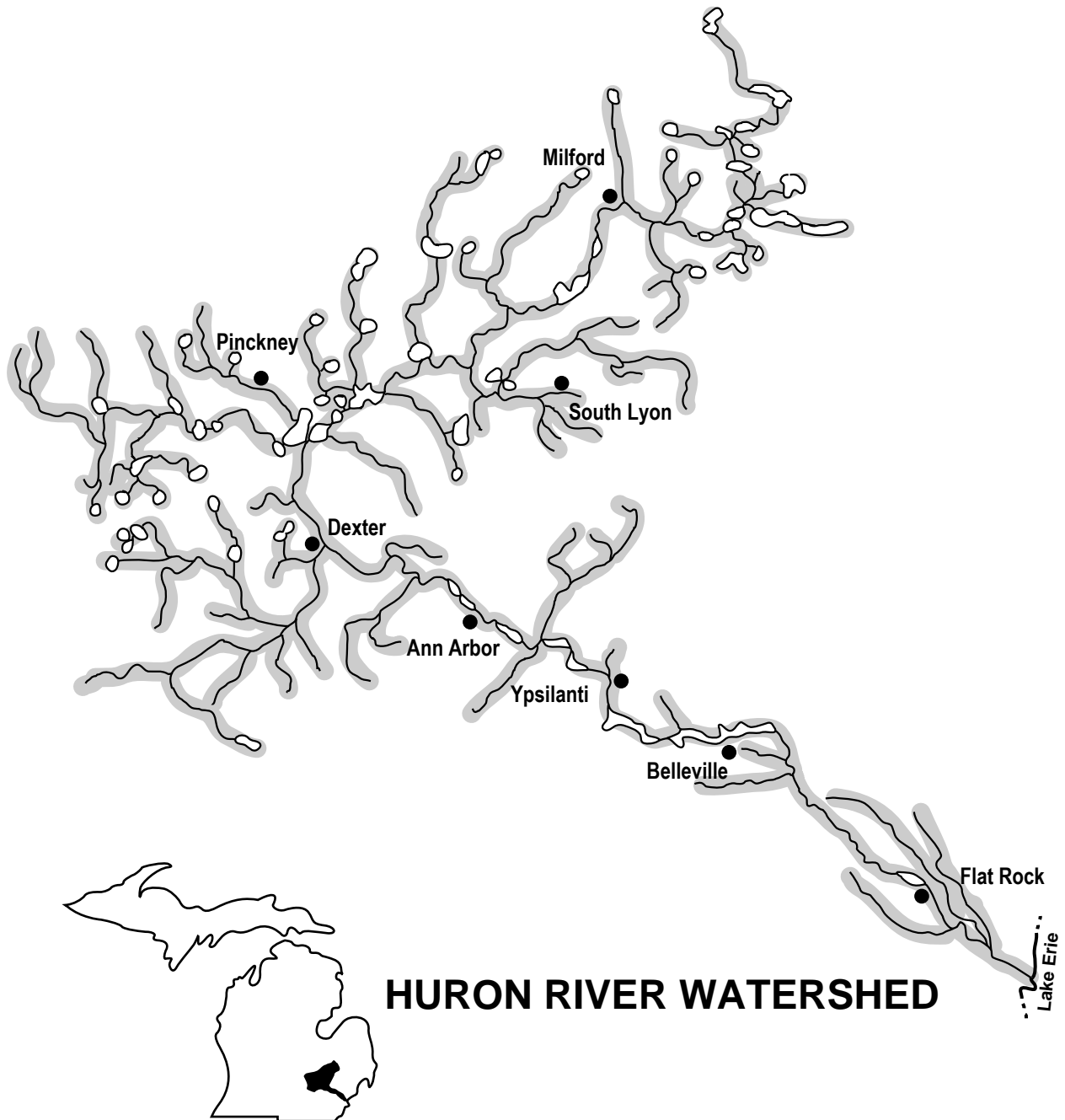


Green sunfish (*Lepomis cyanellus*)

Habitat:

- feeding - impoundments and lakes, and low-current streams and rivers
- no substrate preference

- spawning - nests in shallow areas sheltered by rocks, logs, or aquatic vegetation

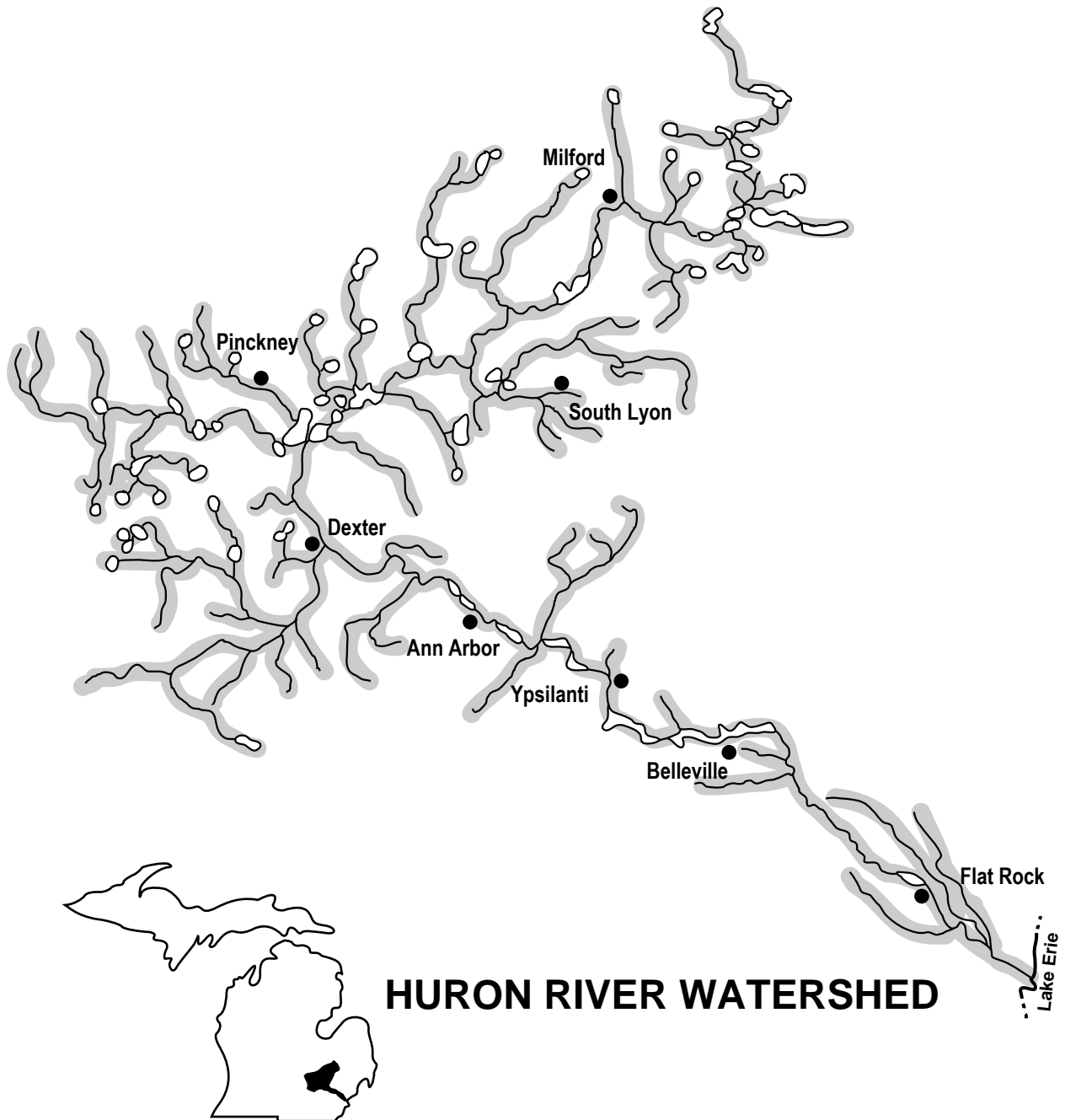


Pumpkinseed sunfish (*Lepomis gibbosus*)

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

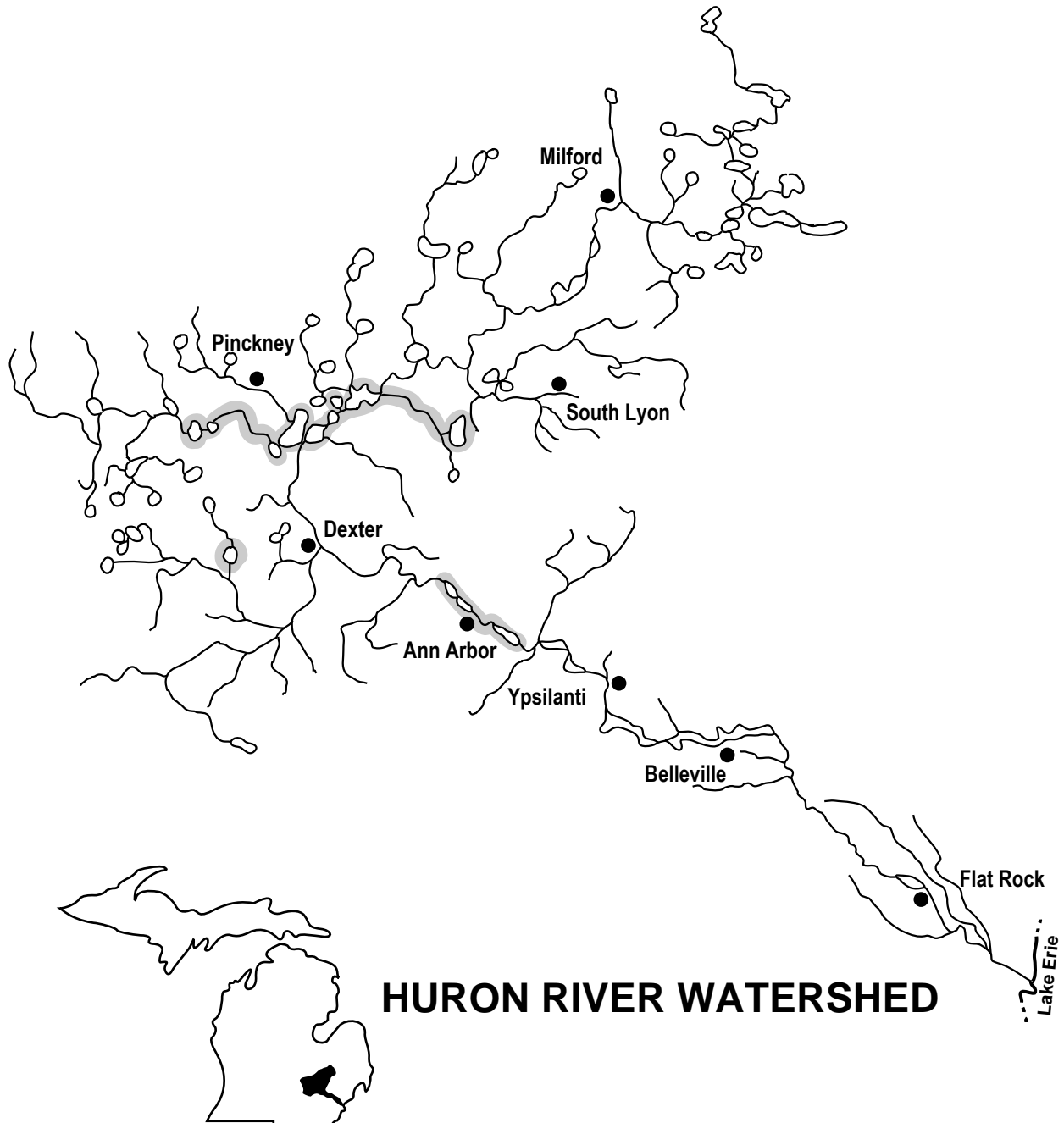
- spawning - nest in sand, gravel, or rock substrate
- in shallow water near submerged vegetation



Warmouth (*Lepomis gulosus*)

Habitat:

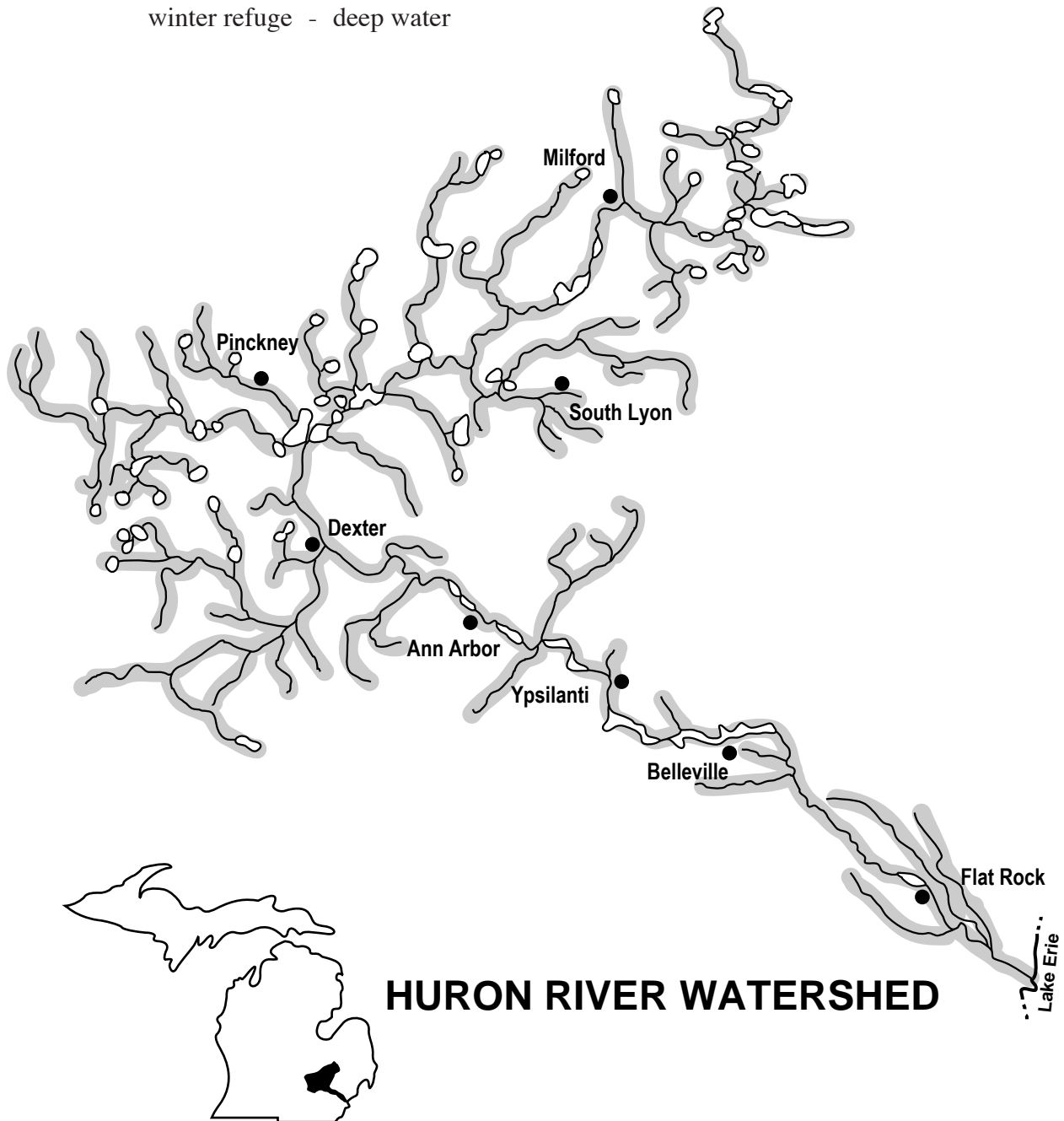
- feeding - clear lakes and impoundments and very low-gradient streams
 - abundant aquatic vegetation
 - silt-free water
 - mucky substrate often covered with organic debris
- spawning - nesting sites in loose silt, sand with silt, or rubble over silt near stumps, roots, or vegetation



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

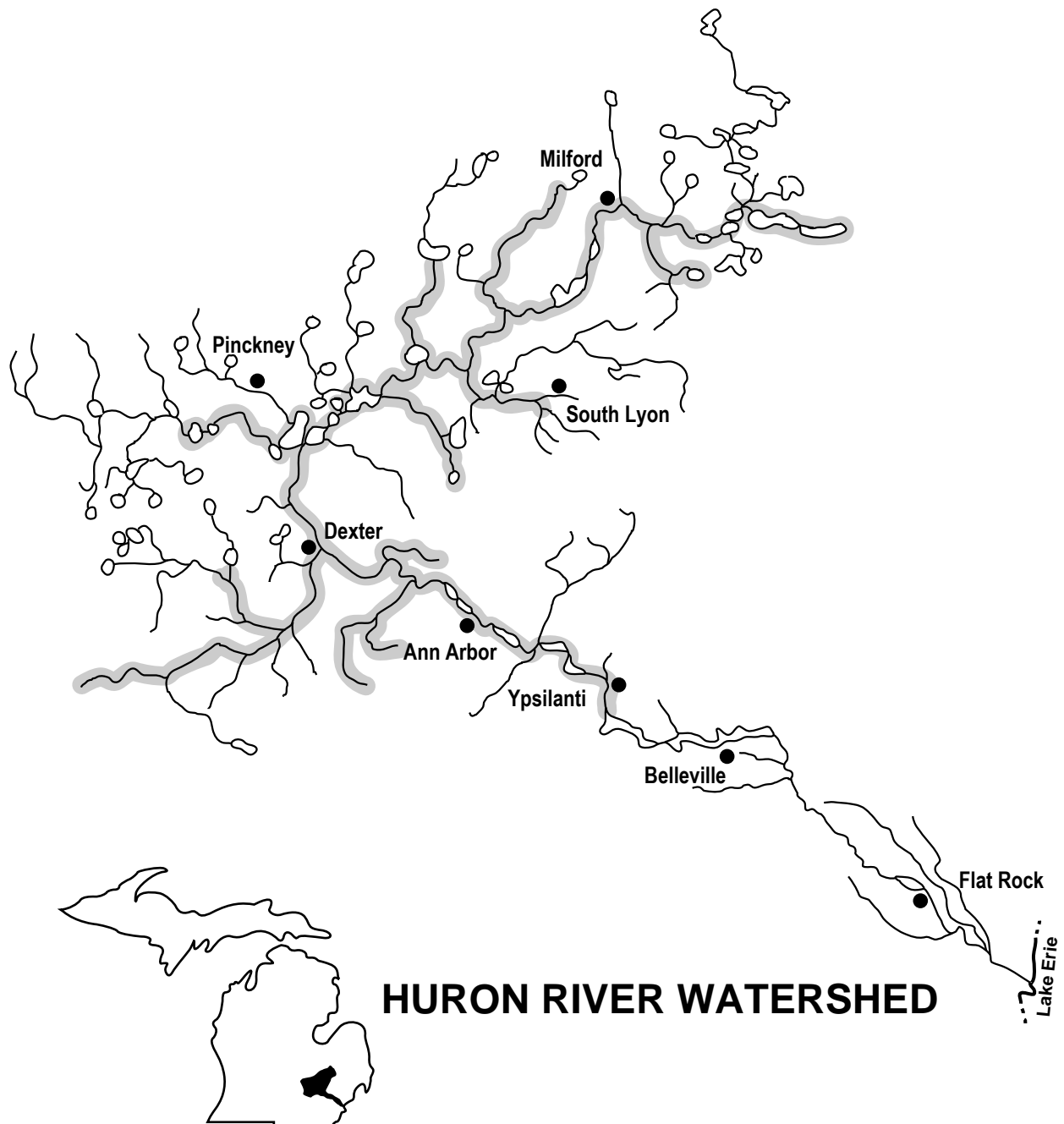


Longear sunfish (*Lepomis megalotis*)

Habitat:

- feeding - clear moderate-sized shallow streams with moderate vegetation
- rocky substrates
- little to no current

- spawning - nests in gravel, sand, or hard rock substrate

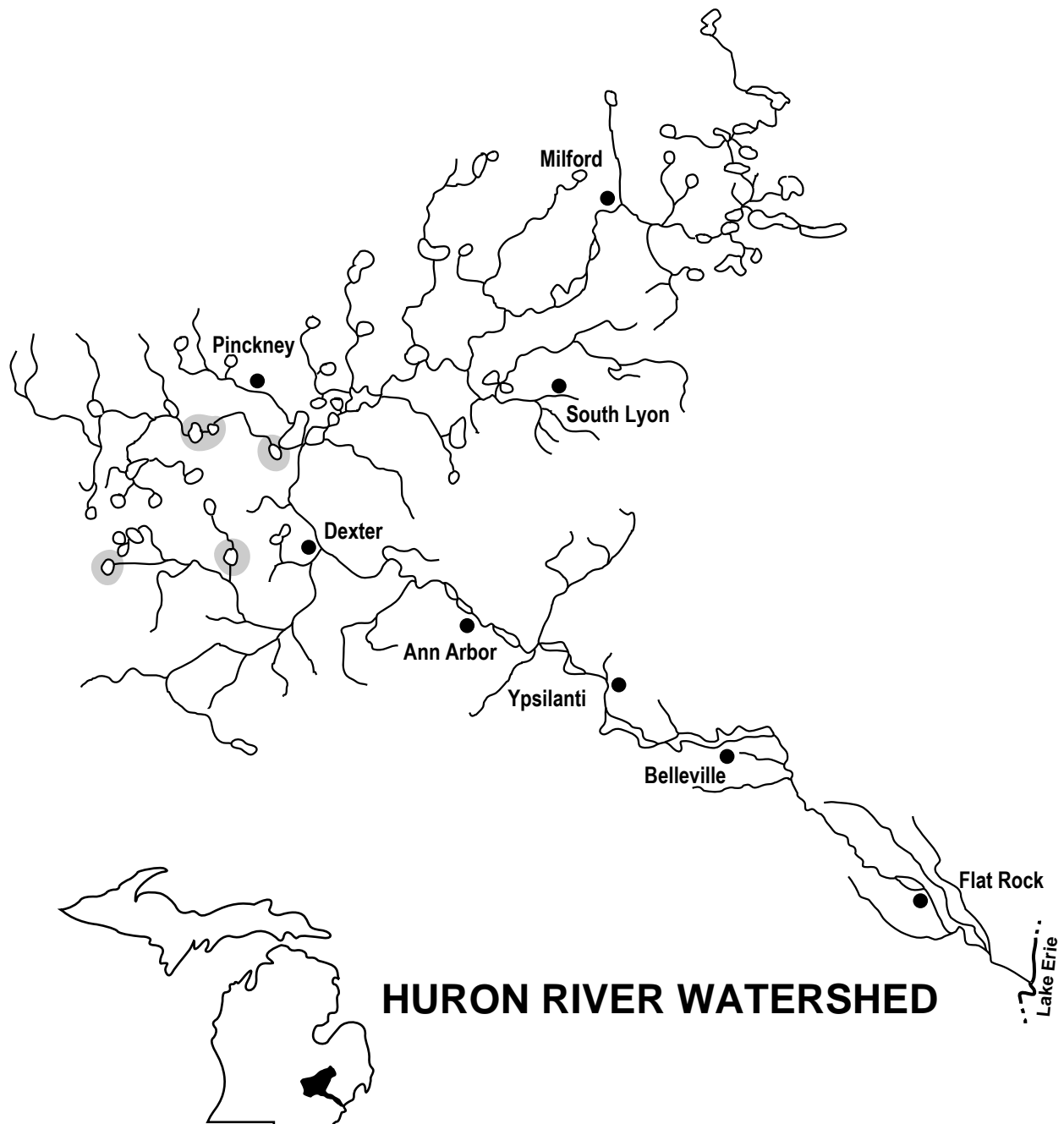


Redear sunfish (*Lepomis microlophus*)

Habitat:

- feeding - non-flowing clear waters of streams and lakes
- some aquatic vegetation

- spawning - nest in silt or gravel substrate



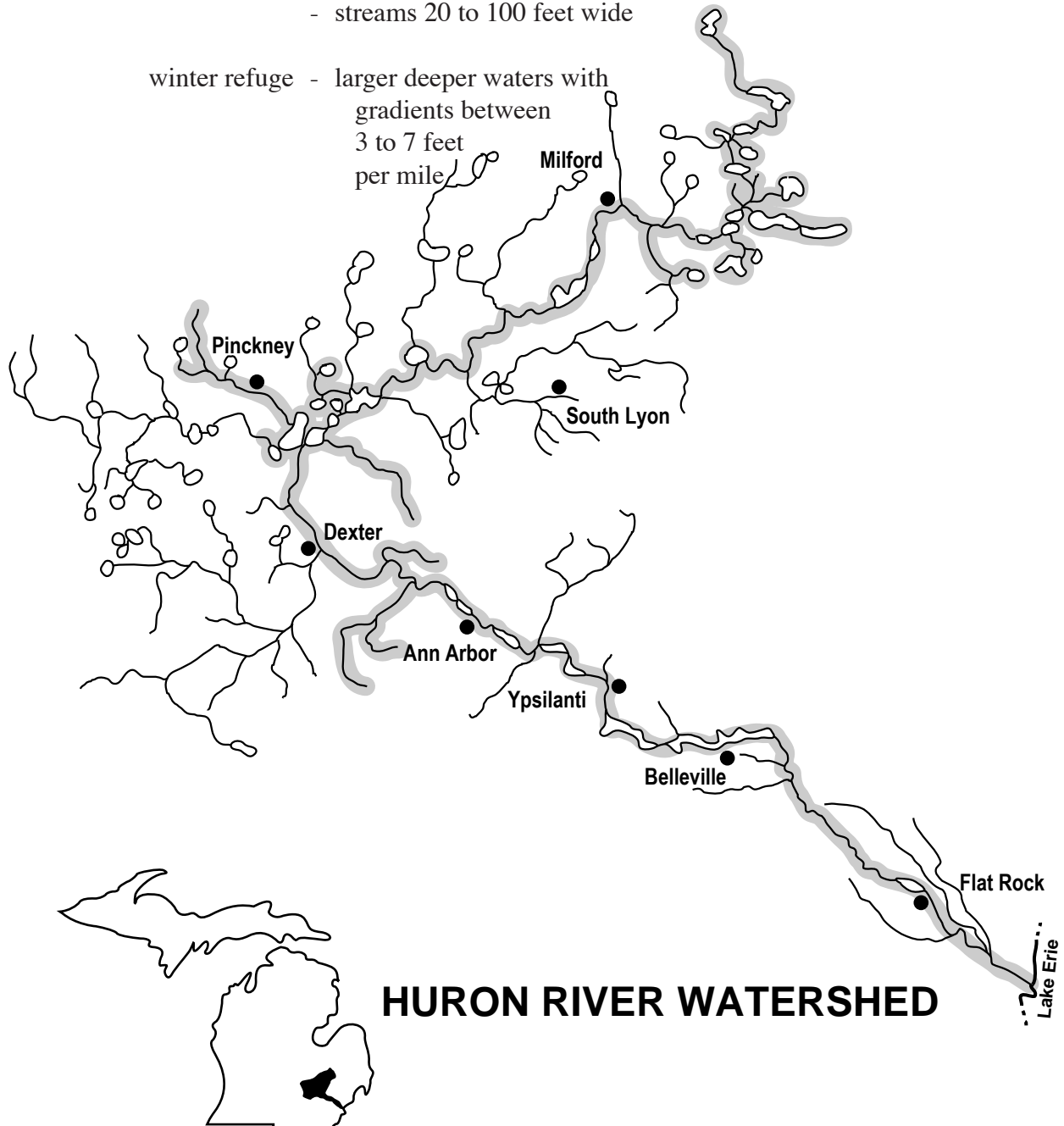
Smallmouth bass (*Micropterus dolomieu*)

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

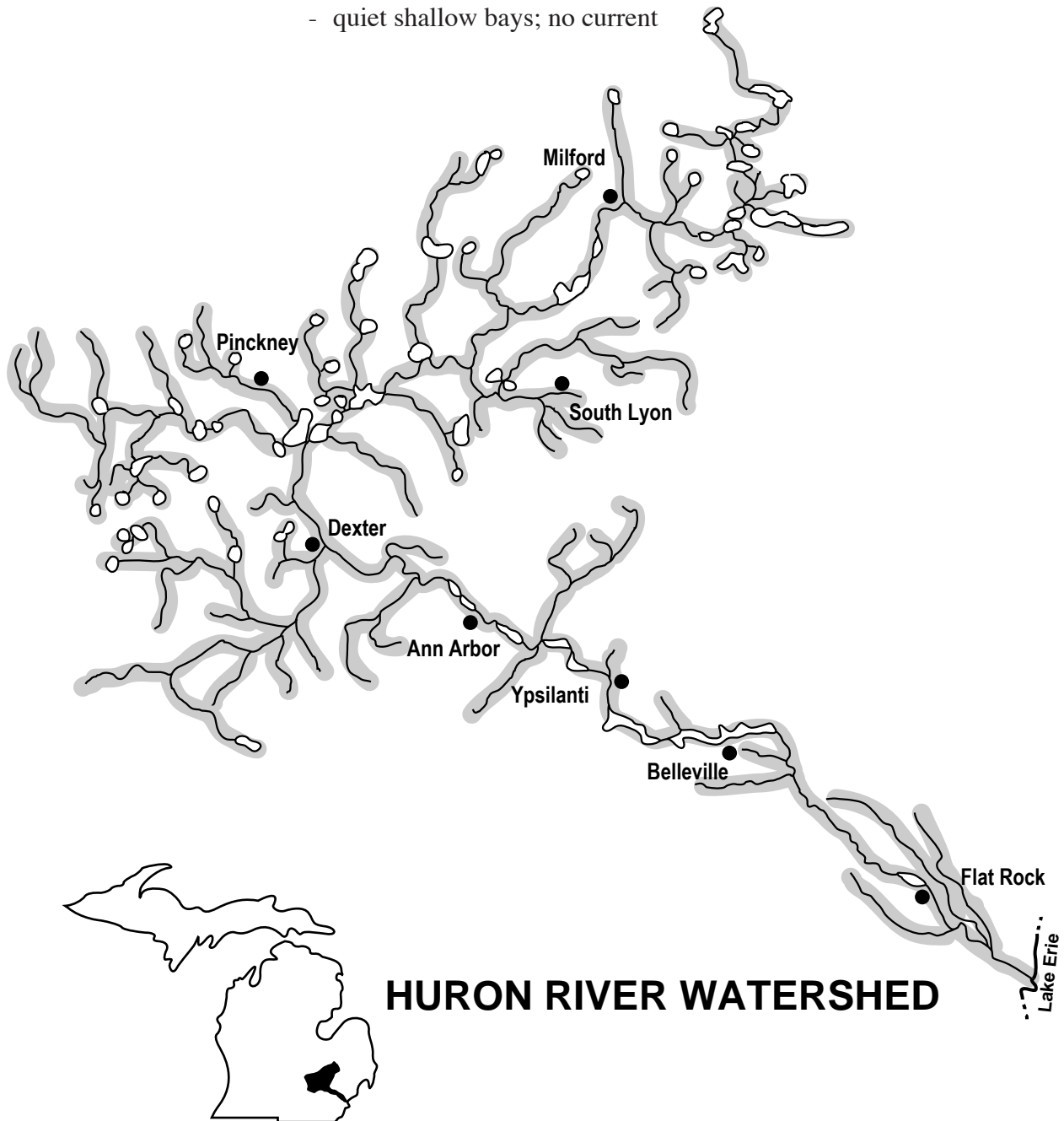
- winter refuge
 - larger deeper waters with gradients between 3 to 7 feet per mile



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

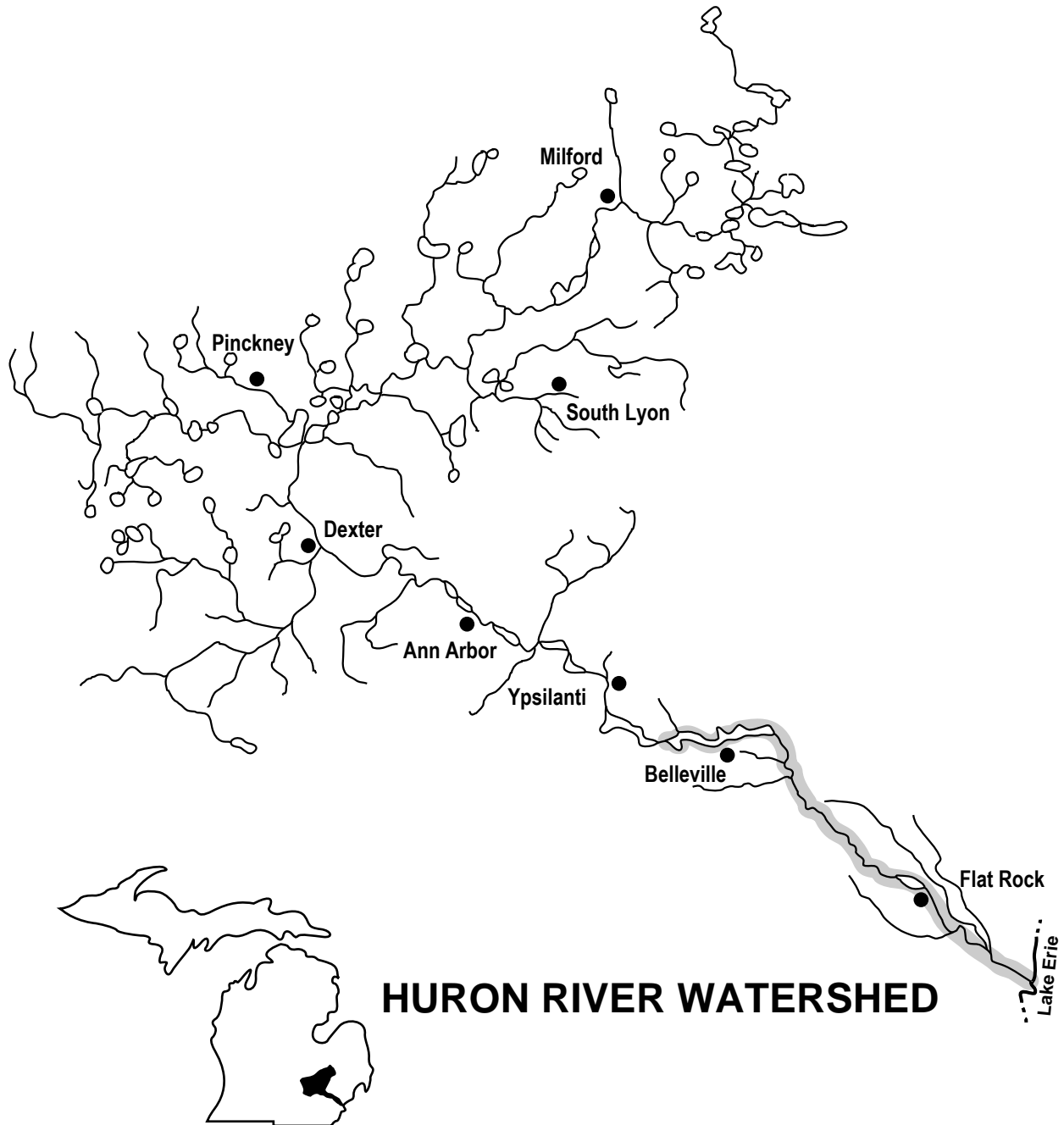


White crappie (*Pomoxis annularis*)

Habitat:

- feeding
 - lakes and impoundments >5 acres
 - sluggish pools of moderate to large low-gradient rivers
 - no substrate preference
 - can tolerate severe turbidity and rapid siltation

- spawning
 - various substrates usually beside rooted aquatic vegetation
 - sometimes under banks

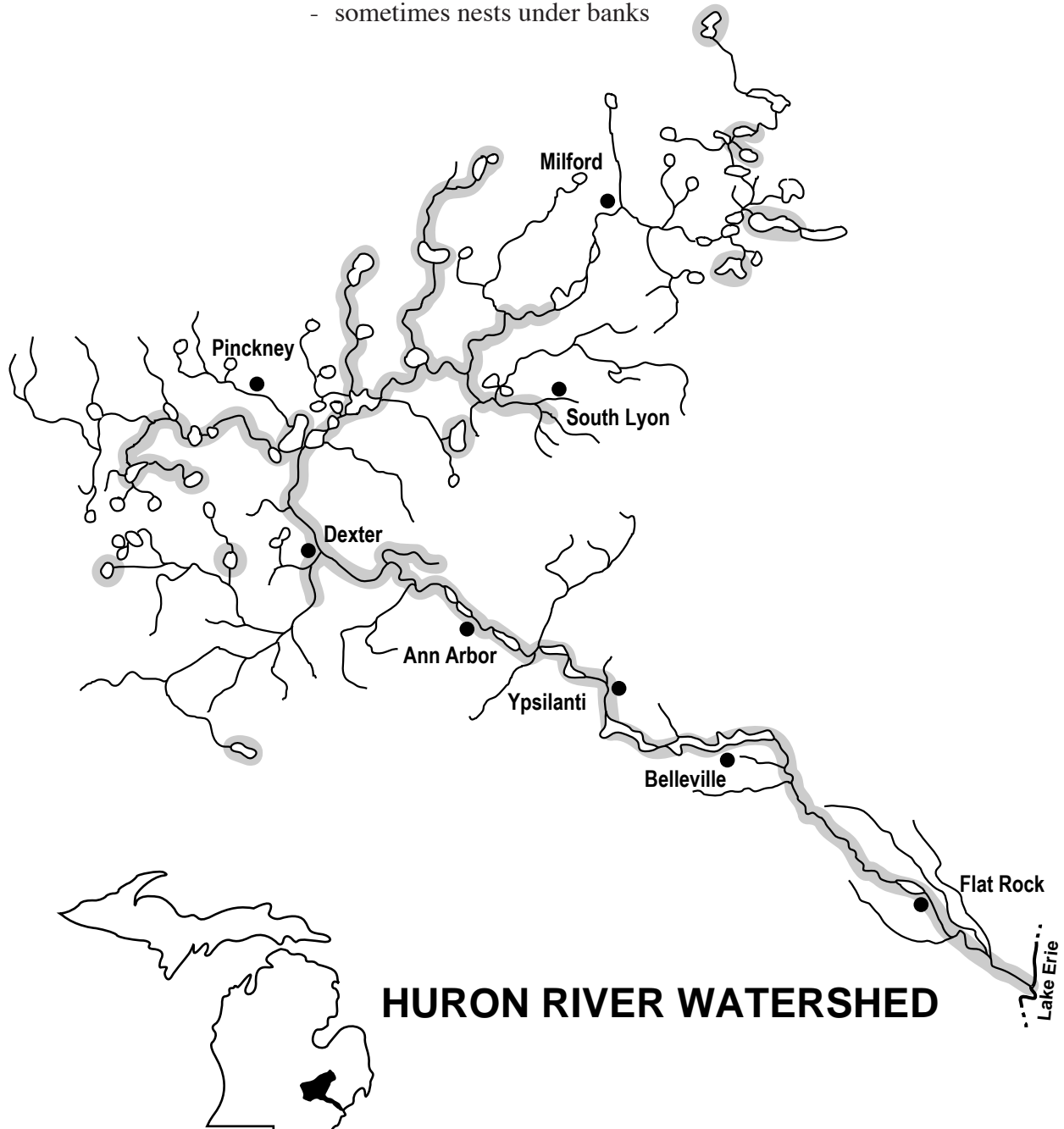


Black crappie (*Pomoxis nigromaculatus*)

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

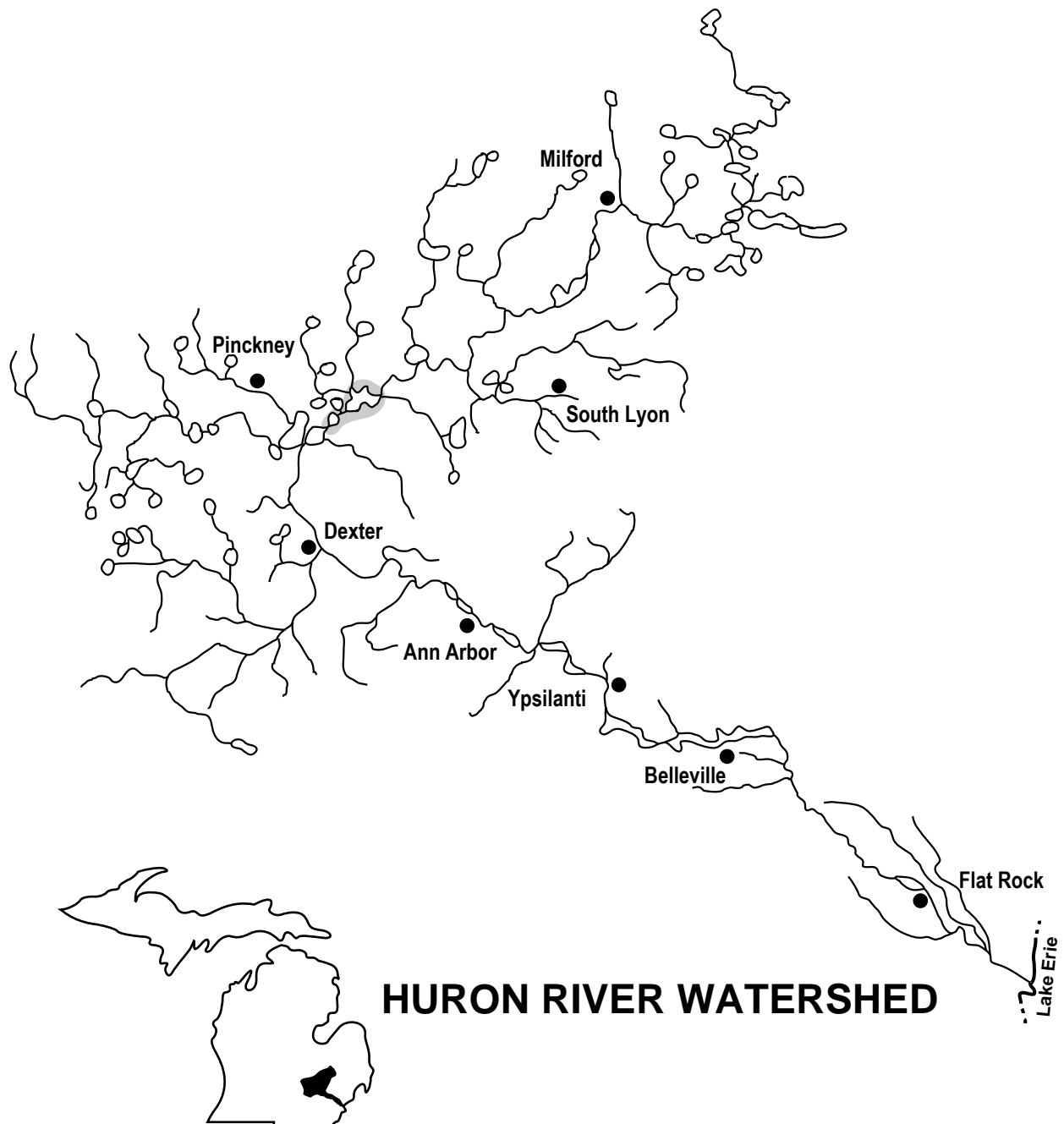


Eastern sand darter (*Ammocrypta pellucida*) - threatened

Habitat:

- feeding - sandy substrate in clear streams and lakes
- does not tolerate silt well

- spawning - sandy substrate

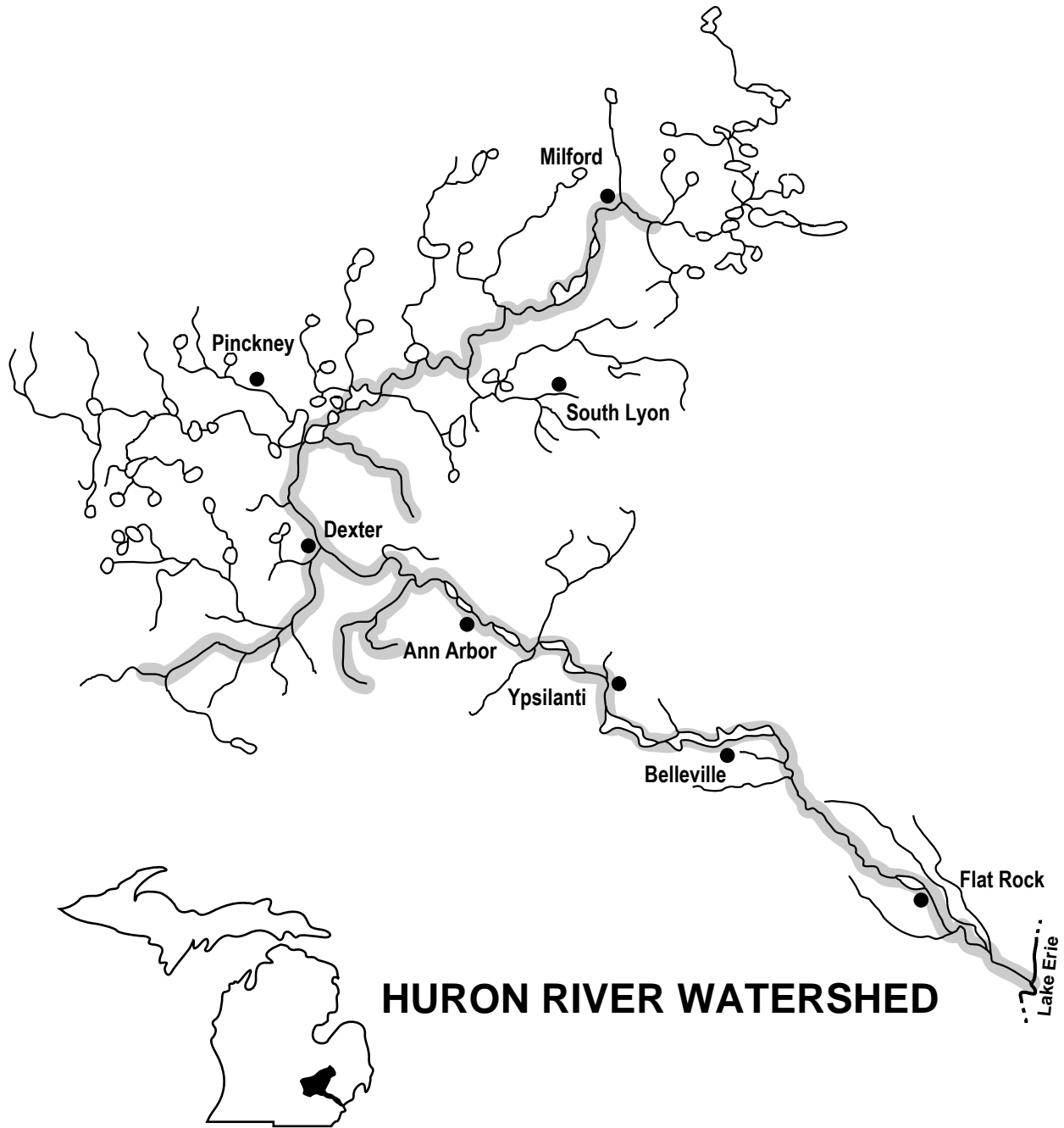


Greenside darter (*Etheostoma blennioides*)

Habitat:

- feeding - young: in quiet water
- swift gravelly riffles or pools with current of streams and rivers

- spawning - filamentous algae necessary for egg deposition

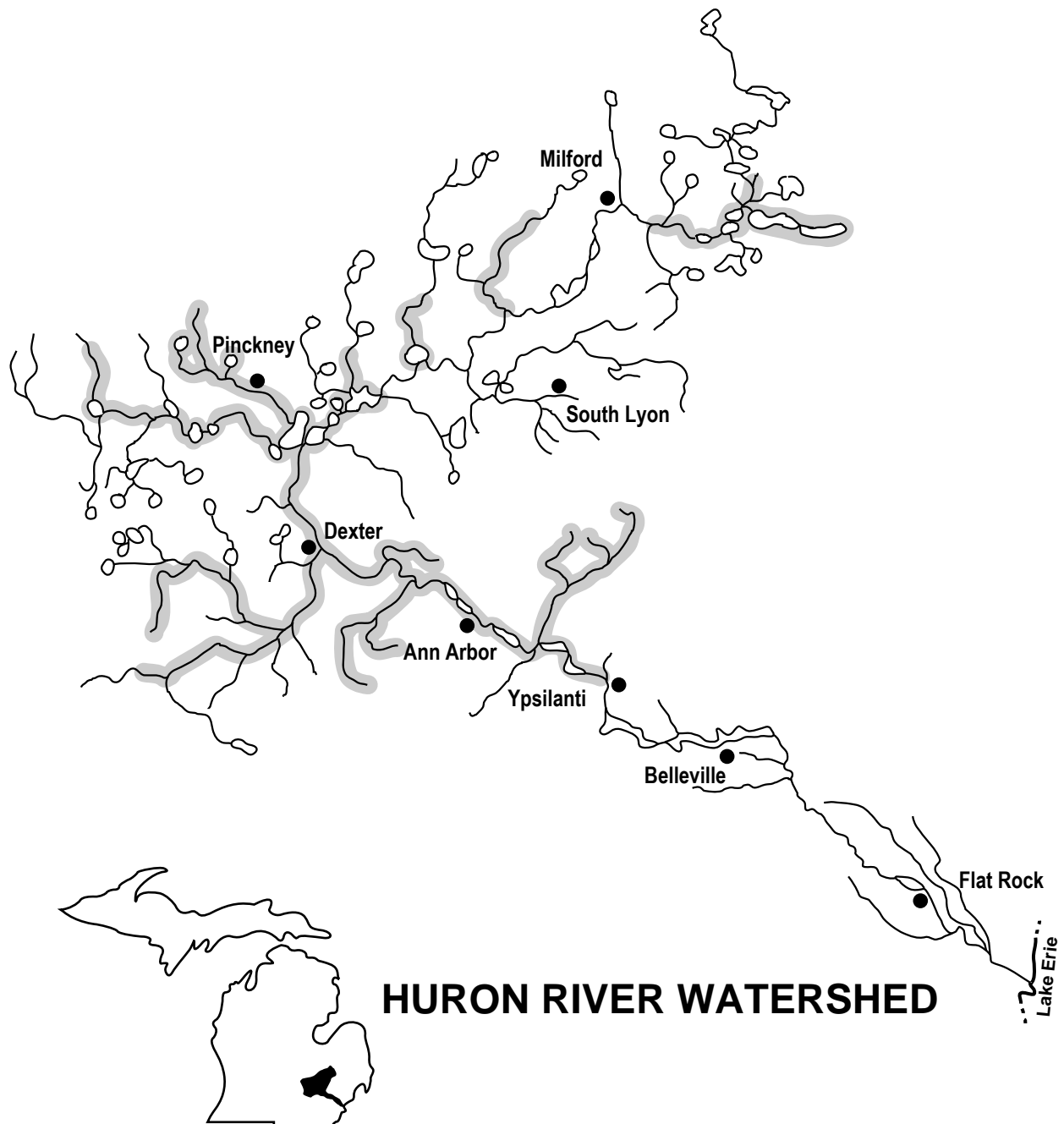


Rainbow darter (*Etheostoma caeruleum*)

Habitat:

- feeding - gravelly high gradient riffles
- clear, moderate to large streams
- in shallows (average 1 foot)

- spawning - gravel or rubble riffles

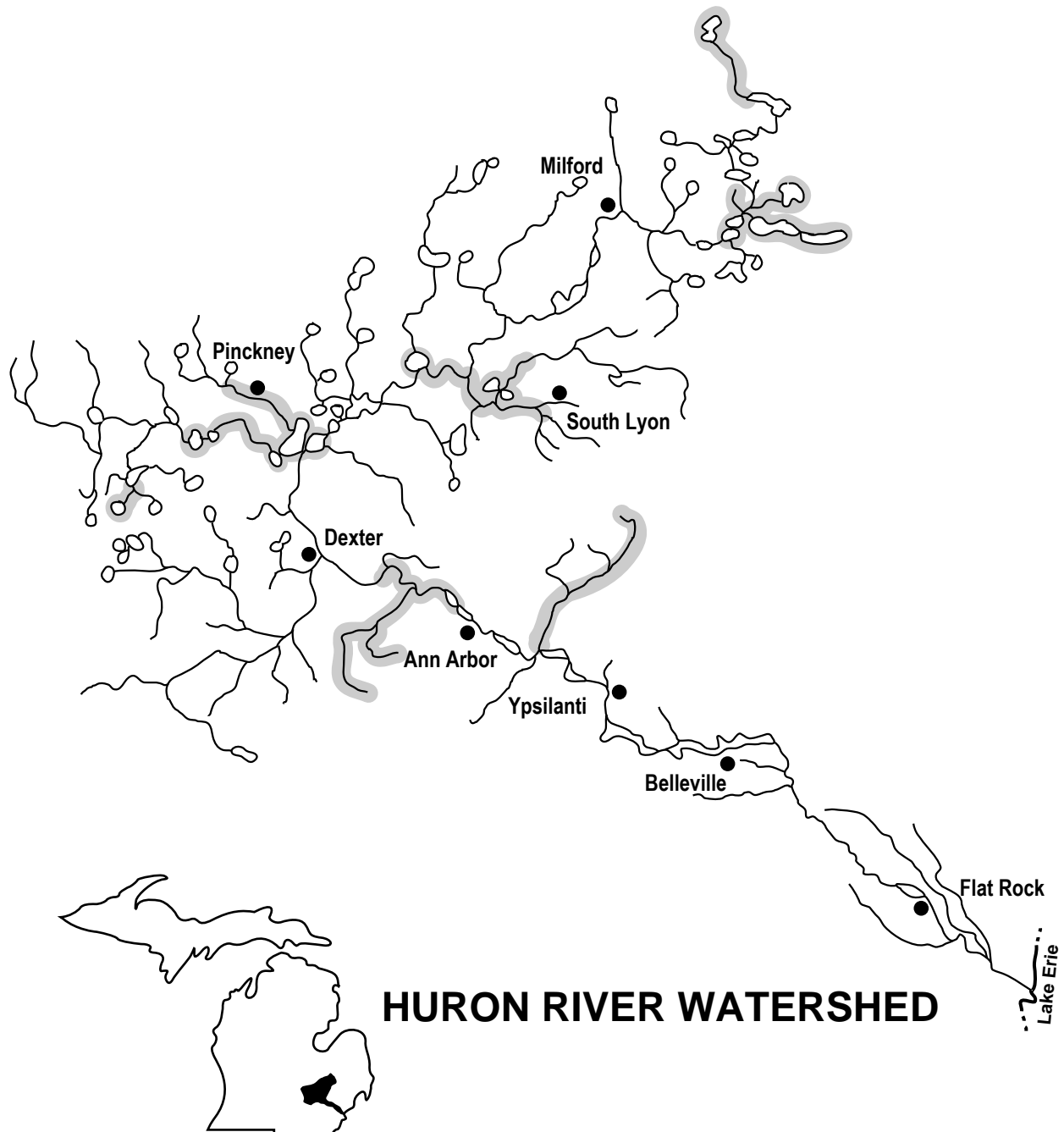


Iowa darter (*Etheostoma exile*)

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



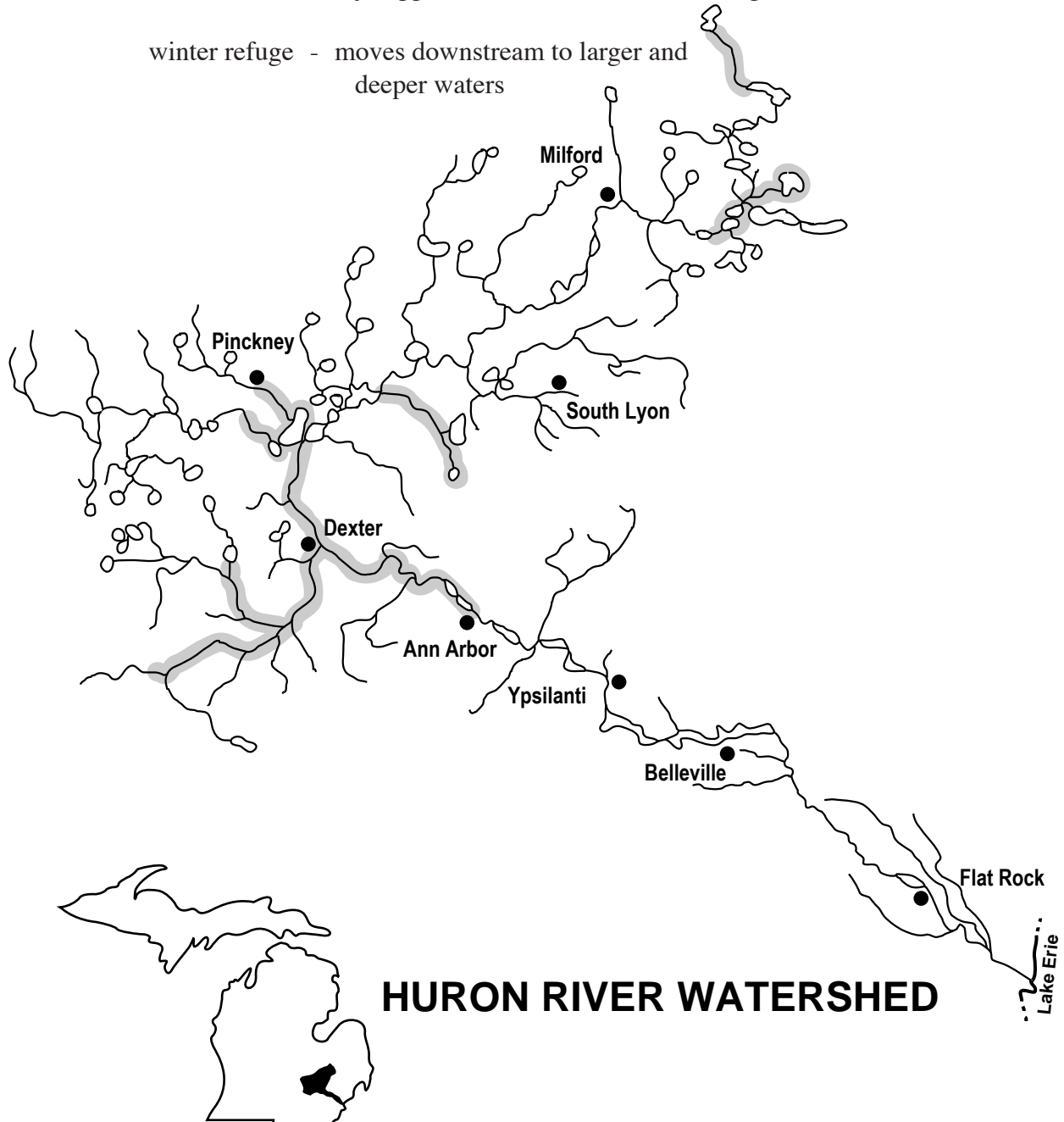
Fantail darter (*Etheostoma flabellare*)

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

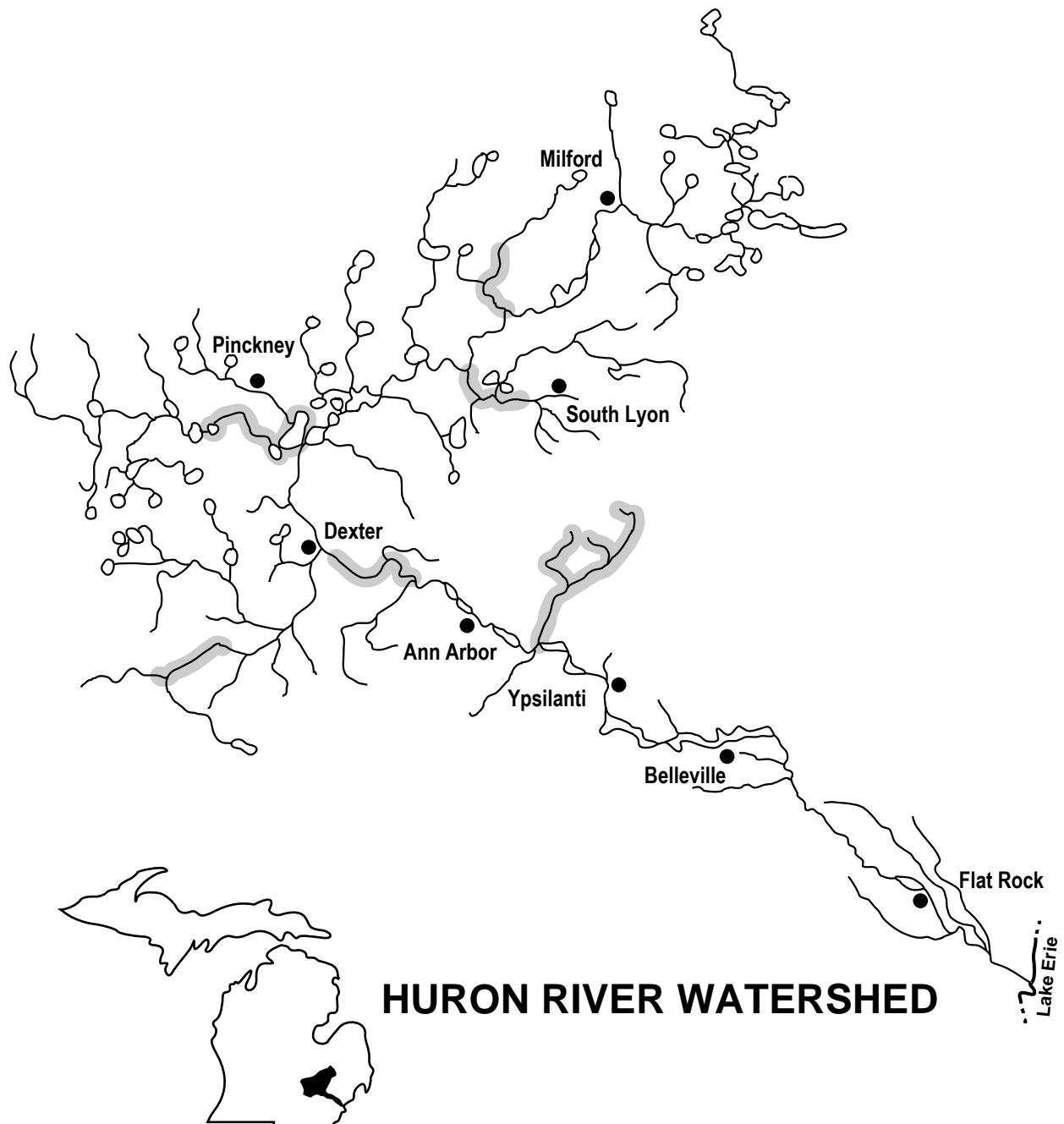


Least darter (*Etheostoma microperca*)

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

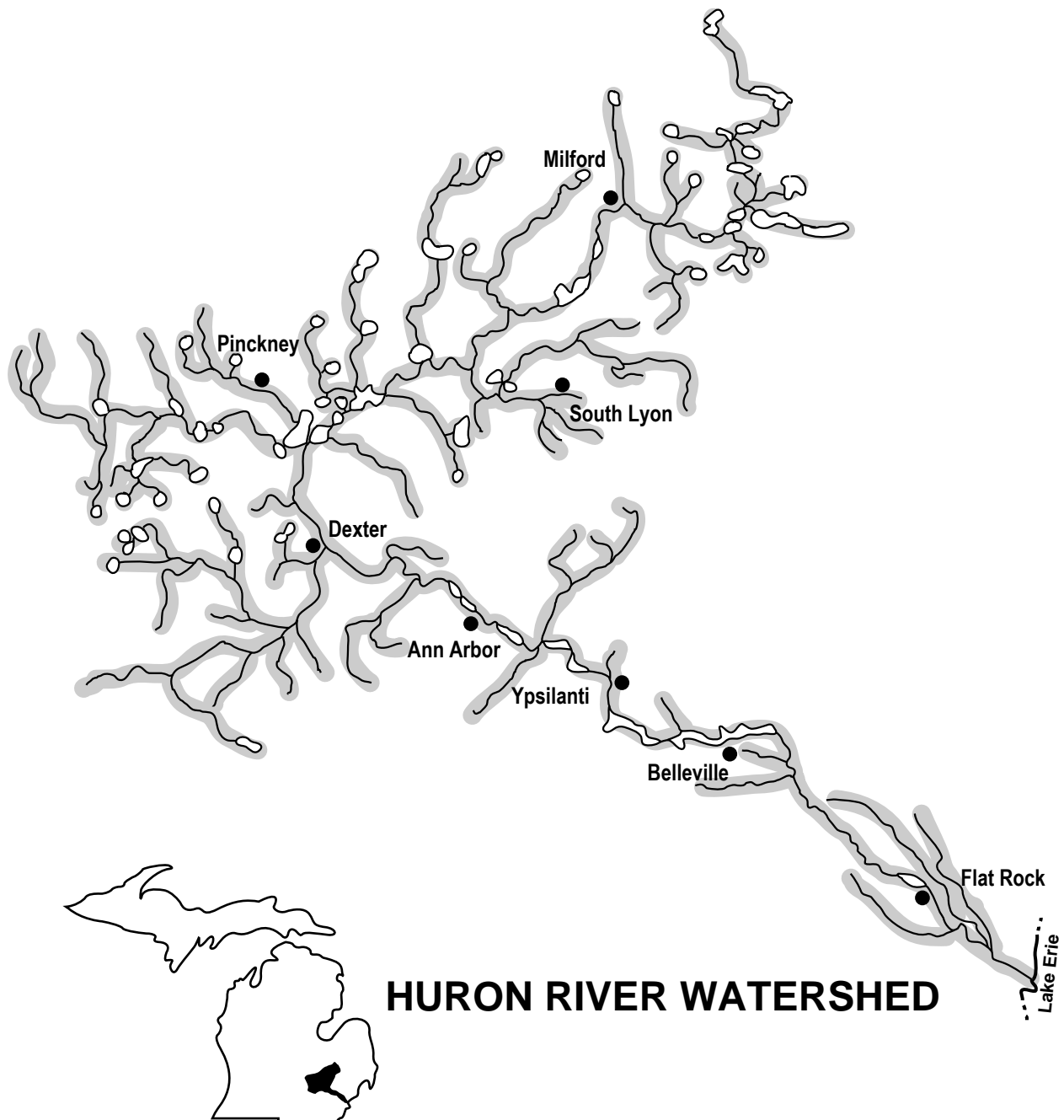


Johnny darter (*Etheostoma nigrum*)

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

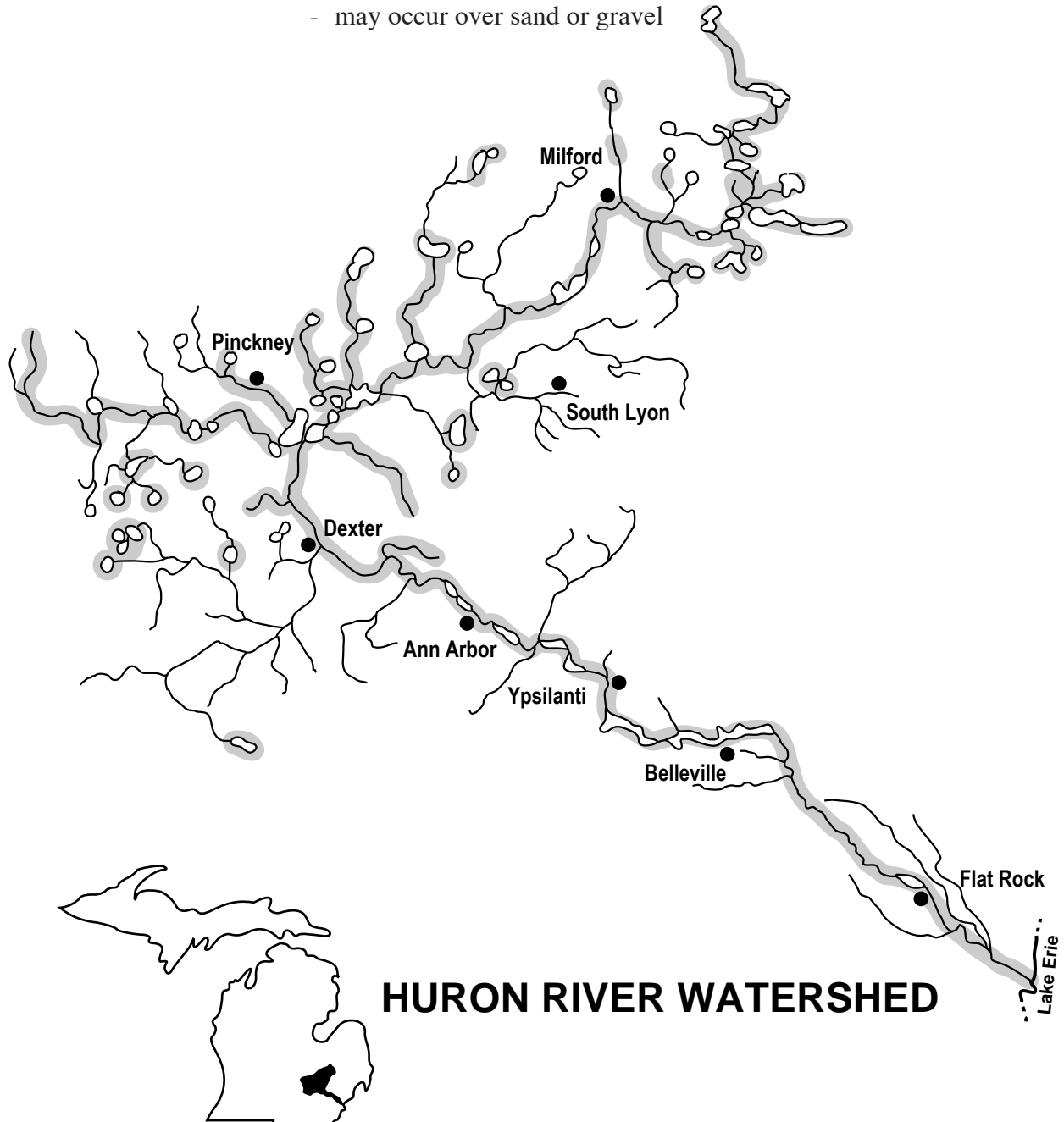


Yellow perch (*Perca flavescens*)

Habitat:

- feeding
 - clear lakes and impoundments; also Lake Erie
 - low gradient rivers
 - abundance of rooted aquatics
 - muck, organic debris, sand, or gravel substrate
 - does not tolerate turbidity and siltation

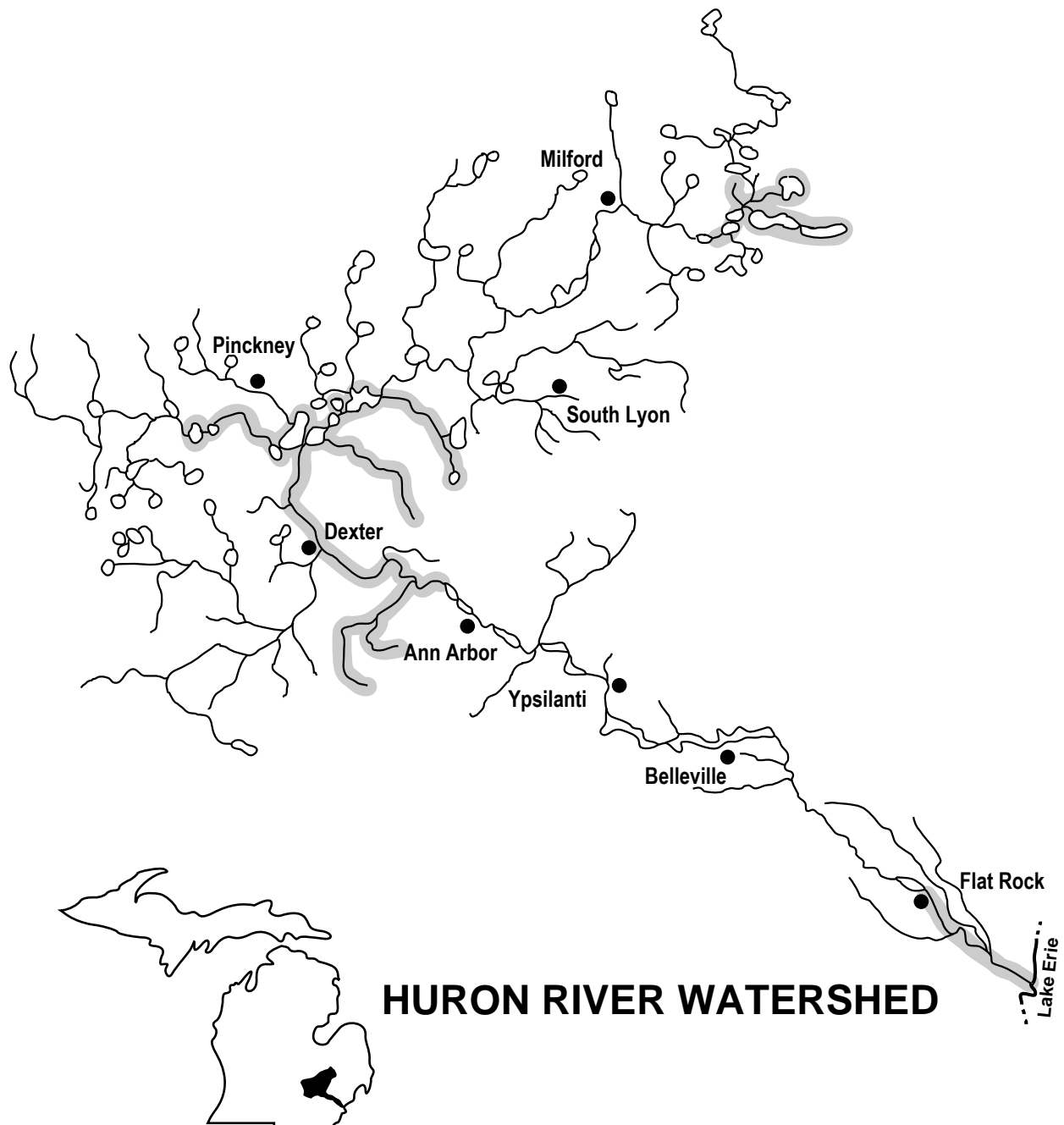
- spawning
 - shallows of lakes, tributaries of streams
 - occurs over rooted vegetation, submerged brush, fallen trees
 - may occur over sand or gravel



Logperch (*Percina caprodes*)

Habitat:

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

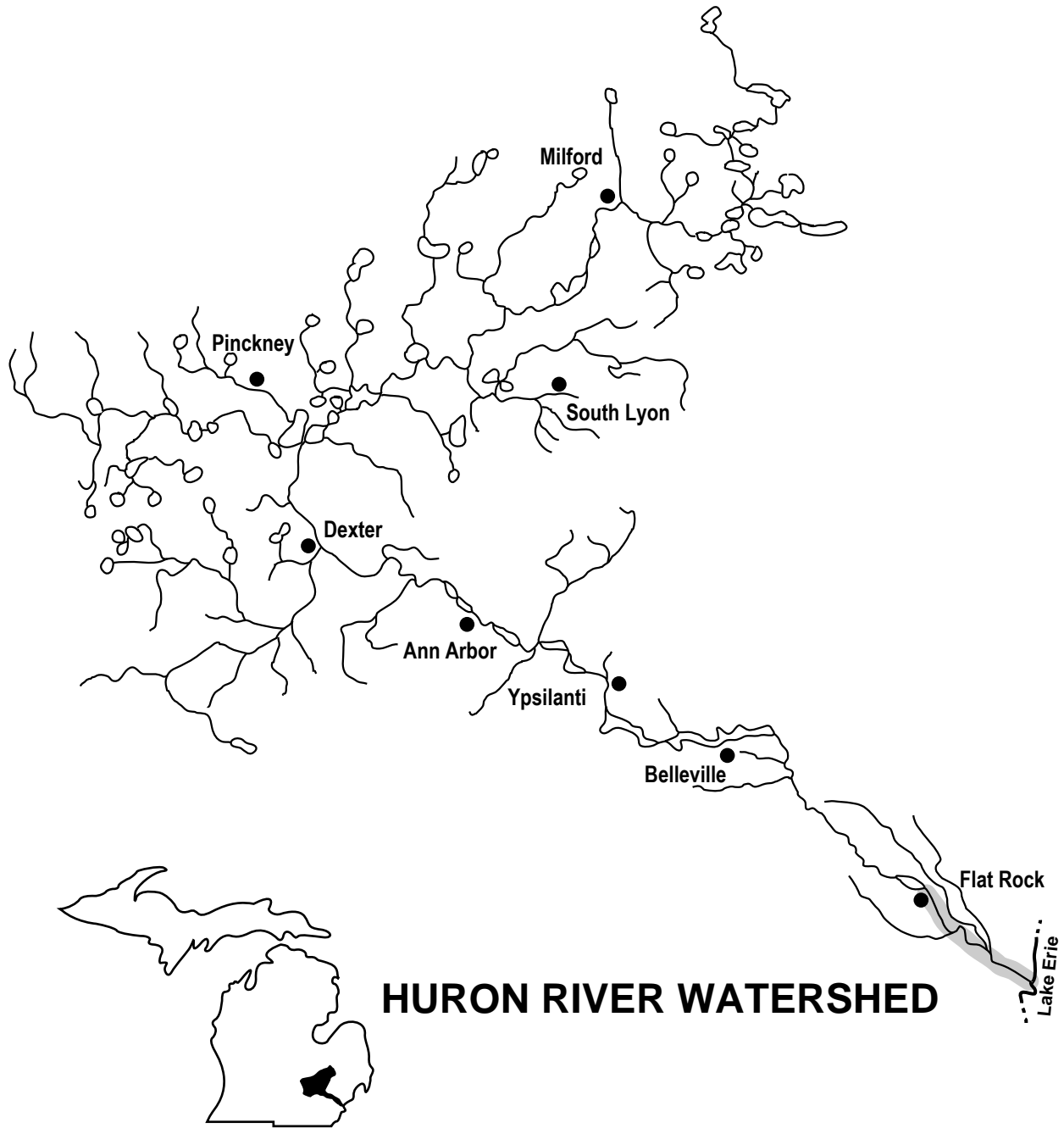


Channel darter (*Percina copelandi*) - locally extirpated

Habitat:

- feeding - sand and gravel bars
- slow current
- large rivers and Lake Erie

- spawning - some current is essential
- a territory is established over gravel

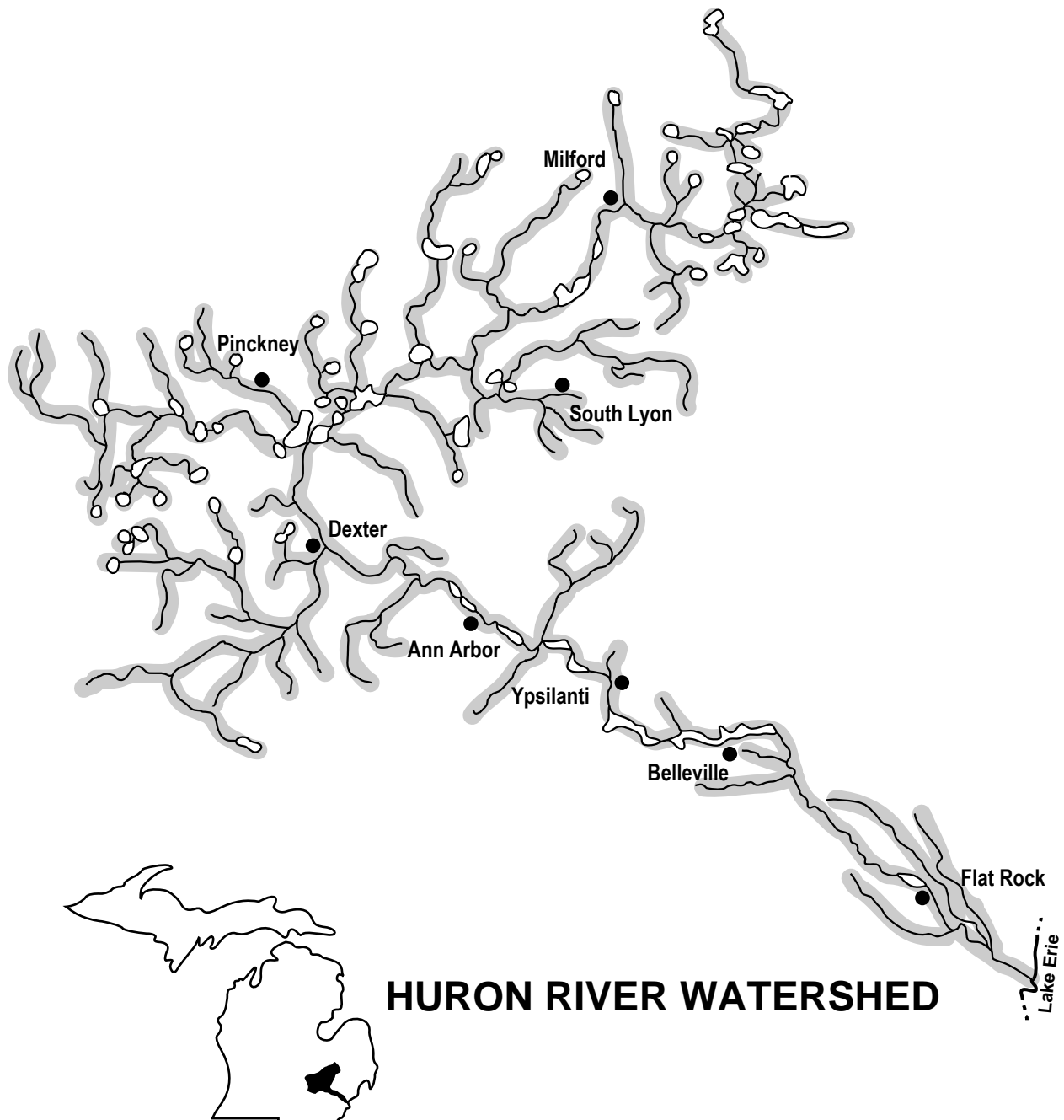


Blackside darter (*Percina maculata*)

Habitat:

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

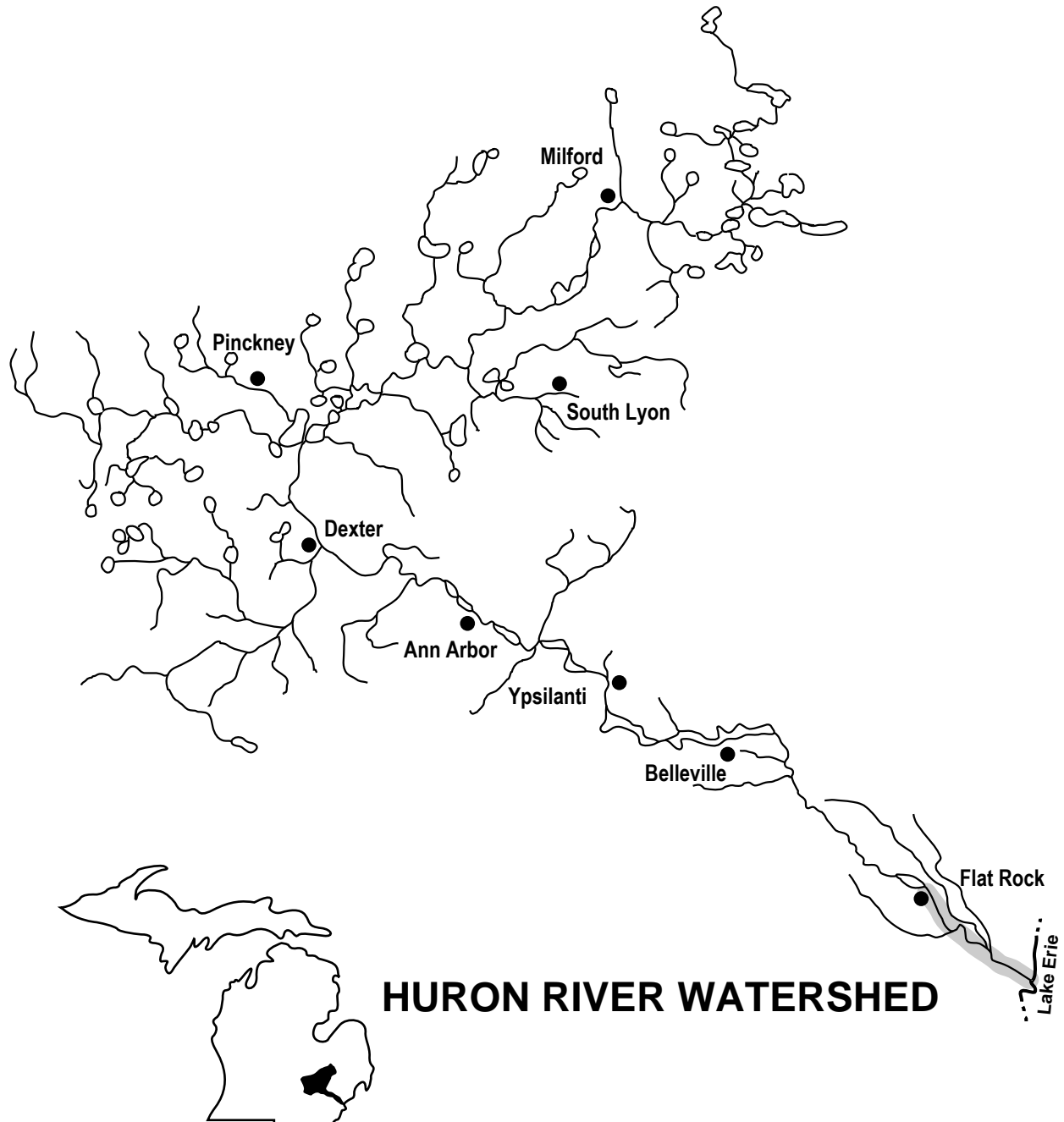
- spawning - gravel and sand substrate



River darter (*Percina schumardi*) - believed locally extirpated

Habitat:

- feeding - medium to large rivers
- moderate to swift current
- coarse rock rubble or boulder-strewn substrate
- can tolerate turbidity

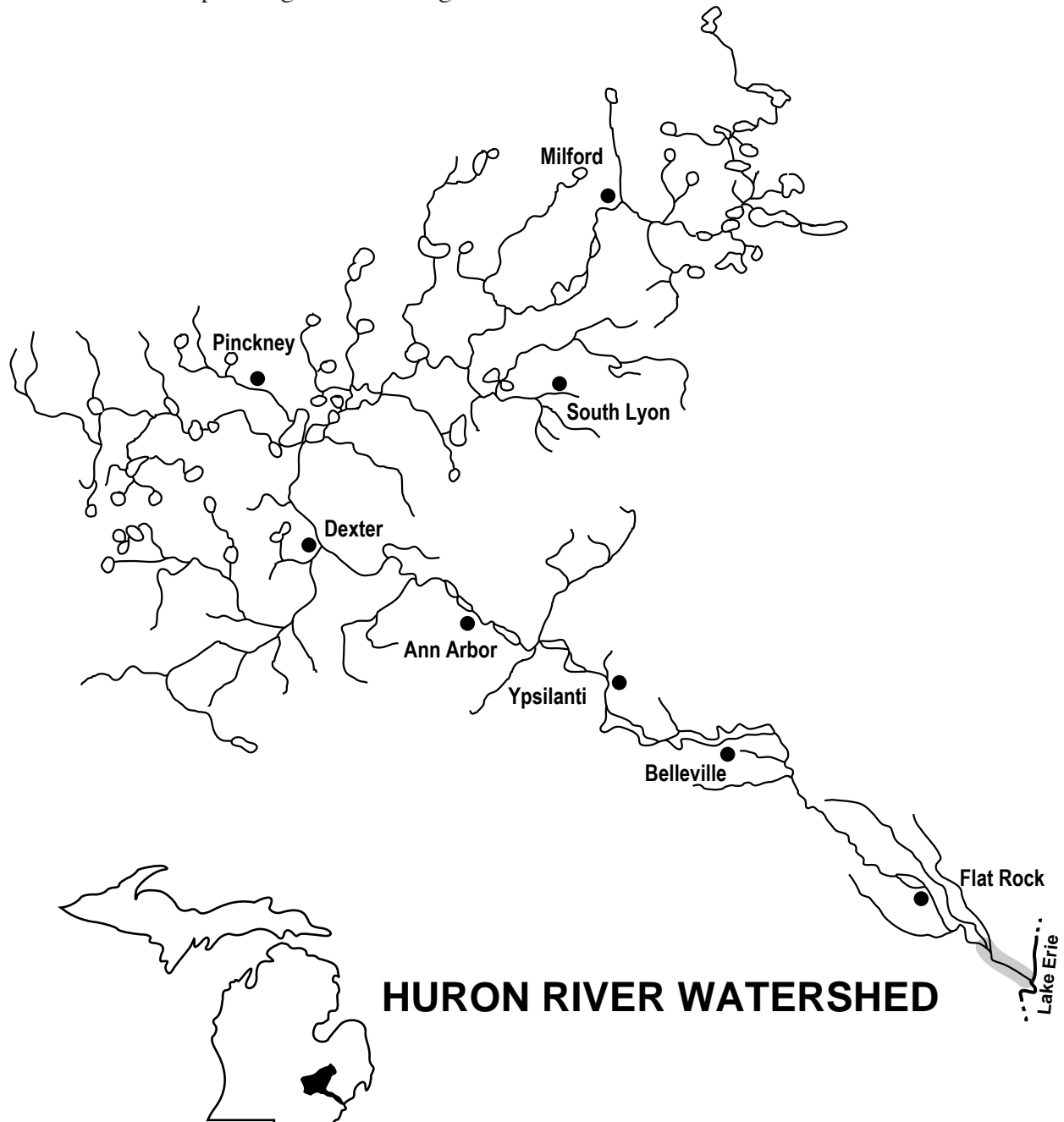


Sauger (*Stizostedion canadense*) - threatened

Habitat:

- feeding - larger, deeper, low gradient rivers; turbid lakes and impoundments;
also Lake Erie
- not tolerant of high gradient
- tolerant of silted substrate
- more tolerant of turbid water than walleye
- young may be in shallows or flats

spawning - shoals of gravel and rubble



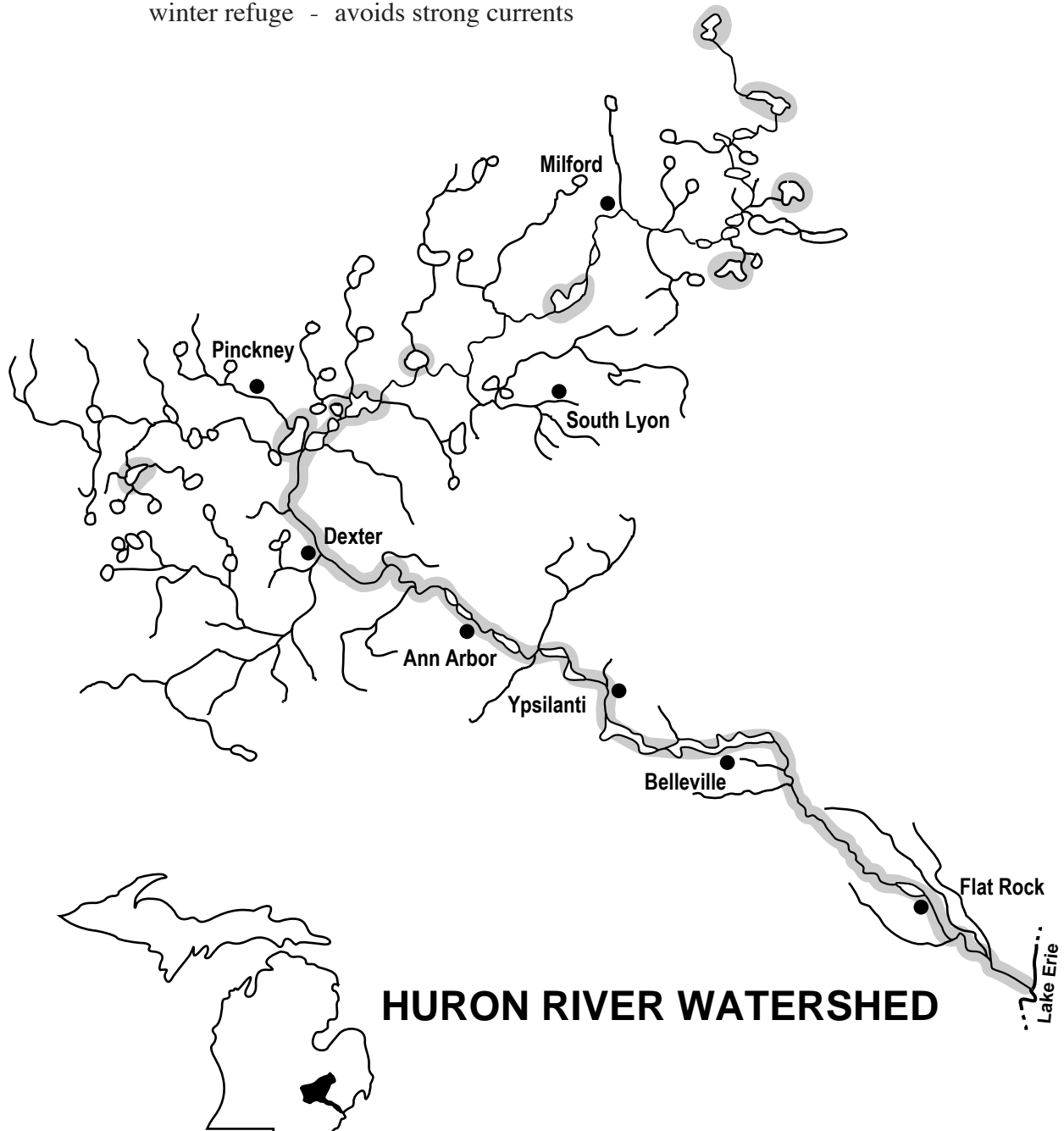
Walleye (*Stizostedion vitreum*)

Habitat:

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



Freshwater drum (*Aplodinotus grunniens*)

Habitat:

- feeding
 - deeper pools of rivers and Lake Erie
 - in shallows
 - prefers clear waters and clean substrates
 - can adapt to high turbidity levels

- spawning
 - pelagically, in open water, over sand or mud substrate
 - occurs in bays or lower portions of marshes

