

Wetland Health Evaluation Program (WHEP)

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 and is coordinated in Hennepin County by the staff of the Environment and Energy Department. For more information about WHEP, contact Mary Karius, 612-596-9129,

In 2015, 93 volunteers donated 1,067 hours of their time to monitor area wetlands. According to the Independent Sector, the value of volunteer time in Minnesota is \$24.83; therefore, our volunteers contributed more than \$26,000 to monitor, protect and advocate for Hennepin County wetlands.

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.



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. Others 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 stormwater management plans.

DATA KEY

INVERTEBRATES

Kinds of Leeches: The # of leeches present in the sample; number is higher in healthier wetlands

% Corixidae : This measure counts the density and overall % of the sample of corixid bugs which are algae and detritus feeders.

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 snail TYPES in the wetland. The higher the number the better quality wetland.

Total Invertebrate Taxa: The total number of invertebrate taxa is the strongest indicator of health in a wetland. This is an overall inventory of invertebrates, the higher the number the better diversity.

VEGETATION

Vascular Genera: measures the richness or number of different kinds of vascular plants

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

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

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

Utricularia Presence: Bladderwort 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: measures the abundance of certain plants whose leaves and stems decompose very slowly. The greater abundance means more nutrients are tied up in undecomposed plants. This will increase with increased disturbance.

SCORING SUMMARY

MPCA Scale

Hennepin County Grading

| Invertebrates | Vegetation | Invertebrates | Vegetation |
|-----------------|-----------------|---------------|------------|
| 6-14 Poor | 7-15 Poor | 26-30 A | 32-35 A |
| 15-22 Moderate | 16-25 Moderate | 21-25 B | 26-31 B |
| 23-30 Excellent | 26-35 Excellent | 16-20 C | 19-25 C |
| | | 11-15 D | 13-18 D |
| | | 6-10 F | 7-12 A |

• *Hennepin County has developed a grading scale to correspond to water quality conditions. These grades allow for a basic understanding of conditions of lakes, wetlands and streams.*

West Mississippi Watershed Wetlands Monitored in 2015

| | Macroinvertebrate | | Vegetation | |
|-----------------------|-------------------|-------|-----------------------------|-------|
| | Score | Grade | Score | Grade |
| BP-1 Env. Preserve | 18/20 Moderate | C/C | 23/27 Moderate/Excellent | C/B |
| BP-7 Zane Sports Park | 8 Poor | F | 17 Moderate | D |
| CH-3 Bartusch Park | 20 Moderate | C | 21 Moderate | C |

West Mississippi Watershed Management Commission
 Contact: Diane Spector, Wenck and Assoc.
 Team Leader: Taylor Hodne

| Metric | BP-1 Env Preserve | BP-7 Zane Sports Park | CH-3 Bartusch Park |
|---------------------------------|-----------------------------|-----------------------------|-----------------------|
| # Kinds of Leeches | 1/1 | 1 | 5 |
| % Corixidae | 5/1 | 3 | 5 |
| # Kinds of Odonata | 1/5 | 1 | 1 |
| # ETSD | 3/3 | 1 | 3 |
| # Kinds of Snails | 3/5 | 1 | 1 |
| Total Invertebrate Taxa | 5/5 | 1 | 5 |
| Invertebrate Totals (30 Max) | 18/20 Moderate/Moderate | 8 Poor | 20 Moderate |
| Vascular Genera | 5/5 | 5 | 5 |
| Nonvascular Genera | 1/5 | 1 | 5 |
| Grasslike Genera | 5/3 | 5 | 3 |
| Carex Cover | 5/5 | 3 | 1 |
| Utricularia Presence | 1/1 | 1 | 1 |
| Aquatic Guild | 3/3 | 1 | 3 |
| Persistent Litter | 3/5 | 1 | 3 |
| Vegetation Totals (35 Max) | 23/27 Moderate/Excellent | 17 Moderate | 21 Moderate |