



## Aquatic Characteristic: Clear Water

### Description

Clear water is water that has little particulate matter suspended in the water column and allows large quantities of light to aquatic plants and animals.

### General Condition of Feature

No data available.

### Associated Species of Greatest Conservation Need

#### MUSSELS

- elktoe (*Alasmidonta marginata*)
- slippershell mussel (*Alasmidonta viridis*)
- scaleshell (*Leptodea leptodon*)
- rainbow (*Villosa iris*)
- cylindrical papershell (*Anodontoides ferussacianus*)
- snuffbox (*Epioblasma triquetra*)

#### INSECTS

- rapids clubtail (*Gomphus quadricolor*)
- Hungerford's crawling water beetle (*Brychius hungerfordi*)

#### FISH

- lake sturgeon (*Acipenser fulvescens*)
- mooneye (*Hiodon tergisus*)
- striped shiner (*Luxilus chrysocephalus*)
- river chub (*Nocomis micropogon*)

#### FISH cont.

- pugnose shiner (*Notropis anogenus*)
- lake chubsucker (*Erimyzon sucetta*)
- black redhorse (*Moxostoma duquesnei*)
- stonecat (*Noturus flavus*)
- cisco or lake herring (*Coregonus artedii*)
- kiyi (*Coregonus kiyi*)
- least darter (*Etheostoma microperca*)

#### AMPHIBIANS

- pickerel frog (*Rana palustris*)

#### REPTILES

- wood turtle (*Glyptemys insculpta*)

#### MAMMALS

- water shrew (*Sorex palustris*)

### Associated Threats

#### POLLUTION

- Altered nutrient inflows
- Altered sediment loads: Bank erosion; Erosion; Sedimentation

#### HABITAT CONVERSION

- Dredging and channelization: Dredging; Filling (low threat)
- Riparian modification: Land use practices, exp. unrestricted cattle access (low threat)

#### BIOLOGICAL INTERACTIONS

- Invasive plants and animals: Lack of zebra mussels (low threat)

#### NON-CONSUMPTIVE BIOLOGICAL RESOURCE USE

- Macrophyte removal: (low threat)

### Conservation Actions Needed (Threats addressed)

#### LAND, WATER & SPECIES MANAGEMENT

- Maintain and rehabilitate natural hydrology (altered nutrient inflows, altered sediment loads)
- Maintain or rehabilitate vegetated riparian areas (altered nutrient inflows, altered sediment loads, riparian modification, macrophyte removal)
- Work with road commissions and forest management agencies to fix perched culverts and rehabilitate eroding stream crossings (altered sediment loads)
- Work with road commissions and forest management agencies to site and build effective new stream crossings (altered sediment loads)

#### LAW & POLICY

- Continue developing and refining planning and zoning regulations and ordinances (altered sediment loads, riparian modification)
- Enforce the use of sediment barriers and Best Management Practice's during siting, construction, and maintenance (altered sediment loads)
- Promote green-space planning (altered sediment loads, riparian modification)
- Strengthen environmental laws (all threats)

#### EDUCATION & AWARENESS

- Educate the public on the importance of vegetated riparian buffers and the ecological services they provide (all threats)

### Research and Survey Needs

- Explore alternatives to pesticides and herbicides

- Determine effective prevention, control, and survey techniques for aquatic invasive species
- Determine the condition of clear water in the basin
- Determine unknown life history requirements for SGCN associated with clear water
- Inventory erosion sites within watersheds and conduct remediation activities at those sites

Monitoring

- Aquatic invasive specie
- Beach grooming
- Effluent flows: municipal waste water treatment plants, septic systems
- Erosion sites
- Pesticide and herbicide use
- Riparian modification
- Road crossings
- Sediment loadings