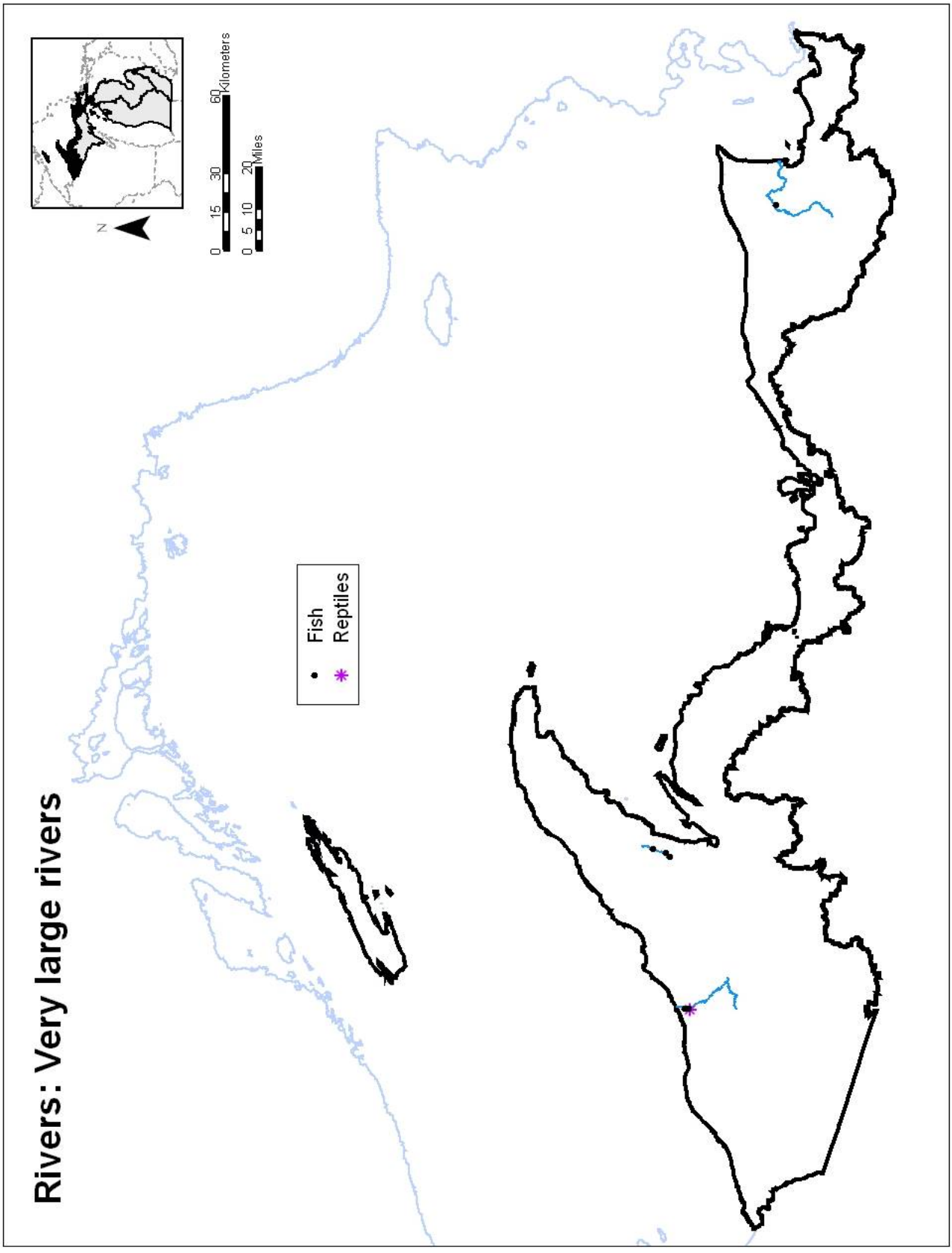
Rivers: Very large rivers
Fish
Reptiles
0 15 30 60 Kilometers
0 5 10 20 Miles
N

Rivers: Very Large Rivers

Description

Very large rivers are those systems that have a midpoint catchment area greater than 620 square miles. Very large rivers are high stream order systems that are typically unwadeable. They include runoff and groundwater-driven systems that encompass a variety of thermal regimes from cool to warm. Most are low or moderate gradient, a few are high gradient. Very large rivers flow through a variety of valley types including confined, sporadically confined, and unconfined glacial valleys and unconfined alluvial valleys.

General Condition of Feature

This habitat is considered 60% in good to excellent condition, 35% in fair condition, and 5% in degraded to very degraded condition.

Associated Species of Greatest Conservation Need

FISH
sauger (*Sander canadensis*)

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

Associated Threats

MODIFICATION OF NATURAL PROCESSES
- Altered hydrologic regimes: Altered flow regime
- Fragmentation: Road/stream crossings (low threat)

POLLUTION
- Altered sediment loads: Sedimentation (low threat)

HABITAT CONVERSION
- Dams
- Dredging and channelization: Channelization (low threat)
- Riparian modifications: Riparian development; Road/stream crossings

BIOLOGICAL INTERACTIONS
- Invasive plants and animals: (low threat)

CONSUMPTIVE BIOLOGICAL RESOURCE USE
- Forestry practices

Conservation Actions Needed (Threats addressed)

LAND & WATER PROTECTION
- Continue to support landowner incentive programs to foster conservation on private land (variety of threats)

LAND, WATER & SPECIES MANAGEMENT
- Maintain or establish riparian buffers of at least 50 ft., but 500 ft. or wider maximizes conservation benefits (altered sediment loads, forestry practices, riparian modifications)
- Maintain or rehabilitate river to original flow path and hydrologic functions, i.e. seasonal flooding, connect meanders, throughflow, wetlands (altered hydrologic regimes)
- Rehabilitate channel diversity where possible (dredging and channelization)
- Soften or remove hard river structures (riparian modifications)

LAW & POLICY
- Assess dam siting to ensure minimal affects and require fish passage both upstream and downstream (dams)
- Continue Natural Rivers planning (variety of threats)
- Continue to work on forest certification endeavors (forestry practices)
- Encourage clustered development rather than evenly spaced home lots (riparian modifications)
- Encourage green space planning (riparian modifications)
- Encourage use of natural materials or soft engineering techniques for any riparian modifications (riparian modifications)
- Enforce the use of sediment barriers and best management practices during road siting, construction, and maintenance (altered sediment loads)
- Impose mitigation practices to minimize logging effects (forestry practices)
- Manage or modify remaining dams to mimic natural river conditions (altered hydrologic regimes, dams)
- Protect and rehabilitate groundwater recharge by requiring that all development-related runoff be captured by infiltration basins (altered hydrologic regimes)
- Protect aquatic resources by screening turbine intakes at operating hydroelectric dams (dams)

- Protect the public trust by requiring dam owners to make appropriate financial provisions for future dam removal or perpetual maintenance (dams)
- Remove dams to rehabilitate natural hydrology, stream and riparian habitat, and habitat connectivity (altered hydrologic regimes, dams)
- Remove lake-level control structures (altered hydrologic regimes, dams)
- Require natural fishways, i.e., rock arch ramps and bypass channels, for both upstream and downstream movements at dams (dams)
- Restrict dredging and channelization activities, especially during spawning and migration seasons and around mussel beds (dredging and channelization)
- Work with local governments to develop and refine planning and zoning regulations and ordinances that consider natural processes (variety of threats)
- Work with local officials on setback and buffer ordinances (riparian modifications)
- Work with road commissions and forest management agencies on placement and maintenance of new road crossings (altered hydrologic regimes)

EDUCATION & AWARENESS

- Continue to educate boaters and other river users on preventing the spread of aquatic invasive species (invasive plants and animals)
- Educate legislators, other policy makers, and the public on the natural processes of large rivers and the value of macrophytes, riparian vegetation, natural shorelines, wetlands, and stewardship issues (variety of threats)

CAPACITY BUILDING

- Support watershed councils

Research and Survey Needs

- Determine stream temperatures in areas where data is lacking
- Determine the number and condition of areas that are disconnected from the river
- Ensure that existing dams operate as run-of-the-river
- Inventory dams and determine those which no longer serve a useful purpose
- Inventory the number and condition of wetlands less than 5 acres
- Inventory stream crossings and address those which are interfering with stream flow
- Model hydrologic flow of each watershed
- Survey sediment loadings and develop strategies to decrease

Monitoring

- Dam operations
- Land use changes
- Riparian modifications
- Stream modification
- Wetland and floodplain modification