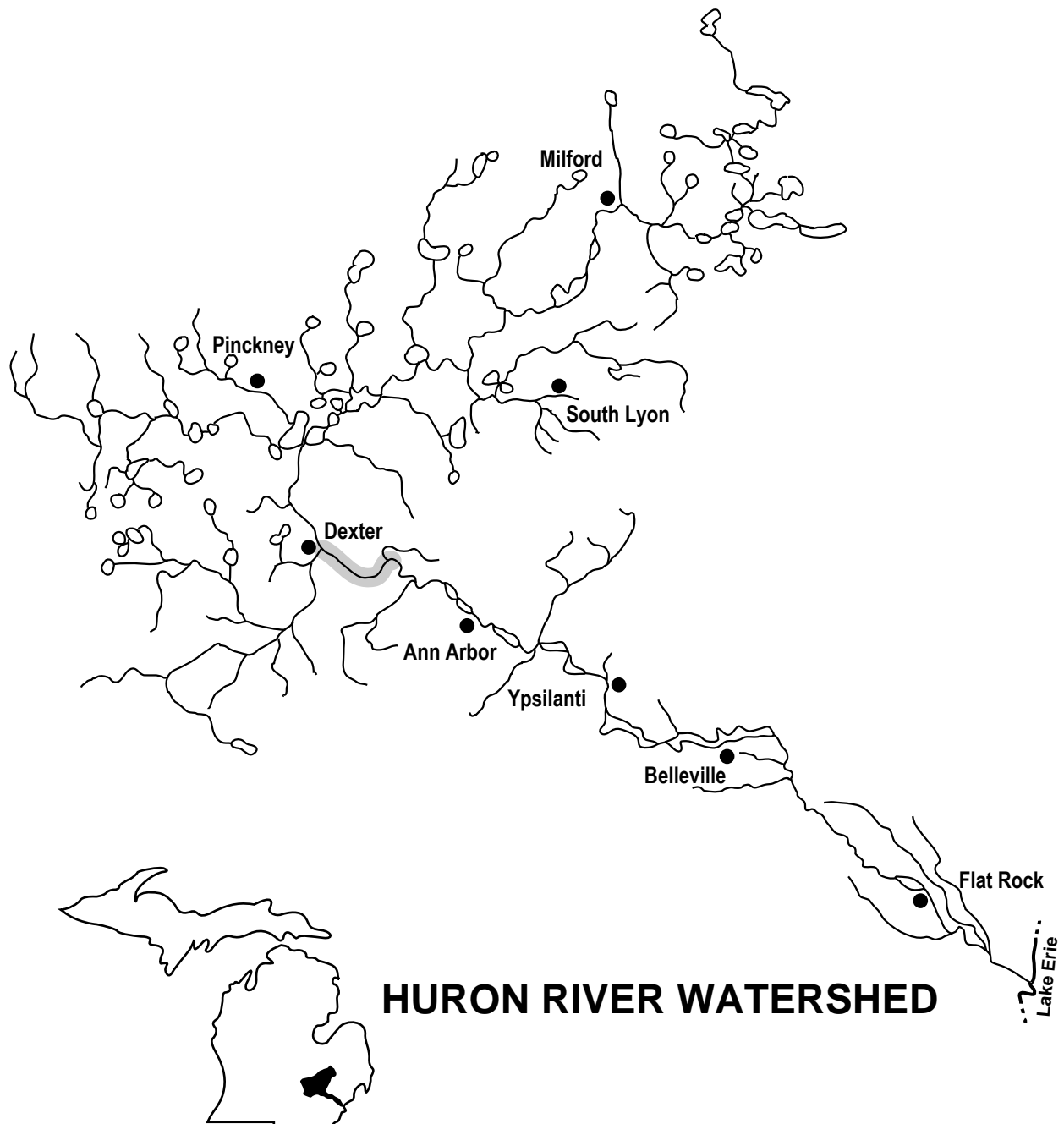


**River chub** (*Nocomis micropogon*)

**Habitat:**

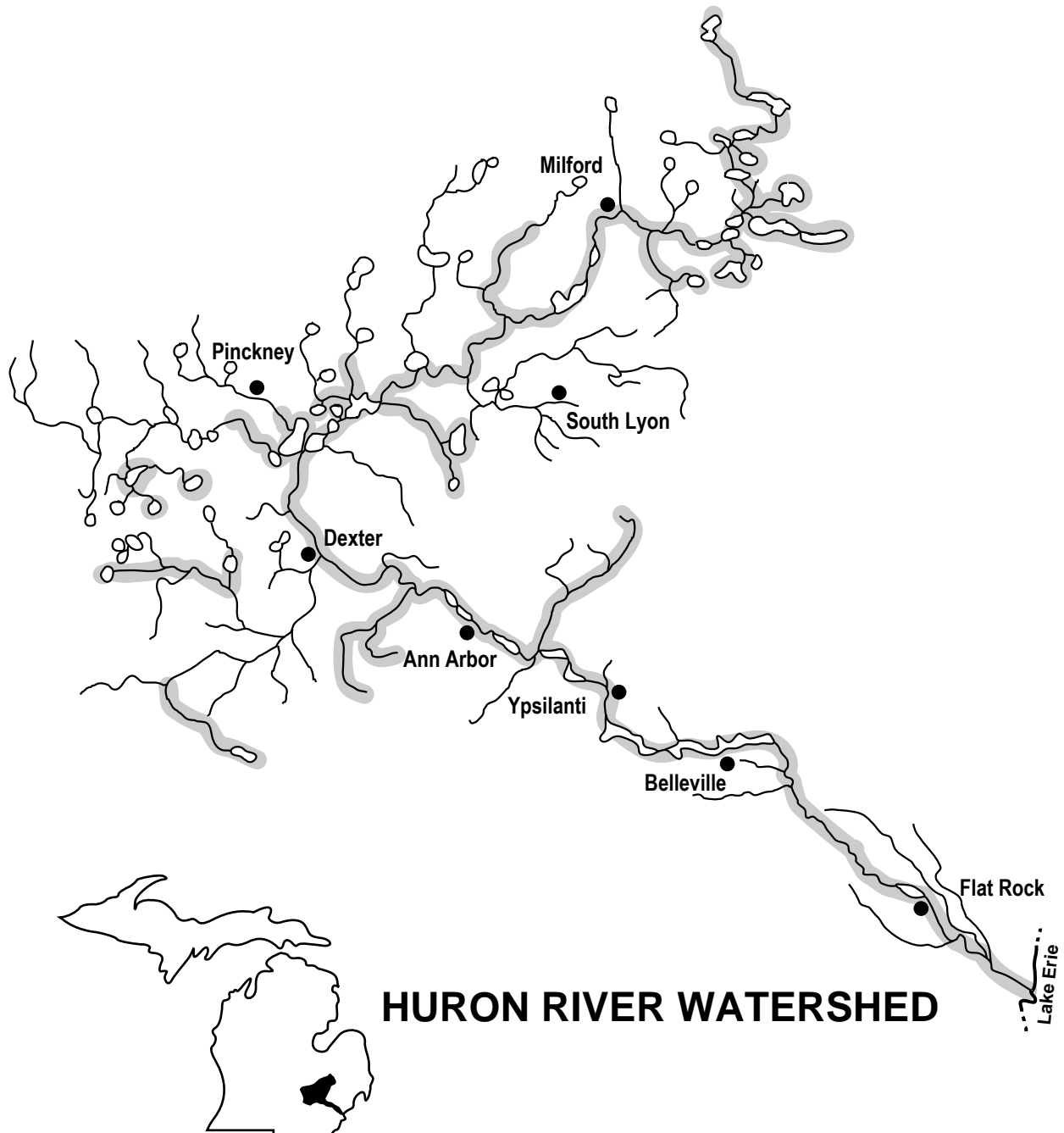
- feeding - moderate to large streams
- moderate to high gradient
- gravel, boulder, or bedrock substrate
- little to no aquatic vegetation
- cannot tolerate turbidity or siltation



**Golden shiner** (*Notemigonus crysoleucas*)

**Habitat:**

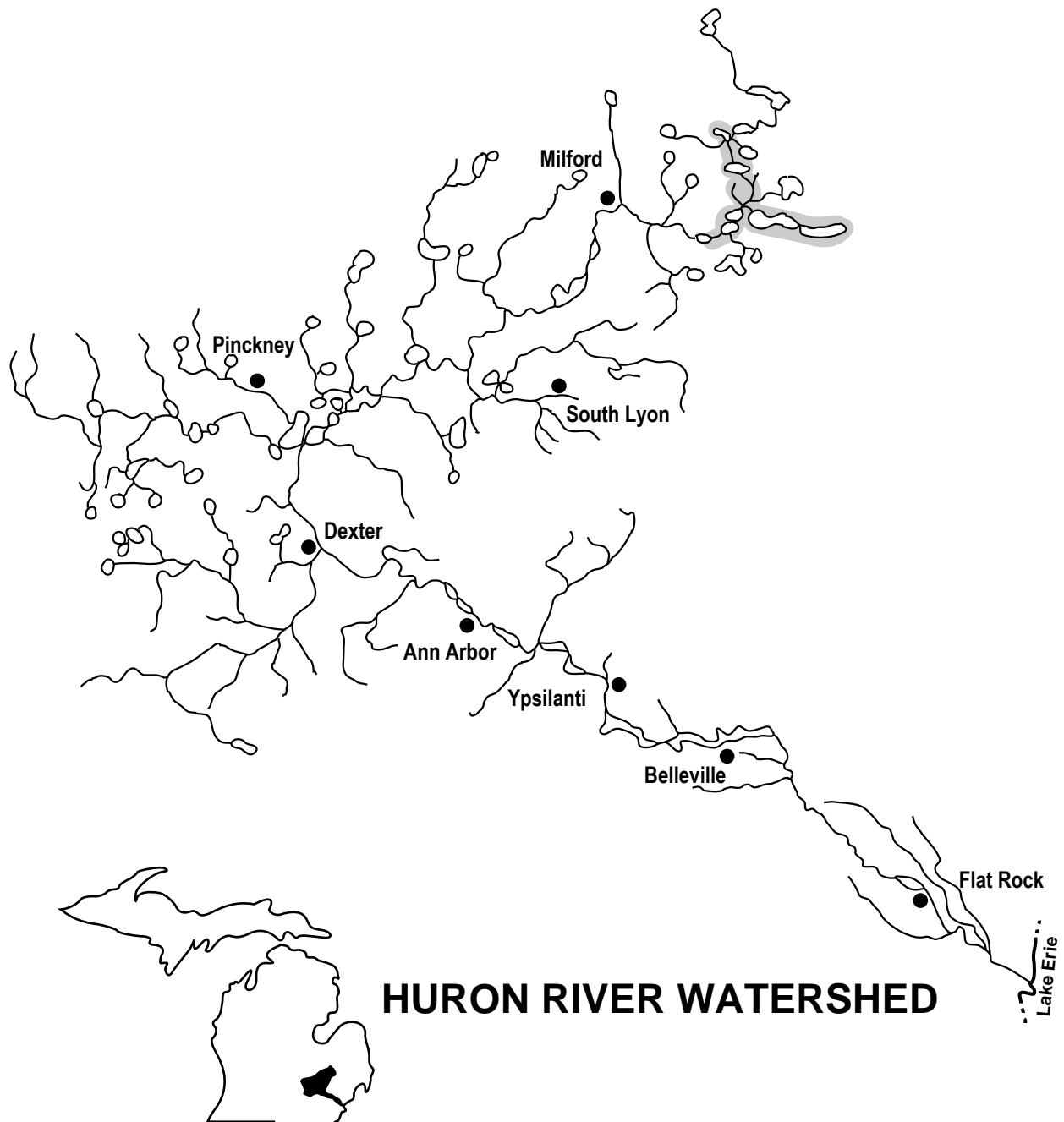
- feeding - lakes and impoundments and quiet pools of low gradient streams
- clear shallow water
- heavy vegetation
  
- spawning - vegetation



**Pugnose shiner** (*Notropis anogenus*) - rare

**Habitat:**

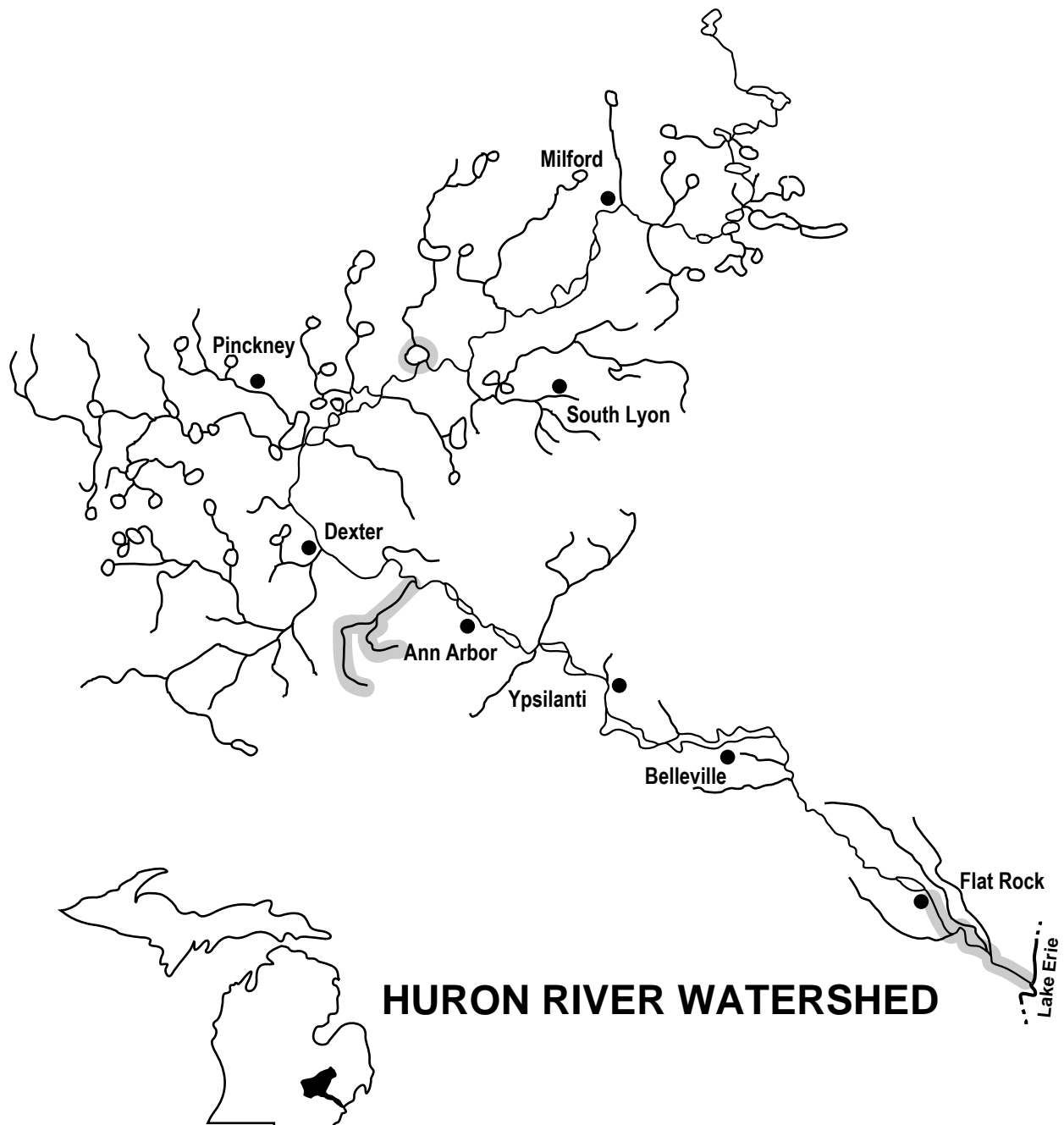
- feeding - very clear water of lakes, impoundments, and low-gradient streams
- aquatic vegetation
- clean sand, marl, or organic debris substrate
- extremely intolerant of turbidity



**Emerald shiner** (*Notropis atherinoides*)

**Habitat:**

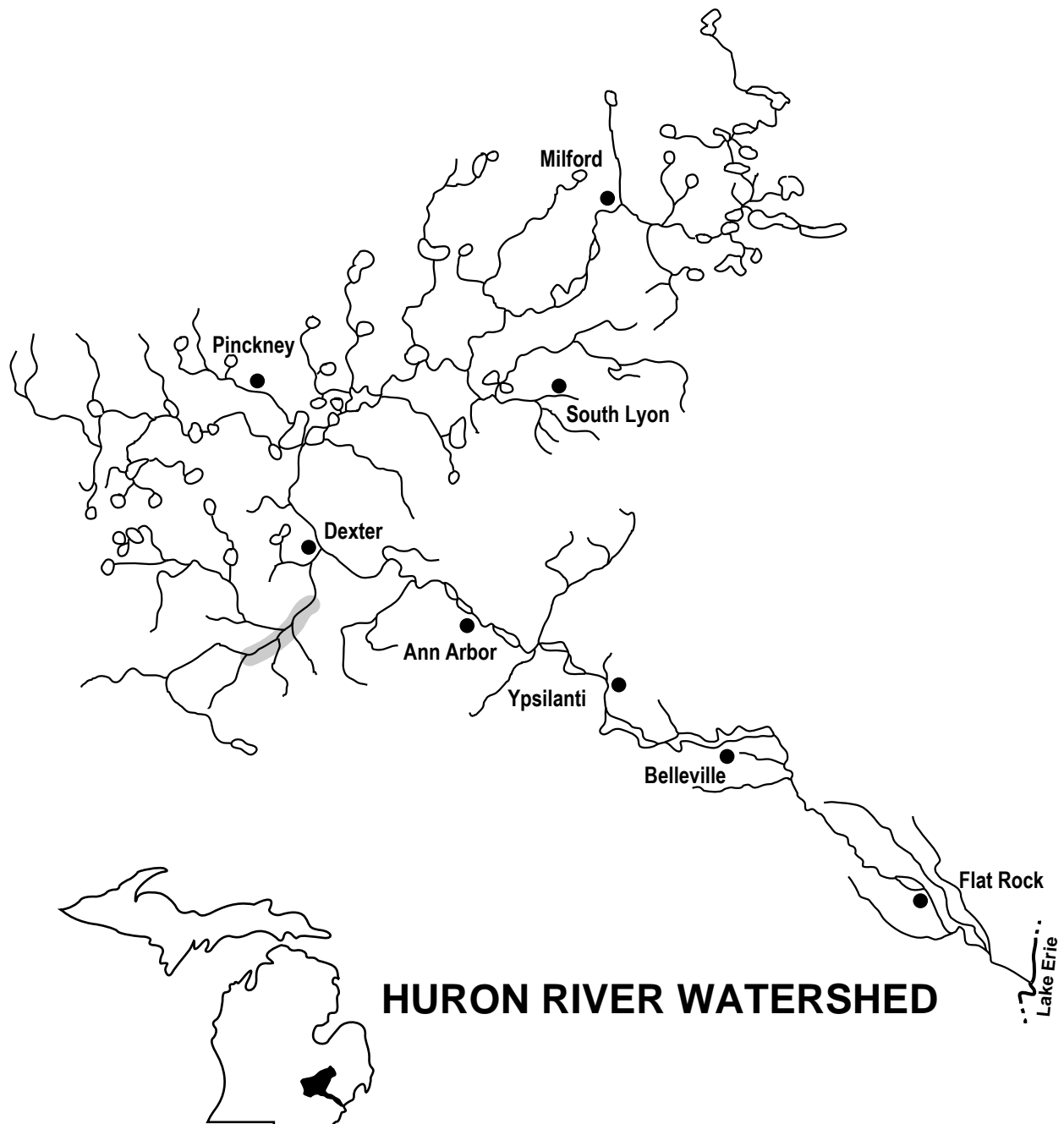
- feeding - open-large stream channels and Lake Erie
  - low to moderate gradient
  - range of turbidites and bottom types
  - midwater or surface preferred, substrate of little importance
  - avoids rooted vegetation
- spawning - sand or firm mud substrate or gravel shoals



**Silverjaw minnow (*Notropis buccatus*) - rare**

**Habitat:**

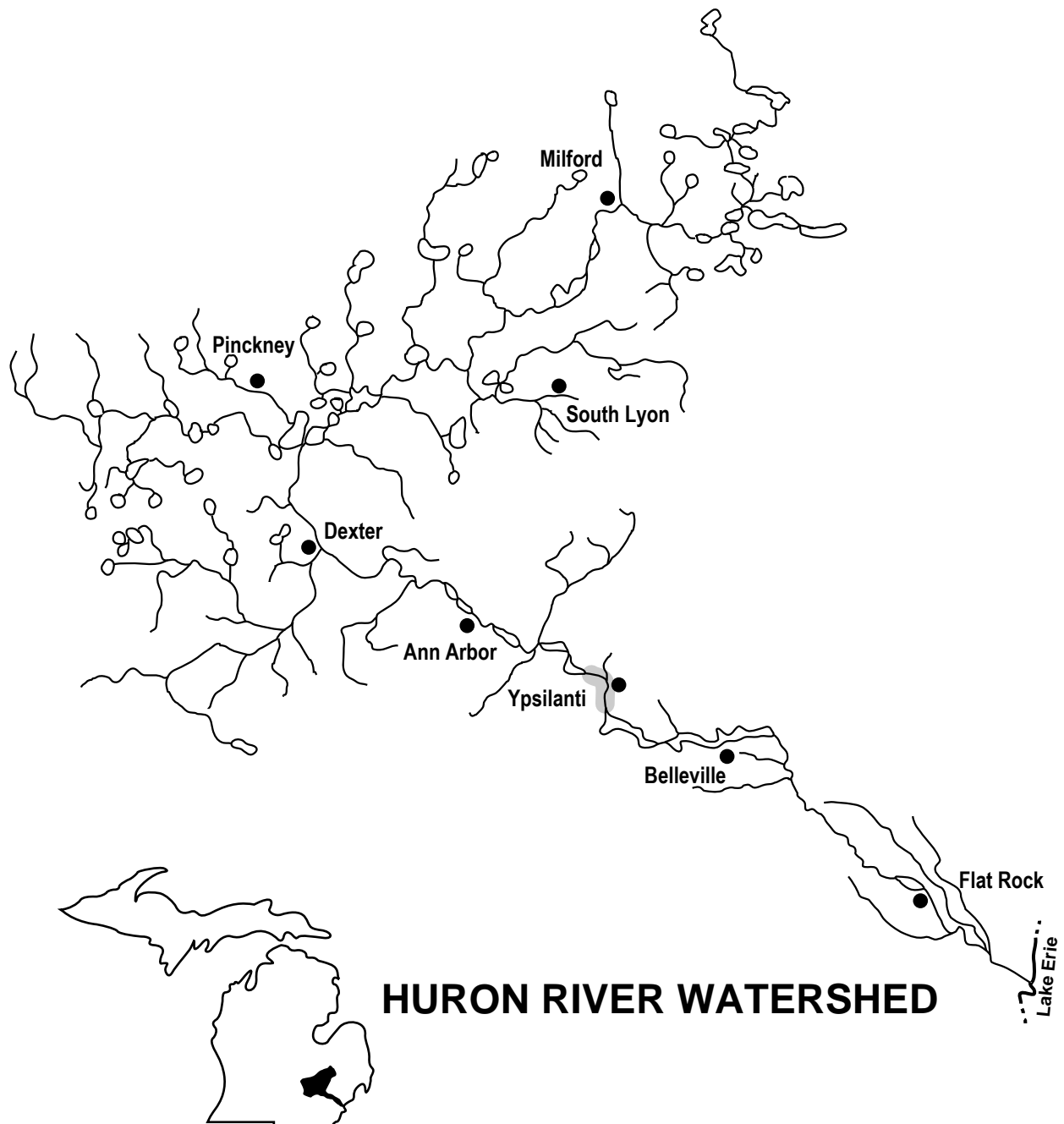
- feeding - small, clear, shallow streams
- sand substrate
- moderate gradient
- high tolerance to turbidity and domestic and industrial pollutants



**Bigmouth shiner (*Notropis dorsalis*) - rare**

**Habitat:**

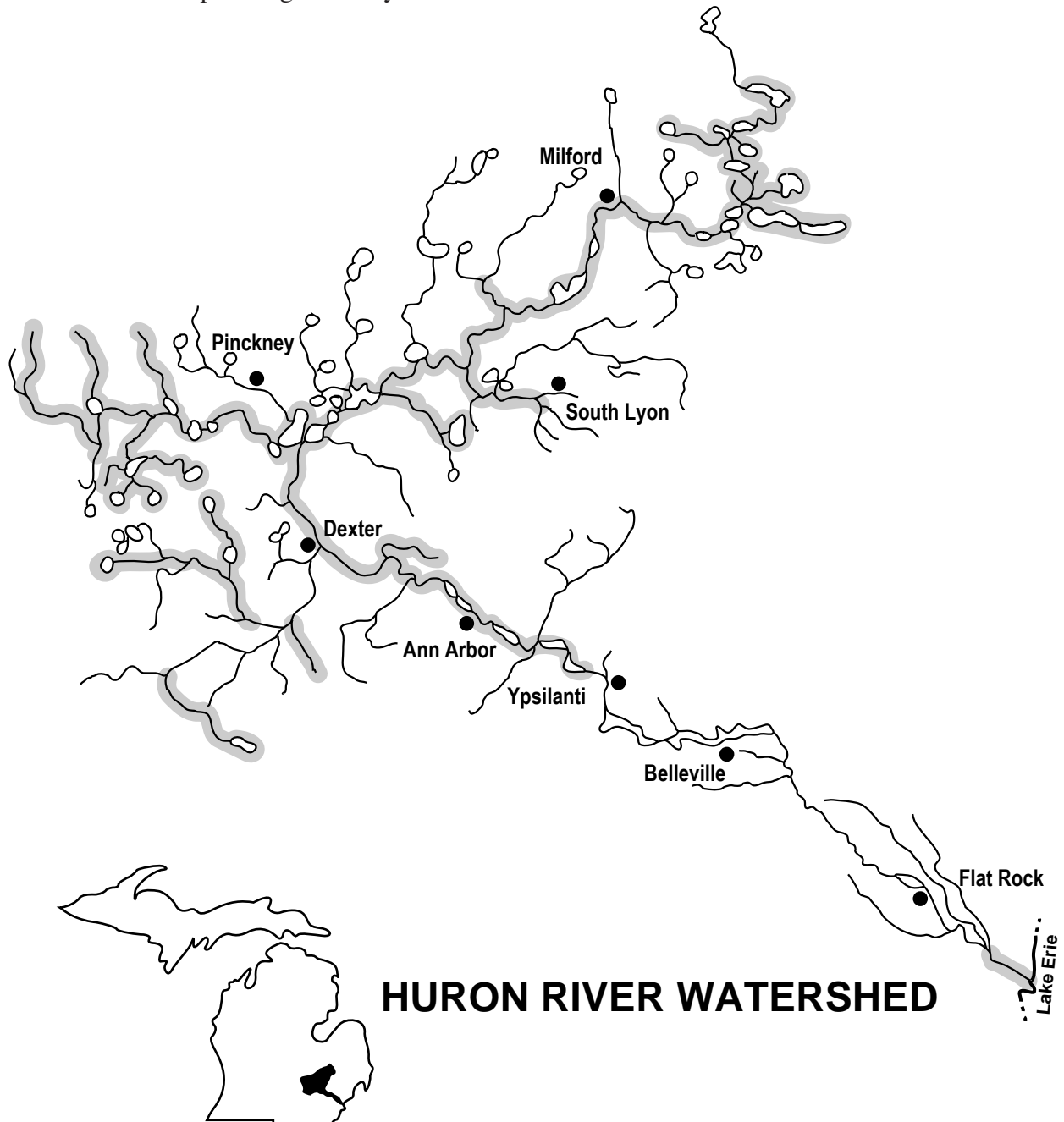
- feeding - small clear streams
- good flows
- sand or gravel substrate
- open water, free from vegetation



**Blacknose shiner** (*Notropis heterolepis*)

**Habitat:**

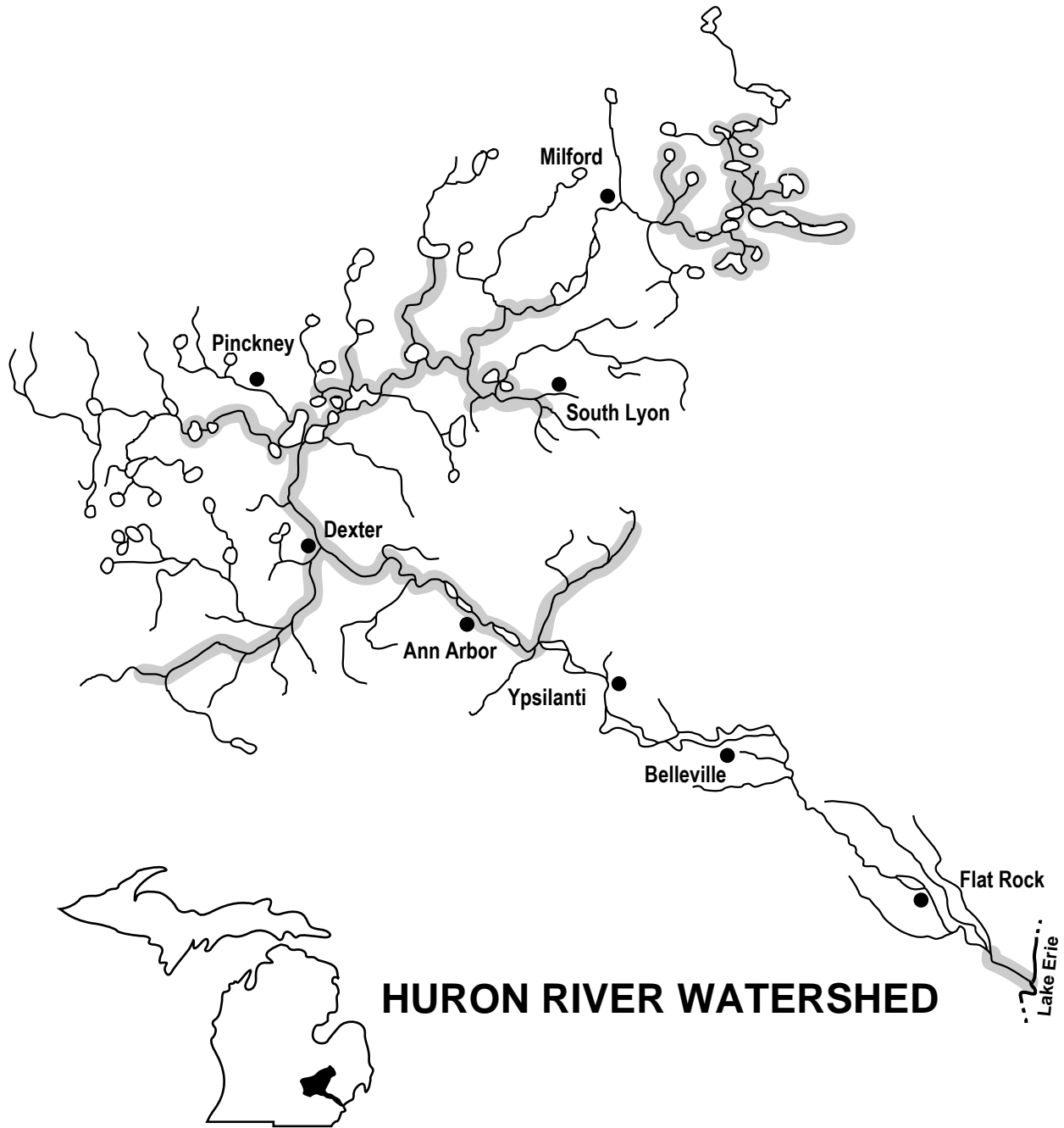
- feeding - clear lakes, impoundments, and pools of small, clear, low gradient streams
  - aquatic vegetation
  - clean sand, gravel, marl, muck, peat, or organic debris substrate
  - cannot tolerate much turbidity, much siltation, or loss of aquatic vegetation
- spawning - sandy substrate



**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



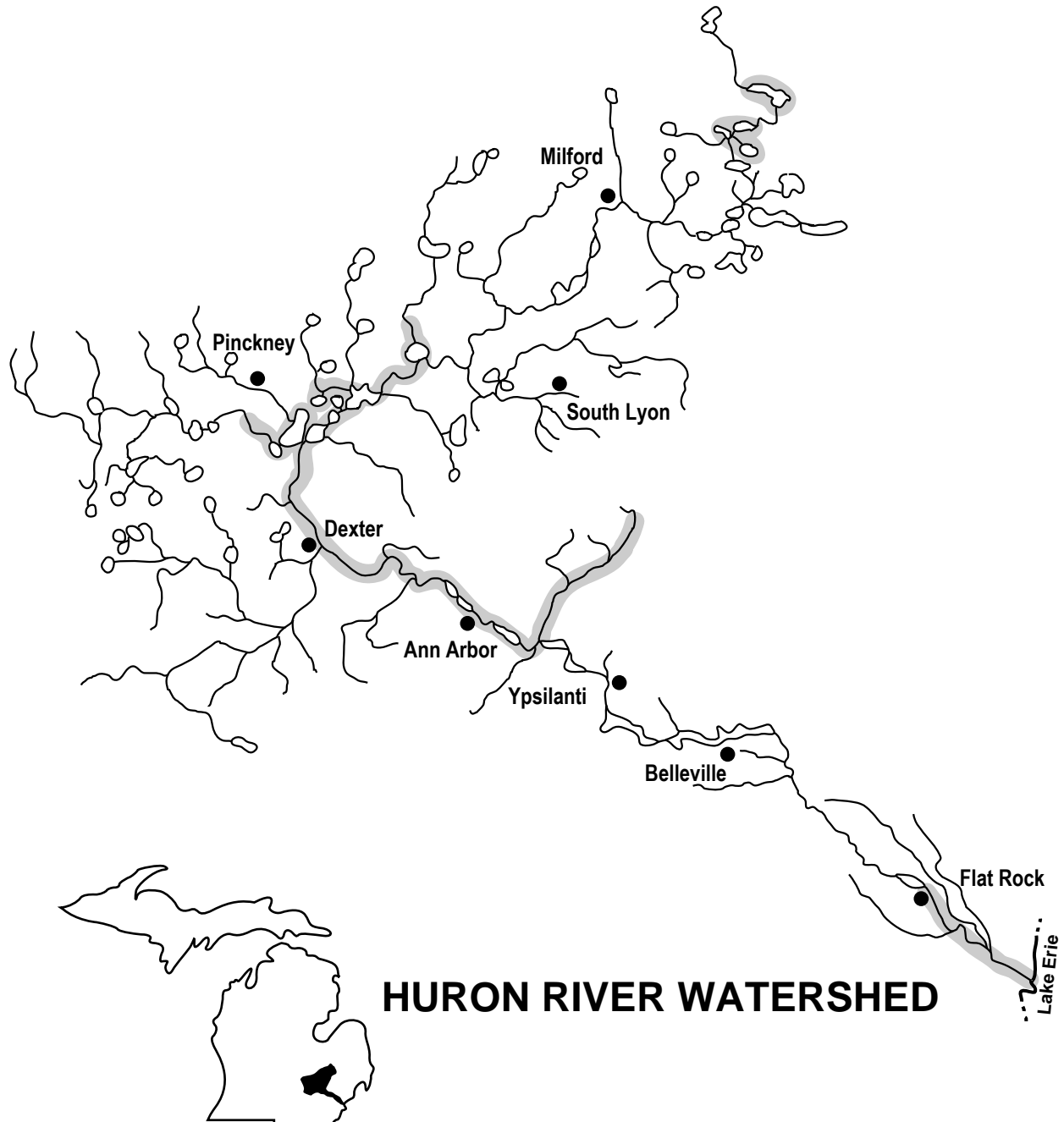


**Spottail shiner** (*Notropis hudsonius*)

**Habitat:**

- feeding - large rivers, lakes, and impoundments
- firm sand and gravel substrate
- low current
- sparse to moderate vegetation
- avoids turbidity

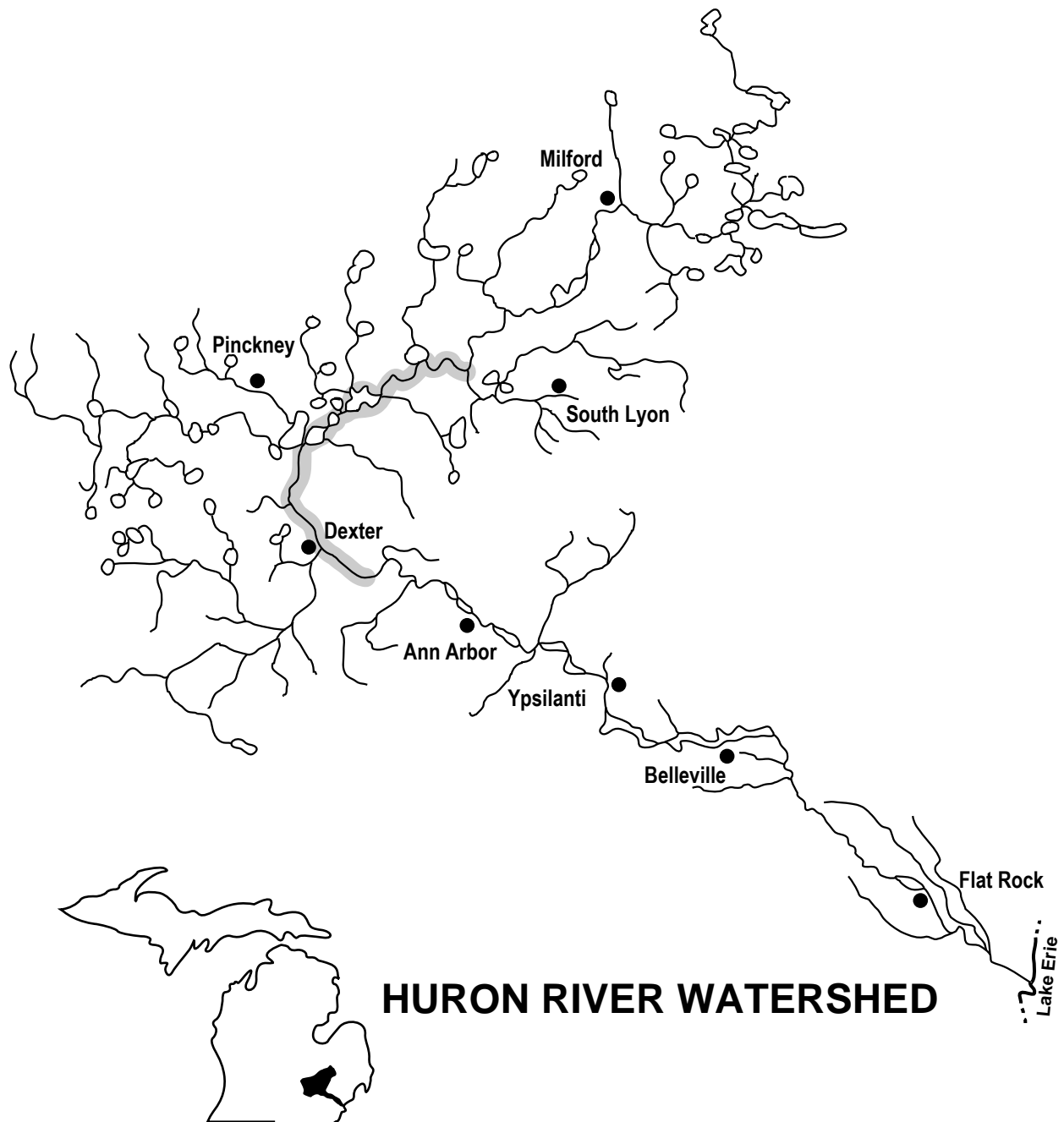
- spawning - over sandy shoals or gravelly riffles
- near the mouths of small streams



**Silver shiner** (*Notropis photogenis*) - threatened

**Habitat:**

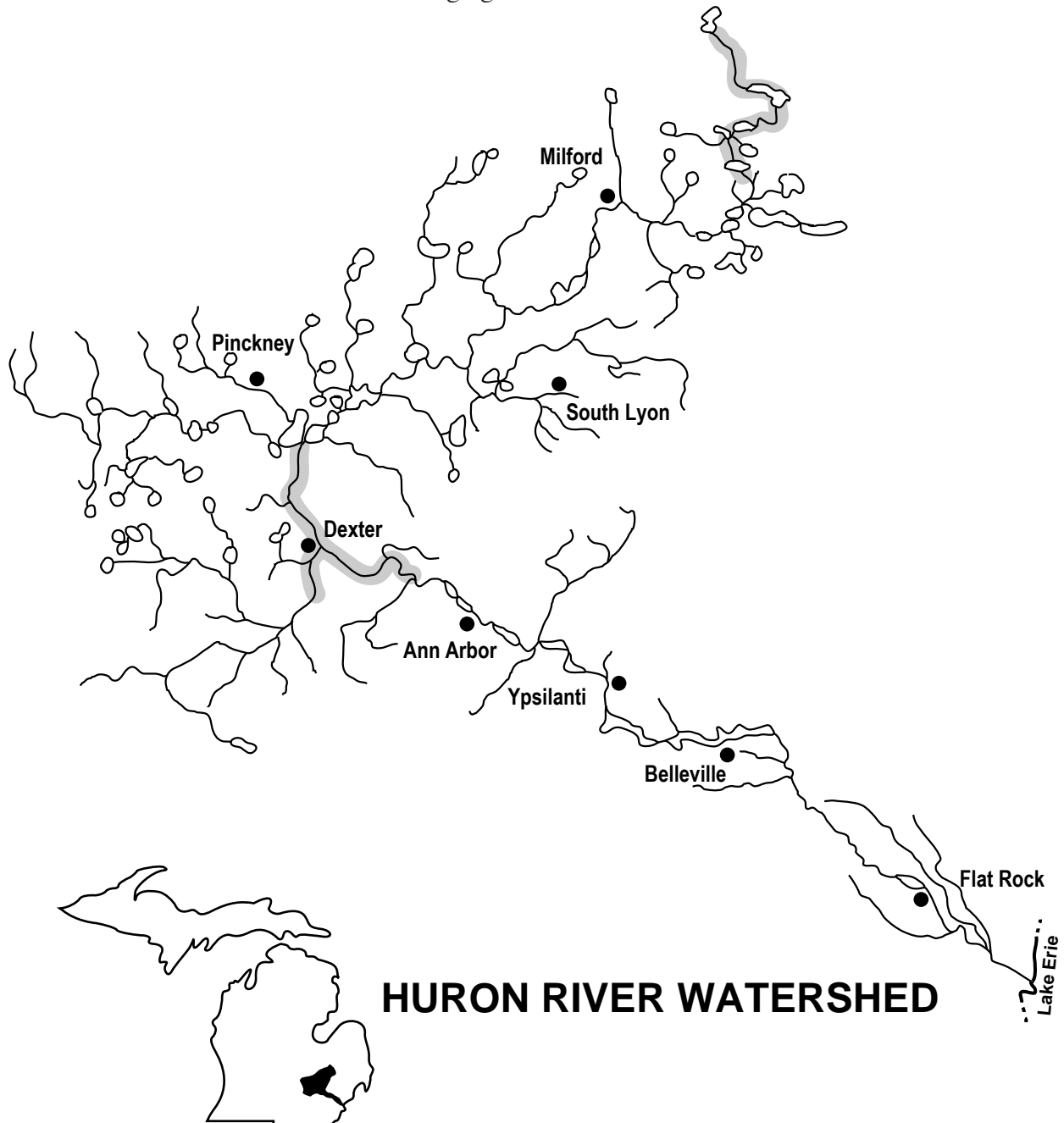
- feeding - moderate to large sized streams
- clear water with moderate to high gradients
- gravel and boulder substrate
- riffles and swifter eddies and currents of pools
- does not like silt substrate or rooted aquatic vegetation



**Rosyface shiner** (*Notropis rubellus*)

**Habitat:**

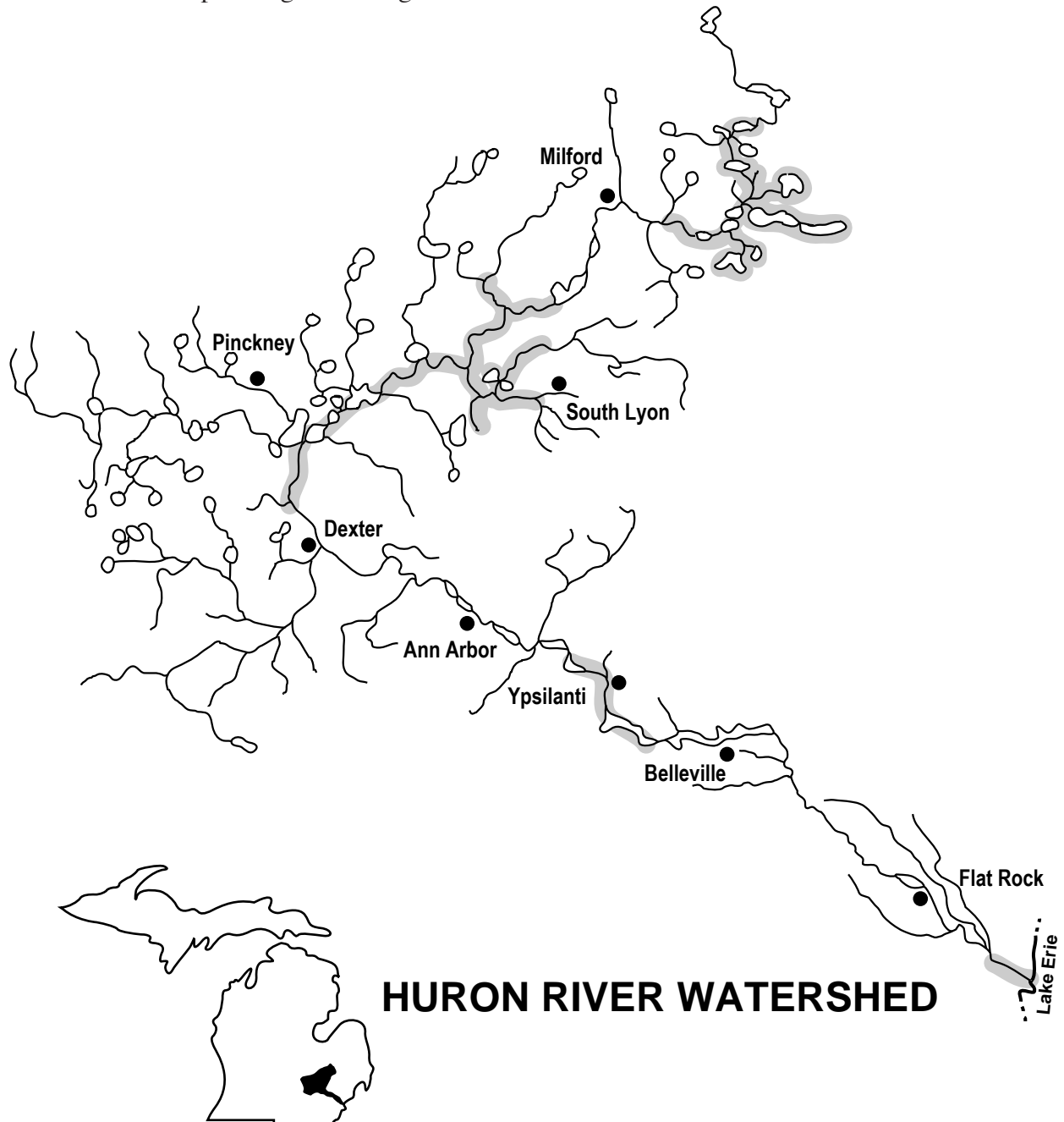
- feeding
  - moderate sized streams
  - moderate to high gradient
  - gravel or sand substrate; intolerant of silt substrate
  - clear water; intolerant of turbidity
  
- spawning
  - on nests of hornyhead chub, chesnut lamprey, and redhorses
  - sandy-gravel, gravel or bedrock substrate
  - shallow high gradient water



**Sand shiner** (*Notropis stramineus*)

**Habitat:**

- feeding - sand and gravel substrate
  - shallow pools in medium size streams, lakes, and impoundments
  - clear water and low gradient
  - rooted aquatic vegetation preferred
  - tolerant of some inorganic pollutants provided substrate is not covered
- spawning - clean gravel or sand substrate



**Mimic shiner** (*Notropis volucellus*)

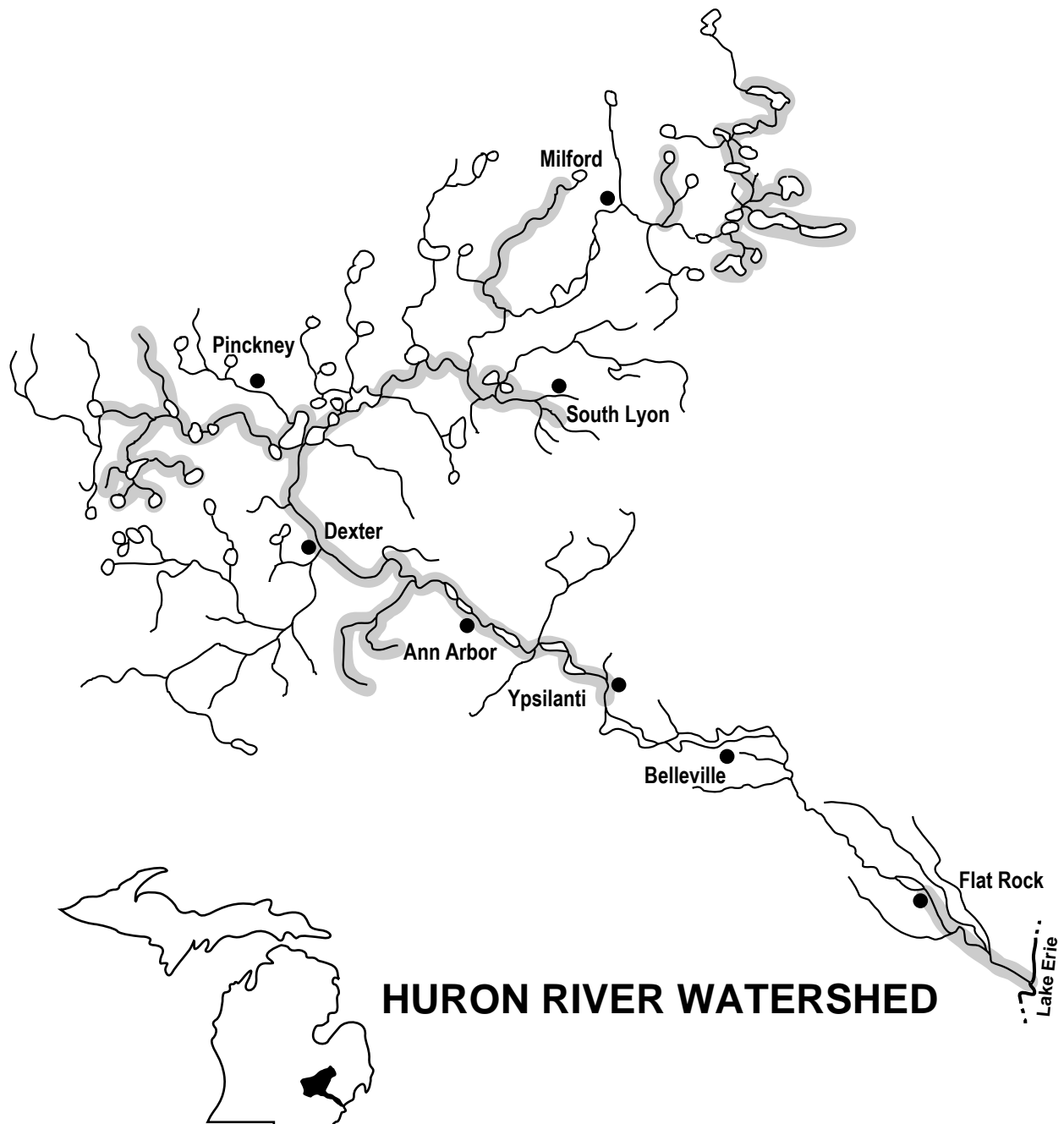
**Habitat:**

feeding - pools and backwater of streams, moderately weedy lakes and impoundments

- quiet or still water

- clear shallow water

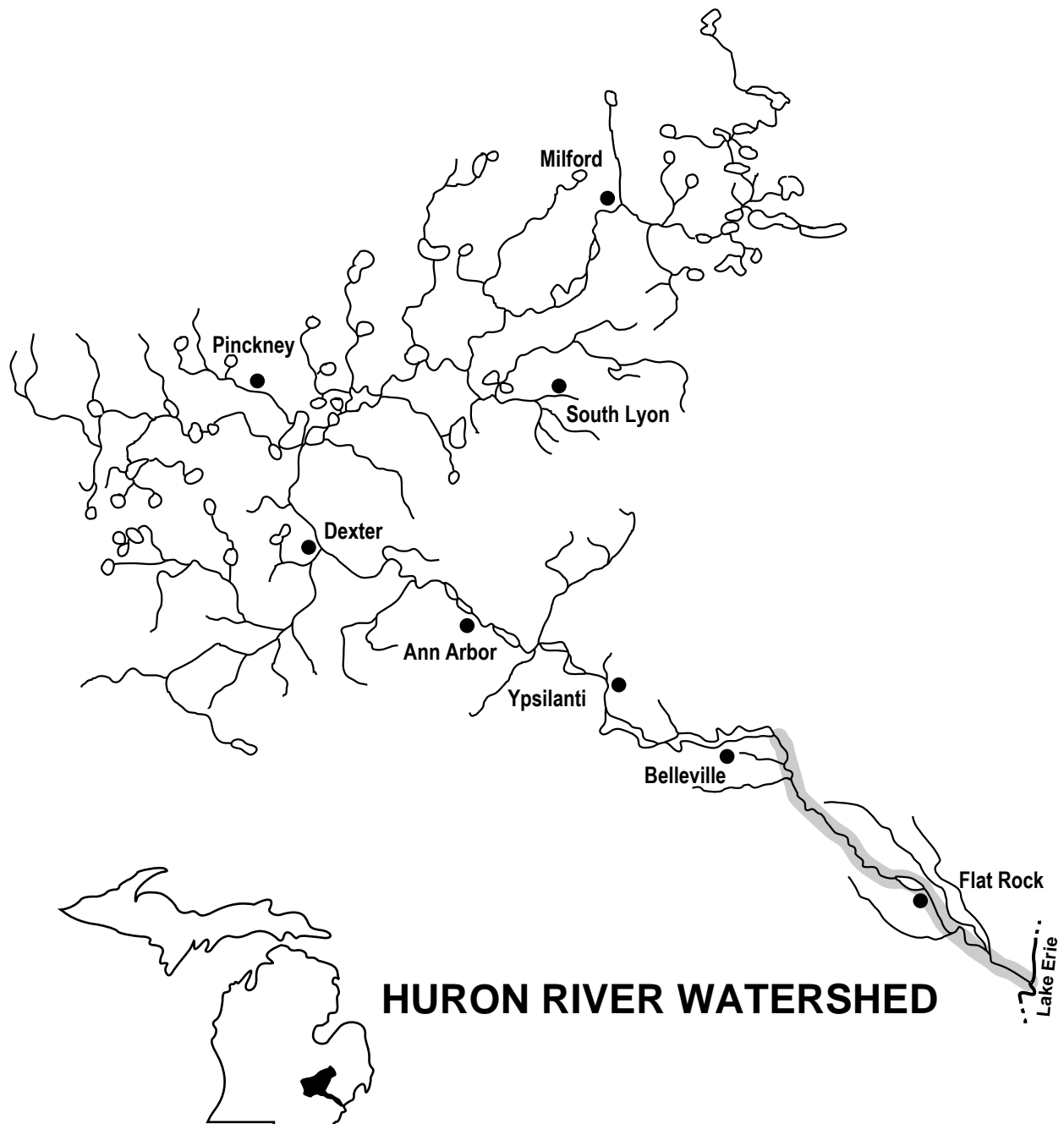
spawning - aquatic vegetation necessary



**Pugnose minnow (*Opsopoeodus emiliae*) - rare**

**Habitat:**

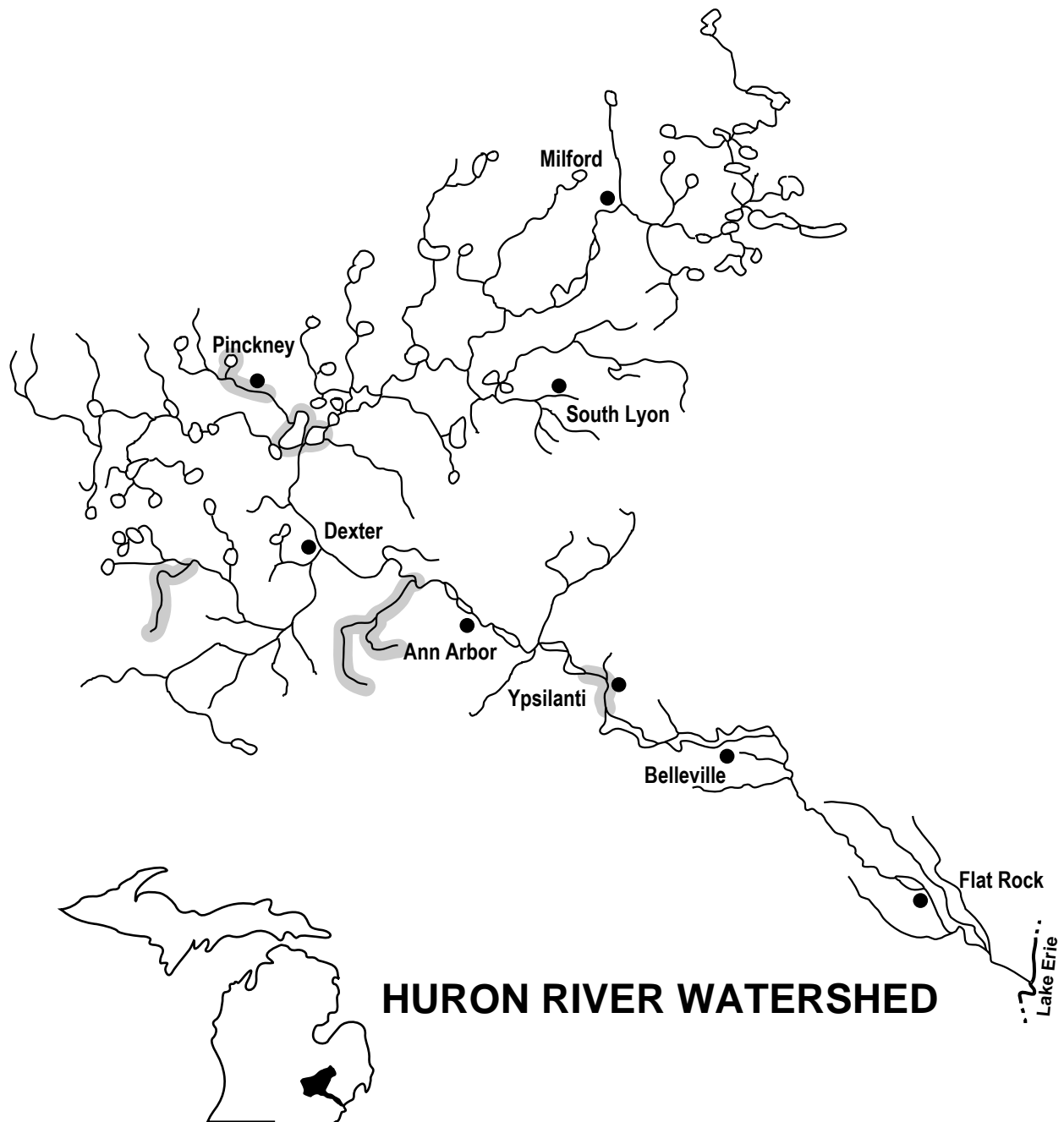
- feeding - clear vegetated rivers
- low current
- sand or mud substrates
- intolerant of turbidity



**Northern redbelly dace (*Phoxinus eos*) - rare**

**Habitat:**

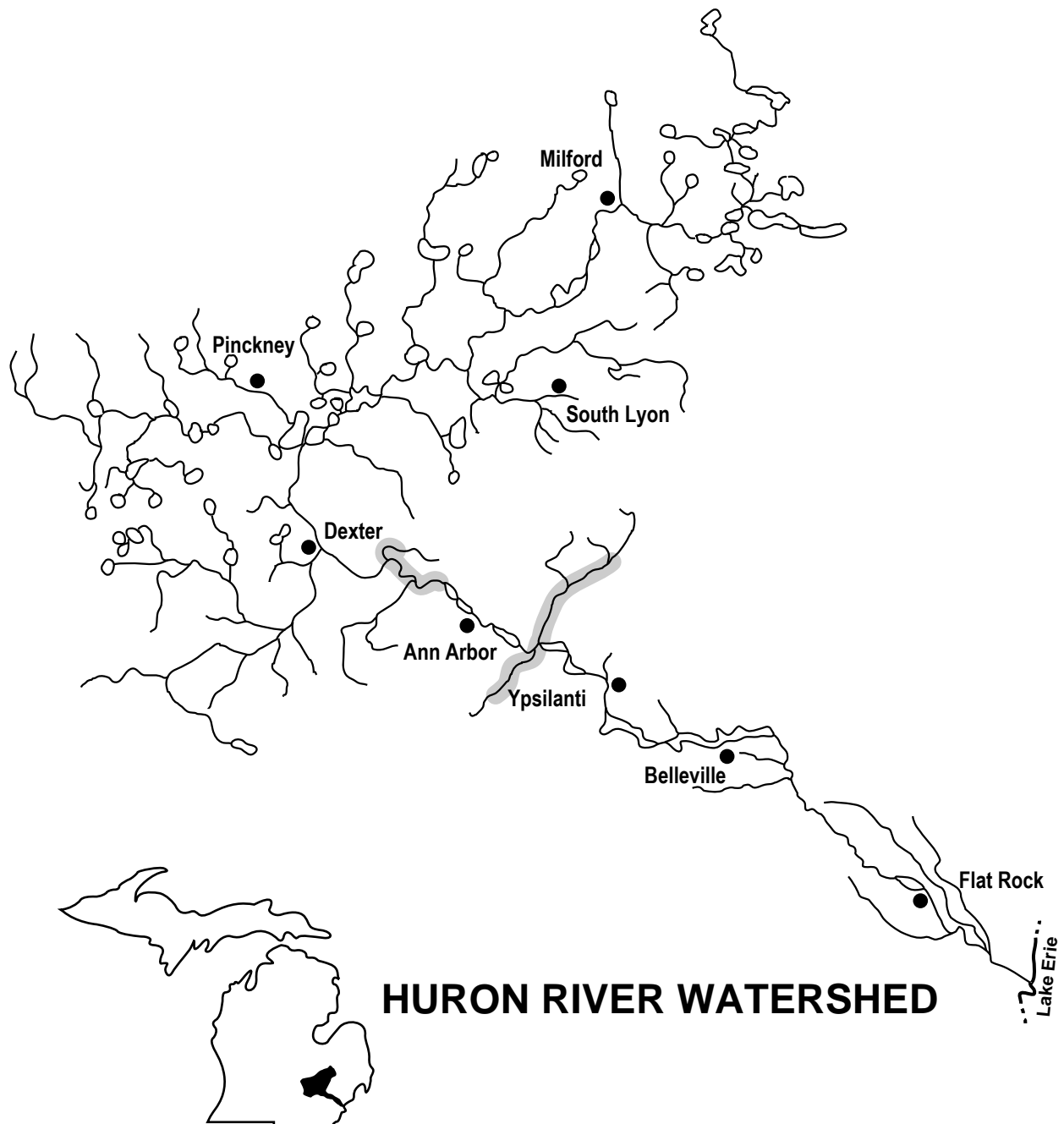
- feeding - slow current
  - in boggy lakes and streams
  - detritus or silt substrate
  - clear to slightly turbid water
- spawning - filamentous algae needed for egg deposition



**Southern redbelly dace (*Phoxinus erythrogaster*) - threatened**

**Habitat:**

- feeding
  - cool, clear, silt-free small to medium streams
  - gravel substrate
  - cut banks overhung by vegetation
  - instream aquatic vegetation rare or absent
  
- spawning
  - gravelly riffles
  - eggs scattered in crevices and in other species nests

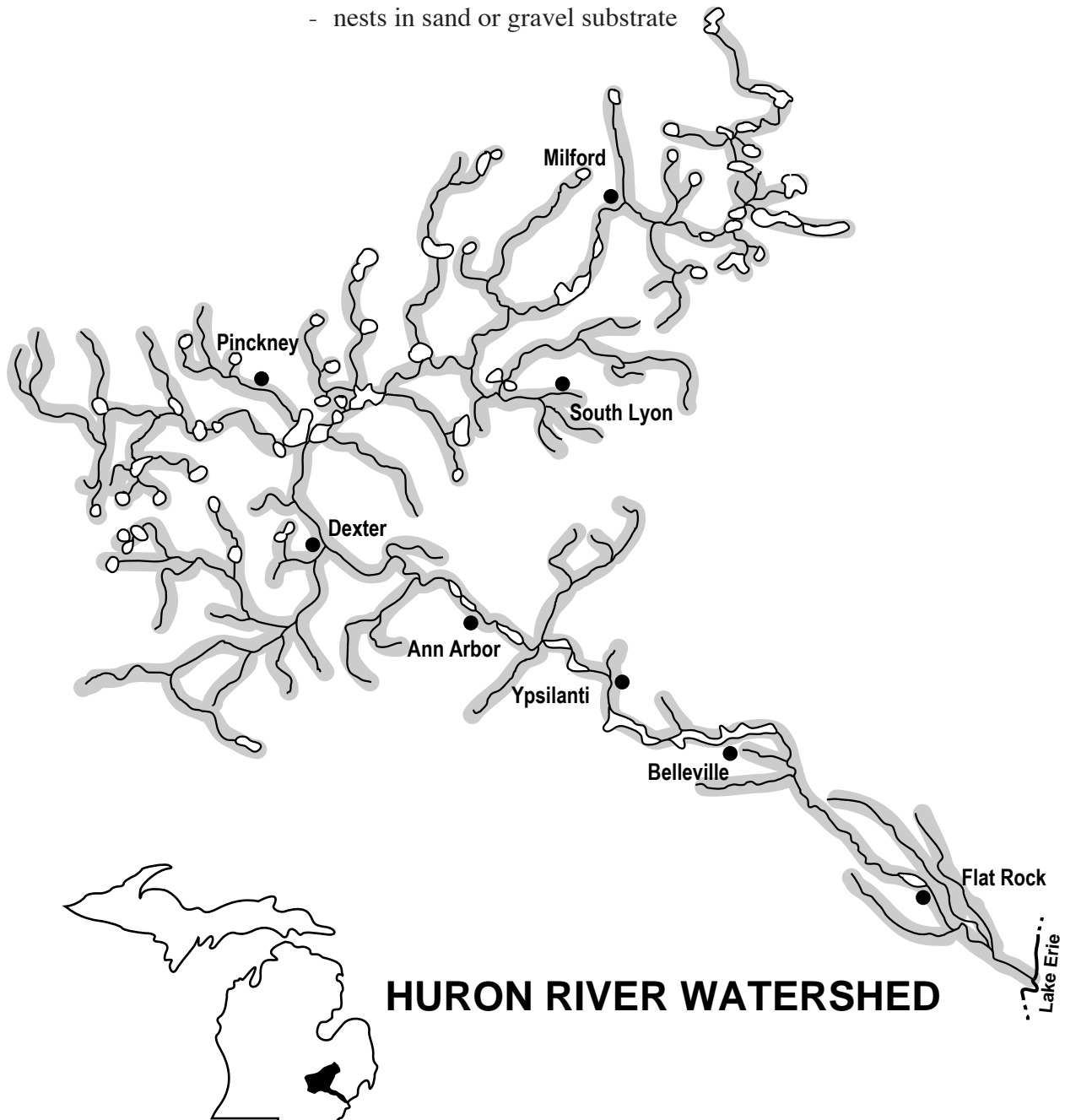




**Bluntnose minnow (*Pimephales notatus*)**

**Habitat:**

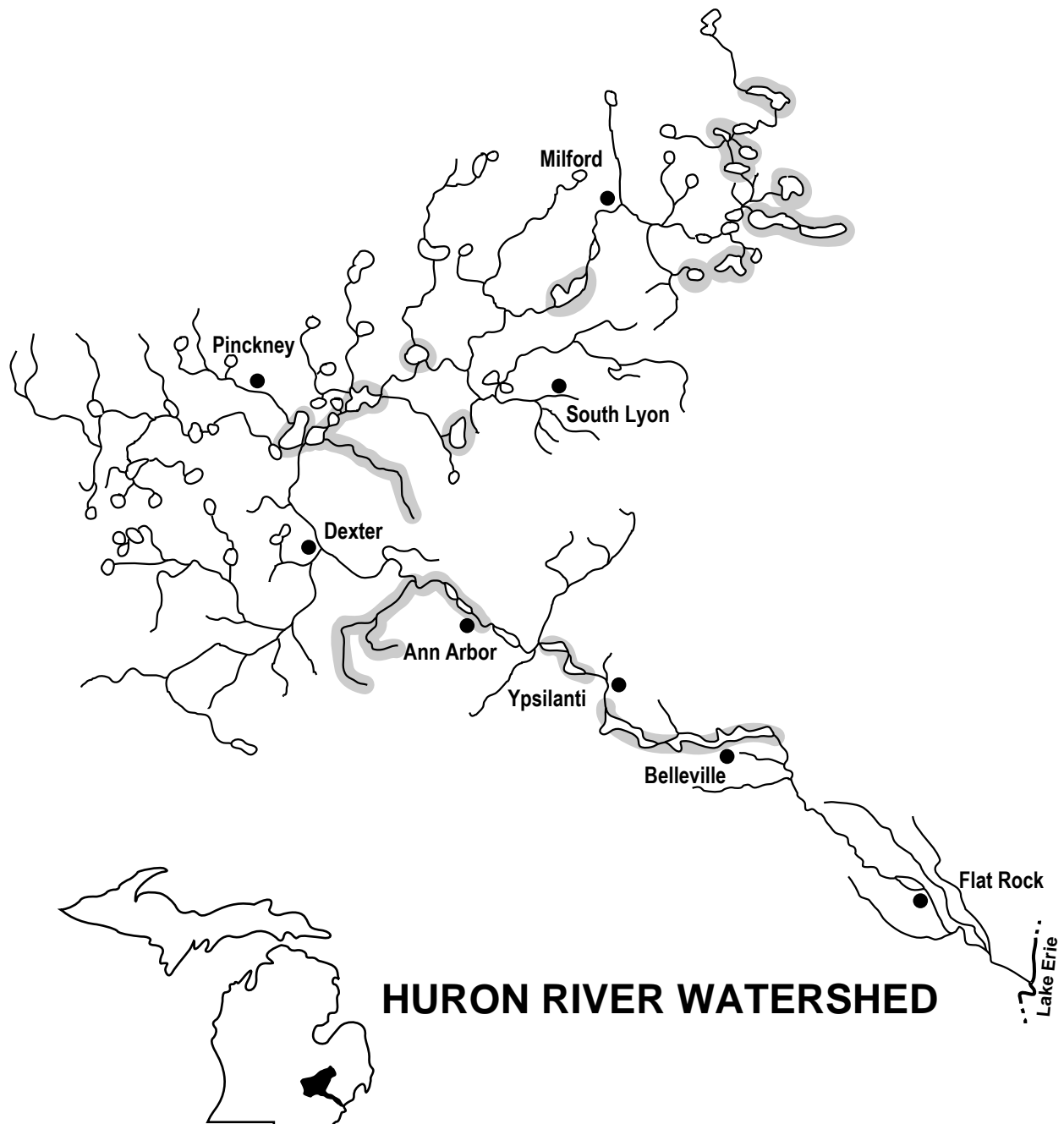
- feeding - quiet pools and backwaters of medium to large streams, lakes, and impoundments
  - clear warm water
  - some aquatic vegetation
  - firm substrates
  - tolerates all gradients, turbidity, organic and inorganic pollutants
- 
- spawning - eggs deposited on the underside of flat stones or objects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



**Fathead minnow (*Pimephales promelas*)**

**Habitat:**

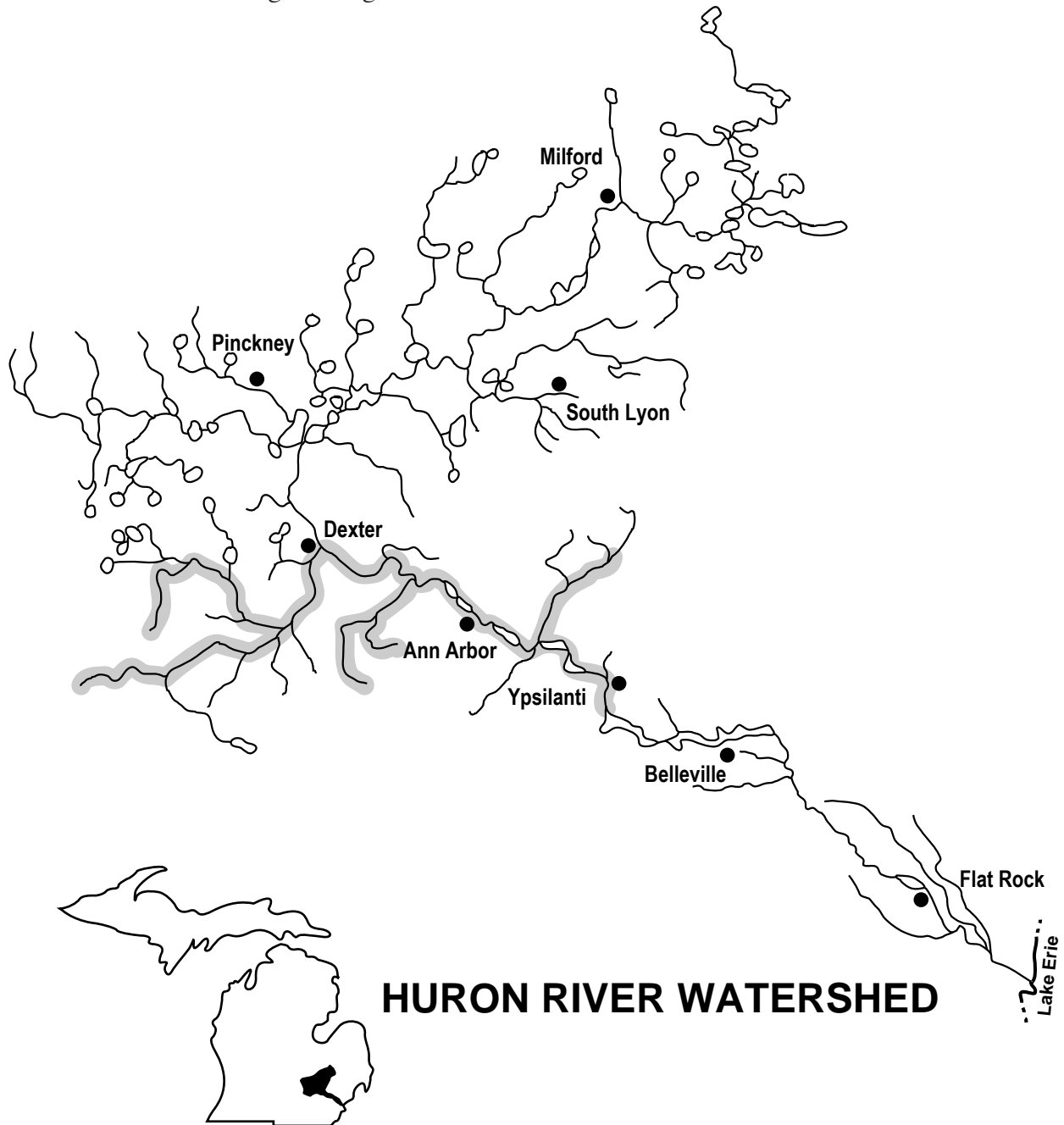
- feeding - pools of small streams, lakes, and impoundments
- tolerant of turbidity, high temperatures, and low oxygen
  
- spawning - on underside of objects in water 2 to 3 feet deep
- prefer sand, marl, or gravel substrate



**Blacknose dace (*Rhinichthys atratulus*)**

**Habitat:**

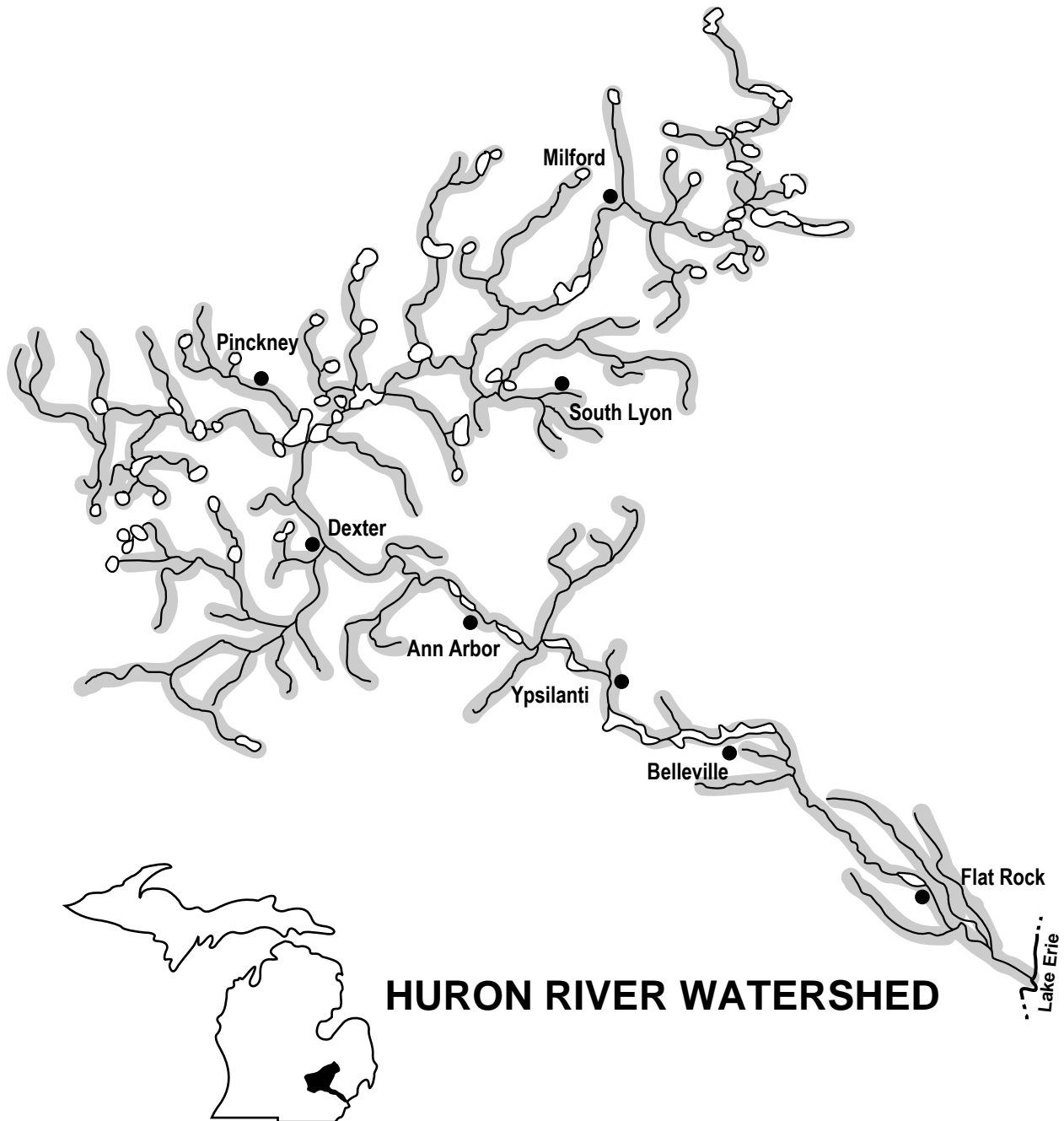
- feeding - moderate to high gradient streams
- sand and gravel substrate
- clear cool water in pools with deep holes and undercut banks
- does not tolerate turbidity and silt well
  
- spawning - riffles with gravel substrate and fast current
  
- winter refuge - larger waters



**Creek chub** (*Semotilus atromaculatus*)

**Habitat:**

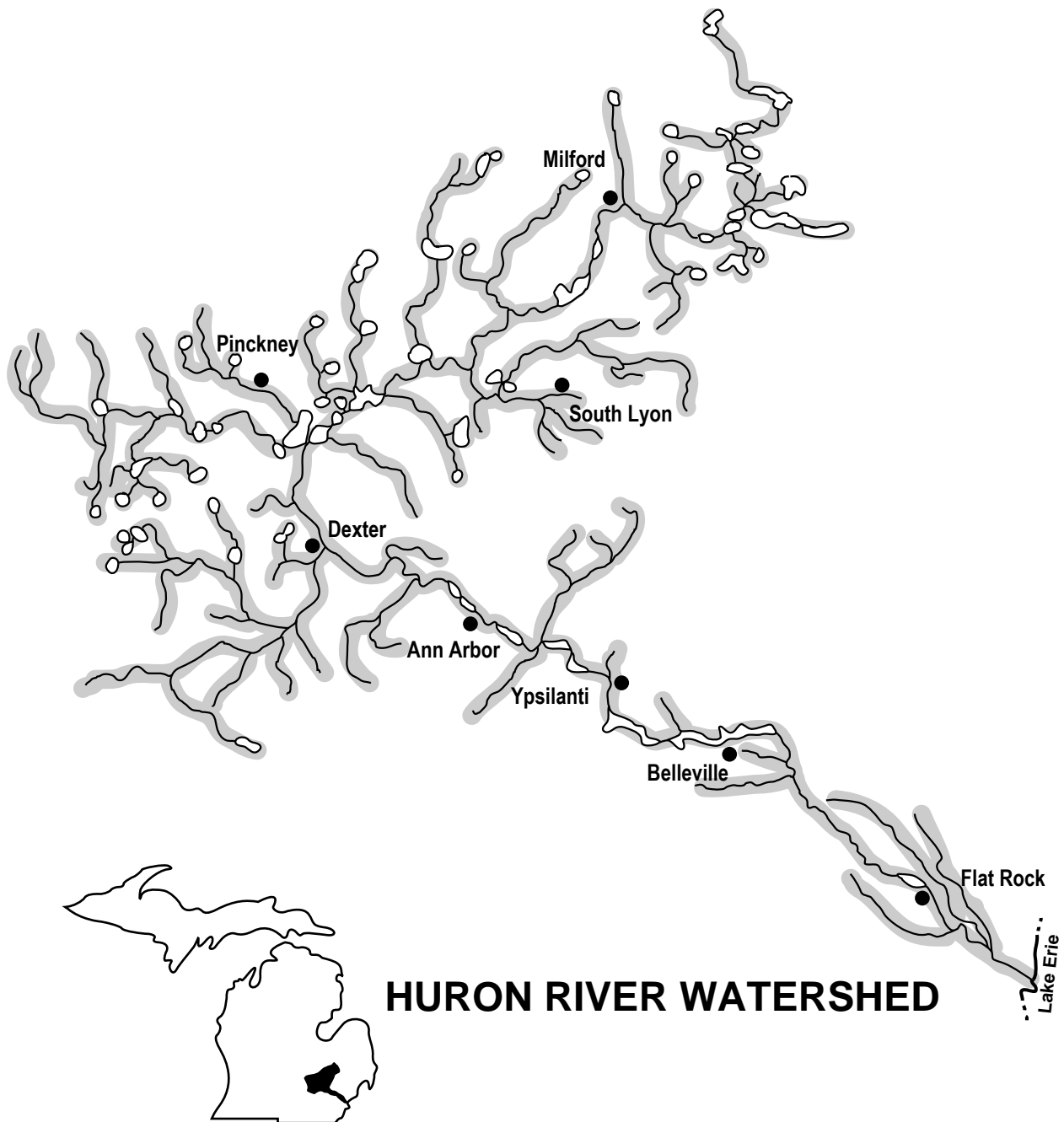
- feeding - streams, rivers, or shore waters of lakes and impoundments
  - can tolerate intermittent flows
  - tolerates moderate turbidity
  
- spawning - gravel nests
  - low current
  
- winter refuge - deeper pools and runs



**White sucker (*Catostomus commersoni*)**

**Habitat:**

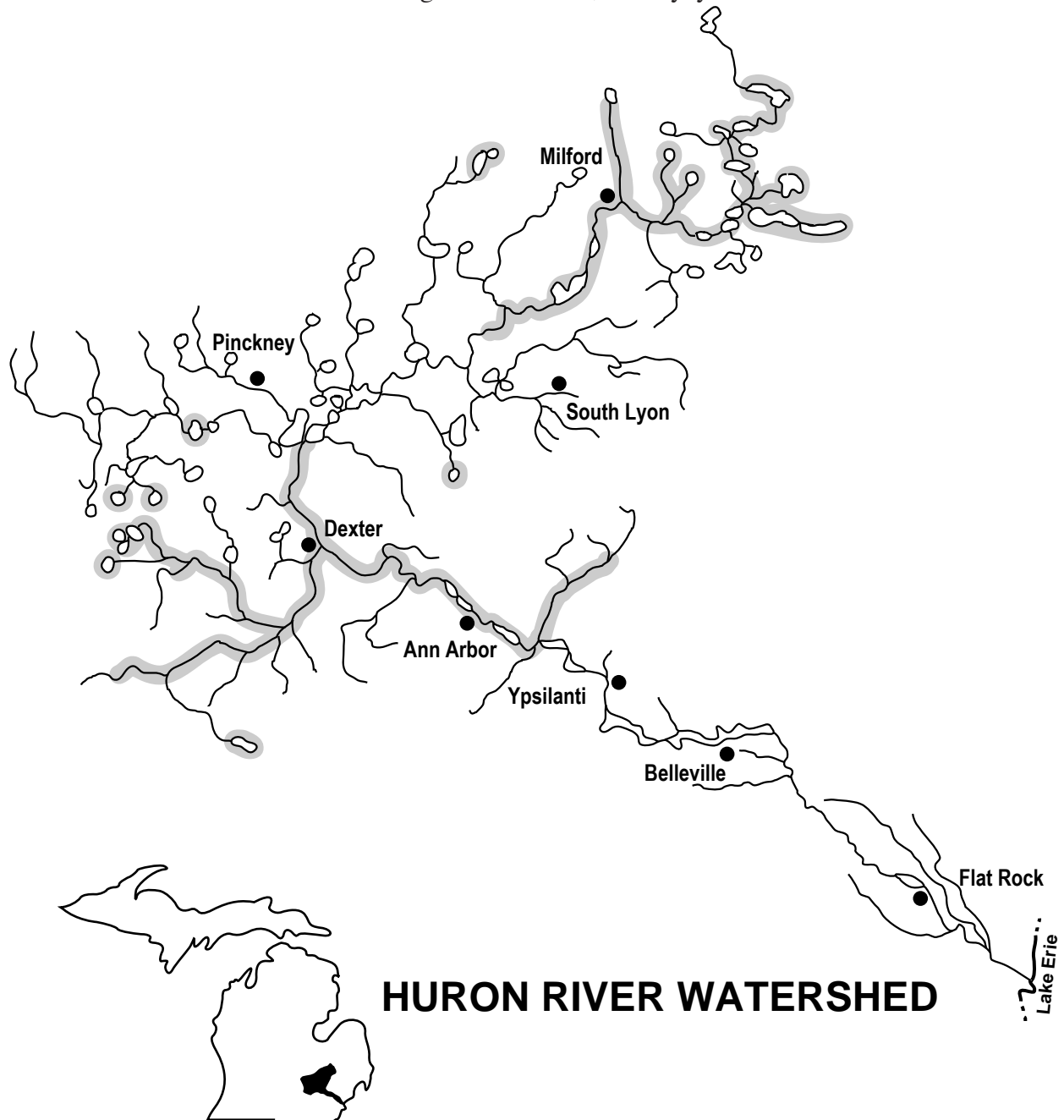
- feeding - streams, rivers, lakes, and impoundments
- can inhabit highly turbid and polluted waters
  
- spawning - quiet gravelly shallow areas of streams



## Lake chubsucker (*Erimyzon sucetta*)

### Habitat:

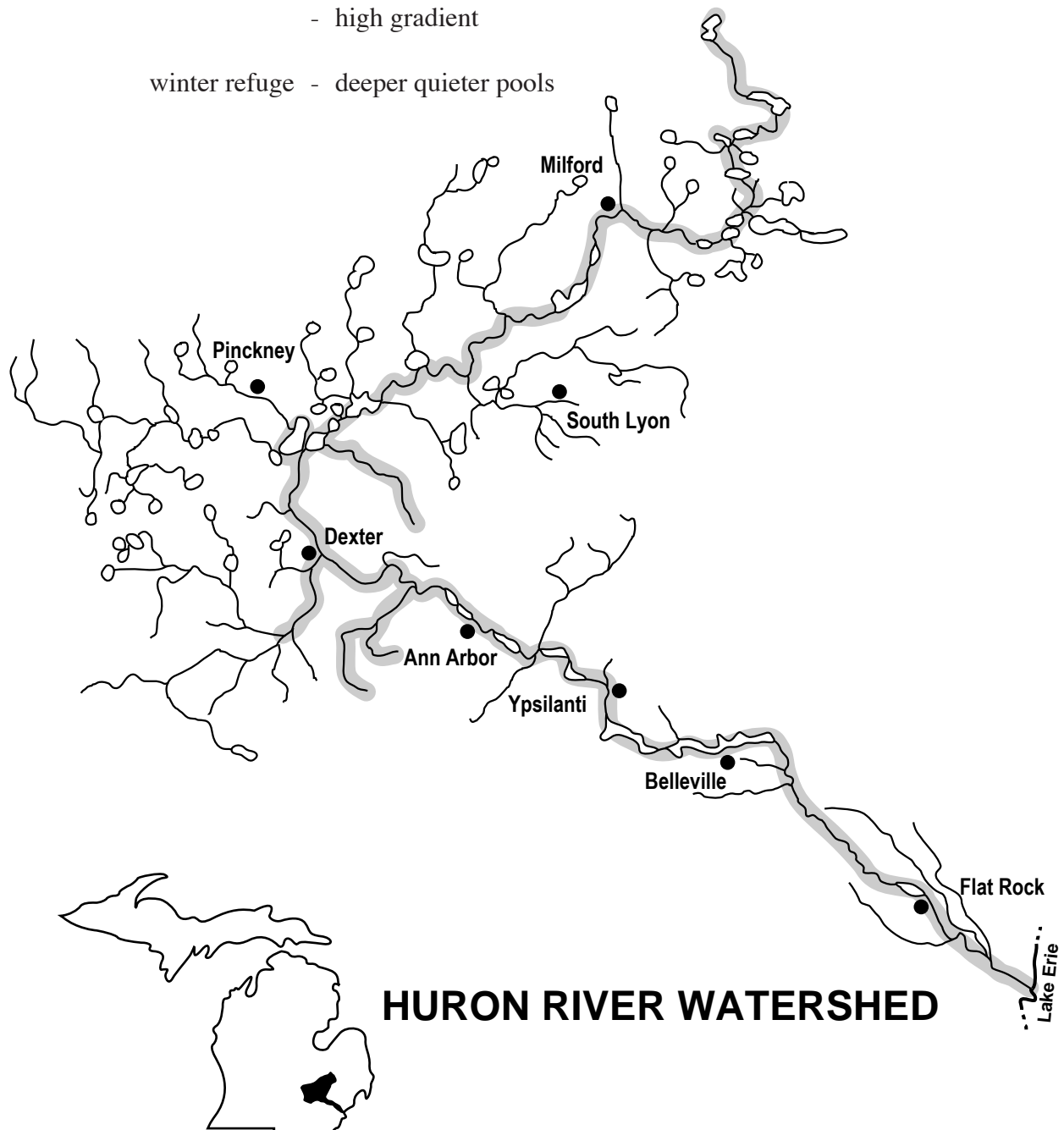
- feeding
  - larger clear streams, rivers, lakes, and impoundments
  - cannot tolerate turbid water
  - low gradient
  - prefers dense vegetation over substrate of sand or silt mixed with organic debris
- spawning
  - small clear streams with moderate to high gradient
  - sand or gravel substrate; no clayey silt



**Northern hog sucker (*Hypentelium nigricans*)**

**Habitat:**

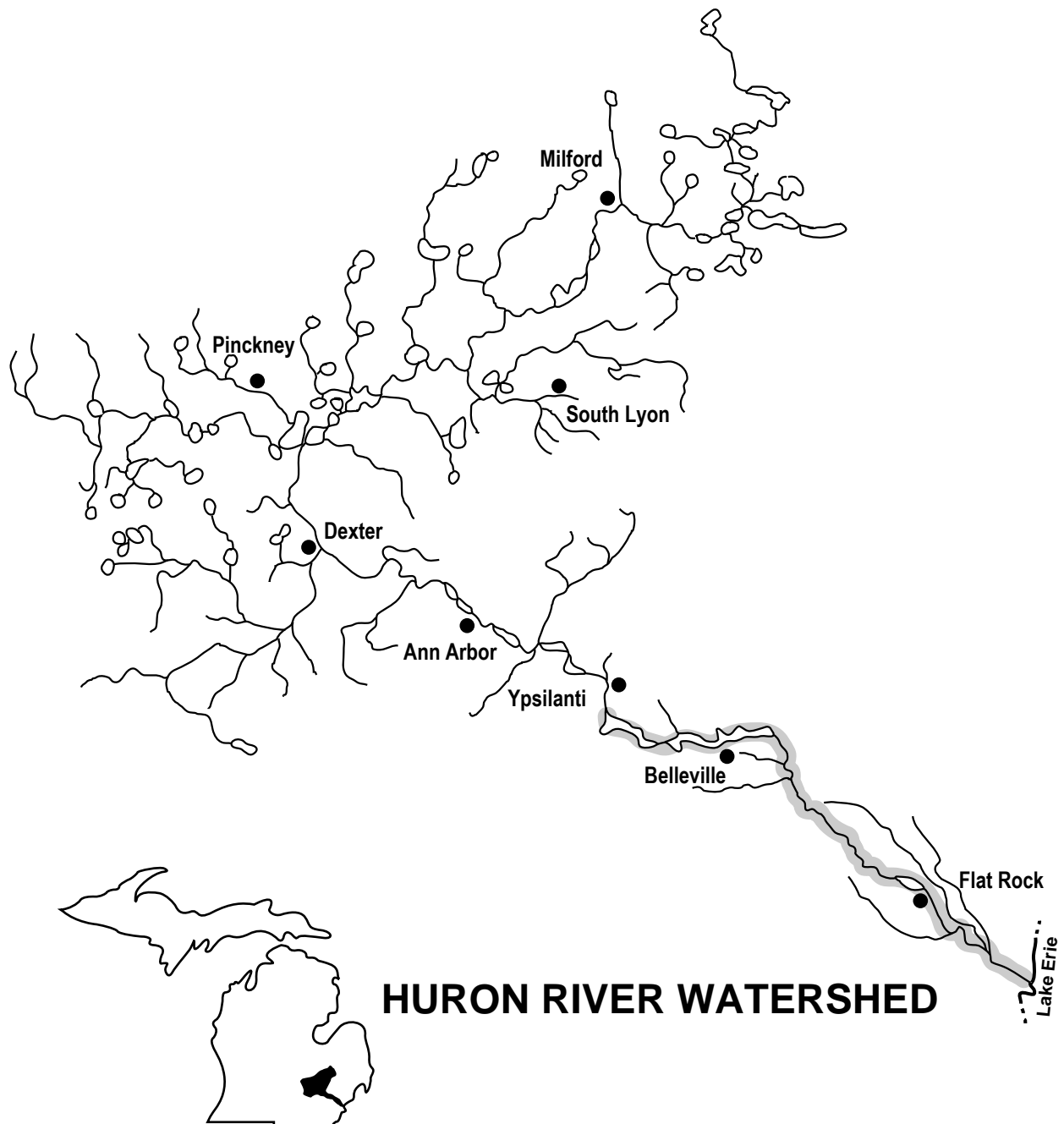
- feeding
  - gravel or rubble substrate
  - riffles and adjacent pools of warm shallow streams
  - clear water
  - doesn't like turbidity or siltation
  - avoids profuse amounts of aquatic vegetation
  
- spawning
  - riffles
  - shallow gravel substrate
  - high gradient
  
- winter refuge
  - deeper quieter pools



**Spotted sucker (*Minytrema melanops*)**

**Habitat:**

- feeding - clear warm rivers (pools, backwaters) with little current
  - abundant vegetation
  - soft substrate with organic debris
  - intolerant of turbidity
- spawning - riffles

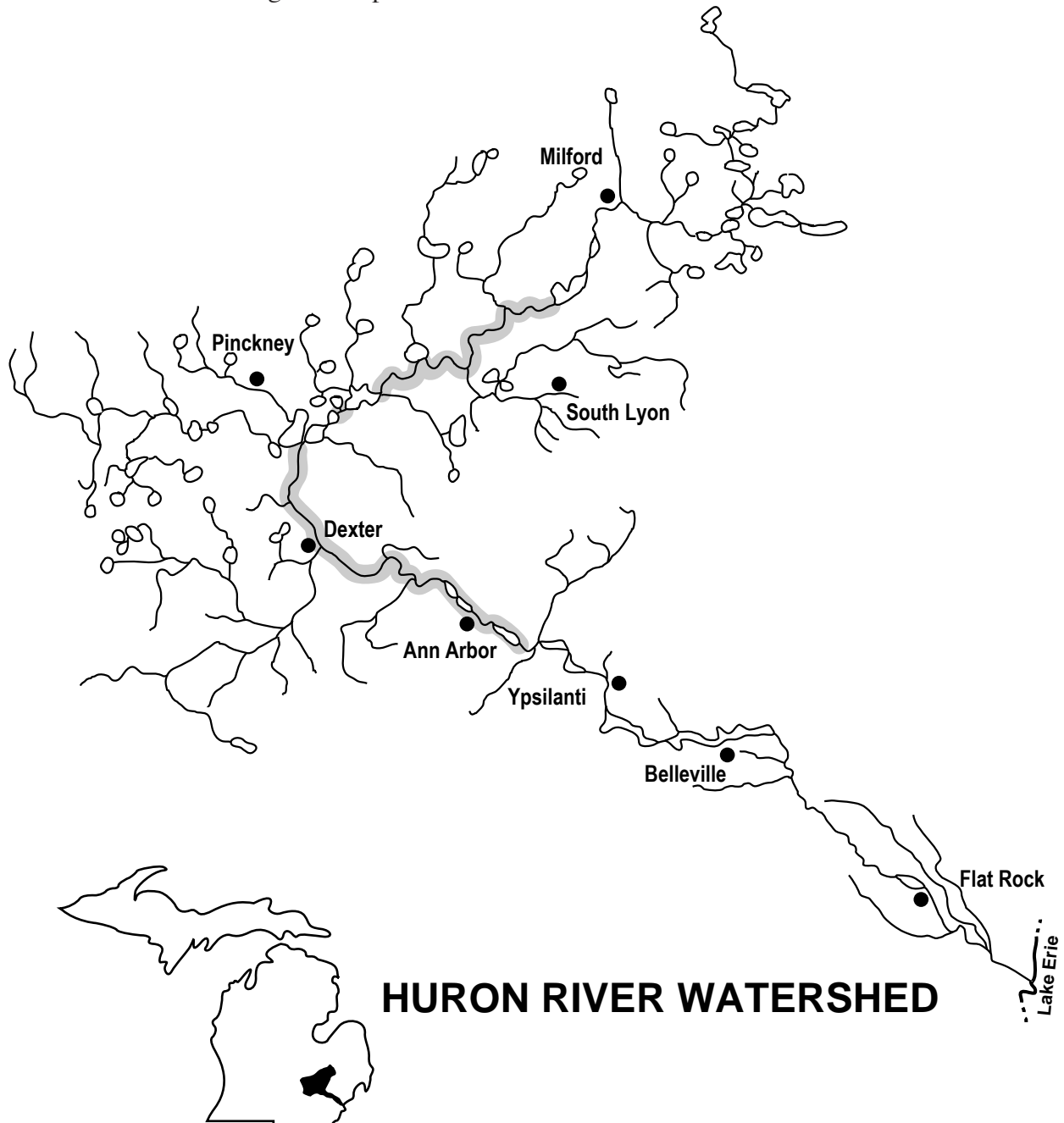




**Black redhorse (*Moxostoma duquesnei*) - declining**

**Habitat:**

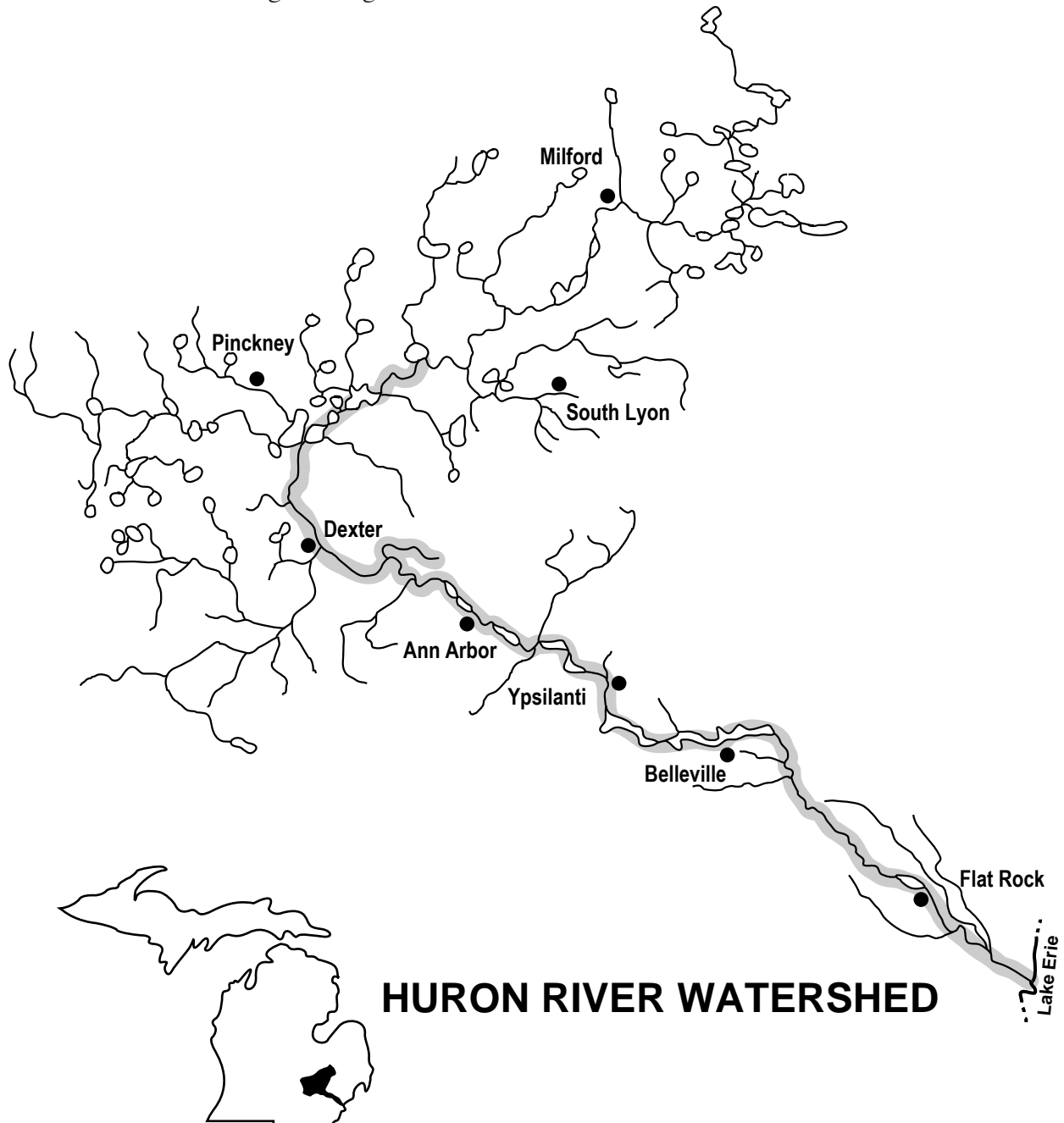
- feeding - gravel substrate
- clear water, intolerant of siltation, turbidity, and low gradients
- medium size streams
- cooler swifter streams and short rocky pools with current
  
- spawning - gravelly riffles
  
- winter refuge - deeper holes



**Golden redhorse (*Moxostoma erythrurum*)**

**Habitat:**

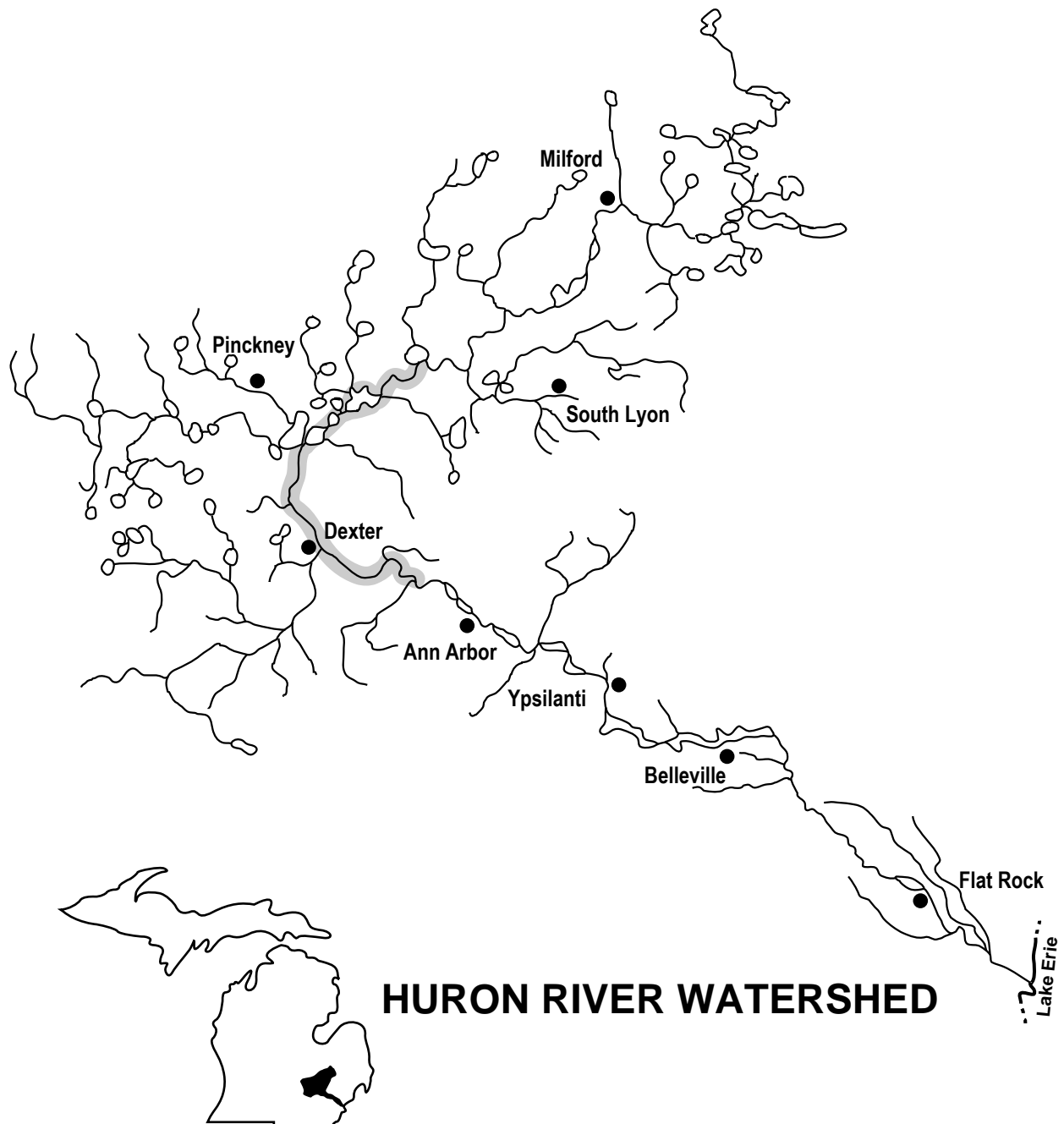
- feeding - warm medium gradient streams and rivers
- clear riffly streams
- medium size streams and rivers
- tolerates some turbidity and silt
  
- spawning - shallow gravelly riffles
  
- winter refuge - larger streams



**Shorthead redhorse** (*Moxostoma macrolepidotum*)

**Habitat:**

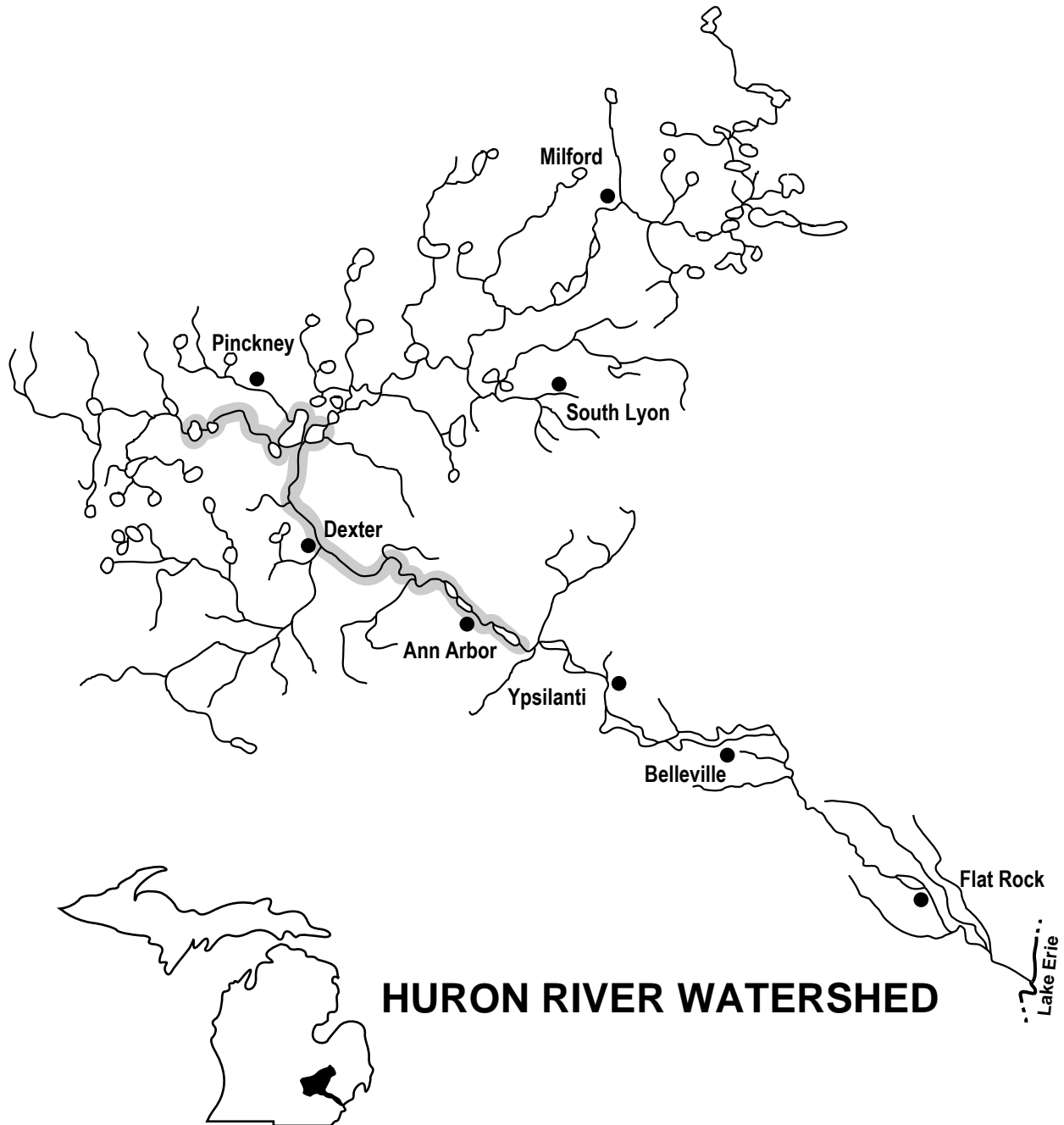
- feeding - downstream sections of large rivers, lakes, and impoundments
  - rocky substrates
  - swift water near riffles
  - clear to slightly turbid water
  
- spawning - gravelly riffles in smaller feeder streams



**Greater redhorse (*Moxostoma valenciennesi*) - rare**

**Habitat:**

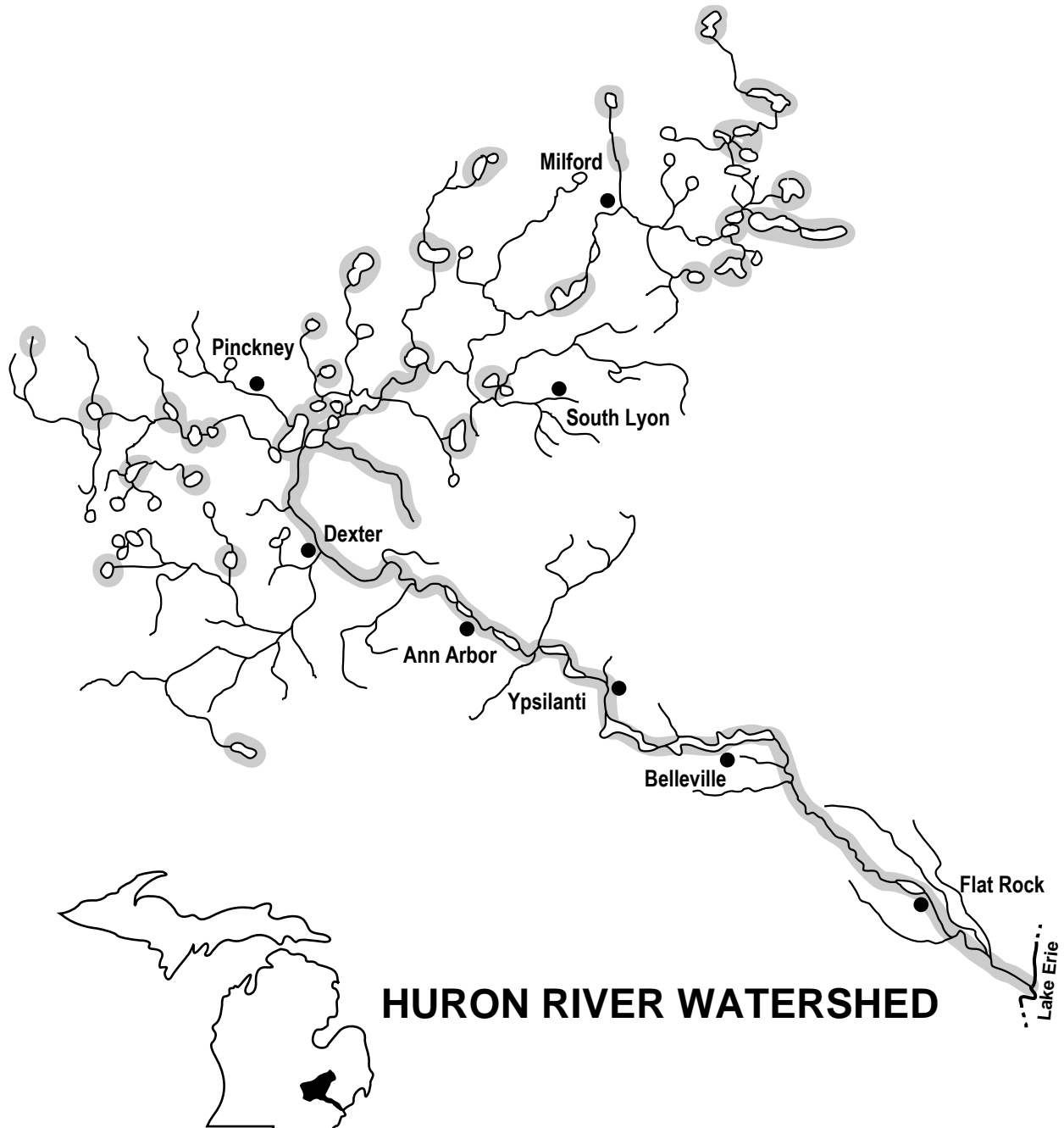
- feeding - large clear streams
  - clean sand, gravel, or boulder substrate
  - intolerant of excessive turbidity and chemical pollutants
  
- spawning - moderately rapid current



**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



**Yellow bullhead** (*Ameiurus natalis*)

**Habitat:**

- feeding - clear flowing water
  - heavy vegetation
  - low gradient streams, lakes, and impoundments
  - tolerant of low oxygen
- spawning - nest under a stream bank or near stones or stumps

