

The background of the slide is a topographic map of the Rouge River watershed. The map shows the river's course through a hilly region, with various shades of green and brown representing different elevations and land cover. The river itself is highlighted in a light blue color. The map is partially obscured by a dark green horizontal band at the top and a light blue vertical band on the right side.

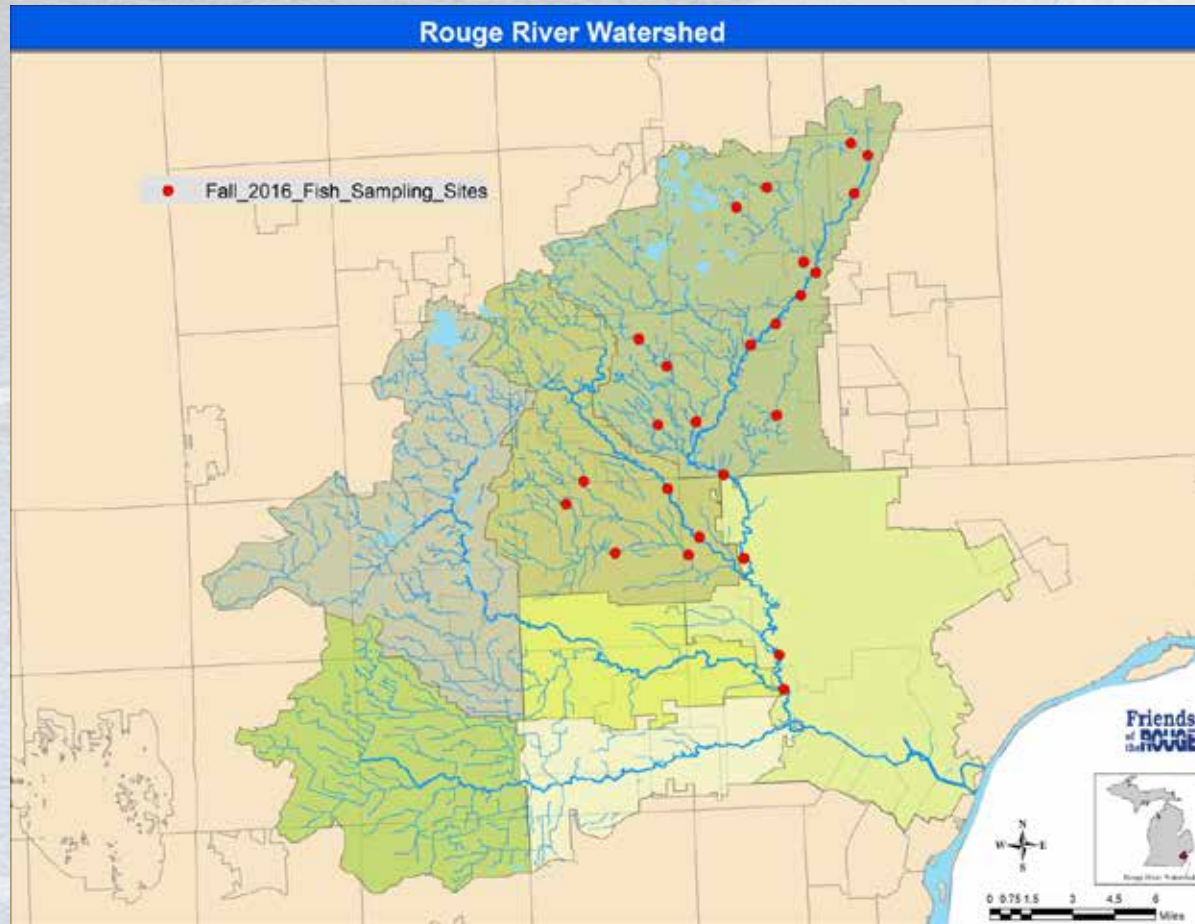
Rouge Fish Surveys 2011-16

Friends of the Rouge January 2017

Partially funded by the Areas of Concern Program
Office of the Great Lakes (OGL), DEQ

Additional data provided by MDNR and MDEQ

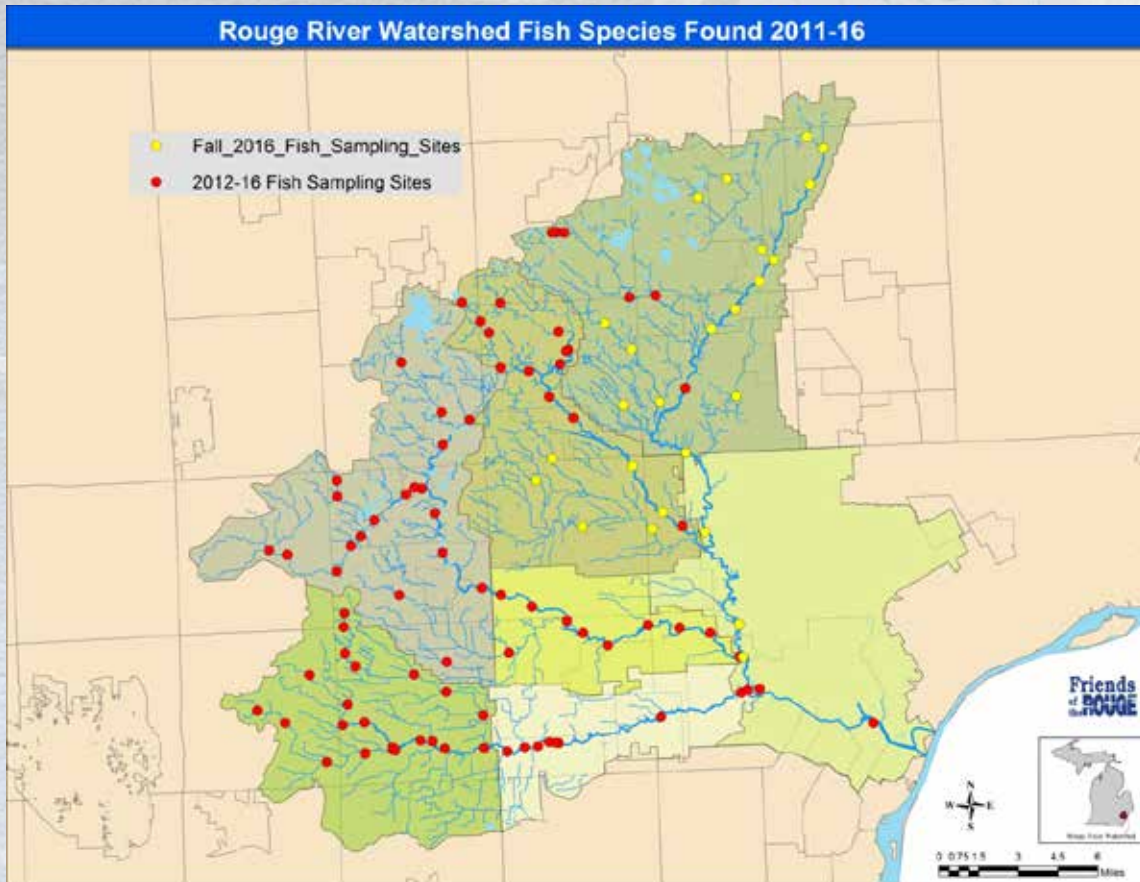
Fall 2016 Sampling Sites



FIELDID	Branch	StreamName	SiteDescription
Evan2	Main	Evans Creek	LTU
FLOW2	Main	Forest Lakes Outflow	Brookside Drive
Main11	Main	Quarton Branch	Quarton at Lakeside
Mur2	Main	Murphy Creek	Roeper School
Nott	Main	Nottingham Creek	Country Day
Peb2	Main	Pebble Creek	Pebble 13 Mile
Peb3	Main	Pebble Creek	Pebble d/s Dam
Peb4	Main	Pebble Creek	10 Mile
Rav	Main	Ravines Branch	10 Mile
Sprag	Main	Sprague Creek	Main Lloyd Stage
Main1	Main	Main Rouge	FF Pk
Main13	Main	Main Rouge	W Long Lake
Main3	Main	Main Rouge	Booth Pk
Main4.5	Main	Main Rouge	Fairway Pk
Main5	Main	Main Rouge	Douglas Evans
MN-5	Main	Main Rouge	Bridge St
MN-2	Main	Main Rouge	Eliza Howell
MN-7	Main	Main Rouge	Rouge Park
Main14	Main	Main Rouge	Middle confluence
Bell1	Upper	Bell Branch	Bicentennial Park
Bell4	Upper	Bell Branch	Hubbard Drive
UR-2	Upper	Bell Branch	Bell Cr Pk
Tar2	Upper	Tarabusi Creek	Tara 8 M
Up3	Upper	Upper Rouge	Botsford Park
UR-1	Upper	Upper Rouge	Lola Valley

2011-16 Sampling Sites

Rouge River Watershed Fish Species Found 2011-16



- Ø 36,469 fish
- Ø Sixty one species
- Ø Eight new native species
- Ø Two new non-native species
- Ø Five species in 1998 survey not found

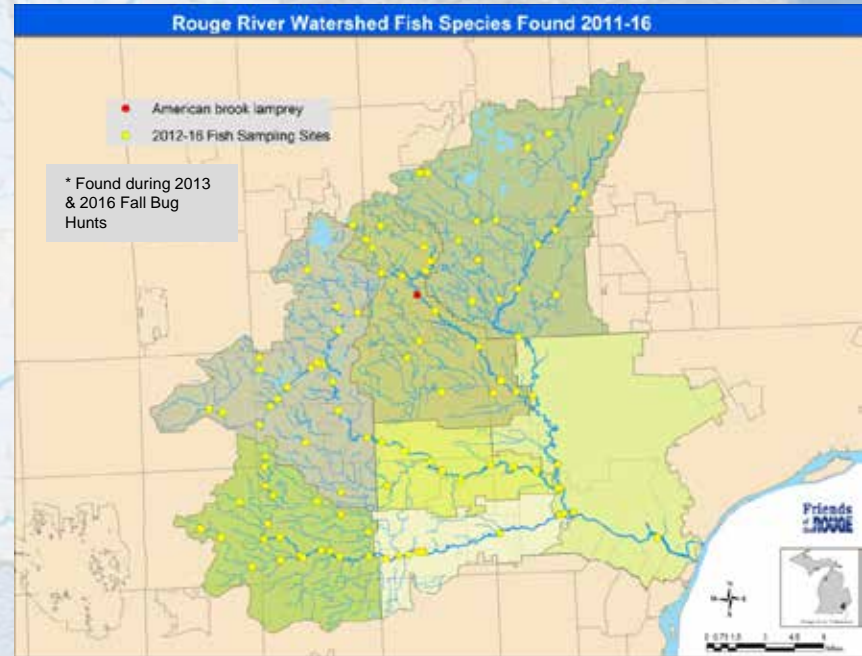
American brook lamprey (*Lampetra appendix*)

Rouge River Assessment

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



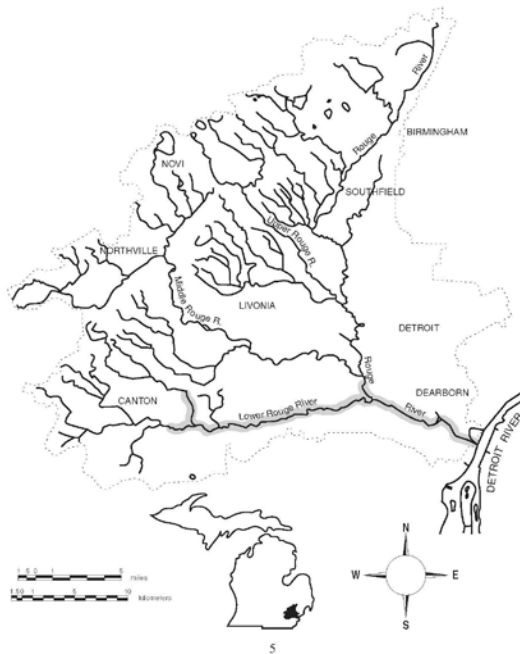
Gizzard shad (*Dorosoma cepedianum*)

Rouge River Assessment

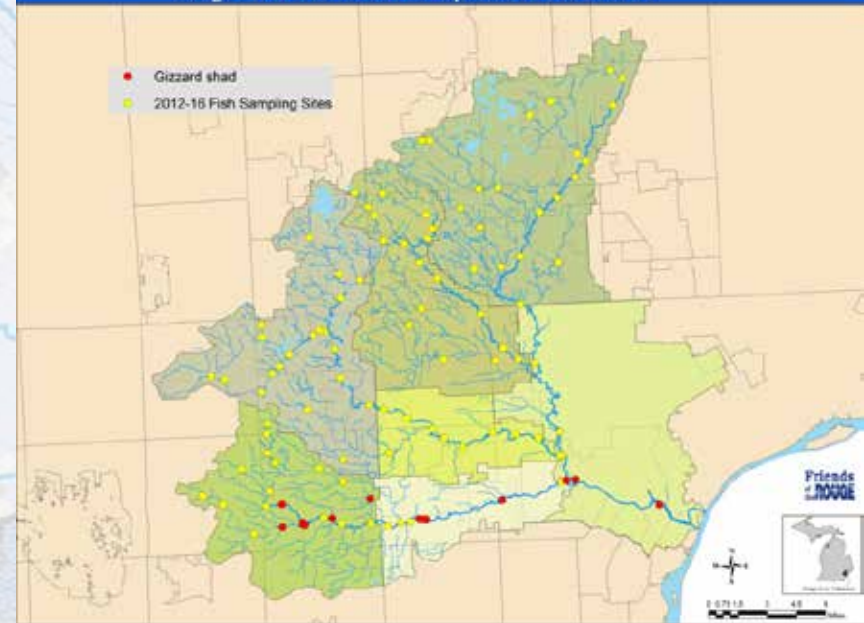
Gizzard shad (*Dorosoma cepedianum*)

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



Rouge River Watershed Fish Species Found 2011-16



Central stoneroller (*Campostoma anomalum*)

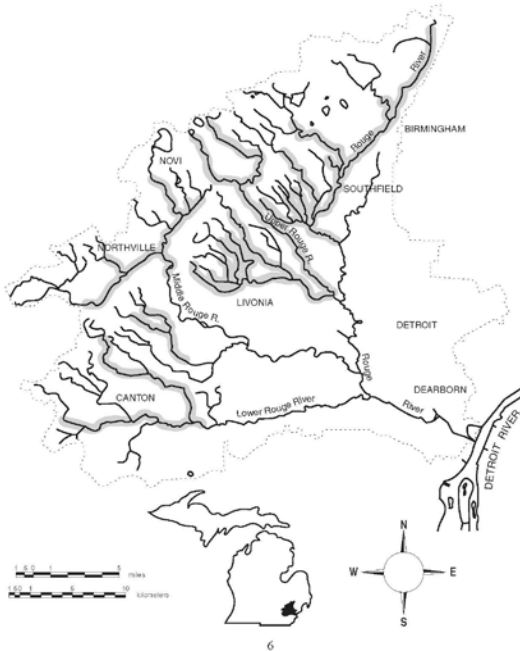
Rouge River Assessment

Central stoneroller (*Campostoma anomalum*)

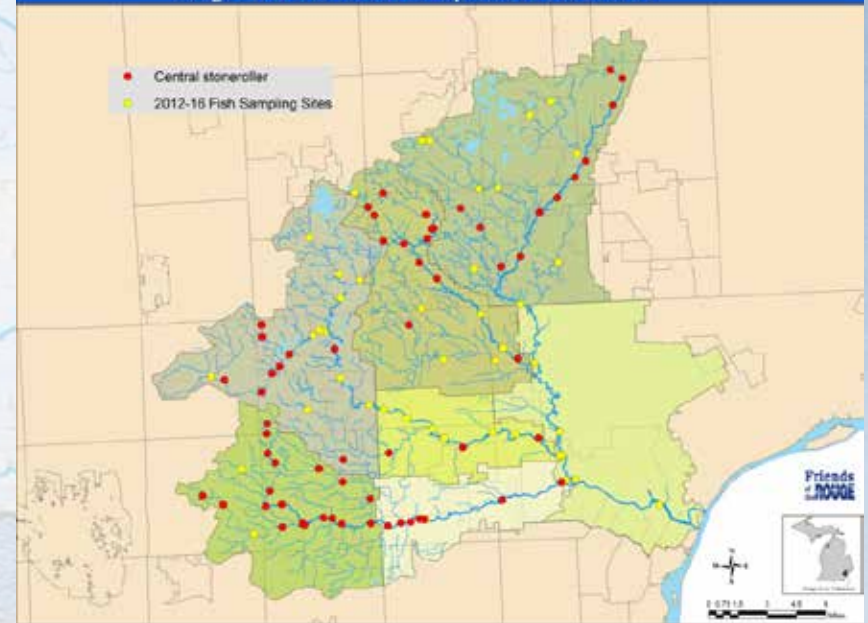
Habitat:

- 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



Rouge River Watershed Fish Species Found 2011-16



Goldfish (*Carassius auratus*)

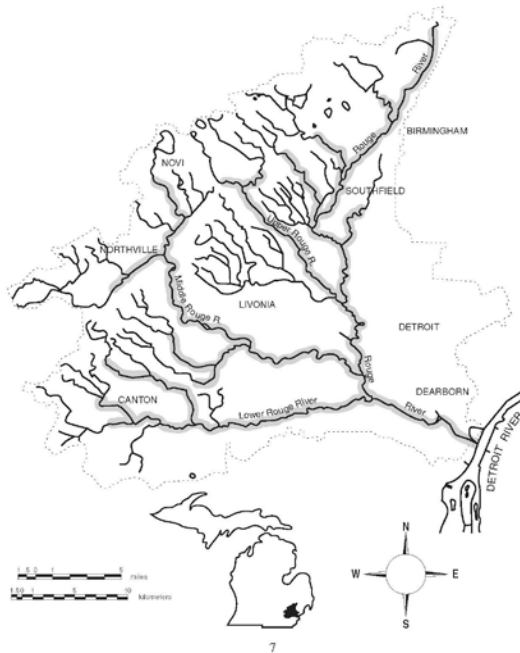
Rouge River Assessment

Goldfish (*Carassius auratus*)

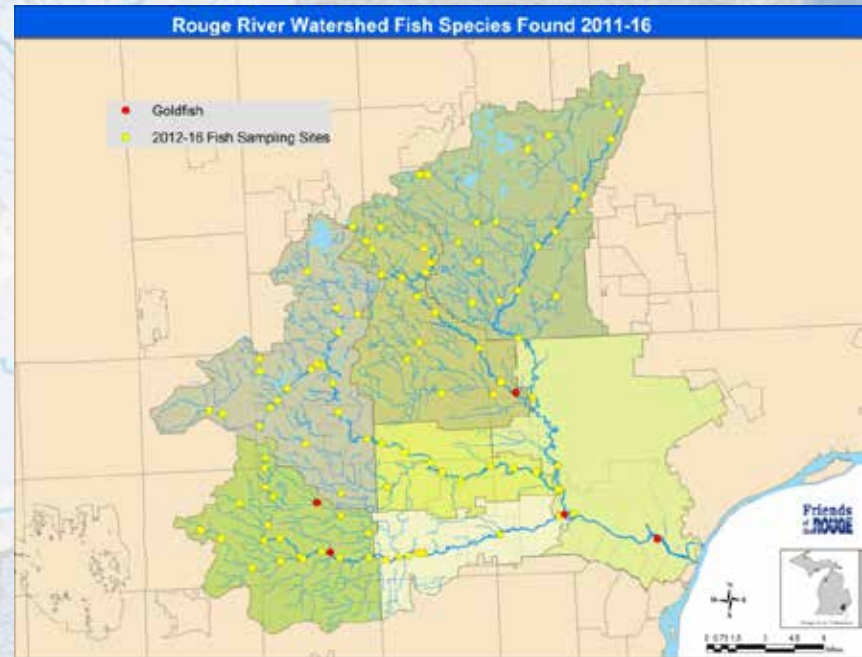
Habitat:

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

spawning - warm, weedy shallows



Rouge River Watershed Fish Species Found 2011-16



Redside dace (*Clinostomus elongatus*)

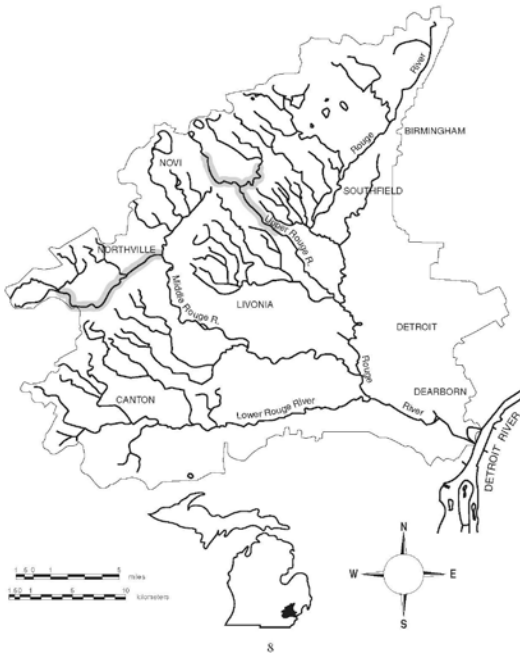
Rouge River Assessment

Redside dace (*Clinostomus elongatus*) - rare

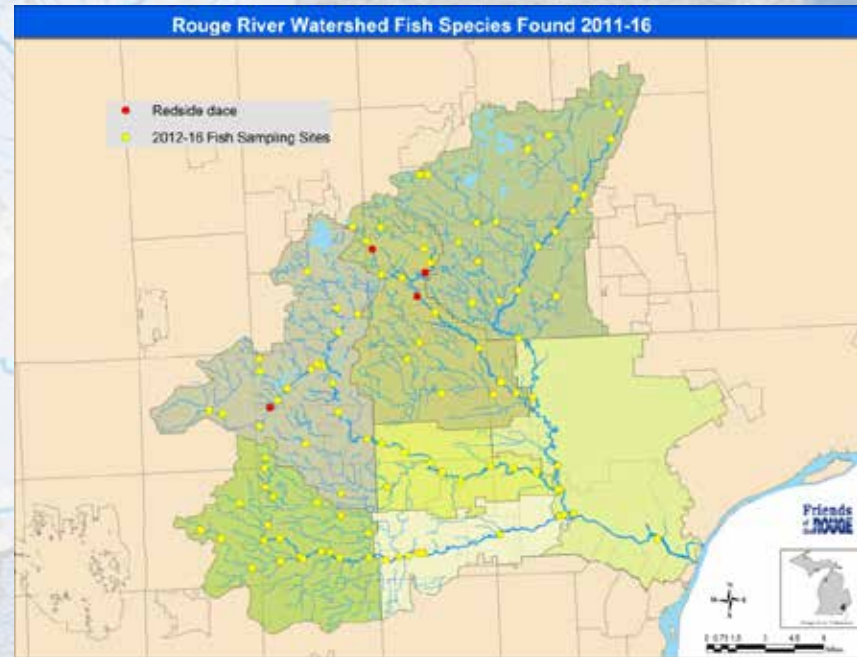
Habitat:

- 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



Rouge River Watershed Fish Species Found 2011-16



Spotfin shiner (*Cyprinella spiloptera*)

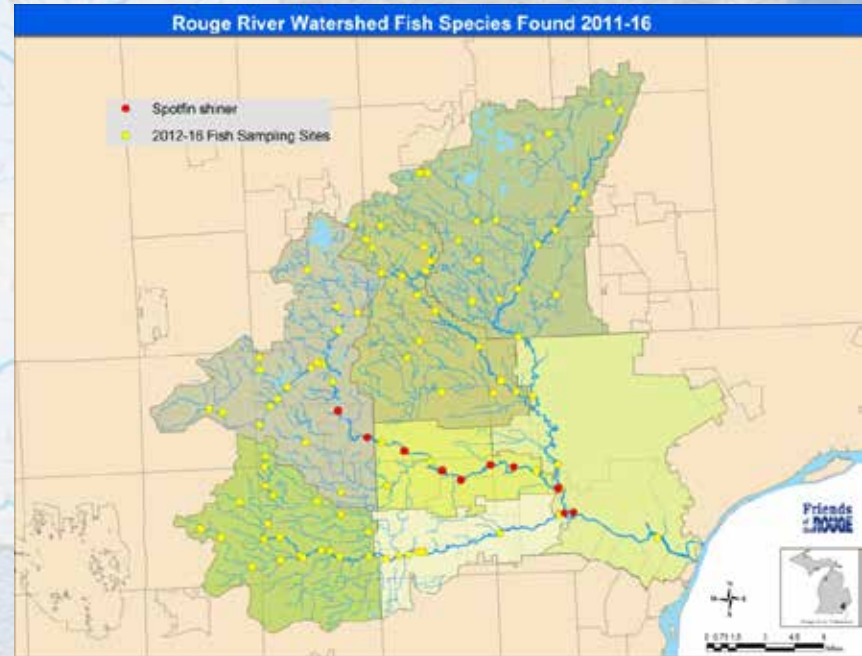
Rouge River Assessment

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*)

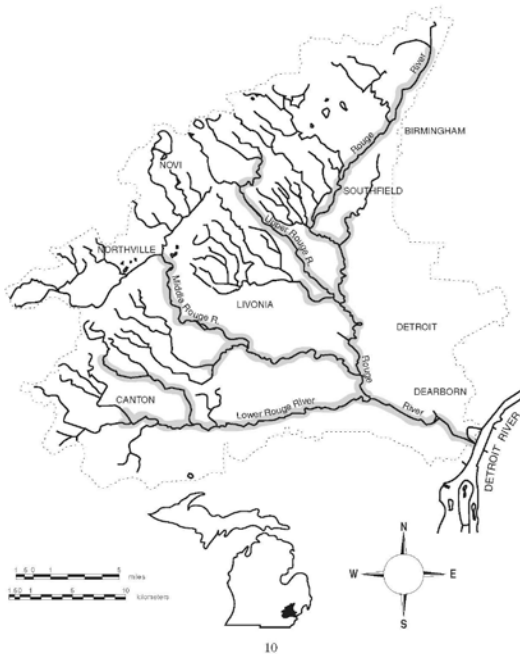
Rouge River Assessment

Common carp (*Cyprinus carpio*)

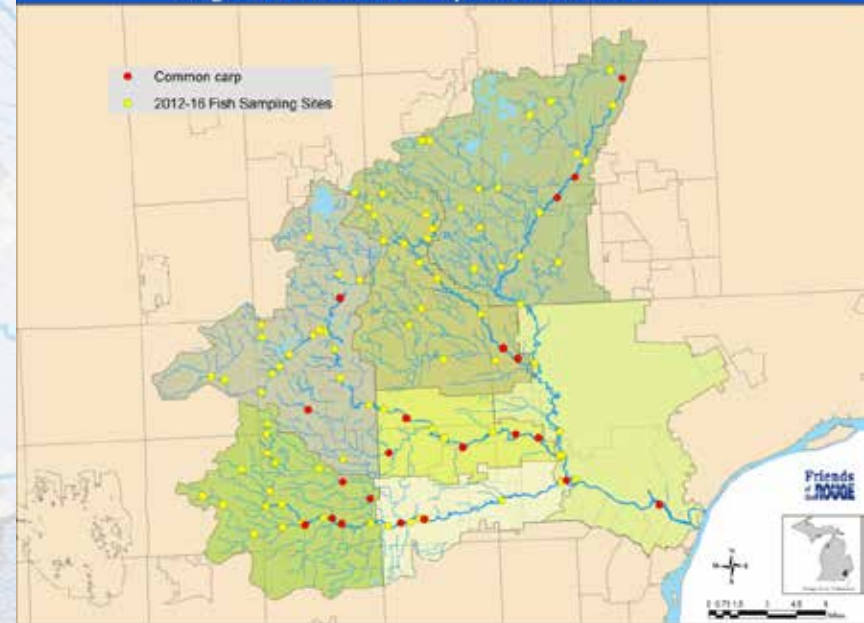
Habitat:

- 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



Rouge River Watershed Fish Species Found 2011-16



Common shiner (*Luxilus cornutus*)

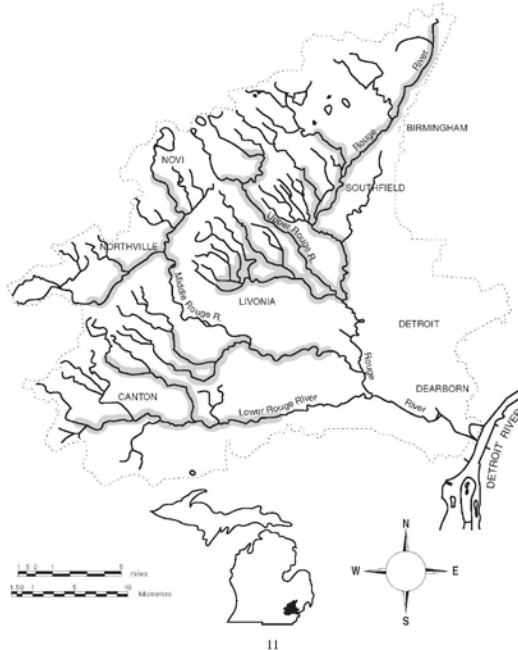
Rouge River Assessment

Common shiner (*Luxilus cornutus*)

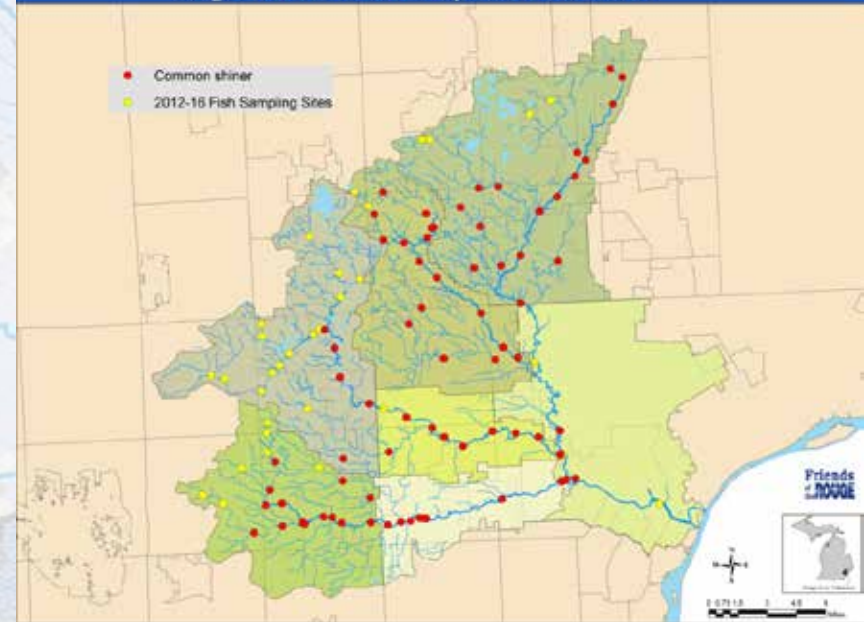
Habitat:

- 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



Rouge River Watershed Fish Species Found 2011-16



Hornyhead chub (*Nocomis biguttatus*)

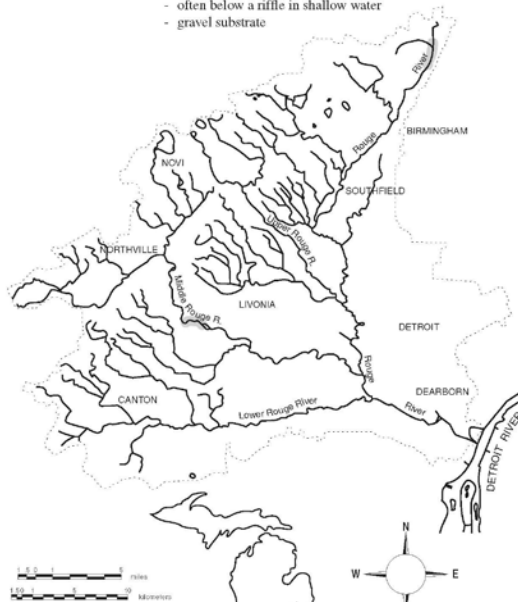
Rouge River Assessment

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

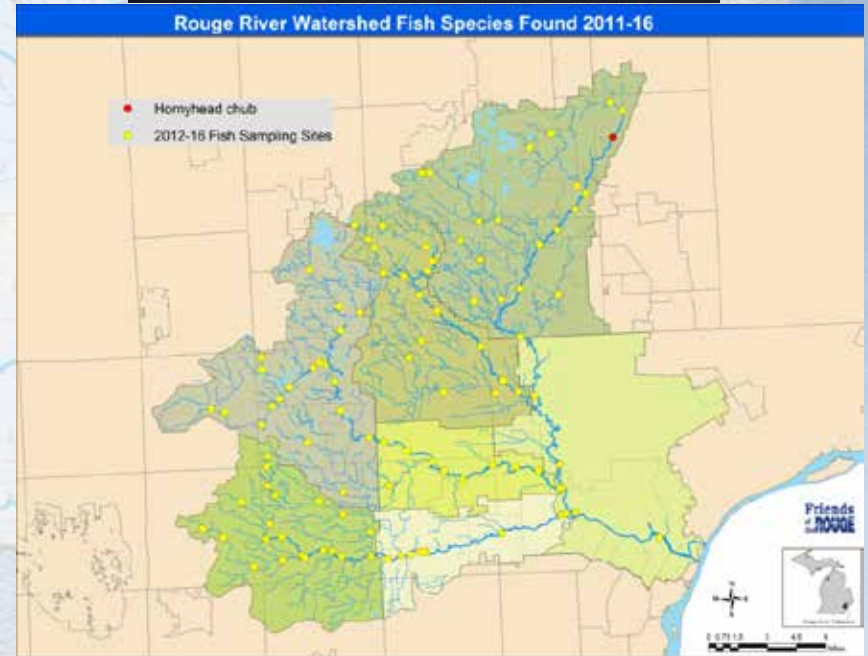


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Rouge River Watershed Fish Species Found 2011-16

- Hornyhead chub
- 2012-16 Fish Sampling Sites



Golden shiner (*Notemigonus crysoleucas*)

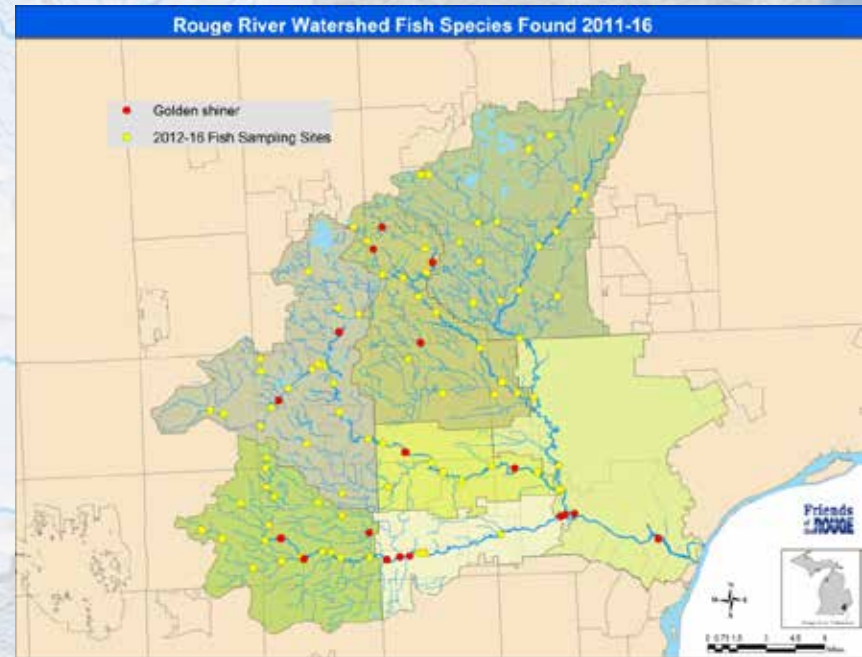
Rouge River Assessment

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*)

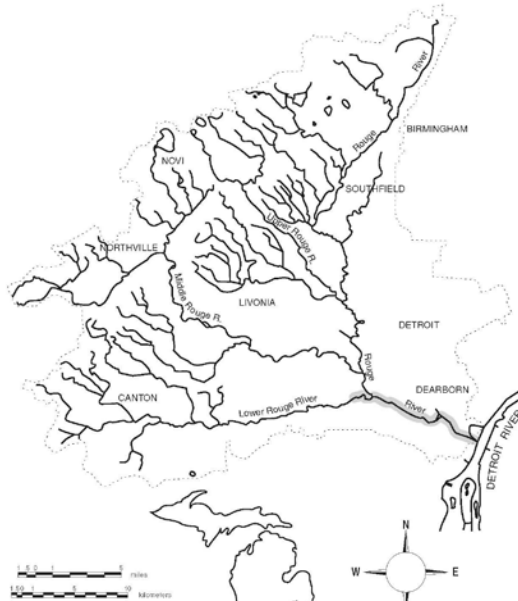
Rouge River Assessment

Emerald shiner (*Notropis atherinoides*)

Habitat:

- feeding - open-large stream channels and Detroit River
- low to moderate gradient
- range of turbidities and bottom types
- midwater or surface preferred, substrate of little importance
- avoids rooted vegetation

spawning - sand or firm mud substrate or gravel shoals



Rouge River Watershed Fish Species Found 2011-16



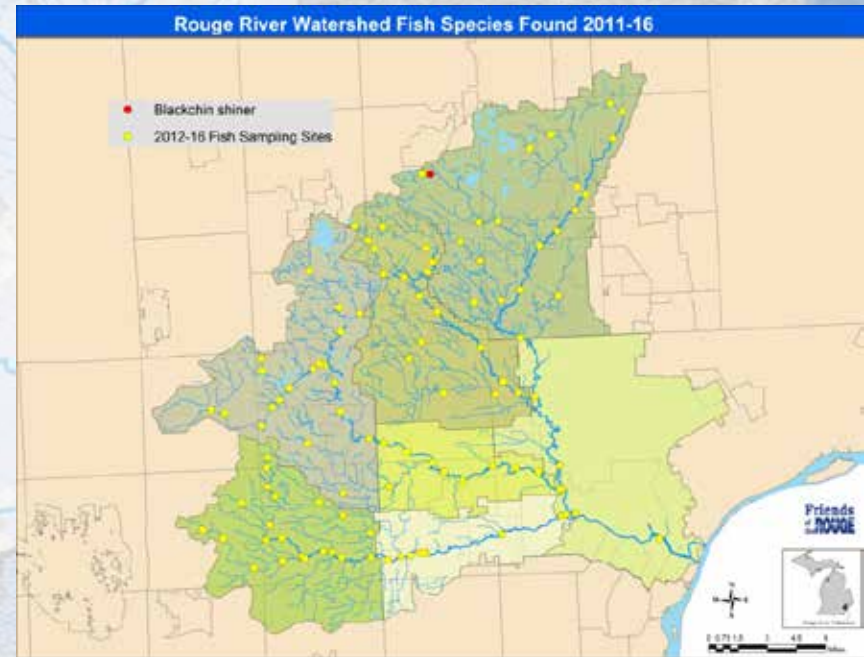
Blackchin shiner (*Notropis heterodon*)

Rouge River Assessment

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*)

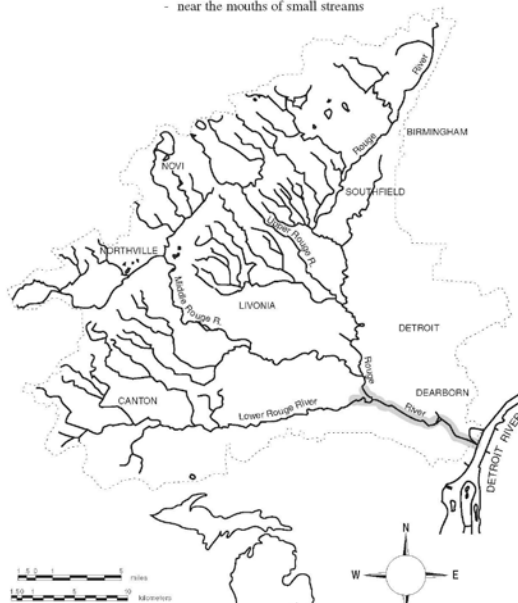
Rouge River Assessment

Spottail shiner (*Notropis hudsonius*)

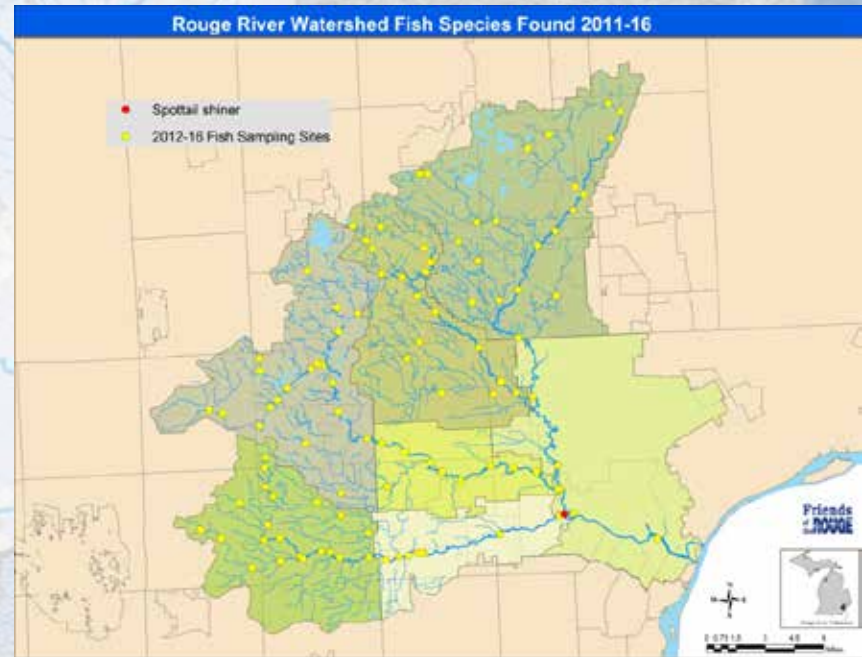
Habitat:

- 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



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Northern redbelly dace (*Phoxinus eos*)

Rouge River Assessment

Northern redbelly dace (*Phoxinus eos*)

Habitat:

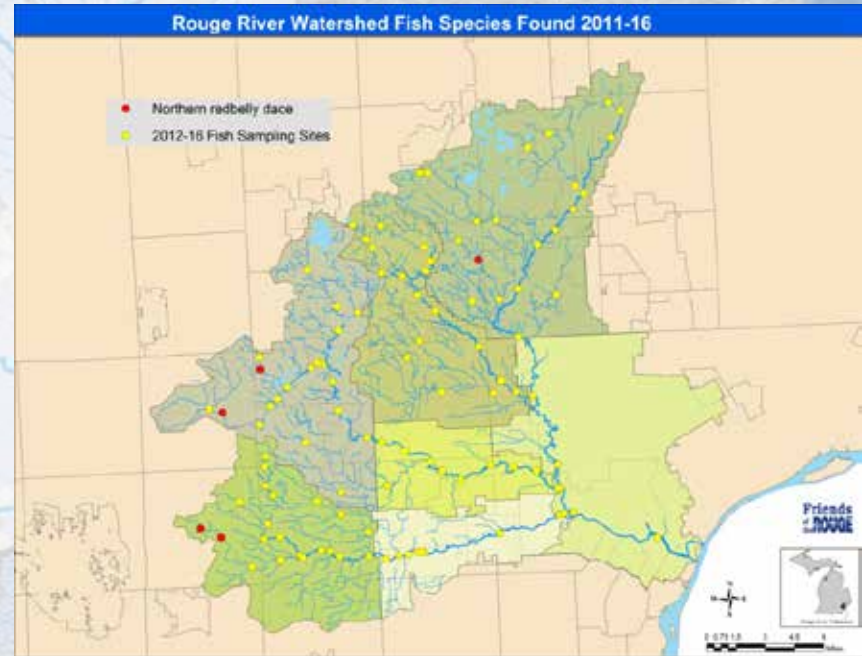
- feeding - slow current
- in boggy lakes and streams
- detritus or silt substrate
- clear to slightly turbid water

spawning - filamentous algae needed for egg deposition



Rouge River Watershed Fish Species Found 2011-16

- Northern redbelly dace
- 2012-16 Fish Sampling Sites



Bluntnose minnow (*Pimephales notatus*)

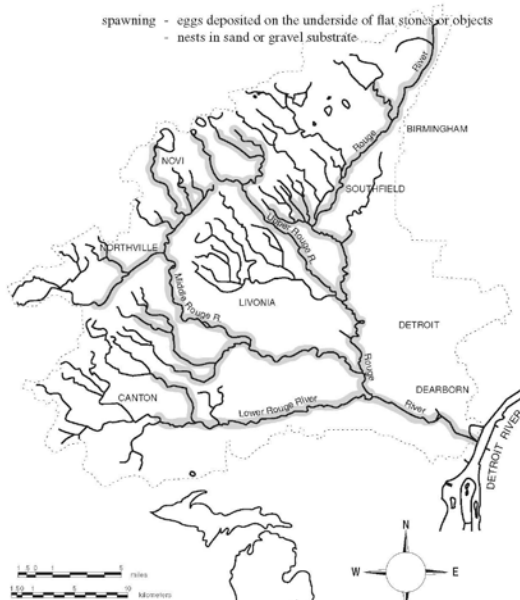
Rouge River Assessment

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

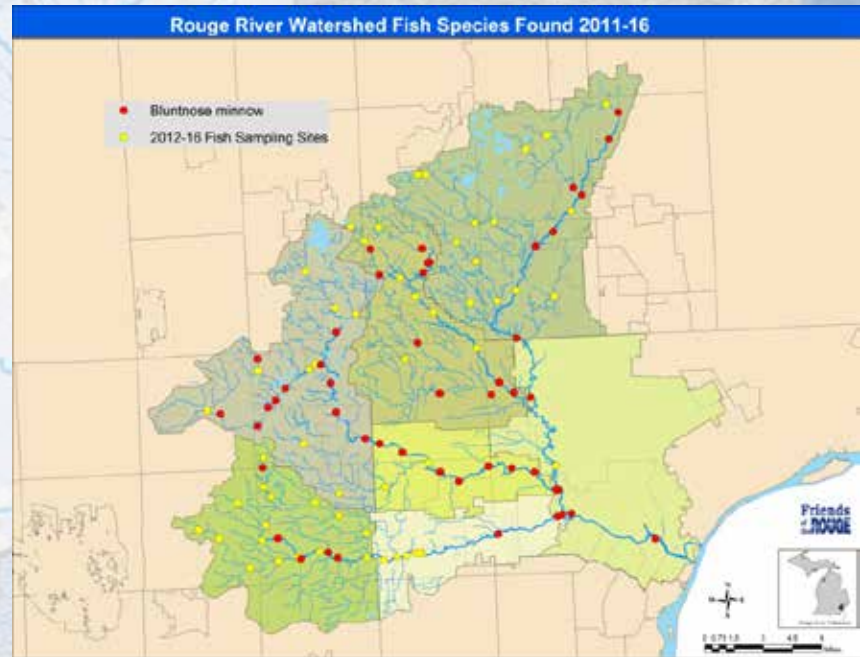
- spawning - eggs deposited on the underside of flat stones or objects
- nests in sand or gravel substrate



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Rouge River Watershed Fish Species Found 2011-16



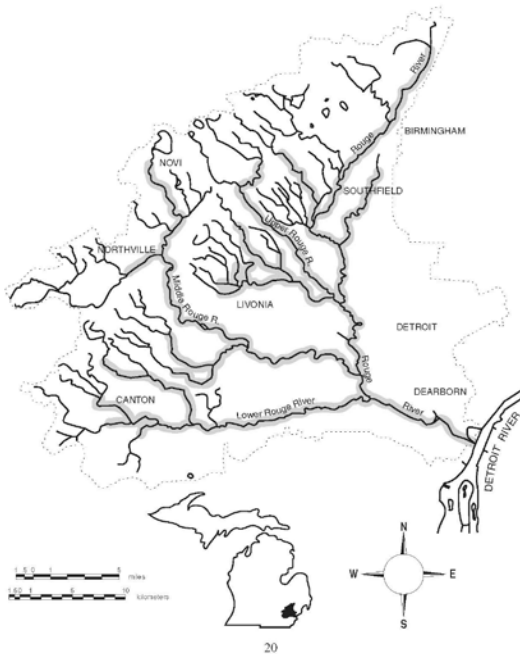
Fathead minnow (*Pimephales promelas*)

Rouge River Assessment

Fathead minnow (*Pimephales promelas*)

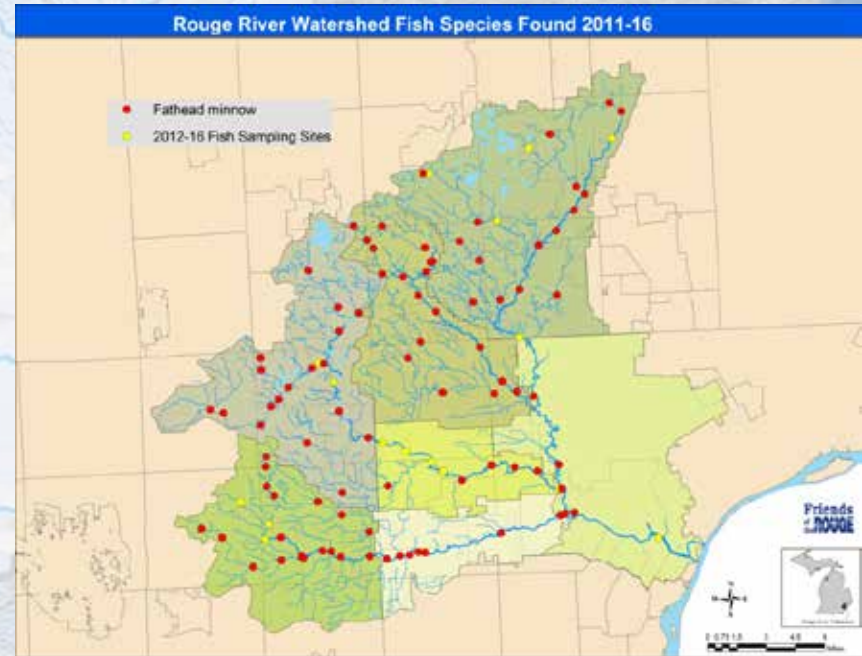
Habitat:

- 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, silt, or gravel substrate



Rouge River Watershed Fish Species Found 2011-16

- Fathead minnow
- 2012-16 Fish Sampling Sites



Blacknose dace (*Rhinichthys atratulus*)

Rouge River Assessment

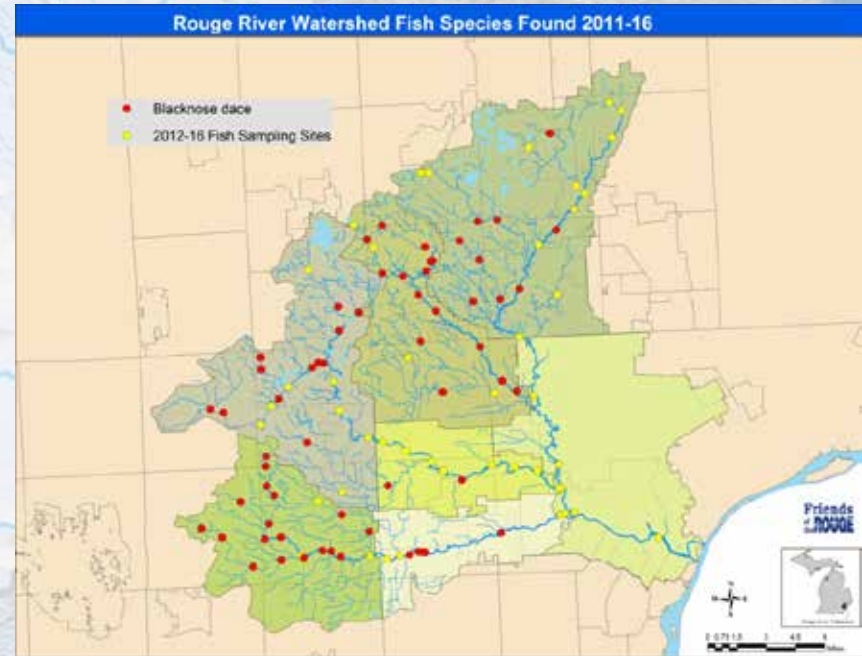
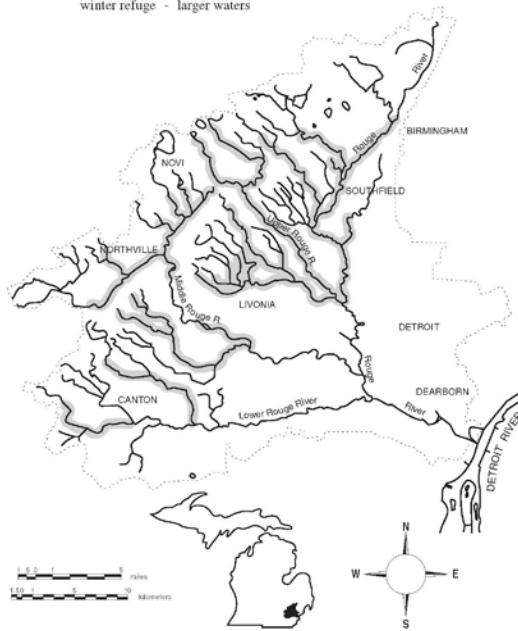
Blacknose dace (*Rhinichthys atratulus*)

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



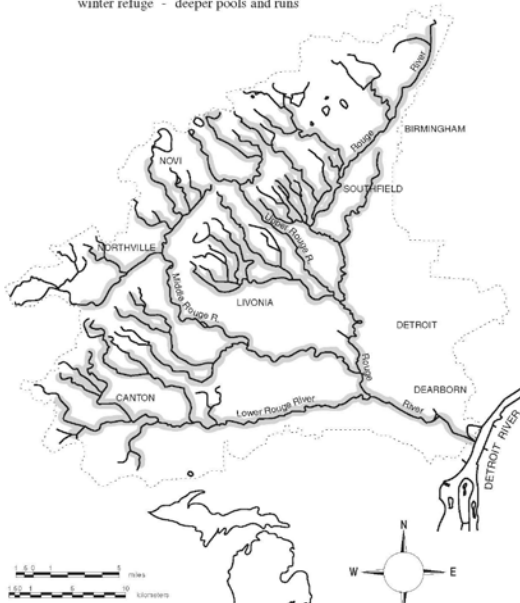
Creek chub (*Semotilus atromaculatus*)

Rouge River Assessment

Creek chub (*Semotilus atromaculatus*)

Habitat:

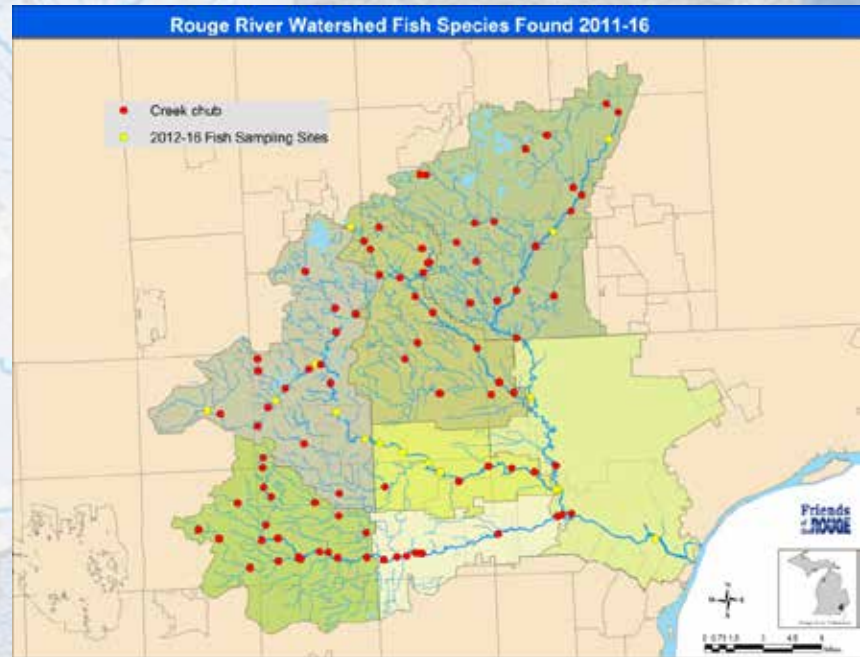
- feeding - streams, rivers, or shore waters of lakes and impoundments
 - can tolerate intermittent flows
 - tolerates moderate turbidity
- spawning - gravel nests
 - low current
- winter refuge - deeper pools and runs



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Rouge River Watershed Fish Species Found 2011-16



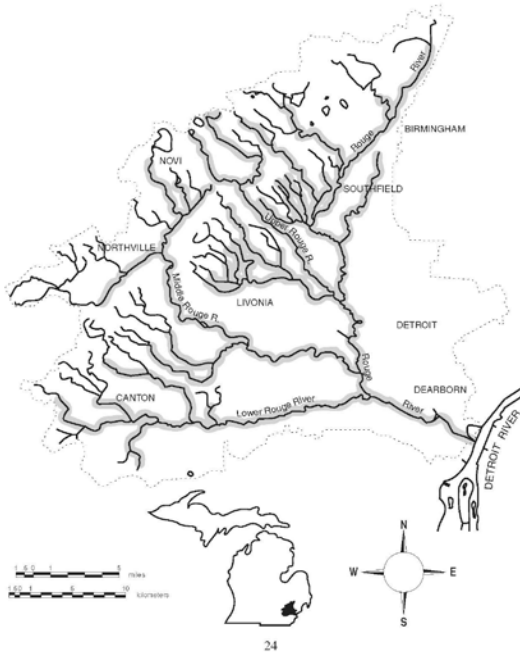
White sucker (*Catostomus commersoni*)

Rouge River Assessment

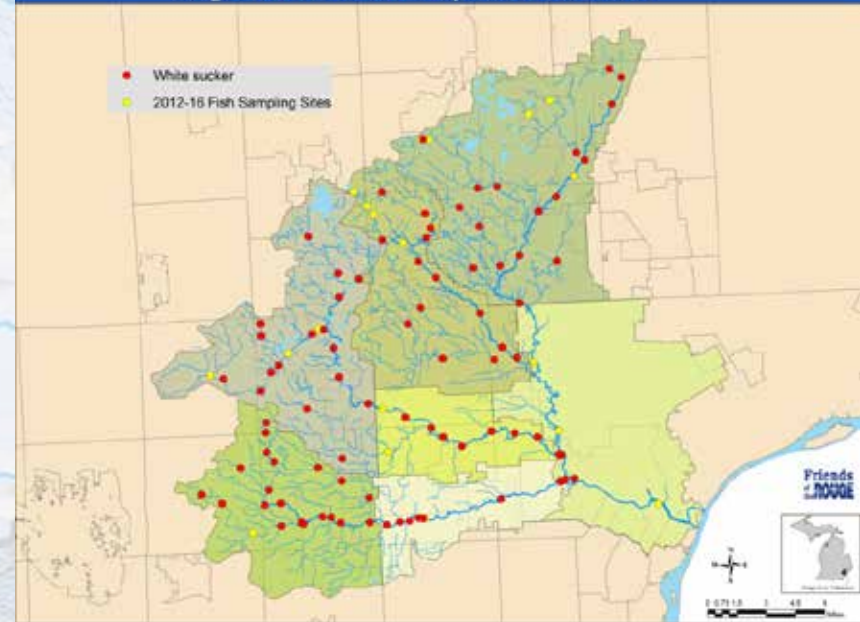
White sucker (*Catostomus commersoni*)

Habitat:

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



Rouge River Watershed Fish Species Found 2011-16



Northern hog sucker (*Hypentelium nigricans*)

Rouge River Assessment

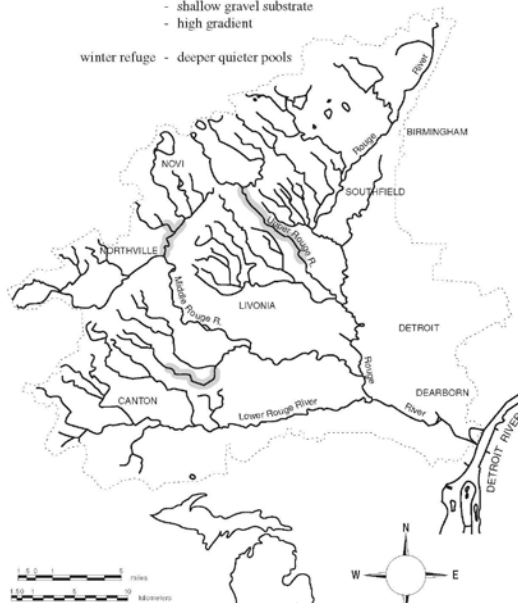
Northern hog sucker (*Hypentelium nigricans*)

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

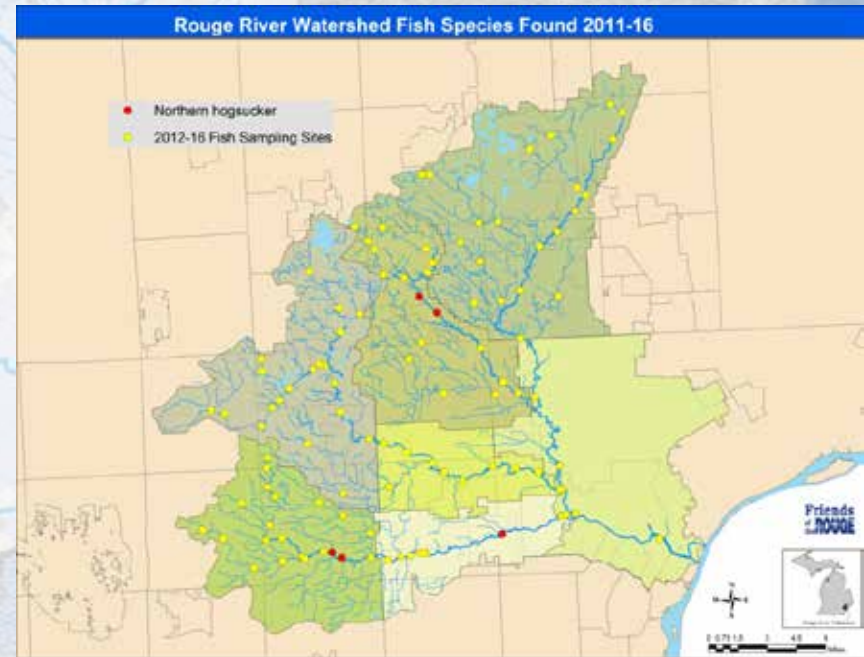
- winter refuge - deeper quieter pools



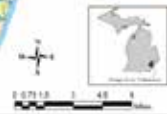
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Rouge River Watershed Fish Species Found 2011-16



Friends
of
ROUGE



Spotted sucker (*Minytrema melanops*)

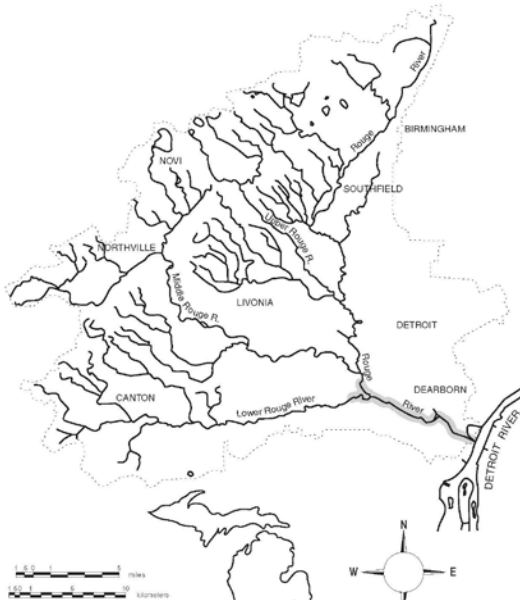
Rouge River Assessment

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

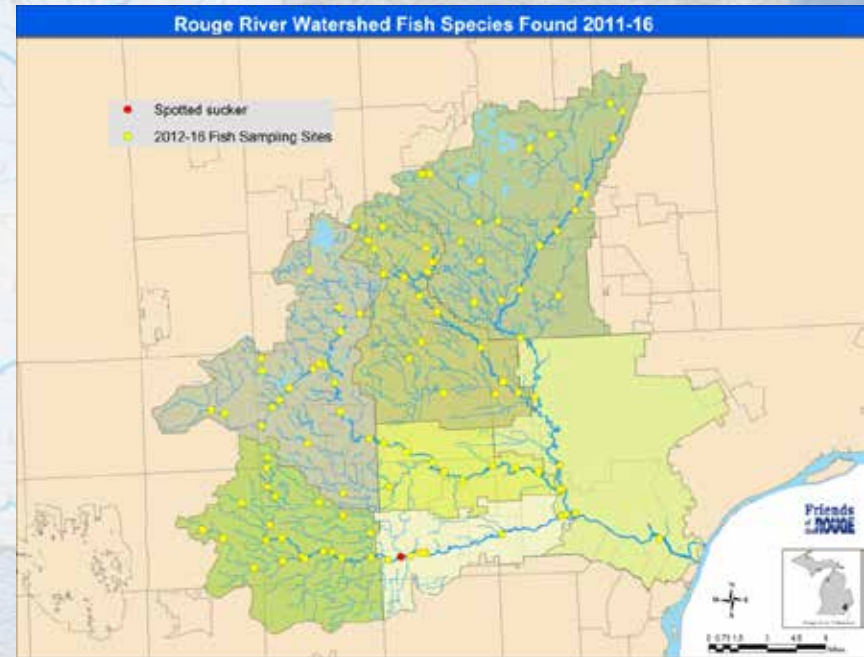


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Rouge River Watershed Fish Species Found 2011-16

- Spotted sucker
- 2012-16 Fish Sampling Sites



Golden redhorse (*Moxostoma erythrurum*)

Rouge River Assessment

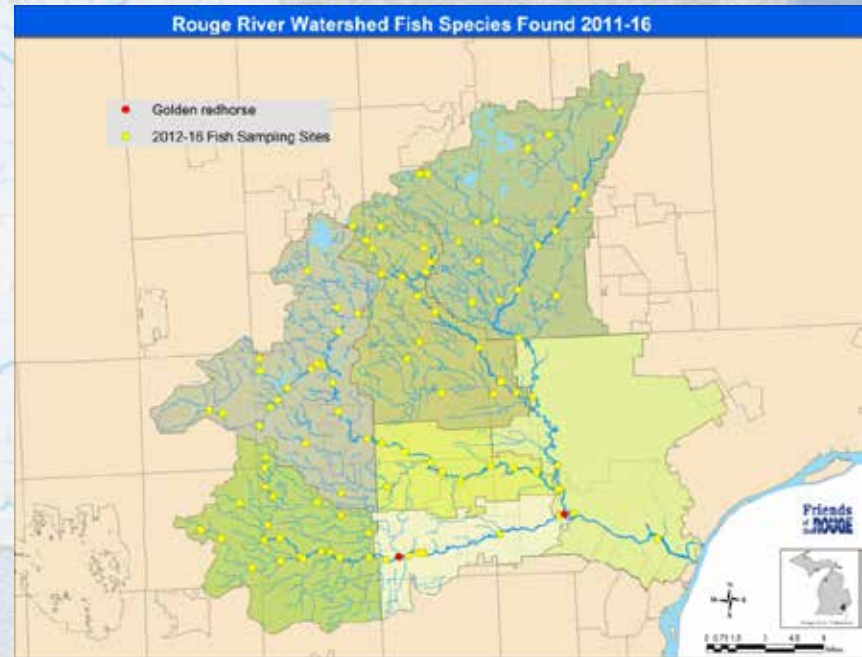
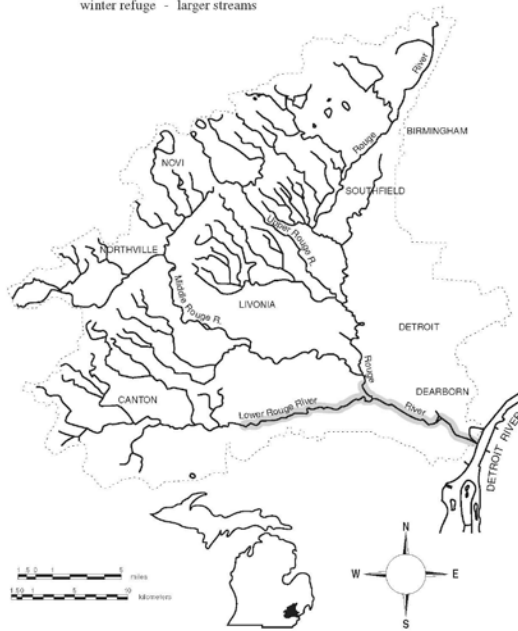
Golden redhorse (*Moxostoma erythrurum*)

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*)

Rouge River Assessment

Black bullhead (*Ameiurus melas*)

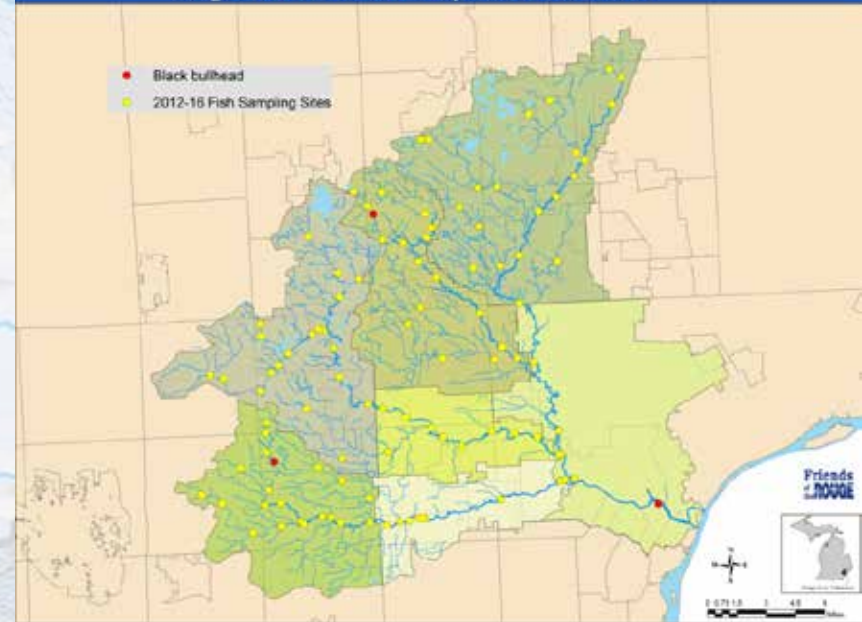
Habitat:

- 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



Rouge River Watershed Fish Species Found 2011-16



Yellow bullhead (*Ameiurus natalis*)

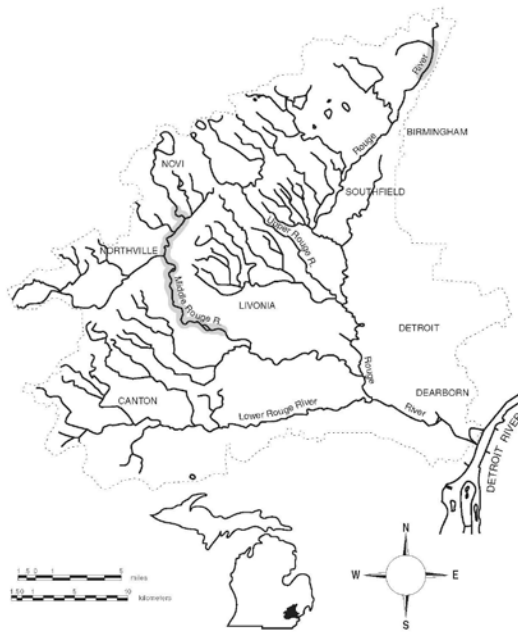
Rouge River Assessment

Yellow bullhead (*Ameiurus natalis*)

Habitat:

- feeding - clear flowing water
- heavy vegetation
- low gradient streams, lakes, and impoundments
- tolerant of low oxygen

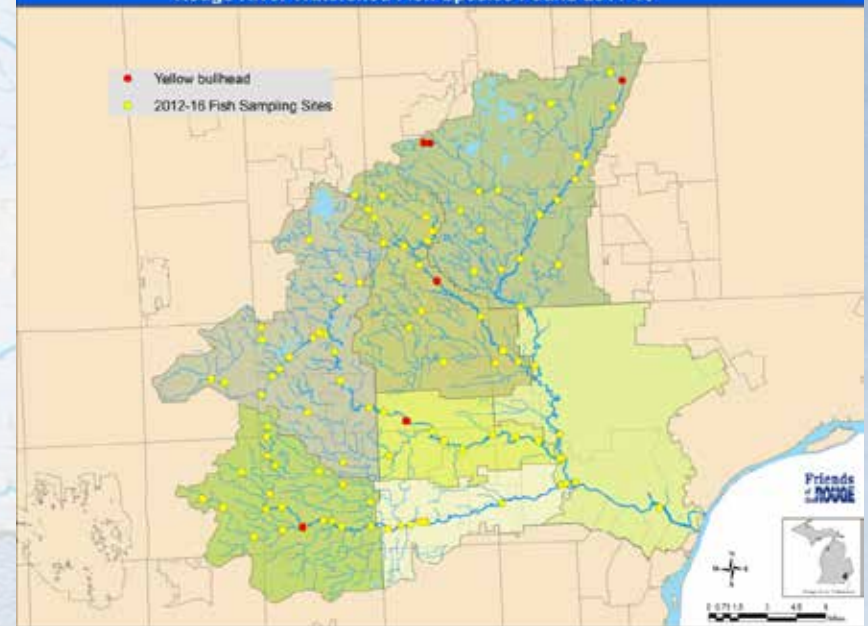
spawning - nest under a stream bank or near stones or stumps



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Rouge River Watershed Fish Species Found 2011-16



Brown bullhead (*Ameiurus nebulosus*)

Rouge River Assessment

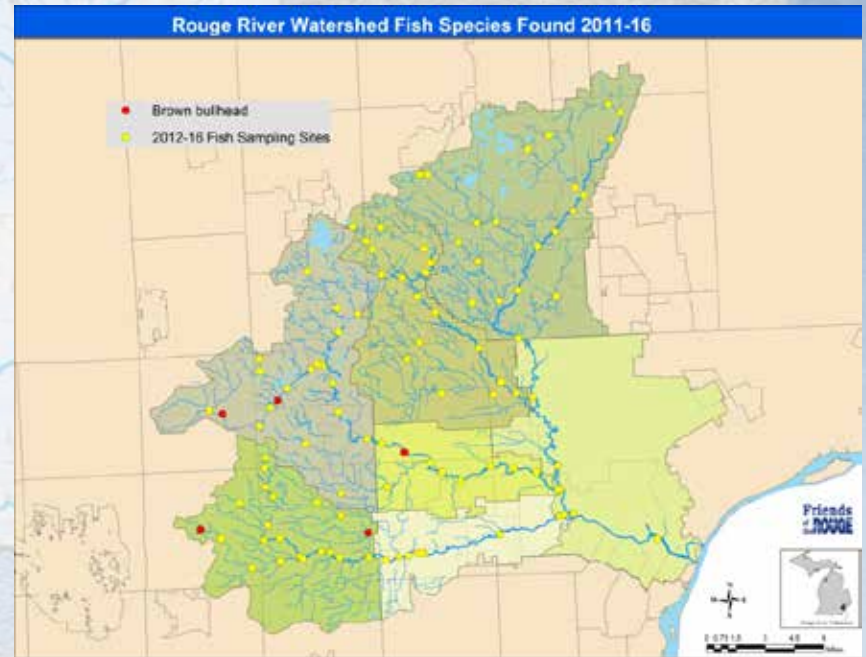
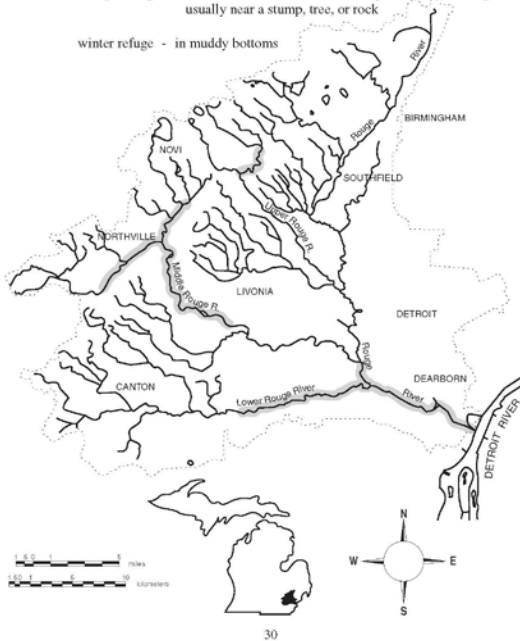
Brown bullhead (*Ameiurus nebulosus*)

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*)

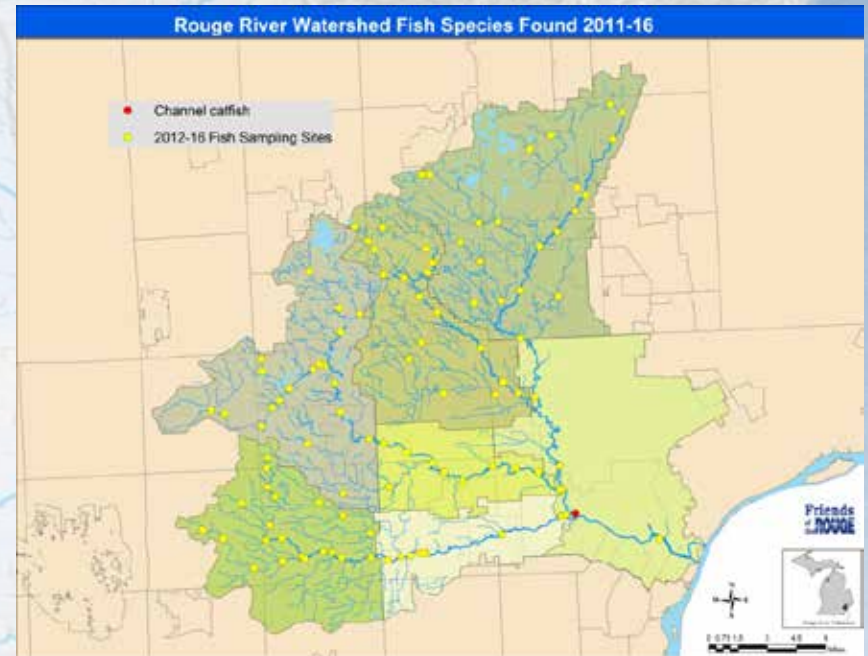
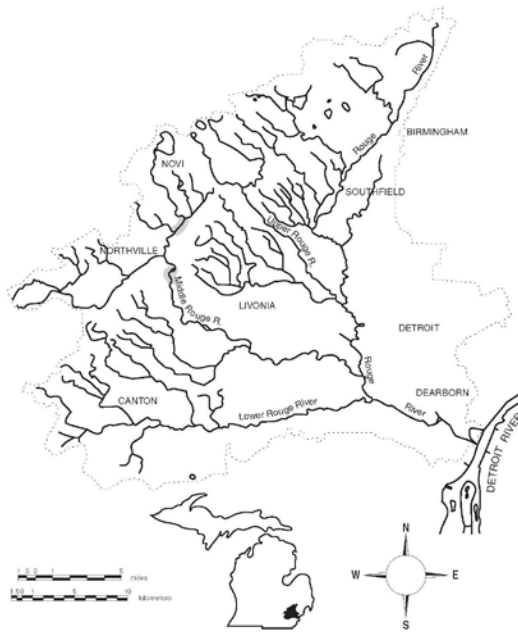
Rouge River Assessment

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*)

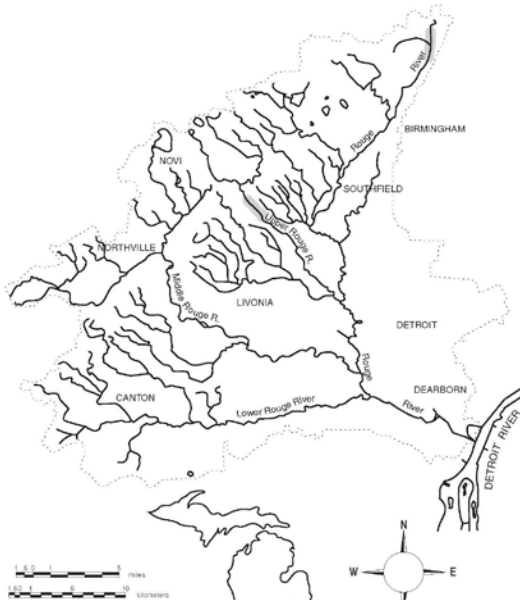
Rouge River Assessment

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

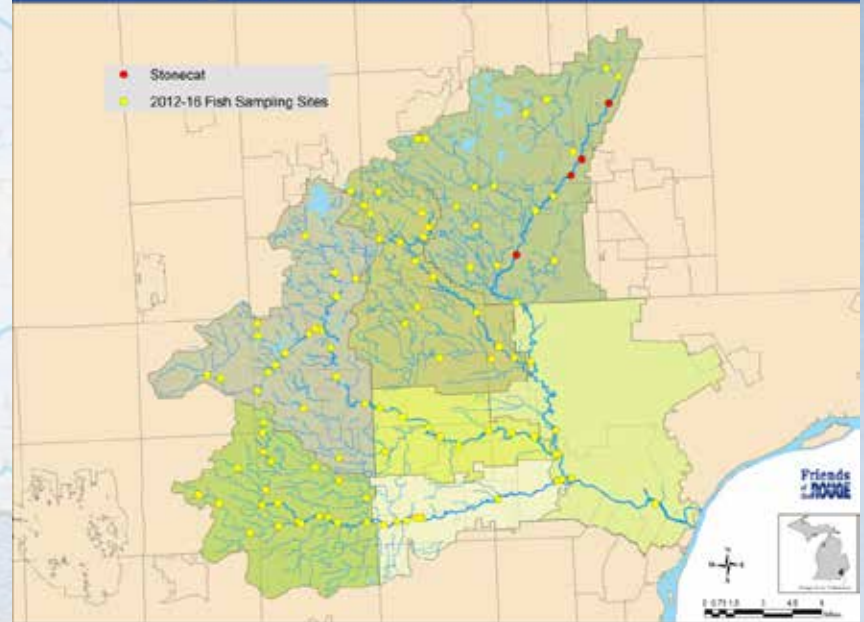
- spawning - eggs deposited beneath stones
- shallow rocky areas of streams or lakes



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Rouge River Watershed Fish Species Found 2011-16



Grass pickerel (*Esox americanus vermiculatus*)

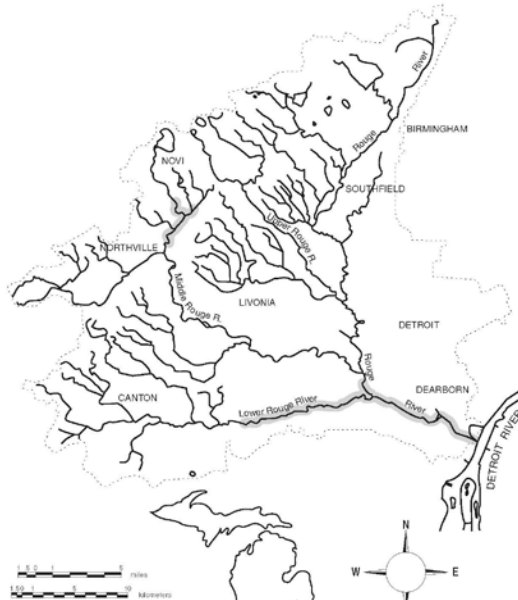
Rouge River Assessment

Grass pickerel (*Esox americanus vermiculatus*)

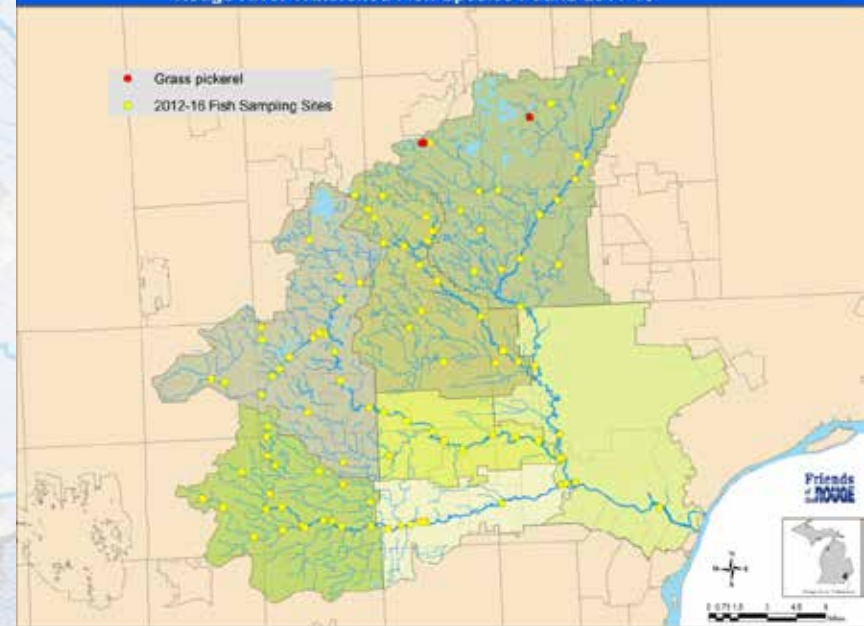
Habitat:

- 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



Rouge River Watershed Fish Species Found 2011-16



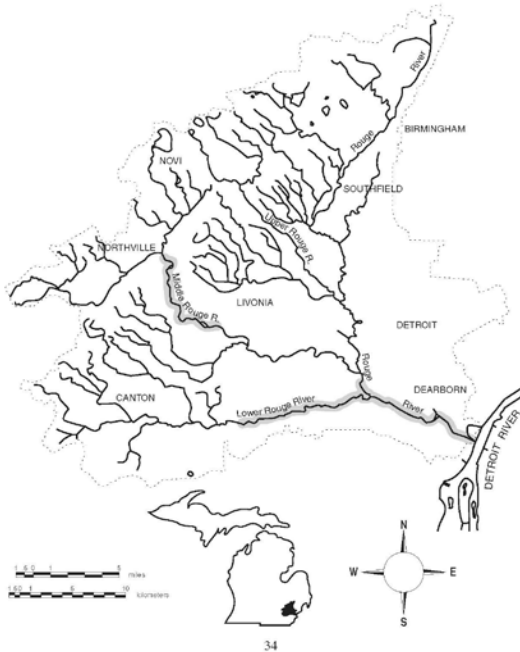
Northern pike (*Esox lucius*)

Rouge River Assessment

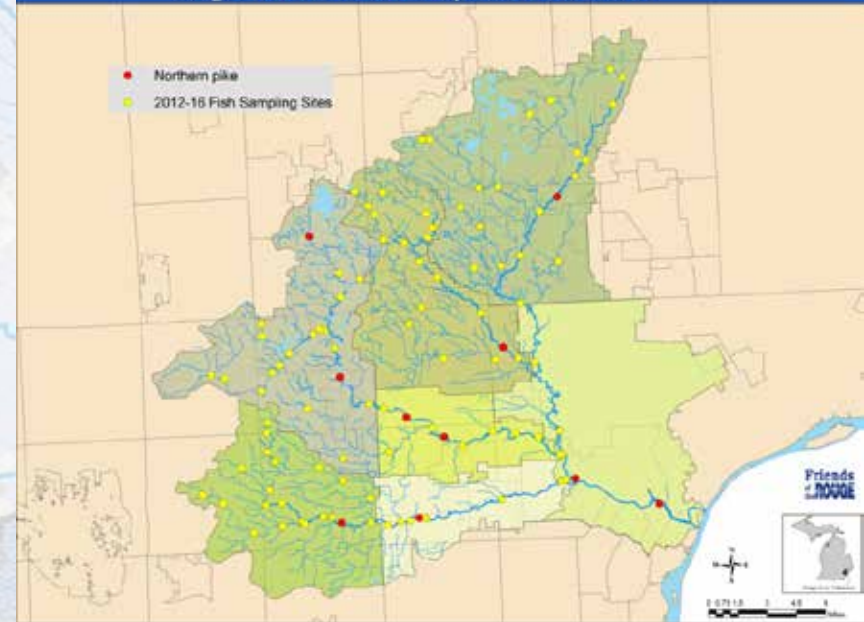
Northern pike (*Esox lucius*)

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



Rouge River Watershed Fish Species Found 2011-16



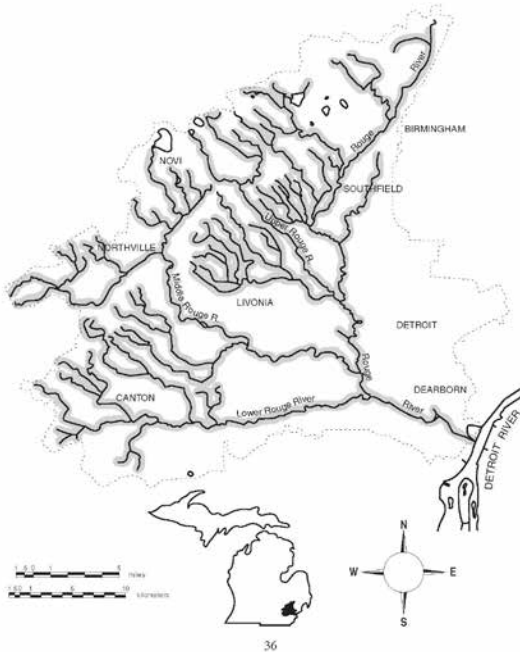
Central mudminnow (*Umbra limi*)

Rouge River Assessment

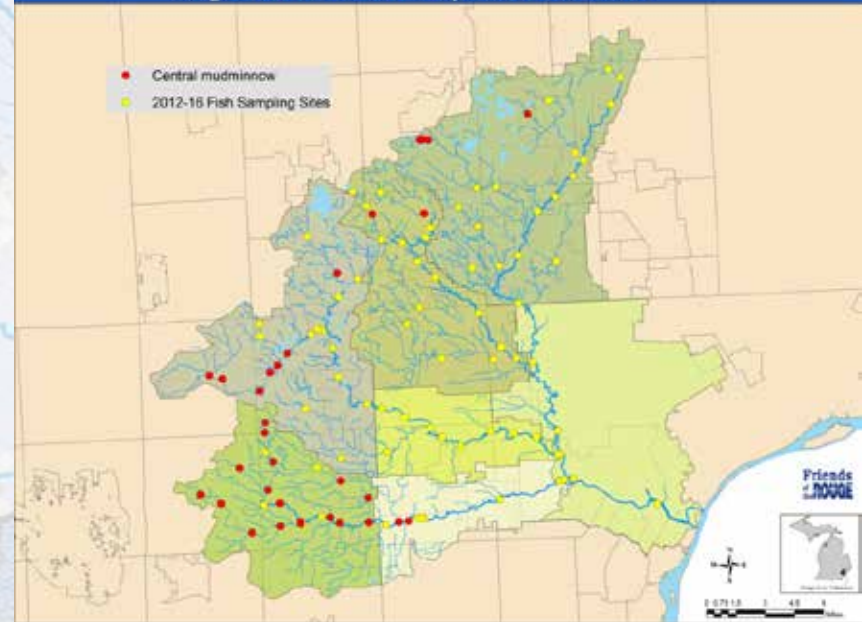
Central mudminnow (*Umbra limi*)

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



Rouge River Watershed Fish Species Found 2011-16



Rainbow trout (*Oncorhynchus mykiss*)

Rouge River Assessment

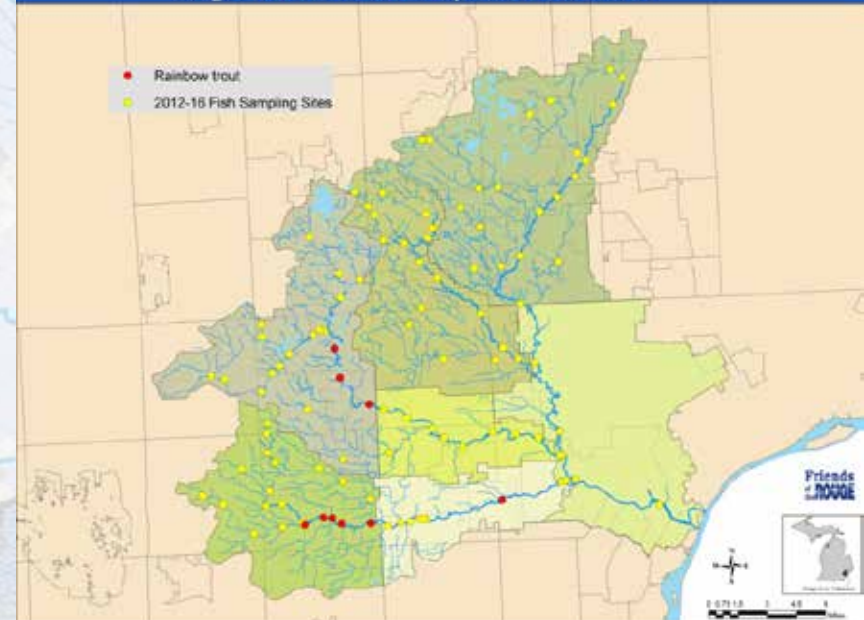
Rainbow trout (*Oncorhynchus mykiss*)

Habitat:

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



Rouge River Watershed Fish Species Found 2011-16



Brown trout (*Salmo trutta*)

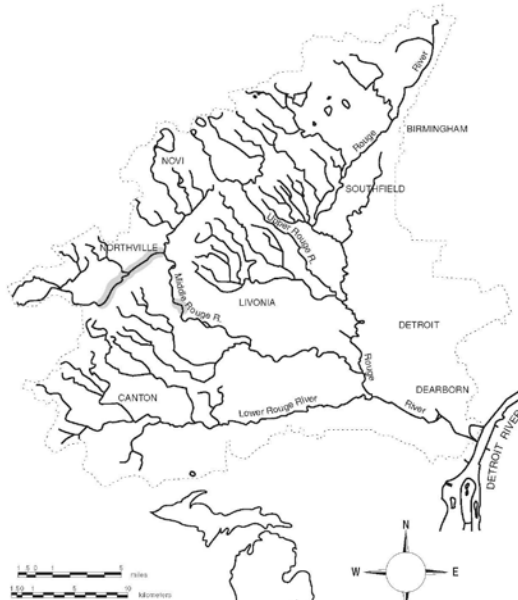
Rouge River Assessment

Brown trout (*Salmo trutta*)

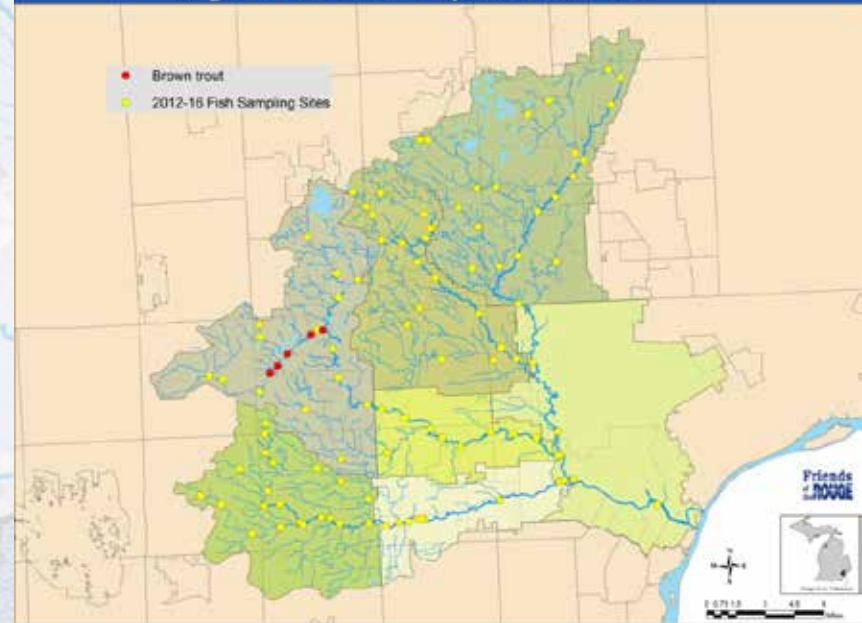
Habitat:

- 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



Rouge River Watershed Fish Species Found 2011-16



Mosquitofish (*Gambusia afghans*)

Rouge River Assessment
Starhead topminnow (*Fundulus diapor*)

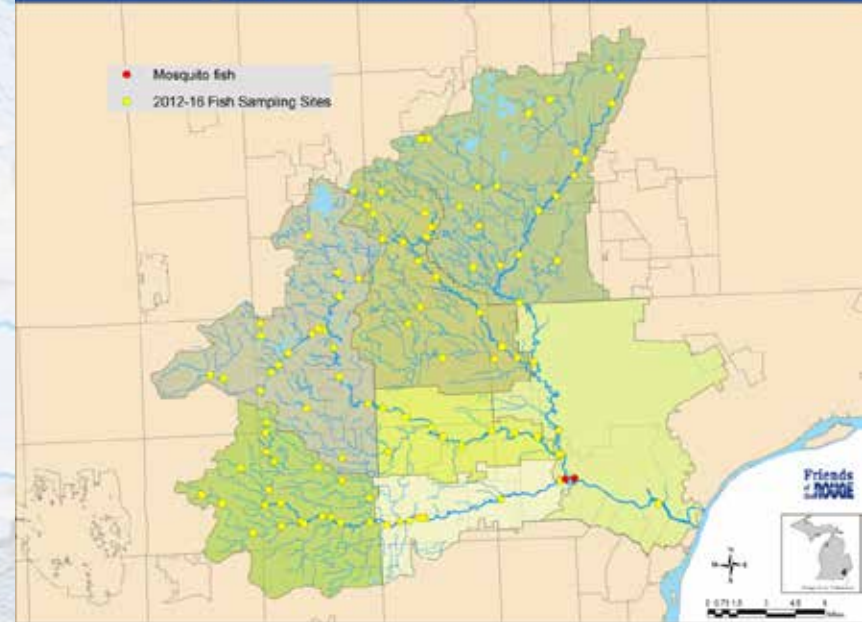
Habitat:

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



Rouge River Watershed Fish Species Found 2011-16



Brook silverside (*Labidesthes sicculus*)

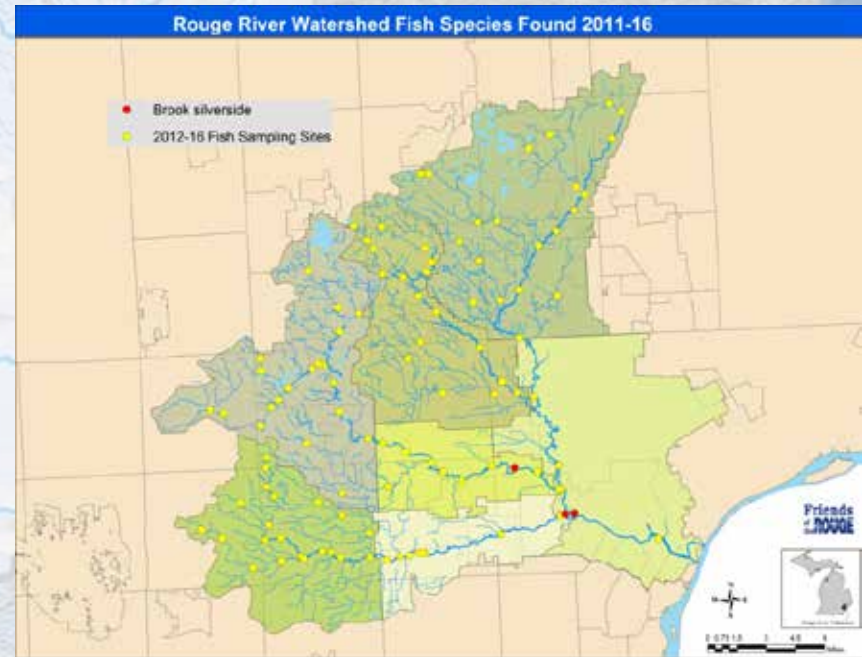
Rouge River Assessment

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 (*Culaea inconstans*)

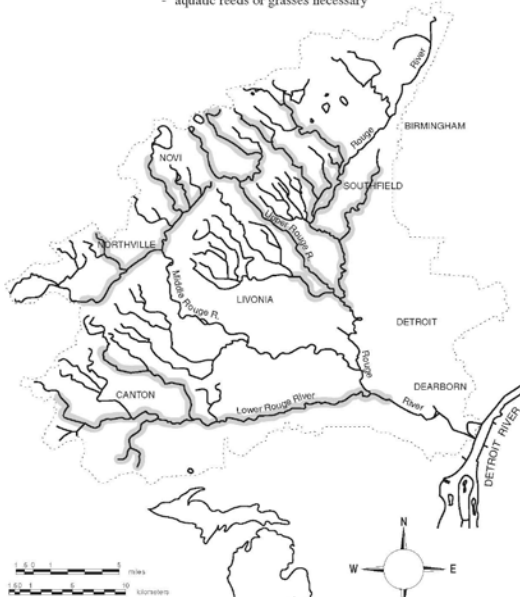
Rouge River Assessment

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

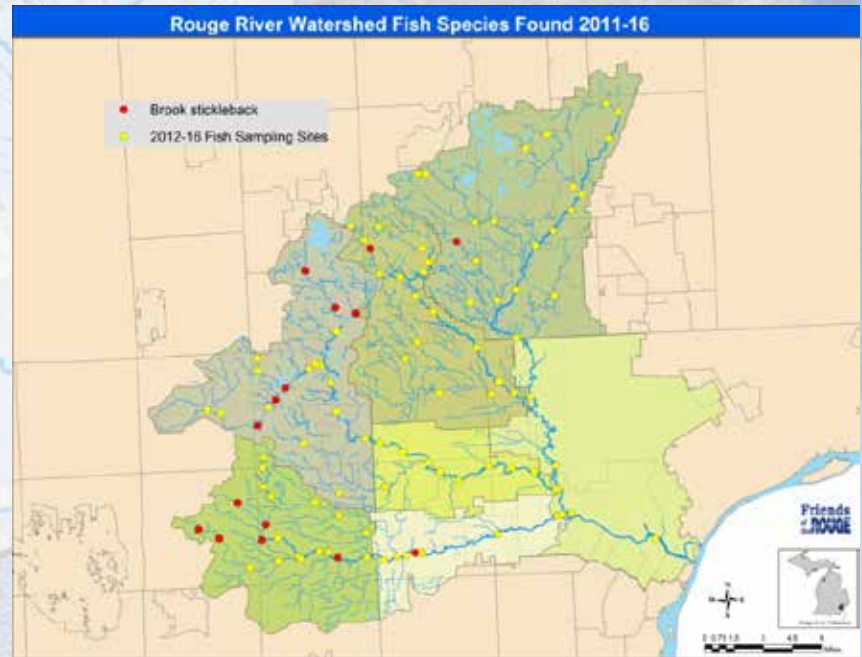


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Rouge River Watershed Fish Species Found 2011-16

- Brook stickleback
- 2012-16 Fish Sampling Sites



Mottled sculpin (*Cottus bairdi*)

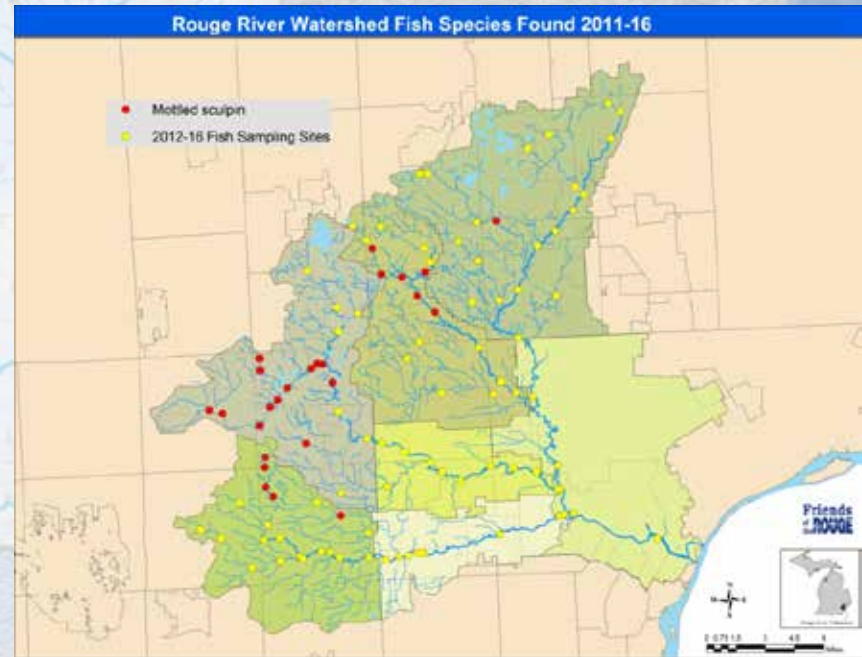
Rouge River Assessment

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*)

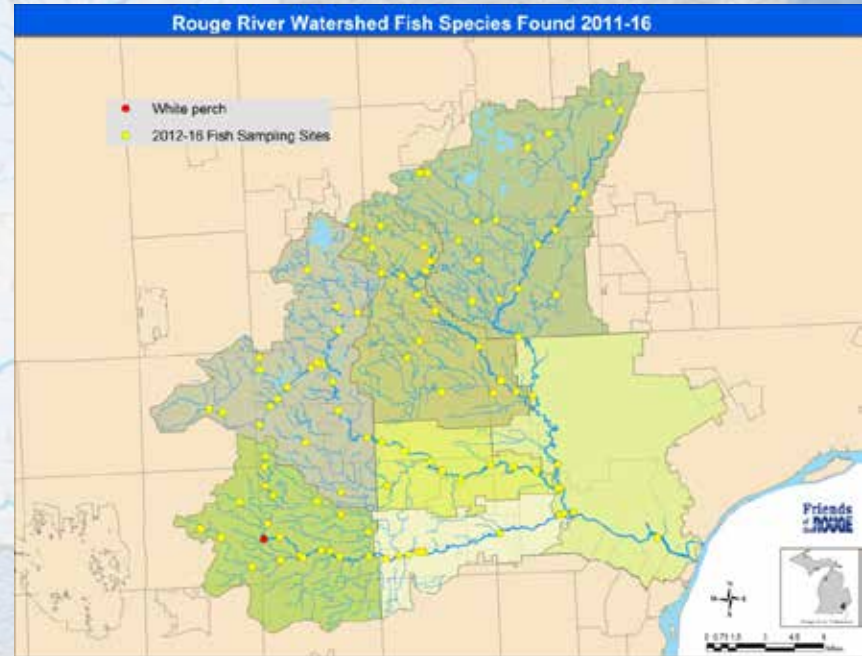
Rouge River Assessment

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*)

Rouge River Assessment

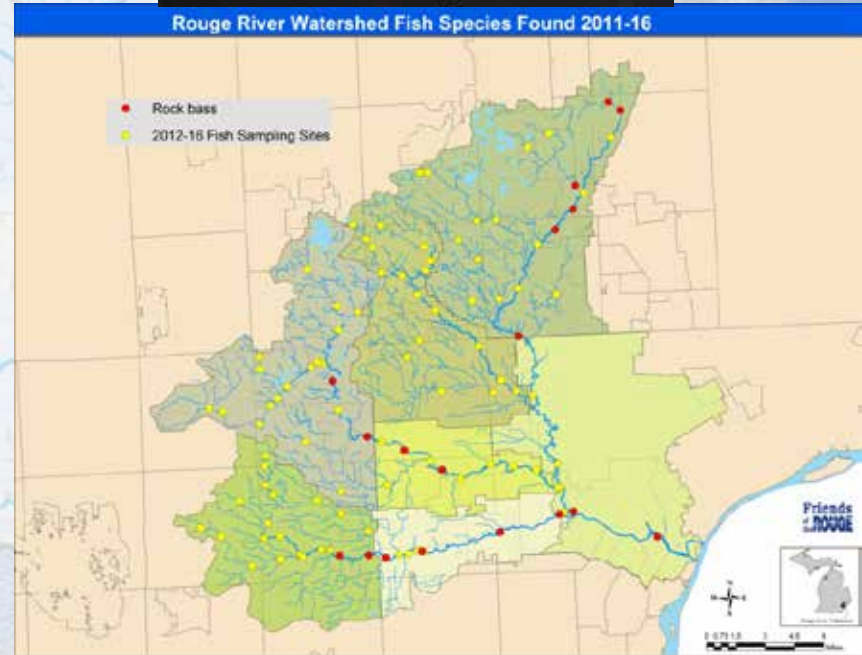
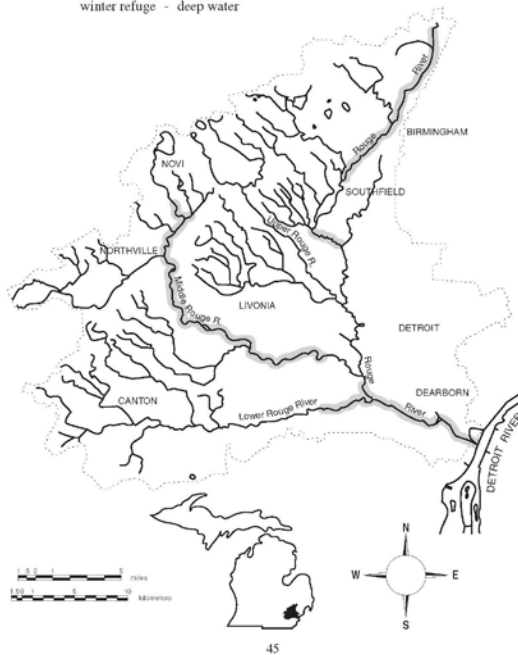
Rock bass (*Ambloplites rupestris*)

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*)

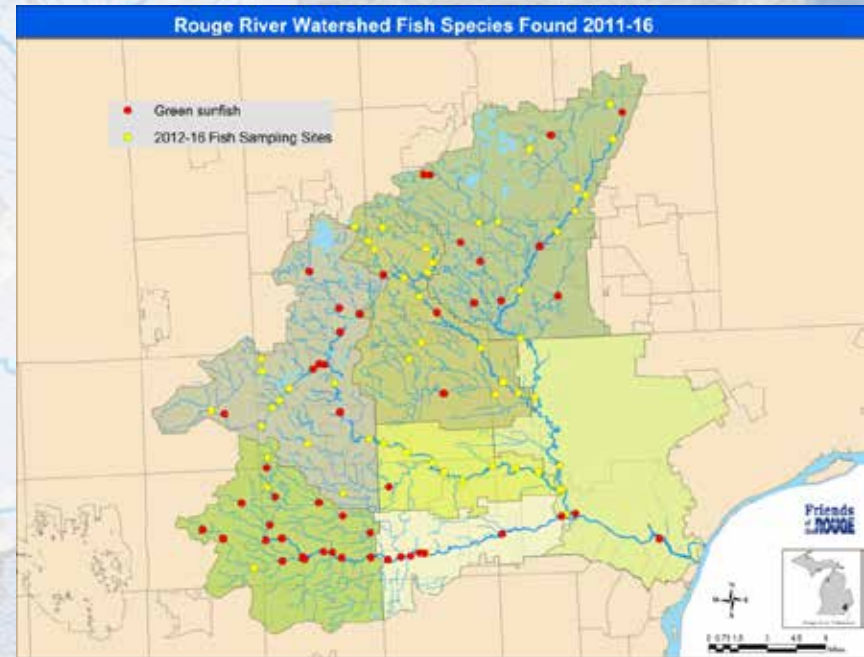
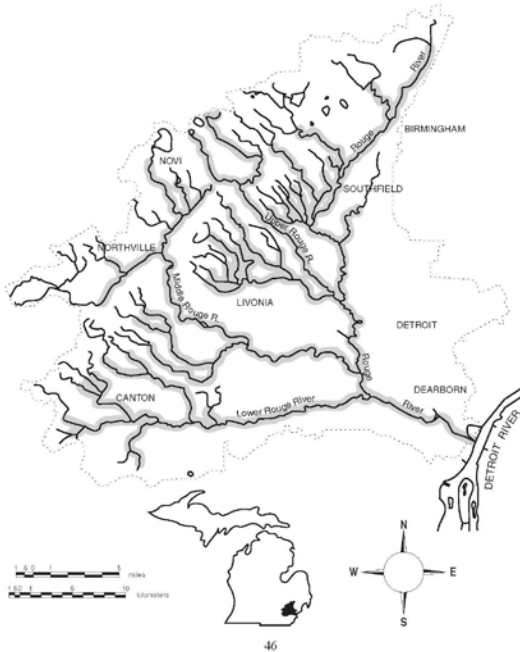
Rouge River Assessment

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



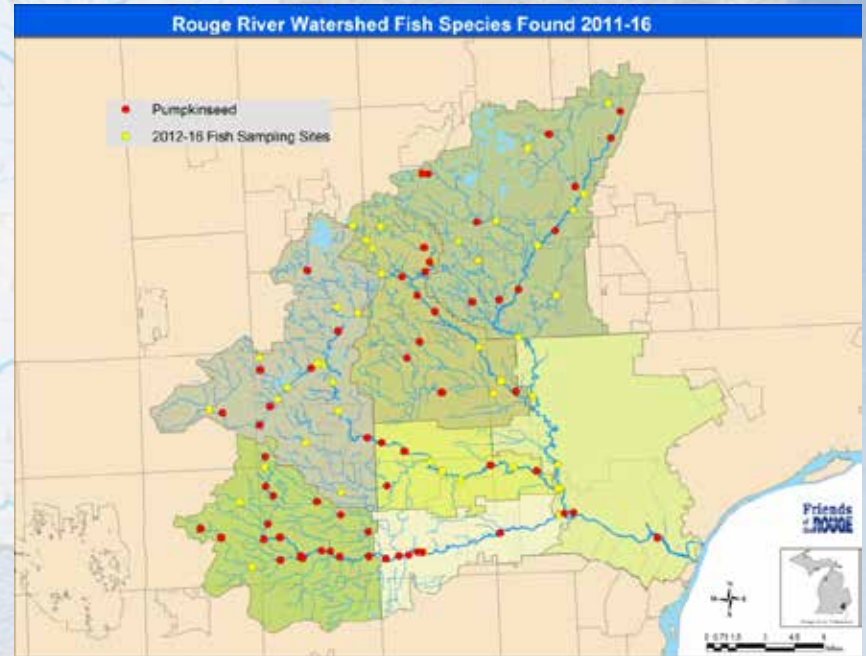
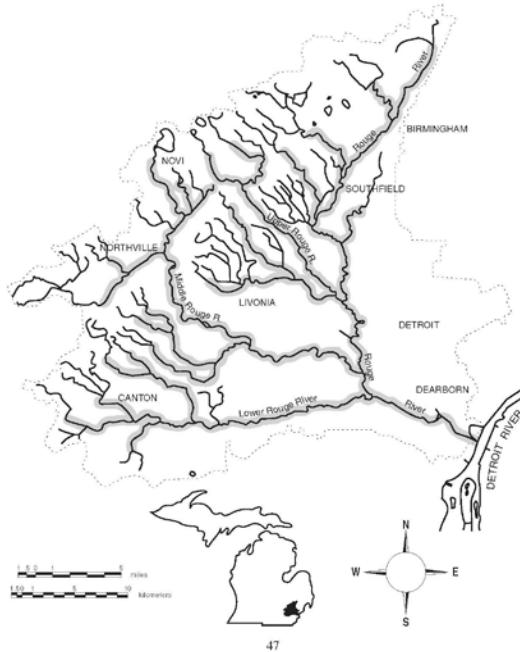
Pumpkinseed sunfish (*Lepomis gibbosus*)

Rouge River Assessment

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



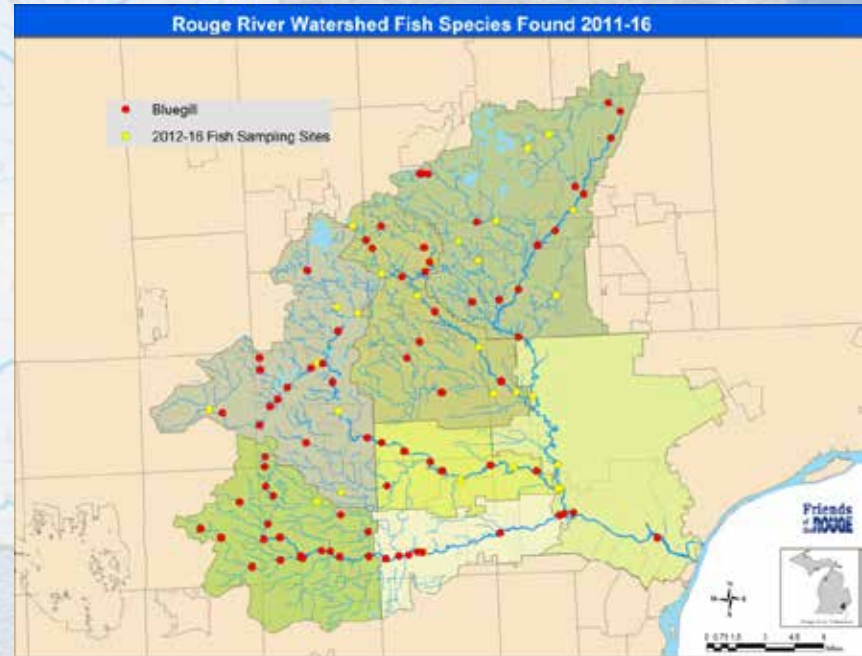
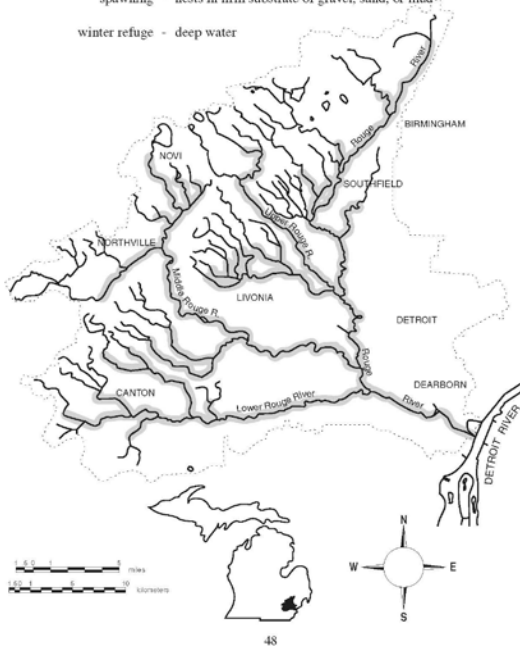
Bluegill (*Lepomis macrochirus*)

Rouge River Assessment

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



Northern sunfish (*Lepomis peltastes*)

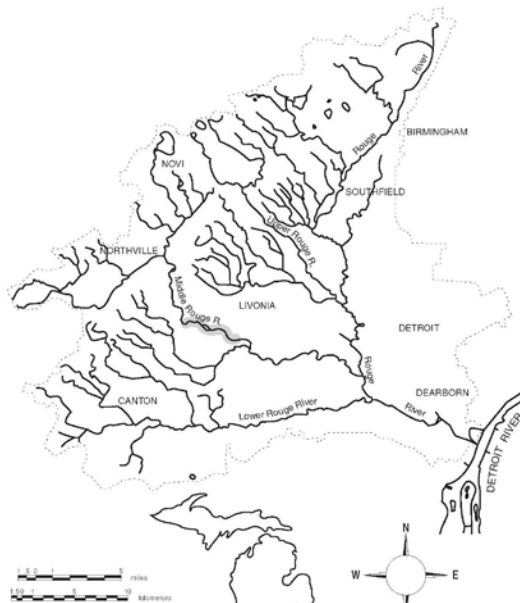
Rouge River Assessment

Longear sunfish (*Lepomis megalotis*)

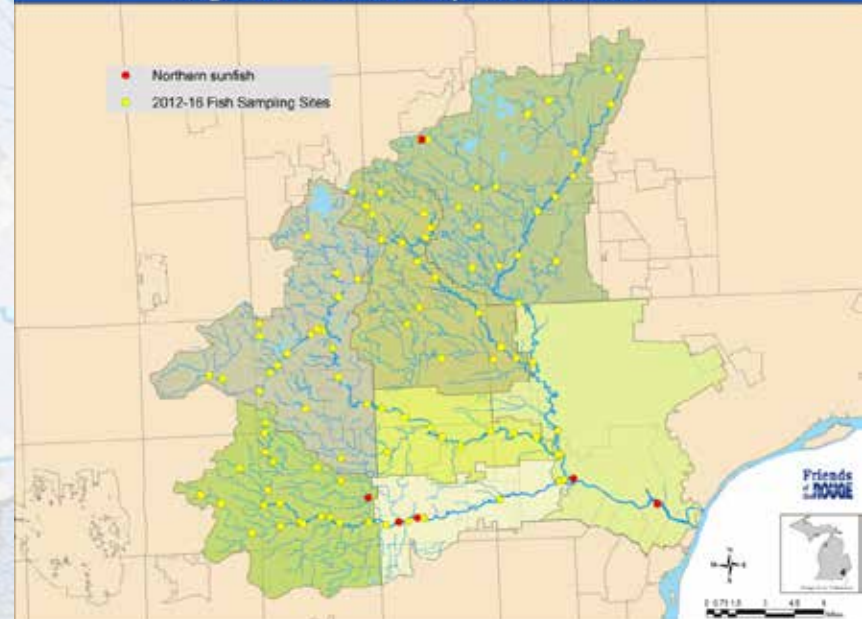
Habitat:

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

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



Rouge River Watershed Fish Species Found 2011-16



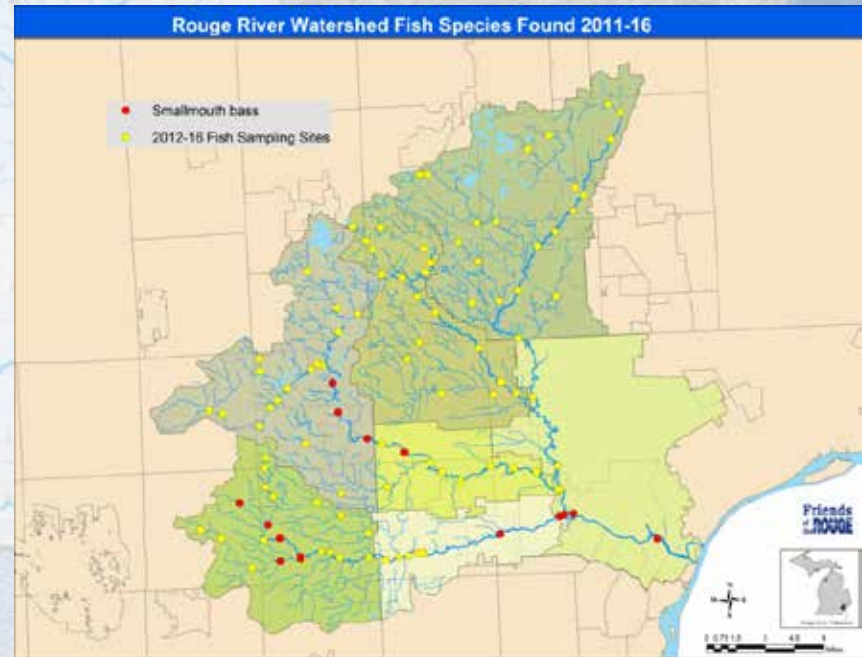
Smallmouth bass (*Micropterus dolomieu*)

Smallmouth bass (*Micropterus dolomieu*)

Rouge River Assessment

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



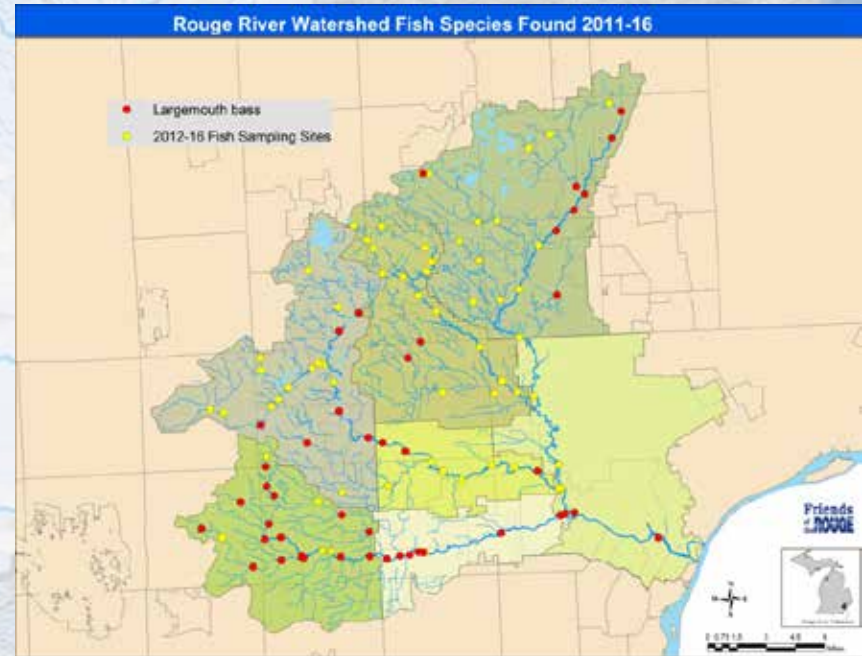
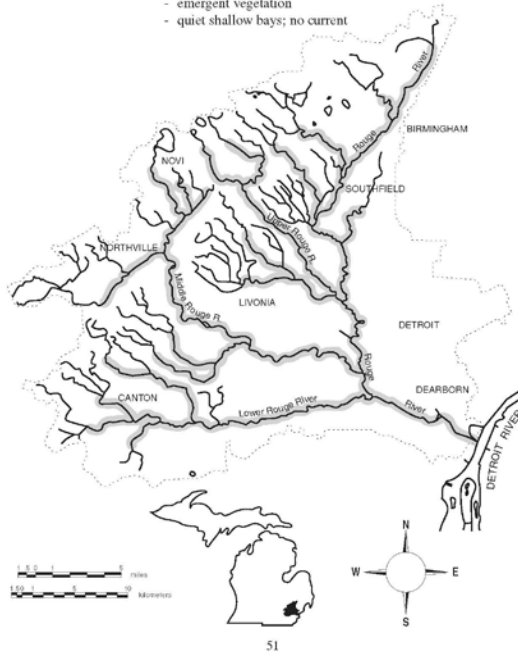
Largemouth bass (*Micropterus salmoides*)

Rouge River Assessment

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*)

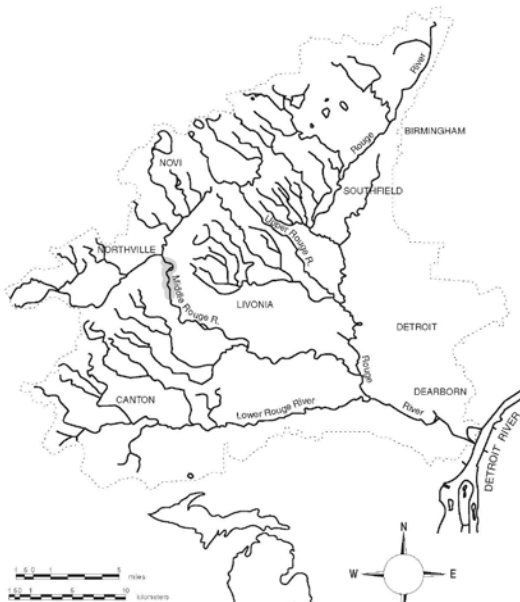
Rouge River Assessment

White crappie (*Pomoxis annularis*)

Habitat:

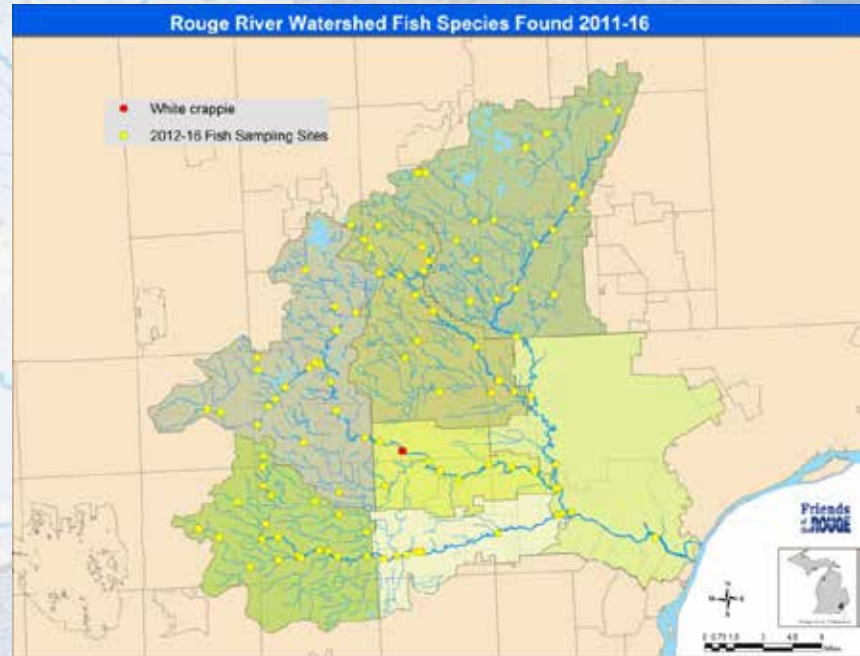
- feeding - lakes and impoundments >5 acres
- sluggish pools of moderate to large low-gradient rivers
- no substrate preference
- can tolerate severe turbidity and rapid siltation

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



Rouge River Watershed Fish Species Found 2011-16

- White crappie
- 2012-16 Fish Sampling Sites



Black crappie (*Pomoxis nigromaculatus*)

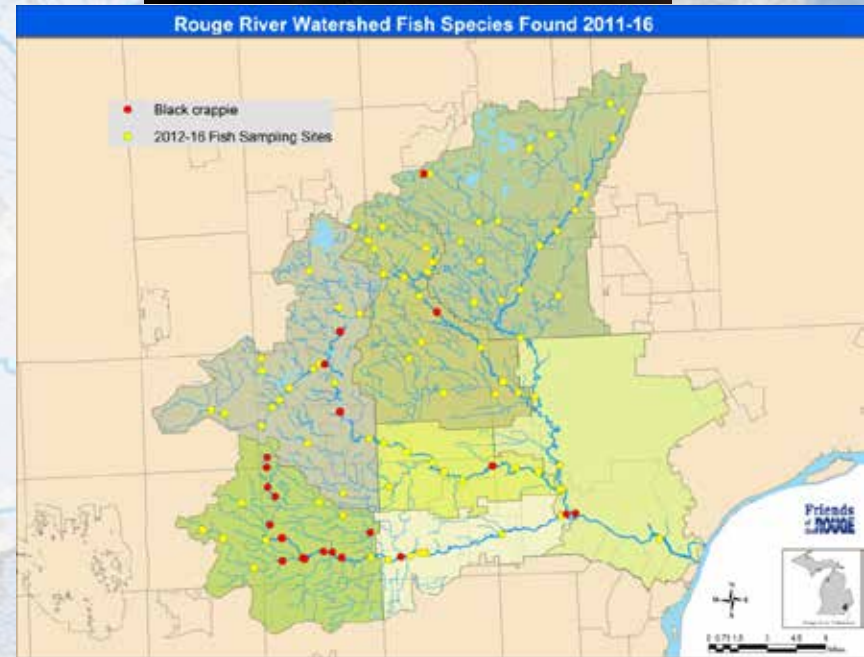
Rouge River Assessment

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*)

Rouge River Assessment

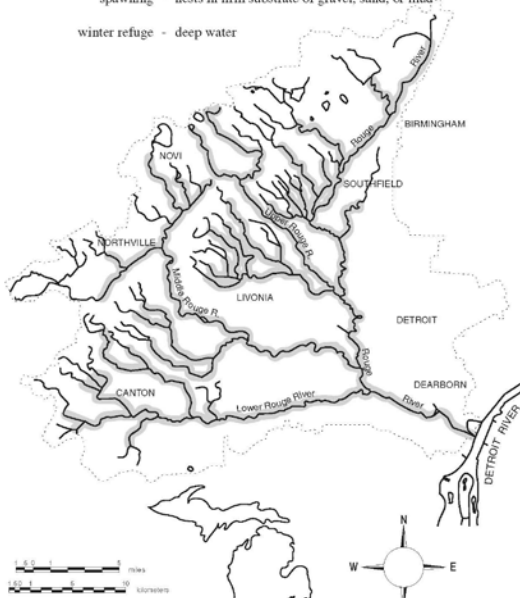
Hybrid sunfish (*Lepomis x Lepomis spp.*)

Habitat:

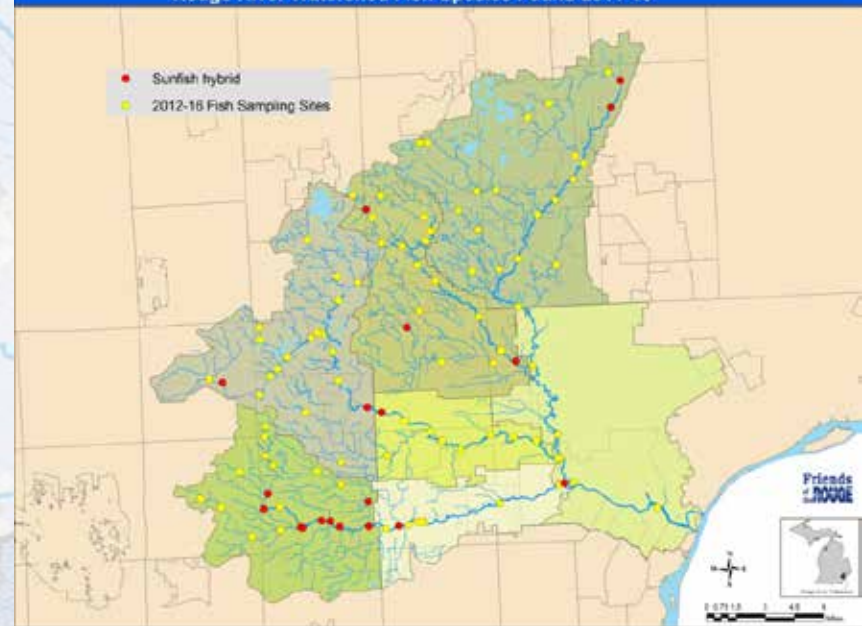
- feeding - non-flowing clear streams and rivers; also lakes and impoundments
- sand, gravel, or muck containing organic debris substrate
- scattered beds of aquatic vegetation
- cannot tolerate low oxygen or continuous high turbidity and siltation

spawning - nests in firm substrate of gravel, sand, or mud

winter refuge - deep water



Rouge River Watershed Fish Species Found 2011-16



Rainbow darter (*Etheostoma caeruleum*)

Rouge River Assessment

Rainbow darter (*Etheostoma caeruleum*)

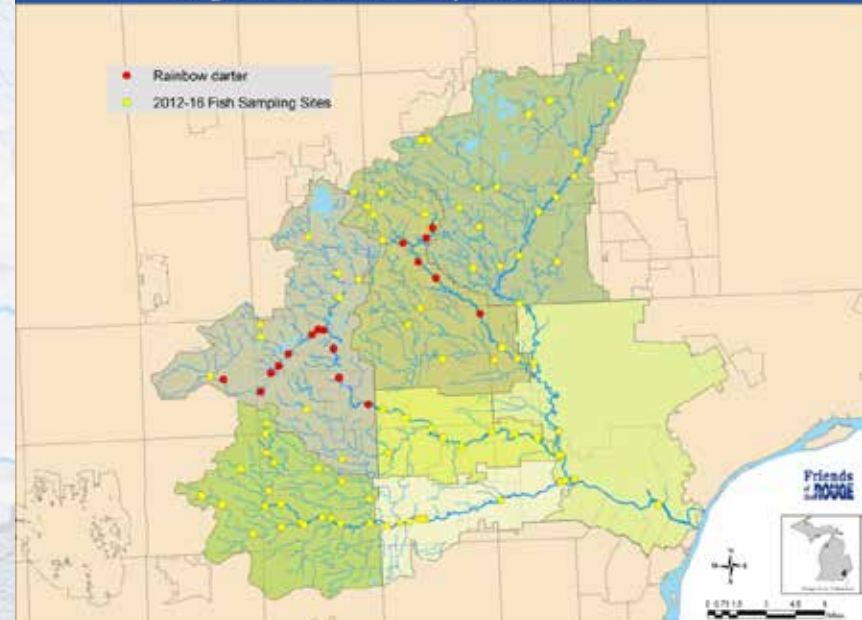
Habitat:

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

spawning - gravel or rubble riffles



Rouge River Watershed Fish Species Found 2011-16



Johnny darter (*Etheostoma nigrum*)

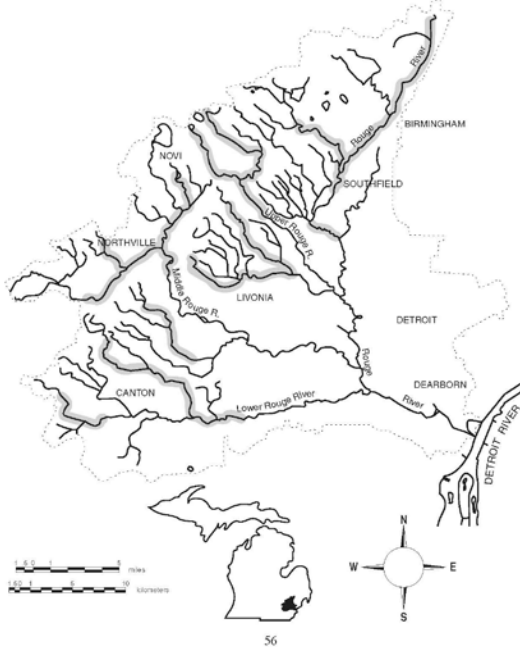
Rouge River Assessment

Johnny darter (*Etheostoma nigrum*)

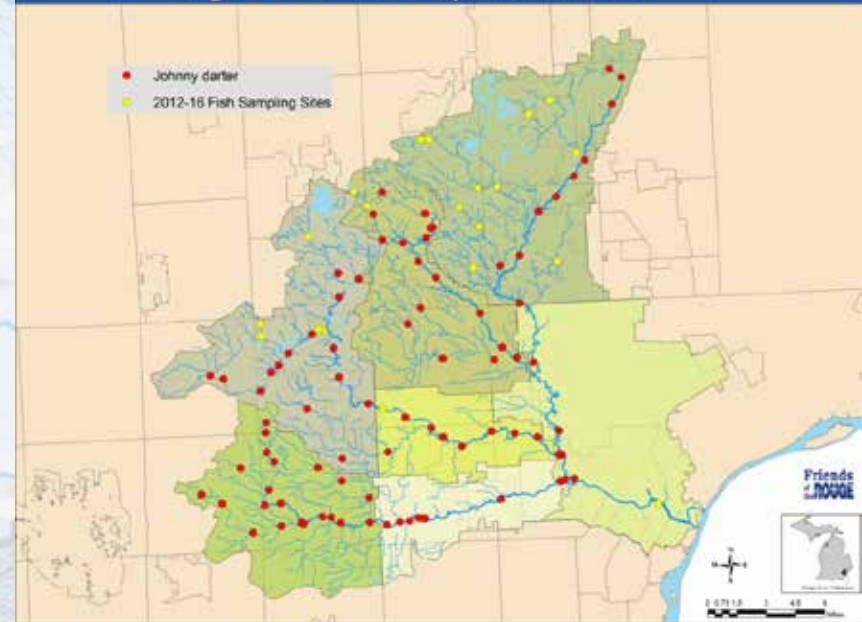
Habitat:

- 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



Rouge River Watershed Fish Species Found 2011-16



Yellow perch (*Perca flavescens*)

Rouge River Assessment

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

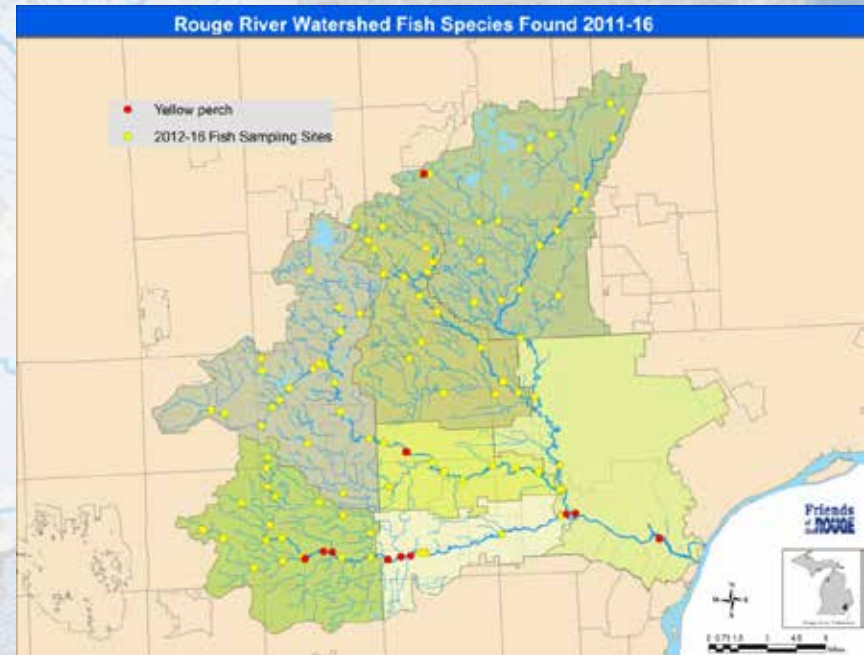
- spawning - shallows of lakes, tributaries of streams
- occurs over rooted vegetation, submerged brush, fallen trees
- may occur over sand or gravel



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Rouge River Watershed Fish Species Found 2011-16



Blackside darter (*Percina maculata*)

Rouge River Assessment

Blackside darter (*Percina maculata*)

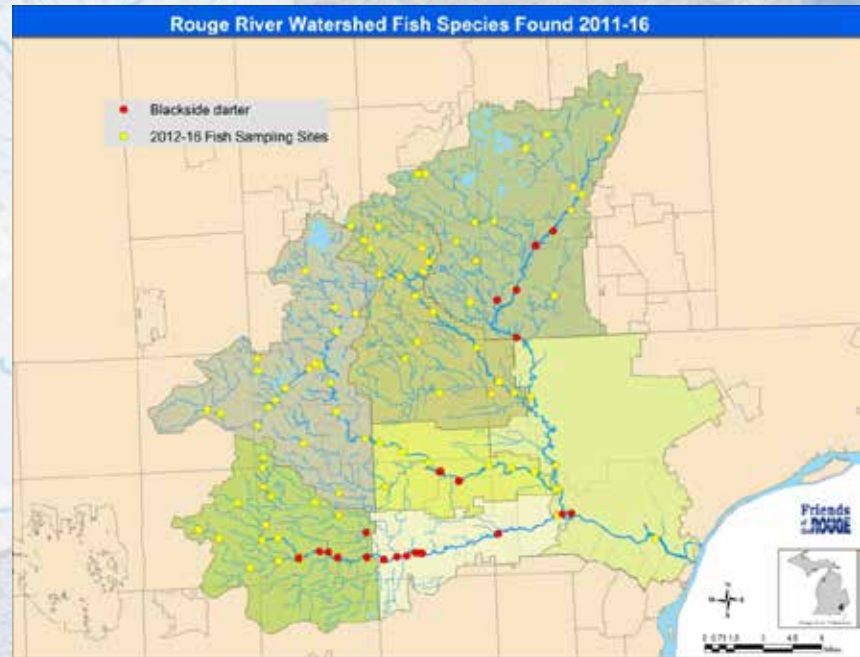
Habitat:

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

- spawning - gravel and sand substrate



Rouge River Watershed Fish Species Found 2011-16



New species found

Native

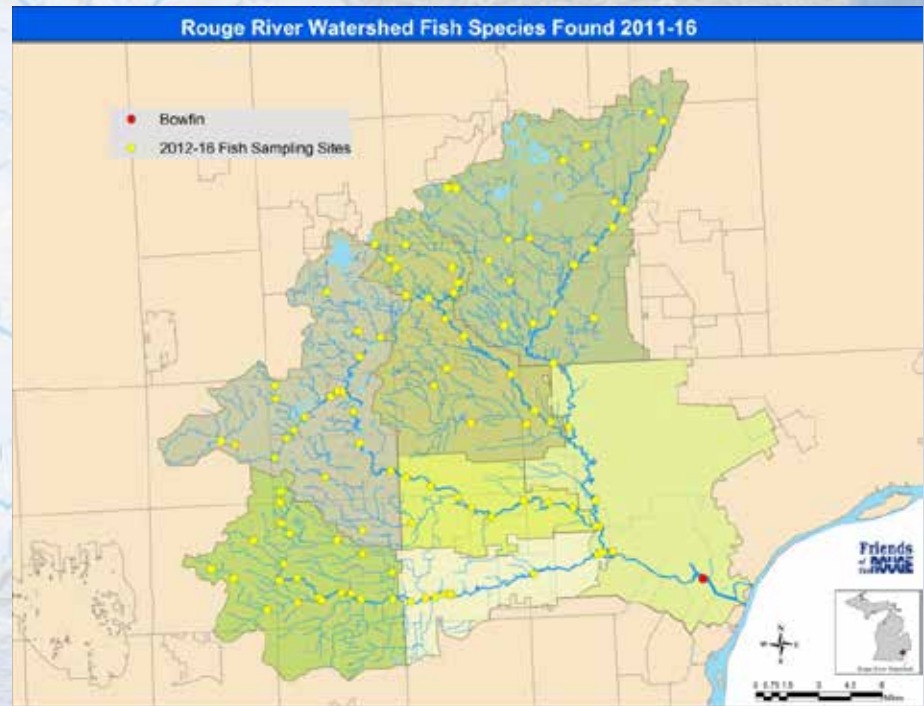
- Ø Bowfin
- Ø Striped shiner
- Ø Blacknose shiner
- Ø Mimic shiner
- Ø White bass
- Ø Iowa darter
- Ø Least darter
- Ø Northern Logperch

Non-native

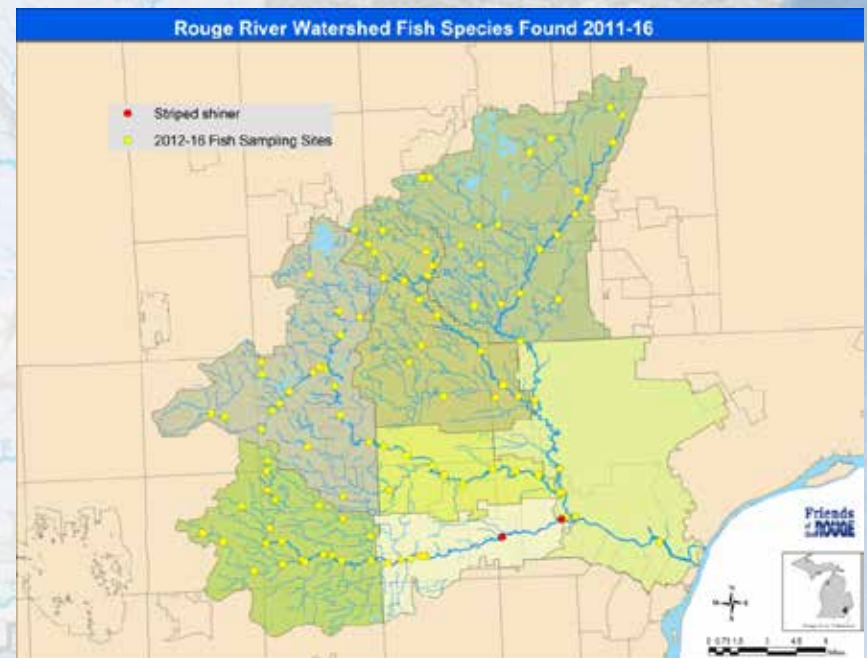
- Ø *Mummichog*
- Ø *Round goby*

Bowfin (*Amia calva*)

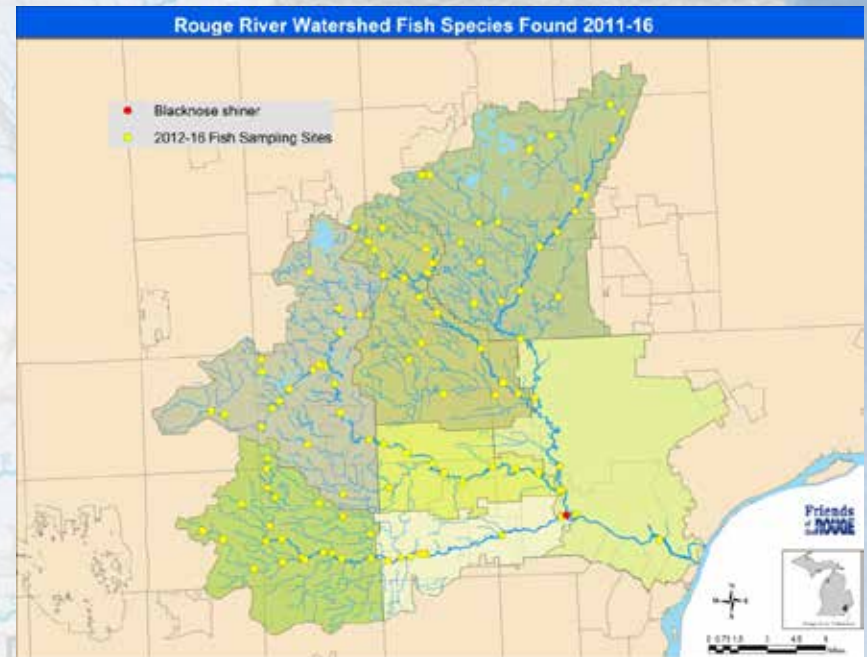
∅ Not Found in 1998
MDNR Rouge River
Assessment



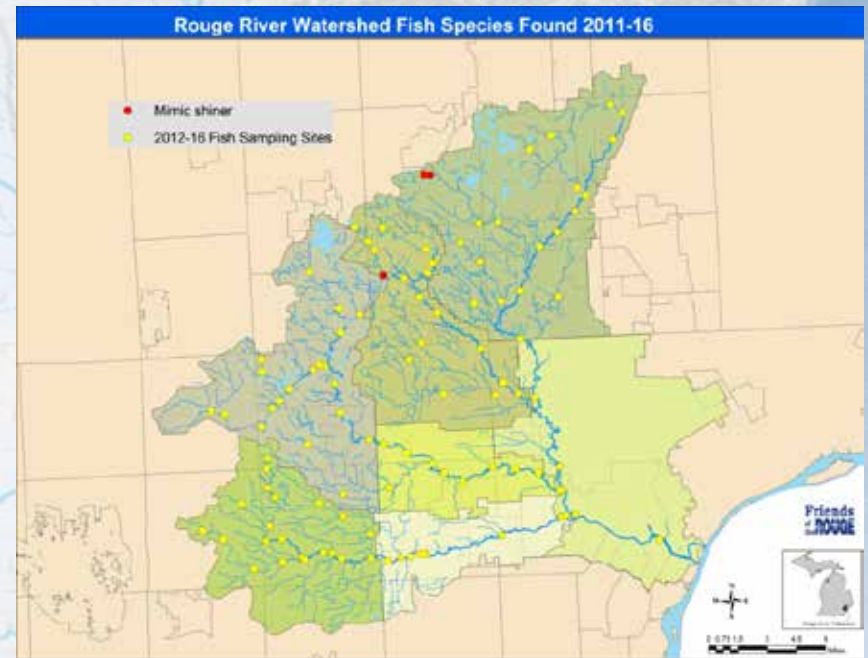
Striped shiner (*Luxilus chrysocephalus*)



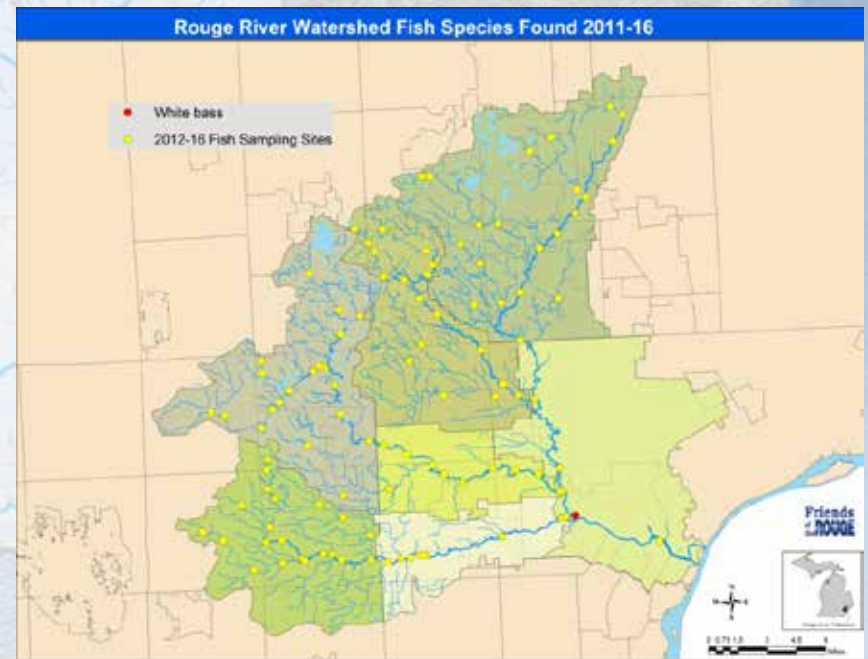
Blacknose shiner (*Notropis heterolepsis*)



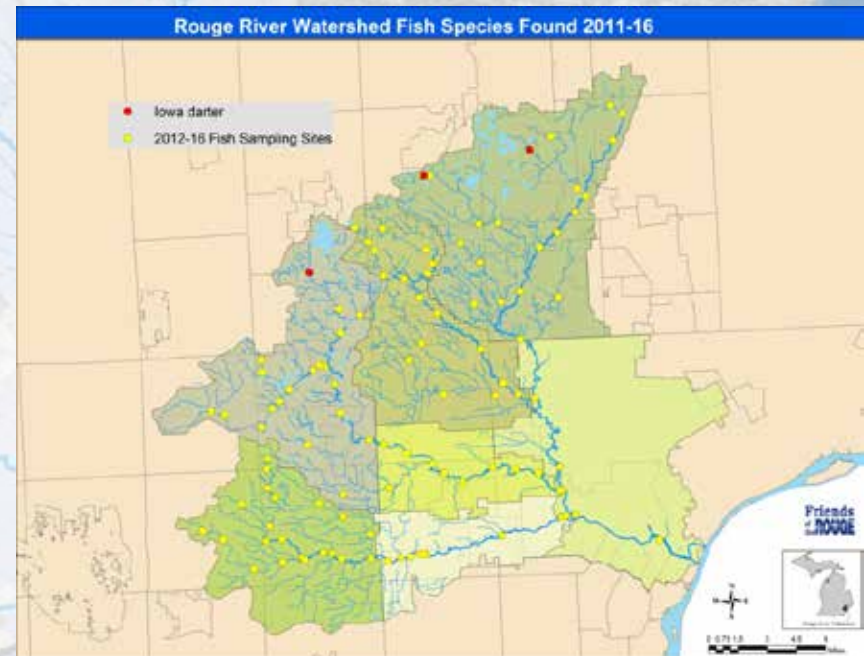
Mimic shiner (*Notropis volucellus*)



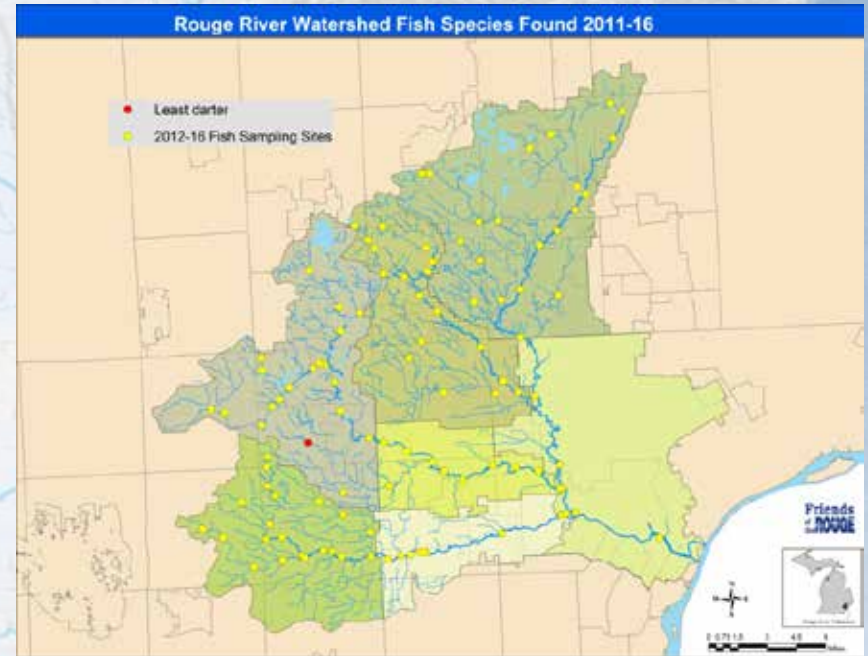
White bass (*Morone chrysops*)



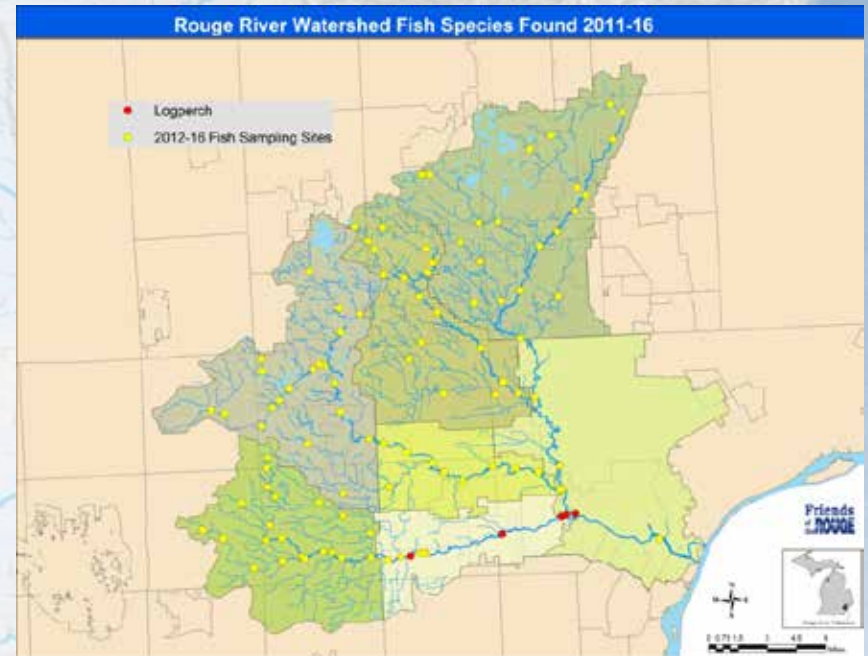
Iowa darter (*Etheostoma exile*)



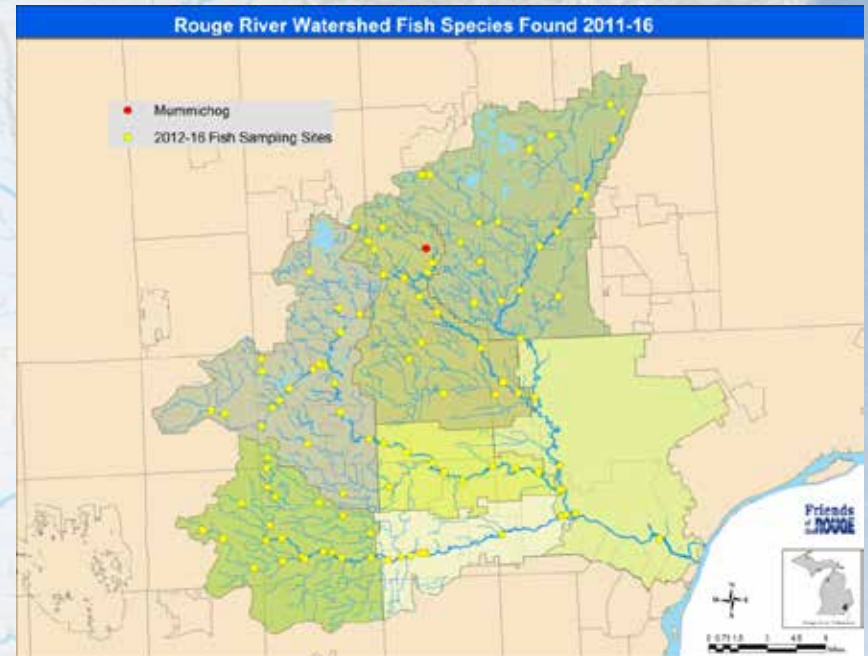
Least darter (*Etheostoma microperca*)



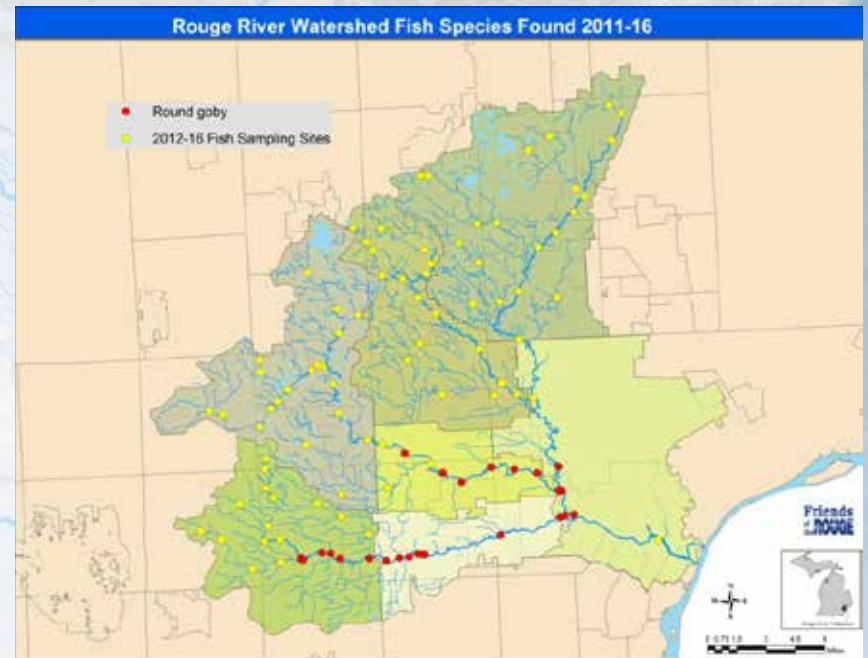
Northern logperch (*Percina caprodes semifasciata*)



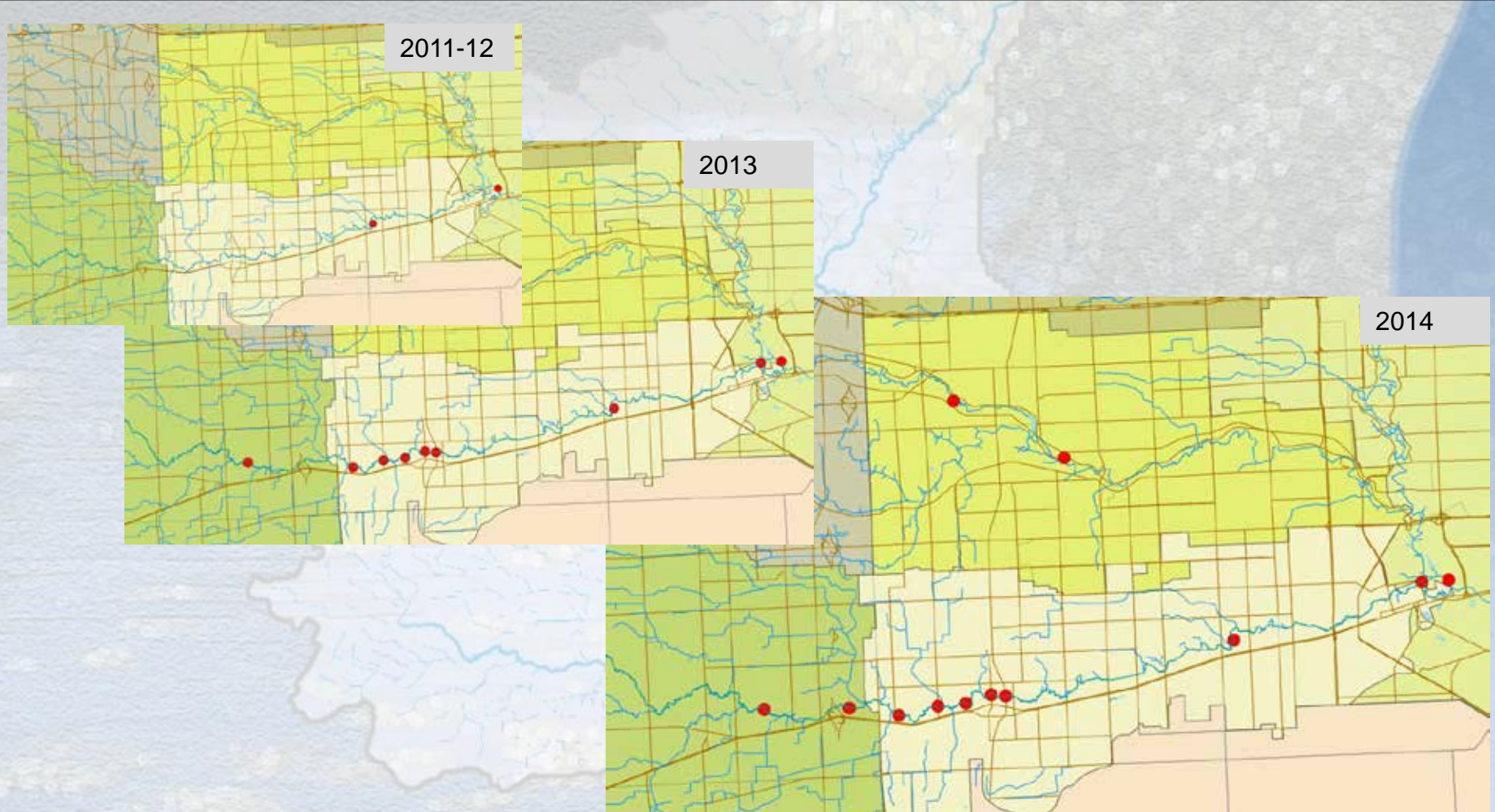
Mummichog (*Fundulus heteroclitus*)



Round goby (*Neogobius melanostomus*)



Round goby (*Neogobius melanostomus*)



Round goby (*Neogobius melanostomus*)



Species Not Found

Native

- ∅ Freshwater drum
- ∅ Longnose gar
- ∅ Redfin shiner
- ∅ Quillback
- ∅ Muskellunge

Non-native

- ∅ *Chinook salmon*

