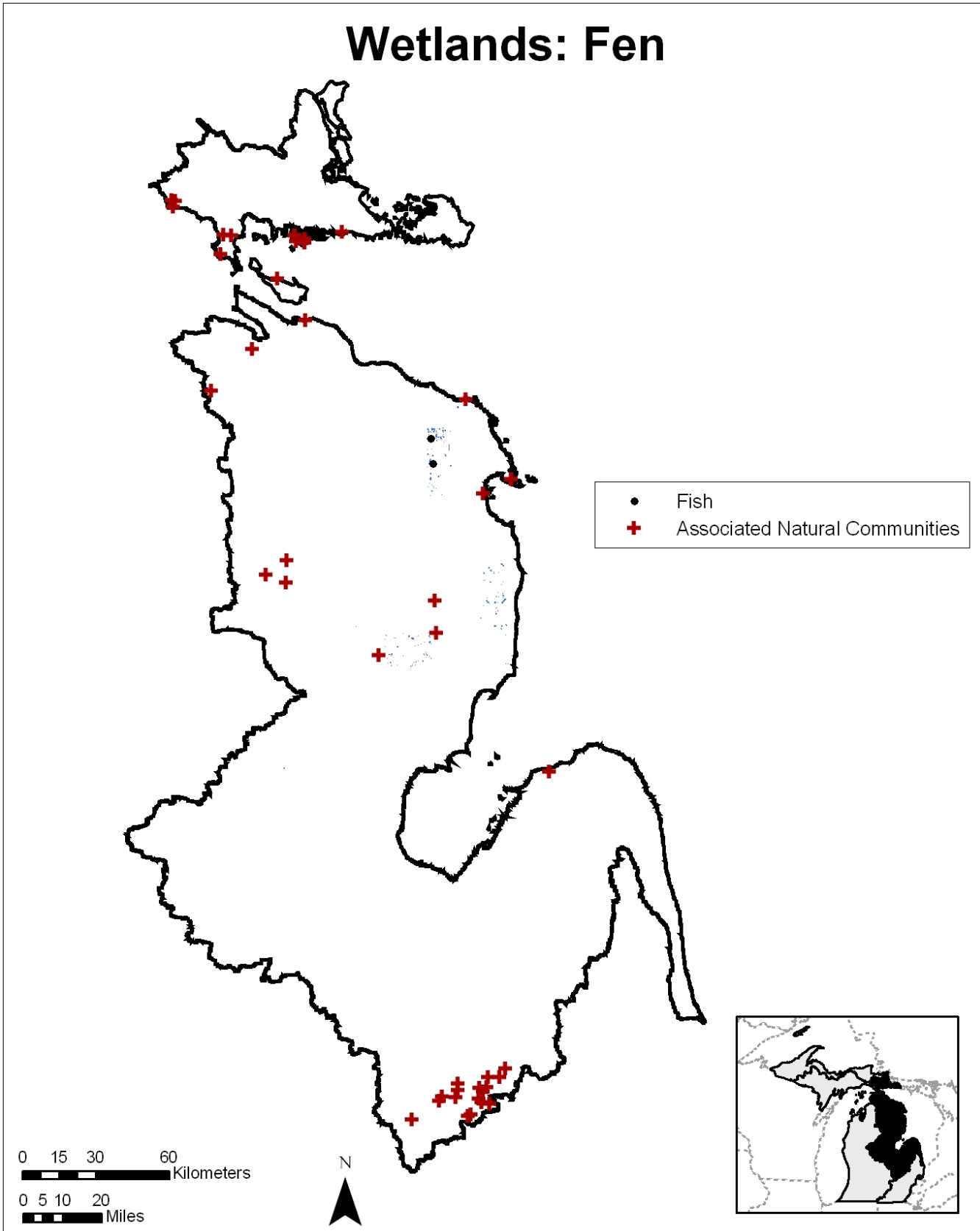


Wetlands: Fen



Wetlands: Fen

Description

Fens are peat-accumulating wetlands that receive much of their water and nutrients from groundwater rich in calcium and magnesium carbonates. Fens tend to have relatively high pH and nutrient levels, hence supporting a great diversity of grasses, sedges (*Carex sp.*), rushes (*Juncus sp.*), and wildflowers. Open conditions are maintained by seasonal water fluctuations, fire, and beaver-flooding.

General Condition of Feature

This habitat is considered 50% in good to excellent condition, 20% in fair condition, and 30% in degraded to very degraded condition.

Associated Natural Communities

Prairie Fen
Northern Fen

Patterned Fen
Poor Fen

Associated Species of Greatest Conservation Need

INSECTS

muskeg damer (*Aeshna subarctica*)
Hine's emerald dragonfly (*Somatochlora hineana*)
incurvate emerald dragonfly (*Somatochlora incurvata*)
ebony boghaunter (*Williamsonia fletcheri*)
ringed boghaunter (*Williamsonia lintneri*)
Subarctic bluet (*Coenagrion interrogatum*)

AMPHIBIANS

pickerel frog (*Rana palustris*)

FISH

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

REPTILES

spotted turtle (*Clemmys guttata*)
eastern box turtle (*Terrapene carolina carolina*)

Associated Threats

MODIFICATION OF NATURAL PROCESSES

- Altered hydrologic regimes: Hydrologic alterations; Water withdrawal; Altered flow regime
- Altered nutrient inflows: Leaking septic tanks and drain fields are suspected of contributing to increases of invasive species

HABITAT CONVERSION

- Riparian modification: Development of landscape (low threat)
- Wetland modification: Wetland loss; Dredging; Filling

BIOLOGICAL INTERACTIONS

- Invasive plants and animals: (low threat)

Conservation Actions Needed (Threats addressed)

LAND, WATER & SPECIES MANAGEMENT

- Control and prevent non-native vegetation from establishing, fire and manual removal have proved effective (invasive plants and animals, wetland modification)
- Maintain or rehabilitate wide, vegetated riparian buffers of at least 50 ft., but 500 ft. or wider maximizes conservation benefits (altered hydrologic regimes, altered nutrient inflows, riparian modification)
- Protect high-quality fens and rehabilitate degraded fens (wetland modification)

LAW & POLICY

- Continue developing and refining planning and zoning regulations and ordinances (all threats)
- Encourage green-space planning (altered hydrologic regimes, riparian modification, wetland modification)
- Encourage townships to separate combined sewer systems (altered nutrient loads)
- Limit water withdrawals (altered hydrologic regimes)
- Protect and rehabilitate groundwater recharge by requiring that all development-related runoff be captured by infiltration basins (altered hydrologic regimes)
- Protect groundwater supplies and levels (altered hydrologic regimes)
- Provide incentives for the use and production of native flora (wetland modification)
- Strengthen wetland regulations and mitigation requirements (wetland modification)
- Upgrade septic systems (altered nutrient loads)

EDUCATION & AWARENESS

- Continue educating legislators, policy makes, and the public on the benefits and ecological services provided by wetlands (all threats)

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

- Continue working with and educating Drain Commissioners (altered hydrologic regimes, altered sediment loads, riparian modification, wetland modification)
- Educate the public on the importance of wide, vegetated riparian buffers (altered hydrologic regimes, altered nutrient loads, riparian modification)

Research and Survey Needs

- Conduct statewide wetlands inventory
- Determine how threats effect vegetative structure, patterns, and species
- Determine fish SGCN and other aquatic species associated this landscape feature
- Determine the amount of abandoned tiled farmland and ways to return it to the original condition
- Identify effective restoration techniques
- Investigate alternatives to water withdrawals and diversions
- Investigate historical frequency of fire disturbance in fens
- Model hydrologic flow of the entire watershed

Monitoring

- Draining and channelization
- Dredging and channelization
- Riparian modification
- Water withdrawals
- Wetland modification