

2014 Minnesota Wetland Health Evaluation Program

The Wetland Health Evaluation Program (WHEP) is a citizen volunteer wetland monitoring program that focuses 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.



WHEP is coordinated in Hennepin County by staff in Environmental Services. For more information contact Mary Karius, Hennepin County Environment and Energy, 612-596-9129, Mary.Karius@hennepin.us.

In 2014, 119 volunteers donated 1,564 hours of their time to monitor area wetlands. According to the Independent Sector, the value of volunteer time in Minnesota is \$24.31. That equates to more than \$38,000 of volunteer time to monitor, protect and advocate for Hennepin County wetlands.

The Minnesota Pollution Control Agency (MPCA) was instrumental in developing the WHEP sampling invertebrate and Citizen Plant Wetland Assessment Guide, which were adapted from the depressional wetland Indices of Biological Integrity (IBI). Volunteers use protocols approved by the MPCA to gather a variety of organisms. Their presence or absence can indicate a possible change in water quality. This biological data is 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 on Minnehaha Creek going back 17 years. In many cases, organizations use the data to fulfill the education requirement for storm water management plans.

Elm Creek Wetlands Monitored in 2014

	Macroinvertebrate		Vegetation	
	Score	Grade	Score	Grade
ECP-1 Elm Creek Park Preserve (Dayton)	14/Poor	D	15/Poor	D
CHP-1 Crow Hassan Park	16/Moderate	C	27/Excellent	B
CHP-2 Crow Hassan Park	14/Poor	D	27/Excellent	B
CHP-3 Crow Hassan Park	12/Poor	D	19/Moderate	C
Kingswood	16/Moderate	C	25/Moderate	C
Little Flowers Montessori	8/Poor	F	13/Poor	D

Team Leaders: Jen Poate, Christopher Stubbs

Metric	ECP-1 Elm Creek Preserve	CHP-1 Crow Hassan Park	CHP-2 Crow Hassan Park	CHP-3 Crow Hassan Park	Little Flowers Montessori
# Kinds of Leeches	3	3	3	1	1
% Corixidae	5	5	5	3	1
# Kinds of Odonata	1	1	1	1	1
# ETSD	1	1	1	1	1
# Kinds of Snails	1	3	1	3	1
Total Invertebrate Taxa	3	3	3	3	3
Invertebrate Totals (30 Max)	14 Poor	16 Moderate	14 Poor	12 Poor	8 Poor
Vascular Genera	3	3	3	3	5
Nonvascular Genera	1	1	1	1	3
Grasslike Genera	1	5	5	3	3
<i>Carex</i> Cover	1	5	5	5	5
<i>Utricularia</i> Presence	1	5	5	1	1
Aquatic Guild	3	3	3	1	3
Persistent Litter	5	5	5	5	5
Vegetation Totals (35 Max)	15 Poor	27 Excellent	27 Excellent	19 Moderate	25 Moderate

Team Leaders: Abigail Ha

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 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 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