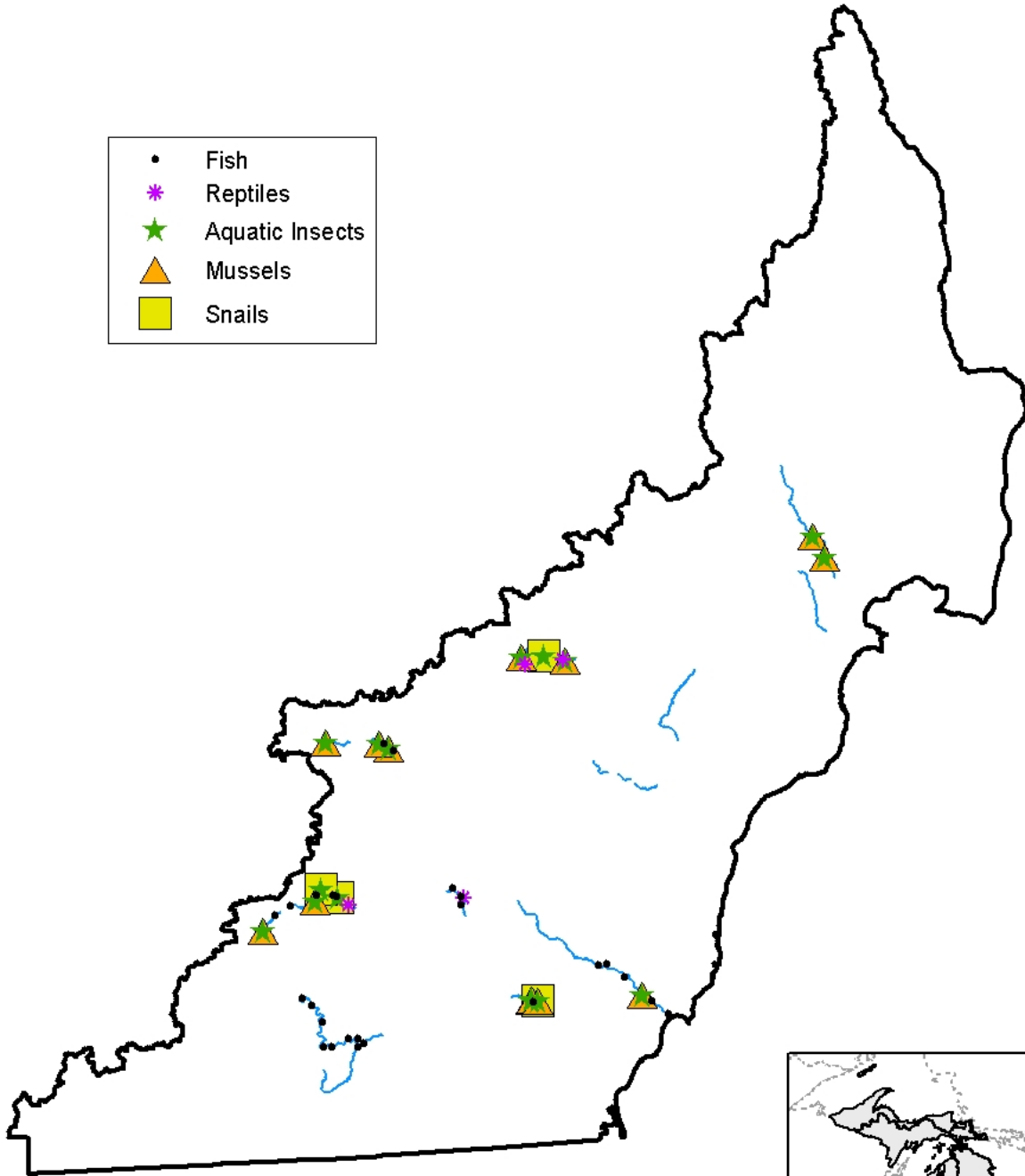


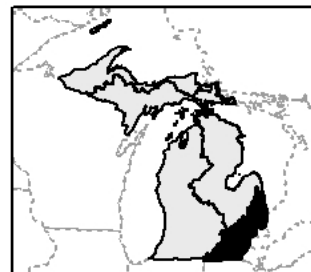
Rivers: Cool medium rivers

- Fish
- * Reptiles
- ★ Aquatic Insects
- ▲ Mussels
- Snails



0 10 20 40 Kilometers

0 5 10 20 Miles



Rivers: Cool Medium Rivers

Description

Medium rivers are wadeable systems that have a midpoint catchment area from 40 to 179 square miles. They are intermediate stream order. Substrate and habitat are variable and more diverse than headwater systems. Cool medium rivers in Michigan are usually runoff-driven with low to moderate baseflow and fair to moderate peak flow, with the exception of a few systems that are groundwater-driven. The majority of these rivers are low gradient and flow through unconfined glacial or alluvial valleys. July weekly mean temperature in cool medium rivers ranges from 19-22°C (66-72°F). These systems are found throughout the Lake Erie basin.

General Condition of Feature

No data available.

Associated Species of Greatest Conservation Need

MUSSELS

rainbow (*Villosa iris*)

SNAILS

Specific associations with this landscape feature were not found in the literature

INSECTS

ocellated damer (*Boyeria grafiana*)

a stonefly (*Isogenoides doratus*)

FISH

mooneye (*Hiodon tergisus*)

striped shiner (*Luxilus chrysocephalus*)

silver shiner (*Notropis photogenis*)

FISH cont.

spotted sucker (*Minytrema melanops*)

black rehorse (*Moxostoma duquesnei*)

golden rehorse (*Moxostoma erythrurum*)

brown bullhead (*Ameiurus nebulosus*)

stonecat (*Noturus flavus*)

eastern sand darter (*Ammocrypta pellucida*)

fantail darter (*Etheostoma flabellare*)

REPTILES

Specific associations with this landscape feature were not found in the literature

Associated threats

MODIFICATION OF NATURAL PROCESSES

- Altered hydrologic regimes: dams; development and impervious surfaces; Altered runoff patterns due to development; Increased runoff due to urbanization; Enclosed streams
- Fragmentation

POLLUTION

- Altered nutrient inflows: Surface runoff - nutrients
- Altered sediment loads: Erosion; Siltation; Sedimentation
- Pesticides and herbicides
- Thermal changes: Altered temperature regime; Impacts due to development
- Urban, municipal, and industrial pollution: road runoff pollutants; Surface runoff - contaminants

HABITAT CONVERSION

- Dams: Altered flows
- Dredging and channelization: Channelization
- Riparian modification: Lack of woody; Loss of floodplain; Development in riparian zones
- Wetland modification: Loss of wetlands (low threat)

BIOLOGICAL INTERACTIONS

- Invasive plants and animals: (low threat)

EDUCATION

- Social attitudes: Lack of understanding by riparian owners

Conservation Actions Needed (Threats addressed)

LAND, WATER & SPECIES MANAGEMENT

- Allow seasonal flooding (altered hydrologic regimes)
- Work with road commissions on maintenance and placement of new bridges (altered hydrologic regimes, altered sediment loads)
- Encourage use of natural materials or soft engineering techniques for any shoreline modification (riparian modification)
- Maintain and rehabilitate natural corridors between significant habitats such as wetlands and other water bodies (fragmentation, riparian modification)
- Maintain or establish riparian buffers to at least 50 ft., but 500 ft. or wider maximizes conservation benefits (altered hydrologic regimes, altered sediment loads, riparian modification)
- Maintain or rehabilitate woody structure (riparian modification)

MICHIGAN'S WILDLIFE ACTION PLAN
AQUATIC SYSTEMS: LAKE ERIE BASIN

- Protect and rehabilitate wetland and floodplain functions (wetland modification)
- Reduce pesticide use (pesticides and herbicides)
- Rehabilitate native flora (riparian modification)

LAW & POLICY

- Continue working with and educating Drain Commissioners (altered hydrologic regimes, altered sediment loads, riparian modification, social attitudes)
- Develop and refine planning and zoning regulations and ordinances (altered hydrologic regimes, altered nutrient inflows, altered sediment loads, riparian modification, wetland modification)
- Encourage Best management practices (altered hydrologic regimes, altered sediment loads, riparian modification)
- Encourage green-space planning (riparian modification)
- Protect existing wetlands and floodplains (altered hydrologic regimes, riparian modification, wetland modification)
- Protect the public trust by requiring dam owners to make appropriate financial provision for future dam removal (dams)
- Remove dams to rehabilitate habitat connectivity (altered hydrologic regimes, dams, fragmentation)
- Remove unnecessary or abandoned stream enclosures and bridges (altered hydrologic regimes)
- Strengthen existing environmental laws (variety of threats)
- Upgrade septic systems (altered nutrient inflows)
- Use sediment barriers and Best management practices during road and stream crossing constructions (altered sediment loads)
- Work with watershed councils (social attitudes)

EDUCATION

- Create awareness of environmental issues (social attitudes)
- Educate legislators, local planning boards, and other policy makers on the importance of natural processes (social attitudes)
- Educate private landowners on the value of riparian areas (riparian modification, social attitudes)
- Educate riparian land owners about the importance of riparian vegetated buffers and the ecological services they provide (altered nutrient inflows, riparian modification)

Research and Survey Needs

- Determine the extent and condition of cool medium rivers in the basin
- Determine effective ways to educate the public on stewardship issues
- Inventory dams and determine those which are no longer needed
- Inventory septic systems and their condition
- Determine life history strategies of SGCN where this information is lacking
- Model hydrologic flows

Monitoring

- Indicator species
- Industrial effluent
- Municipal wastewater treatment plans
- Riparian development
- Road crossings
- Storm water flows
- Stream modification