Hennepin County

Wetland Health Evaluation Program
2019

The Wetland Health Evaluation Program (WHEP) is a citizen volunteer wetland monitoring program that is focused on educating the public on wetland ecology and quality issues; as well as, providing local governments with wetland planning information. WHEP is currently active in Dakota and Hennepin counties, with a number of cities sponsoring local monitoring teams. The MPCA was instrumental in developing the WHEP sampling invertebrate and Citizen Plant Wetland Assessment Guide, which were adapted from the depressional wetland Indicies of Biological Integrity (IBI). WHEP is coordinated in Hennepin County by staff in Environment and Energy. For more information please contact:

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Hennepin County Project Partners:

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- **City of Eden Prairie**, Public Works
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- **City of Minnetonka** Natural Resources
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- **Minneapolis Park and Recreation Board**, Environmental Operations Department
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- **Elm Creek Watershed Management Commission**
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- **Pioneer/Sarah Watershed Management Commission**
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- **Shingle Creek Watershed Management Commission**
  Contact: Diane Spector, Wenck and Assoc.
  Team Leader: Megan Howard
- **West Mississippi Watershed Management Commission**
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What is Hennepin County's Wetland Health Evaluation Program (WHEP)? For the past two decades, WHEP has provided a great opportunity for Hennepin County residents to connect with the wetlands in their communities and become advocates for their sustainability.

Watershed management organizations and cities contract with Hennepin County to administer volunteer water quality monitoring programs. WHEP is designed to collect data and provide hands-on environmental education experiences for volunteers. The volunteers use protocols approved by the Minnesota Pollution Control Agency to gather a variety of organisms. Their presence or absence can indicate a possible change in water quality. This biological data is often used to assess the long-term health of water and is complimentary to chemical analysis and other data used to determine water quality.

How is the WHEP data used? The data collected is primarily used by watershed management organizations and cities. Some organizations use the data to communicate to residents about the health of their local water resource. Some organizations have used the data to identify or track impacts of restoration efforts. They may also use the data as a historic catalog of specific organisms that have been collected and identified. For example, the county's program has data going back 17 years on Minnehaha Creek. In many cases, organizations use the data to fulfill the education requirement for storm water management plans.

"Quick glances from the street only provide a very basic assessment of the types of plants that may be present compared to the plot sampling and careful ID work of the WHEP volunteers. Much of the information collected to date has indicated that many of the wetlands that have been examined fare better than expected, have more species than are visible from edge, and may contain some surprises that we would never have been discovered through other means." – *Aaron Schwartz, Natural Resource Specialist, City of Minnetonka*

DATA KEY

INVERTEBRATES

 # Kinds of Leeches

The # of Leeches present in the sample; number is higher in healthier wetlands.

 # Kinds of Odonata

This measures the number of dragonflies and damselflies in a sample. This number is higher in healthier wetlands.

 # ETSD

This metric adds the number of mayfly larvae (Ephemeroptera), caddisfly larvae(Trichoptera), dragonfly presence (D), and fingernail clam presence (Sphaeriidae). This collection is sensitive to pollution.

 # Kinds of Snails

This measures the number of Snails TYPES in the wetland. The higher the number the better quality wetland.

Total Invertebrate Taxa

The total number of invertebrate taxa is the strongest indicators of health in a wetland. This is an overall inventory of invertebrates, the higher the number the better diversity.

VEGETATION

Vascular Genera

This measures the richness or number of different kinds of vascular plants.

Nonvascular Genera This measures the richness or number of different kinds of nonvascular plants such as mosses, liverworts and lichens.

Grasslike Genera This measures the richness of a specific type of vascular plants including grasses, sedges and related genera.

Carex Cover This measures the extent of coverage by member of the genus Carex or sedges. Abundance increases in healthier wetlands.

Utricularia Presence Bladdorwort is a group of carnivorous plants that feed on macroinvertebrates. Its presence suggests a good condition.

Aquatic Guild This metric measures the richness of the aquatic plants which tends to decrease as human disturbance increases.

Persistent Litter This measures the abundance of certain plants whose leaves and stems decompose very slowly. The greater abundance means more nutrients are tide up in undecomposed plants. This will increase with increased disturbance.

SCORING SUMMARY

Invertebrates	**Vegetation**
19 - 25 Excellent	26-35 Excellent
12 - 18 Moderate	16-25 Moderate
5 - 11 Poor	7-15 Poor

Site Summaries

2019 Sites	Notes from City	Invertebrate Community	Vegetation Community
EC-1 Blundell Restoration		19-Excellent	13-Poor
EC-2 Bulduc Restoration	This is a wetland restoration managed by the watershed and Hennepin The data will provide information on the wetland's ongoing status Data will help us track how wetland restorations fare over time	15-Moderate	11-Poor
EC-3 Bulduc Wetland		11-Poor	13-Poor
EC-4 Cedar Hollow	This wetland is in a very urbanized watershed nestled in a maple-basswood forest The area is being developed into a new park system The data will be used to assess the condition of this water resource	11-Poor	11-Poor
EC-5 Northwest Greenway	This is part of a large wetland/floodplain complex that Elm Creek flows through A pedestrian bridge is being built over the creek on north edge of this complex The data will help in determining the impacts of the bridge/trail on this wetland	13-Moderate	17-Moderate

The ratings of "poor", "moderate" and "excellent "as defined by the MPCA provide a verbal description of the overall quality of the wetland. "Poor" quality would indicate the site has poor diversity in its plant and/or invertebrate community. There would also most likely be species present that are tolerant to pollution and human impacts. On the other end of the spectrum, an "excellent" rating indicates a high diversity in plant and/or invertebrate communities with resident species including more sensitive varieties.