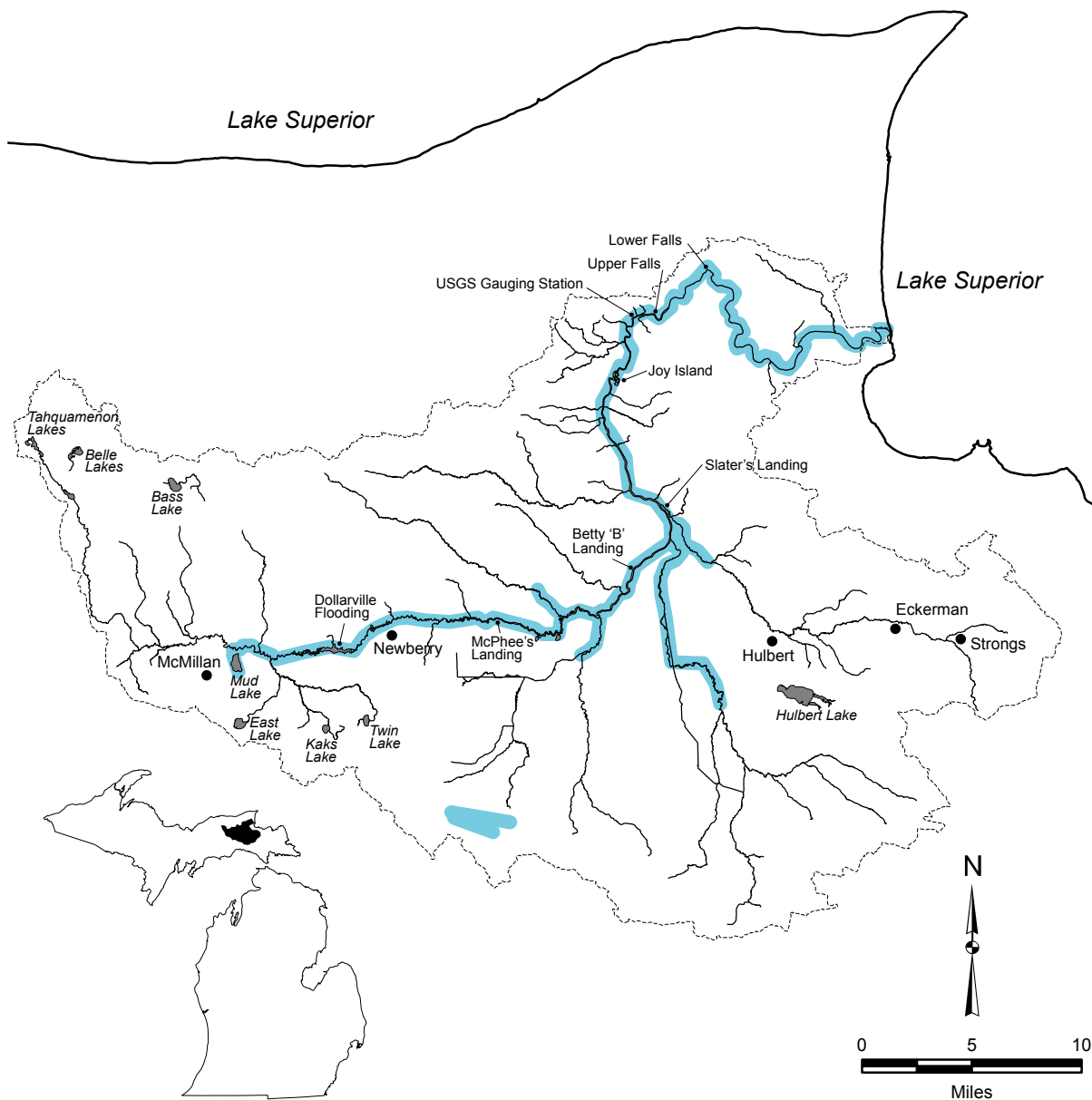
- feeding - cool to moderately warm streams, rivers, lakes, and impoundments
 - vegetation in slow to moderate current
- spawning - submerged vegetation with slow current in shallow water



Muskellunge *Esox masquinongy*

Habitat:

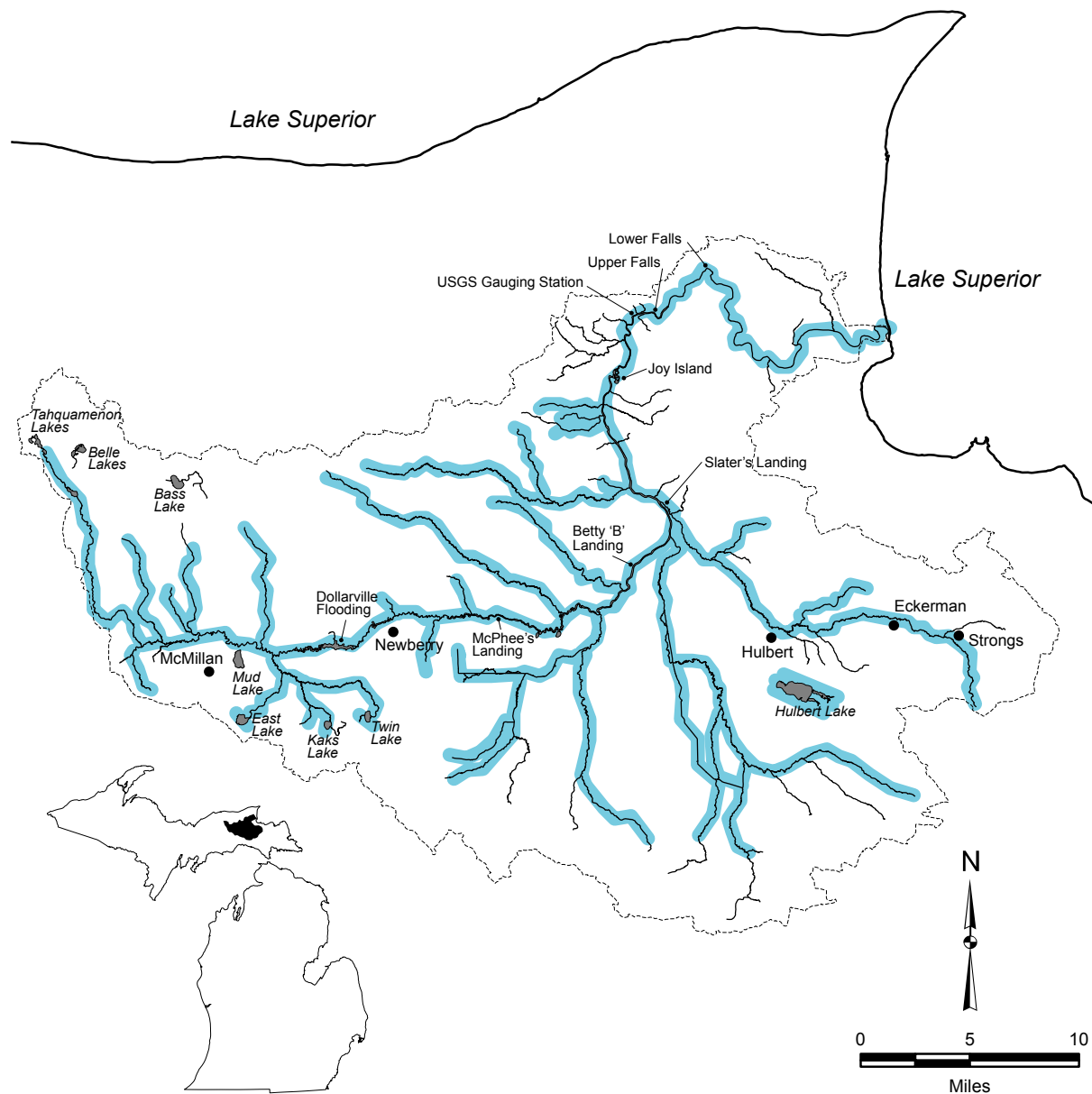
- feeding - warm, heavily vegetated lakes, stumpy weedy bays, and slow heavily vegetated medium to large rivers
- shallow cool water
- tolerant of low oxygen
- spawning - clear shallow waters (15-20") in heavily vegetated areas



Central mudminnow *Umbra limi*

Habitat:

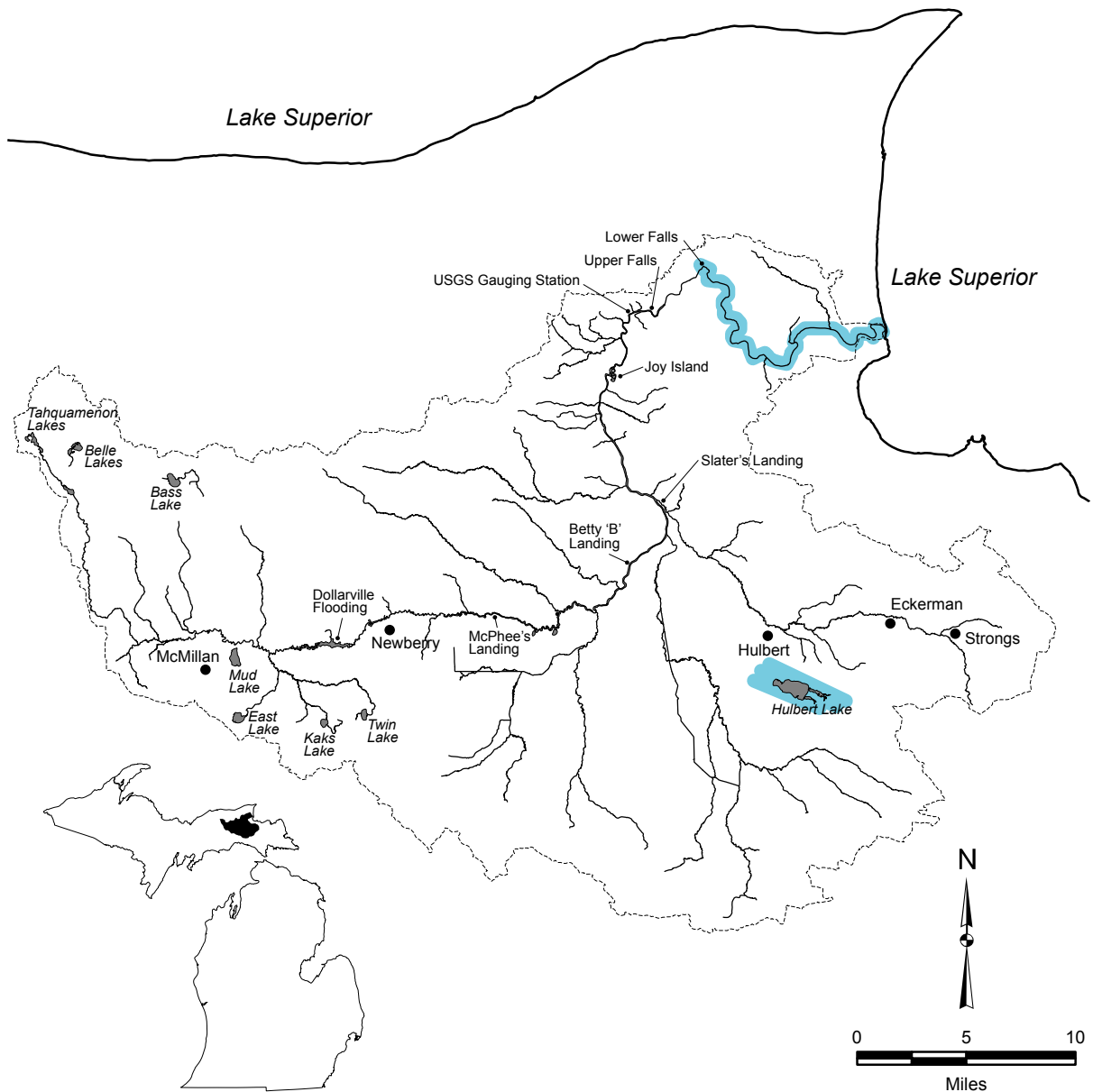
- feeding - undisturbed clear, low-gradient streams or rivers and lakes and impoundments
 - organic debris, muck, or peat substrates
 - aquatic vegetation
- spawning - floodplain areas, on vegetation



Rainbow smelt *Osmerus mordax*

Habitat:

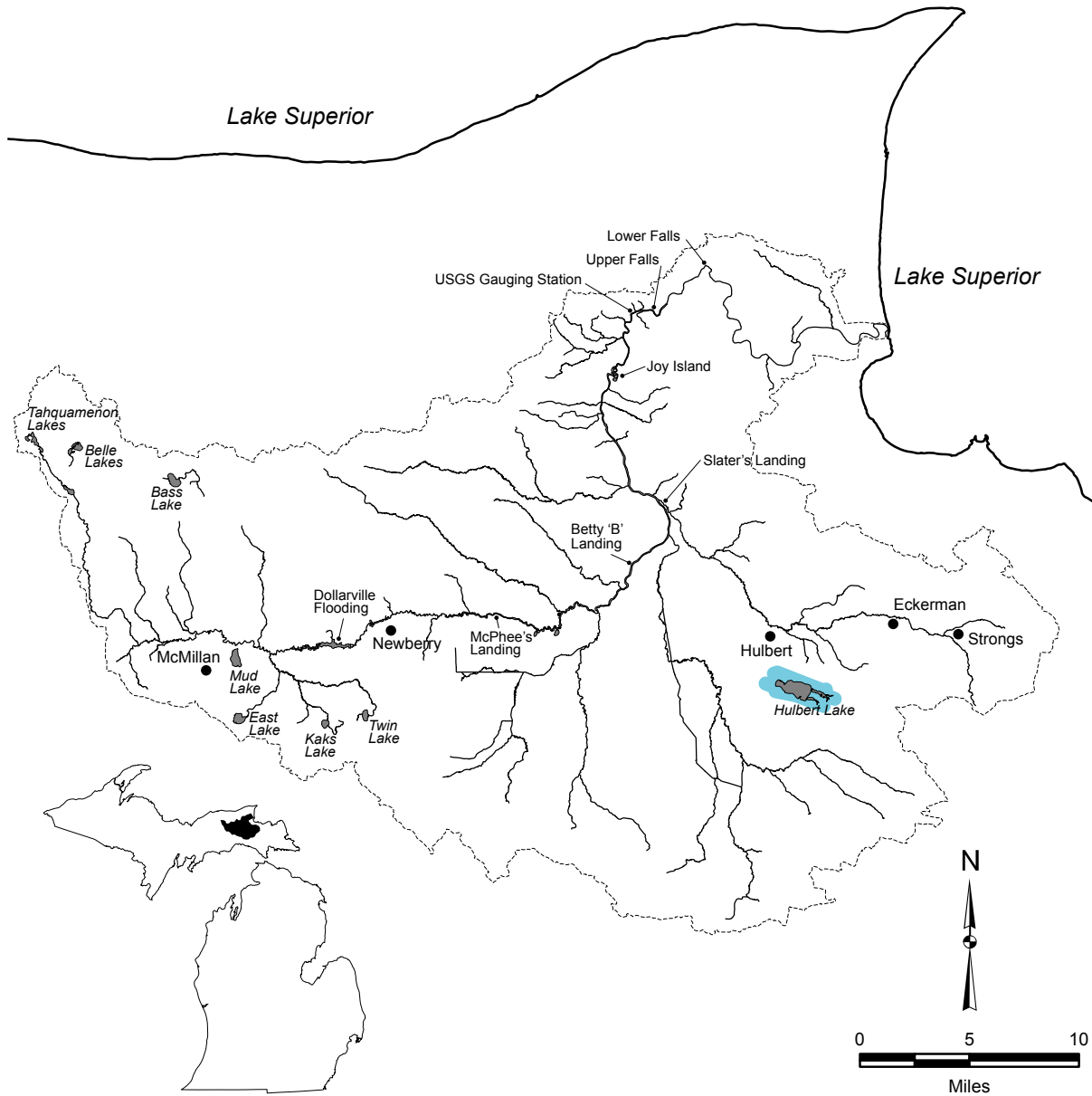
- feeding - young: close inshore lake habitat along sand and gravel beaches\
- cold water
- spawning - clear high-gradient streams or wave swept shoreline
- riffles with coarse sand or gravel substrate
- winter refuge - midwaters of lakes or inshore coastal waters



Cisco {Lake herring} *Coregonus artedii* – threatened

Habitat:

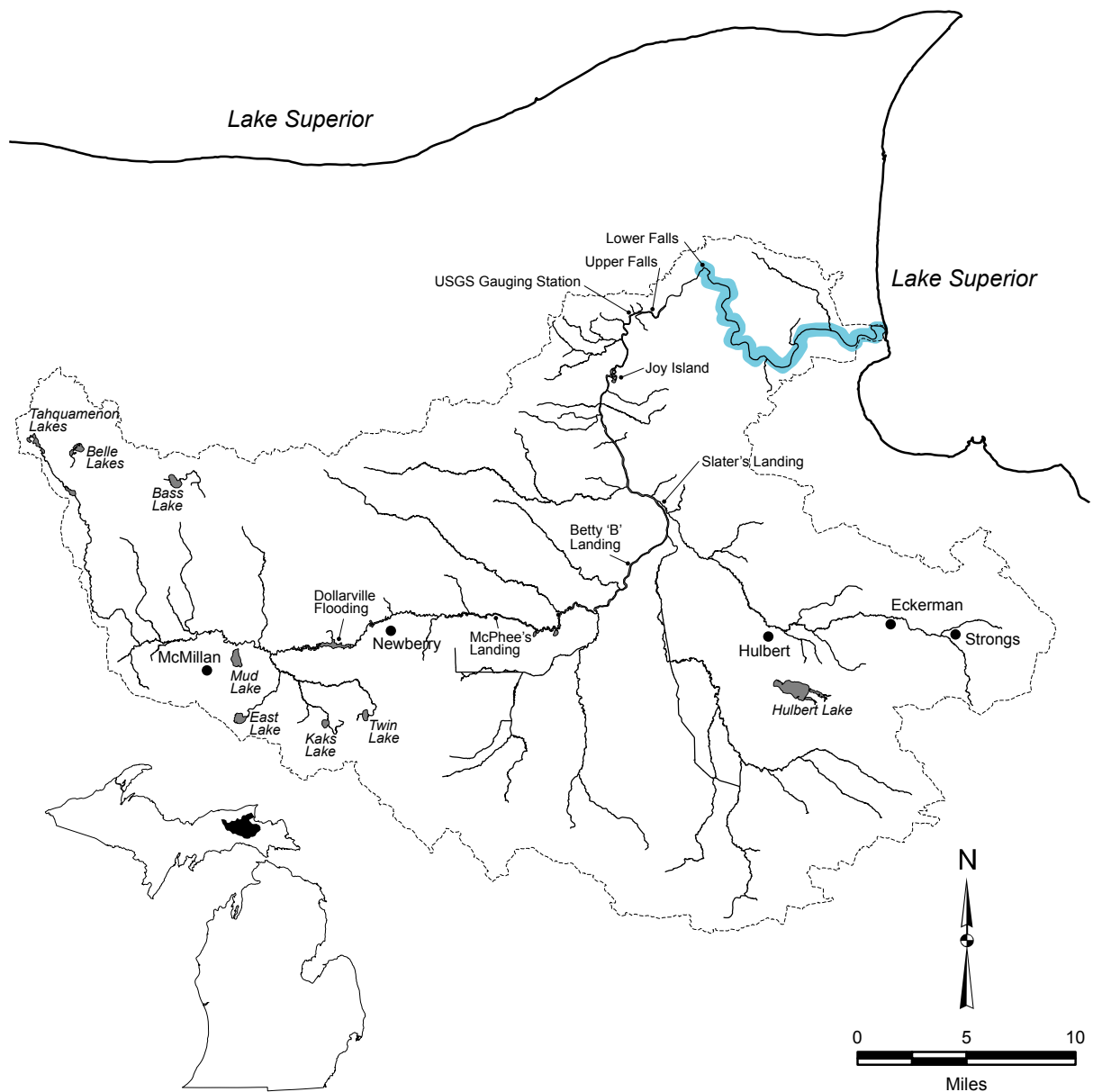
- feeding - deep cool lakes, preferably oligotrophic
- spawning - usually in lakes
 - 3 to 6 feet of water with no vegetation
 - often over gravel or stony substrate



Rainbow trout *Oncorhynchus mykiss*

Habitat:

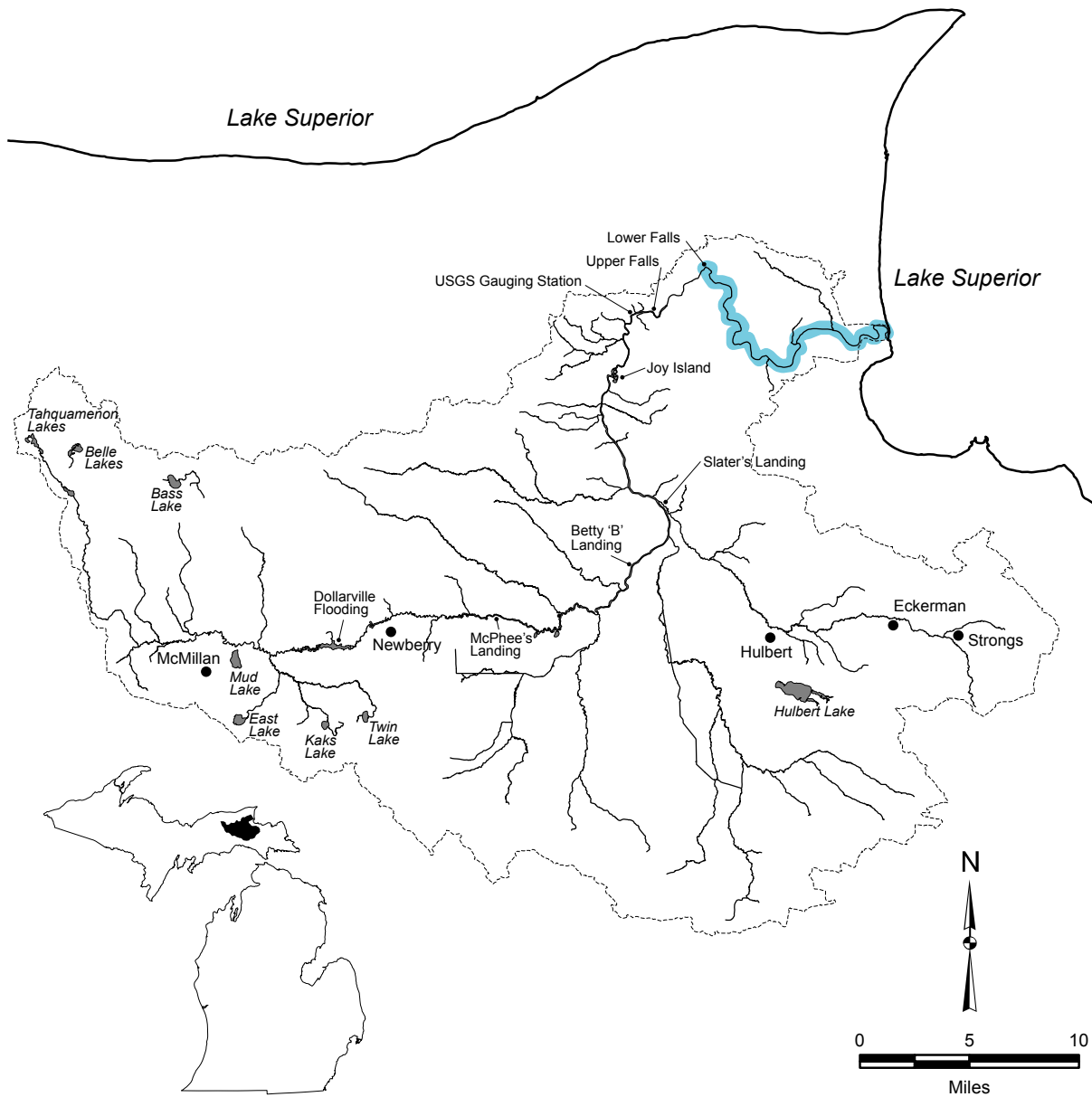
- feeding - cold clear water of rivers and Lake Superior
- moderate current
- spawning - gravelly riffles above a pool
- smaller tributaries



Chinook salmon *Oncorhynchus tshawytscha*

Habitat:

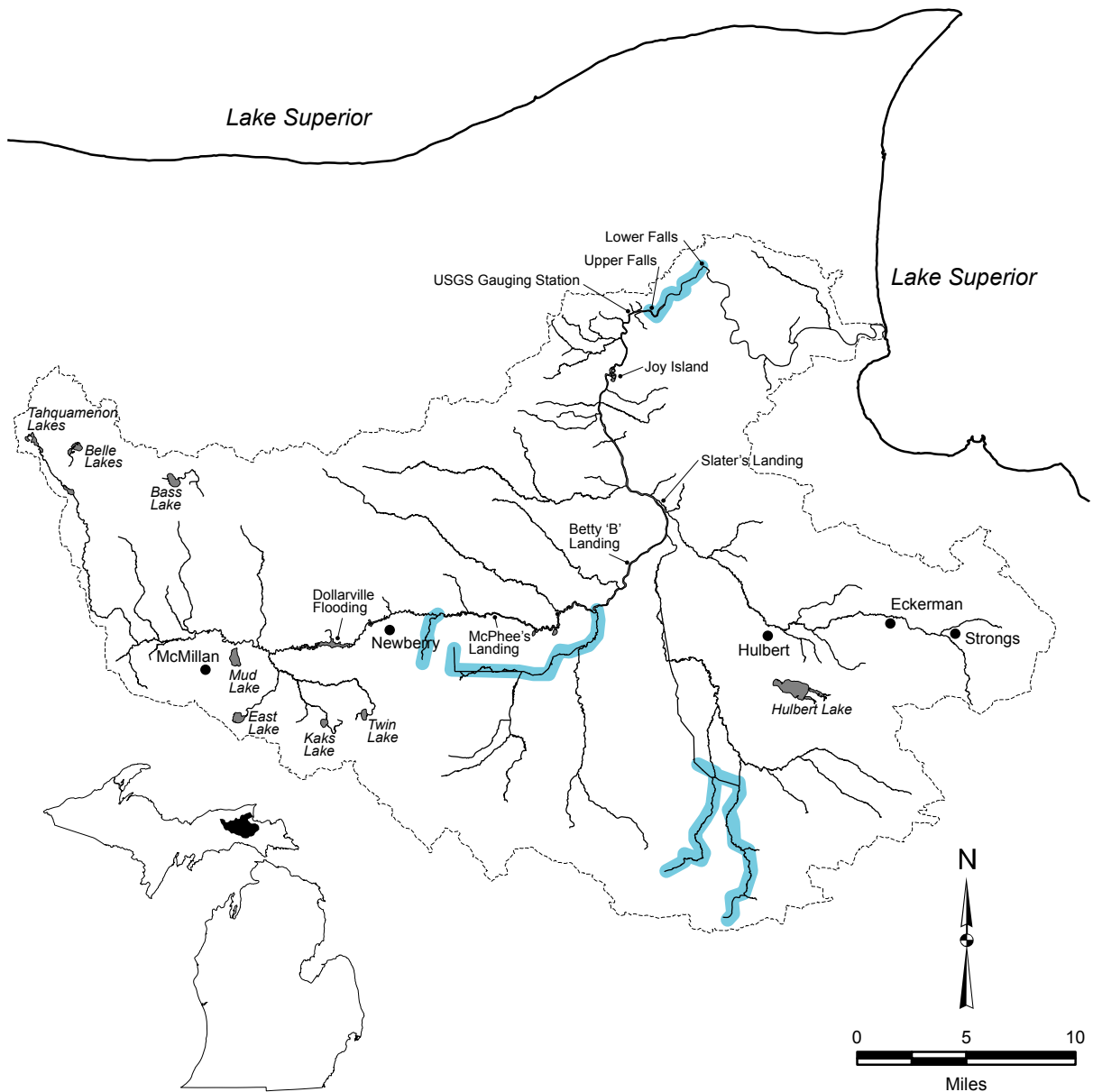
- feeding - adults: Lake Superior
- young: shallow gravel substrate in cool streams, later into pools
- spawning - gravelly substrate in cool streams



Brown trout *Salmo trutta*

Habitat:

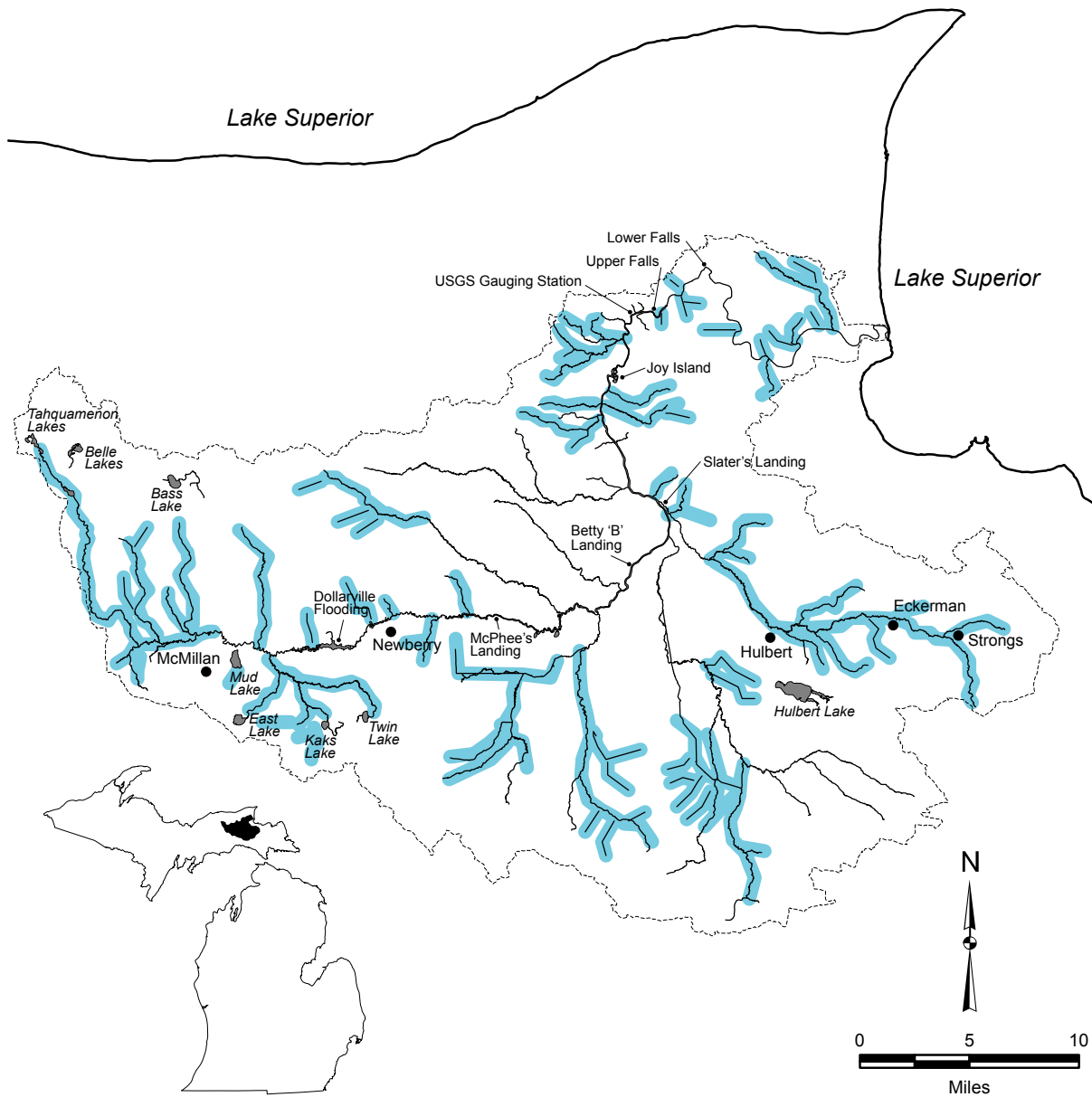
- feeding - cold, clear streams, rivers, and lakes (not >70°F)
- medium to swift current in streams
- does not tolerate silt well
- prefers few individuals and species around
- abundance of aquatic and land insects
- spawning - gravelly riffles; shallow headwater areas



Brook trout *Salvelinus fontinalis*

Habitat:

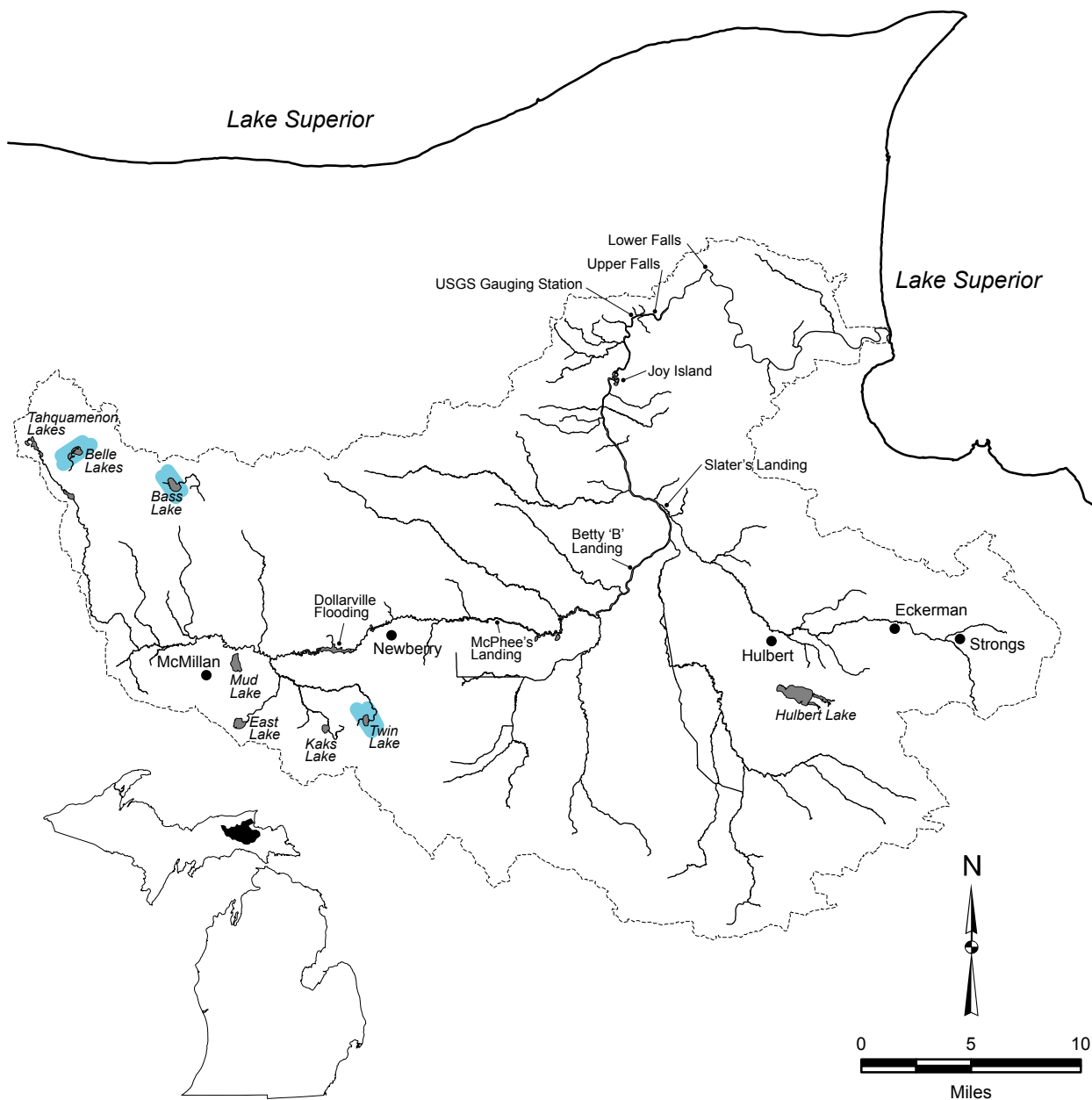
- feeding - cold, clear streams, rivers, and lakes (not >65°F)
- low current
- well oxygenated water
- spawning - gravelly riffles; shallow or headwater streams



Splake *Salvelinus fontinalis x Salvelinus namaycush*

Habitat:

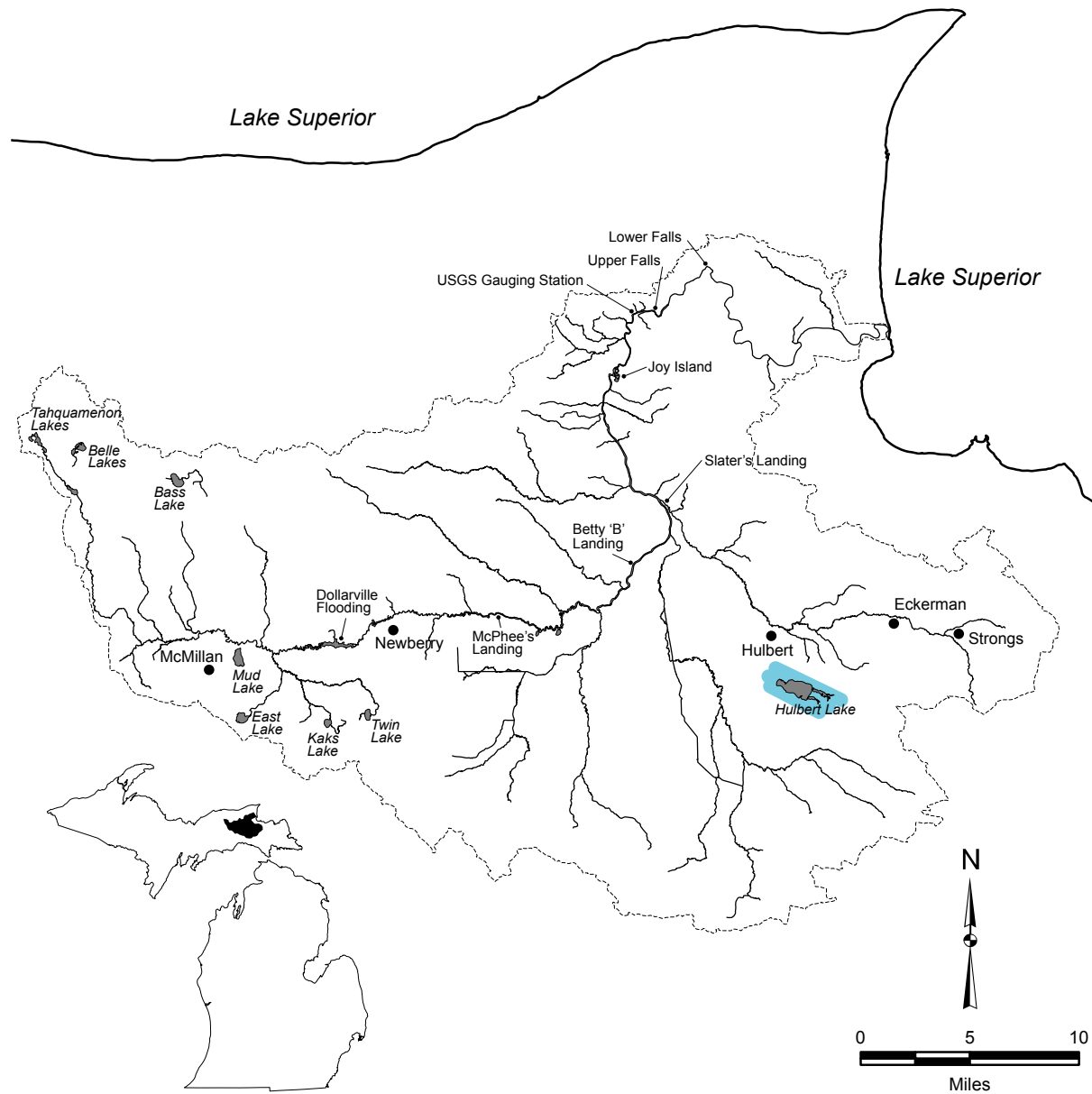
- feeding - littoral habitat
- cool water lakes; also Lake Superior
- spawning - hatchery produced cross of brook and lake trout
- offspring usually fertile, but with lower fecundity than either parent species



Lake trout *Salvelinus namaycush*

Habitat:

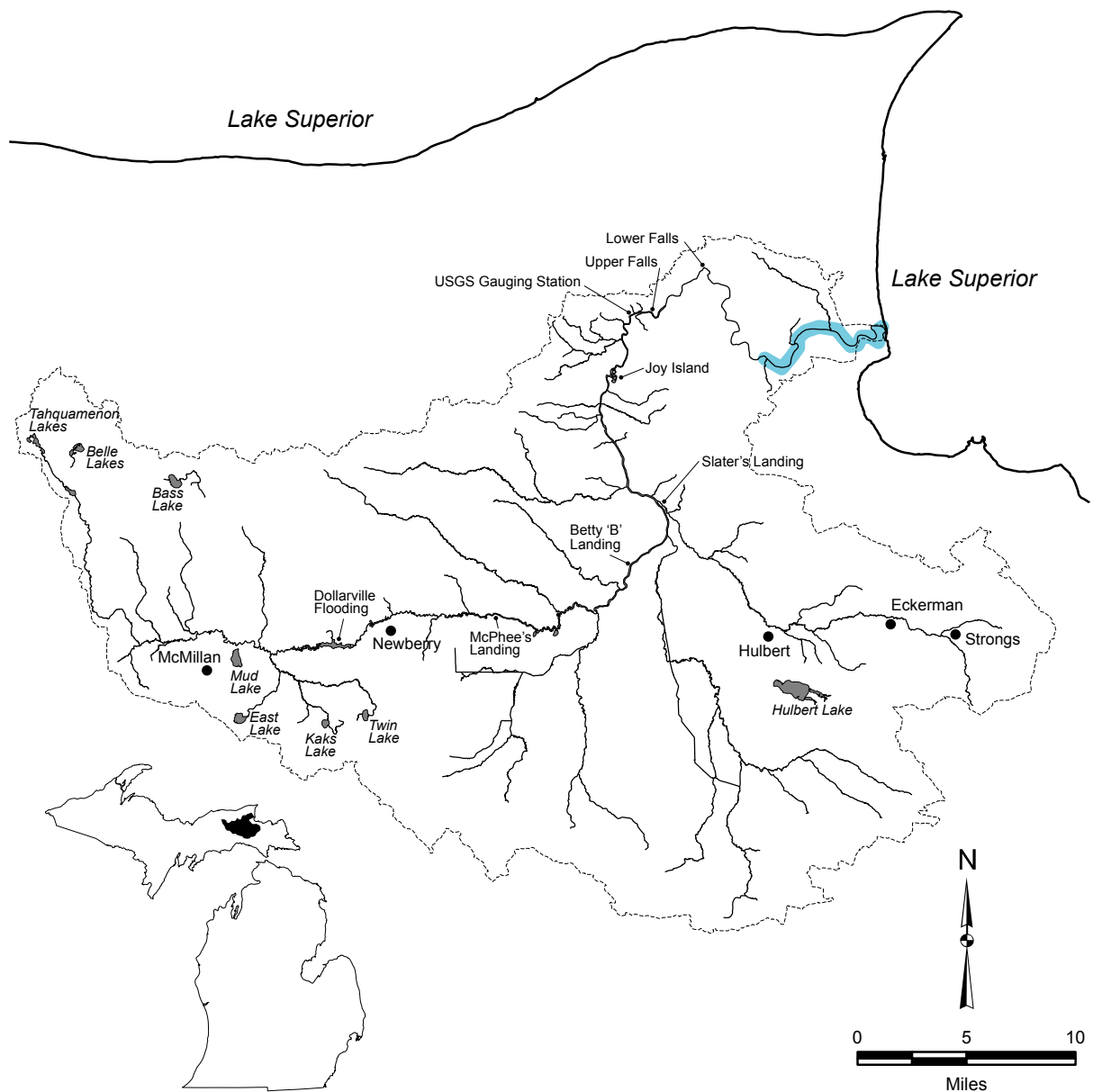
- feeding - cold lakes and rivers
- spawning - large boulder or rubble substrate
- shallow water of lakes and rivers



Trout-perch *Percopsis omiscomaycus*

Habitat:

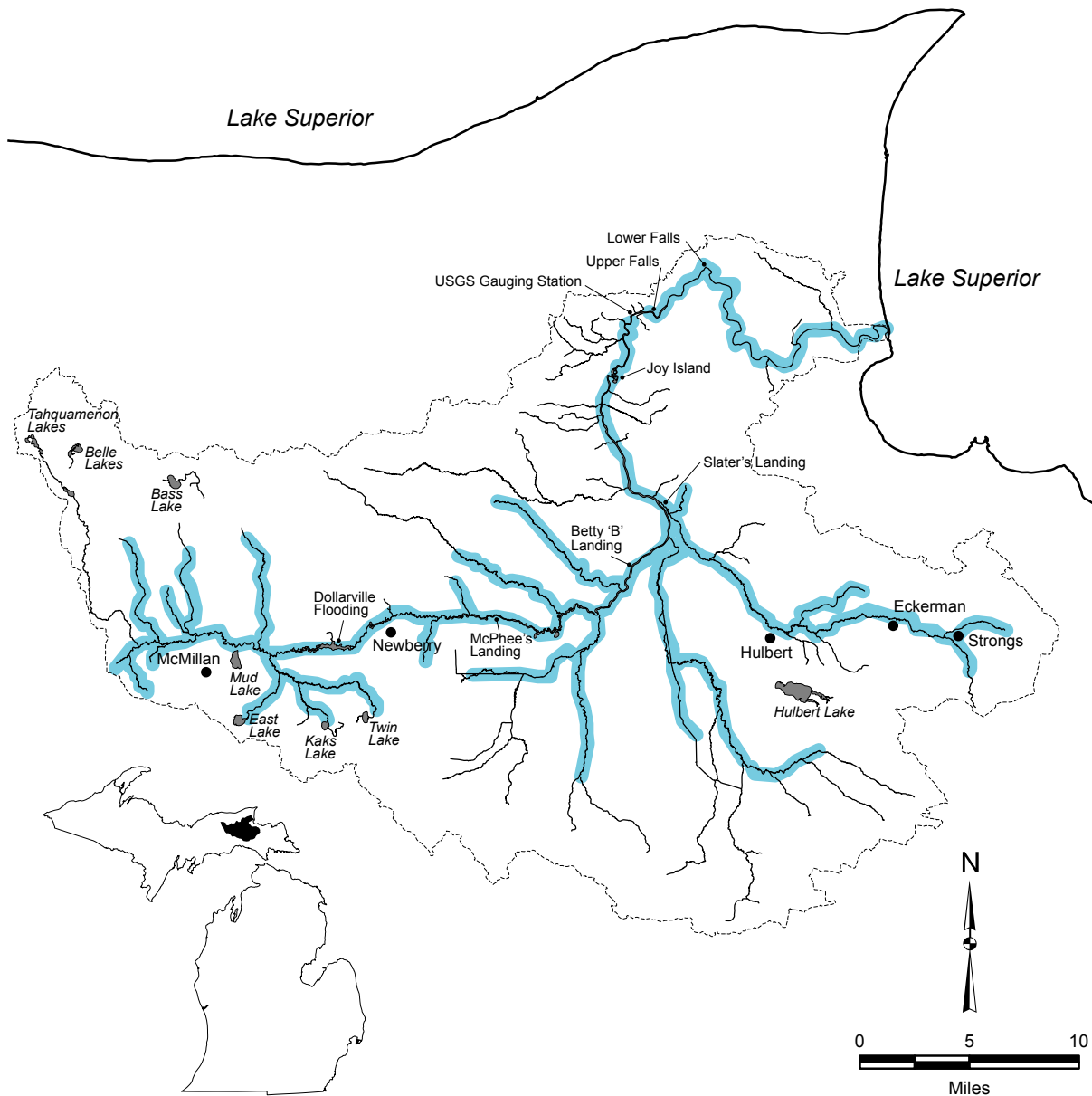
- feeding - clean sand or fine gravel substrate
- long deep pools in low gradient streams and Lake Superior
- highly intolerant of clayey silts
- avoids rooted aquatic vegetation
- spawning - over rocks in shallows
- over sand and gravel substrates in Lake Superior



Burbot *Lota lota*

Habitat:

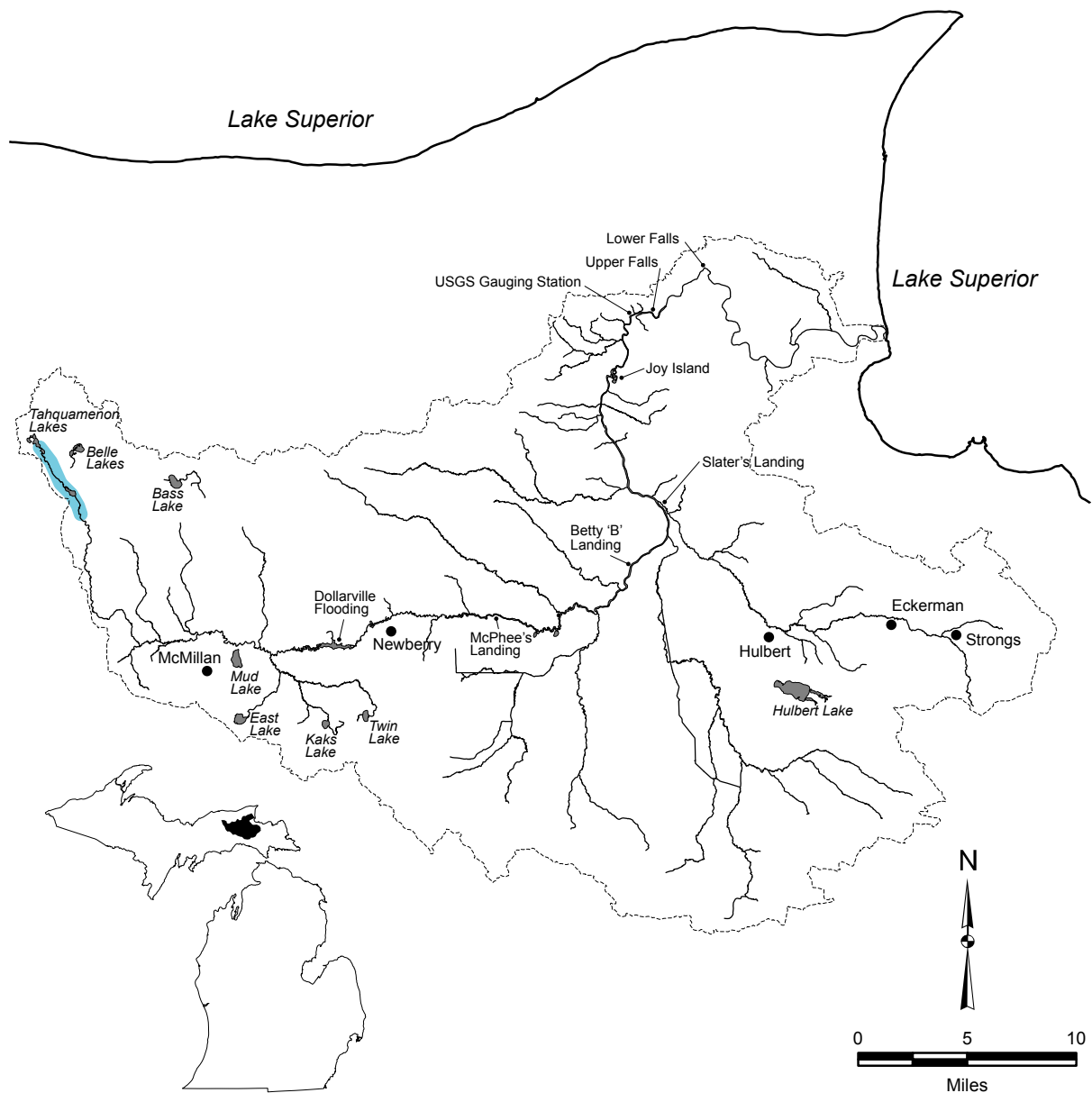
- feeding - deep cold lakes and large cool rivers
- mud, sand, rubble, boulder, silt, and gravel substrates
- spawning - in 1 to 4 feet of water in shallow bays or on shoals 5-10 feet deep usually in lakes, sometimes rivers
- over sand or gravel substrate
- under ice



Western banded killifish *Fundulus diaphanus menona*

Habitat:

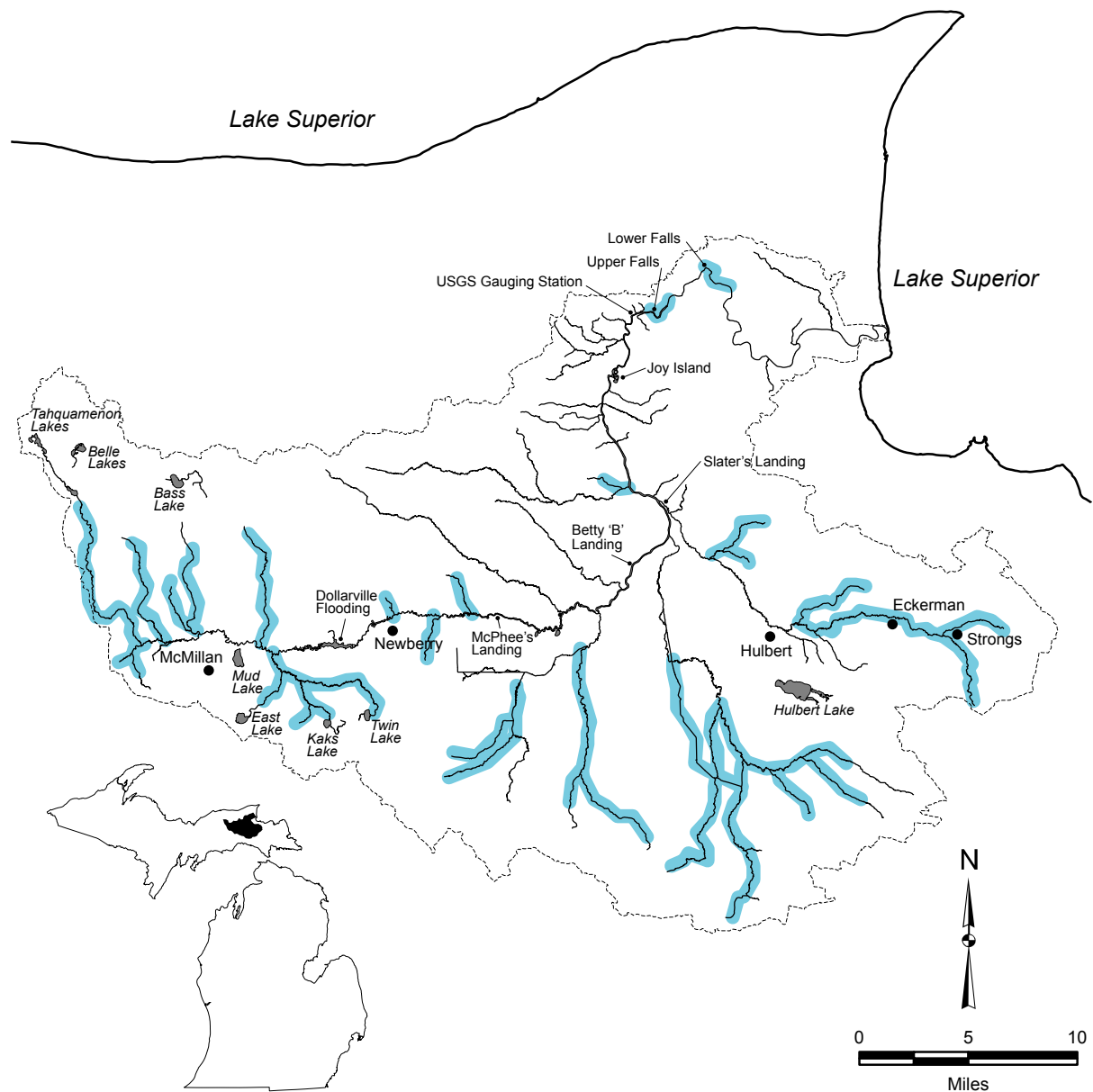
- feeding - quiet backwaters at the mouths of streams and lakes
- substrate of sand, gravel, and a few boulders
- also found over detritus substrate where patches of submerged aquatic vegetation are present
- spawning - quiet areas of weedy pools



Brook stickleback *Culaea inconstans*

Habitat:

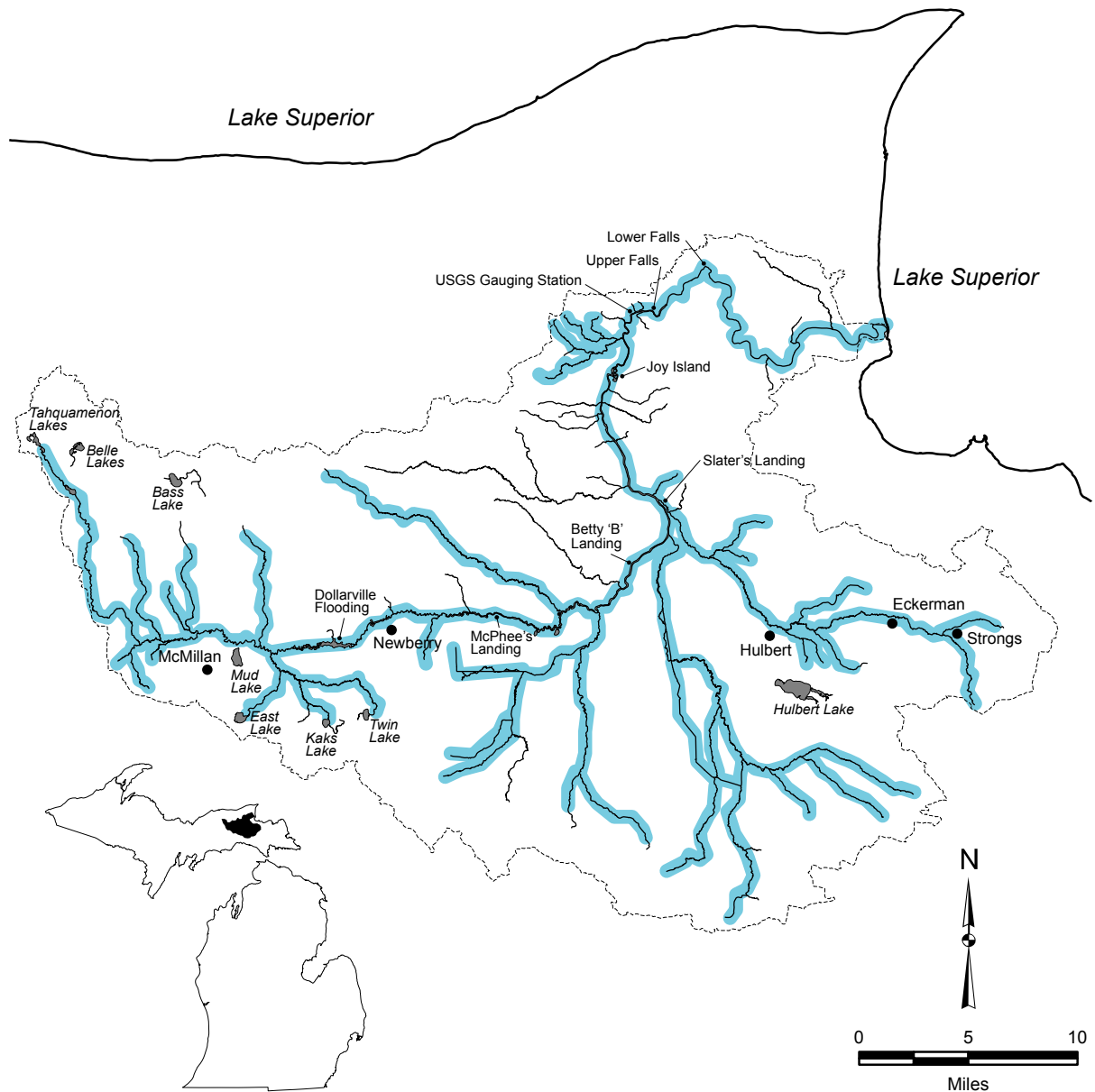
- feeding - clear, cold, densely vegetated streams, and swampy margins of lakes
- low gradient
- muck, peat, or marl substrate
- not tolerant of turbidity
- spawning - shallow cool (<66°F) water
- aquatic reeds or grasses necessary



Mottled sculpin *Cottus bairdii*

Habitat:

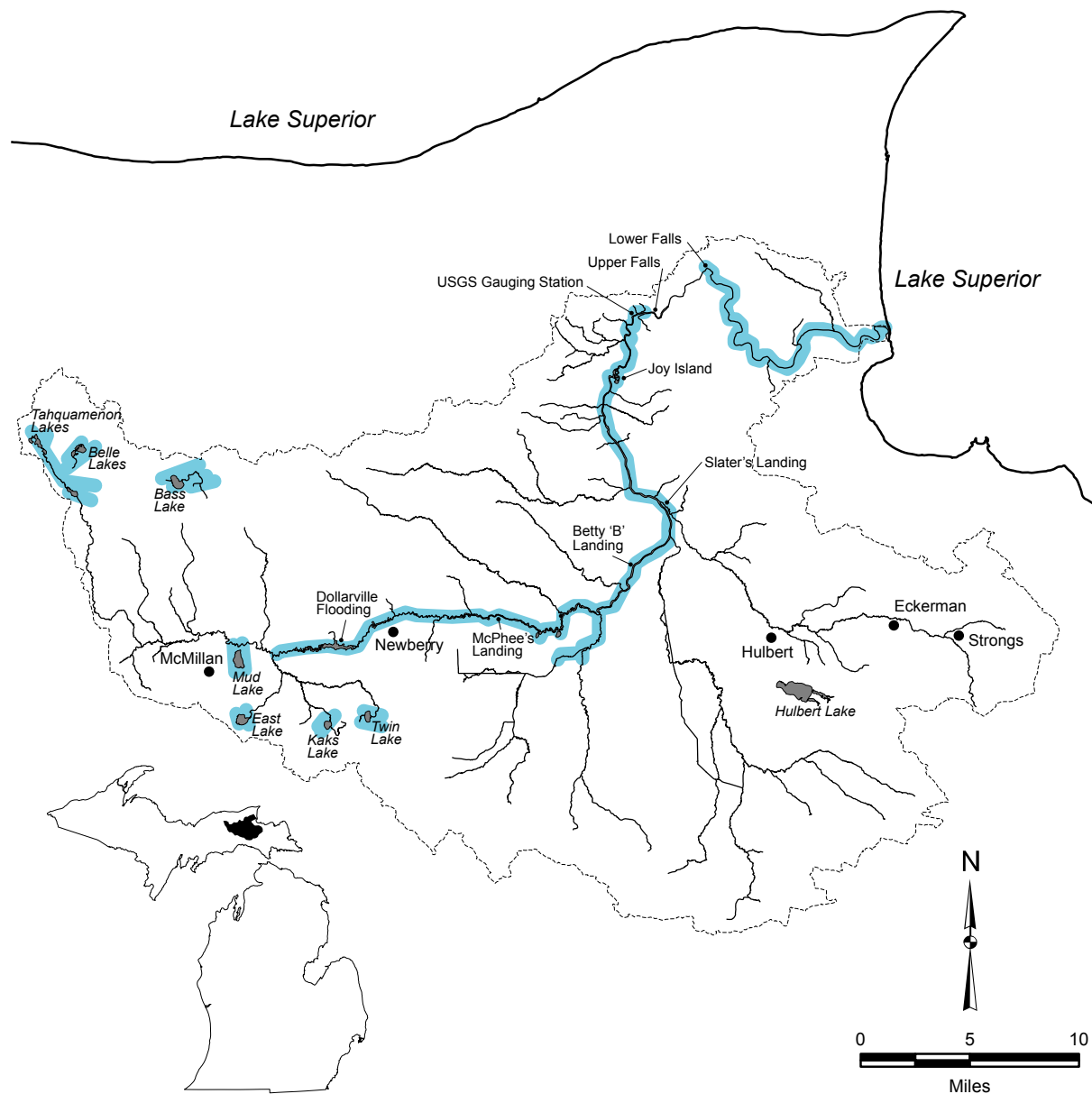
- feeding - cool to cold streams
- riffle and rock substrates preferred
- clear to slightly turbid shallow water
- spawning - nests under logs or rock



Rock bass *Ambloplites rupestris*

Habitat:

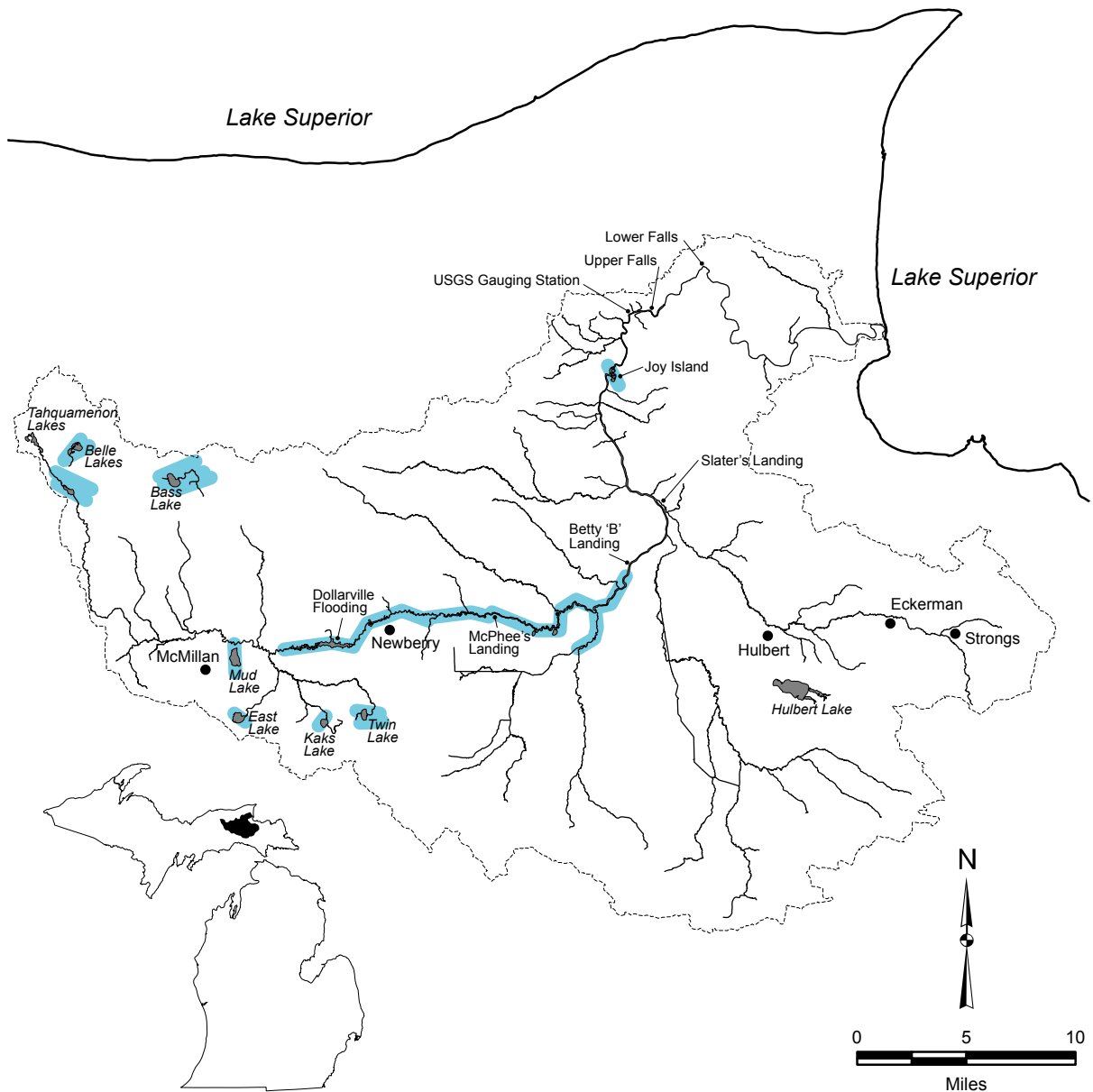
- feeding - clear, cool streams, rivers, and lakes
- rocky to sand substrate
- woody or vegetative cover
- spawning - sand or gravel nests
- shallow water
- winter refuge - deep water



Pumpkinseed *Lepomis gibbosus*

Habitat:

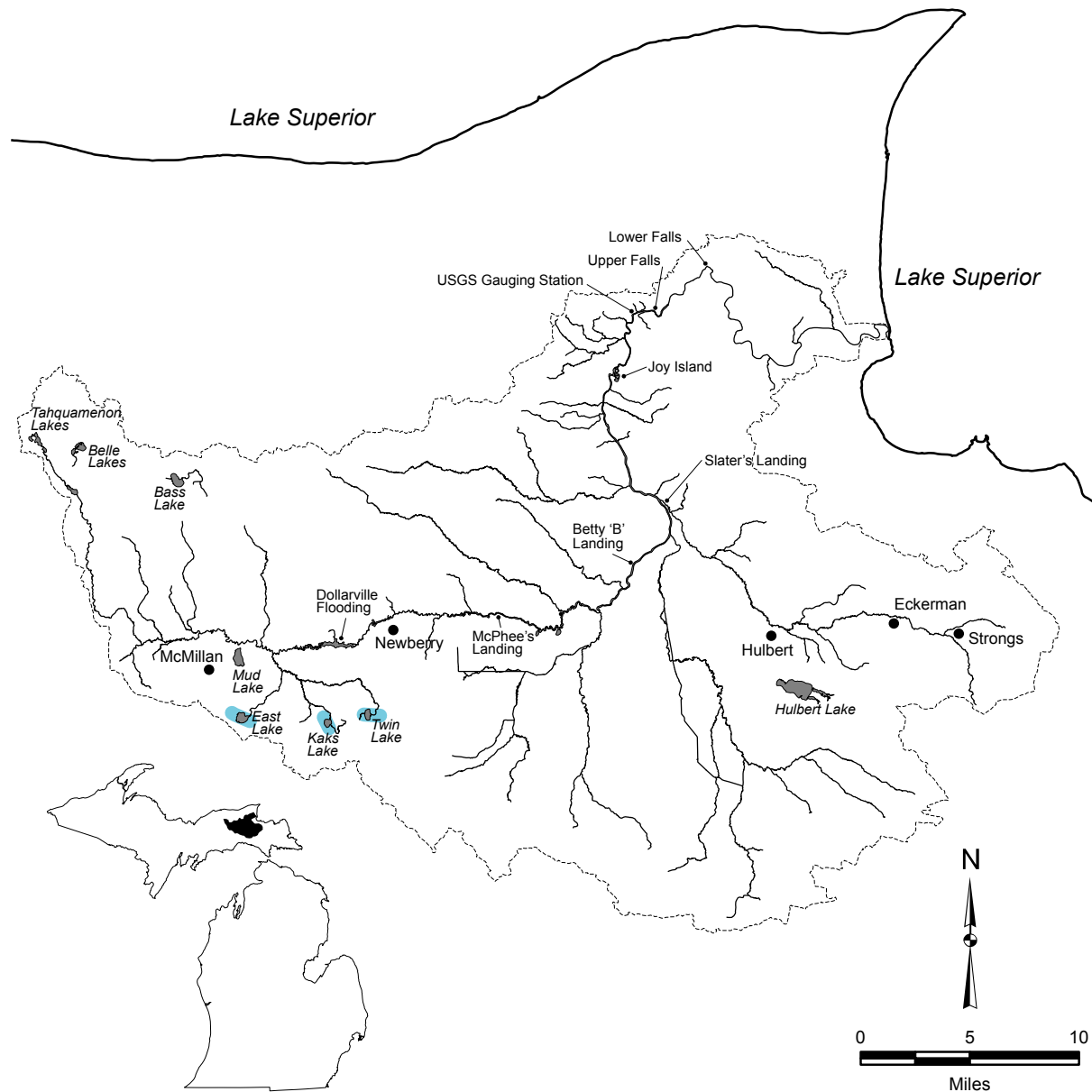
- feeding - non-flowing clear water in streams and rivers; also lakes and impoundments
- muck or sand partly covered with organic debris substrate
- dense beds of submerged aquatic vegetation
- spawning - nest in sand, gravel, or rock substrate
- in shallow water near submerged vegetation



Bluegill *Lepomis macrochirus*

Habitat:

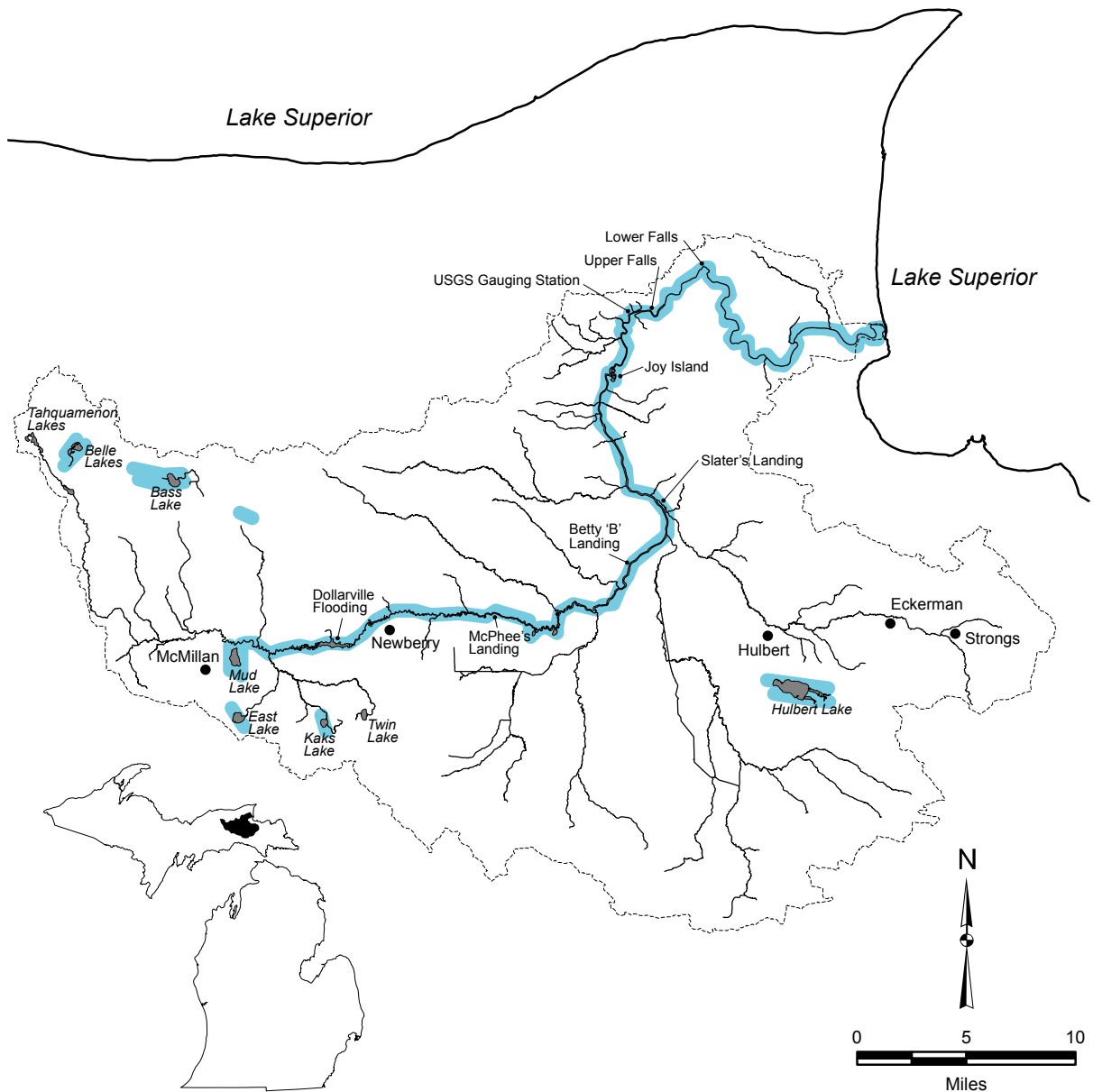
- feeding - non-flowing clear streams and rivers; also lakes and impoundments
 - sand, gravel, or muck containing organic debris substrate
 - scattered beds of aquatic vegetation
 - cannot tolerate low oxygen or continuous high turbidity and siltation
- spawning - nests in firm substrate of gravel, sand,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



Smallmouth bass *Micropterus dolomieu*

Habitat:

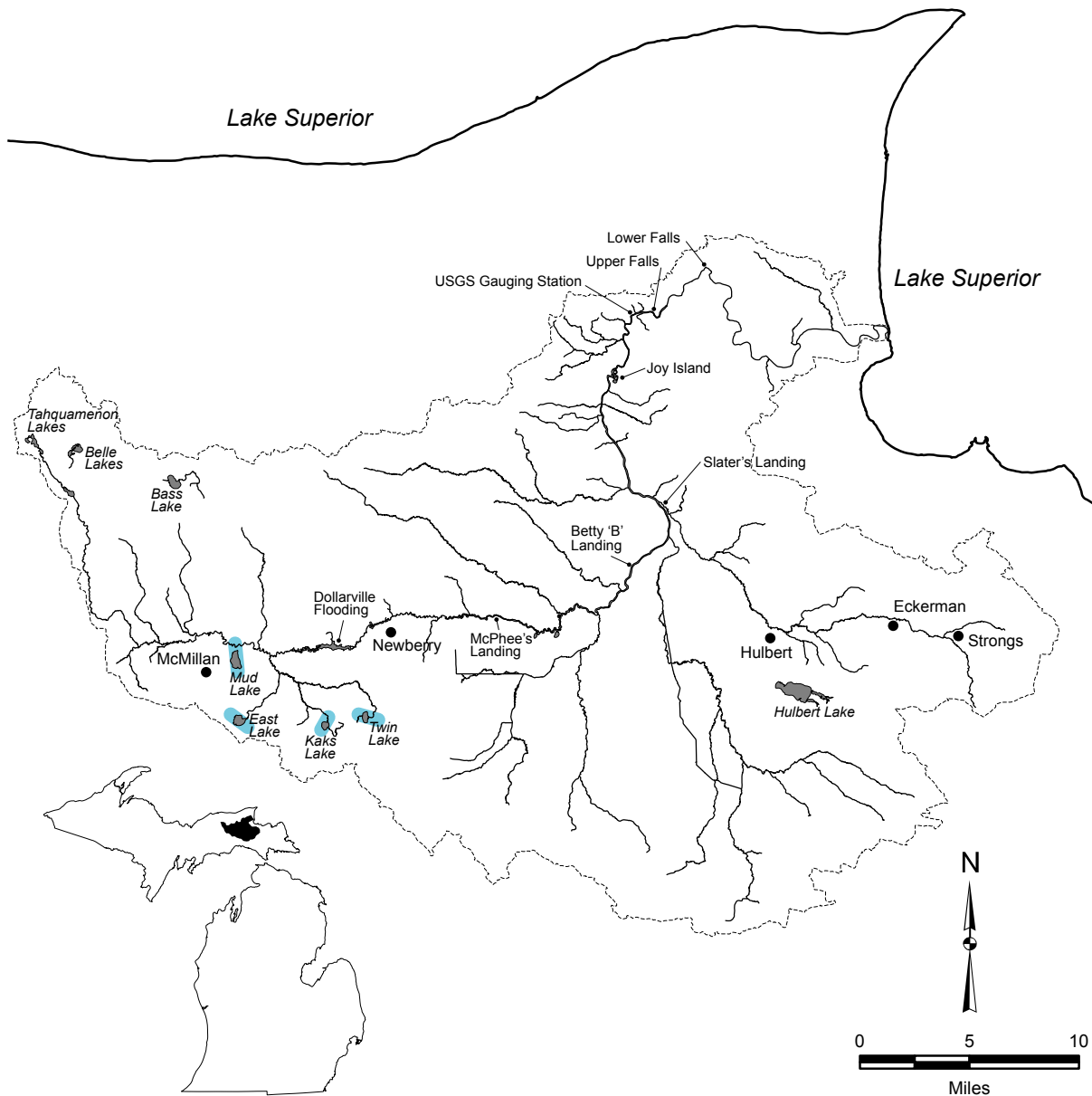
- feeding - clear, cool, deep lakes and rivers
- streams where 40% consists of riffles over clean gravel, boulder, or bedrock substrate
- in pools with a current and >4 feet of depth
- gradients between 4 and 25 feet per mile
- spawning - nest in sandy, gravel, or rocky substrate
- gradients 7 to 25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

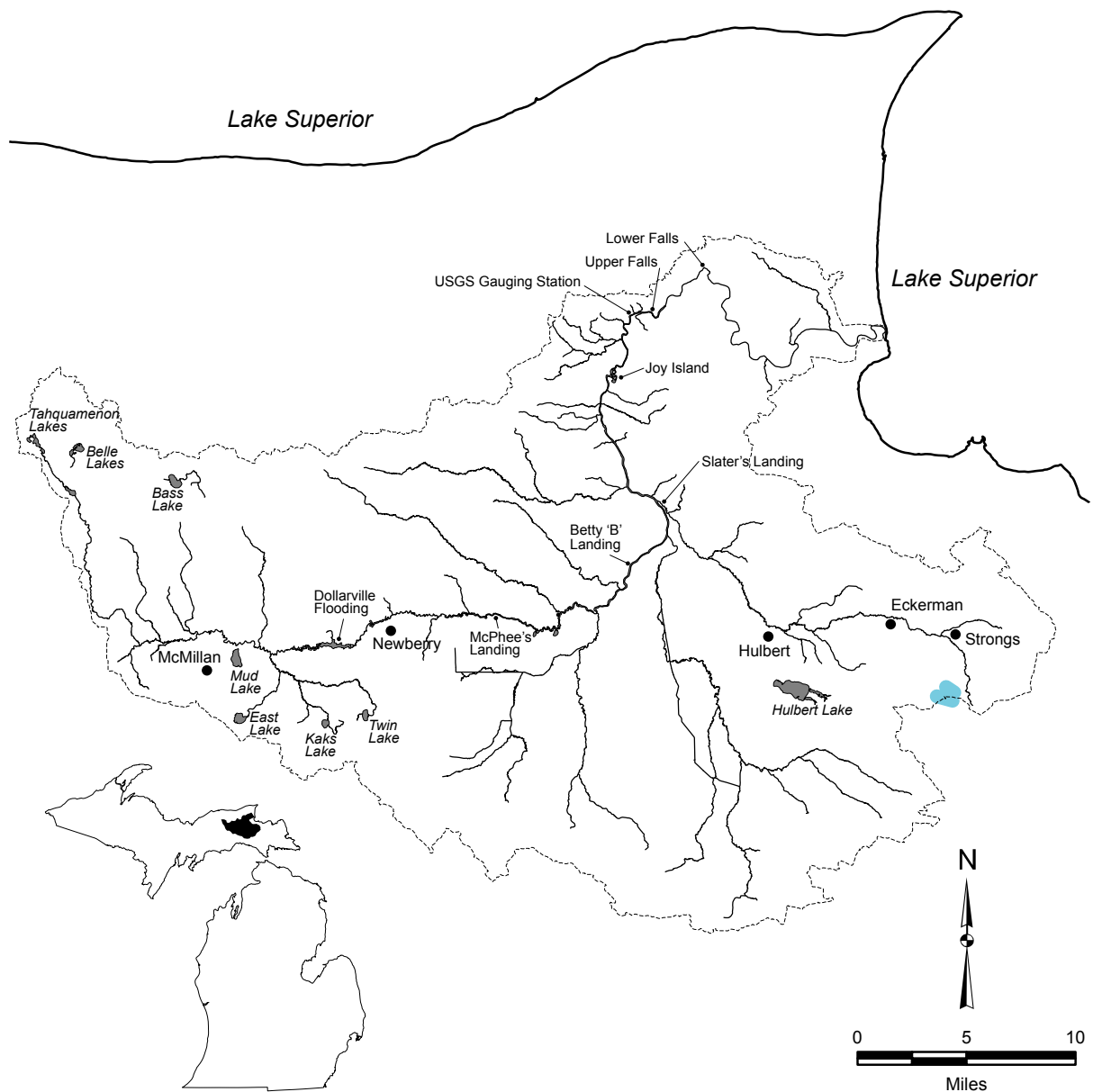
- feeding - non-flowing clear waters - lakes, impoundments, and pools of streams
- abundant aquatic vegetation
- soft muck, organic debris, gravel, sand, and hard non-flocculent clay substrates
- spawning - nest in gravelly sand to marl and soft mud substrates
- emergent vegetation
- quiet shallow bays; no current



Black crappie *Pomoxis nigromaculatus*

Habitat:

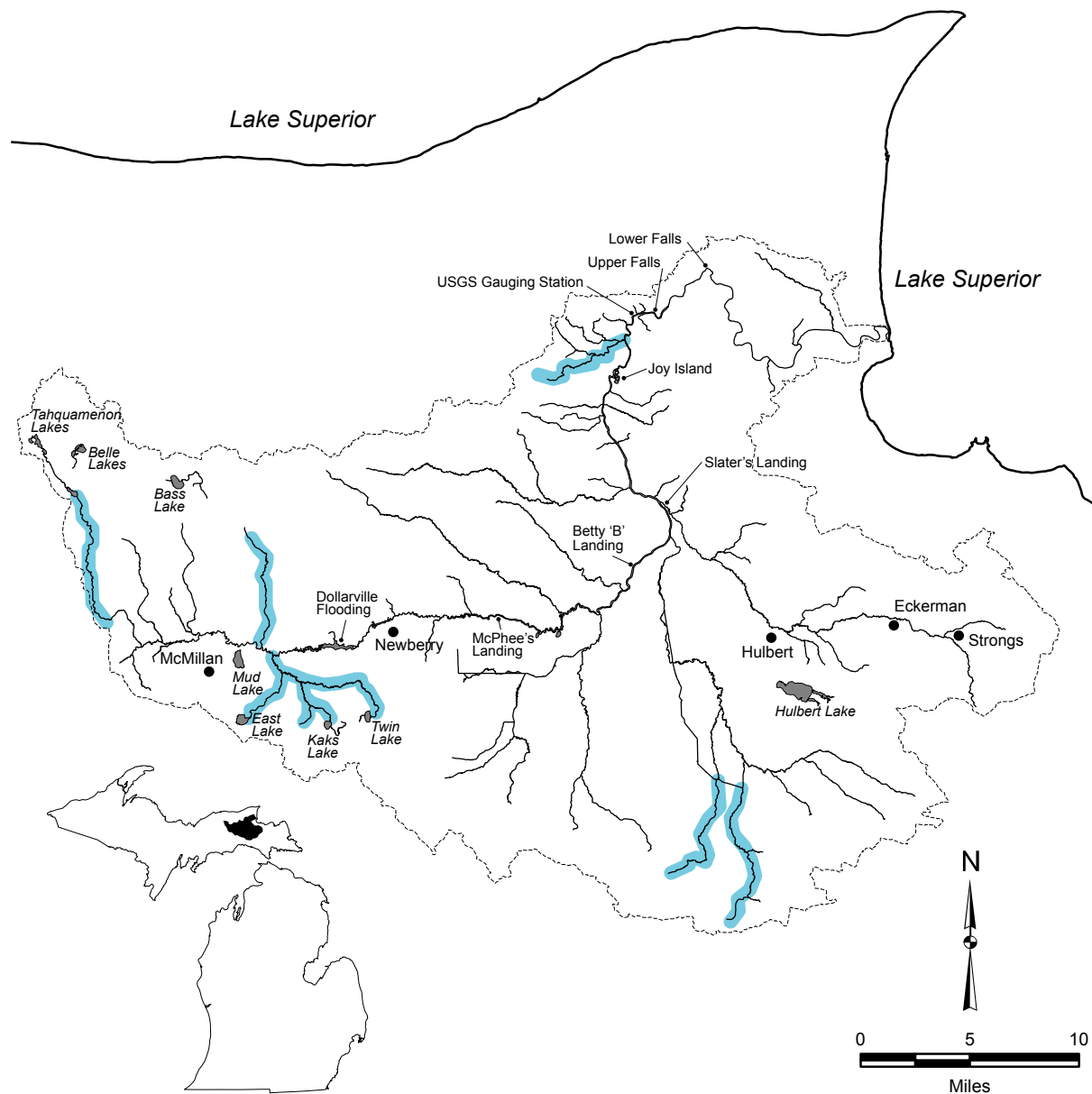
- feeding - larger clear non-silty low-gradient rivers; also in lakes and impoundments
 - clean hard sand or muck substrate
 - associated with submerged aquatic vegetation
 - does not tolerate silt or turbidity well
- spawning - nests in gravel, sand, or mud substrate
 - some vegetation must be present
 - sometimes nests under banks



Iowa darter *Etheostoma exile*

Habitat:

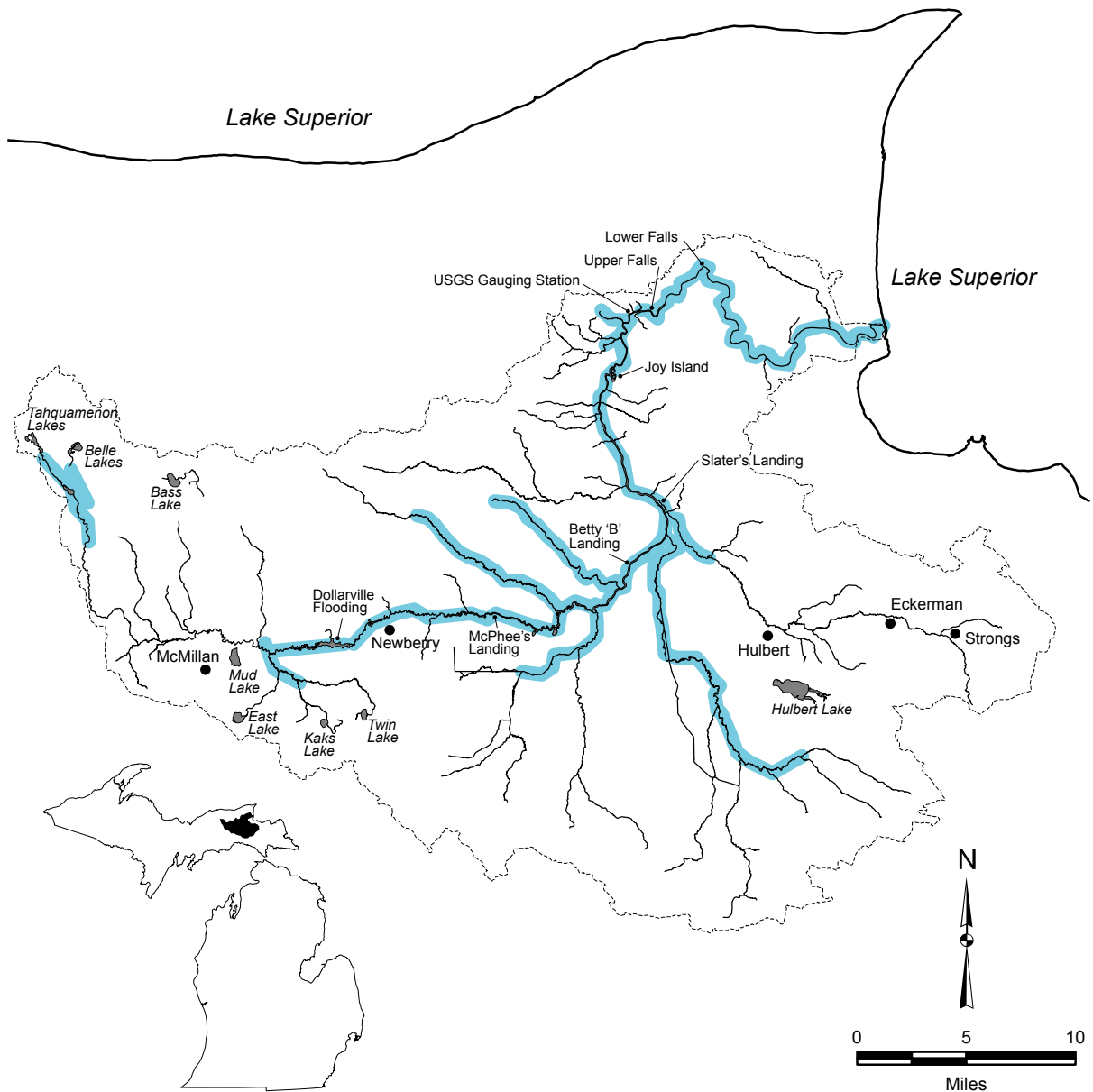
- feeding - clear, slow moving streams and lakes
 - sandy to muddy substrates
 - intolerant of turbid water
 - lives in rooted aquatic vegetation
- spawning - in pond-like extensions of streams on organic matter or roots
 - in shallows



Johnny darter *Etheostoma nigrum*

Habitat:

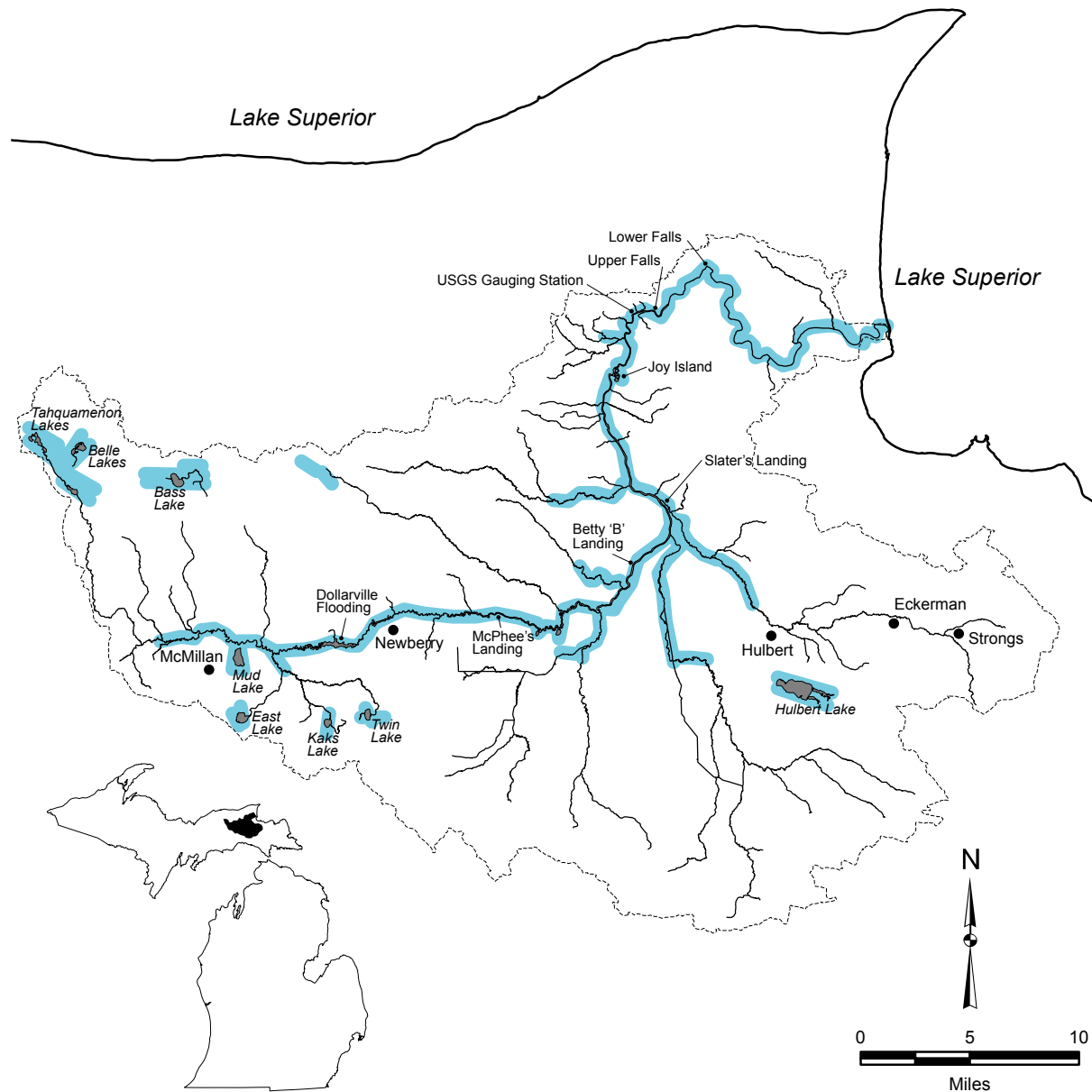
- feeding - sand and silt substrate
- little to moderate current
- shallow areas of streams, rivers, lakes, and impoundments
- tolerant of many organic and inorganic pollutants and turbidity
- spawning - underneath rocks
- in stream pools or protected shallows of lakes



Yellow perch *Perca flavescens*

Habitat:

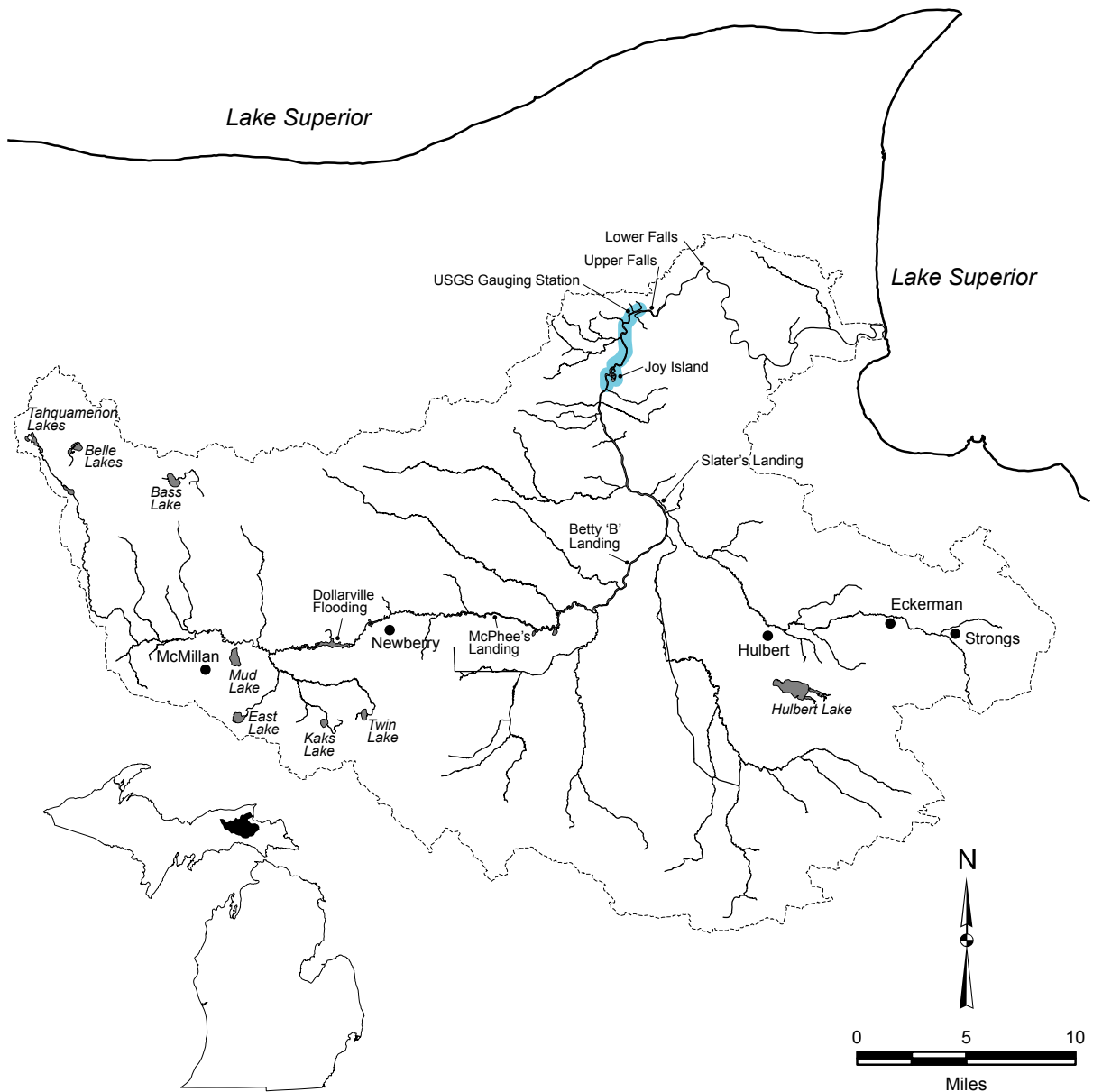
- feeding - clear lakes and impoundments; also Lake Superior
- low gradient rivers
- abundance of rooted aquatics
- muck, organic debris, sand, or gravel substrate
- does not tolerate turbidity and siltation
- spawning - shallows of lakes, tributaries of streams
- occurs over rooted vegetation, submerged brush, fallen trees
- may occur over sand or gravel



Northern logperch *Percina caprodes semifasciata*

Habitat:

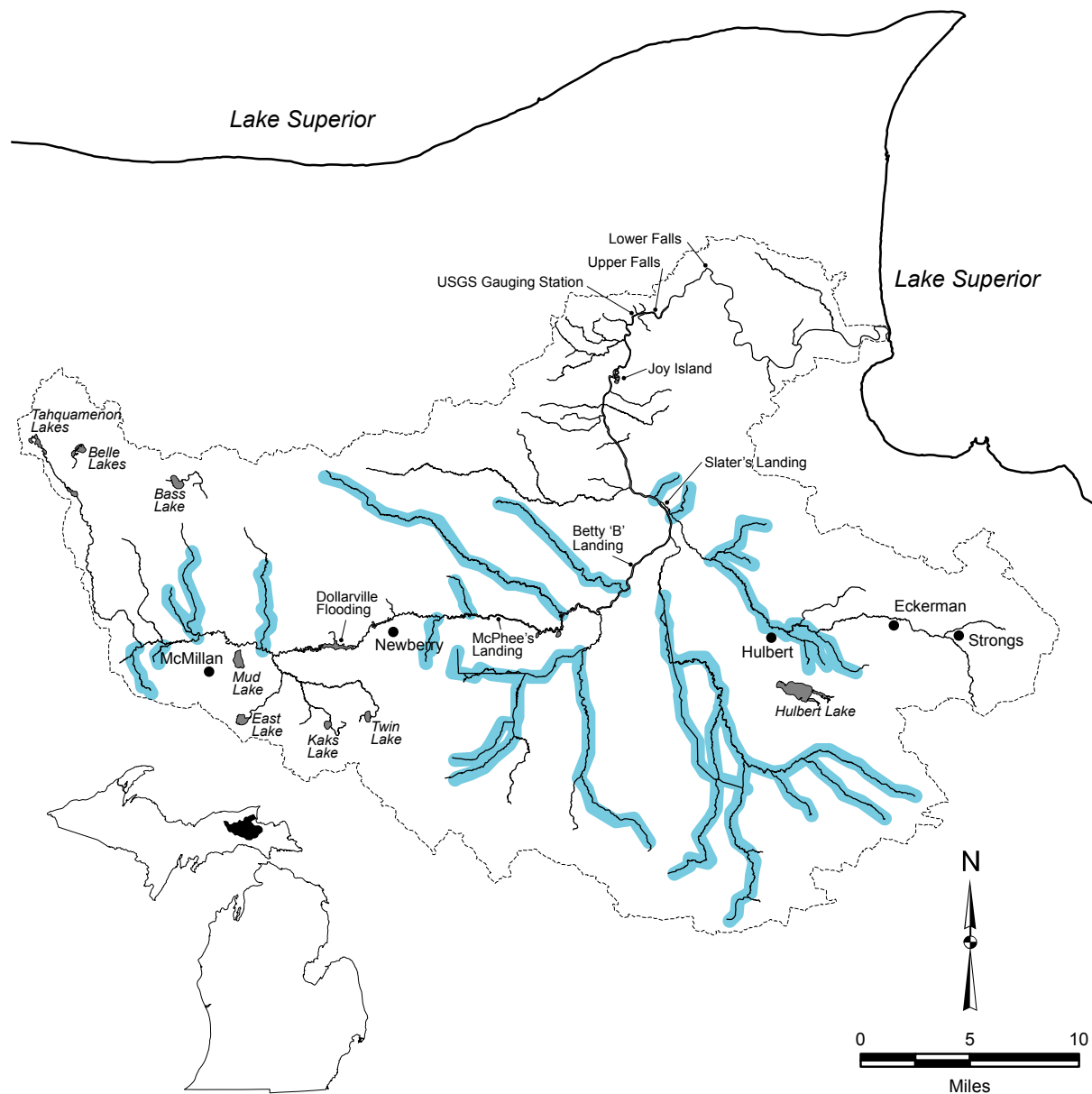
- feeding - gravel riffles, deeper slower sections of rivers
- medium size streams; also lakes, impoundments, and Lake Superior
- sand, gravel, or rock substrate
- avoids turbidity and silt
- spawning - riffles or sandy in-shore shallows



Blackside darter *Percina maculata*

Habitat:

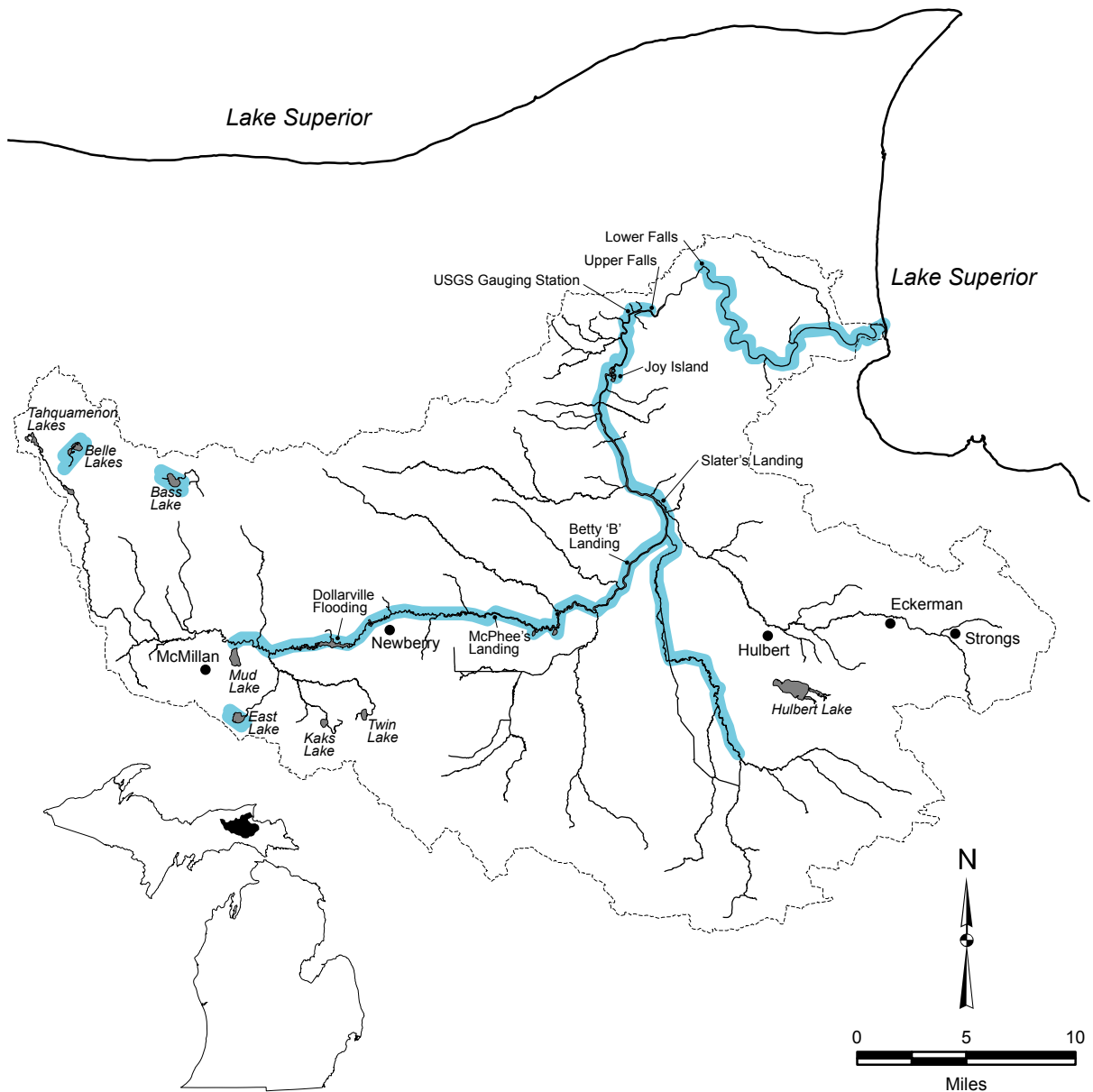
- feeding - small to medium streams
- low to medium gradient
- gravel and sand substrate
- tolerate some turbidity
- spawning - gravel and sand substrate



Walleye *Sander vitreus*

Habitat:

- feeding - larger, deeper streams and in large, shallow, turbid lakes and impoundments; also Lake Superior
- 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



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Appendix B

Historical Creel Census Records

Total fishing effort and harvest observed by conservation officers during 1929 to 1964 in the Tahquamenon River watershed.

B.1. – Tahquamenon River mainstem and the East Branch Tahquamenon River

B.2. – Select streams within the Tahquamenon River watershed.

B.3. – Select lakes within the Tahquamenon River watershed.

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B.1.–Historic Creel data for the Tahquamenon River mainstem and the East Branch Tahquamenon River.

County	Stream	Year	No. anglers (lines)	Total hours	Brook trout	Brown trout	Rainbow trout	Smallmouth Bass	Largemouth Bass	Bluegill	Pumpkinseed	Rock bass	Perch	Grass Pike	Walleye	Northern pike	Bullheads	Suckers
Luce	Tahquamenon River	1930		48	89													
		1931	16	65	146													
		1932	38	38.5	11													
		1933	11	15	8													
		1934	4	17	17													
		1935	4	26	42													
		1936	5	49	48													
		1937	19	96	86													
		1938	11	45	52								10		2		9	
		1939	63	277	130						16	40	21		18	4		3
		1940	44	230	258							1	53		3	1		
		1941	73	384	387							68	64		1	12		67
		1942	69	405	246							209	80		1	18	18	35
		1943	20	74	38													
		1944	21	63.5	70													
		1945	41	221	151							3	26			9		
		1946	19	87.5	70										9	7		
		1948	18	71	80							2	7		2	6		
		1949	33	155	142							11	26			4		38
		1950	27	74	37							3	65		9	5	2	5
		1951	3	4									1					
		1952	279	1,188	621			4				387	498		4	24		5
		1953	23	101	91								35					5

B.1.–Continued.

County	Stream	Year	No. anglers (lines)	Total hours	Brook trout	Brown trout	Rainbow trout	Smallmouth Bass	Largemouth Bass	Bluegill	Pumpkinseed	Rock bass	Perch	Grass Pike	Walleye	Northern pike	Bullheads	Suckers		
Luce	Tahquamenon River– continued.	1954	101	456	374		2	1				2	93		4	21		25		
		1955	189	745	612				1			110	378		8	10	45	9		
		1956	159	578	365	30	25	3				4	163		16	5		11		
		1957	268	1,111	650		3	8				3	132	547		5	9		11	
		1958	199	647	556	1							92	373			5		7	
		1959	166	547	497	9	22						3	37		1	1		1	
		1960	36	94.5	65				1		2			13			7			
		1961	82	198	206								25	30		1	1	3	8	
		1962	43	109	97	4							26	30		17	6	3	1	
		1963	53	165	80				1					100		12	5			
		1964	97	239	32	1							8	183		4	11			
		Chippewa	Tahquamenon River	1929		15	36													
				1930		3											1			
1938	6			13					1					3			5			
1940	63			204						1	17			540		19	90			
1941	36			169										107		9	53			
1942	1			4												1				
1944	15			42									3	3		18		7		
1946	127			305						2			19	17		60	15			
1947	37			68.5	72	1								1		3				
1948	25			91										6		6	3	17		
1949	59			133	24	10	19						7	43		1	34			
1950	29	63					1				10	4		3	5					

B.1.–Continued.

County	Stream	Year	No. anglers (lines)	Total hours	Brook trout	Brown trout	Rainbow trout	Smallmouth Bass	Largemouth Bass	Bluegill	Pumpkinseed	Rock bass	Perch	Grass Pike	Walleye	Northern pike	Bullheads	Suckers			
Chippewa	Tahquamenon River– continued.	1951	56	139								7	10			11					
		1952	26	53	5	4			1				1			2	3				
		1953	2	4										1		3					
		1954	56	150	2			3		2				136		13	8				
		1955	67	183										1,059			3				
		1956	175	374	2			2					7	963		12	8		2		
		1957	75	219				1		1			2	256		4	5	1			
		1958	12	31	4	6	10							12							
		1959	15	57	1			1								12	5				
		1960	3	10	1	14	2														
		1962	11	32			2										1	5			
		1963	49	135	1	1	3	11					2		8	8	2			1	
			Tahquamenon River, E Br	1929		57	56									1					
				1930		149	252			4											
				1932		87	146														
1933	1			4	5																
1937	50			137	66																
1938	18			57.5	160															1	
1939	10			41	49			8													
1940	1			8	10																
1941	6			16.5	17											2					
1944				14	10																
	1945	7	6	2																	

B.1.–Continued.

County	Stream	Year	No. anglers (lines)	Total hours	Brook trout	Brown trout	Rainbow trout	Smallmouth Bass	Largemouth Bass	Bluegill	Pumpkinseed	Rock bass	Perch	Grass Pike	Walleye	Northern pike	Bullheads	Suckers		
Chippewa	Tahquamenon River, E Br– continued.	1947	4	7	4															
		1949	32	95.5	99															
		1950	25	75	82			1												
		1951	593	2,174	2,774	6	17	1												
		1952	444	1,190	1,306	1	5							2						
		1953	354	1,006	1,012	1	2									1				
		1954	296	587	696	1														
		1955	72	294	267															20
		1956	18	67	40										27		4			3
		1957	34	89	126	3											3	1		
		1958	6	12	9	2														
		1959	12	30	14															
		1960	17	24.5	22															
		1961	4	18	20															
		1962	5	8	3															
		1963	4	9	9															

B.2.–Historic creel census data for select Tahquamenon River watershed streams.

County	Stream	Year	No. anglers (lines)	Total hours	Brook trout	Brown trout	Rainbow trout	Smallmouth Bass	Largemouth Bass	Bluegill	Pumpkinseed	Rock bass	Black Crappie	Perch	Grass Pike	Walleye	Northern pike	Bullheads	Suckers
Luce	Auger Creek	1934	6	4															
	East Creek	1937	2	6	11														
		1940	5	19	22														
		1941	5	18	27														
		1942	3	9	25														
		1943	7	16	19														
		1945	6	9	4														
		1950	2	2															
		1952	16	32	30														
		1954	2	3	4														
		1955	11	21	24														
		1956	15	32	31														
		1957	18	35	40														
		1958	9	16.5	14														
		1959	19	42	78														
	Sage River	1938	5	10								8		57		4			
		1939	2	4		2													
		1946	3	9								8	2	12					
		1947	2	4															
	Sage River, E Branch	1939	1	2		3													
		1946	4	8		8													
		1949	21	28		35													
		1952	17	42.5		41													
		1957	2	3		1													

B.2.–Continued.

County	Stream	Year	No. anglers (lines)	Total hours	Brook trout	Brown trout	Rainbow trout	Smallmouth Bass	Largemouth Bass	Bluegill	Pumpkinseed	Rock bass	Black Crappie	Perch	Grass Pike	Walleye	Northern pike	Bullheads	Suckers		
Luce	Sage River, E Branch– continued.	1958	8	8																	
		1959	7	14																	
		1961	3	7																	
	Sage River, W Branch	1946	3	7																	
		1952	3	3			5														
	Syphon Creek	1934	3	3	3																
		1937	4	12	12																
		1940	4	22	30																
		1941	5	21	39																
		1942	2	8	8																
		1943	5	19	22																
		1944	4	17	68																
		1945	4	7	6																
		1952	2	3	1																
		1952	2	2	1																
		1952	2	4	3																
		1952	4	5	1																
		1952	1	1	1																
		1952	2	8	9																
		1952	2	6	7																
	1952	1	2	1																	
	1952	3	9	3																	
1952	2	7	9																		

B.2.–Continued.

County	Stream	Year	No. anglers (lines)	Total hours	Brook trout	Brown trout	Rainbow trout	Smallmouth Bass	Largemouth Bass	Bluegill	Pumpkinseed	Rock bass	Black Crappie	Perch	Grass Pike	Walleye	Northern pike	Bullheads	Suckers			
Luce	Syphon Creek–continued.	1952	2	7	5																	
		1952	23	54	41																	
		1955	11	23	36																	
		1956	6	13	15																	
		1957	24	46	46																	
		1958	11	43	64																	
		1959	7	18	25																	
		1960	4	5	15																	
		1961	2	7	11																	
		1962	1	2	4																	
			Tahquamenon R, Branch	1955	7	18								9		18			5			
			Third Creek	1954	4	8	16															
	1958	3		6	1																	
	1964	1		1																		
	Thirty-Nine Creek	1960	8	13	33																	
		1964	3	9	7																	
Mackinac	Hendrie River	1956	2	2																		
		1960	2	2																		
Chippewa	Cheney Creek	1944	1	5	15																	
		1946	1	2	6																	
		No. 14 Creek	1956	2	4	1																
		Grant Creek	1942	4	8	15																
			1943	3	8	1																

B.2.–Continued.

County	Stream	Year	No. anglers (lines)	Total hours	Brook trout	Brown trout	Rainbow trout	Smallmouth Bass	Largemouth Bass	Bluegill	Pumpkinseed	Rock bass	Black Crappie	Perch	Grass Pike	Walleye	Northern pike	Bullheads	Suckers			
Chippewa	Grant Creek–continued.	1947	4	21	3																	
		1951	5	15	26																	
		1952	10	23	28																	
		1954	5	13	12																	
		1960	2	4				6														
		1962	2	8	20																	
		1963	4	1																		
	Hendrie River	1930		3																		
		1950	3	24																		
		1952	12	12												3						
		1962	6	9																		1
	Riley Creek	1941	1	2	2																	

B.3.–Historic creel census data for select Tahquamenon River watershed lakes.

Lake	Township	Range	Section	Year	No. anglers (lines)	Total hours	Smallmouth	Largemouth	Bluegill	Pumpkinseed	Rock bass	Black Crappie	Perch	Grass Pike	Walleye	Northern pike	Muskellunge	Bullheads	Suckers	Smelt
Hulbert	45N	7W	1	1929		10		5												
	45N	7W	1	1946	6	20	1						11		1					
	45N	7W	1	1950	14	27	4	5	1				5							
	45N	7W	1	1952	34	50	1	16	5		4		2	2	3					
	45N	7W	1	1956	2	4							26							1
	45N	7W	1	1959	35	73.5				1	10		688							23
	45N	7W	1	1960	13	34							191							2
	45N	7W	1	1963	22	68					13		443							8
Walker	45N	5W	6	1950	2	2							35							
	45N	5W	6	1958	5	9							20							
	45N	5W	6	1959	8	16												7		
Williams	45N	6W	10	1953	10	36							131							
	45N	6W	10	1954	3	7							62							
Barret	47N	10W	18	1937	1	1														
	47N	10W	18	1938	8	28		2	41											
	47N	10W	18	1939	10	36.5	7		79				4							
	47N	10W	18	1940	1	2			4											
Belle	47N	12W	9	1933	3	5		12												
	47N	12W	9	1934	2	6	7													
	47N	12W	9	1935	19	88	90													
	47N	12W	9	1937	19	110	50													
	47N	12W	9	1938	9	50	22						14							

B.3.–Continued.

Lake	Township	Range	Section	Year	No. anglers (lines)	Total hours	Smallmouth	Largemouth	Bluegill	Pumpkinseed	Rock bass	Black Crappie	Perch	Grass Pike	Walleye	Northern pike	Muskellunge	Bullheads	Suckers	Smelt	
Belle–continued	47N	12W	9	1939	12	66	23						41								
	47N	12W	9	1940	15	51	35						98								
	47N	12W	9	1941	6	11							28								
	47N	12W	9	1942	27	64	25						122								
	47N	12W	9	1950	3	5	1						13								
	47N	12W	9	1952	4	12	5						62								
	47N	12W	9	1953	3	8	5						1								
	47N	12W	9	1954	8	23	5			15	8			24							
	47N	12W	9	1955	4	13				16	5			39							
	47N	12W	9	1956	7	15	3							42							
	47N	12W	9	1957	3	15	3							31							
	47N	12W	9	1958	3	12								22							
	47N	12W	9	1959	2	3			7		12										
	47N	12W	9	1960	4	7	1					1		12							
	47N	12W	9	1962	4	11					6			110							
	47N	12W	9	1963	2	14															
Bennet Springs	47N	12W	17	1960	4	2															
Benny	47N	12W	24	1961	64	128															
	47N	12W	24	1962	41	65															
	47N	12W	24	1963	54	106															
Camp 7	47N	12W	16	1940	1	3							3			1					
	47N	12W	16	1941	3	12			1				8								
	47N	12W	16	1942	4	8										3					

B.3.–Continued.

Lake	Township	Range	Section	Year	No. anglers (lines)	Total hours	Smallmouth	Largemouth	Bluegill	Pumpkinseed	Rock bass	Black Crappie	Perch	Grass Pike	Walleye	Northern pike	Muskellunge	Bullheads	Suckers	Smelt	
Camp 7–continued	47N	12W	16	1943	7	12										5					
	47N	12W	16	1952	14	33										19					
	47N	12W	16	1955	2	3										1					
	47N	12W	16	1956	11	37	3		15				25			8					
	47N	12W	16	1957	3	12										7					
	47N	12W	16	1958	10	32			13							9					
	47N	12W	16	1959	1	1															
	47N	12W	16	1961	6	14								1							
	47N	12W	16	1964	2	2															
Cleveland Cliffs	47N	10W	17	1948	2	5										7					
Dishpan	47N	12W	22	1939	4	15			8				33								
East	45N	11W	10	1930	3	6									12						
	45N	11W	10	1941	10	25	1		51				8		4						
	45N	11W	10	1949	4	8			32												
	45N	11W	10	1951	4	7			30				42								
	45N	11W	10	1952	4	10			5				21								
	45N	11W	10	1955	2	10			17				7								
Frank	47N	12W	5	1958	8	27							157								
	47N	12W	5	1959	17	41							150								
	47N	12W	5	1964	4	9															
Fur Farm	47N	12W	22	1934	6	10							44								
	47N	12W	22	1938	2	20	1				8		22								
	47N	12W	22	1940	4	16							46								

B.3.–Continued.

Lake	Township	Range	Section	Year	No. anglers (lines)	Total hours	Smallmouth	Largemouth	Bluegill	Pumpkinseed	Rock bass	Black Crappie	Perch	Grass Pike	Walleye	Northern pike	Muskellunge	Bullheads	Suckers	Smelt	
Grass	47N	12W	17	1959	4	5															
	47N	12W	17	1960	9	21							10								
	47N	12W	17	1961	2	6															
	47N	12W	17	1962	2	2															
	47N	12W	17	1963	4	4															
Halfway	47N	10W	17	1950	2	3															
	47N	10W	17	1951	4	8							81								
	47N	10W	17	1952	30	58							263								
	47N	10W	17	1953	3	7							75								
Hamilton	46N	10W	35	1962	4	4							29								
Kaks	45N	10W	9	1949	7	15							55			1					
	45N	10W	9	1950	4	8				1			25								
	45N	10W	9	1951	13	26					3		128								
	45N	10W	9	1952	5	15	2						37			1					
	45N	10W	9	1953	5	5							69								
	45N	10W	9	1954	19	37					6		237								
	45N	10W	9	1955	5	13							48			2					
	45N	10W	9	1956	11	21				5	4		28								
	45N	10W	9	1957	2	6							40								
	45N	10W	9	1960	2	3							7								
Kelly	47N	11W	26	1956	16	54			6	4	1		153					43			
	47N	11W	26	1957	3	5			7				3								

B.3.–Continued.

Lake	Township	Range	Section	Year	No. anglers (lines)	Total hours	Smallmouth	Largemouth	Bluegill	Pumpkinseed	Rock bass	Black Crappie	Perch	Grass Pike	Walleye	Northern pike	Muskellunge	Bullheads	Suckers	Smelt			
Long	47N	12W	21	1950	1	2																	
	47N	12W	21	1952	2	4							1										
	47N	12W	21	1955	3	5																	
	47N	12W	21	1957	3	4										1							
	47N	12W	21	1959	5	8																	
	47N	12W	21	1960	6	7																	
	47N	12W	21	1961	2	5																	
	47N	12W	21	1962	2	3																	
	47N	12W	21	1964	12	29																	
Lost (Little Fur Farm)	47N	12W	22	1940	2	8							34										
	47N	12W	22	1942	2	2							14										
	47N	12W	22	1949	2	6																	
	47N	12W	22	1950	32	74																	
	47N	12W	22	1951	31	74																	
	47N	12W	22	1952	23	47																	
	47N	12W	22	1953	24	33																	
	47N	12W	22	1954	12	15																	
	47N	12W	22	1955	12	15																	
	47N	12W	22	1956	10	18																	
	47N	12W	22	1957	13	18																	
	47N	12W	22	1958	15	49																	
	47N	12W	22	1959	33	62																	
	47N	12W	22	1960	9	17																	
	47N	12W	22	1961	4	15																	
47N	12W	22	1962	21	60																		

B.3.–Continued.

Lake	Township	Range	Section	Year	No. anglers (lines)	Total hours	Smallmouth	Largemouth	Bluegill	Pumpkinseed	Rock bass	Black Crappie	Perch	Grass Pike	Walleye	Northern pike	Muskellunge	Bullheads	Suckers	Smelt	
Lost (Little Fur Farm)– continued	47N	12W	22	1963	9	15															
	47N	12W	22	1964	10	18															
Marsh	47N	12W	5	1958	42	122							728					1			
	47N	12W	5	1959	12	20							59								
	47N	12W	5	1960	2	9							20								
Mud	46N	11W	27	1936	1	4								1							
	46N	11W	27	1939	11	64								20							
	46N	11W	27	1940	11	66								23		9					
	46N	11W	27	1941	5	32										18					
	46N	11W	27	1942	31	73										13	1				
	46N	11W	27	1943	9	47										22					
	46N	11W	27	1944	7	34										23	2		1		
	46N	11W	27	1945	6	27										11					
	46N	11W	27	1949	10	59							41			17	1				
	46N	11W	27	1952	26	85							5			41				1	
	46N	11W	27	1954	36	151							45			53					
	46N	11W	27	1955	49	176							21			58					
	46N	11W	27	1956	51	210	1	1					75			92					
	46N	11W	27	1957	10	41							46			10					
	46N	11W	27	1958	16	69							3			43					
	46N	11W	27	1959	14	67										26					
46N	11W	27	1960	4	18								14		8						
46N	11W	27	1961	4	8																
46N	11W	27	1964	10	26								1		8						

B.3.–Continued.

Lake	Township	Range	Section	Year	No. anglers (lines)	Total hours	Smallmouth	Largemouth	Bluegill	Pumpkinseed	Rock bass	Black Crappie	Perch	Grass Pike	Walleye	Northern pike	Muskellunge	Bullheads	Suckers	Smelt	
Musgrave	47N	12W	22	1949	2	8															
	47N	12W	22	1950	7	11							4								
	47N	12W	22	1952	3	17							14								
	47N	12W	22	1953	5	12							23								
	47N	12W	22	1957	3	6							25								
Peanut	47N	11W	30	1934		7	4														
	47N	11W	30	1935	2	8	9														
	47N	11W	30	1942	3	7	3														
	47N	11W	30	1949	3	3															
	47N	11W	30	1950	35	60															
	47N	11W	30	1951	113	245															
	47N	11W	30	1952	14	32															
	47N	11W	30	1953	69	169															
	47N	11W	30	1954	12	16			25												
	47N	11W	30	1955	33	88			14												
	47N	11W	30	1956	4	2			20				1								
	47N	11W	30	1957	67	189			55		13		4								
	47N	11W	30	1958	2	3															
	47N	11W	30	1959	120	291															
	47N	11W	30	1960	17	34															
	47N	11W	30	1969	70	169															
	47N	11W	30	1962	46	100															
47N	11W	30	1963	51	148																
47N	11W	30	1964	49	165																

B.3.–Continued.

Lake	Township	Range	Section	Year	No. anglers (lines)	Total hours	Smallmouth	Largemouth	Bluegill	Pumpkinseed	Rock bass	Black Crappie	Perch	Grass Pike	Walleye	Northern pike	Muskellunge	Bullheads	Suckers	Smelt	
Quinlan	47N	12W	35	1934																	
	47N	12W	35	1952	2	9			19				2								
	47N	12W	35	1955	2	9			22				1								
	47N	12W	35	1958	4	8			37												
Smith	47N	12W	23	1961	2	4															
Syphon	47N	12W	24	1960	10	13															
	47N	12W	24	1961	28	73															
	47N	12W	24	1962	7	23															
	47N	12W	24	1963	3	6															
Tahquamenon	47N	12W	7	1955	3	14				2			67								
	47N	12W	7	1959	16	55							246								
Young	47N	11W	29	1937	1	5															
	47N	11W	29	1938	20	120															
	47N	11W	29	1939	13	60															
	47N	11W	29	1940	2	10															
	47N	11W	29	1942	1	4															
	47N	11W	29	1943	11	32															
	47N	11W	29	1944	4	8								4							
	47N	11W	29	1945	4	12								4							
	47N	11W	29	1946	2	5															
	47N	11W	29	1949	17	46															
	47N	11W	29	1950	9	9															
47N	11W	29	1951	12	32																

B.3.–Continued.

Lake	Township	Range	Section	Year	No. anglers (lines)	Total hours	Smallmouth	Largemouth	Bluegill	Pumpkinseed	Rock bass	Black Crappie	Perch	Grass Pike	Walleye	Northern pike	Muskellunge	Bullheads	Suckers	Smelt	
Young–continued	47N	11W	29	1952	11	22															
	47N	11W	29	1953	26	52															
	47N	11W	29	1954	22	44															
	47N	11W	29	1955	22	47							1								
	47N	11W	29	1956	50	65															
	47N	11W	29	1957	70	178															
	47N	11W	29	1958	28	98															
	47N	11W	29	1959	88	181															
	47N	11W	29	1960	23	36															
	47N	11W	29	1961	35	64															
	47N	11W	29	1962	39	94															
	47N	11W	29	1963	25	41															
	47N	11W	29	1964	15	45															
	47N	11W	29	1964	2	1															
	47N	11W	29	1964	17	46															