



**STATE OF MICHIGAN
DEPARTMENT OF NATURAL RESOURCES**

Number 22

September 1998

**Rouge River Assessment
Appendix**

Jennifer D. Beam
and
Jeffrey J. Braunscheidel

**FISHERIES DIVISION
SPECIAL REPORT**

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APPENDIX

Fish Species Distribution Maps

Known present fish distributions within the Rouge River. The distributions of fish species were compiled from records located at Michigan Department of Natural Resources, Southeast Michigan District Office, Livonia. Scientific names and phylogenic order follow Robins et al. 1991. 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.

The habitat descriptions were compiled from Fisheries of the Great Lakes Region (Hubbs and Lagler 1947), Freshwater Fishes of Canada (Scott and Crossman 1973), Fishes of Missouri (Pflieger 1975), The Fishes of Ohio (Trautman 1982), and Fishes of Wisconsin (Becker 1983).

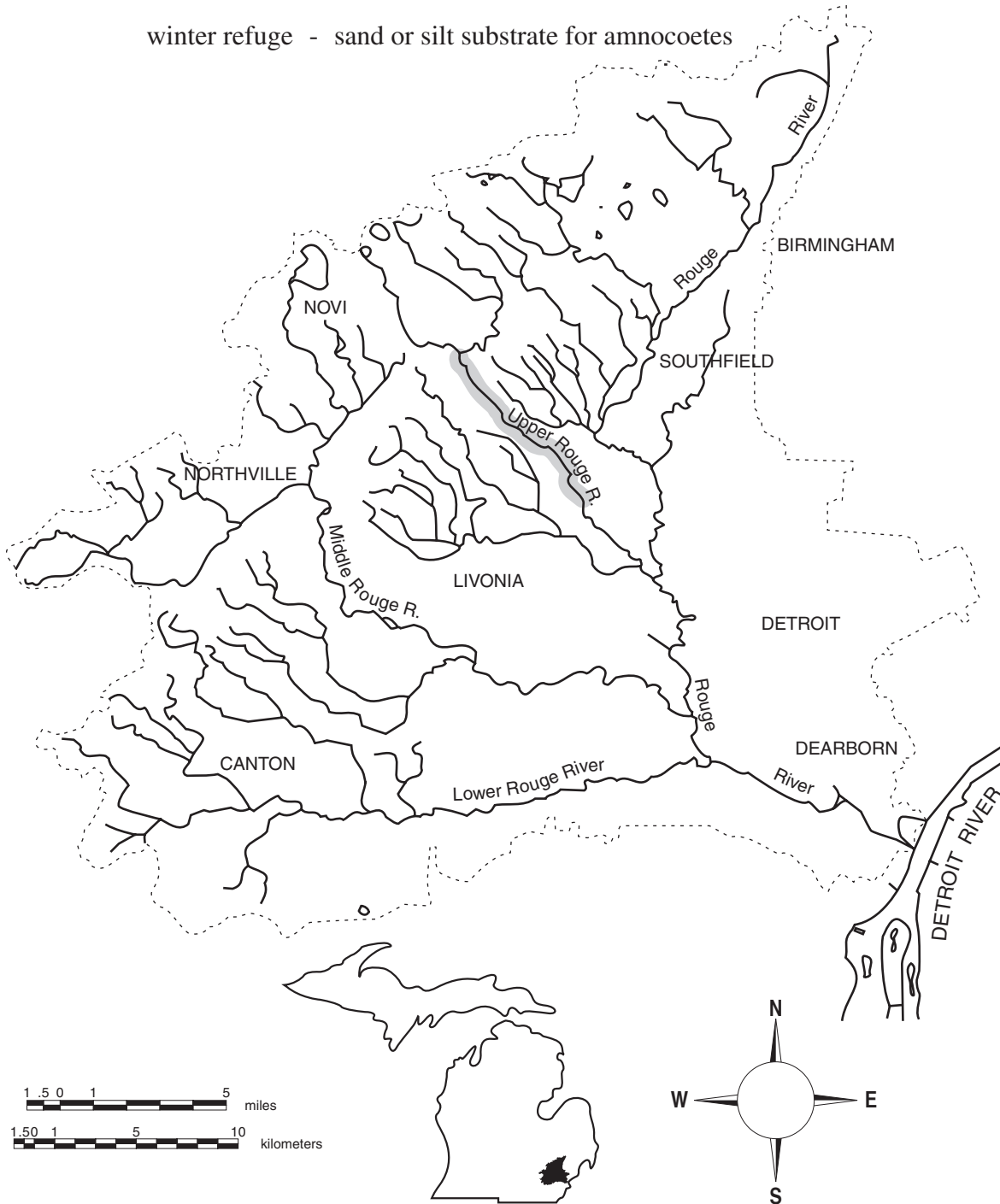
American brook lamprey (*Lampetra appendix*)

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

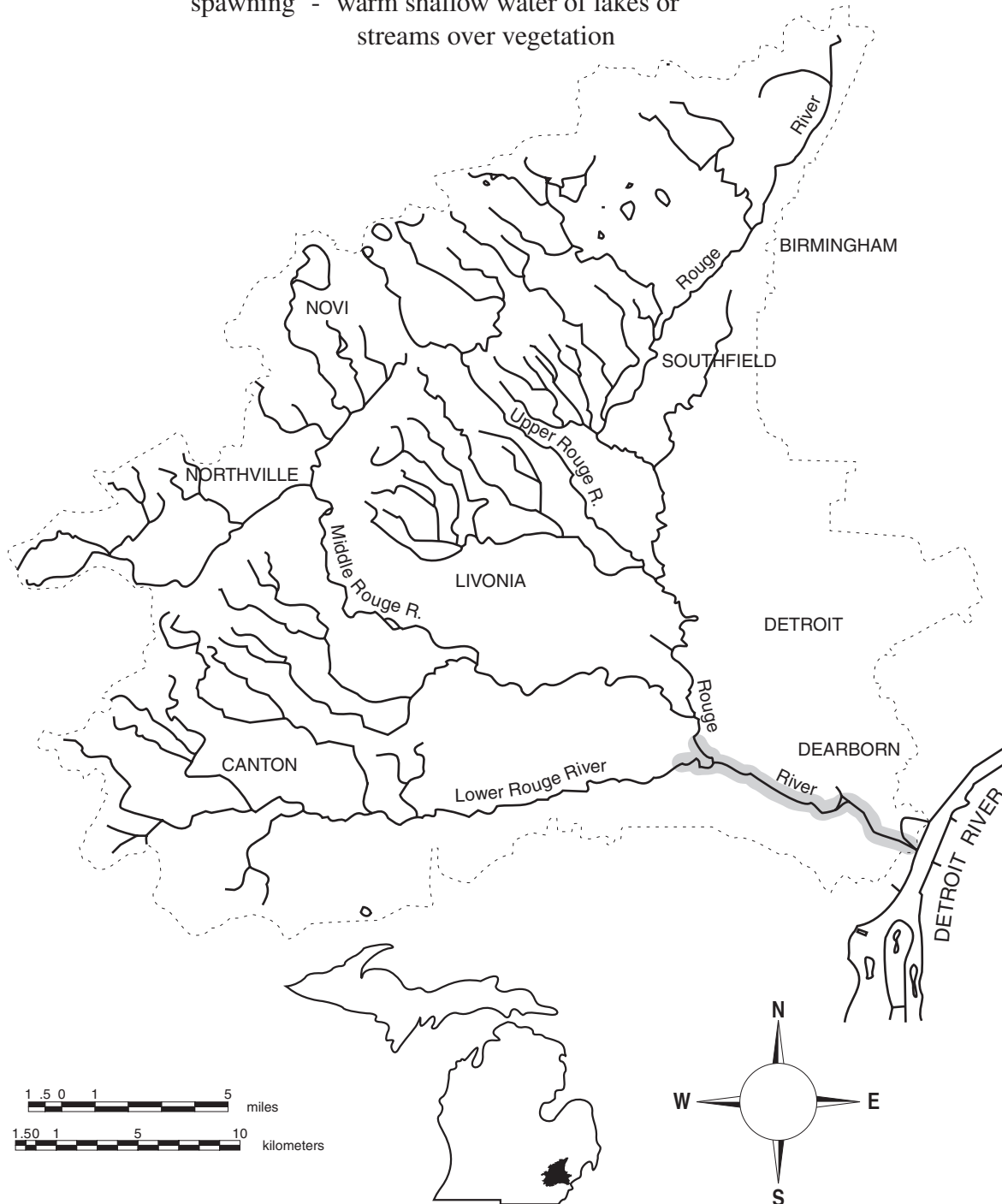
- winter refuge - sand or silt substrate for ammocoetes



Longnose gar (*Lepisosteus osseus*)

Habitat:

- feeding - adults: in deeper water
 - young: in shallows
 - clear water, low-gradient streams, lakes, and impoundments
 - will feed in moderate current
 - aquatic vegetation preferred, but not necessary
 - open water fish
- spawning - warm shallow water of lakes or streams over vegetation

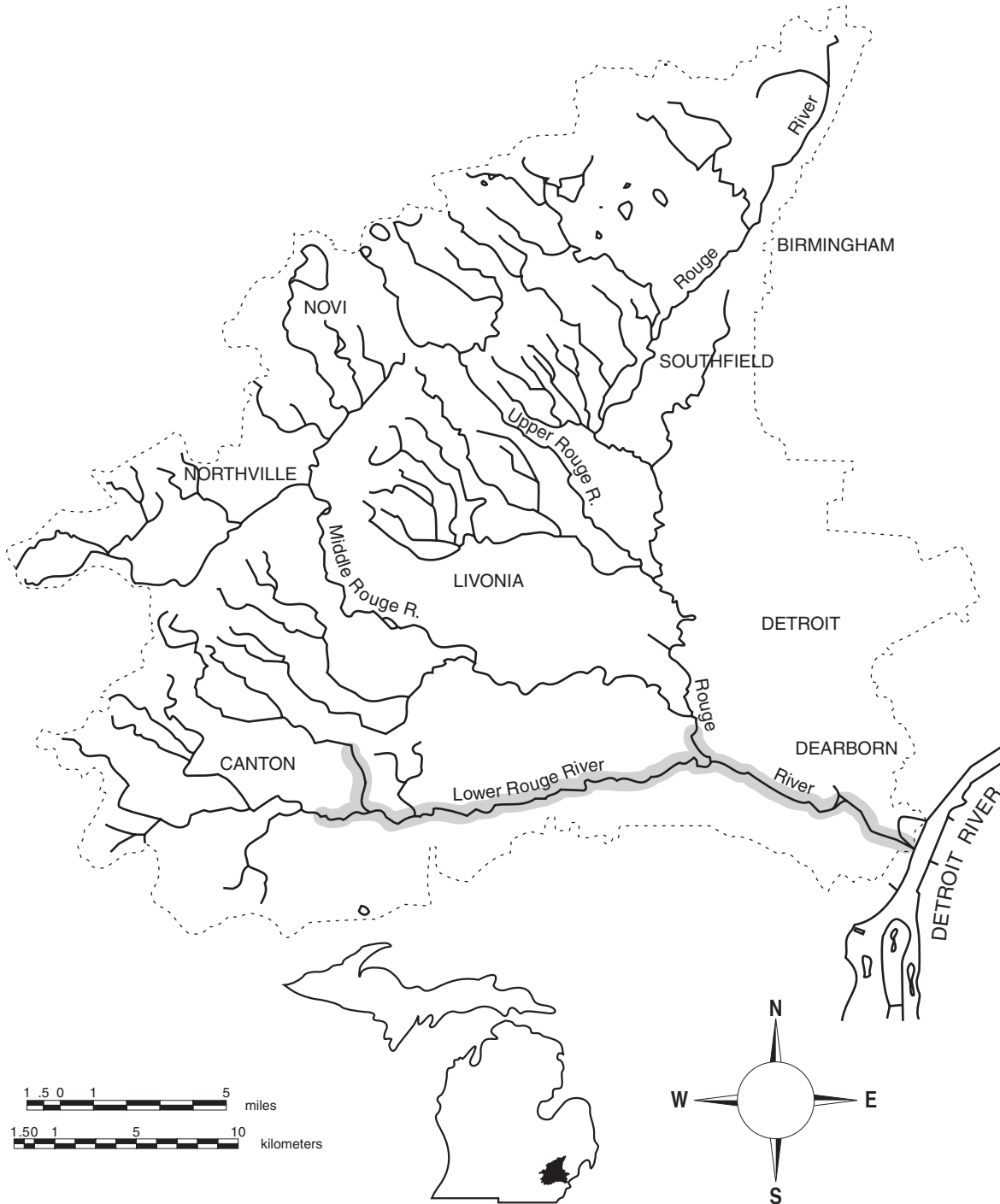


Gizzard shad (*Dorosoma cepedianum*)

Habitat:

- feeding - large streams with low gradient, impoundments, and Detroit River
- tolerant of clear and turbid water

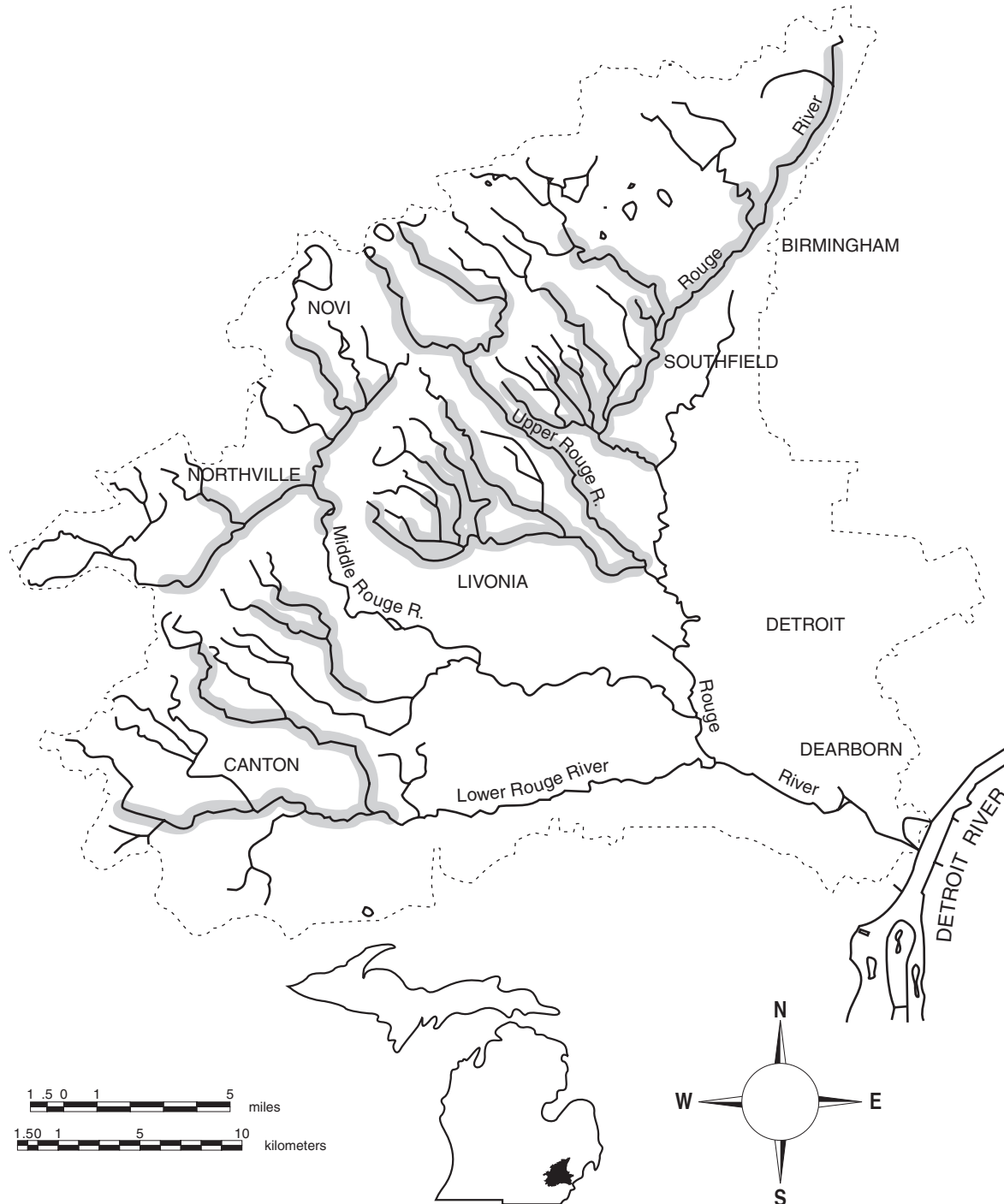
- spawning - shallow areas of ponds, lakes, and large rivers
- low gradient



Central stoneroller (*Campostoma anomalum*)

Habitat:

- feeding - moderate to high gradients
 - rocky riffles
 - somewhat tolerant of turbidity
 - riffles and adjacent pools of warm, clear, shallow streams
 - gravel or cobble substrate
- spawning - riffles

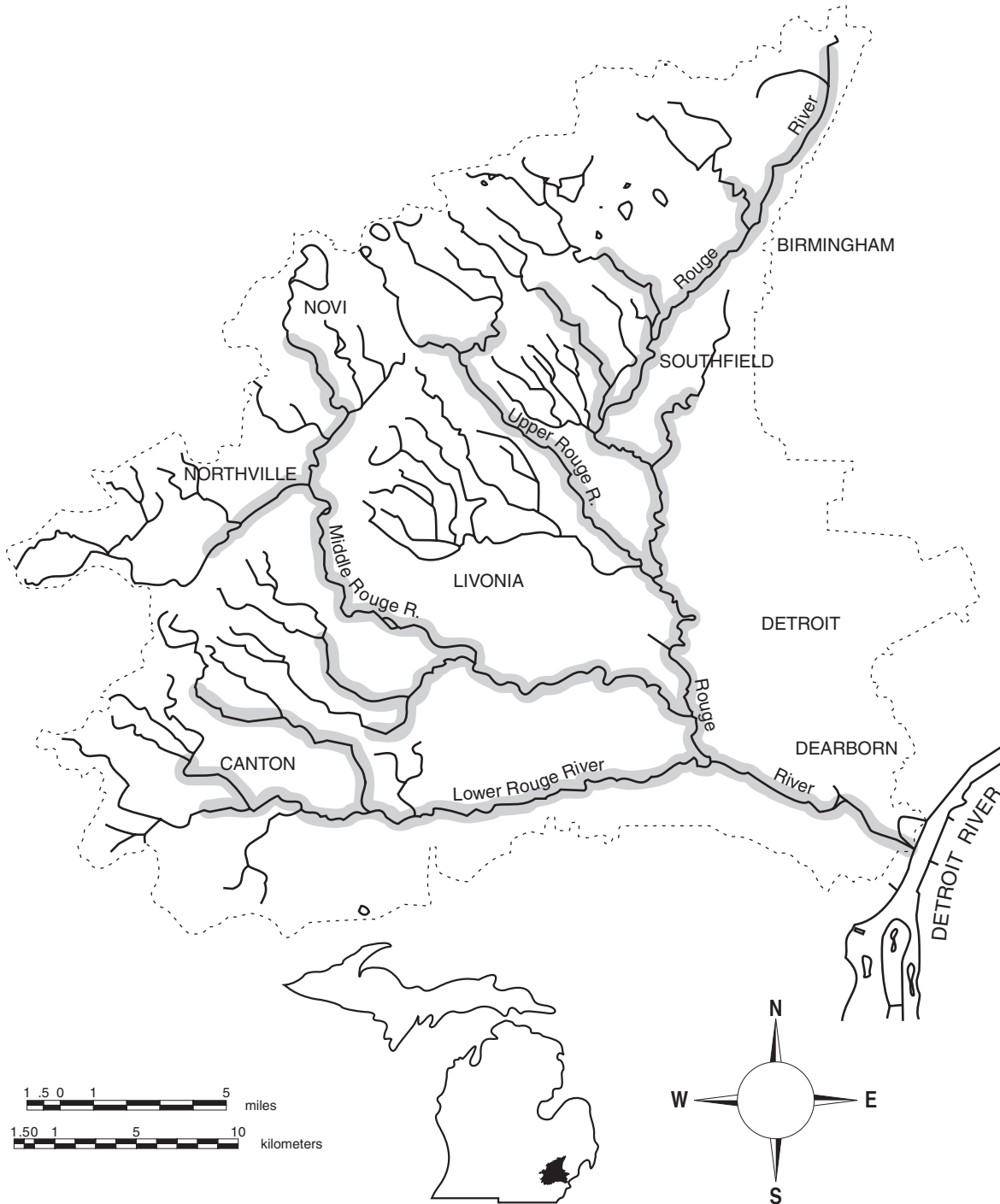


Goldfish (*Carassius auratus*)

Habitat:

- feeding - vegetation
- low gradient, shallow, warm water streams, rivers, lakes, and impoundments
- tolerates some turbidity and siltation

- spawning - warm, weedy shallows

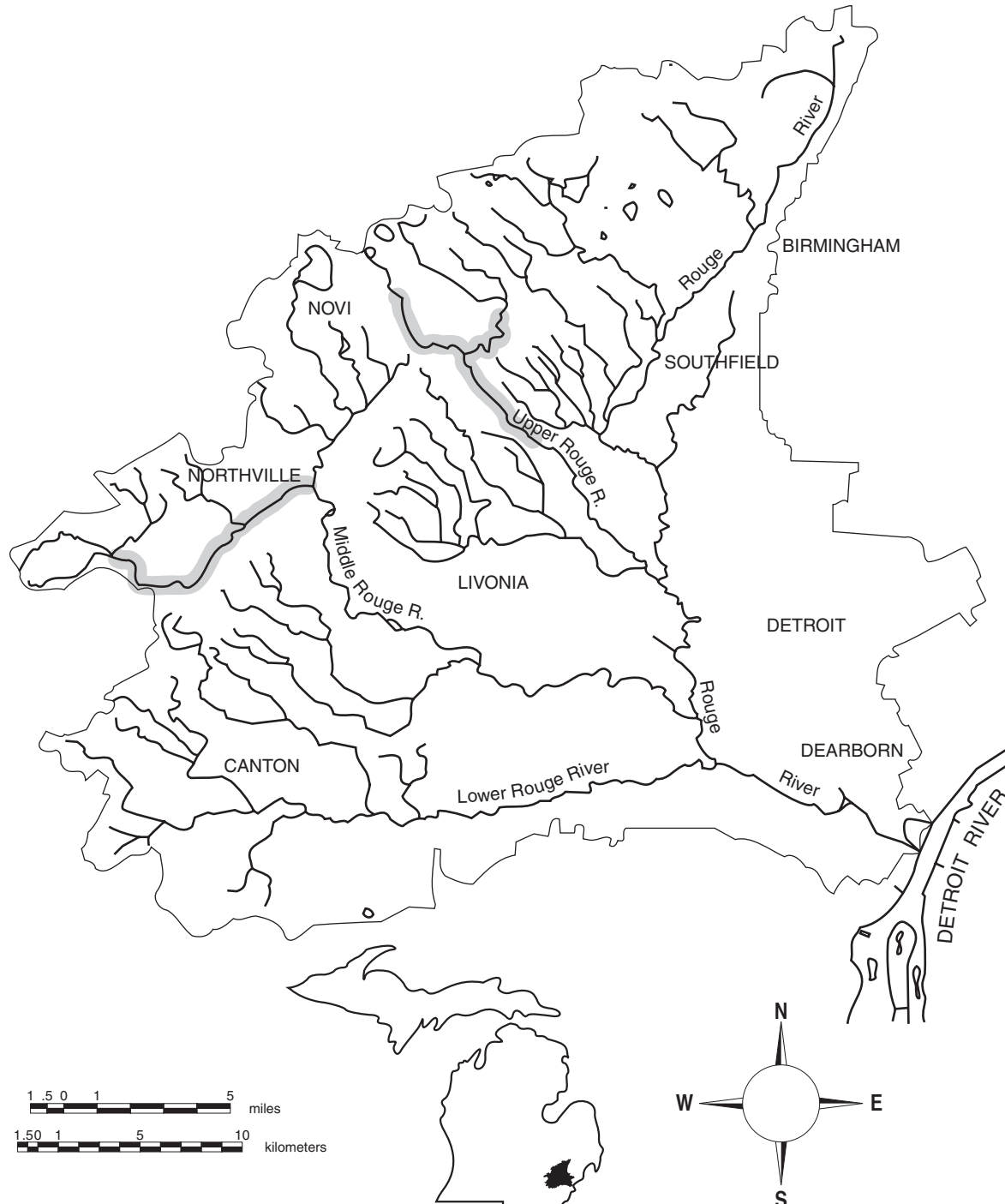


Redside dace (*Clinostomus elongatus*) - rare

Habitat:

- feeding - small clear, cooler headwater streams with moderate to high gradient
 - overhanging grassy vegetation
 - clean sand, gravel, or bedrock substrate
 - does not tolerate clayey silt

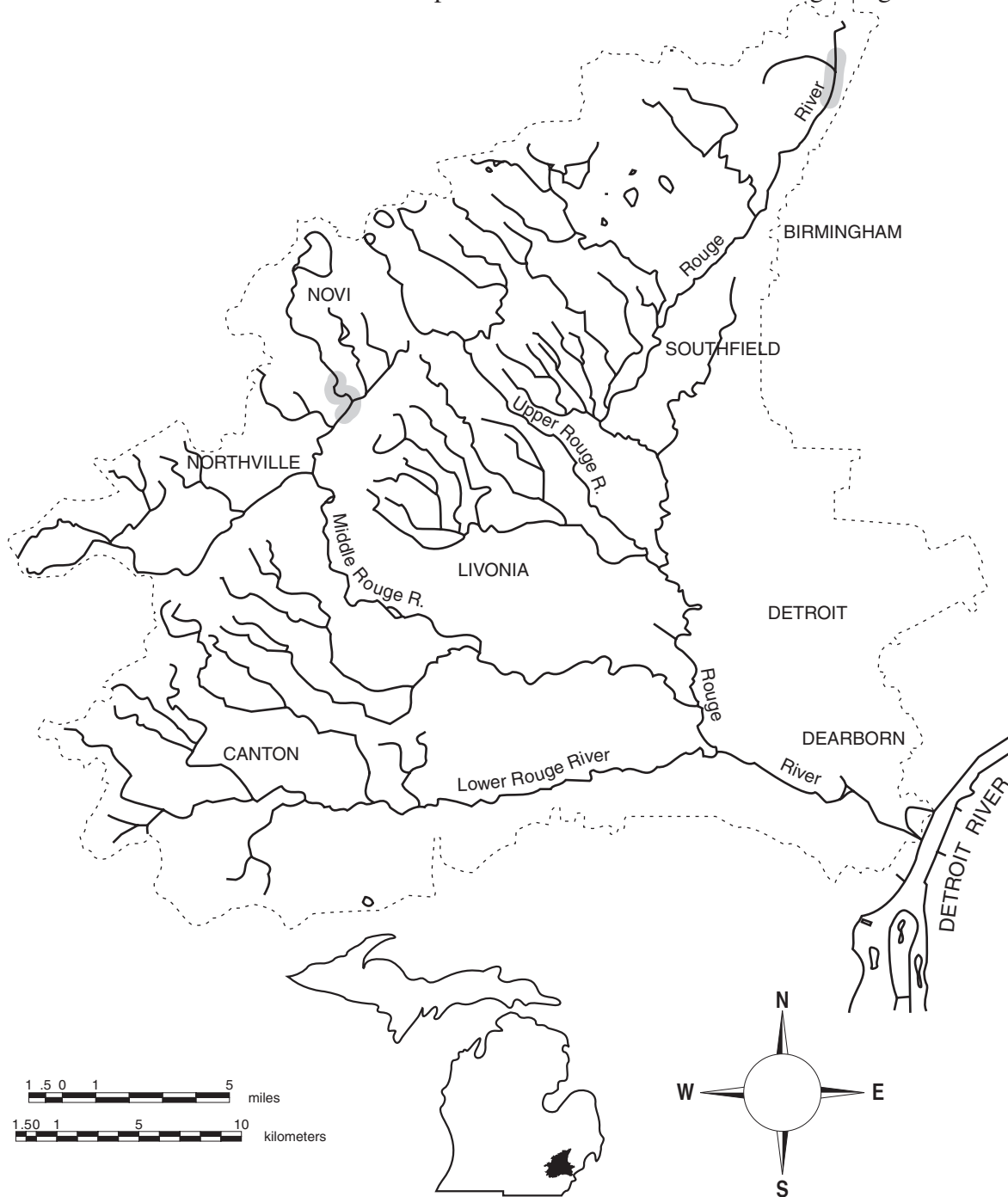
- spawning - uses gravelly nests of creek chub



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

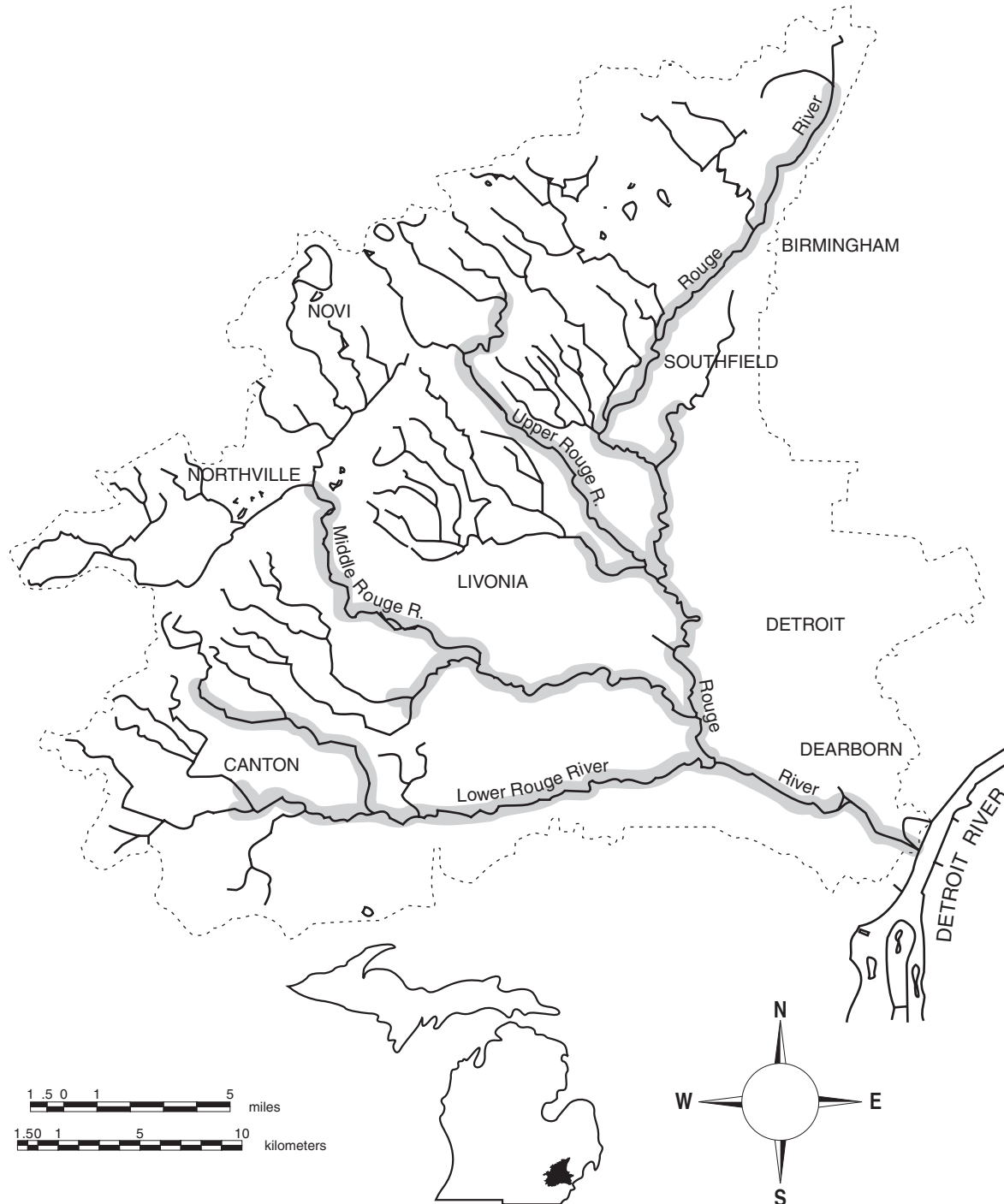


Common carp (*Cyprinus carpio*)

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

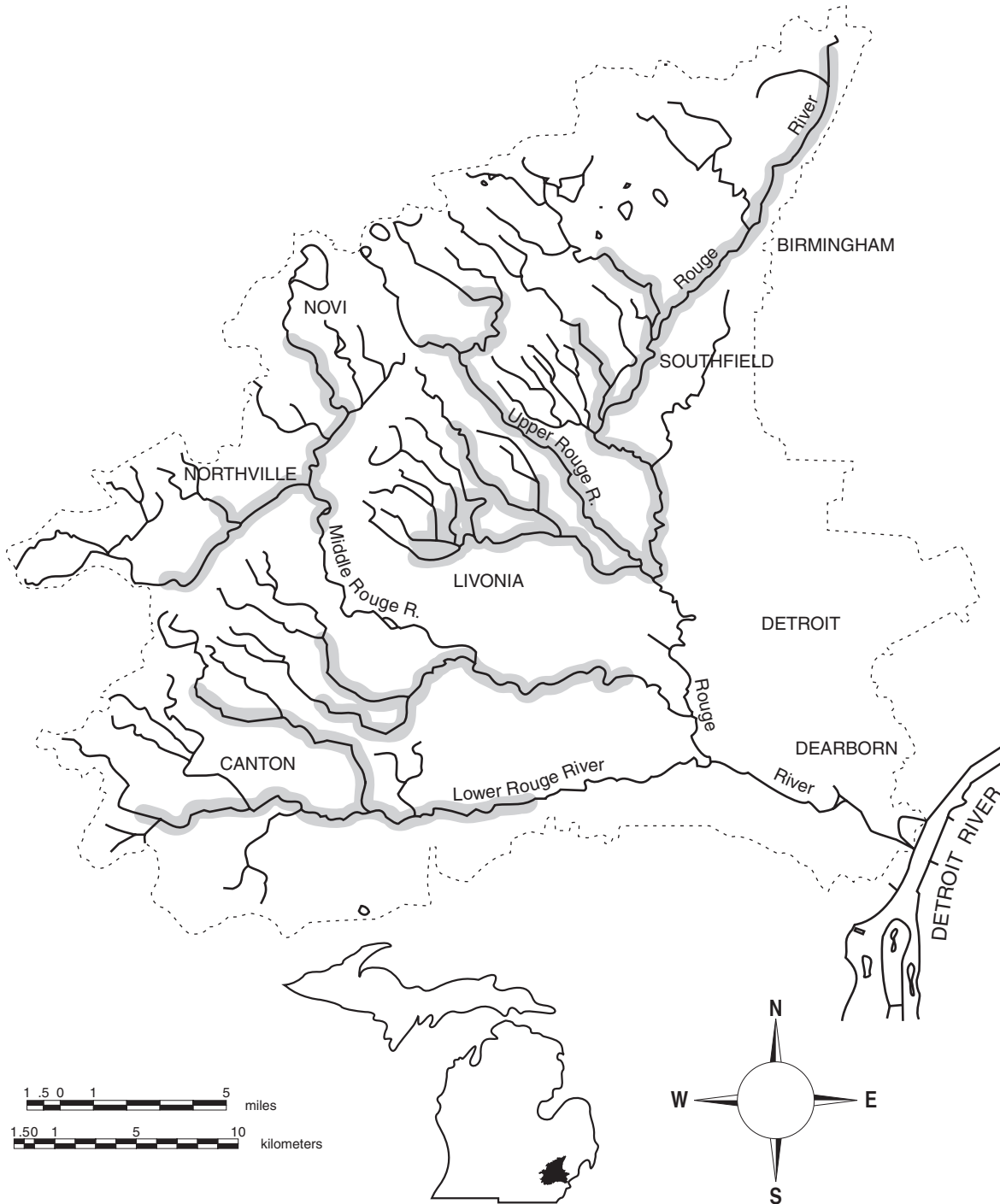


Common shiner (*Luxilus cornutus*)

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

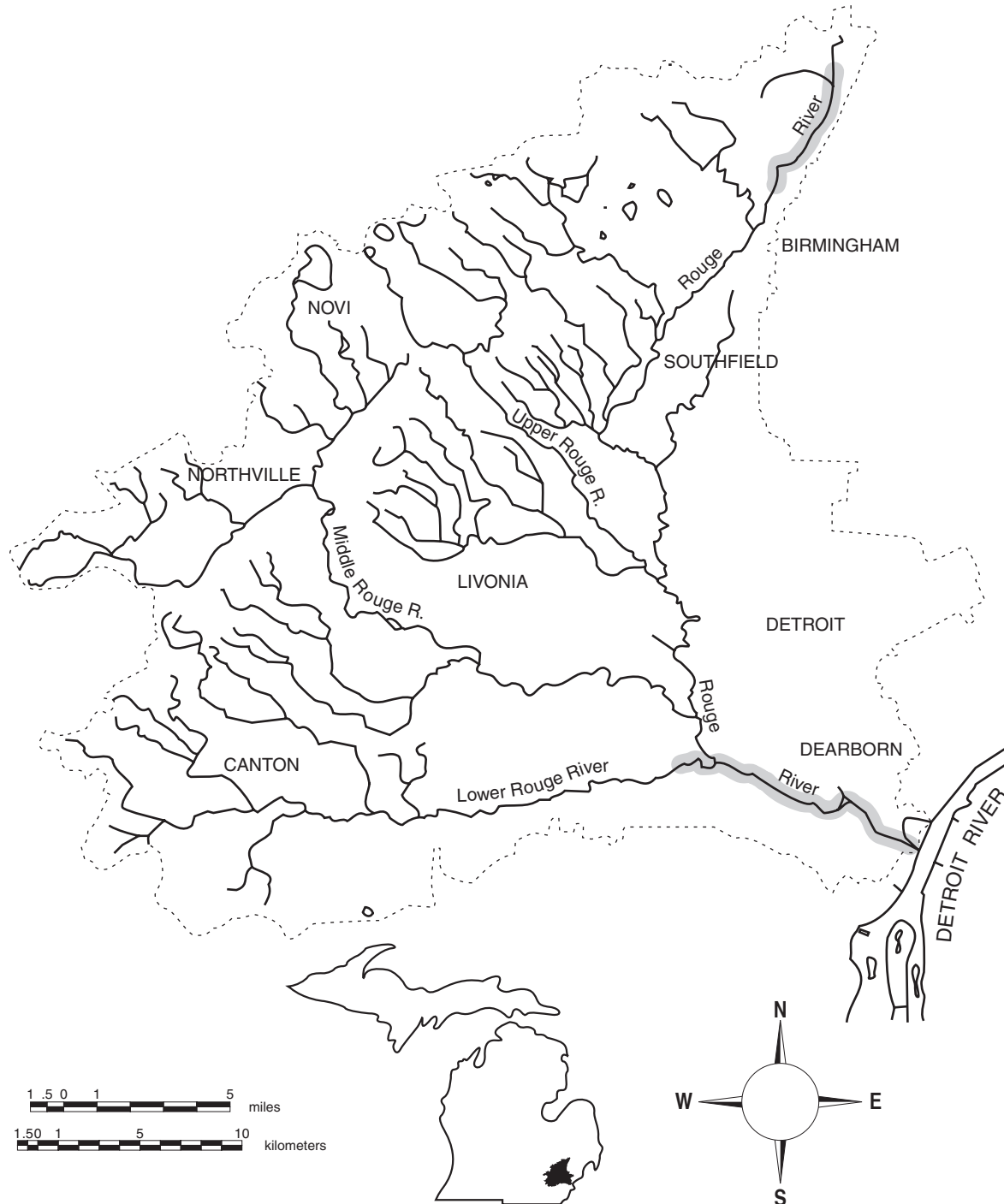


Redfin shiner (*Lythrurus umbratilis*)

Habitat:

- feeding - clear, quiet warm rivers in weedy pools
- little to no current
- abundant submerged and emergent vegetation

- spawning - over sand and gravel substrate in slow moving sections of streams

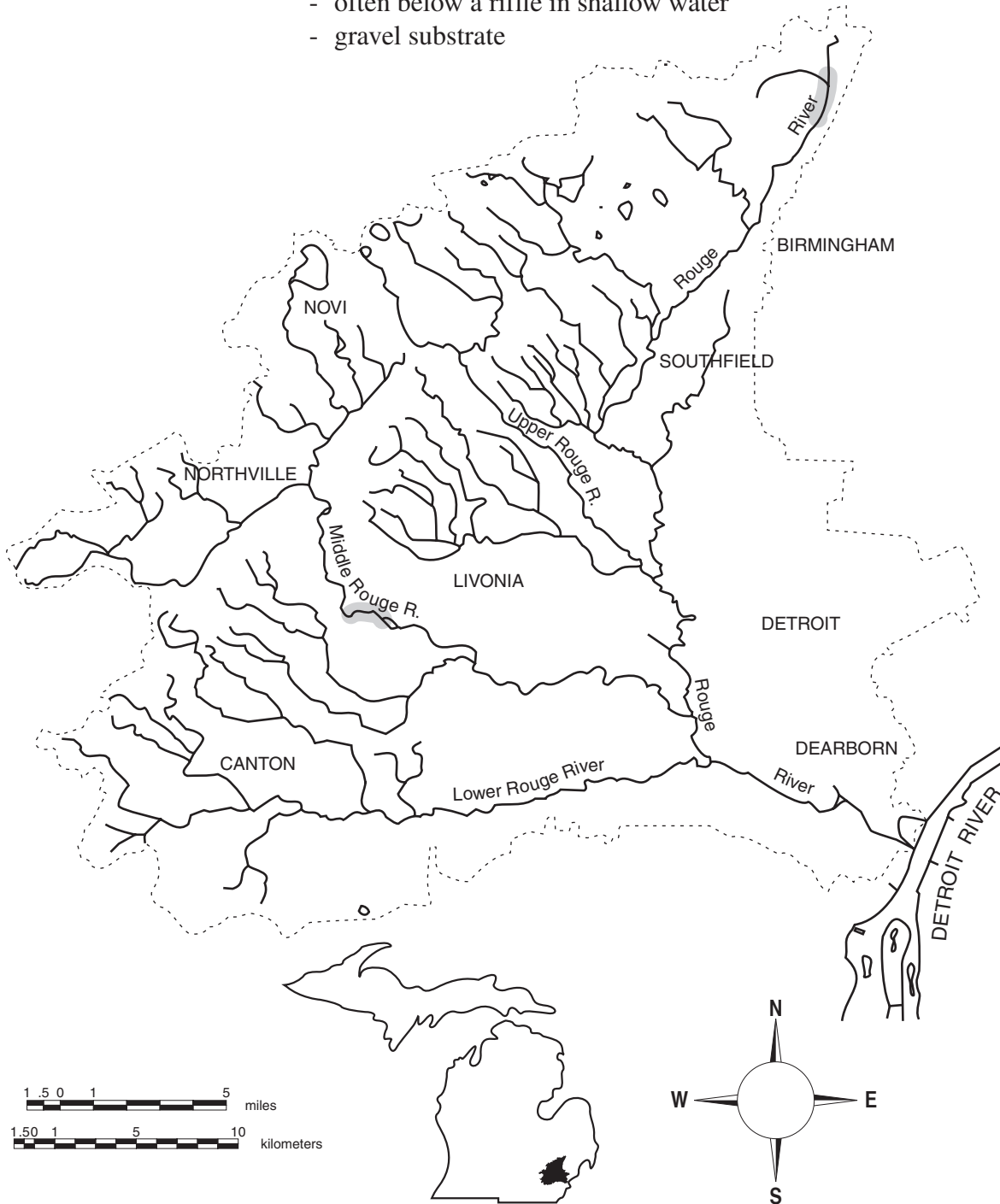


Hornyhead chub (*Nocomis biguttatus*)

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

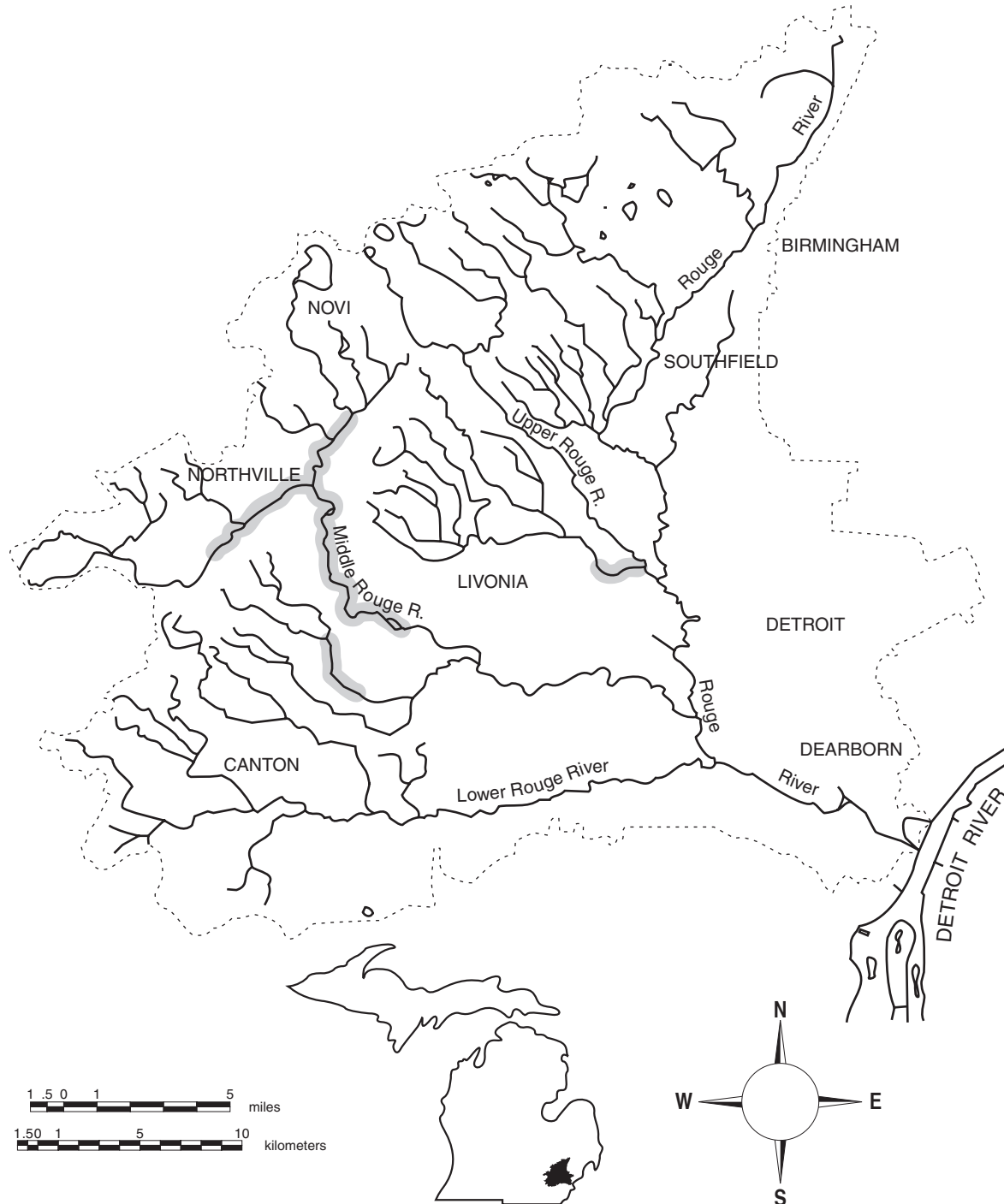


Golden shiner (*Notemigonus crysoleucas*)

Habitat:

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

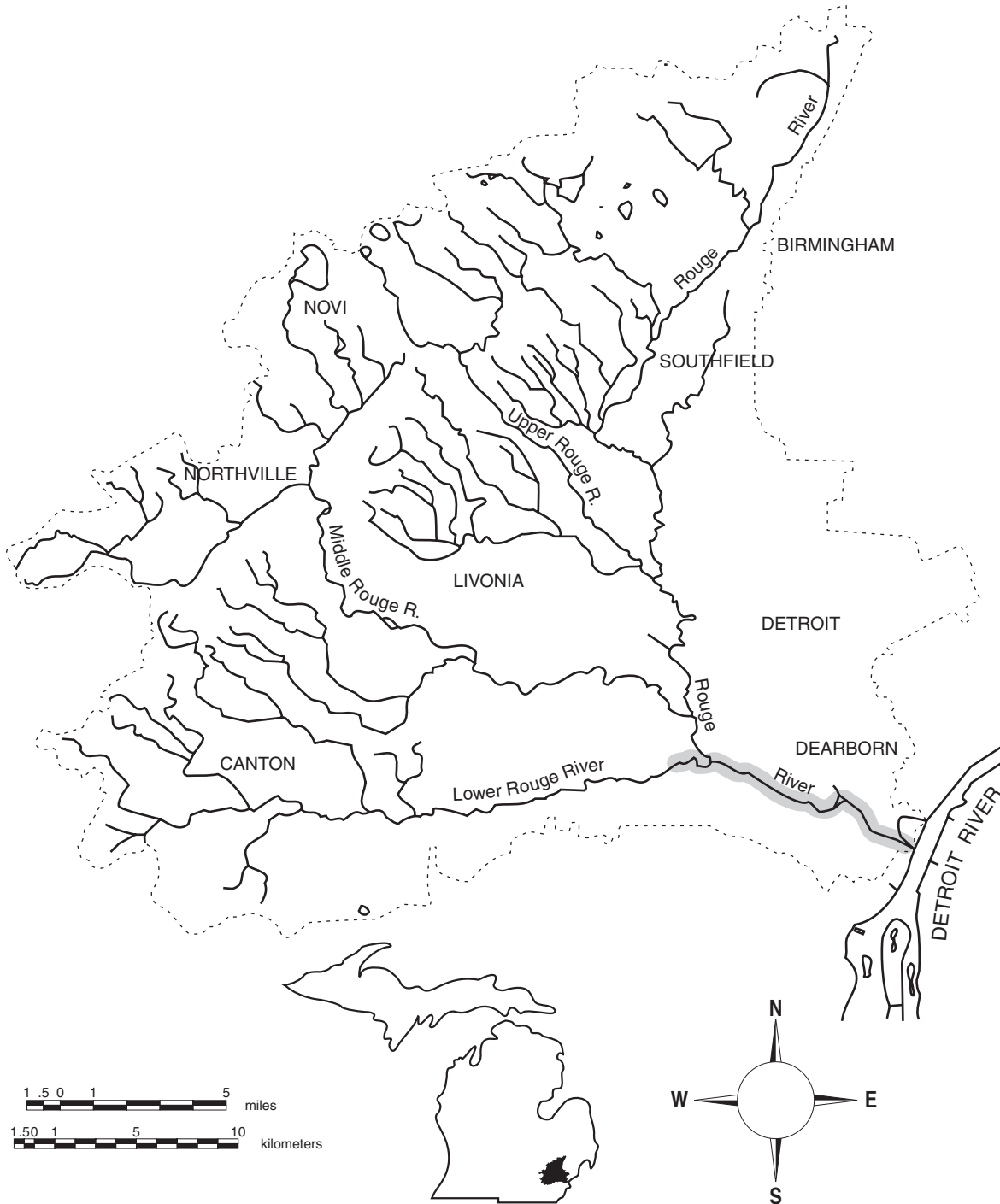
- spawning - vegetation



Emerald shiner (*Notropis atherinoides*)

Habitat:

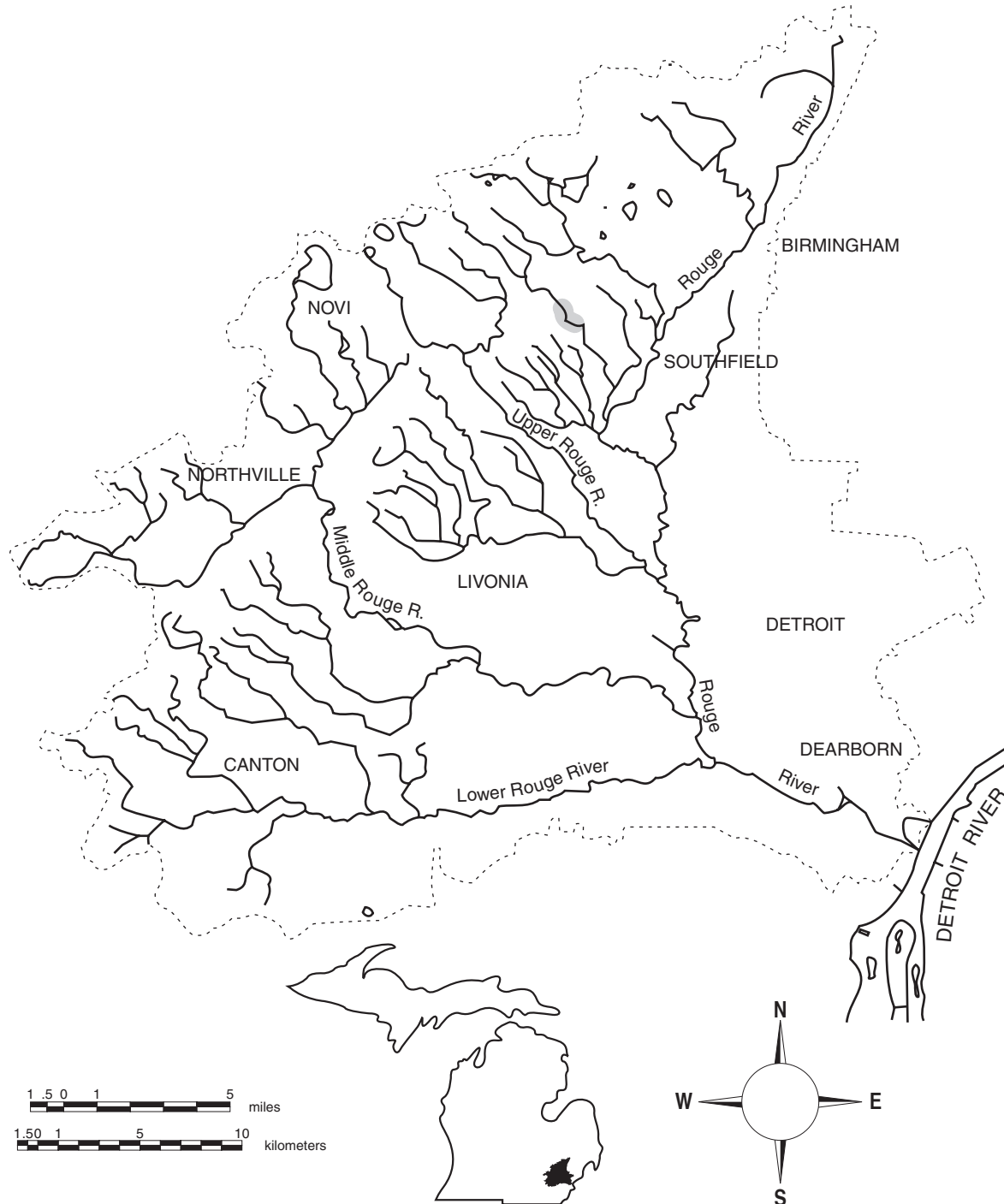
- feeding - open-large stream channels and Detroit River
 - low to moderate gradient
 - range of turbidites and bottom types
 - midwater or surface preferred, substrate of little importance
 - avoids rooted vegetation
- spawning - sand or firm mud substrate or gravel shoals



Blackchin shiner (*Notropis heterodon*)

Habitat:

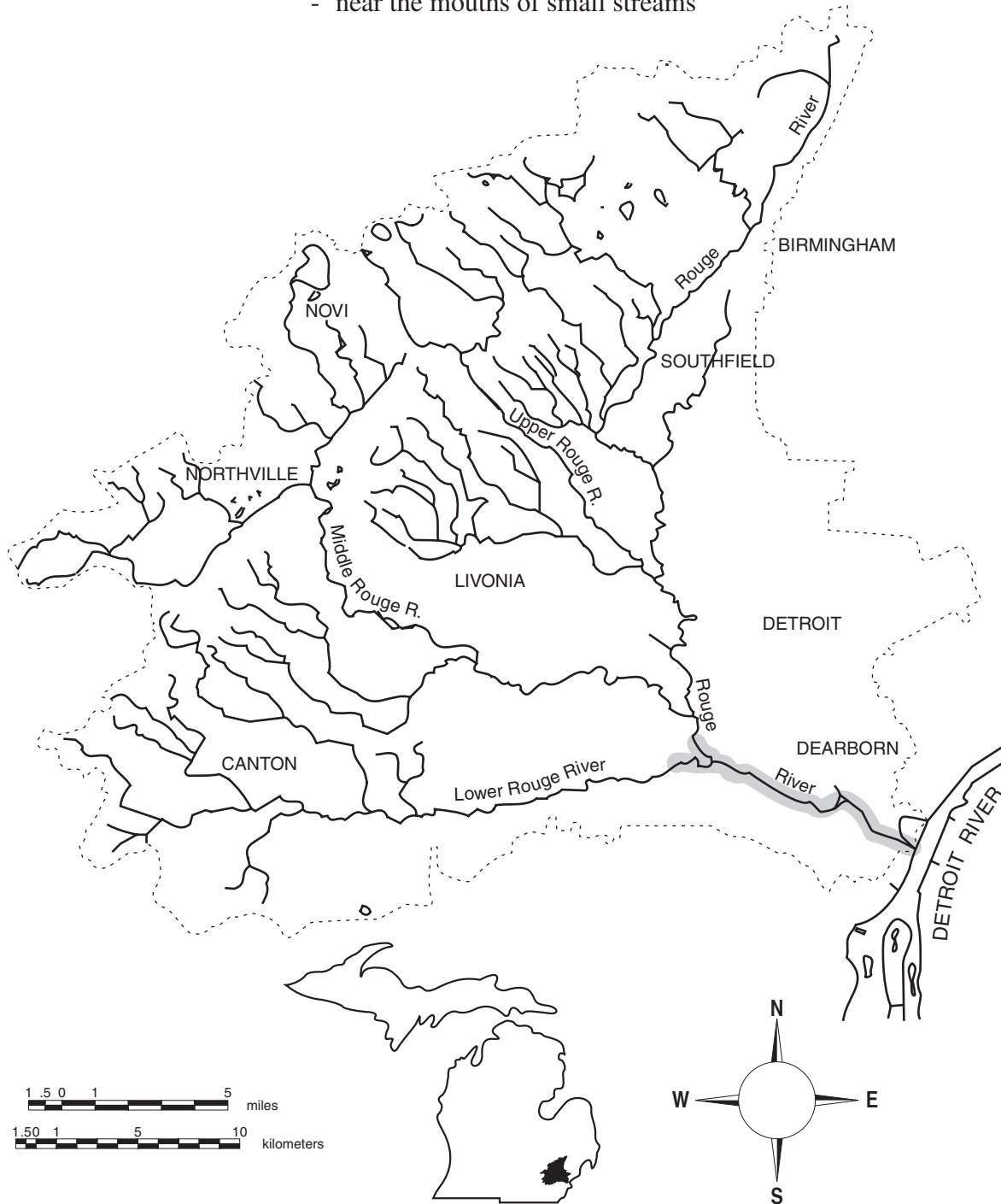
- feeding - lakes, impoundments, and quiet pools in streams and rivers
- clear water
- clean sand, gravel, or organic debris substrate
- dense beds of submerged aquatic vegetation
- cannot tolerate turbidity, silt, or loss of aquatic vegetation



Spottail shiner (*Notropis hudsonius*)

Habitat:

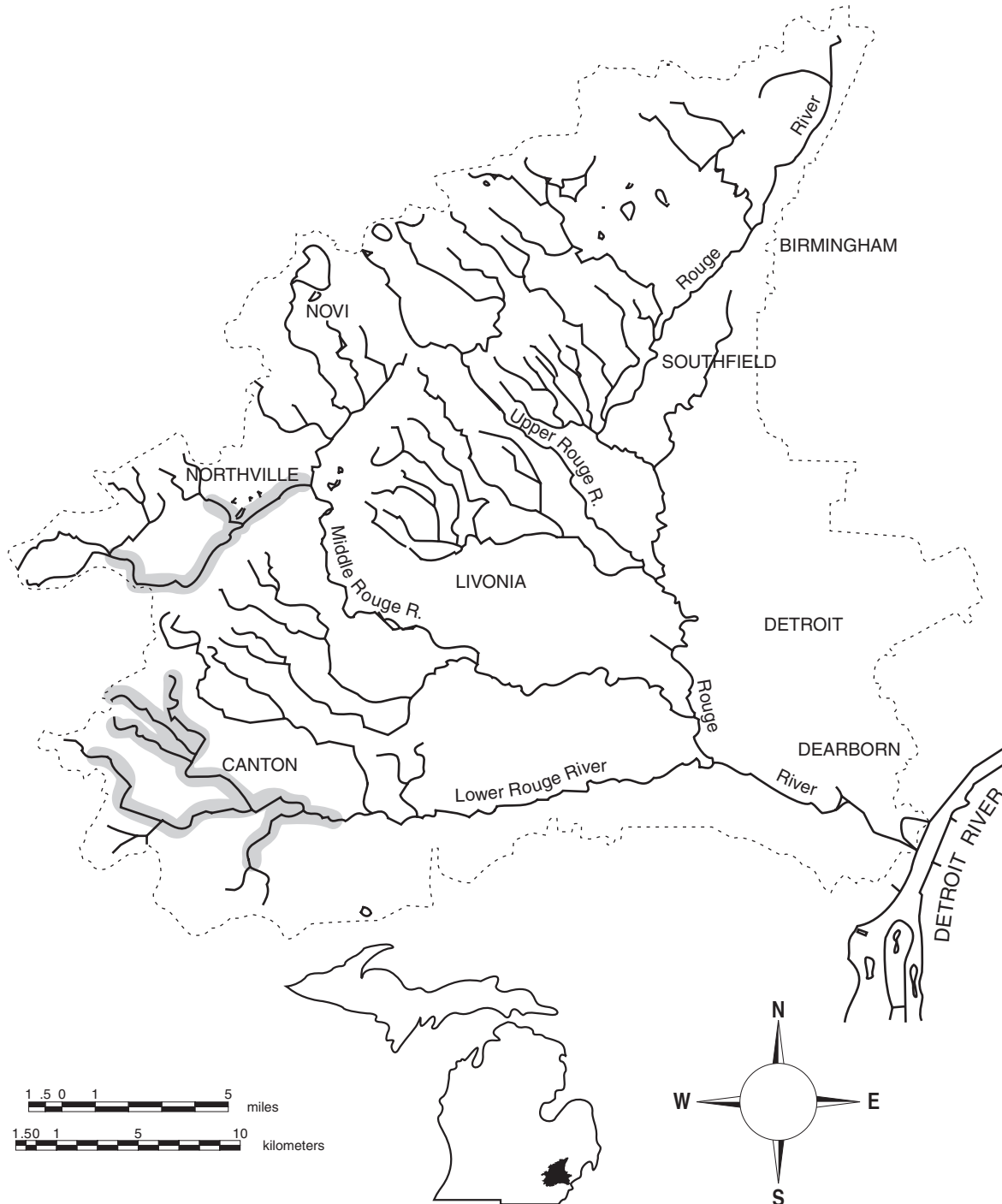
- feeding - large rivers, lakes, and impoundments
 - firm sand and gravel substrate
 - low current
 - sparse to moderate vegetation
 - avoids turbidity
-
- spawning - over sandy shoals or gravelly riffles
 - near the mouths of small streams



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

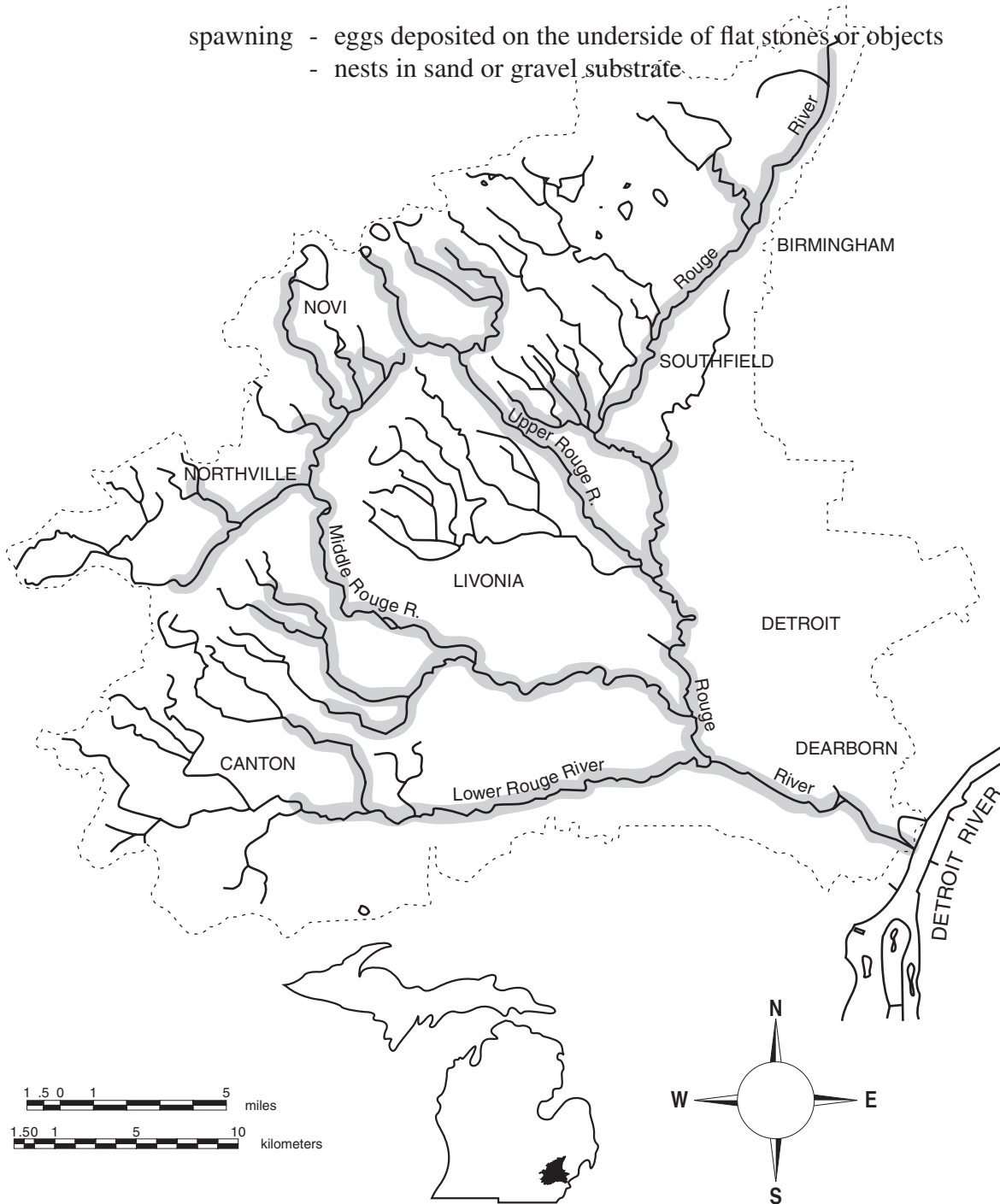


Bluntnose minnow (*Pimephales notatus*)

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.

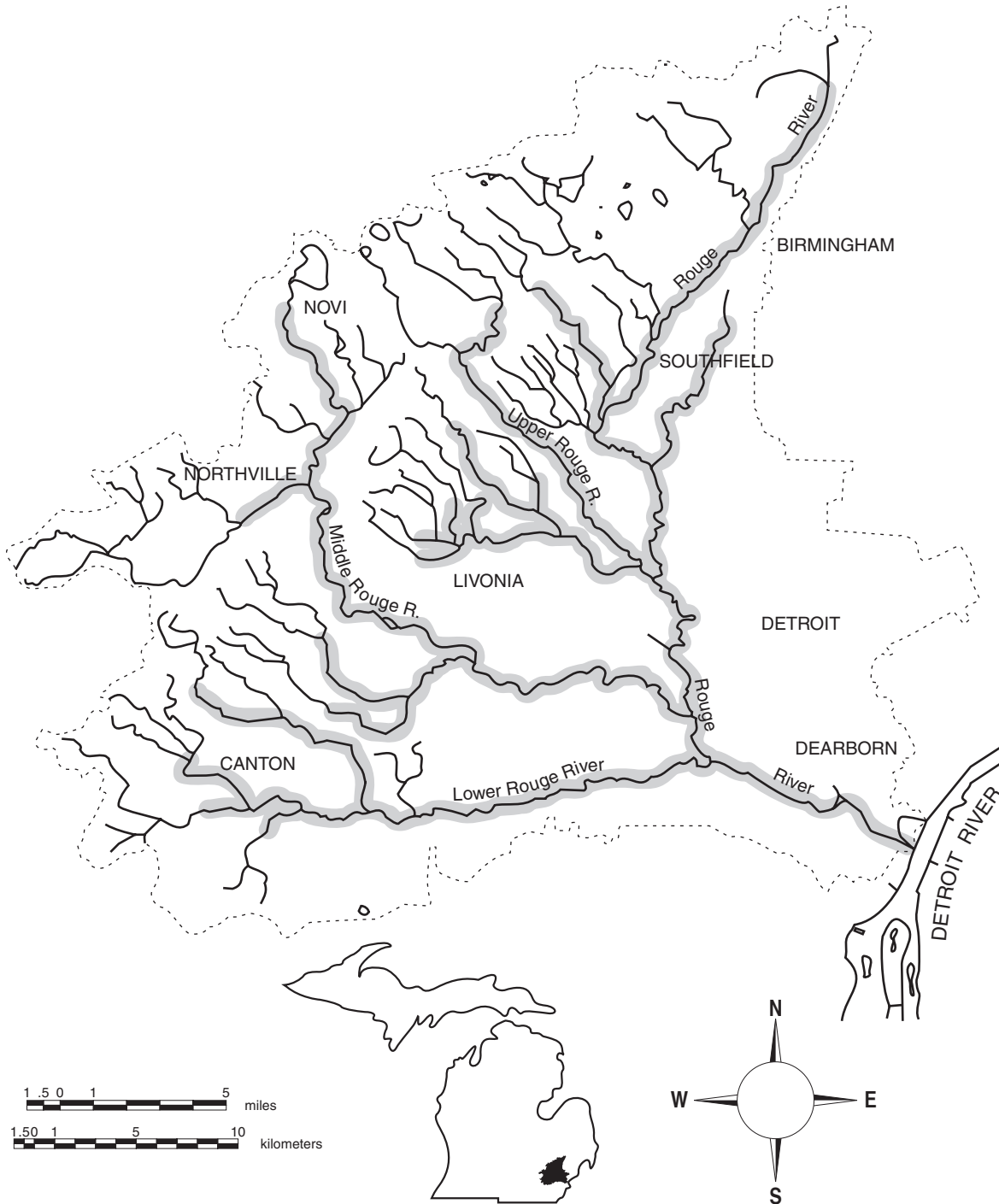


Fathead minnow (*Pimephales promelas*)

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



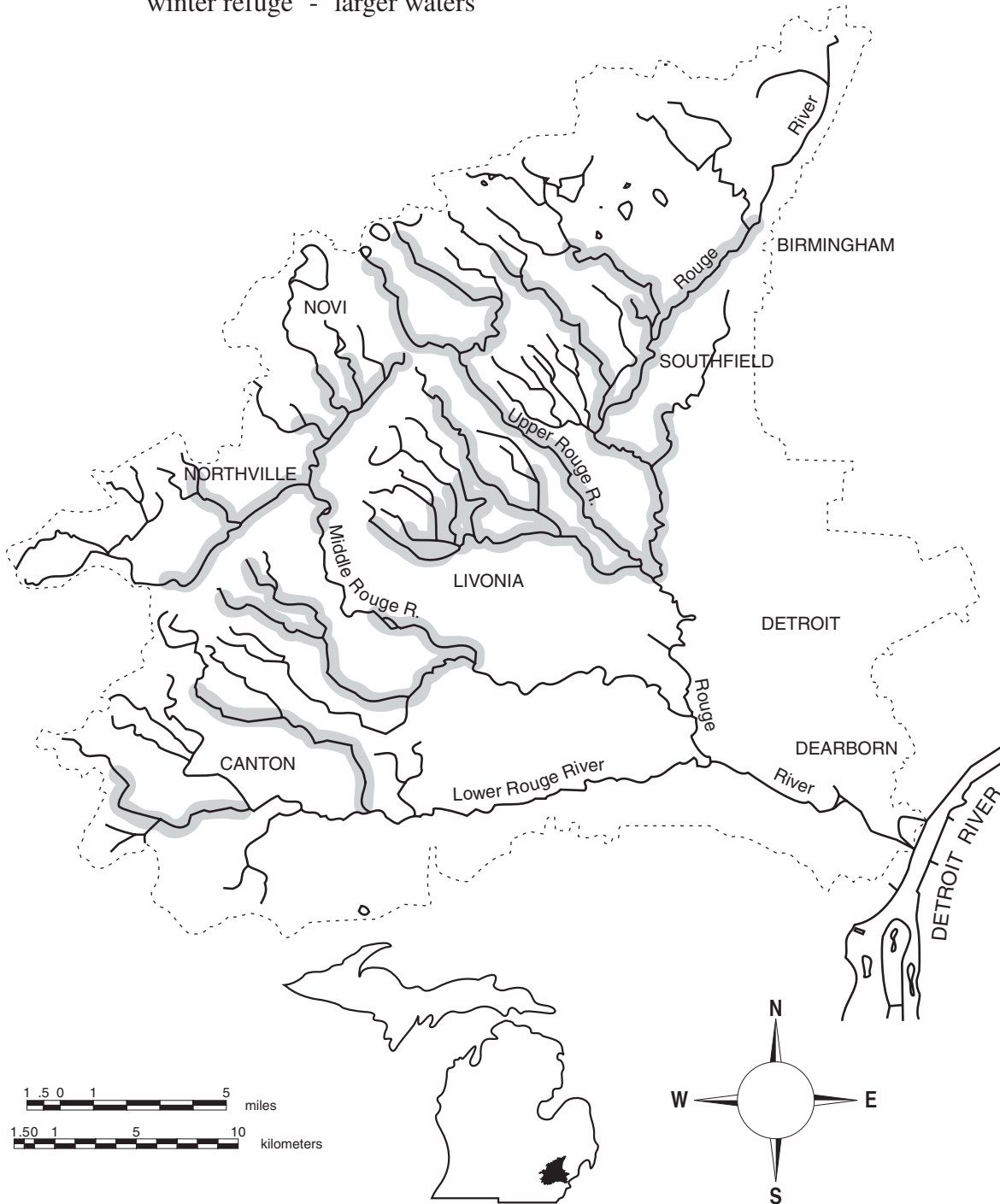
Blacknose dace (*Rhinichthys atratulus*)

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



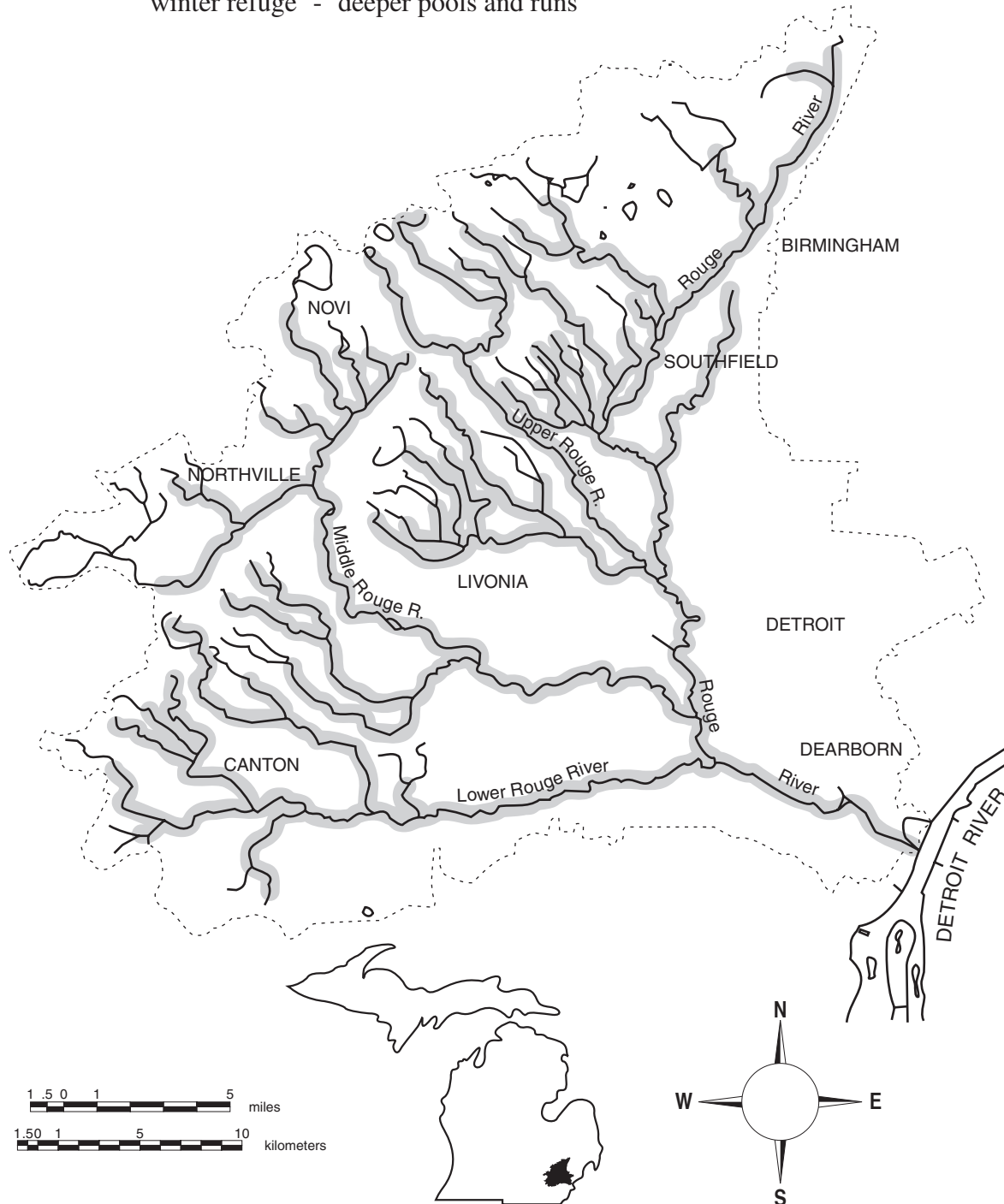
Creek chub (*Semotilus atromaculatus*)

Habitat:

- feeding - streams, rivers, or shore waters of lakes and impoundments
- can tolerate intermittent flows
- tolerates moderate turbidity

- spawning - gravel nests
- low current

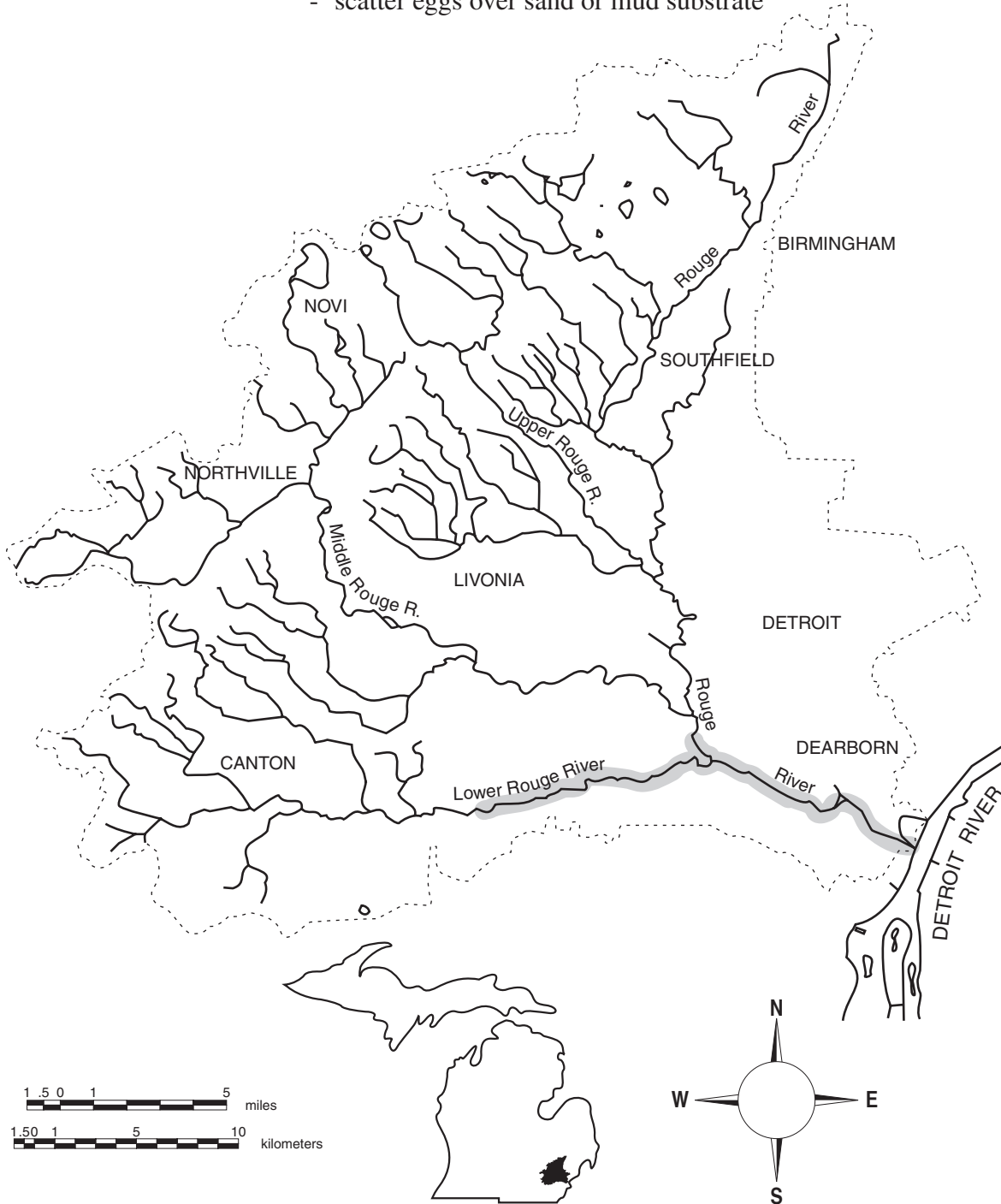
- winter refuge - deeper pools and runs



Quillback (*Carpoides cyprinus*)

Habitat:

- feeding - clear to turbid water
 - Detroit River
 - sand, sandy gravel, sandy silt, or clay-silt substrate
 - medium- to low-gradient rivers and streams; also lakes and sloughs
-
- spawning - streams or overflow areas of bends of rivers or bays of lakes
 - scatter eggs over sand or mud substrate

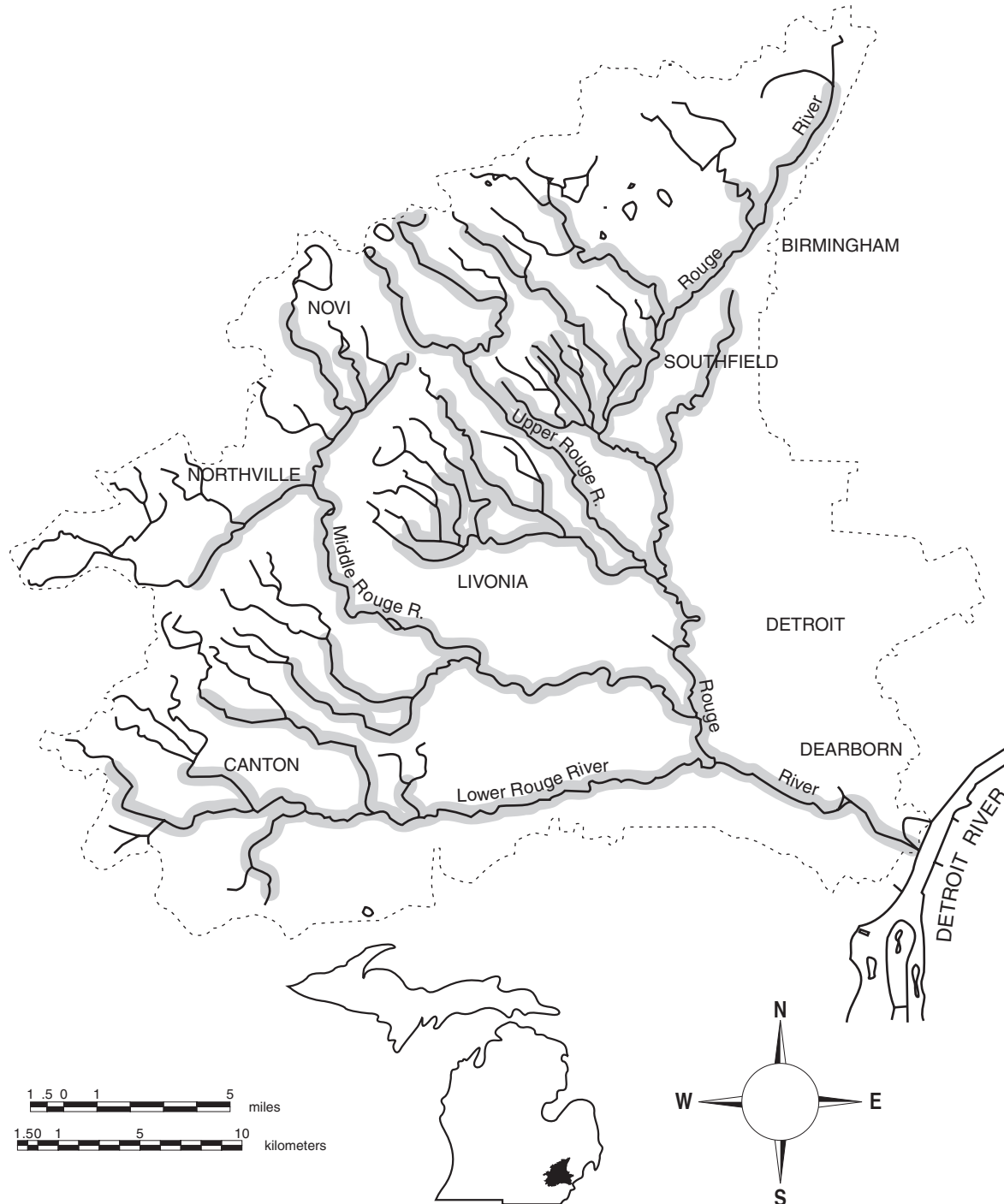


White sucker (*Catostomus commersoni*)

Habitat:

- feeding - streams, rivers, lakes, and impoundments
- can inhabit highly turbid and polluted waters

- spawning - quiet gravelly shallow areas of streams



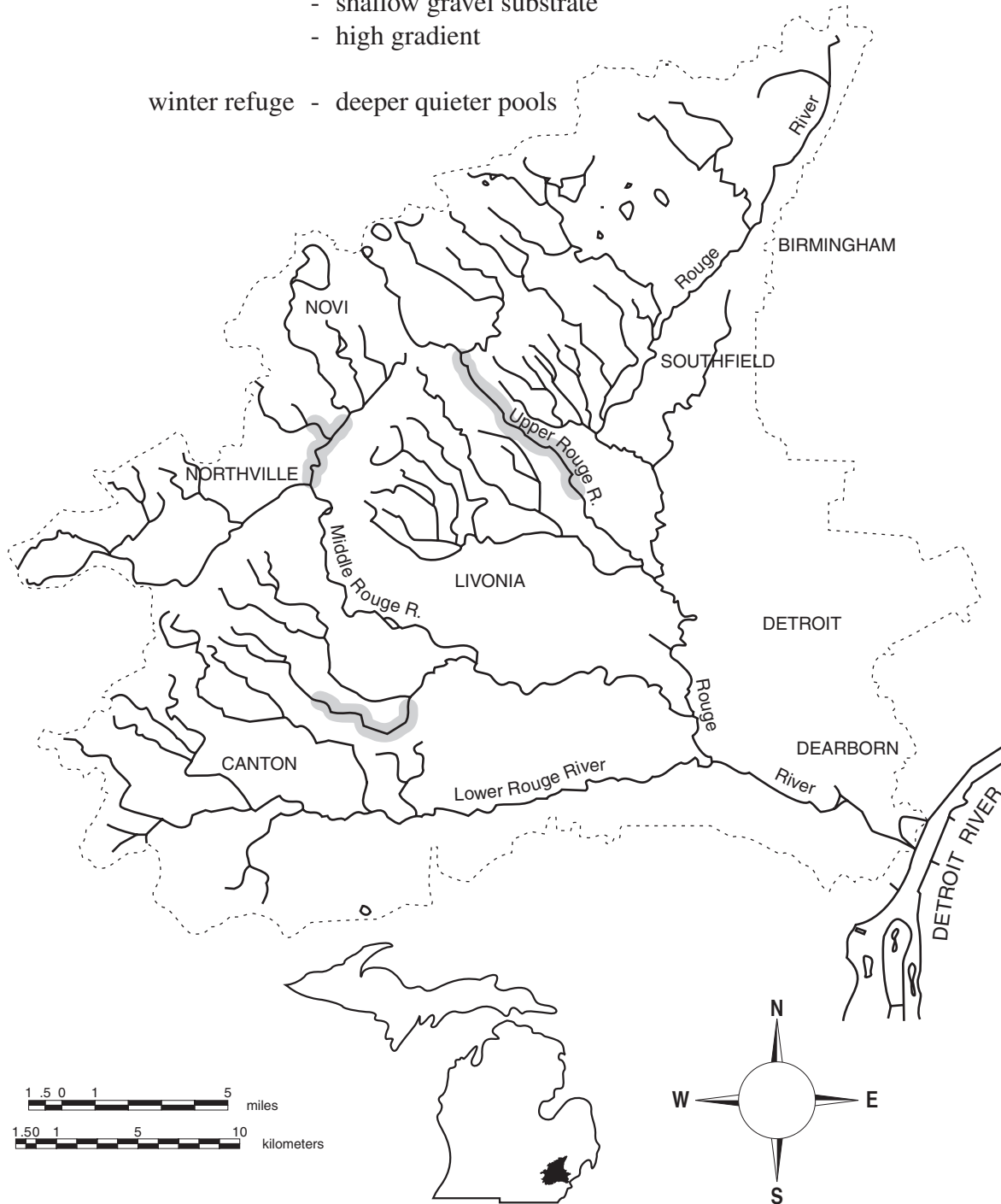
Northern hog sucker (*Hypentelium nigricans*)

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

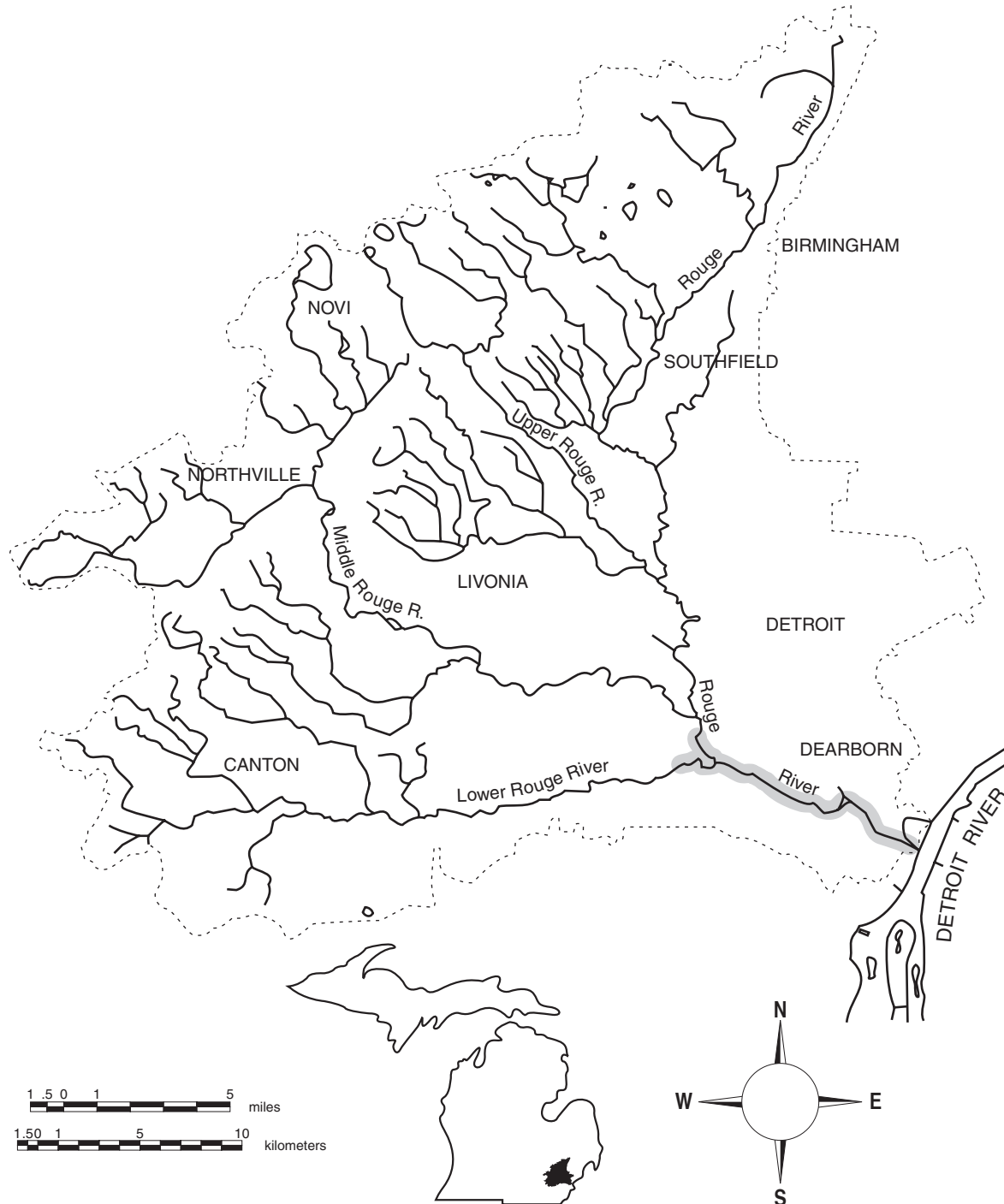
- winter refuge - deeper quieter pools



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



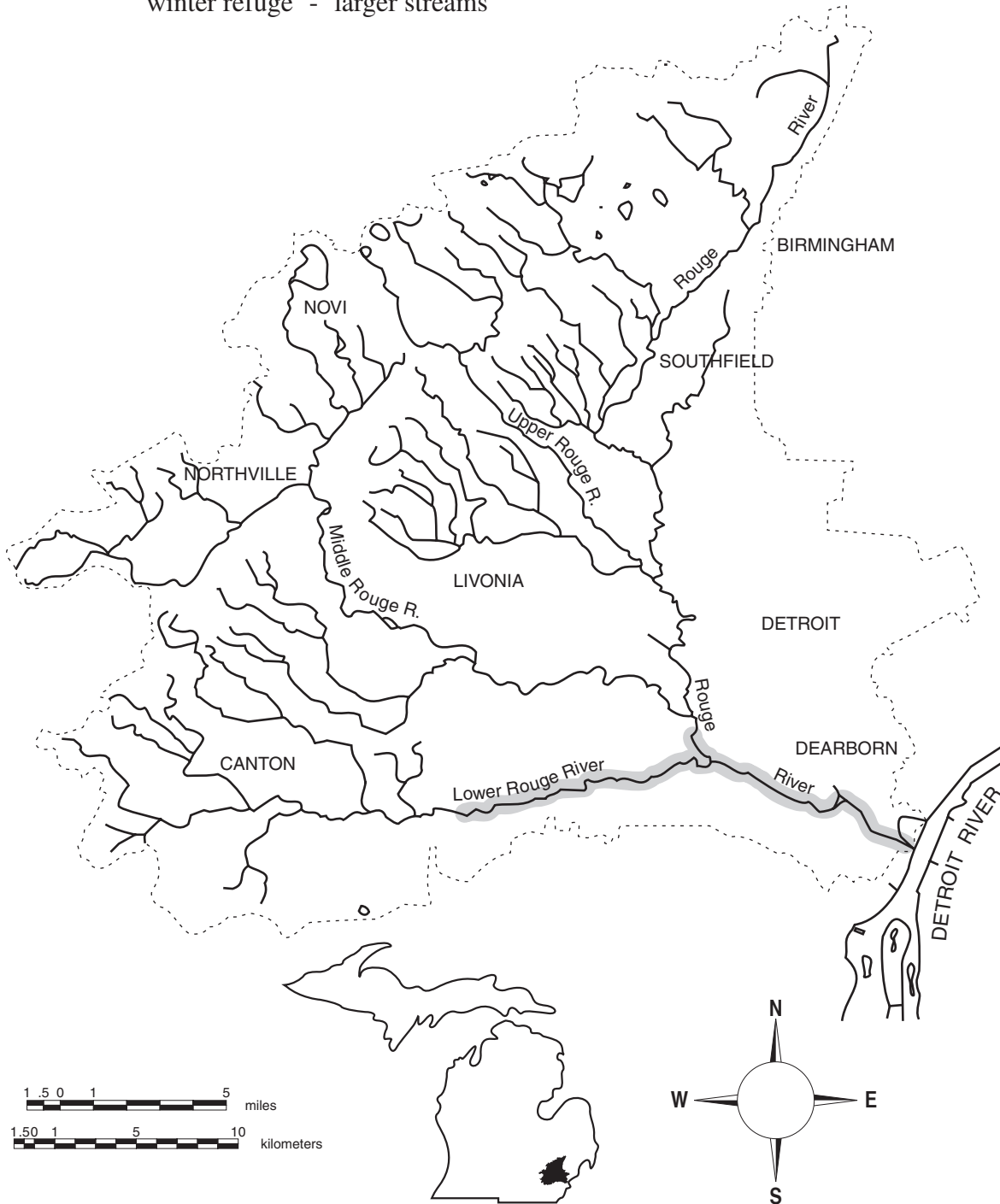
Golden redhorse (*Moxostoma erythrurum*)

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

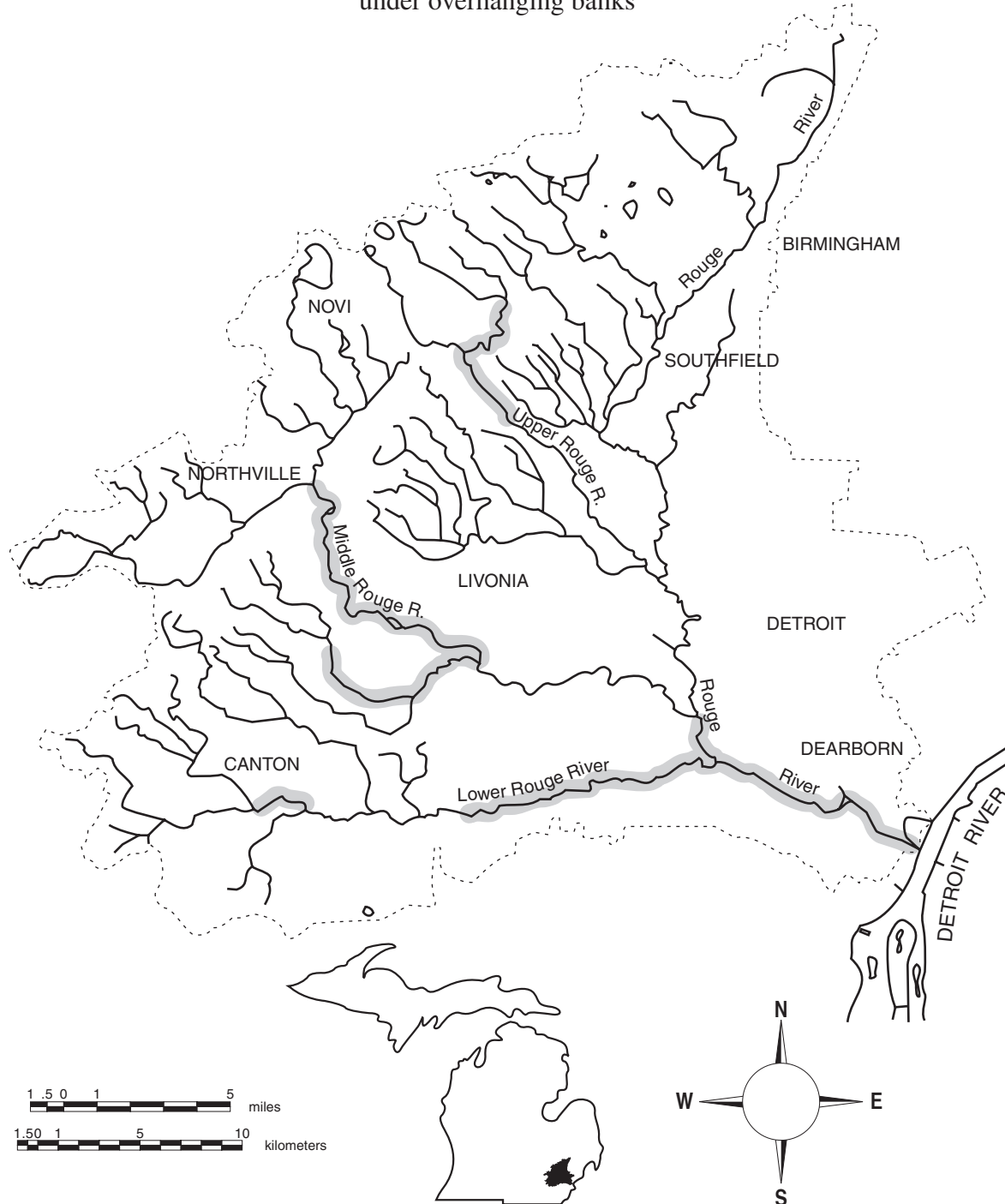
winter refuge - larger streams



Black bullhead (*Ameiurus melas*)

Habitat:

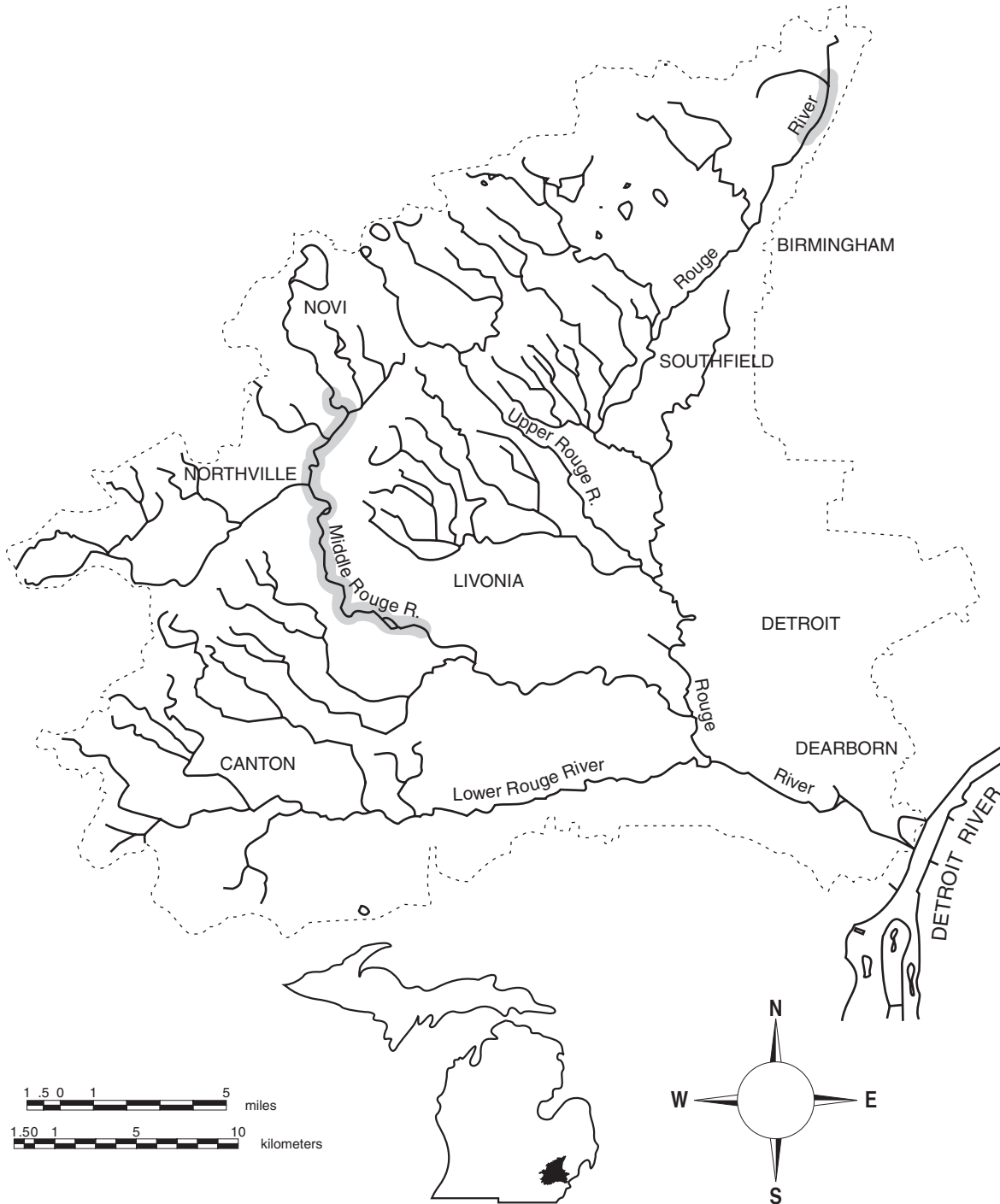
- feeding - turbid water
 - silt bottom
 - low gradient small to medium streams, pools, and headwaters of large rivers; also in lakes and impoundments
 - can tolerate very warm water and very low dissolved oxygen
- spawning - nest in moderate to heavy vegetation or woody debris and under overhanging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



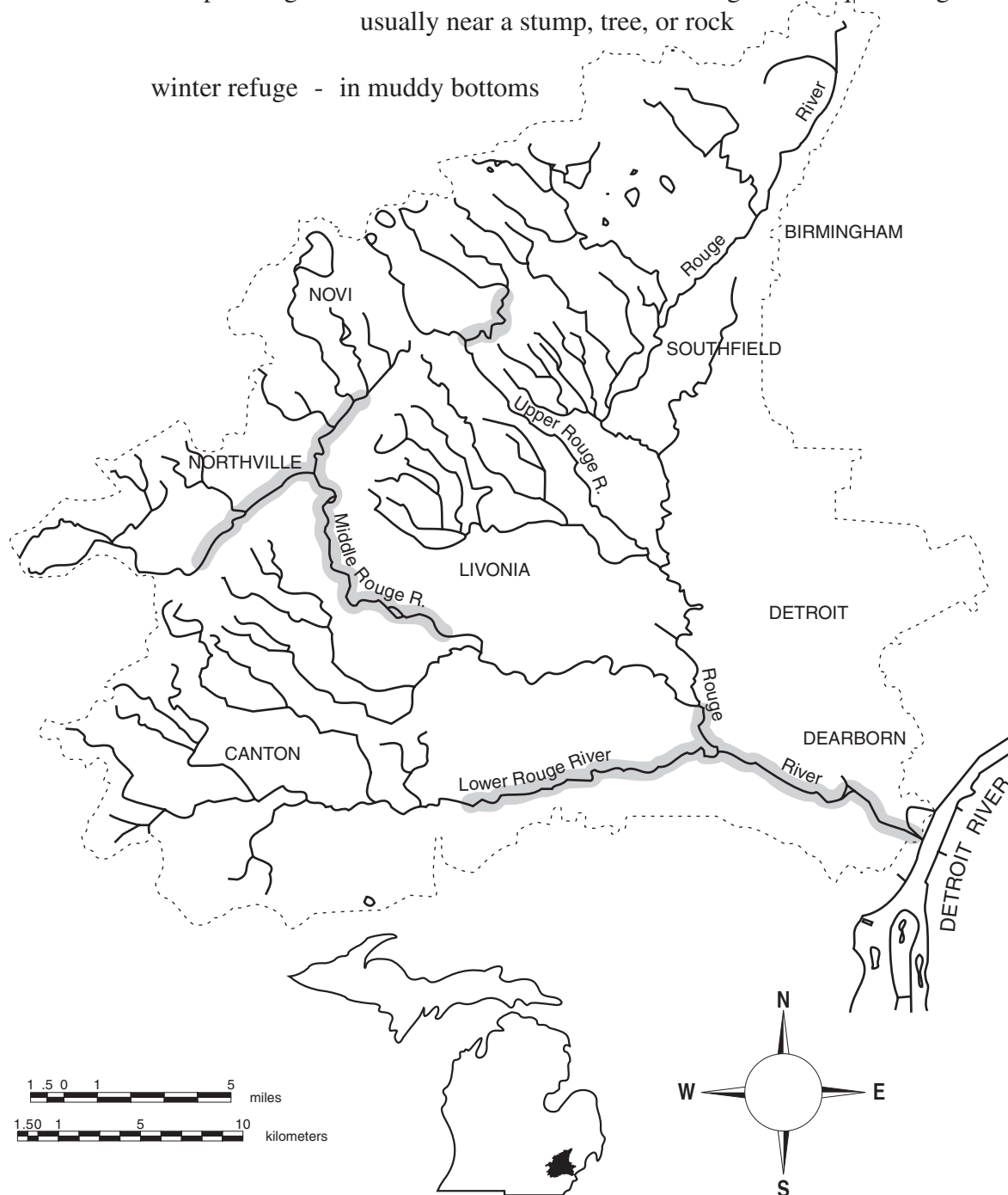
Brown bullhead (*Ameiurus nebulosus*)

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

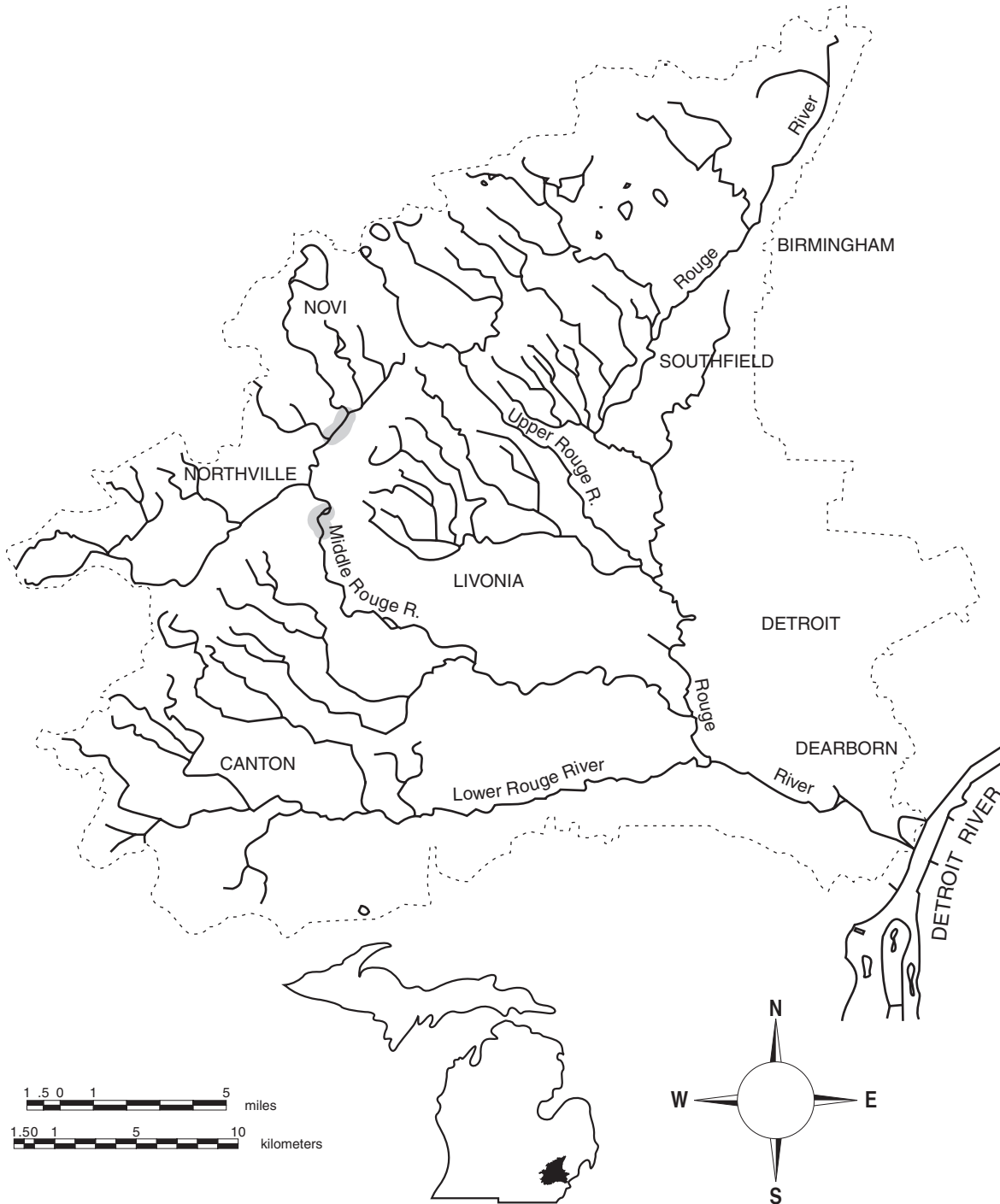


Channel catfish (*Ictalurus punctatus*)

Habitat:

- feeding - moderately-clear, deeper waters of rivers, lakes, and impoundments
 - sand, gravel, or rubble substrate
 - low to moderate gradient

- spawning - secluded semi-dark areas such as holes, under banks, log jams, or rocks

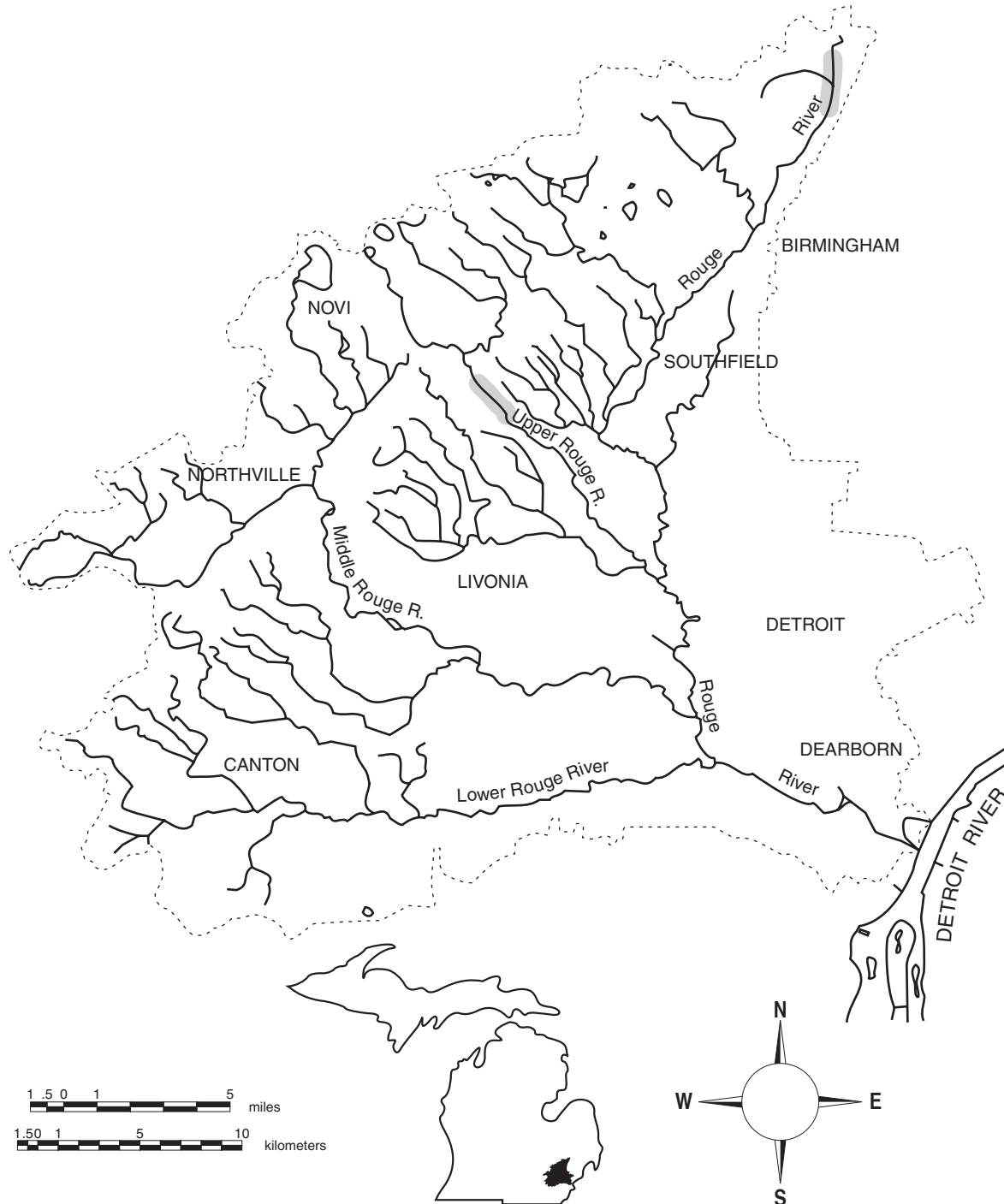


Stonecat (*Noturus flavus*)

Habitat:

- feeding
 - consistent low to moderate gradient flowing water
 - rocky riffles of larger streams and smaller rivers
 - not tolerant of silt
 - tolerant of low oxygen and pollution

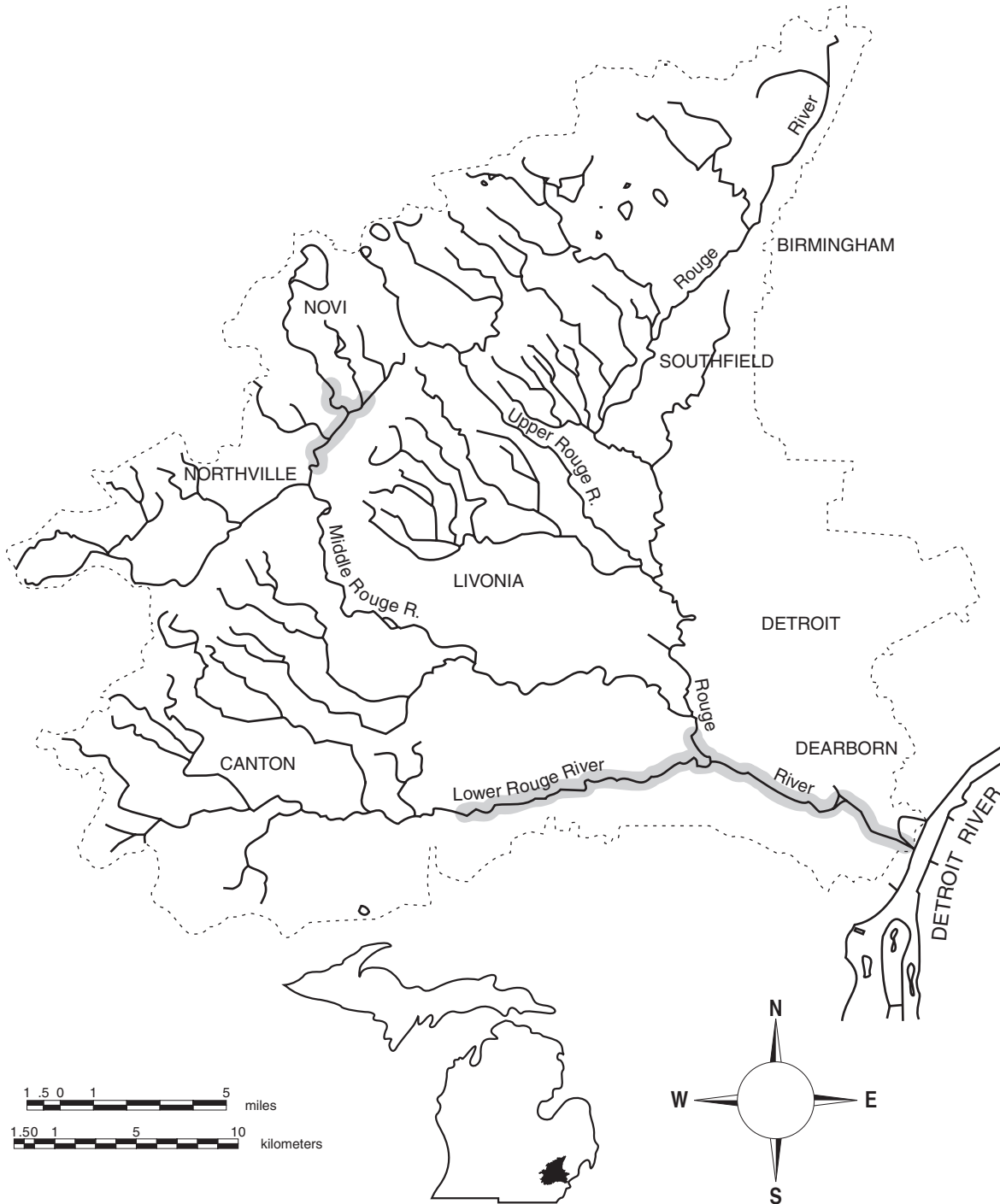
- spawning
 - eggs deposited beneath stones
 - shallow rocky areas of streams or lakes



Grass pickerel (*Esox americanus vermiculatus*)

Habitat:

- feeding - juveniles: along shore
 - adults: in deeper portions of streams, rivers, lakes, and impoundments
 - clear water, little current, dense vegetation
 - tolerates low oxygen concentrations
- spawning - broadcast spawner over submerged vegetation

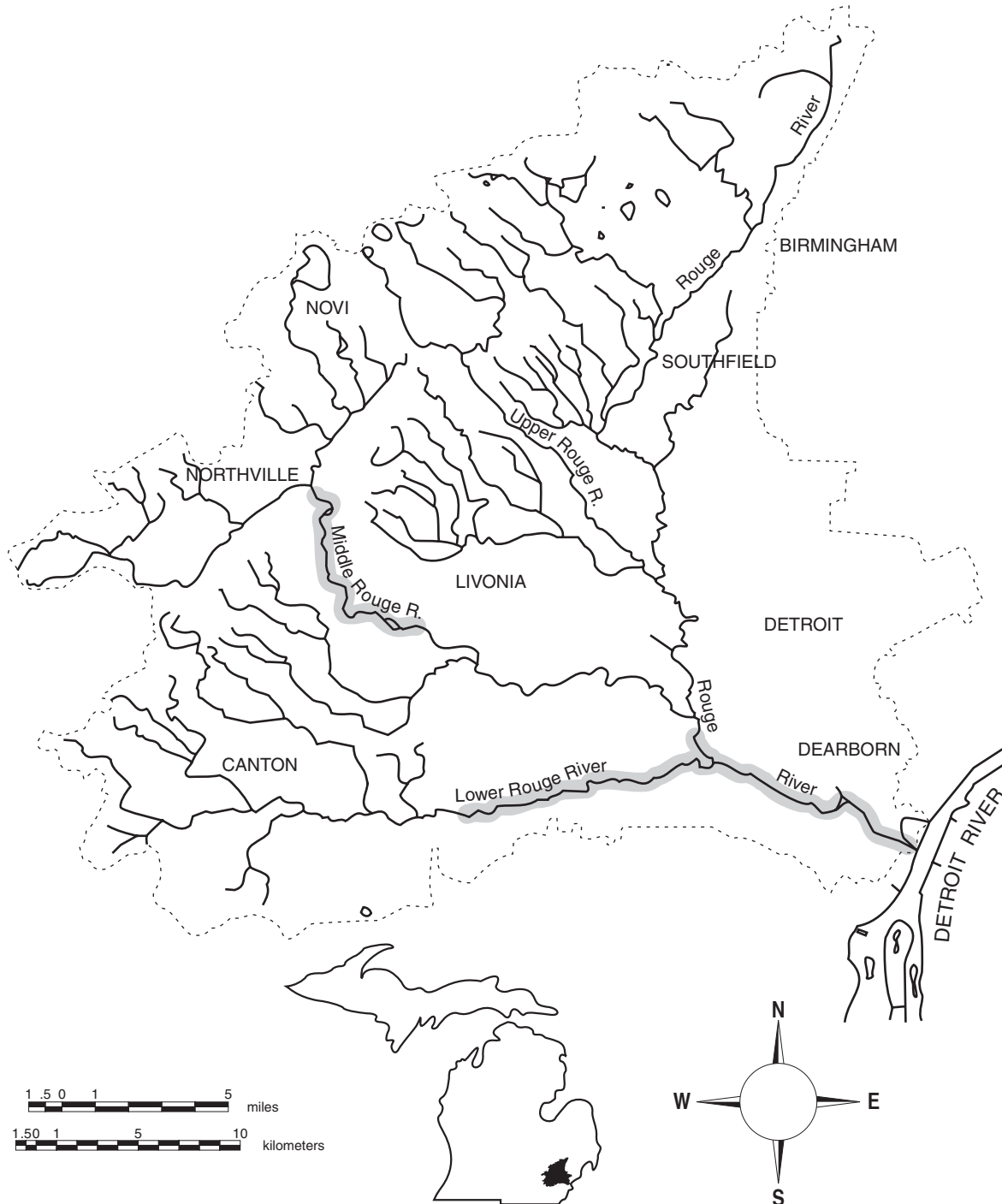


Northern pike (*Esox lucius*)

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

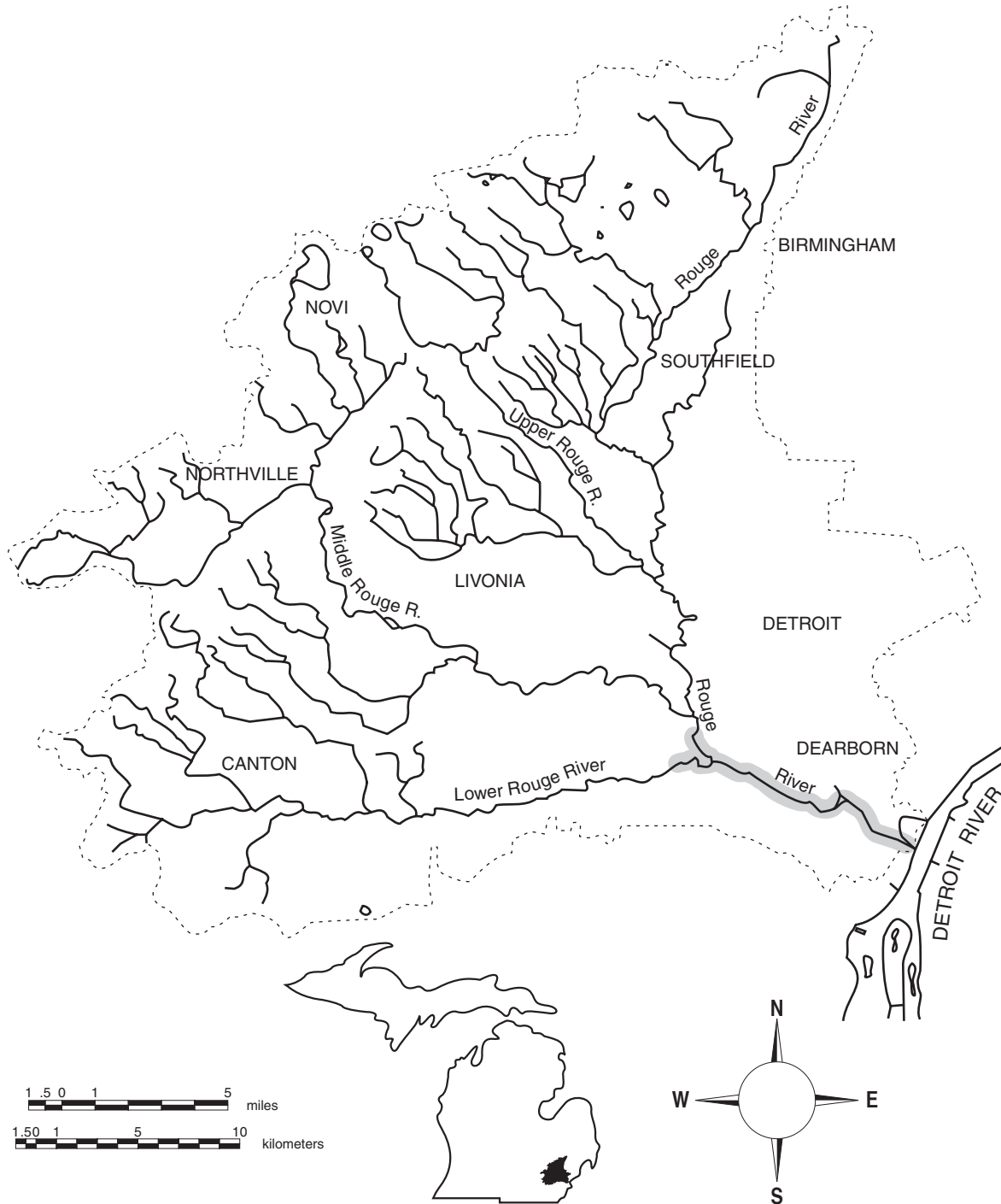


Muskellunge (*Esox masquinongy*)

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

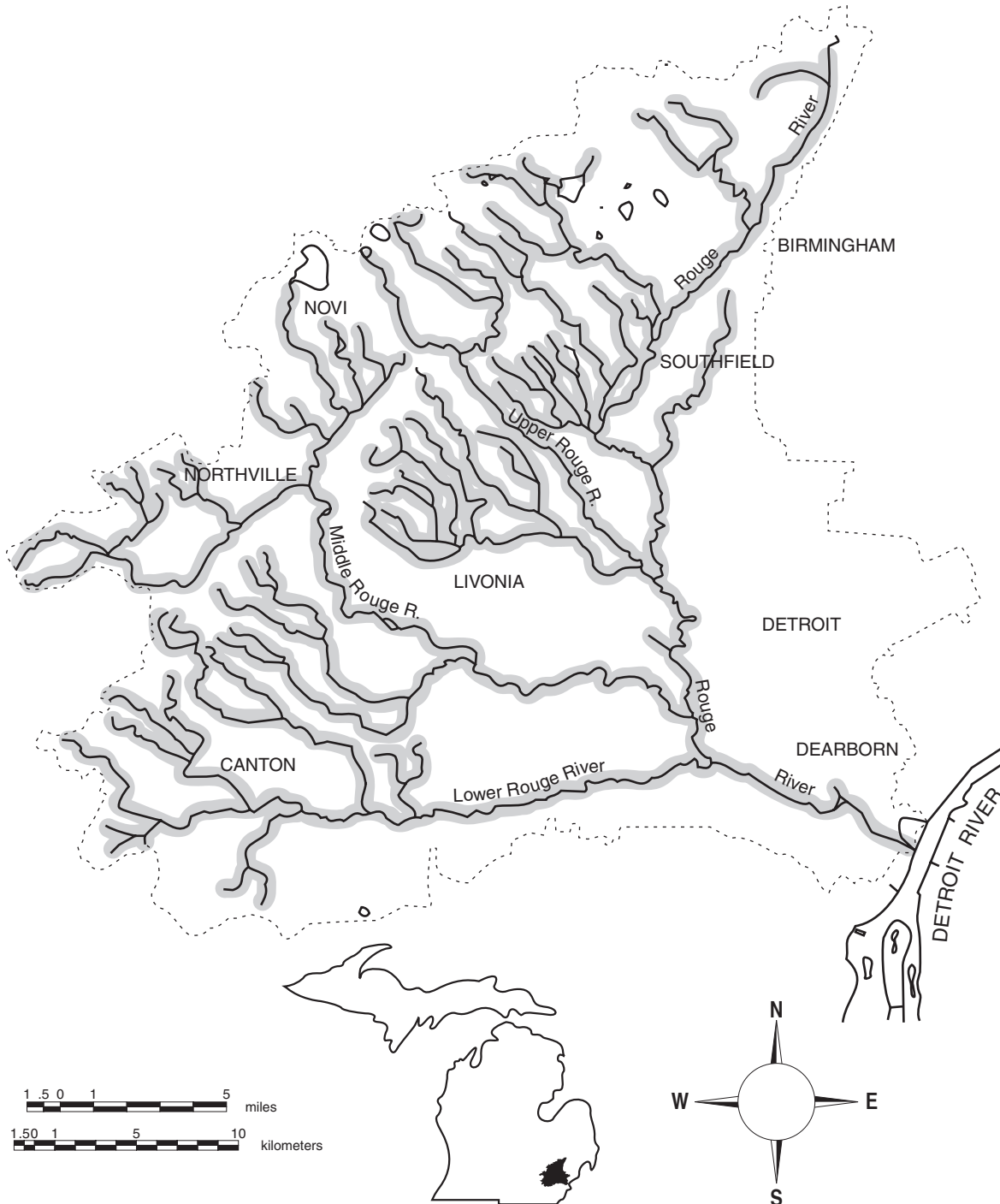


Central mudminnow (*Umbra limi*)

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

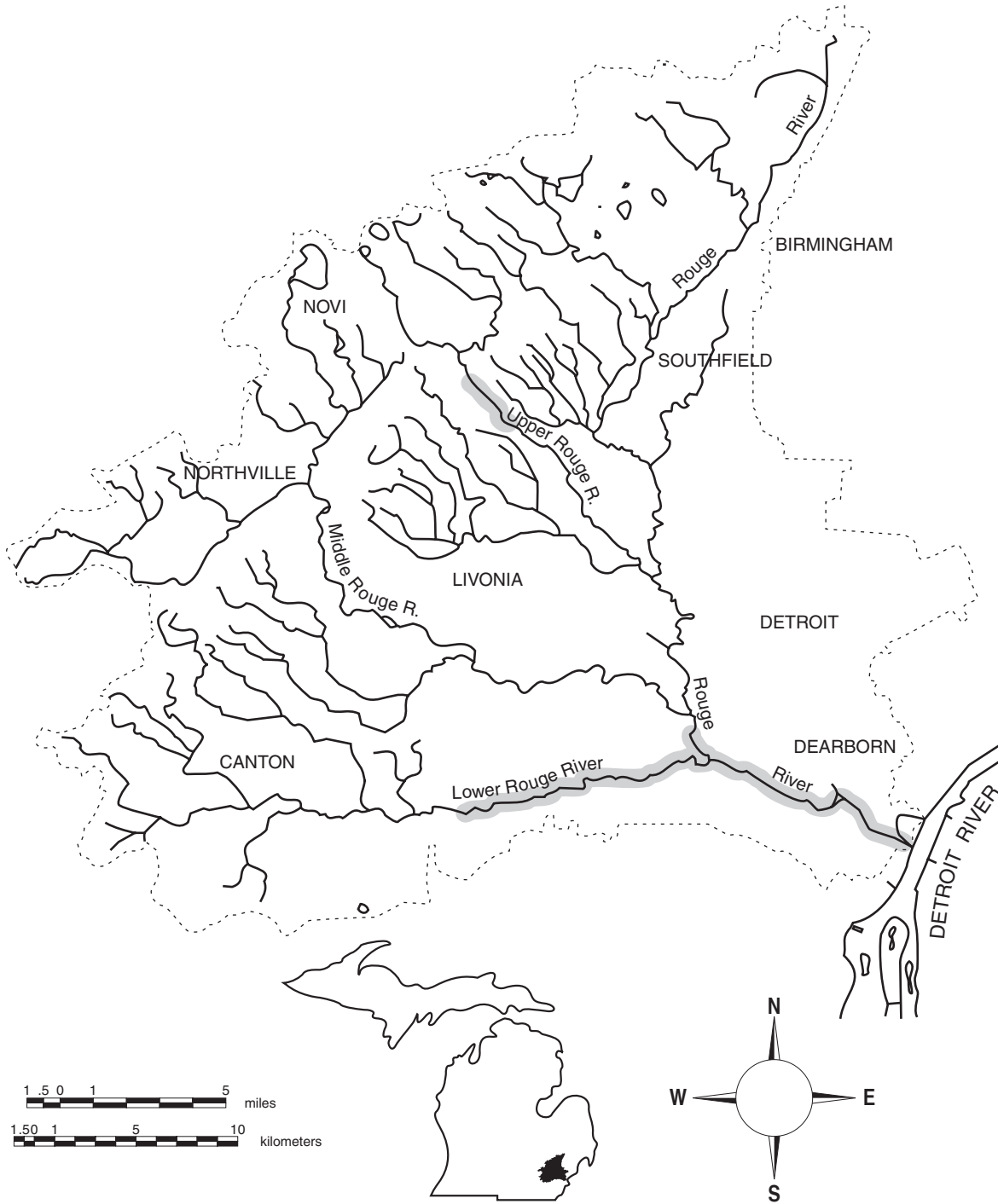


Rainbow trout (*Oncorhynchus mykiss*)

Habitat:

- feeding - cold clear water of rivers and Lake Erie
- moderate current

- spawning - gravelly riffles above a pool
- smaller tributaries

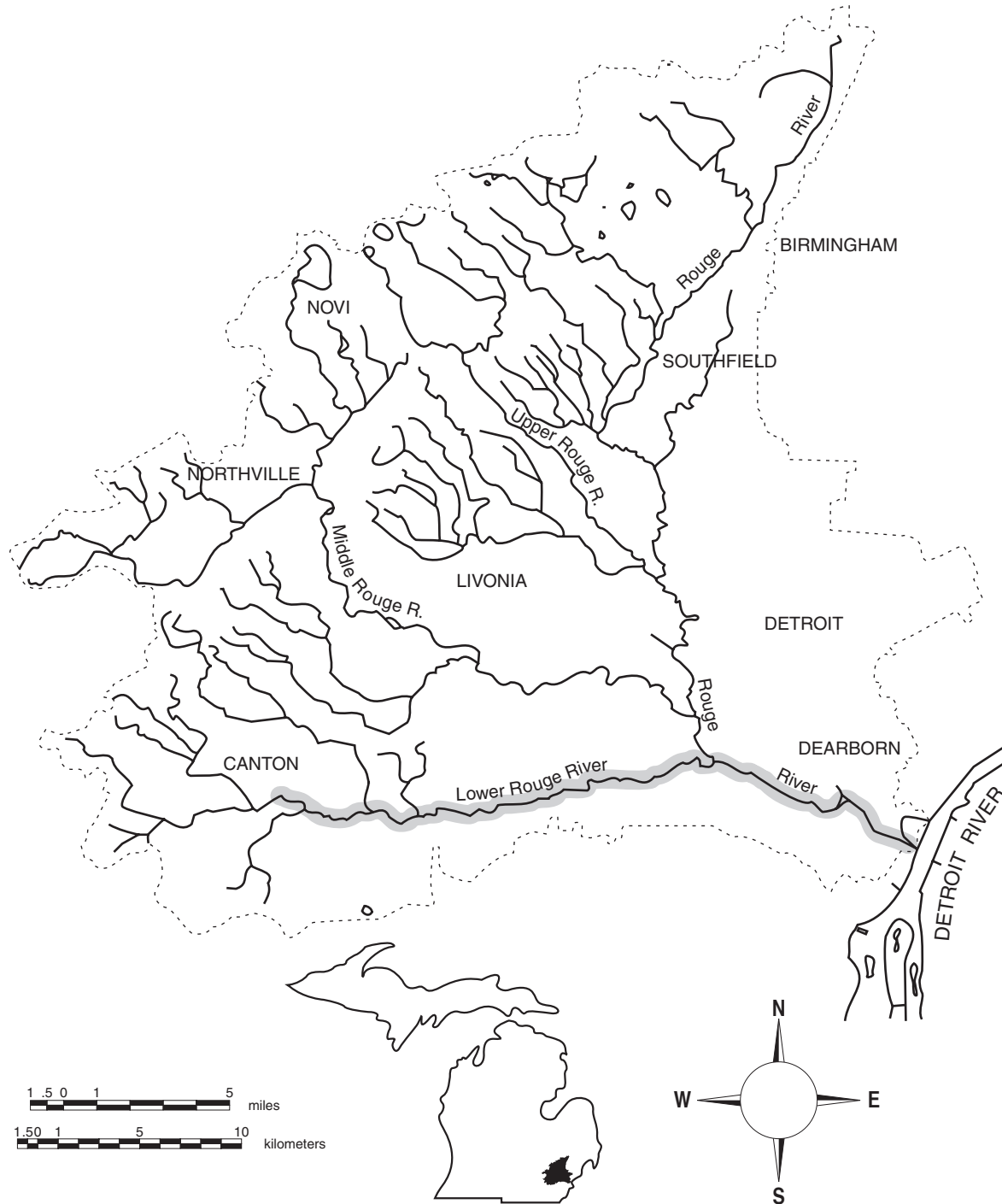


Chinook salmon (*Oncorhynchus tshawyscha*)

Habitat:

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

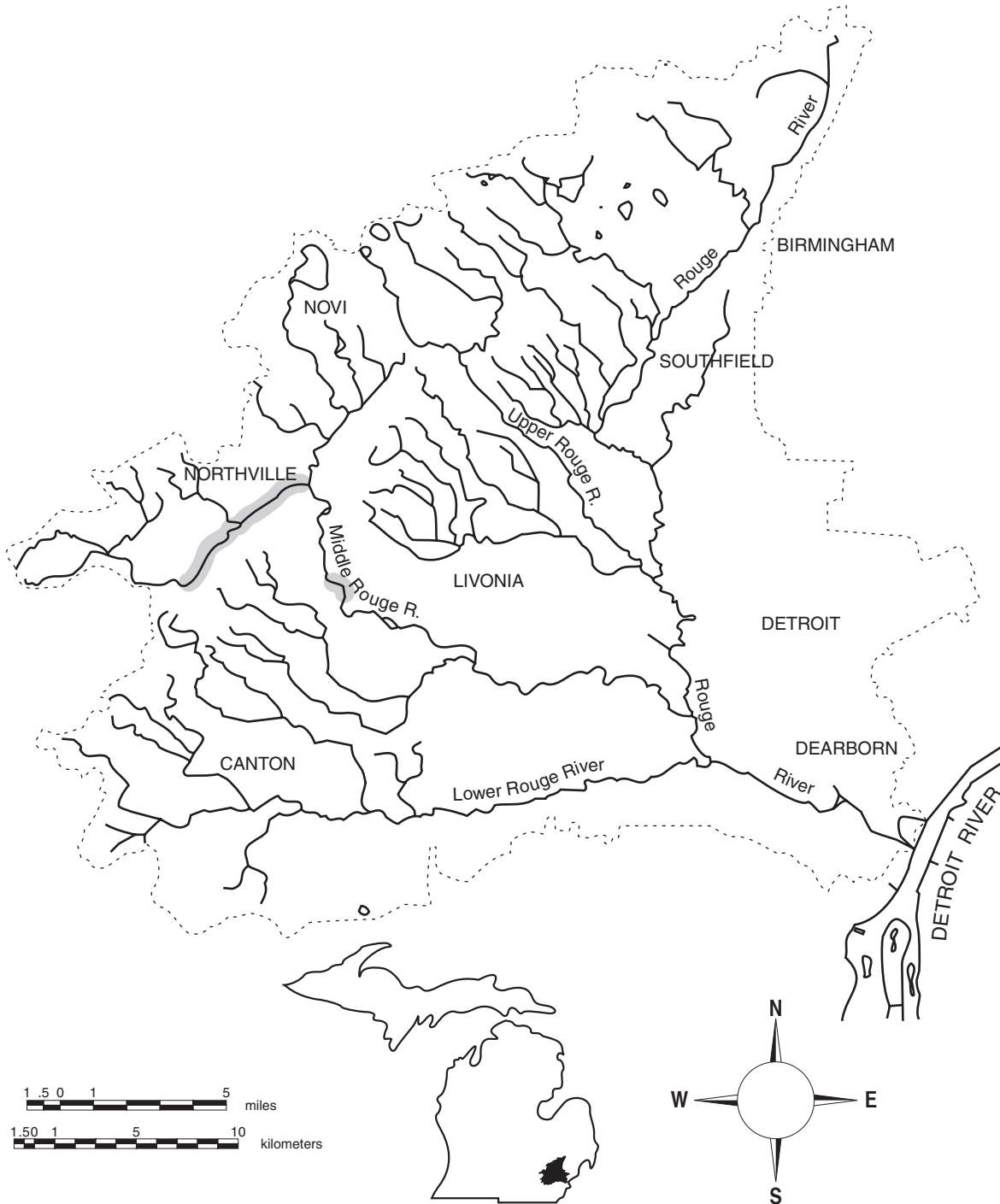
- spawning - gravelly substrate in cool streams



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

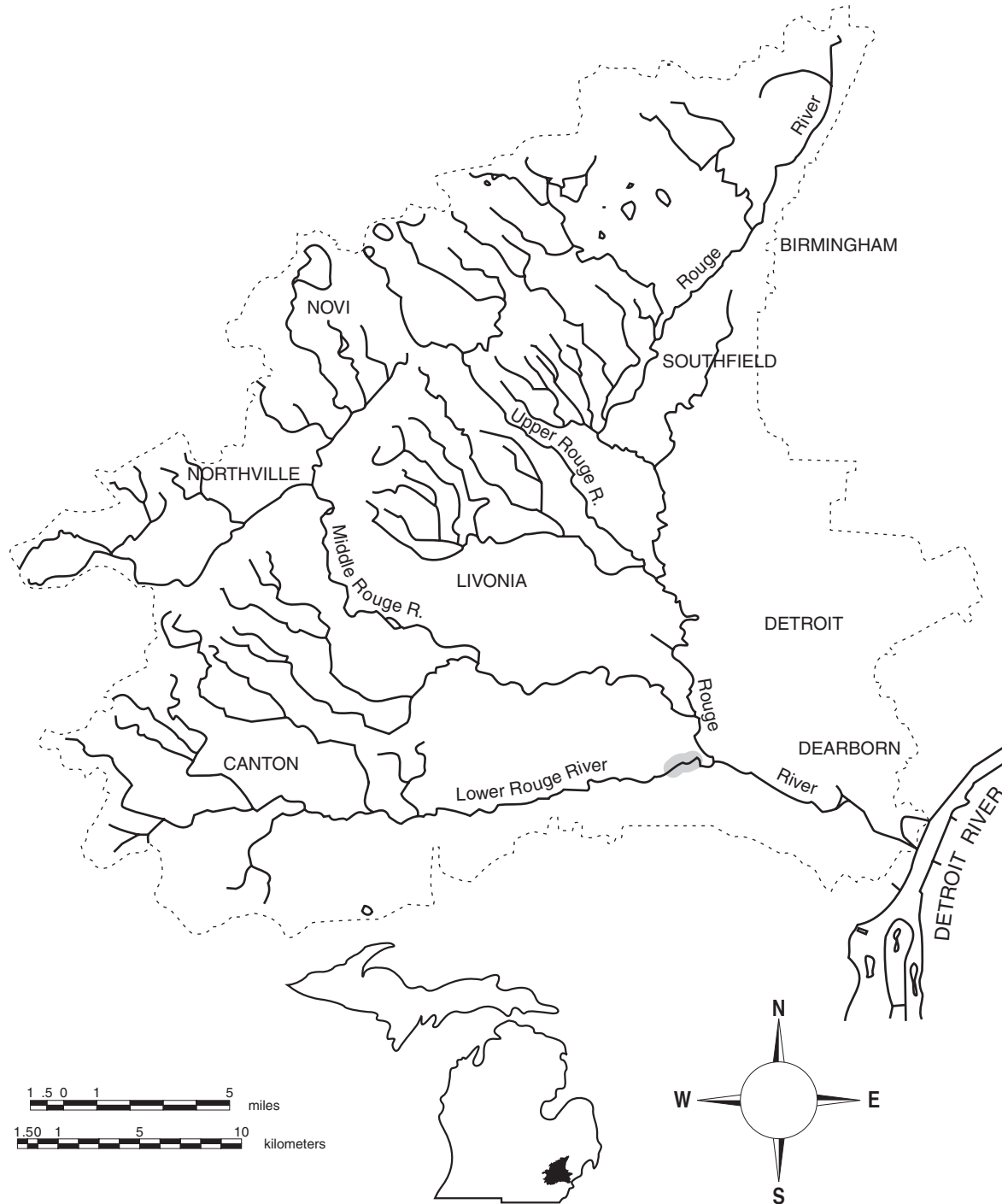


Starhead topminnow (*Fundulus dispar*)

Habitat:

- feeding - clear, warm pools in streams and rivers; also lakes
- does not tolerate turbidity
- most frequently at surface

- spawning - in and around aquatic vegetation or over gravel substrate with a moderate current

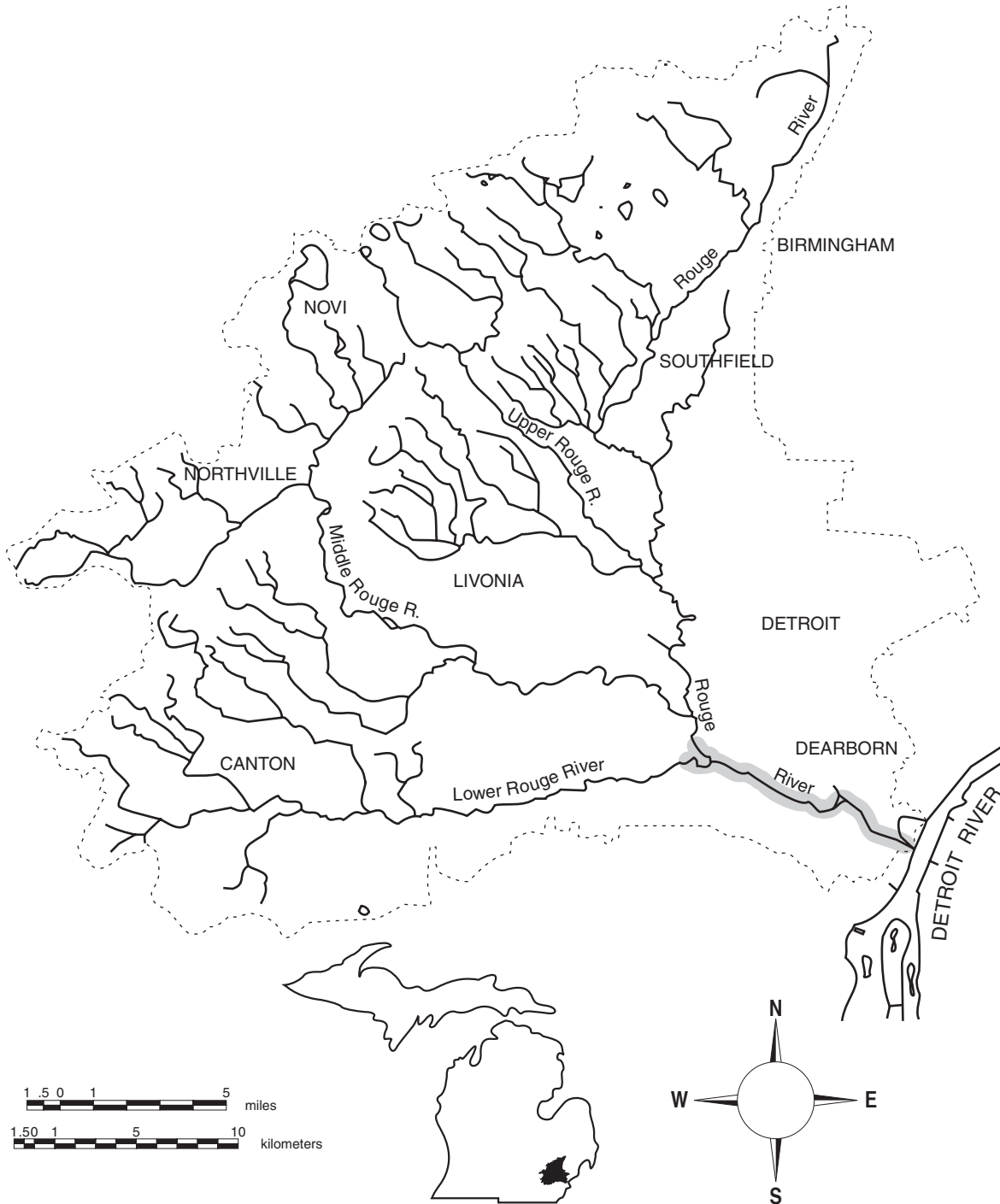


Brook silverside (*Labidesthes sicculus*)

Habitat:

- feeding - clear, warm pools in streams and rivers; also lakes
- does not tolerate turbidity
- most frequently at surface

- spawning - in and around aquatic vegetation or over gravel substrate with a moderate current

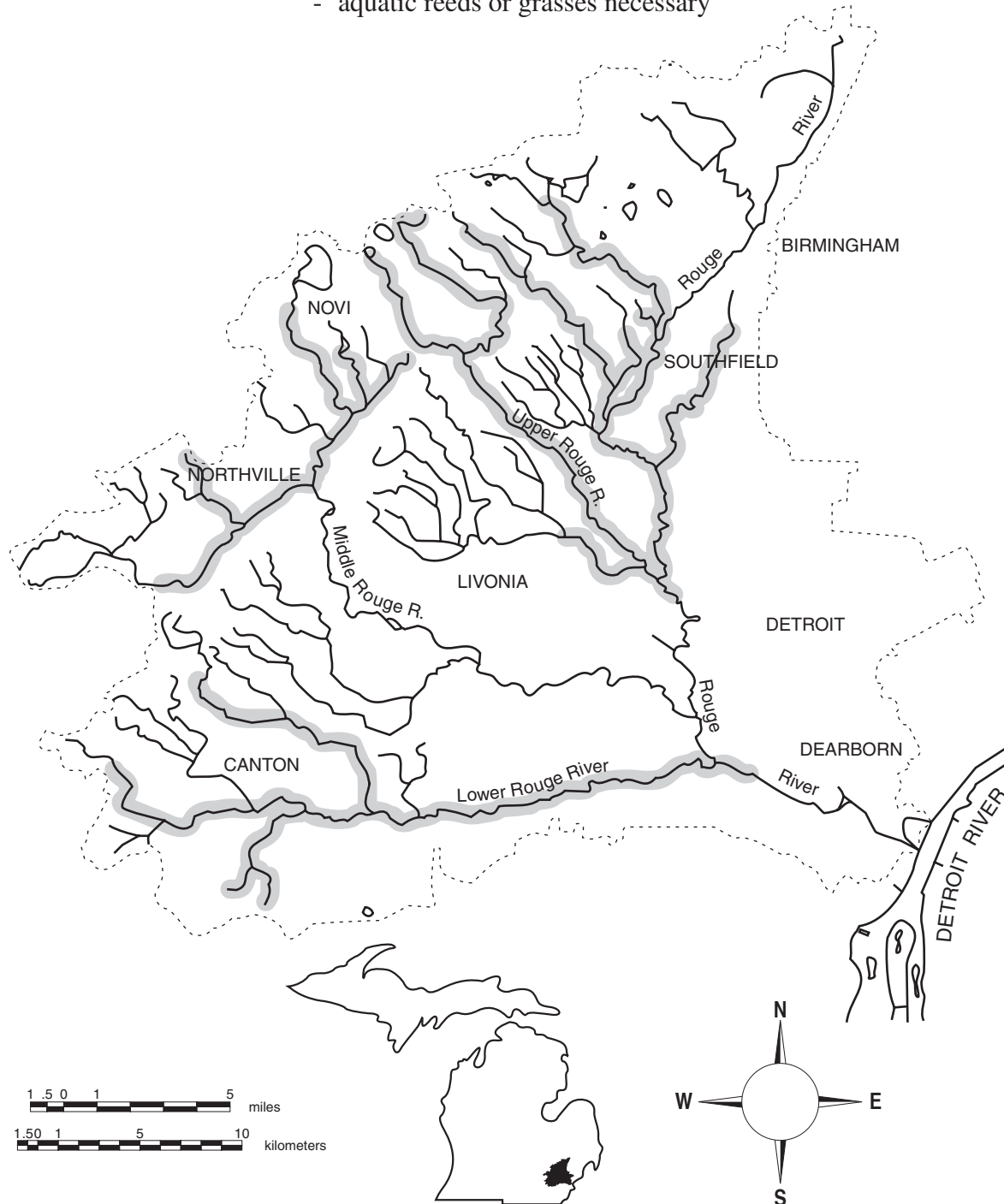


Brook stickleback (*Cluaea inconstans*)

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

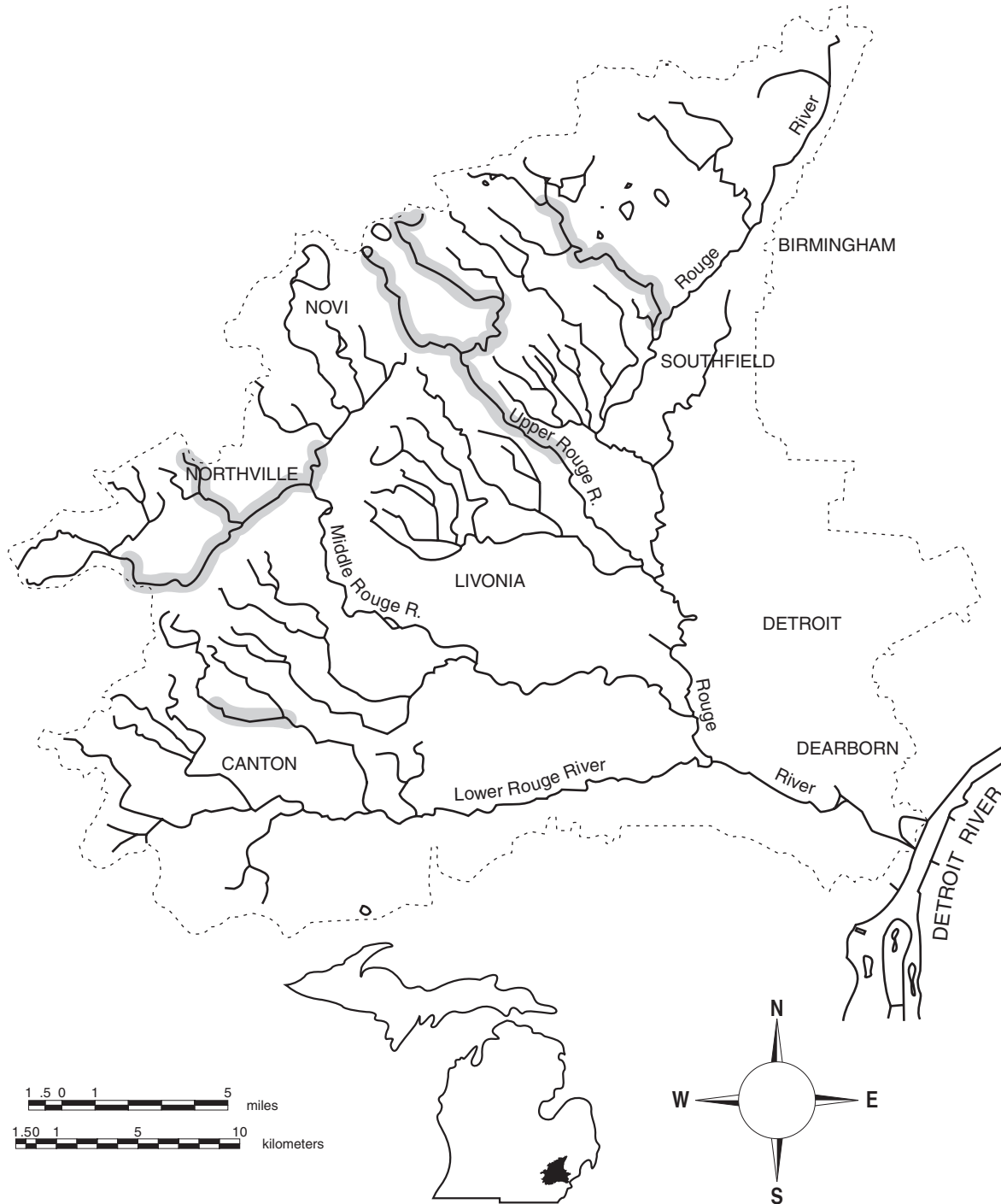


Mottled sculpin (*Cottus bairdi*)

Habitat:

- feeding - cool to cold streams
- riffle and rock substrates preferred
- clear to slightly turbid shallow water

- spawning - nests under logs or rock

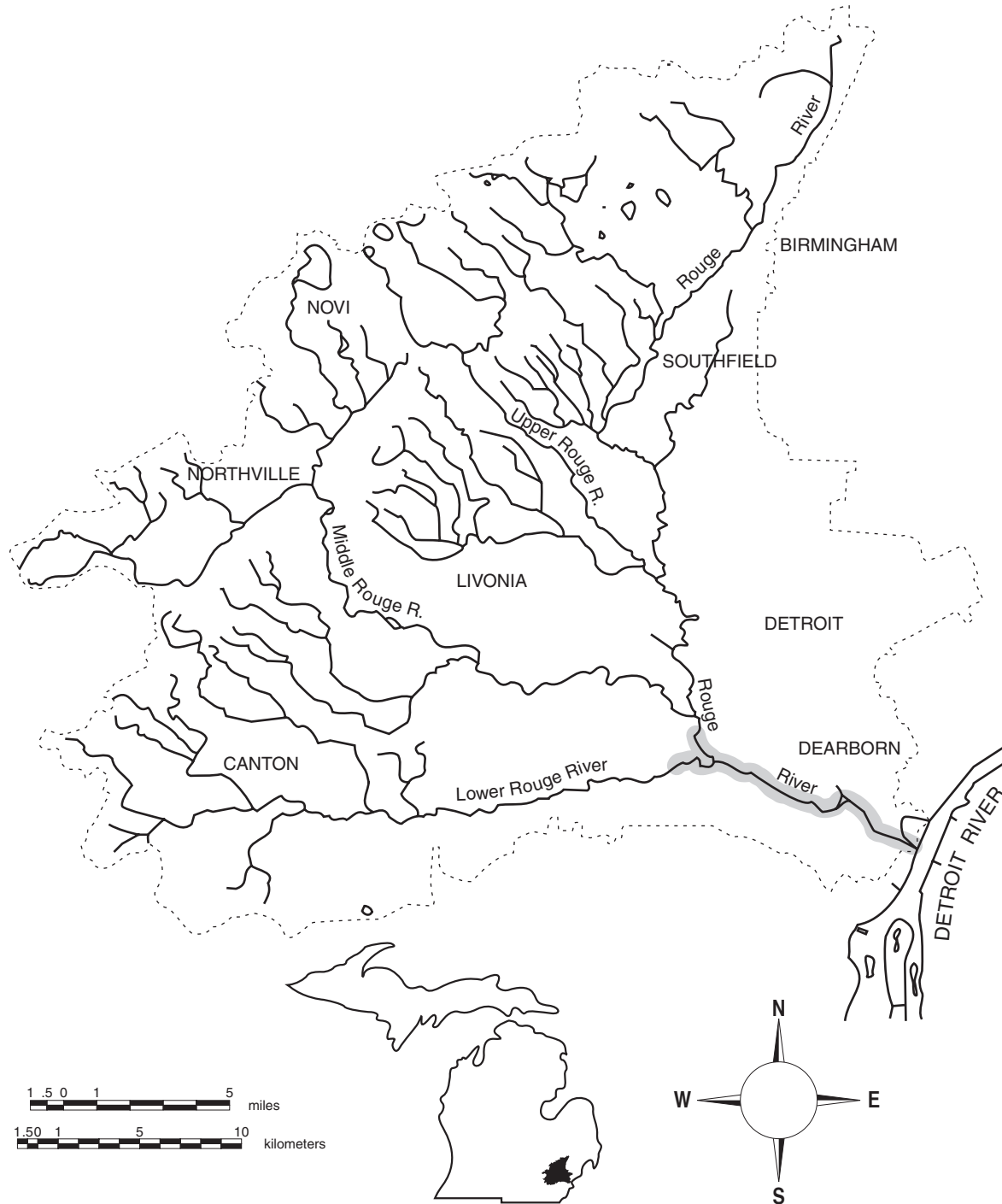


White perch (*Morone americana*)

Habitat:

feeding - clear, warm water of low-gradient streams, lakes, impoundments, and Detroit River

spawning - shallow water over firm substrate



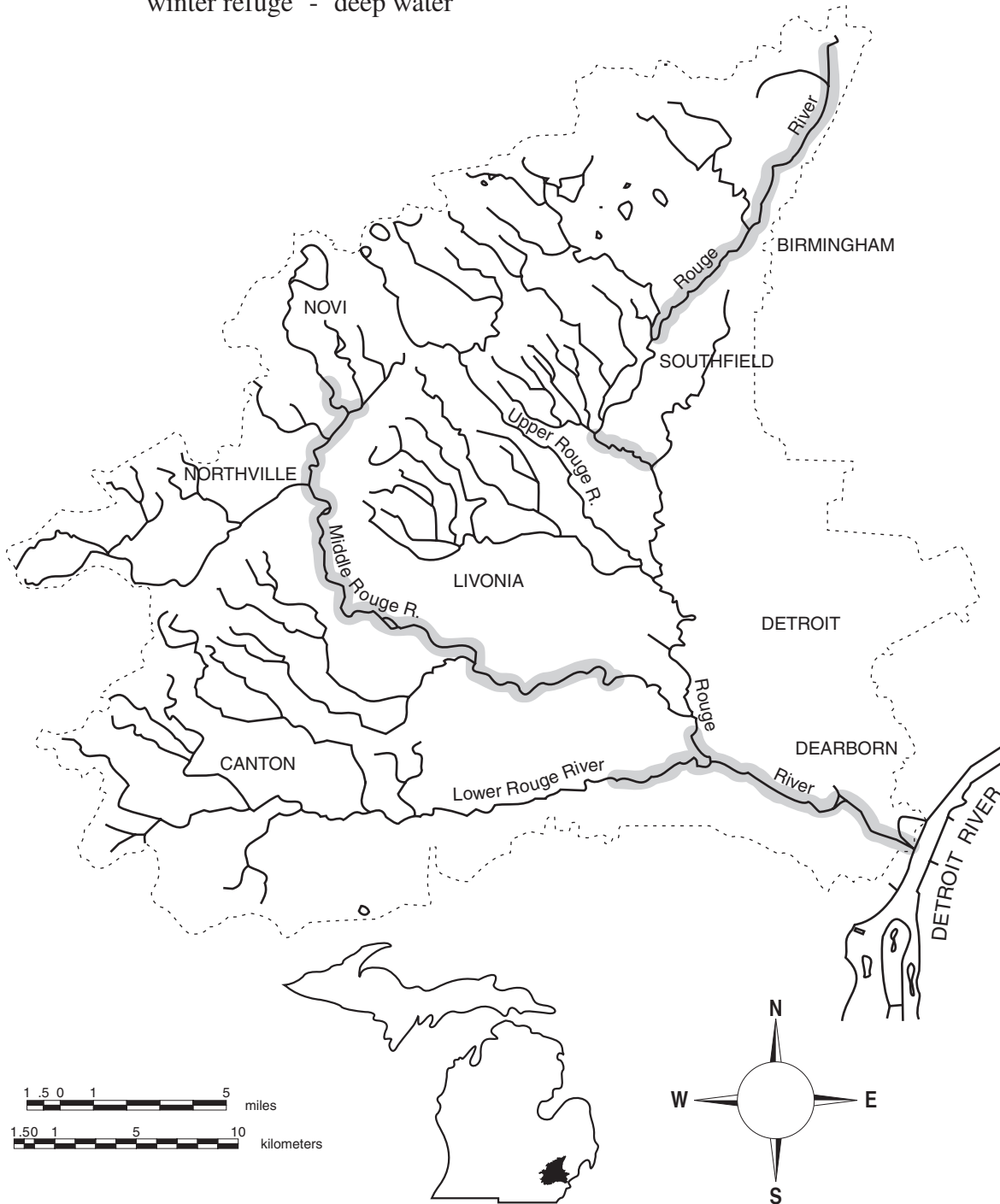
Rock bass (*Ambloplites rupestris*)

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

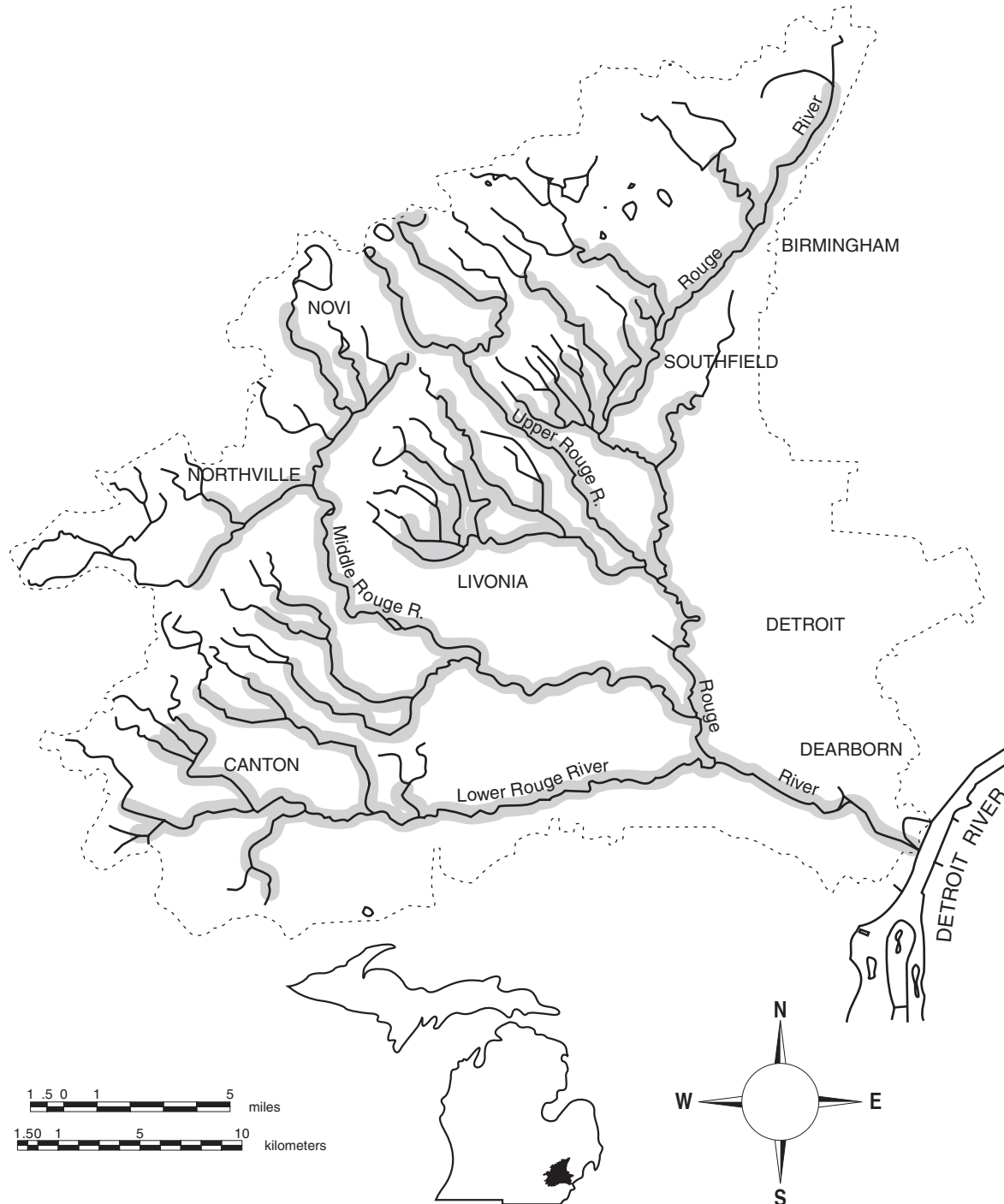


Green sunfish (*Lepomis cyanellus*)

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

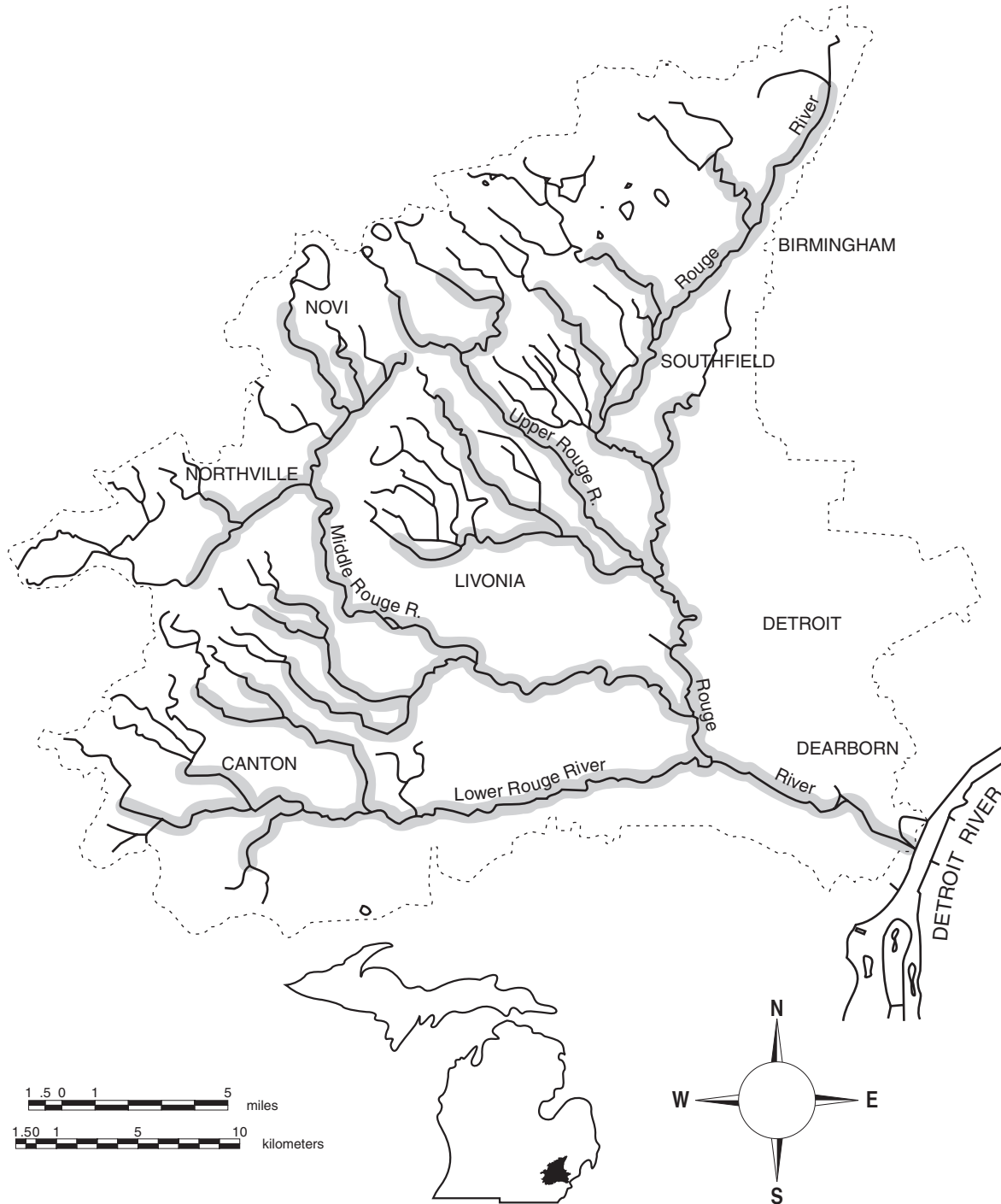


Pumpkinseed sunfish (*Lepomis gibbosus*)

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



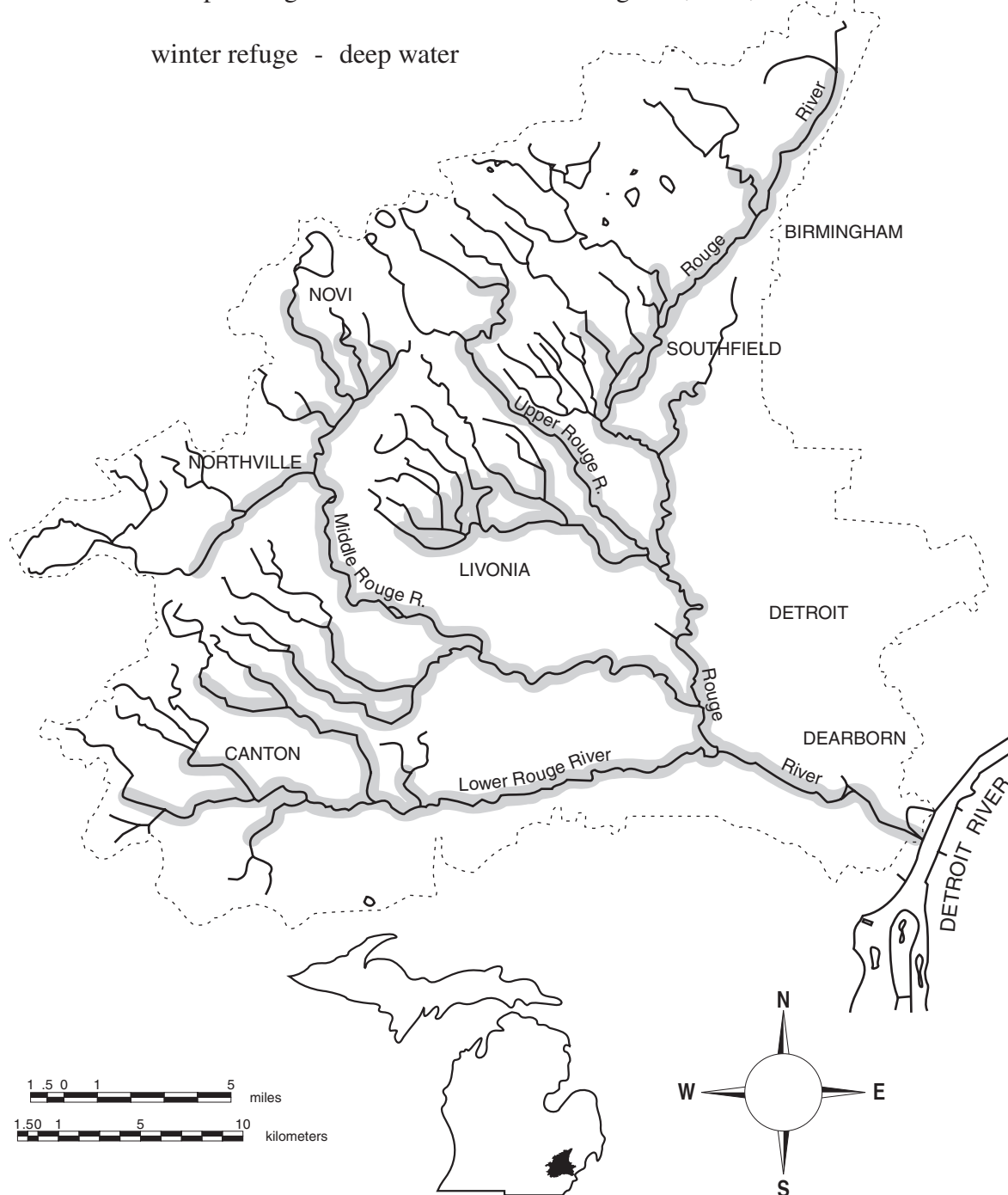
Bluegill (*Lepomis macrochirus*)

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

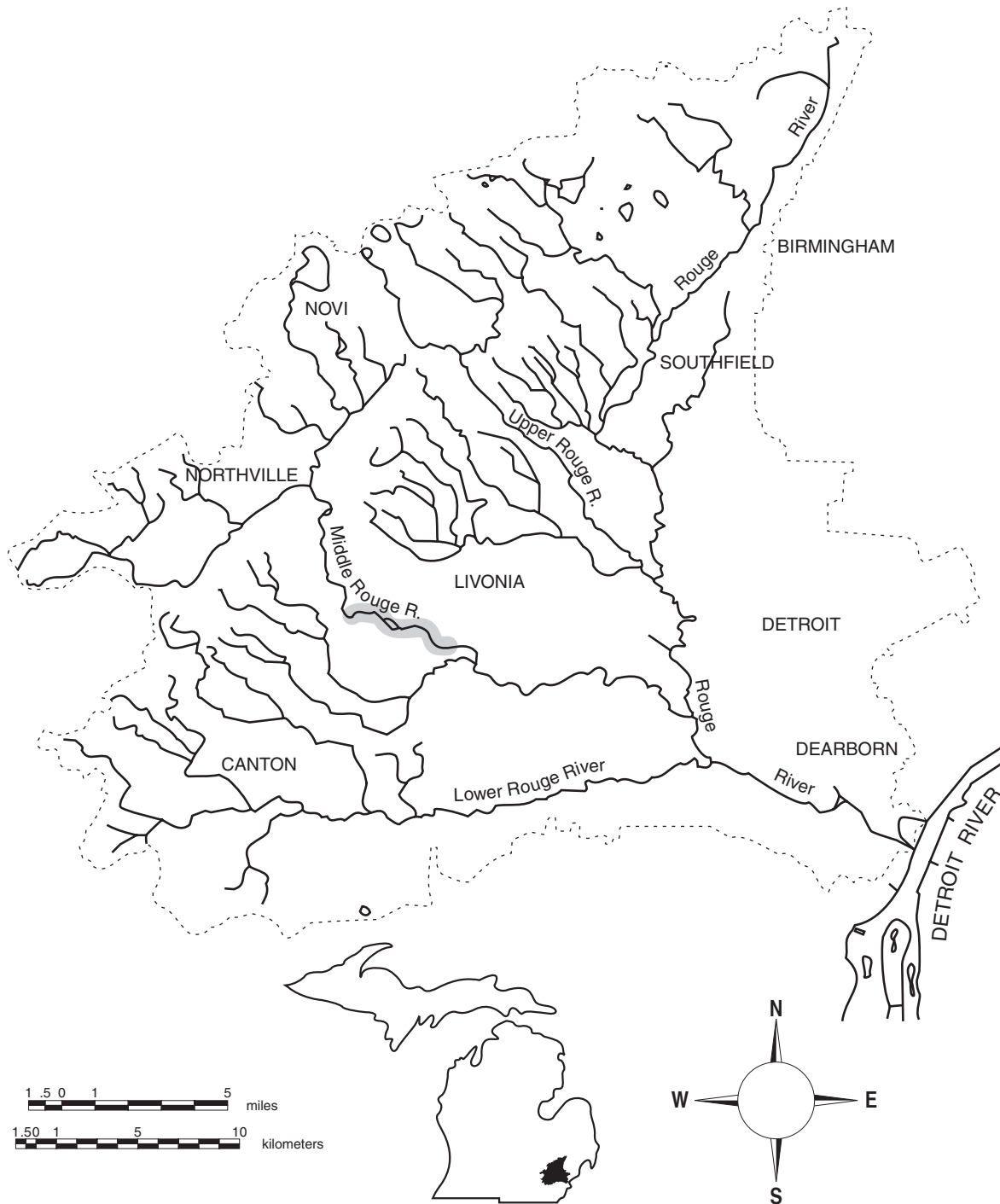


Longear sunfish (*Lepomis megalotis*)

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



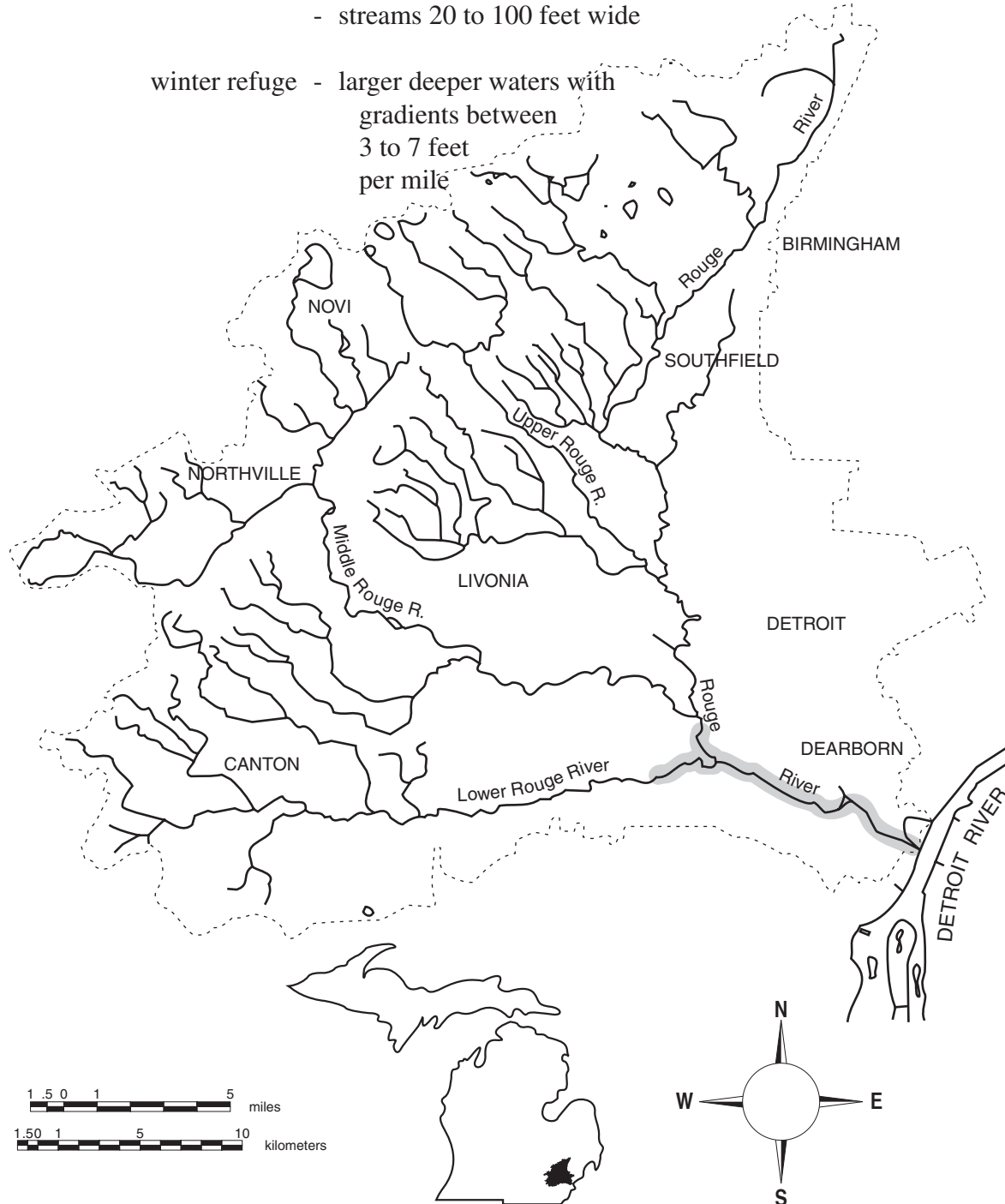
Smallmouth bass (*Micropterus dolomieu*)

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

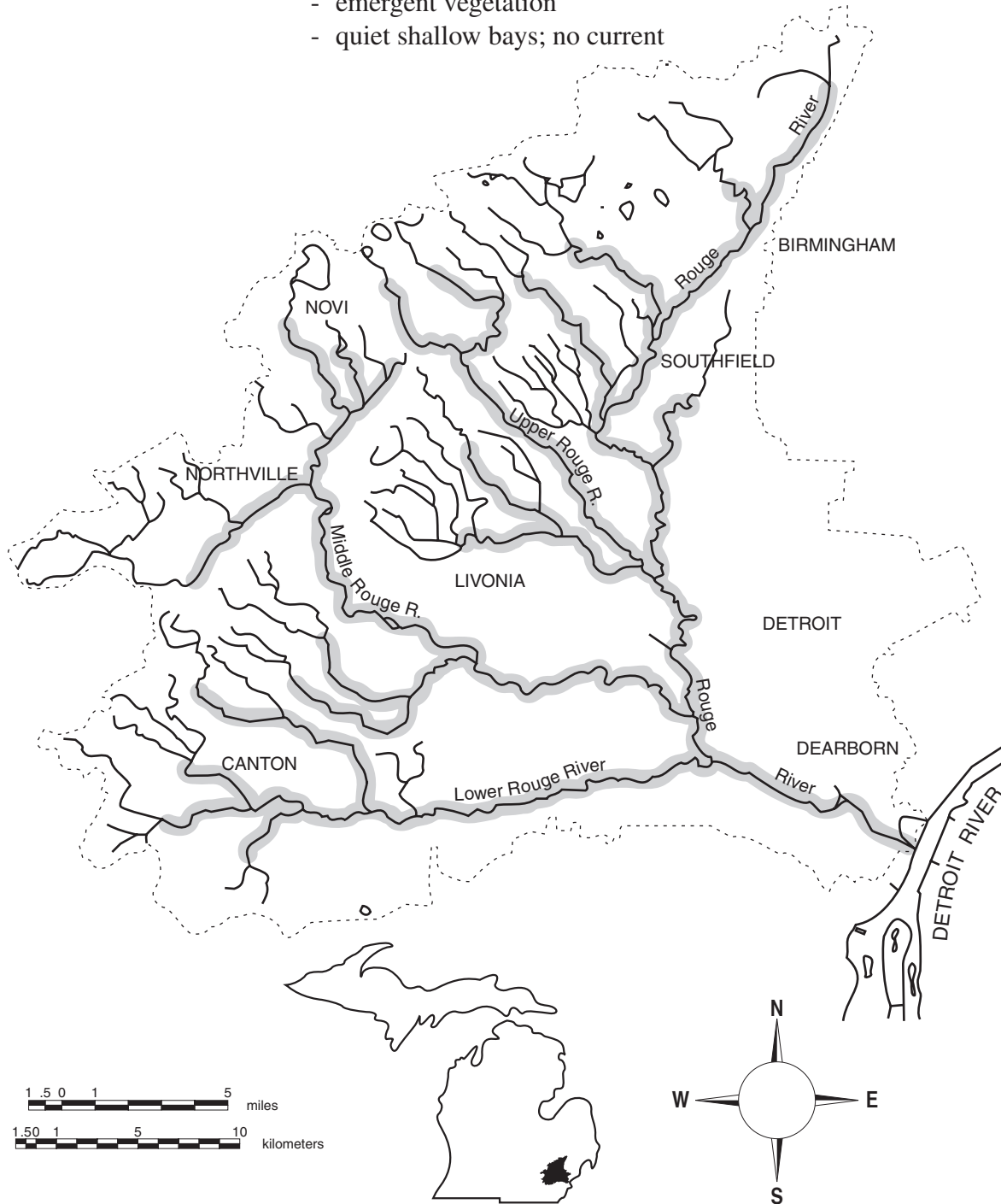
- winter refuge - larger deeper waters with gradients between 3 to 7 feet per mile



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

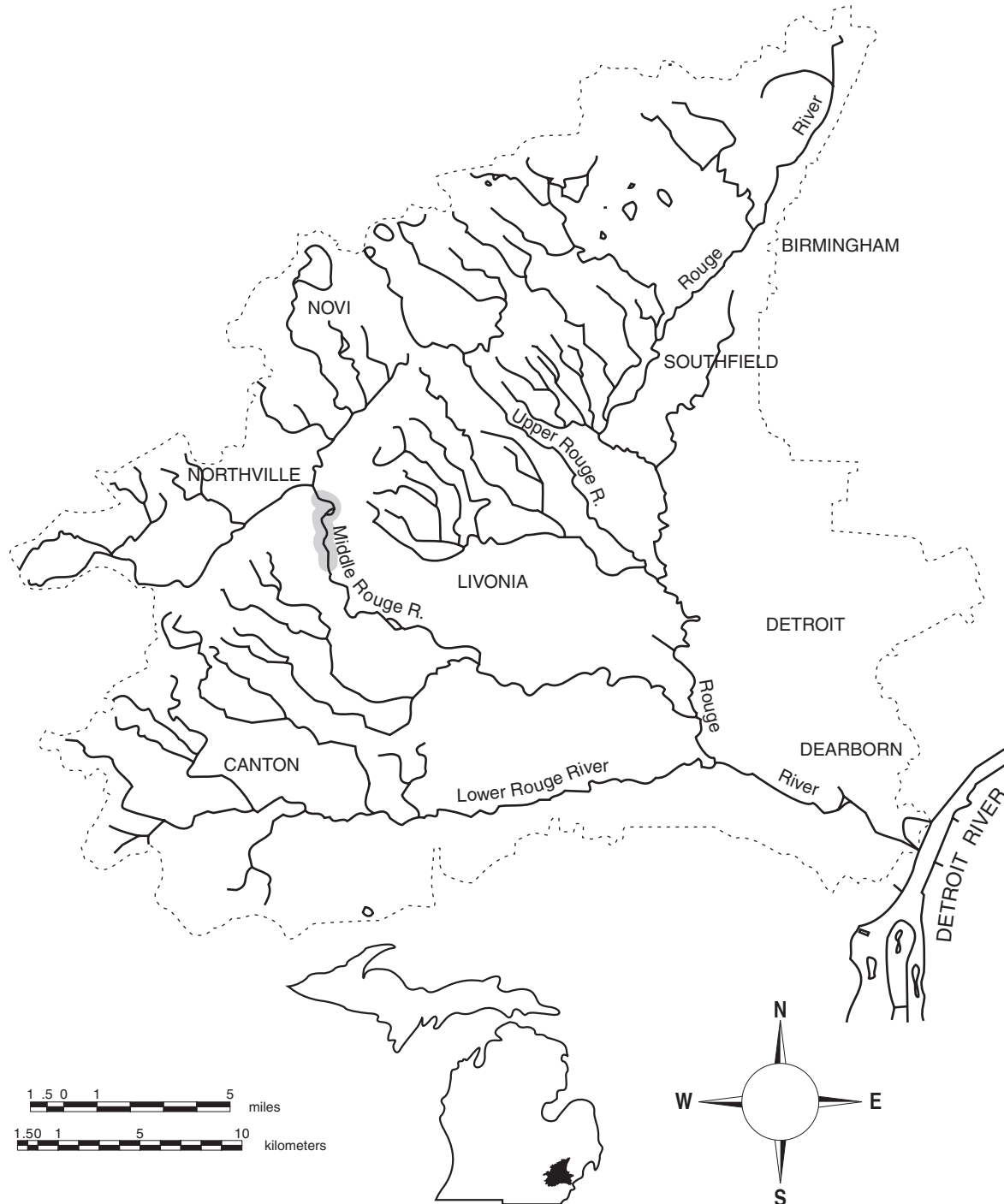


White crappie (*Pomoxis annularis*)

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

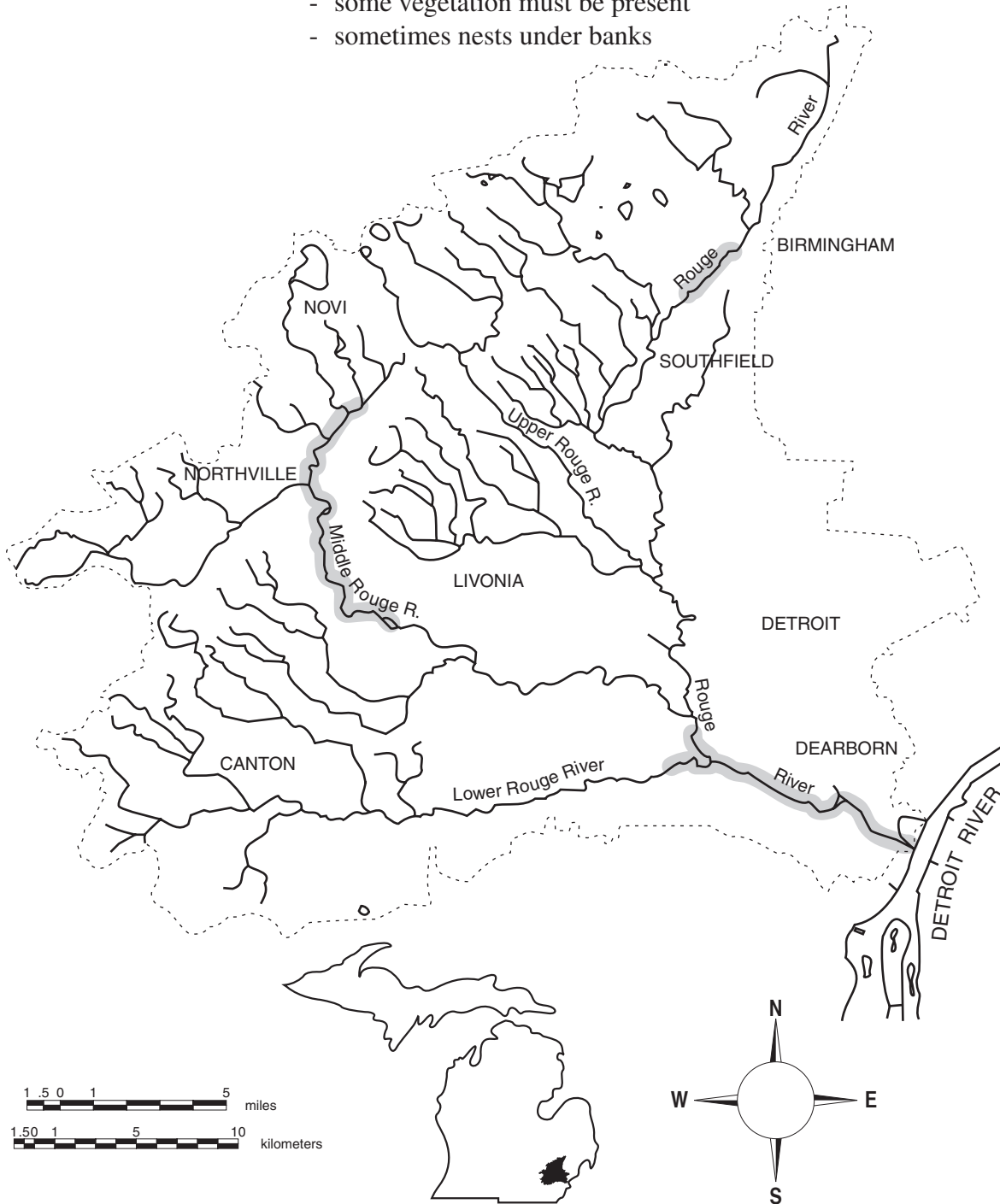


Black crappie (*Pomoxis nigromaculatus*)

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



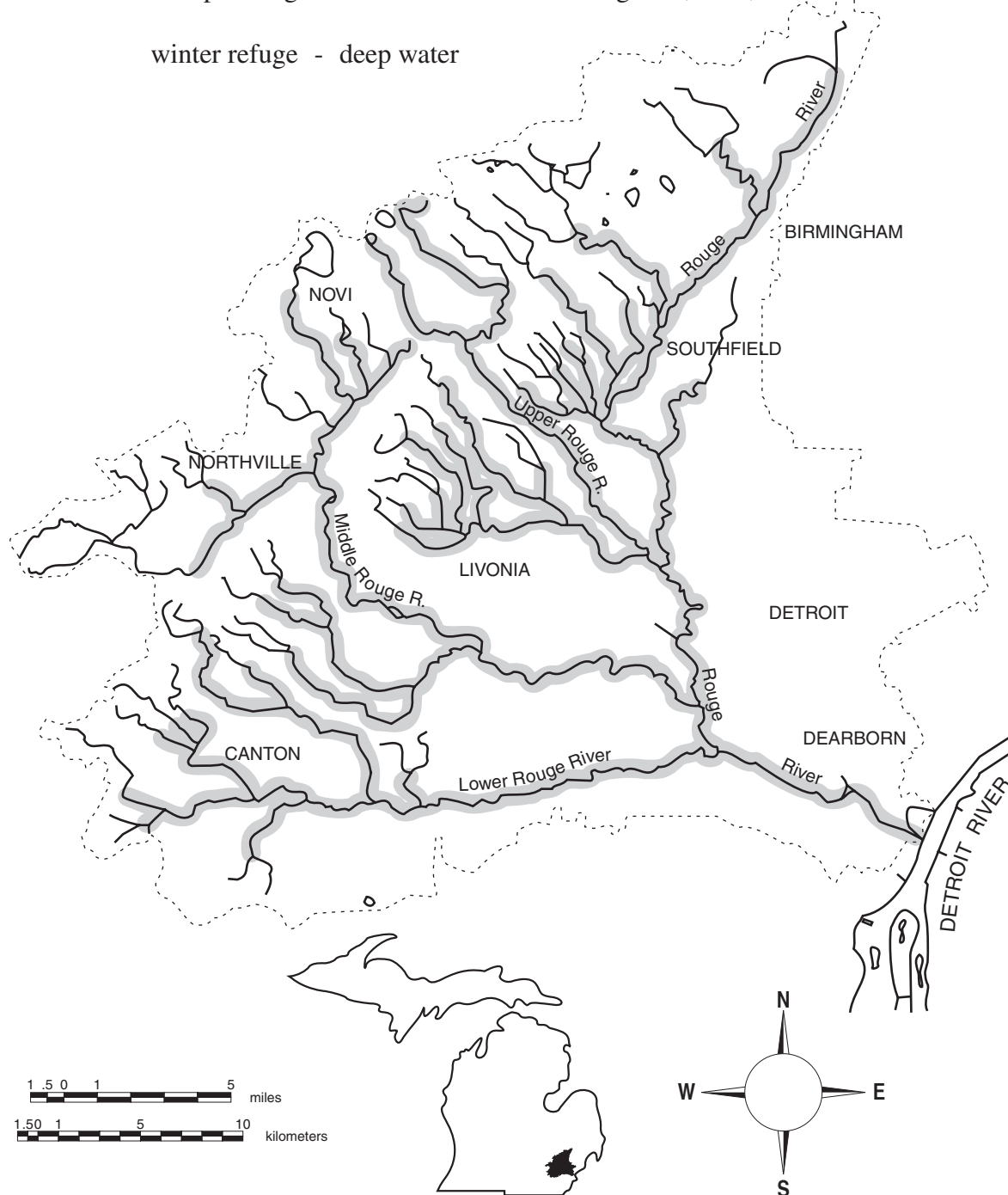
Hybrid sunfish (*Lepomis x Lepomis spp.*)

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

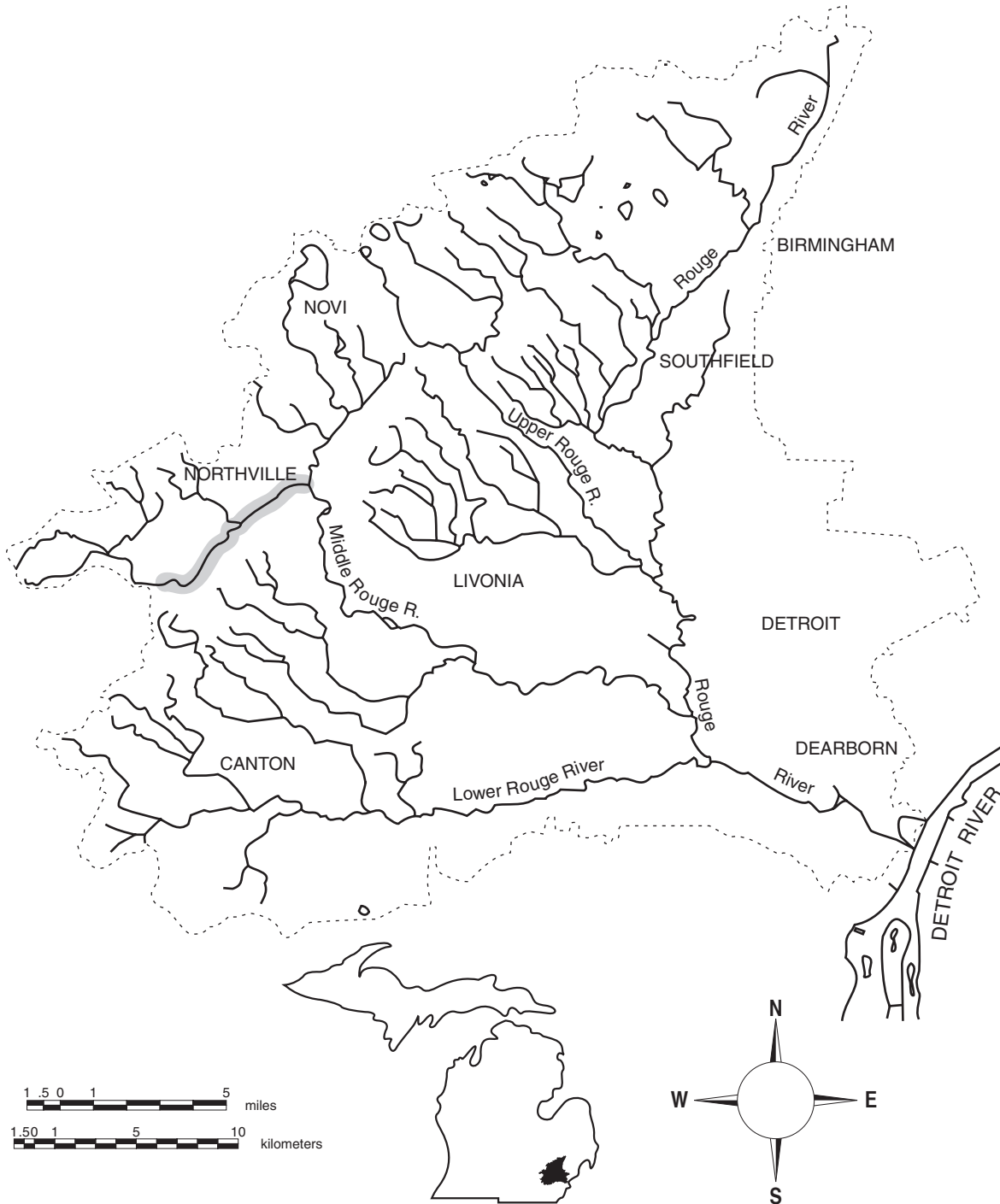


Rainbow darter (*Etheostoma caeruleum*)

Habitat:

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

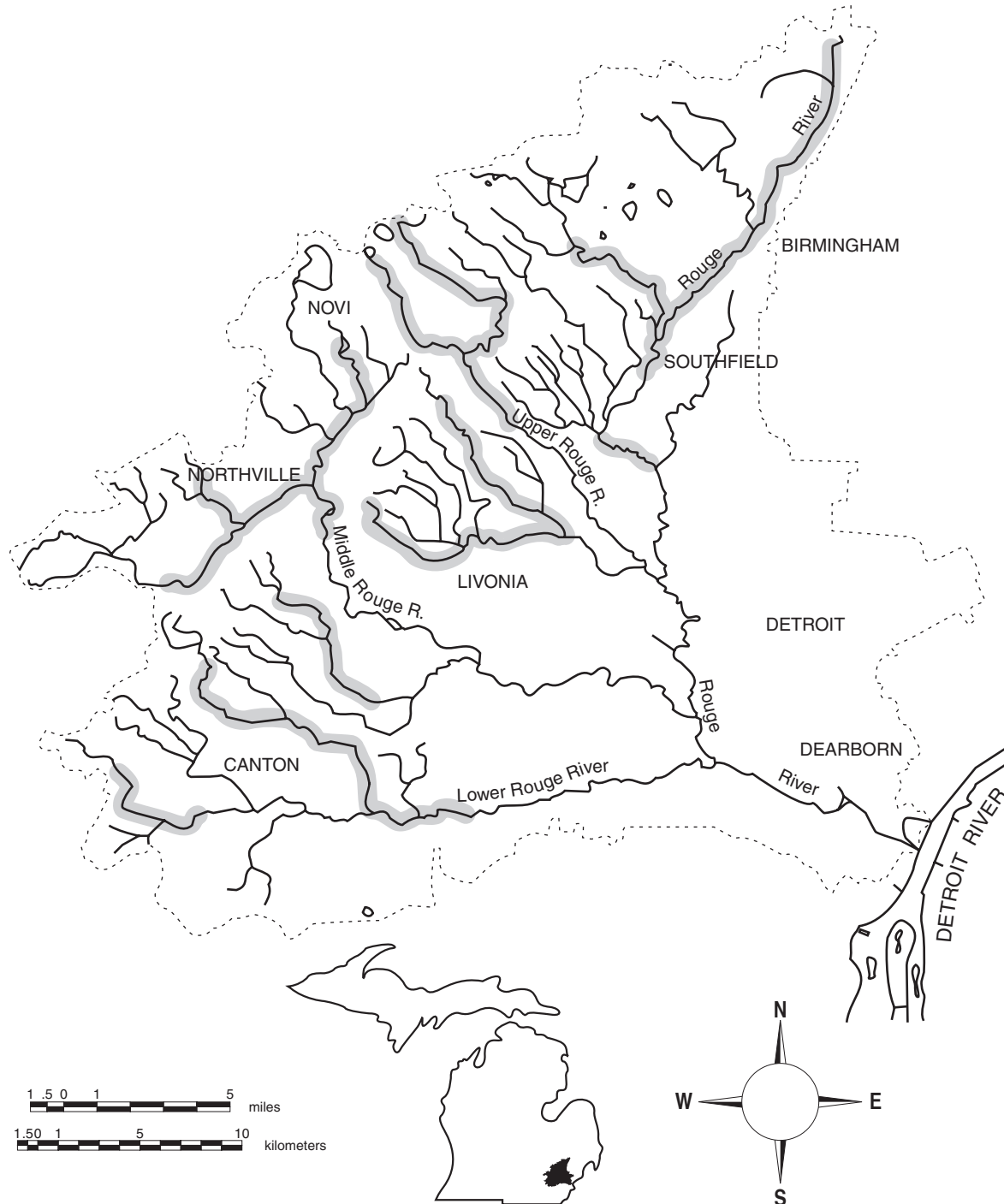
- spawning - gravel or rubble riffles



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

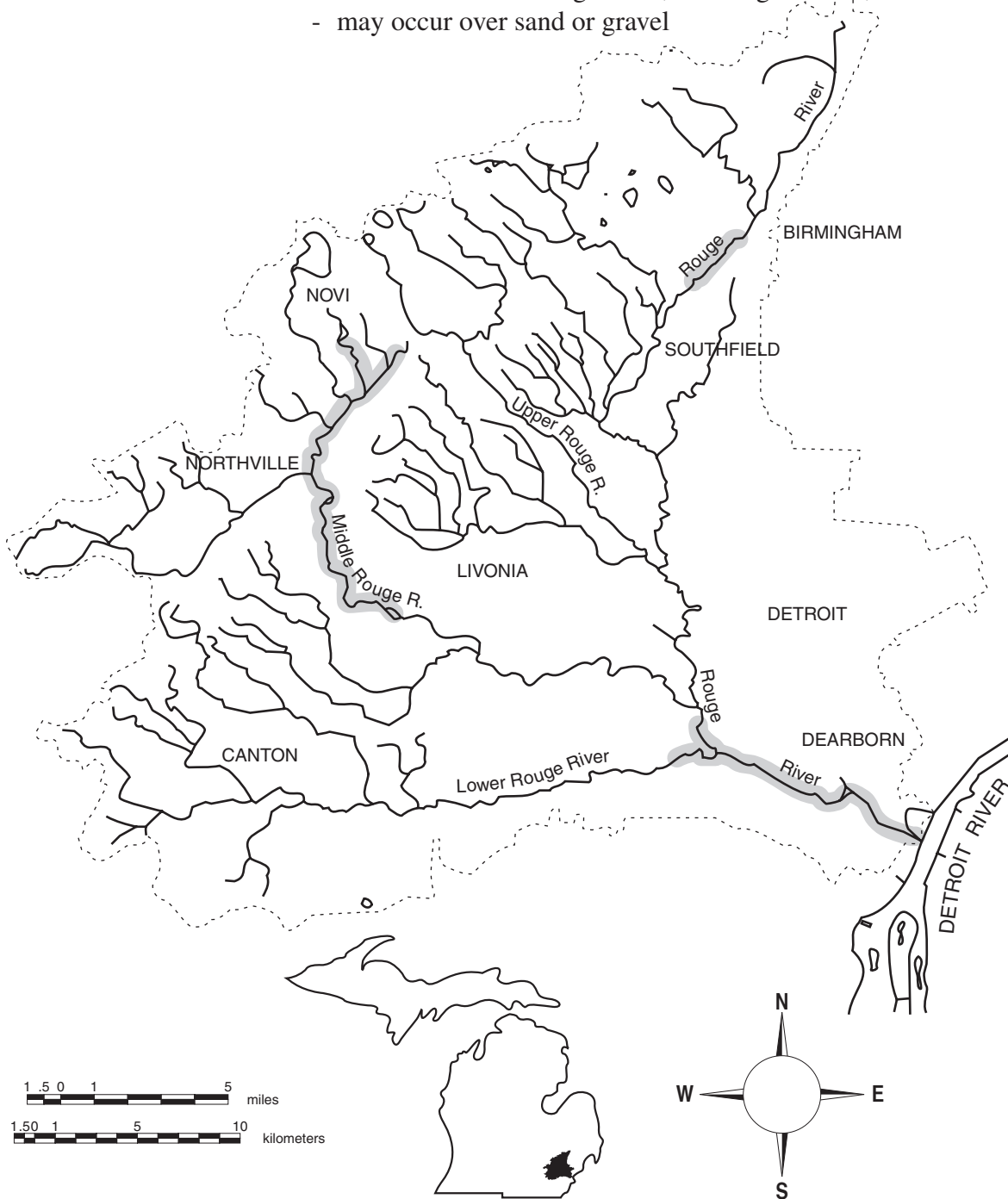


Yellow perch (*Perca flavescens*)

Habitat:

- feeding - clear lakes and impoundments; also Detroit River
- 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

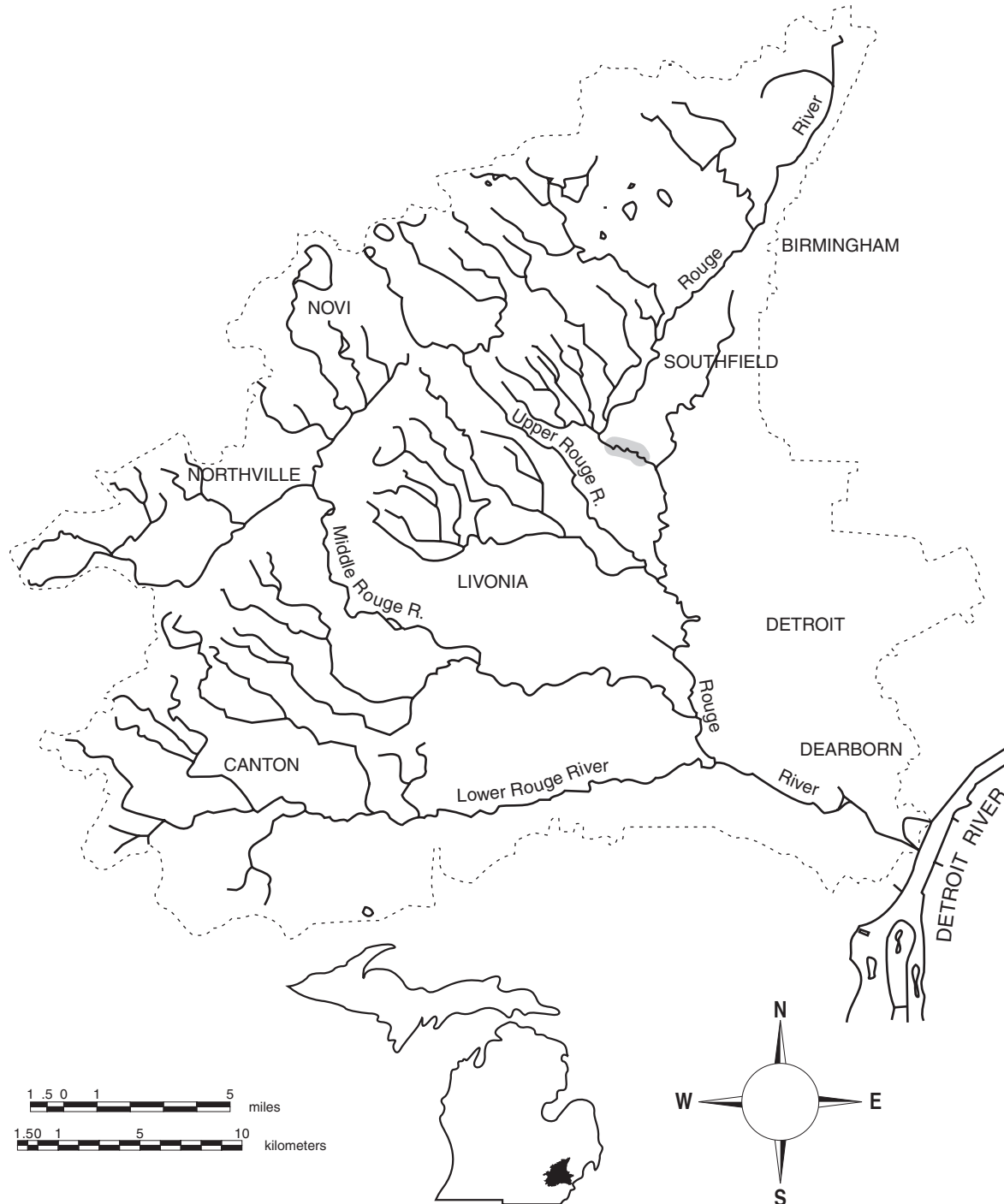


Blackside darter (*Percina maculata*)

Habitat:

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

- spawning - gravel and sand substrate

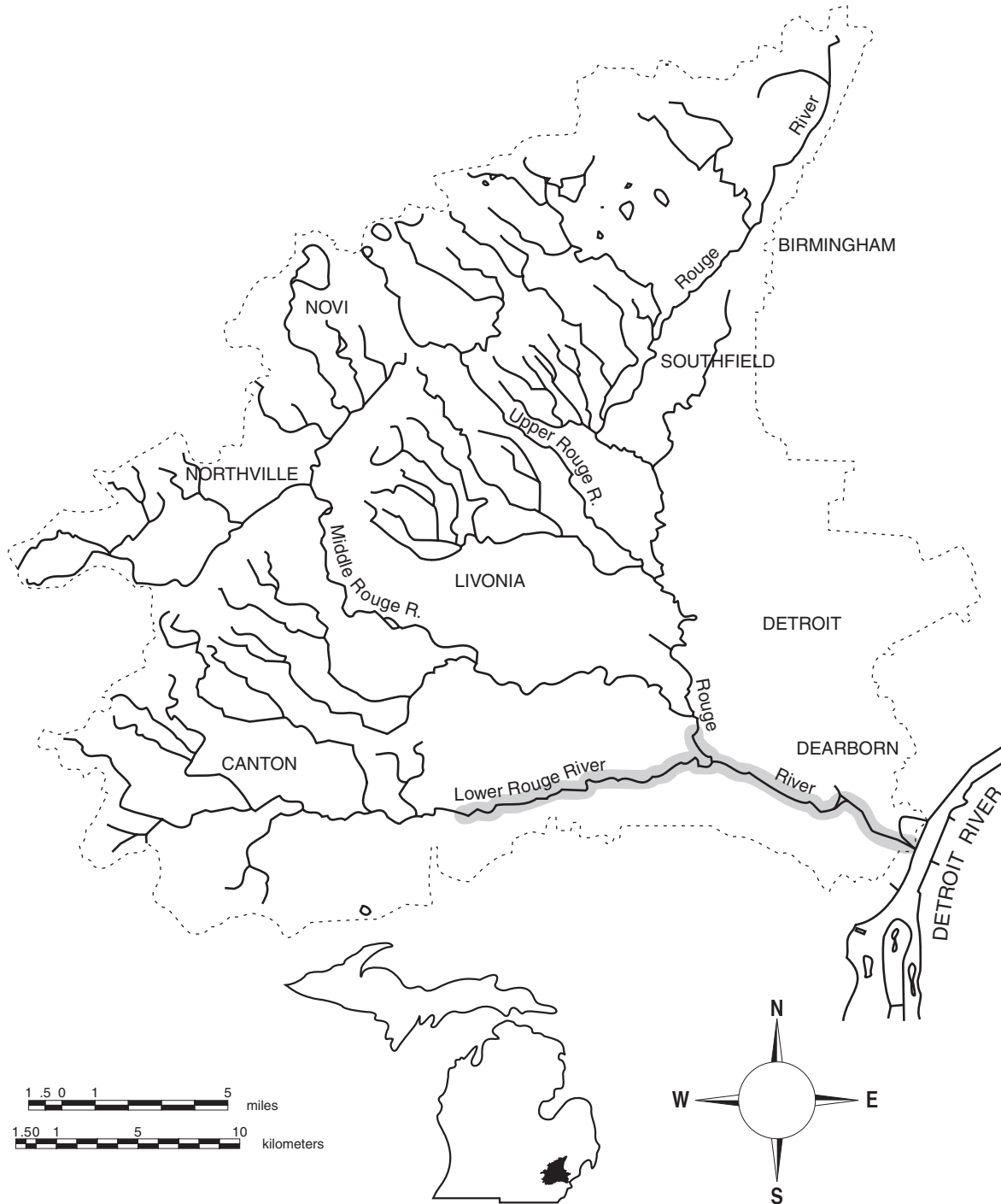


Freshwater drum (*Aplodinotus grunniens*)

Habitat:

- feeding - deeper pools of rivers
- 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



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