

Minnesota Wetland Health Evaluation Program 2013

WHEP is coordinated in Hennepin County by staff in Environmental Services. For more information please contact: Mary Karius, Hennepin County Environmental Services, 701 4th St. S, Suite 700, Minneapolis, MN, 612-596-9129

Hennepin County Project Partners:

City of Bloomington
City of Eden Prairie
City of Minnetonka
Minneapolis Park and Recreation Board
Elm Creek Watershed Management Commission
Shingle Creek Watershed Management Commission
West Mississippi Watershed Management Commission
Minnesota Pollution Control Agency
Inver Hills Community College

Many times the first question we hear from people is “What do you do with the data?”. Every story is a bit different and each partner has specific questions they ask too. **Aaron Schwartz**, Natural Resource Specialist for the **City of Minnetonka** gives us some insight:

In addition to providing an assessment of the health of local wetlands, WHEP volunteers provide information that generally would not be available to those that make decisions about how these valued resources are managed and protected. The data collected not only provides an index but also catalogs the species (by genus) of plants and inverts found in the wetland at the time of the site visit. This data along with drawings and anecdotal information creates a historical record that can be used for comparison in future years. The data collected can also be used to make correlations regarding what may be present in similar wetlands. Collecting water quality data from some specific lakes, creeks, and larger wetlands is fairly common practice in many larger municipalities to help monitor nutrient loading and dissolved solids; however, it is rare that information is collected regarding species found at a site. Most of the information typically gathered regarding wetland ecosystems is focused on determining boundaries, water levels, wetland types, or general plant communities with some attention to rare plant species if known to be present. The WHEP program helps fill in the blanks regarding some of the specifics that residents and decision makers may want to know. How well are our wetlands doing? What are the typical species found in our local wetlands? Information regarding the types of invertebrate species found would not be available if not for the volunteers who participate each year in the program. 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.

One of the other benefits of the WHEP programs is the involvement by residents in collecting and learning about their local wetlands. The information is not just collected, but is collected by the people who may be most directly affected and concerned about the wetlands in their communities. Also, the

volunteers not only get to experience and learn their community’s wetlands but share these experiences and knowledge with other residents. That fact that so many *volunteers have been willing to commit their personal time over the years to the program shows how many people truly value these important resources. It is a great opportunity for community involvement in protecting these resources through learning and direct experience.*

Here is just a **short** list of a few specifics regarding Mtka’s use of the program:

1. Answering residents questions (both general and specific). Is my wetland dead? Should I be concerned that I am not hearing frogs? Is there anything living in the water? What plants are in Minnetonka’s wetlands? What things can I plant in my wetland?
2. Answering questions by decision makers. How are our wetlands doing? How do they compare to other communities? What is growing and living in Minnetonka’s wetlands?
3. Reexamining city management classifications. Should a wetland be upgraded or downgraded? Should we reassess some of these wetlands in the future to see if reclassification is needed?
4. Do we need to look at potential restoration activities in some targeted wetlands that need greater protection due to rare plants or plant communities (or increase protection)? If so, which wetlands? Which wetlands should we examine closer?
5. Will certain know impacts (or improvements to water quality) affect the diversity of species found (especially invertebrates)? Just for example, one wetland was completely drained due to an erosion issue, one wetland received know increases in stormwater input (roof runoff – presumed clean), and one wetland received stormwater improvements.
6. Do wetlands with presumed low plant diversity still have a healthy level of inverts?
7. Are some of the rare wetland species still present?
8. Should we really make assumptions from just a view from the wetland edge? How well does this compare to the WHEP information collected?
9. Does the drought (and low water levels) have an effect on inverts and plants? Do they recover?

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 indicators 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 <i>Carex</i> 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.

DID YOU KNOW? “Bladderwort is an insectivorous and carnivorous species found in aquatic systems in Minnesota. Small bladders are inflated sacs that are triggered to ensnare tiny aquatic organisms. There are 7 bladderwort species in Minnesota.

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

DI D YOU KNOW? In 2013 67 volunteers donated **1,512** hours of their time to WHEP. ONE THOUSAND FIVE HUNDRED TWELVE hours to monitor area wetlands. According to the Independent Sector, the value of volunteer time in Minnesota is \$21.91. Therefore, our volunteers contributed **\$33,127.92** to monitor, protect and advocate for Hennepin County wetlands. **THANK YOU!!!**

Elm Creek Wetlands Monitored in 2013	Macroinvertebrate		Vegetation	
	Score	Grade	Score	Grade
ECP-1 Elm Creek Park Preserve (Dayton)	22/Moderate	B	15/Poor	D
CHP-1 Crow Hassan Park	22/Moderate	B	17/Moderate	D
CHP-2 Crow Hassan Park	26/Excellent	A	17/Moderate	D
CHP-3 Crow Hassan Park	10/Poor	F	20/Moderate	C

Elm Creek Watershed Management Commission
 Contact: Judie Anderson, Richard Brasch Three Rivers Park District
 Team Leader: Jen Poate, Christopher Stubbs

ELM CREEK WATERSHED				
Metric	ECP-1 Elm Creek Preserve	CHP-1 Crow Hassan Park	CHP-2 Crow Hassan Park	CHP-3 Crow Hassan Park
# Kinds of Leeches	5	1	5	1
% Corixidae	5	0	5	5
# Kinds of Odonata	1	1	5	1
# ETSD	5	3	3	1
# Kinds of Snails	1	1	3	1
Total Invertebrate Taxa	5	3	5	1
Invertebrate Totals (30 Max)	22 Moderate B	9 Poor F	26 Excellent A	10 Poor F
Vascular Genera	3	3	3	3
Nonvascular Genera	1	1	1	1
Grasslike Genera	3	3	3	5
<i>Carex</i> Cover	1	1	1	5
<i>Utricularia</i> Presence	1	1	1	1
Aquatic Guild	1	3	3	1
Persistent Litter	5	5	5	5
Vegetation Totals (35 Max)	15 Poor D	17 Moderate C	17 Moderate C	20 Moderate C

As part of a new pilot study and potential new partnership, WHEP volunteers monitored three wetlands for the National Park Services in 2013. Invertebrate communities were collected and vegetation surrounding the sampling site identified. NPS is restoring this complex of wetlands and these results will serve as a baseline for future data collection.

Metric	Spring Wetland A	Library Wetland H	Woodland Wetland D
# Kinds of Leeches	1	1	1
% Corixidae	0	5	1
# Kinds of Odonata	1	1	5
# ETSD	1	1	5
# Kinds of Snails	1	1	3
Total Invertebrate Taxa	3	1	5
Invertebrate Totals (30 Max)	7 Poor F	10 Poor F	20 Moderate C
Vascular Genera	5	5	5
Nonvascular Genera	3	3	3
Grasslike Genera	5	5	5
<i>Carex</i> Cover	1	1	1
<i>Utricularia</i> Presence	1	1	1
Aquatic Guild	1	1	1
Persistent Litter	5	3	3
Vegetation Totals (35 Max)	21 Moderate C	19 Moderate C	19 Moderate C