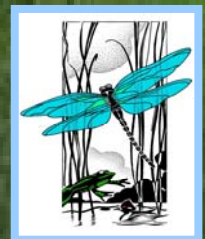


**Minnesota
Wetland Health Evaluation Program
2009**



Hennepin County
Environmental Services





The Minnesota Wetland Health Evaluation Program is coordinated in Hennepin County by the Department of Environmental Services and in Dakota County by the Department of Water Resources.

More information on Minnesota WHEP can be obtained from the website:

www.mnwhep.org

Or by contacting:

Mary Karius
Hennepin County
Environmental Services
417 N. 5th Street, Suite 200
Minneapolis, MN 55401
612-596-9129

Paula Liepold
Dakota County
Water Resources
14955 Galaxie Ave
Apple Valley, MN 55124
952-891-7117



Hennepin County Project Partners:



Minnesota Pollution Control Agency



elm creek Watershed Management Commission



Minneapolis Park & Recreation Board
"playing for life"



Thank You Hennepin County WHEP Volunteers!

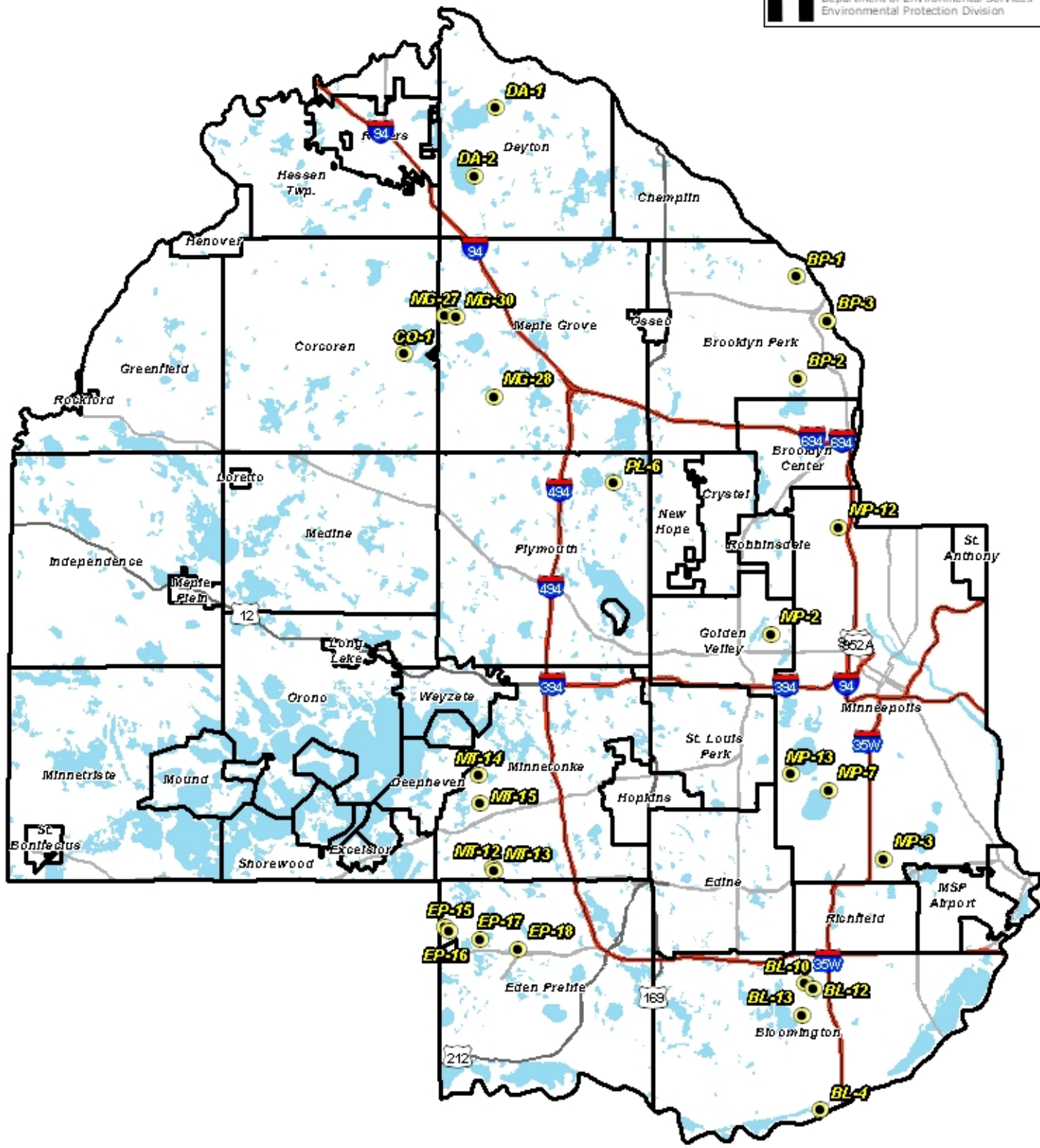
The success of the Wetland Health Evaluation Program (WHEP) would not be possible without the dedication and commitment from our volunteers. Thanks also goes out to our invaluable and fearless monitoring coordinator, Brandon Burns, and all of our team leaders who contribute long hours and passion to this program. Our volunteers contributed more than **1600 hours** to WHEP in 2009 valued at **\$32,624!** Thank you to everyone involved in WHEP!



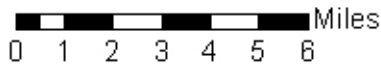


2009 Hennepin County WHEP
Monitoring Coordinator: Brandon Burns




Team	Team Leaders	Sponsors
Bloomington	Leah Darst	City of Bloomington
Eden Prairie	Bret Wagner	City of Eden Prairie
Minneapolis	Ann Journey	Minneapolis Park and Recreation Board
Minnetonka	Bethany Evink	City of Minnetonka
Watershed #1	Jen Poate	Shingle Creek Watershed Management Commission Elm Creek Watershed Management Commission
Watershed #2	Cynthia Ward	Shingle Creek Watershed Management Commission City of Maple Grove
Watershed #3	Kate Frantz	Shingle Creek Watershed Management Commission City of Maple Grove



2009 Hennepin County Wetland Health Evaluation Sites



Legend

-  2009 WHEP Monitoring Sites
-  Municipal Boundaries
-  Public Waters Inventory - DNR

Source Information:

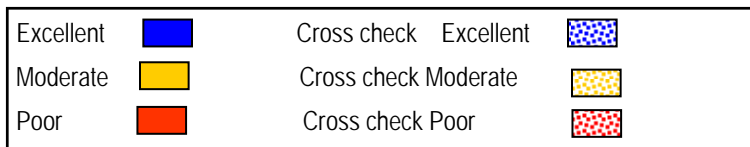
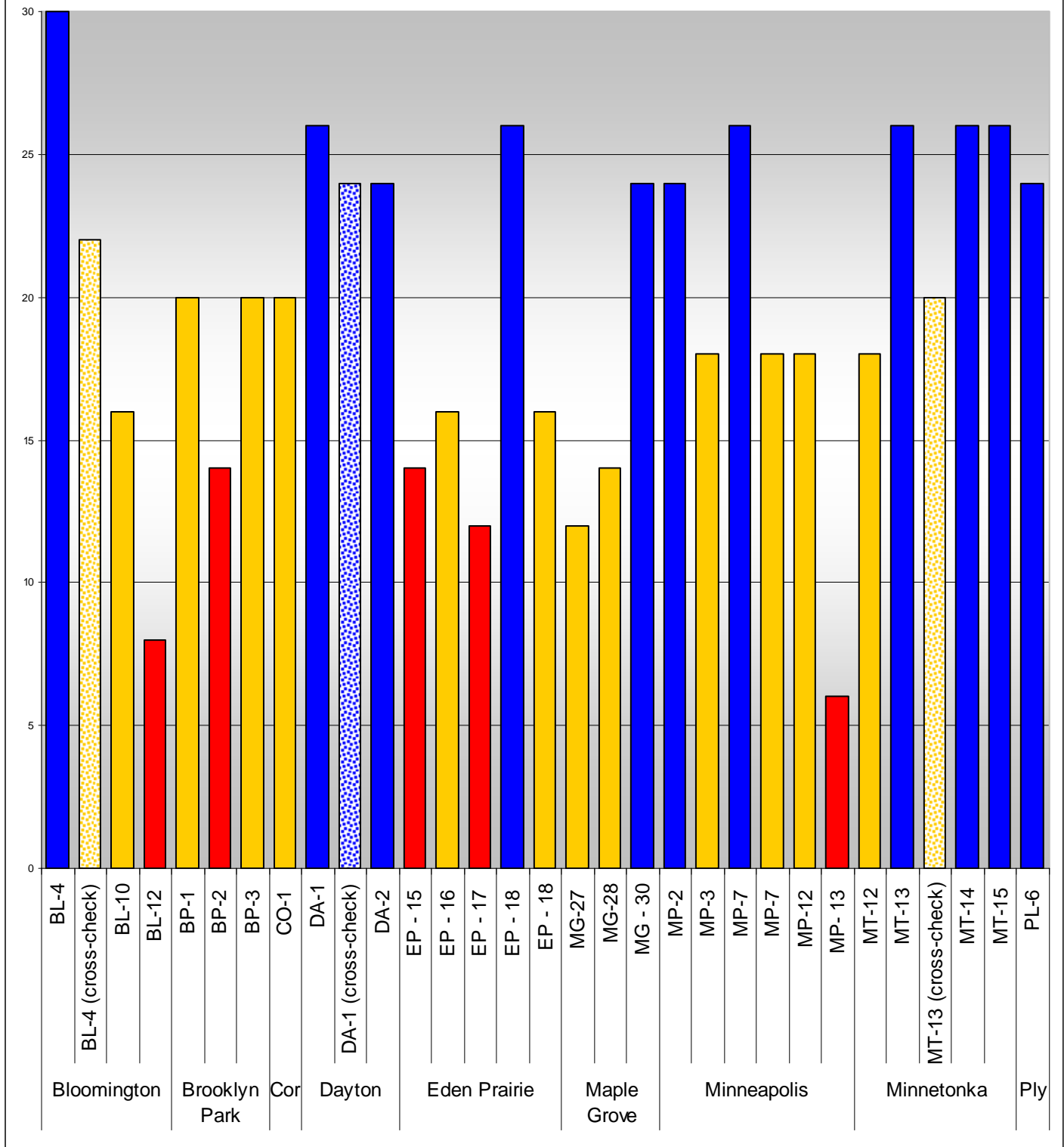
Minnesota Department of Natural Resources
 Hennepin County Tax Payer Services Department
 Hennepin County Survey Department
 Hennepin County Dept. of Environmental Services

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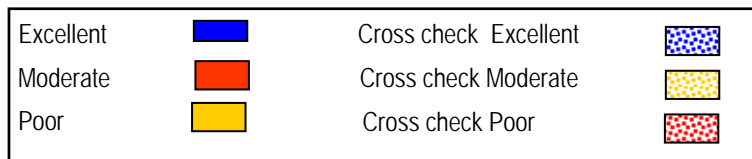
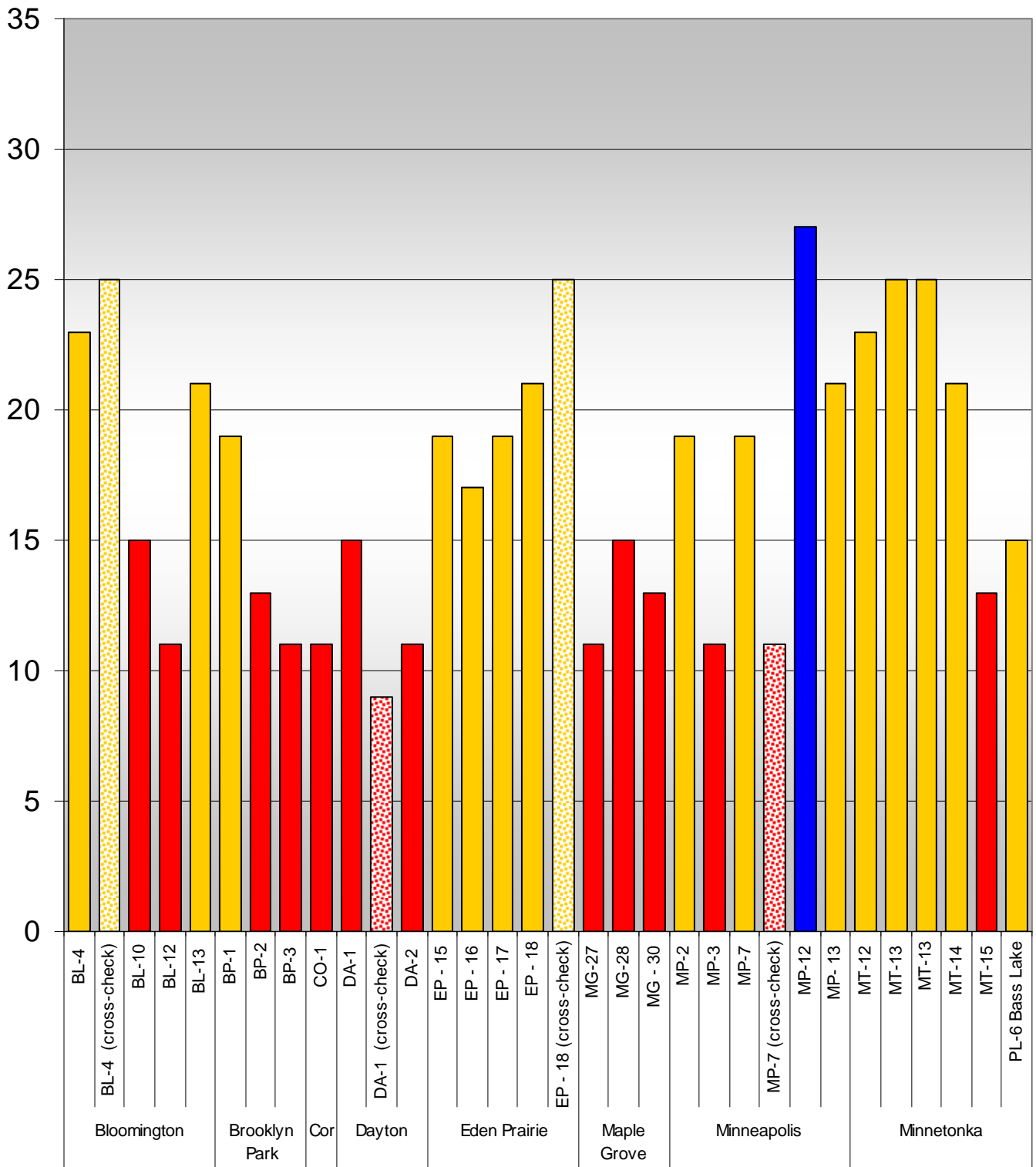
Hennepin County Wetlands Monitored in 2009

	Macroinvertebrate		Vegetation	
	Score	Quality	Score	Quality
Bloomington Team Leader: Leah Darst				
BL-4 Nine Mile Creek	30	Excellent	23	Moderate
BL-4 Nine Mile Creek (cross-check)	22	Moderate	25	Moderate
BL-10 Adelman Pond	16	Moderate	15	Poor
BL-12 Lower Penn Lake	10	Poor	11	Poor
BL-13 Barthell's Pond	X	X	21	Moderate
Eden Prairie Team Leader: Bret Hesla				
EP - 15 Hidden Ponds Park N	12	Poor	19	Moderate
EP - 16 Hidden Ponds Park S	18	Moderate	17	Moderate
EP - 17 Round Lake Park	12	Poor	19	Moderate
EP - 18 Westgate	26	Excellent	21	Moderate
EP - 18 Westgate (cross-check)	16	Moderate	25	Moderate
Minneapolis Team Leader: Ann Journey	Score	Quality	Score	Quality
MP-2 Wirth Golf Course	24	Excellent	19	Moderate
MP-3 Diamond Lake	18	Moderate	11	Poor
MP-7 Robert's Bird Sanctuary	26	Excellent	19	Moderate
MP-7 Robert's Bird Sanctuary (cross-check)	18	Moderate	11	Poor
MP-12 Webber Pond	18	Moderate	27	Excellent
MP- 13 SW Calhoun	6	Poor	21	Moderate
MG - 30_(cross-check)	24	Excellent	13	Poor
Minnetonka Team Leader: Bethany Evink	Score	Quality	Score	Quality
MT-12 Boulder Creek North	18	Moderate	23	Moderate
MT-13 Boulder Creek South	26	Excellent	25	Moderate
MT-13 Boulder Creek South (cross-check)	20	Moderate	25	Moderate
MT-14 Vandan Road	26	Excellent	21	Moderate
MT-15 Saddlewood Drive	26	Excellent	13	Poor
Watershed #1 Team Leader: Jen Poate	Score	Quality	Score	Quality
CO-1 Corcoran City Hall	20	Moderate	11	Poor
DA-1 Engstrom wetland	24	Excellent	15	Poor
DA-1 Engstrom wetland (cross-check)	24	Excellent	9	Poor
DA-2 French Lake	24	Excellent	11	Poor
Watershed #2 Team Leader: Cindy Ward	Score	Quality	Score	Quality
MG-27 Gladstone #1	16	Moderate	11	Poor
MG-28 Nottingham #1	14	Poor	15	Poor
MG - 30_(cross-check)	24	Excellent	13	Poor
Watershed #3 Team Leader: Kate Frantz	Score	Quality	Score	Quality
BP-1 Brooklyn Park Environmental Preserve	20	Moderate	19	Moderate
BP-1 Brooklyn Park Environmental Preserve (cross-check)				
BP-2 Palmer Lake	10	Poor	13	Poor
BP-3 Jewel Park	20	Moderate	11	Poor
PL-6 Bass Lake	24	Excellent	15	Poor

2009 Macroinvertebrate Results

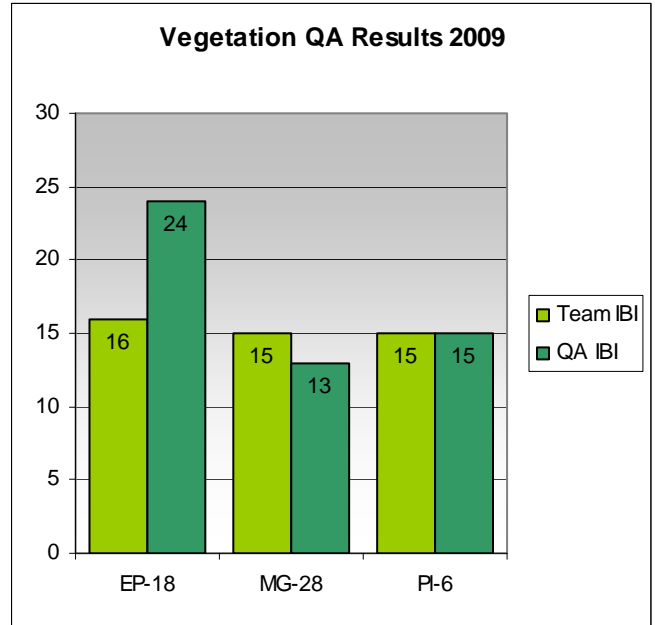
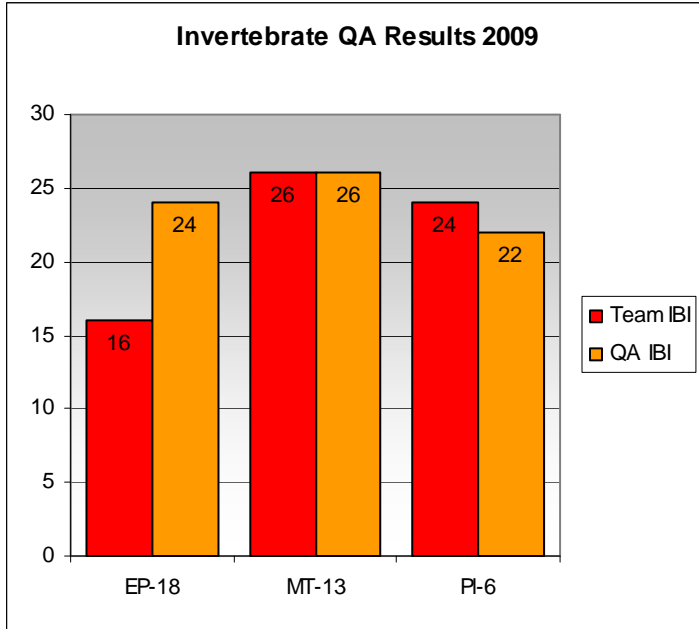


2009 Vegetation Results

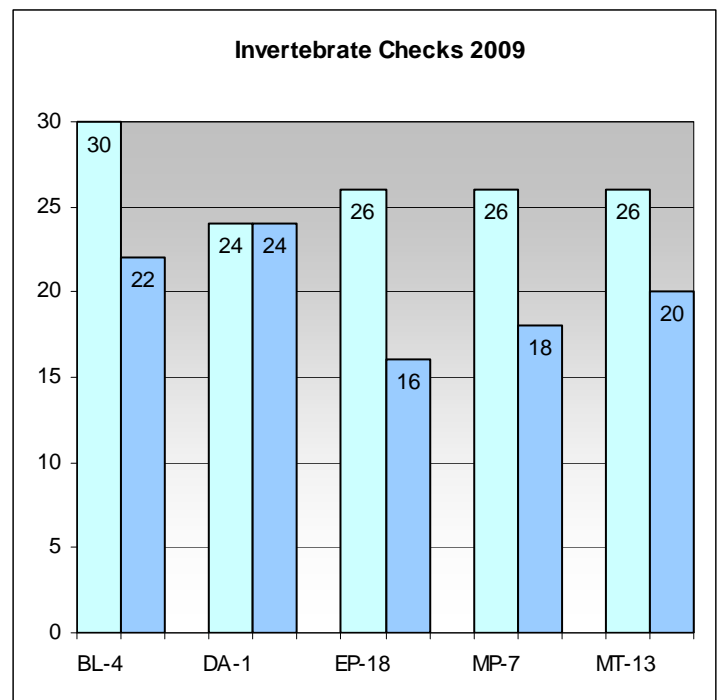
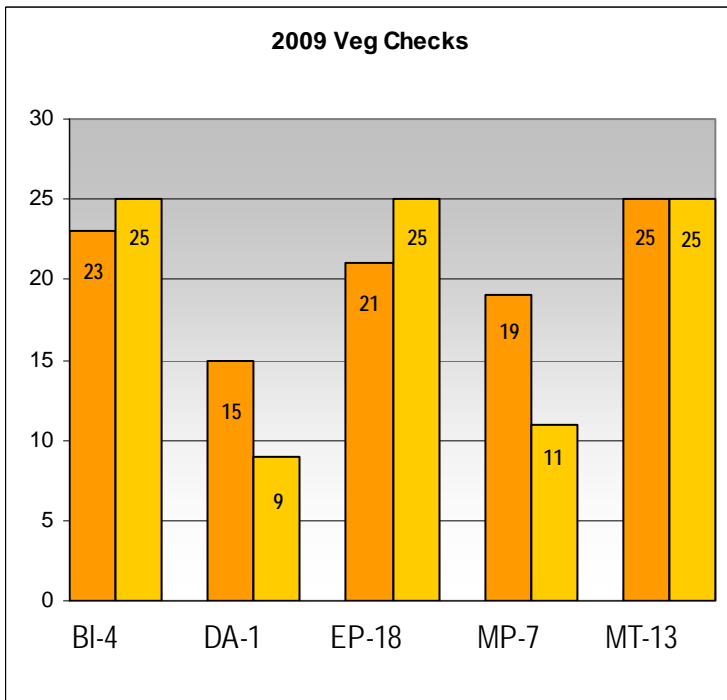


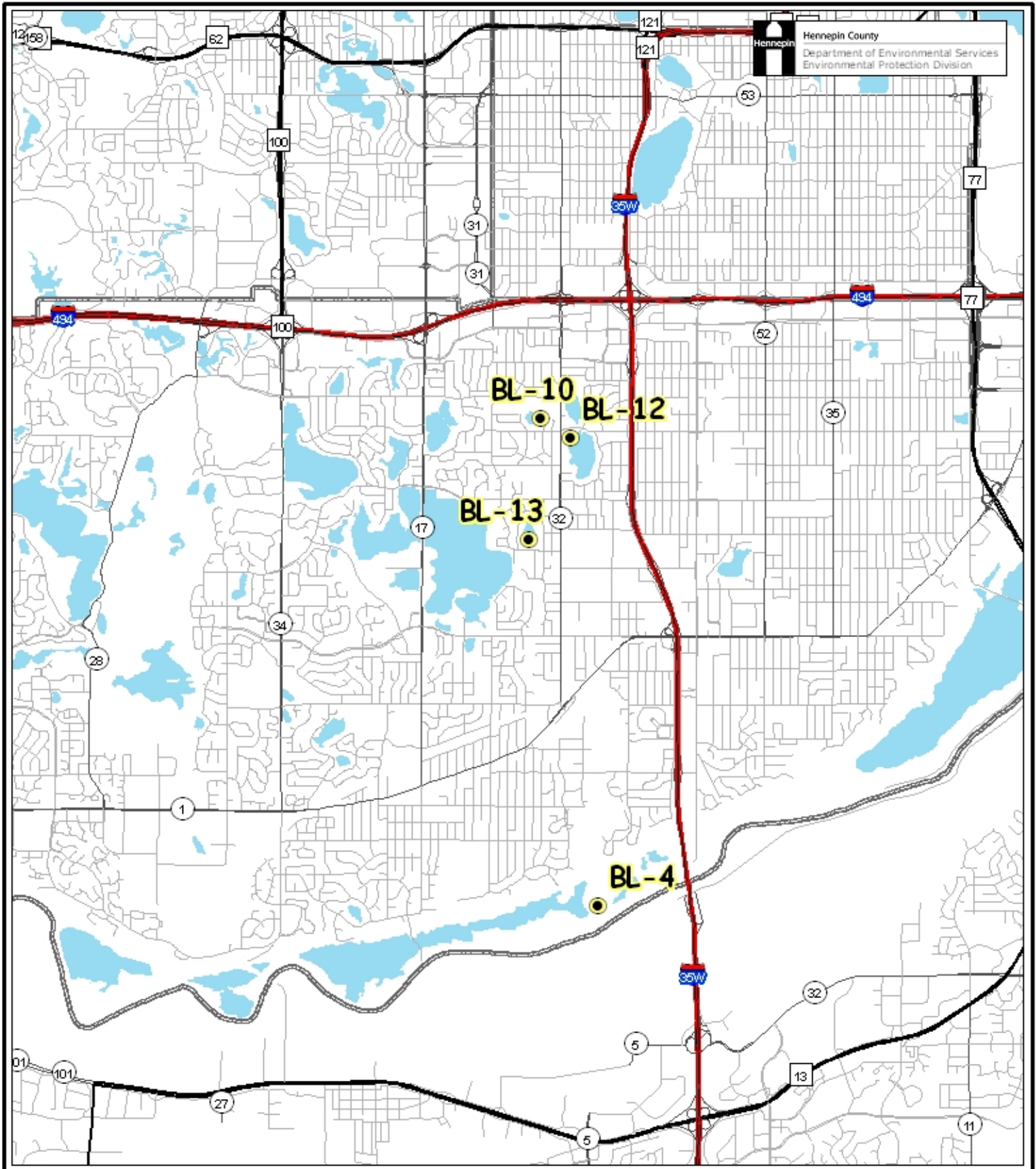


Quality Assurance Checks



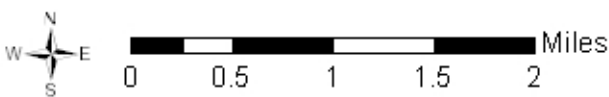
The cross-check data match up quite well with original team data confirming data quality. The quality assurance checks conducted by Hennepin County Environmental Services staff also indicate the results are reliable by scoring well within the margin of error in most cases.





Hennepin County
 Department of Environmental Services
 Environmental Protection Division

**2009 City of Bloomington
 Wetland Health Evaluation Sites**



Legend

- 2009 Monitoring Sites
- Municipal Boundaries
- Public Waters Inventory - DNR

Source Information:
 Minnesota Department of Natural Resources
 Hennepin County Tax Payer Services Department
 Hennepin County Survey Department
 Hennepin County Dept. of Environmental Services

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Bloomington 2009 Metric Scores

Metric	BL-4 Nine Mile	BL-10 Adelmann Pond	BL-12 Lower Penn Lake	BL-13 Barthel's Pond
# Kinds of Leeches	5	3	1	Site chosen after invert sampling window
% Corixidae	5	1	5	
# Kinds of Odonata	5	1	1	
# ETSD	5	5	1	
# Kinds of Snails	5	1	1	
Total Invertebrate Taxa	5	5	1	
Invertebrate Totals (30 Max)	30 Excellent	16 Moderate	10 Poor	
Vascular Genera	5	1	1	3
Nonvascular Genera	3	1	1	3
Grasslike Genera	5	1	1	3
<i>Carex</i> Cover	1	1	1	1
<i>Utricularia</i> Presence	1	1	1	1
Aquatic Guild	5	3	1	1
Persistent Litter	5	1	5	5
Vegetation Totals (35 Max)	23 Moderate	15 Poor	11 Poor	21 Moderate

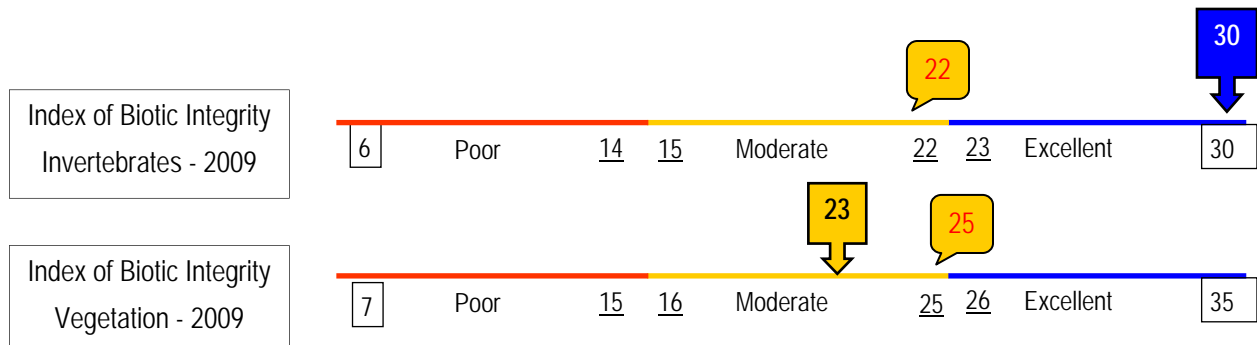


BLOOMINGTON

Site: BL-4

Nine Mile Creek

Site BL-4 is a Type 5 wetland located in Welter's Wildwood Marsh in Bloomington. This wetland is located at the southern border of Bloomington and just north of the Minnesota River adjacent to the Minnesota Valley National Wildlife Refuge. Much of the immediate watershed is natural with hiking trails and park roads. The upper fringe of the wetland includes an extensive wooded floodplain. This is considered a reference site for the city and has been monitored since 2002. This is a high value wetland area in Bloomington of 95 acres that receives minimal impact.



Monitoring Results BL-4								
2002-2009								
Year	2002	2003	2004	2005	2006	2007	2008	2009
Invertebrate	<u>Poor</u>	<u>Moderate</u>	<u>Moderate</u>	<u>Poor</u>	<u>Moderate</u>	<u>Excellent</u>	<u>Moderate</u>	<u>Excellent/ Moderate</u>
Vegetation	<u>Moderate</u>	<u>Moderate</u>	<u>Excellent</u>	<u>Moderate</u>	<u>Moderate</u>	<u>Moderate</u>	<u>Moderate</u>	<u>Moderate/ Moderate</u>

= cross check

Scale	
Excellent	
Moderate	
Poor	

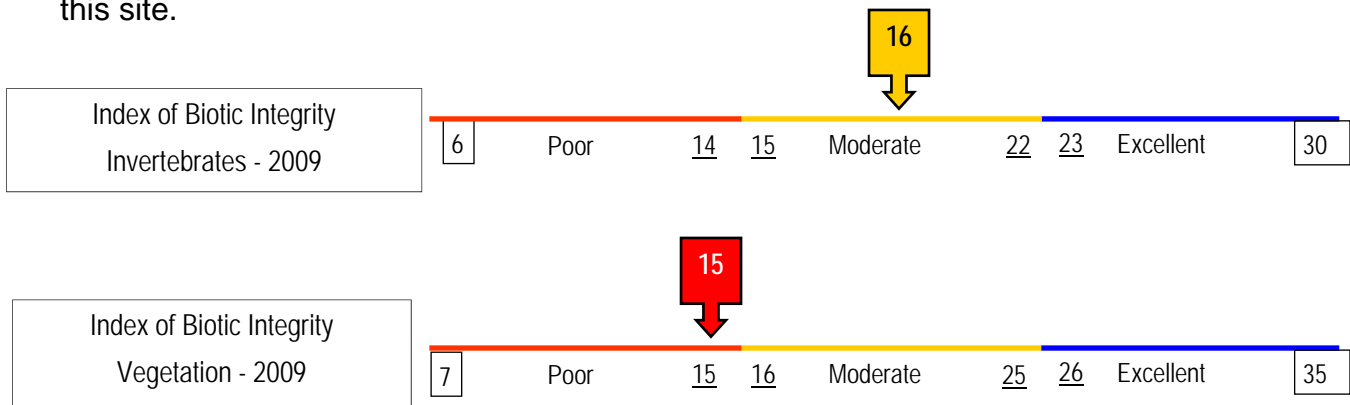


BLOOMINGTON

Site: BL-10

Adelmann Pond

The city is currently in the process of developing a management plan for Lower Penn Lake. Adelmann is connected to Upper Penn Lake by an equalizer pipe that keeps both water bodies at the same elevation. Upper Penn then flows into Lower Penn. Data on Adelmann are used in determining the health of the area and the other lakes connected to it. This site is located near the juncture of Penn Avenue and 84th Street in Bloomington, south of Interstate Highway 494. The wetland lies at the southern edge of the Northwestern Health Sciences University located on 84th Street. This is the third year of monitoring this site.



Monitoring Results BL-10 2007-09			
Year	2007	2008	2009
Invertebrate	<u>Poor</u>	<u>Poor</u>	<u>Moderate</u>
Vegetation	<u>Poor</u>	<u>Poor</u>	<u>Poor</u>

Scale	
Excellent	
Moderate	
Poor	

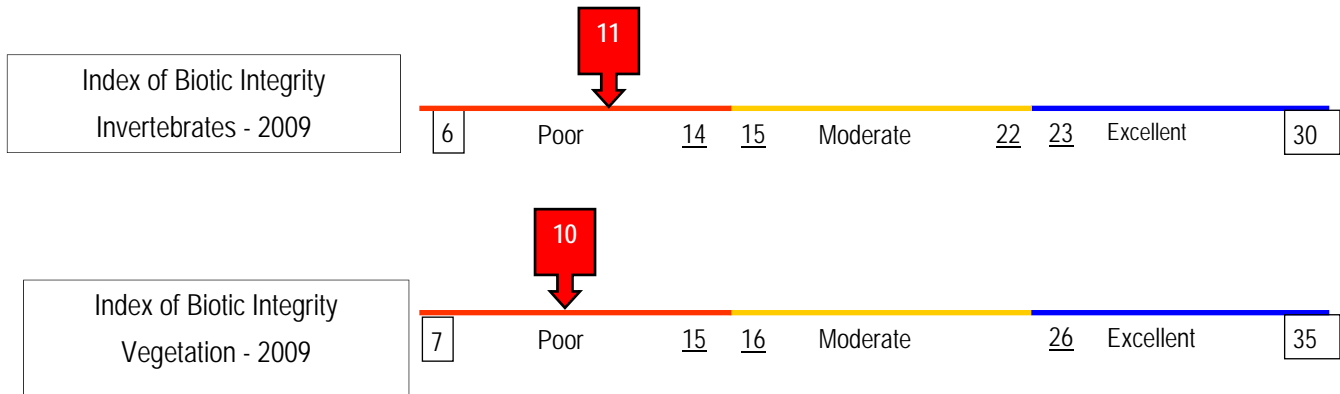


BLOOMINGTON

Site: BL-12

Lower Penn Lake

Lower Penn Lake sits immediately east of the 8600 block of Penn Avenue South. This wetland is 32 1/2 acres and is surrounded on 3 sides by residential homes. Inlets on the north side of Lower Penn include one from Upper Penn Lake. This area is heavily impacted by stormwater and includes drainage from 35W, 494, and the Best Buy campus on Penn and 494. This is the first year of monitoring at this site.



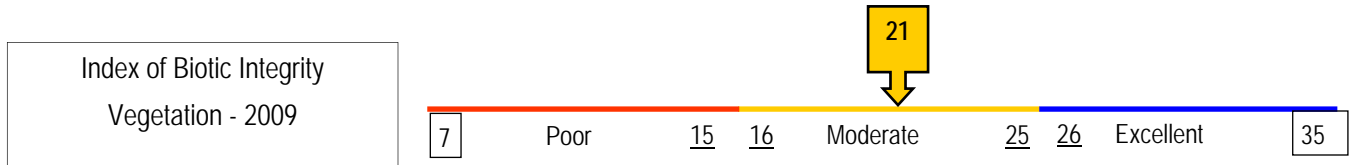
Monitoring Results BL-11	
Year	2009
Invertebrate	<u>Poor</u>
Vegetation	<u>Poor</u>





BLOOMINGTON
 Site: BL-13
 Barthel's Pond

Barthel's Pond was a late addition to the Bloomington site list in 2009. Because the site was added due to safety concerns at the original site, the team was able to collect only the vegetation data. This wetland is a Type 4 that is just over 6 acres in size. The pond is surrounded by residential homes and an elementary school. There are three inlets to this pond and secondary drainage includes Lower Penn Lake. Much of the surrounding lots mow to the pond's edge. 2009 is the first year of monitoring this site.



Monitoring Results BL-13	
Year	2009
Vegetation	<u>Moderate</u>

<u>Scale</u>	
Excellent	
Moderate	
Poor	



Brooklyn Park 2008 Metric Scores

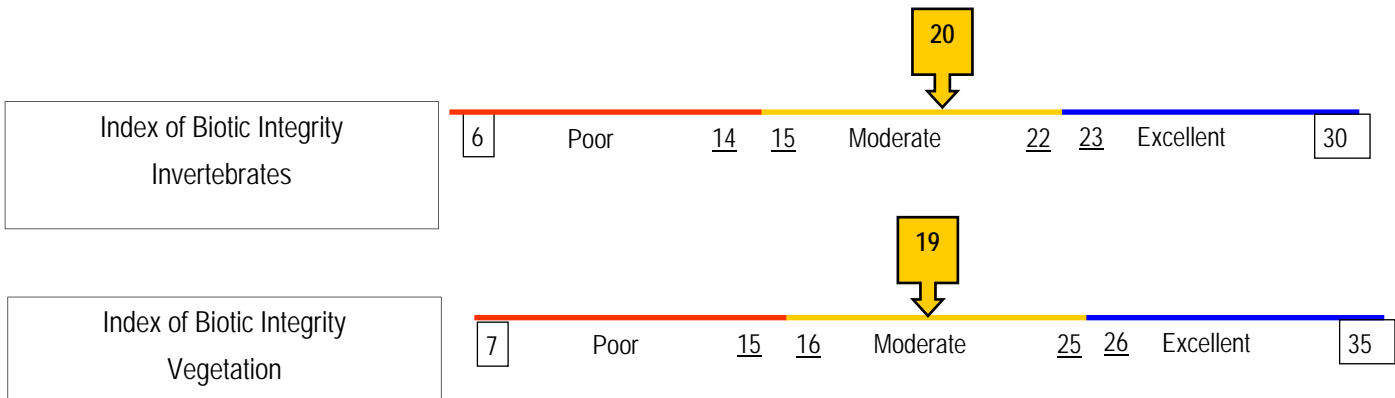
Metric	BP-1	BP-2	BP-3
# Kinds of Leeches	1	1	3
% Corixidae	5	5	5
# Kinds of Odonata	1	1	1
# ETSD	3	1	1
# Kinds of Snails	5	5	5
Total Invertebrate Taxa	5	1	5
Invertebrate Totals (30 Max)	20 Moderate	10 Poor	20 Moderate
Vascular Genera	3	3	3
Nonvascular Genera	1	3	1
Grasslike Genera	3	3	3
<i>Carex</i> Cover	3	1	1
<i>Utricularia</i> Presence	1	1	1
Aquatic Guild	3	1	1
Persistent Litter	5	1	1
Vegetation Totals (35 Max)	19 Moderate	13 Poor	11 Poor





Brooklyn Park Site: BP-1 Environmental Preserve

This site is located across the street from the Coon Rapids Dam on Russell Avenue. It lies within the Brooklyn Park Environmental Area and is surrounded by a mixture of tall grasses, shrubs and large trees. There is high foot and bicycle traffic along this wetland. There is a long gentle slope into the water from the upland area. The bottom is moderately mucky with some solid areas. There is an outlet at the northern edge of the site and an inlet at the southern end. The water level fluctuates significantly.



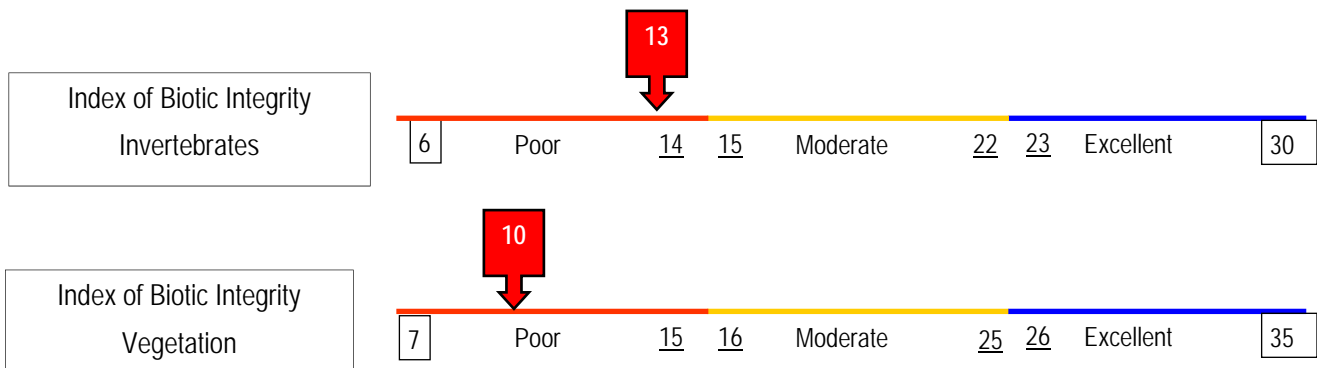
Monitoring Results BP-1				
Year	2006	2007	2008	2009
Invertebrate	<u>Excellent</u>	<u>Moderate</u>	<u>Moderate</u>	<u>Moderate</u>
Vegetation	<u>Poor</u>	<u>Moderate</u>	<u>Moderate</u>	<u>Moderate</u>





Brooklyn Park
Site: BP-2
Palmer Lake

This is the third year of monitoring at BP-2, which is located in Brooklyn Park just north of Brookdale Drive and east of Xerxes Avenue. Approximately half of the open water area is bordered by residential homes and the rest by woods. There is little to no transitional area between the shore and open water. There is a large mudflat surrounding the inlet which extends far beyond the culvert grate. Brookdale Drive storm water empties directly into this wetland. This is the third year of monitoring at this site.



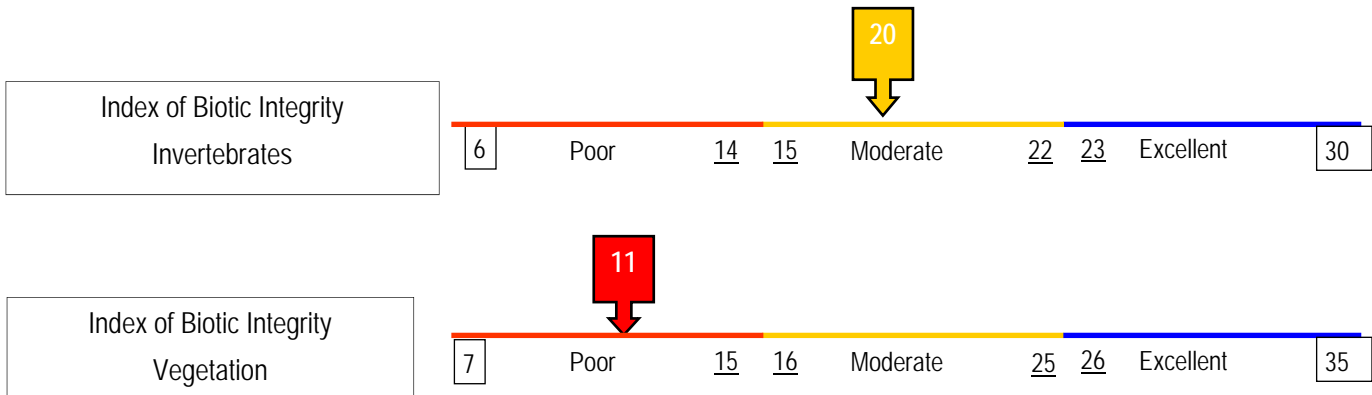
Monitoring Results BP-2 2007-2009			
Year	2007	2008	2009
Invertebrate	<u>Moderate</u> / <u>Poor</u>	<u>Moderate</u>	<u>Poor</u>
Vegetation	<u>Moderate</u> / <u>Poor</u>	<u>Poor</u>	<u>Poor</u>





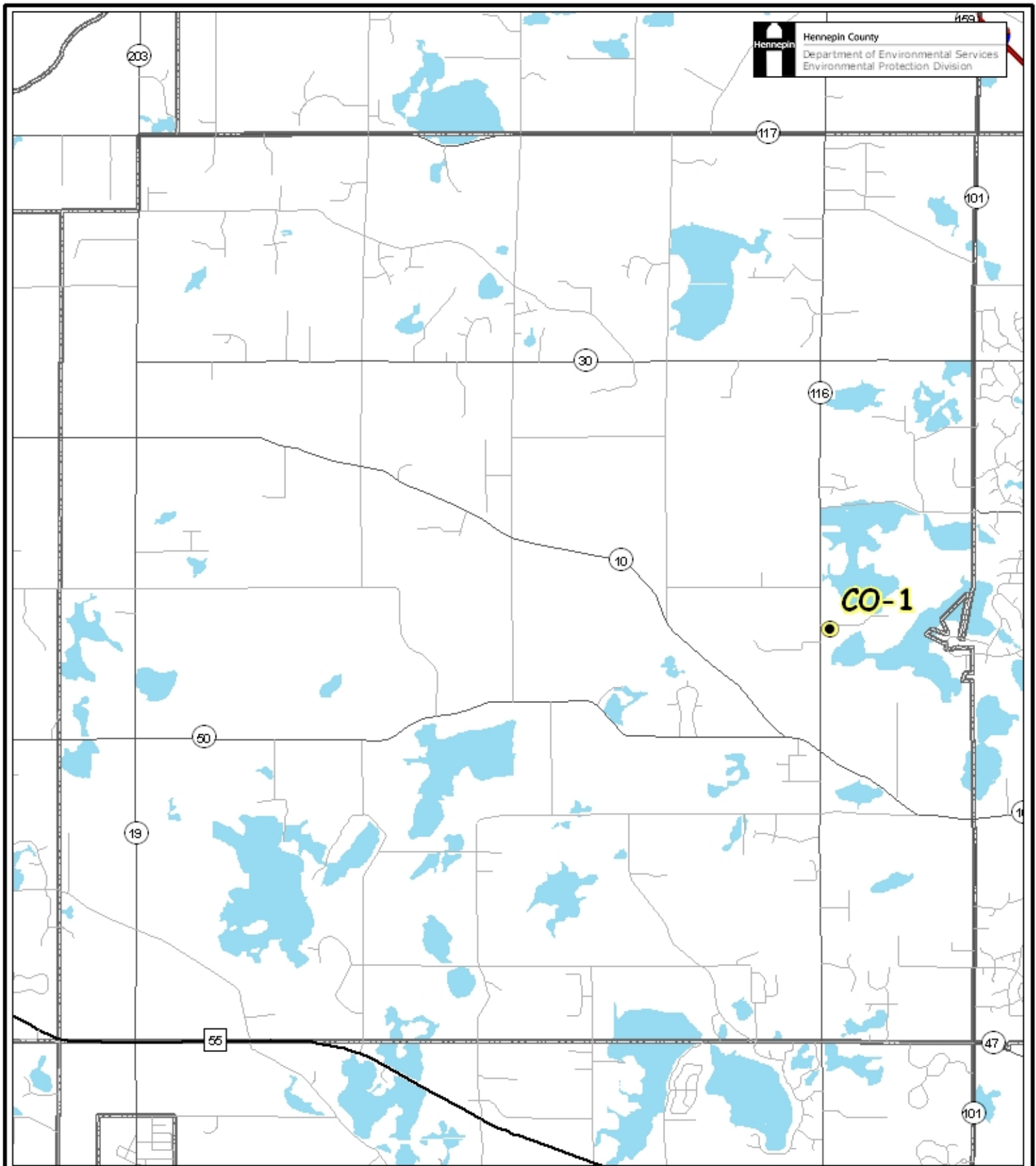
Brooklyn Park
 Site: BP-3
 Jewel Park

The wetland is at the north end of Jewel Park in Brooklyn Park, just west of West River Road and north of 89th Avenue. The area surrounding the wetland is relatively undeveloped with areas of dense vegetation from the park on the west side while home surrounded the wetland on the south, east and north. Jewel Park includes a playground, picnic areas and a designated nature area. Vegetation is dominated by cattails which have choked off most of the standing water except for a shallow center that ranged from 0 to 1/2 meter. This is the second year of monitoring for this site.



Monitoring Results BP-3 2008-09		
Year	2008	2009
Invertebrate	<u>Poor</u>	<u>Moderate</u>
Vegetation	<u>Poor</u>	<u>Poor</u>





Hennepin County
 Department of Environmental Services
 Environmental Protection Division

**2009 City of Corcoran
 Wetland Health Evaluation Sites**

Legend

- 2009 Monitoring Sites
- Municipal Boundaries
- Public Waters Inventory - DNR

Source Information:
 Minnesota Department of Natural Resources
 Hennepin County Tax Payer Services Department
 Hennepin County Survey Department
 Hennepin County Dept. of Environmental Services

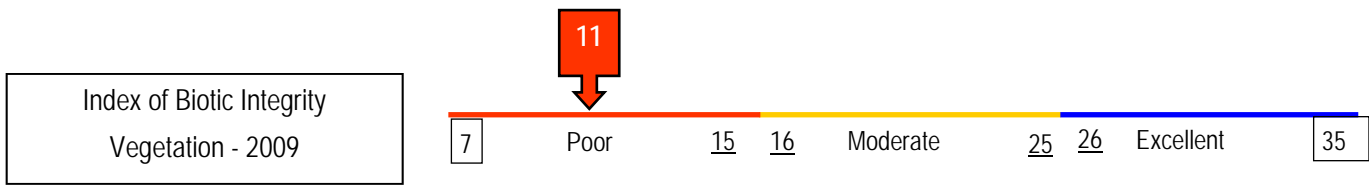
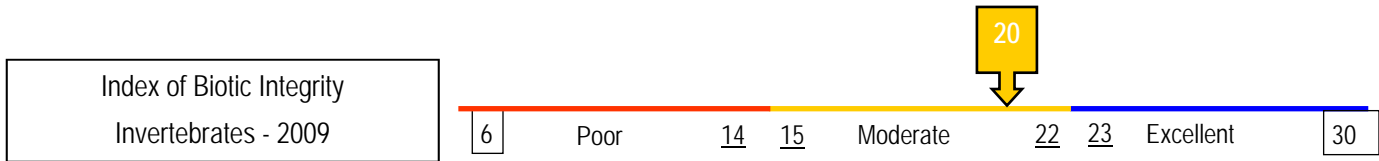
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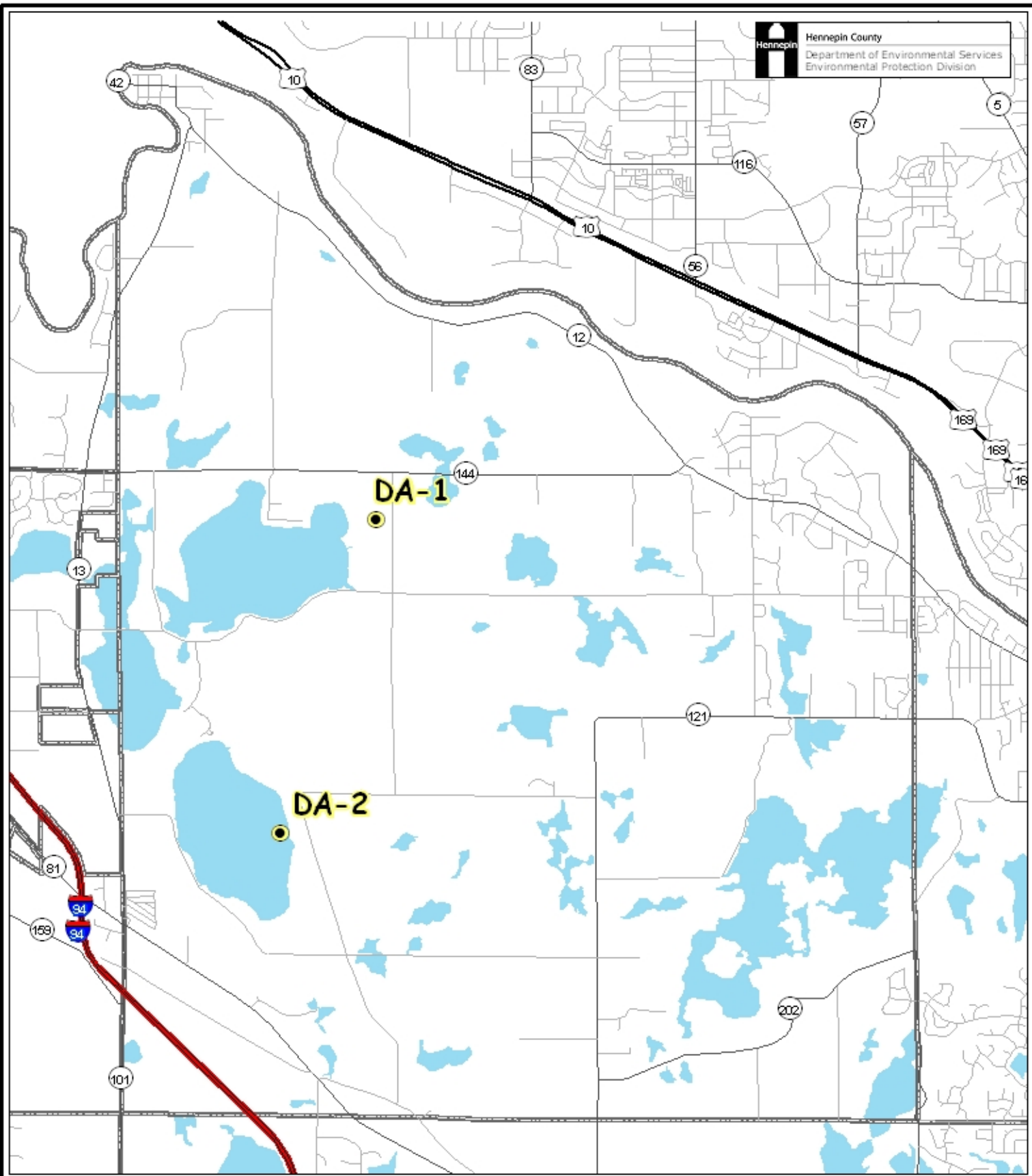
Corcoran
Site: CO-1
Corcoran City Hall

Site CO-1 is located within Corcoran adjacent to the City Hall. The wetland is on the corner of County Highway 116 and Schutte Place. The surrounding landuse includes farming, residential homes, and two small tree groves. Grass is mown right up to the wetland edge on the side of City Hall. Water level was the lowest seen in three years at this site.

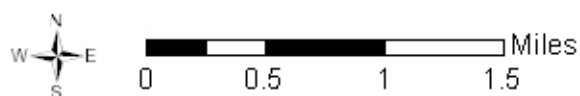


Monitoring Results CO-1 2007-2009			
Year	2007	2008	2009
Invertebrate	<u>Moderate/Moderate</u>	<u>Excellent</u>	<u>Moderate</u>
Vegetation	<u>Poor/Moderate</u>	<u>Poor</u>	<u>Poor</u>








**2009 City of Dayton
Wetland Health Evaluation Sites**



Legend

-  2009 Monitoring Sites
-  Municipal Boundaries
-  Public Waters Inventory - DNR

Source Information:

Minnesota Department of Natural Resources
 Hennepin County Tax Payer Services Department
 Hennepin County Survey Department
 Hennepin County Dept. of Environmental Services

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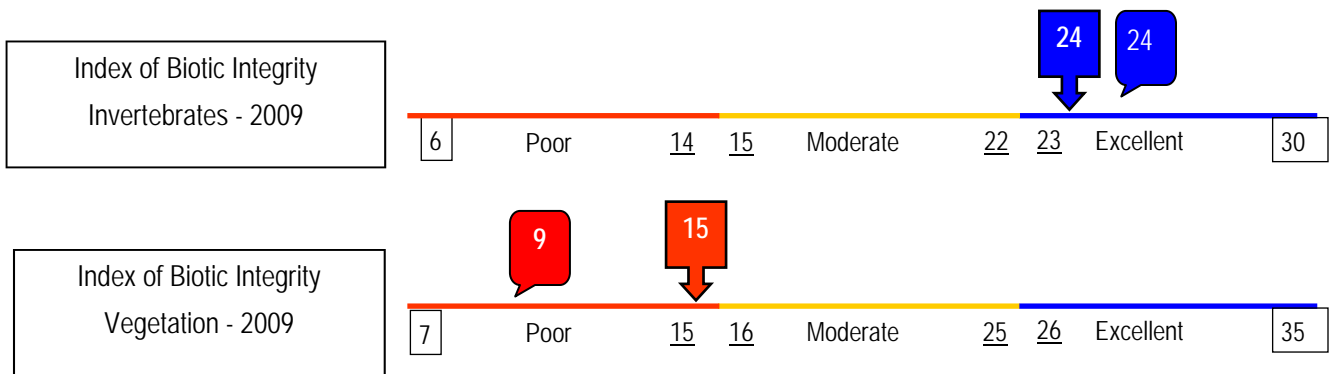
Dayton 2009 Metric Scores

Metric	DA-1	DA-2
# Kinds of Leeches	3	3
% Corixidae	5	3
# Kinds of Odonata	3	5
# ETSD	3	5
# Kinds of Snails	5	3
Total Invertebrate Taxa	5	5
Invertebrate Totals (30 Max)	24 Excellent	24 Excellent
Vascular Genera	3	3
Nonvascular Genera	3	1
Grasslike Genera	3	3
<i>Carex</i> Cover	1	1
<i>Utricularia</i> Presence	1	1
Aquatic Guild	3	1
Persistent Litter	1	1
Vegetation Totals (35 Max)	15 Poor	11 Poor



Dayton Site: DA-1 Engstrom wetland

This is the second year of monitoring at this site in Dayton. This wetland is part of a tract of land that is under a conservation easement through the County. This easement has been in place since 1997. The wetland is surrounded by vegetation with a gradual change from upland to emergent vegetation types. The surrounding area was at one time a farm field but the entire area is now in easement. After the area was placed into easement, the tiling was broken along the southern edge of the wetland. The vegetation continues to rebound after several years in the absence of standing water.



Monitoring Results DA-1 2008-09		
Year	2008	2009
Invertebrate	<u>Excellent</u>	<u>Excellent/Excellent</u>
Vegetation	<u>Poor</u>	<u>Poor/Poor</u>

= cross check

Scale	
Excellent	
Moderate	
Poor	



Dayton
Site: DA-2
French Lake

This site is new in 2009. French Lake is a multiple-acre area that is surrounded by farmland. Access is via DNR boat launch.

Index of Biotic Integrity
Invertebrates

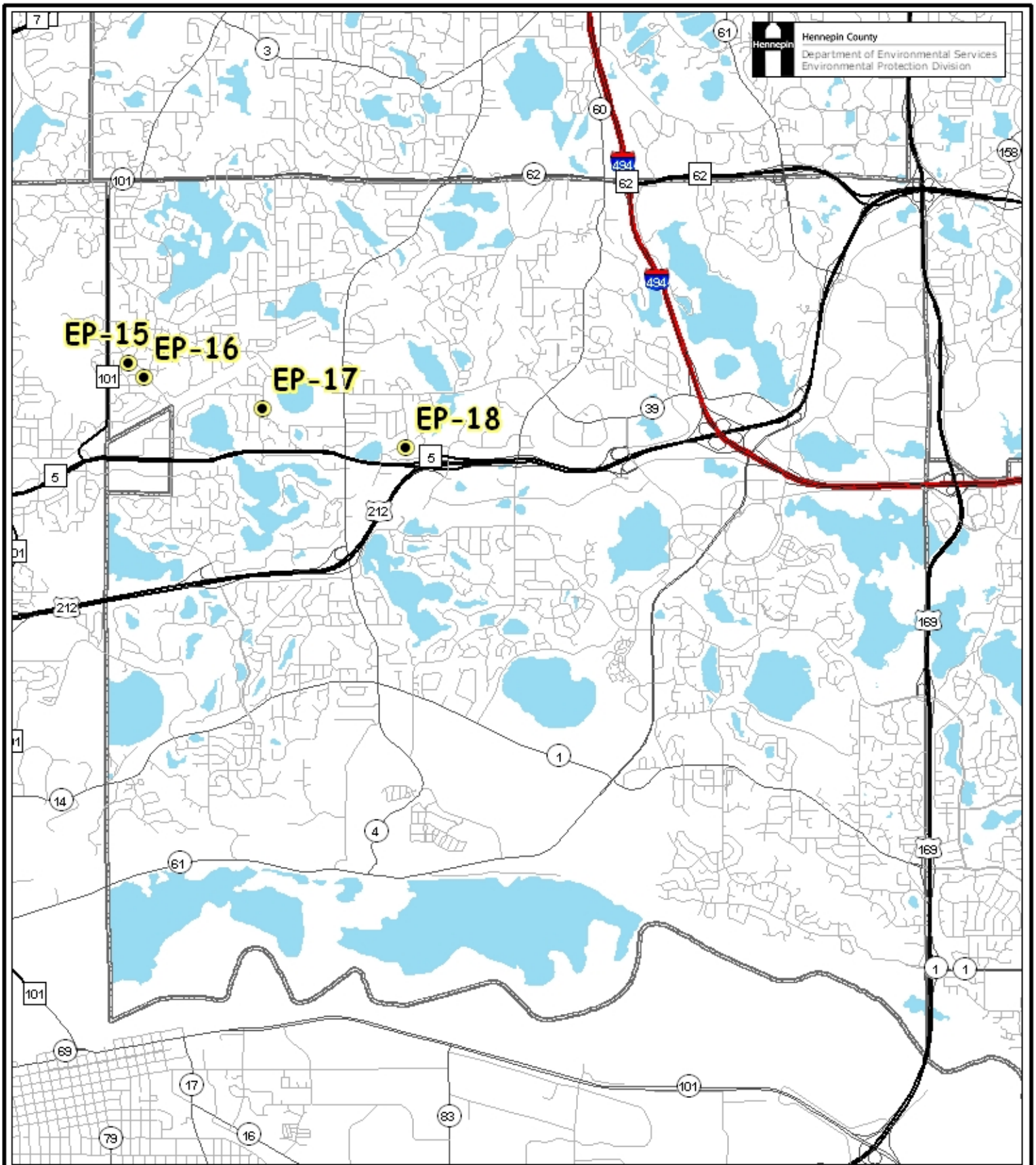


Index of Biotic Integrity
Vegetation



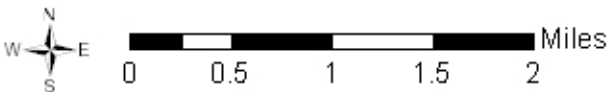
Monitoring Results DA-2	
Year	2009
Invertebrate	<u>Excellent</u>
Vegetation	<u>Poor</u>





Hennepin County
 Department of Environmental Services
 Environmental Protection Division

**2009 City of Eden Prairie
 Wetland Health Evaluation Sites**



Legend

- 2009 Monitoring Sites
- Municipal Boundaries
- Public Waters Inventory - DNR

Source Information:
 Minnesota Department of Natural Resources
 Hennepin County Tax Payer Services Department
 Hennepin County Survey Department
 Hennepin County Dept. of Environmental Services

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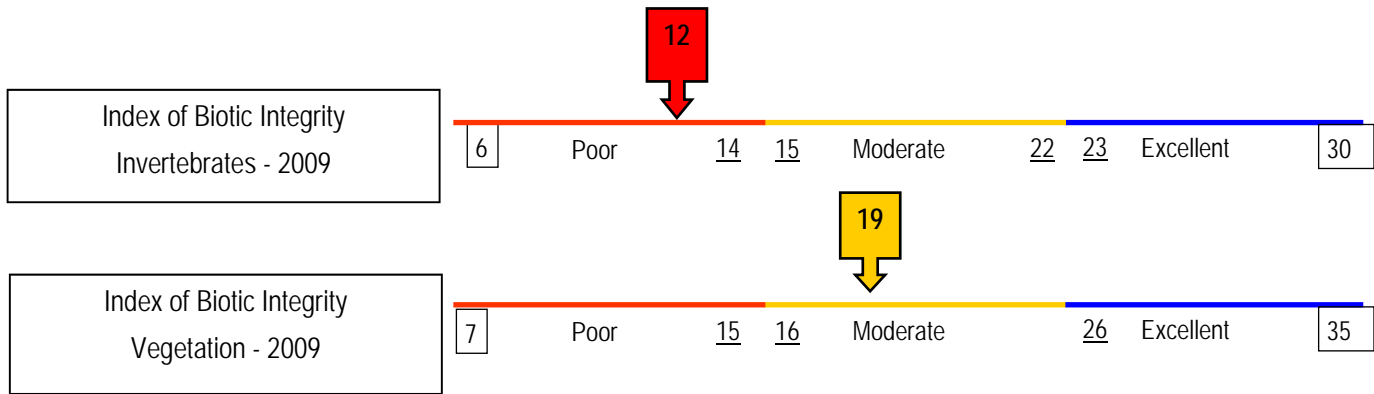
Eden Prairie 2009 Metric Scores

Metric	EP-15 Hidden Ponds Park N	EP-16 Hidden Ponds Park S	EP-17 Round Lake Park	EP-18 Westgate
# Kinds of Leeches	3	3	3	3
% Corixidae	1	1	1	5
# Kinds of Odonata	2	1	1	3
# ETSD	2	3	1	5
# Kinds of Snails	3	5	3	5
Total Invertebrate Taxa	3	5	3	5
Invertebrate Totals (30 Max)	12 Poor	18 Moderate	12 Poor	26 Excellent
Vascular Genera	5	3	3	3
Nonvascular Genera	1	1	3	3
Grasslike Genera	5	3	3	3
<i>Carex</i> Cover	1	1	3	1
<i>Utricularia</i> Presence	1	1	1	1
Aquatic Guild	1	3	1	5
Persistent Litter	5	5	5	5
Vegetation Totals (35 Max)	19 Moderate	17 Moderate	19 Moderate	21 Moderate



Eden Prairie Site: EP-15 Hidden Ponds Park

This wetland is located in Eden Prairie just off of Tartan Curve and Dell Road. This wetland is surrounded by homes and a walking trail that leads to wetland EP-16. Stormwater management is a goal for this wetland and it was dredged in 2007 to eliminate the buildup of sediment. Runoff and sediment depositions continue to be concerns regarding the quality of this wetland.



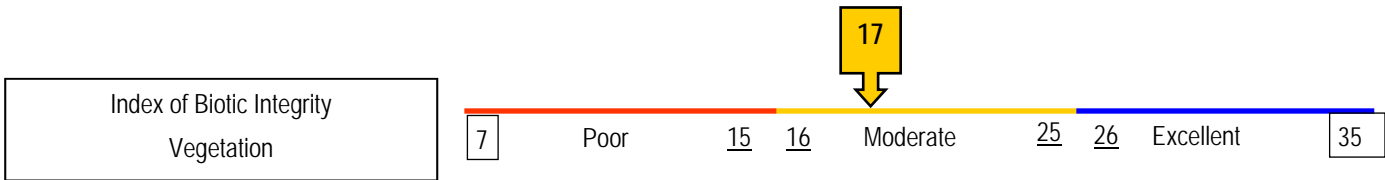
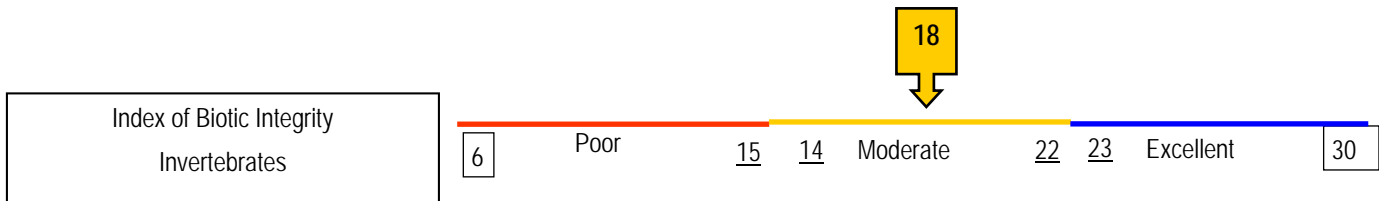
Monitoring Results EP-15	
Year	2009
Invertebrate	<u>Poor</u>
Vegetation	<u>Moderate</u>

Scale	
Excellent	
Moderate	
Poor	



Eden Prairie
 Site: EP-16
 Hidden Ponds Park

This wetland is connected to EP-15 by a walking trail. It too is surrounded by homes and the grass is mown up to the edge of the wetland. The wetland is bordered on the east side by Dell Road. The same concerns affect this wetland, stormwater inflows and sediment deposition. This wetland was dredged in 2007 and 2009 is the first year of monitoring this site.



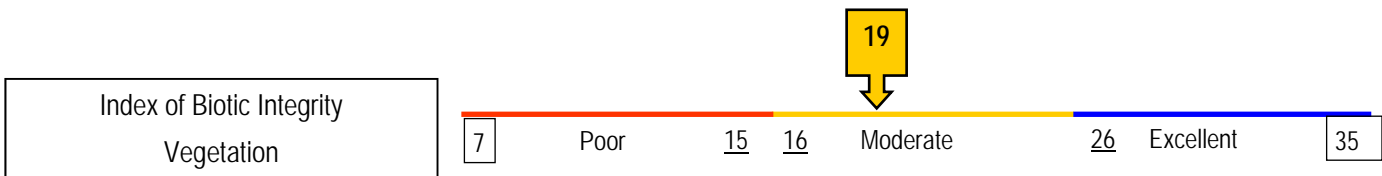
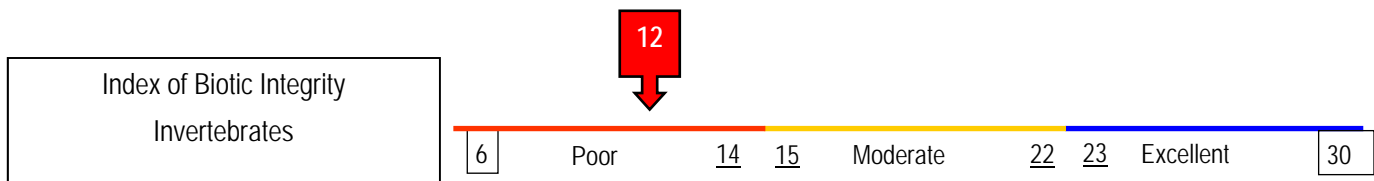
Monitoring Results EP-16	
Year	2009
Invertebrate	<u>Moderate</u>
Vegetation	<u>Moderate</u>





Eden Prairie
 Site: EP-17
 Round Lake Park

This is a very small wetland nestled in a wooded area just SE of Round Lake. Immediate surroundings include trees and shrubs with homes close by. A walking trail access the wetland from the west side. Issues with this wetland include an abundance of garbage and sediment buildup. This wetland may be slated for dredging this winter. This is the first year of monitoring at this site.



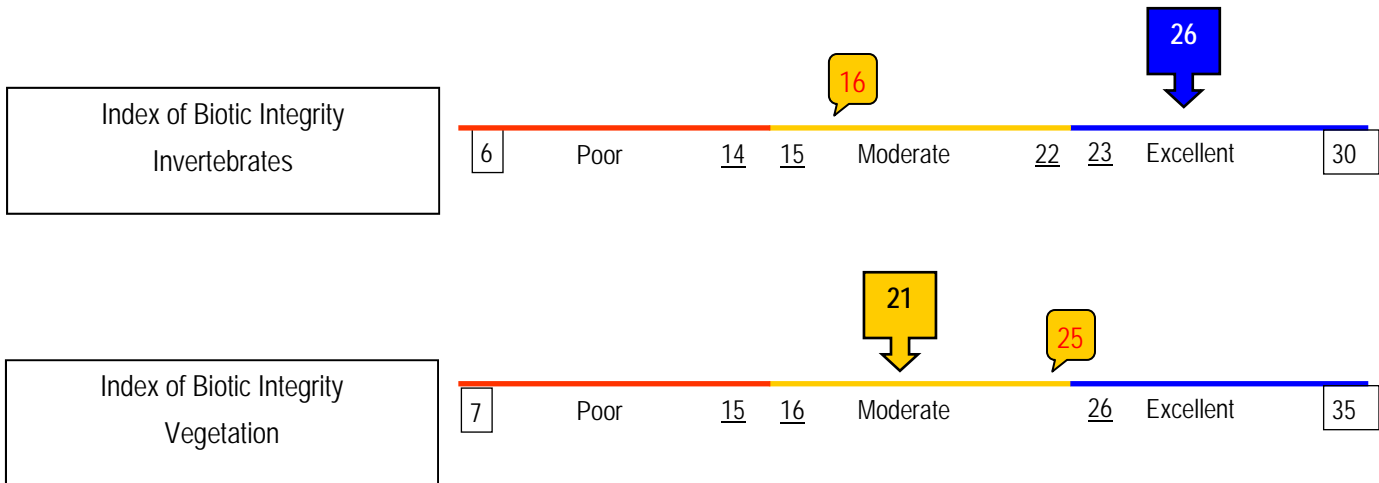
Monitoring Results EP-17	
Year	2009
Invertebrate	<u>Poor</u>
Vegetation	<u>Moderate</u>





Eden Prairie Site: EP-18 Westgate Conservation Area

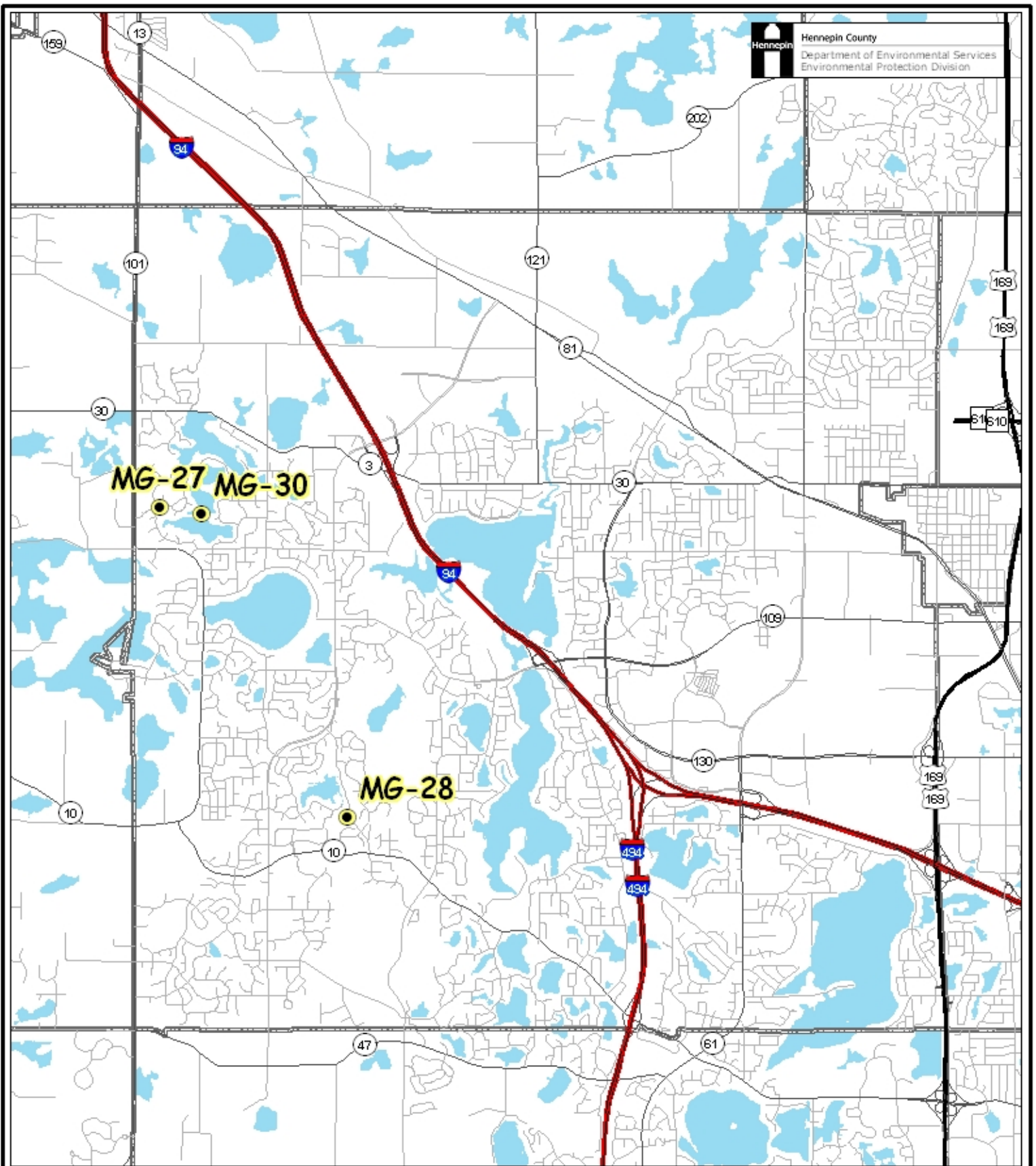
This wetland is located just north of Venture Lane and south of Superior Terrace in Eden Prairie. The wetland is surrounded by trees and shrubs for several yards with homes and office buildings nearby. This wetland receives direct stormwater inputs from the surrounding area. The total acreage of this wetland is approximately 1 and 1/2 acres.



Monitoring Results EP - 18	
Year	2009
Invertebrate	<u>Excellent</u>
Vegetation	<u>Moderate</u>

= cross check

Scale	
Excellent	
Moderate	
Poor	



**2009 City of Maple Grove
Wetland Health Evaluation Sites**

Legend

- 2009 Monitoring Sites
- ▭ Municipal Boundaries
- Public Waters Inventory - DNR

Source Information:

Minnesota Department of Natural Resources
Hennepin County Tax Payer Services Department
Hennepin County Survey Department
Hennepin County Dept. of Environmental Services

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Maple Grove 2009 Metric Scores

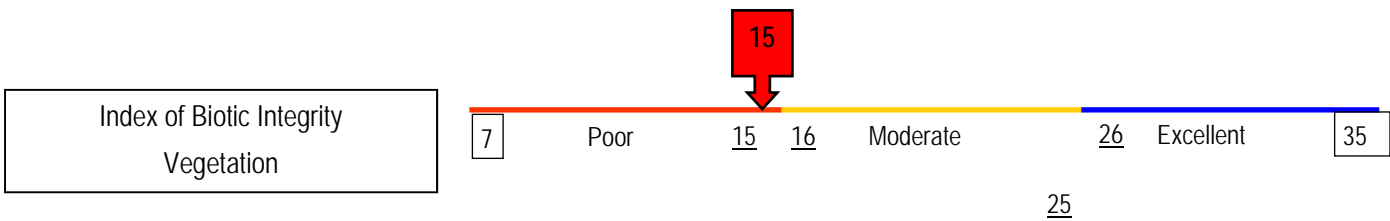
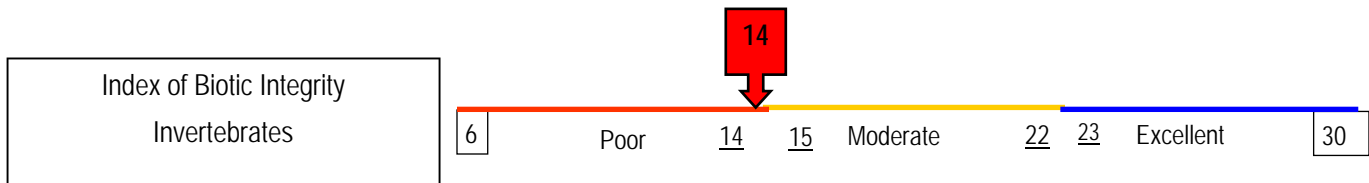
Metric	MG-27	MG-28	MG-30
# Kinds of Leeches	1	1	3
% Corixidae	5	5	5
# Kinds of Odonata	1	1	1
# ETSD	3	3	1
# Kinds of Snails	3	5	1
Total Invertebrate Taxa	3	3	1
Invertebrate Totals (30 Max)	16 Moderate	14 Poor	13 Poor
Vascular Genera	3	3	3
Nonvascular Genera	1	1	5
Grasslike Genera	1	3	1
<i>Carex</i> Cover	1	1	5
<i>Utricularia</i> Presence	1	1	5
Aquatic Guild	3	3	5
Persistent Litter	1	3	5
Vegetation Totals (35 Max)	11 Poor	15 Poor	24 Moderate





Maple Grove
Site: MG-27
Gladstone #1

This wetland is nudged in the midst of heavy development of single-family homes and townhomes. It lies immediately south of Gladstone Blvd in Maple Grove. There is some buffer between the adjacent private lawns and the wetland but minimal tree cover. This is the first year of monitoring this wetland.



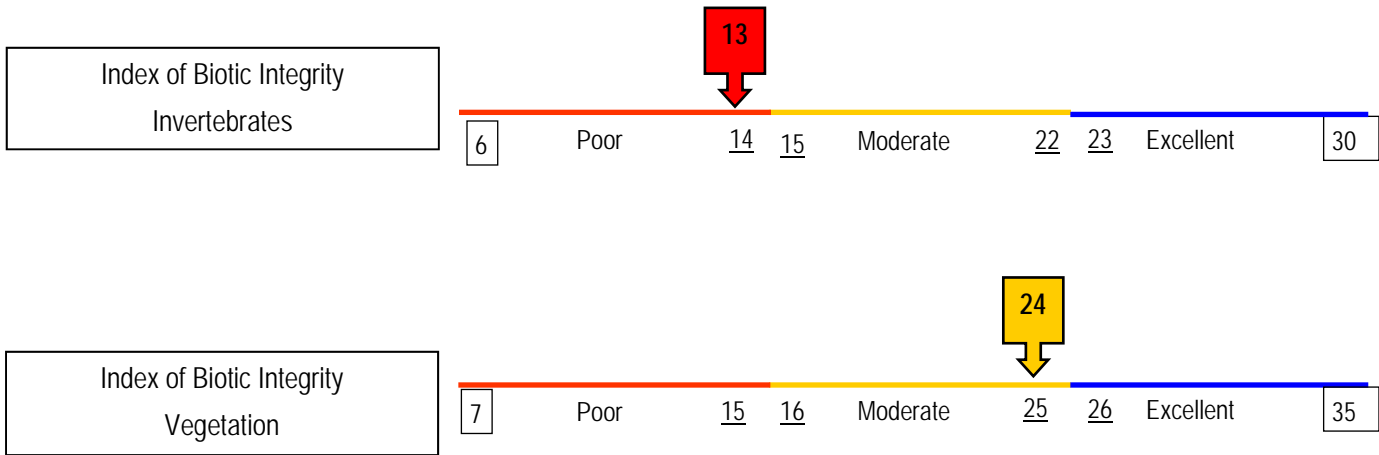
Monitoring Results MG - 27	
Year	2009
Invertebrate	<u>Poor</u>
Vegetation	<u>Poor</u>





Maple Grove
 Site: MG-28
 Nottingham #1

This wetland is adjacent to Nottingham Parkway N and 73rd Place in Maple Grove, nestled among single-family homes. There is a wide strip of buffer vegetation surrounding two-thirds of the wetland and two large homes on the south and southwest corner of the open water. The immediate area is heavily residential.



Monitoring Results MG - 28	
Year	2009
Invertebrate	<u>Poor</u>
Vegetation	<u>Moderate</u>

Scale	
Excellent	
Moderate	
Poor	



Maple Grove Site: MG-30

This is a large suburban wetland completely surrounded by homes with lawns that are very green and weedless. There is a bike path that bisects the wetland and a footbridge crossing the wetland. The team noted the presence of darters and sticklebacks (fish) in the sample. These families are intolerant of low oxygen. That combined with the low temperatures of this wetland indicates fairly good condition. The vegetative complex on the other hand, is dominated by Typha (cattails) with very little additional variety.

Index of Biotic Integrity
Invertebrates

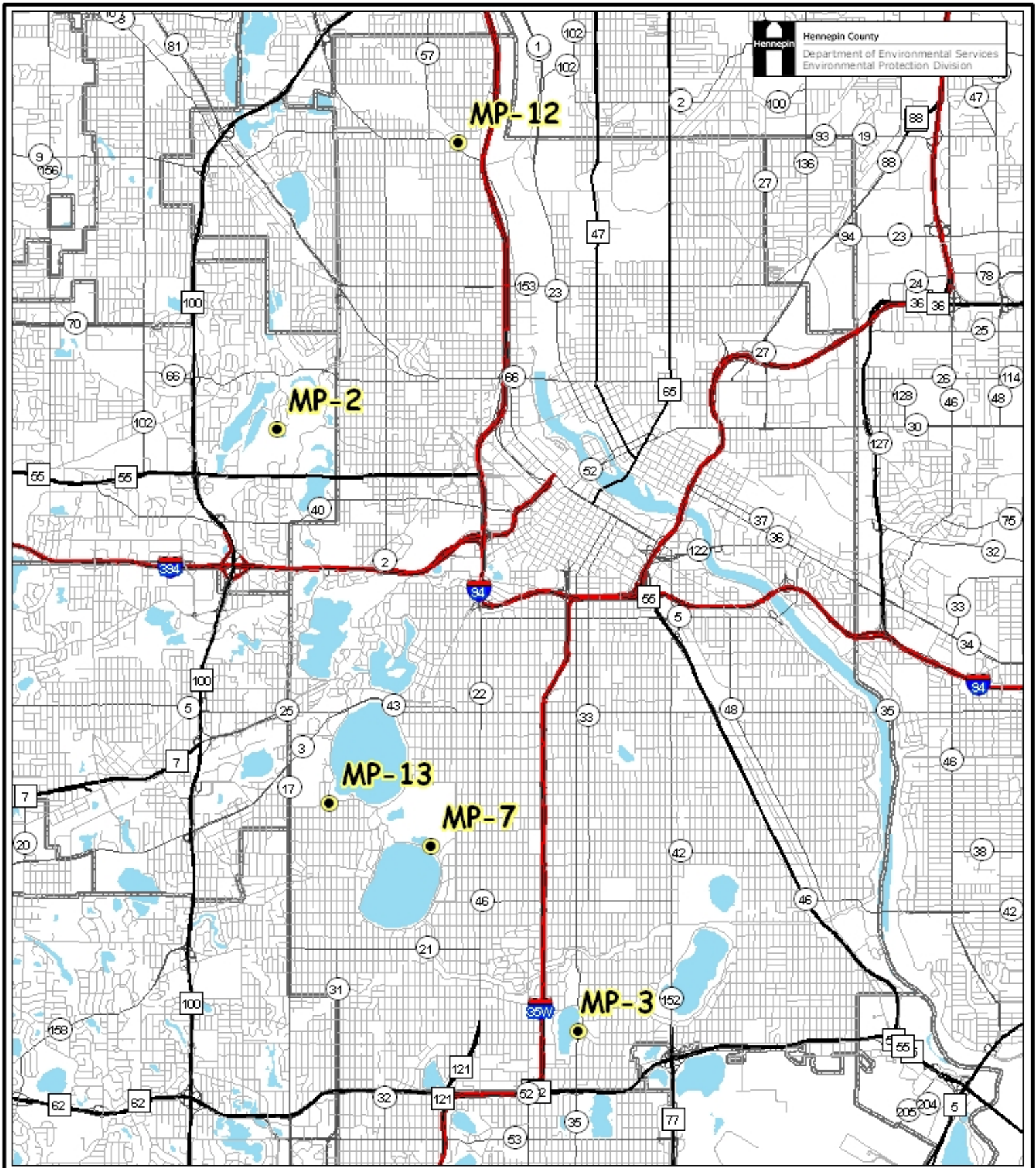


Index of Biotic Integrity
Vegetation



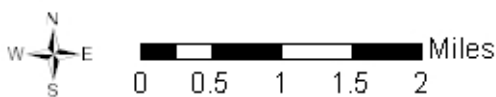
Monitoring Results MG - 30	
Year	2009
Invertebrate	<u>Excellent</u>
Vegetation	<u>Poor</u>





Hennepin County
 Department of Environmental Services
 Environmental Protection Division

**2009 City of Minneapolis
 Wetland Health Evaluation Sites**



Legend

- 2009 Monitoring Sites
- Municipal Boundaries
- Public Waters Inventory - DNR

Source Information:

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 Hennepin County Survey Department
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Minneapolis 2009 Metric Scores

Metric	MP-2 Wirth Park	MP-3 Diamond Lake	MP-7 Roberts Bird Sanctuary	MP-12 Webber Pond	MP-13 SW Calhoun
# Kinds of Leeches	5	3	3	1	1
% Corixidae	5	1	5	1	1
# Kinds of Odonata	3	1	5	5	1
# ETSD	5	3	5	3	1
# Kinds of Snails	1	5	3	3	1
Total Invertebrate Taxa	5	5	5	5	1
Invertebrate Totals (30 Max)	24 Excellent	18 Moderate	26 Excellent	18 Moderate	6 Poor
Vascular Genera	5	1	5	5	3
Nonvascular Genera	5	1	3	5	1
Grasslike Genera	3	1	5	5	3
<i>Carex</i> Cover	1	1	1	3	5
<i>Utricularia</i> Presence	1	1	1	1	1
Aquatic Guild	3	5	3	3	3
Persistent Litter	1	1	1	5	5
Vegetation Totals (35 Max)	19 Moderate	11 Poor	19 Moderate	27 Excellent	21 Moderate



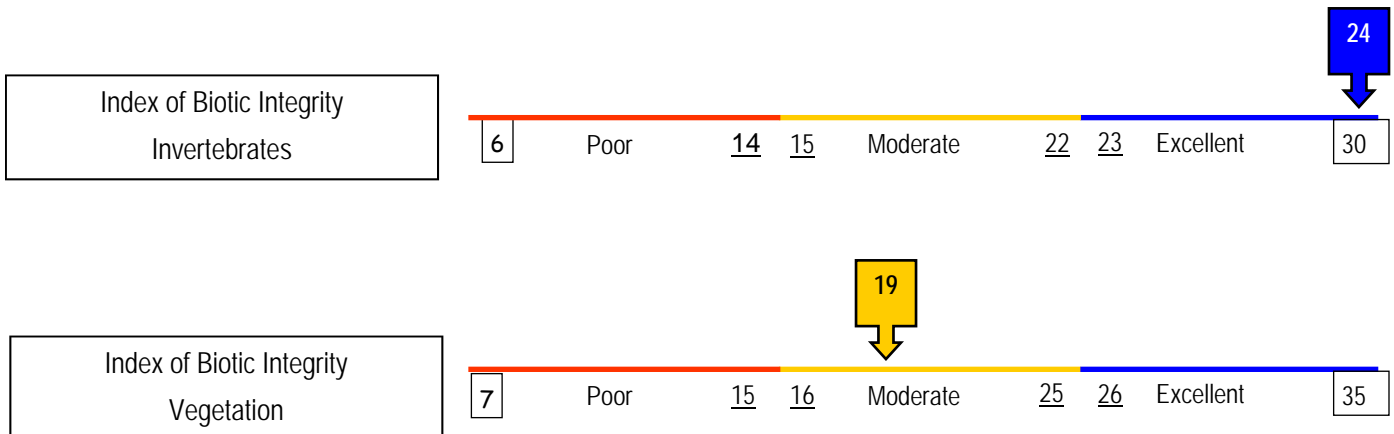


Minneapolis

Site: MP-2

Wirth Park

This wetland is on the Wirth Par 3 Golf Course in Minneapolis. Along the northwest side of the wetland is the clubhouse and a series of townhomes on Woodland Trail and Waterford Drive. The immediate surrounding vegetation of the wetland is a mixture of woodland, cattails, shrubs and grass tended as part of the golf course. The team noted many species of wildlife including deer, heron and wood ducks. This site was monitored from 2003-2004 and again in 2007, 2008, and 2009. This year, the Minneapolis team (“The Muckstars”) designated this site as a favorite due to the high diversity of “good bugs”.



Monitoring Results MP-2					
Year	2002	2003	2004	2008	2009
Invertebrate	<u>Poor</u>	<u>Moderate</u>	<u>Moderate</u>	<u>Excellent</u>	<u>Excellent</u>
Vegetation	<u>Poor</u>	<u>Poor</u>	<u>Moderate</u>	<u>Moderate</u>	<u>Moderate</u>



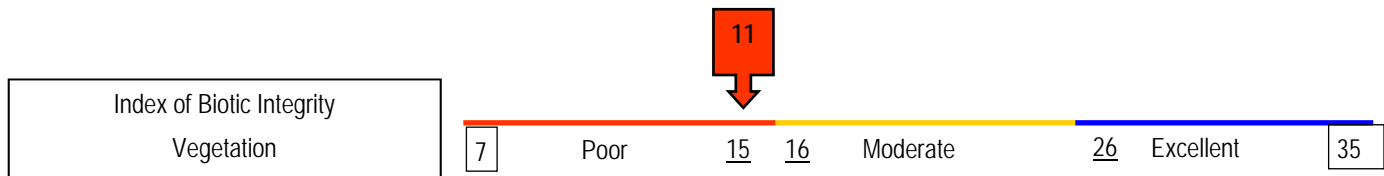
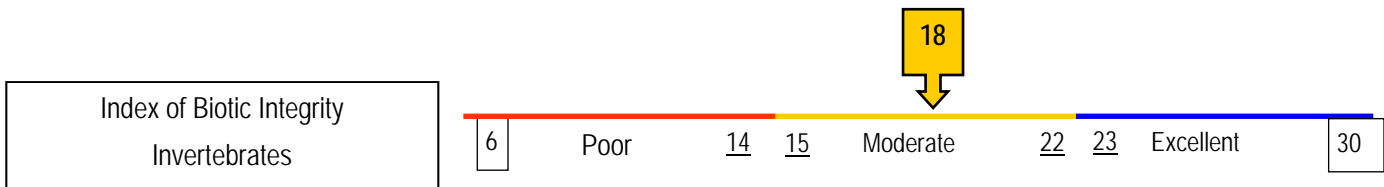


Minneapolis

Site: MP-3

Diamond Lake

This large open water wetland is located within the heavily urbanized area of south Minneapolis in Diamond Lake Park. The wetland is surrounded by residential neighborhoods and parkland. Todd Park is directly to the east. The vegetative buffer around the wetland is all designated as part of the park and includes a very tight cattail fringe. The bottom is very thick muck making sampling and walking very difficult. This wetland has been monitored off and of since 2002.



Monitoring Results MP-3					
Year	2002	2005	2006	2008	2009
Invertebrate	<u>Poor</u>	<u>Poor</u>	<u>Moderate</u>	<u>Poor</u>	<u>Moderate</u>
Vegetation	<u>Poor</u>	<u>Poor</u>	<u>Poor</u>	<u>Poor</u>	<u>Poor</u>





Minneapolis

Site: MP-7

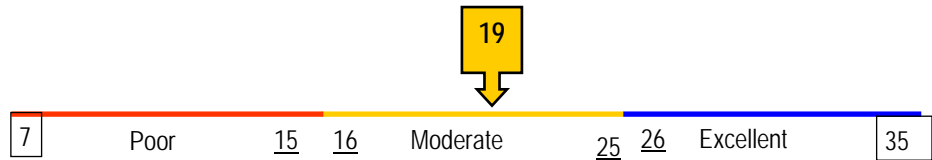
Roberts Bird Sanctuary

This site is located within public land in the Robert’s Bird Sanctuary across the road from Lake Harriet. The ponds were created here by dredging around 1960 and were used by the DNR as a fishery from 1960 to the early 1970s. This area is mainly boggy soil surrounded by woods and semi-wooded park on three sides. The sampling site is separated from the street by a fence and a boulevard strip. The team noticed a great deal more traffic in areas of this wetland that had been inaccessible due to a higher water level last year. They also noticed an encroachment of upland plants into the wetland area due to lower water levels this year.

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Invertebrates



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Monitoring Results MP-7									
2003-2009									
Year	2003	2004	2005	2005 Check	2006	2006 Check	2007	2008	2009
Invertebrate	<u>Moderate</u>	<u>Moderate</u>	<u>Moderate</u>	<u>Excellent</u>	<u>Moderate</u>	<u>Excellent</u>	<u>Excellent</u>	<u>Moderate</u>	<u>Excellent</u>
Vegetation	<u>Moderate</u>	<u>Moderate</u>	<u>Poor</u>	<u>Moderate</u>	<u>Moderate</u>	<u>Moderate</u>	<u>Poor</u>	<u>Moderate</u>	<u>Moderate</u>



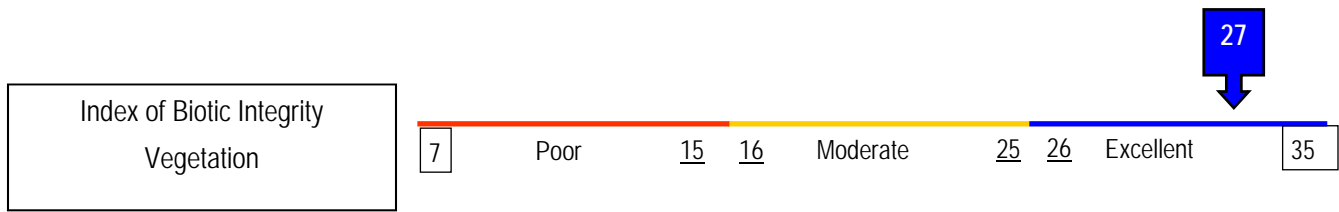
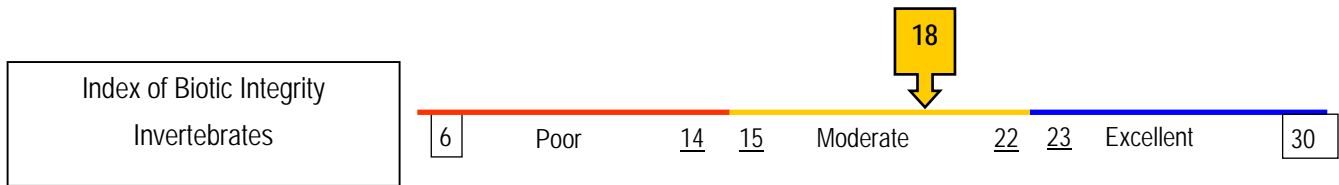


Minneapolis

Site: MP-12

Webber Pond

This monitoring site is in Webber Park nestled among tennis courts, a public swimming pool, Shingle Creek and two major roadways. The water level in this wetland is maintained by an augmentation well and is stocked every year by the Department of Natural Resources for the Fishing in Neighborhoods program. There is also a major shoreline restoration project underway at this location which is evidenced by the high vegetation score.



Monitoring Results MP-12	
Year	2009
Invertebrate	<u>Moderate</u>
Vegetation	<u>Excellent</u>



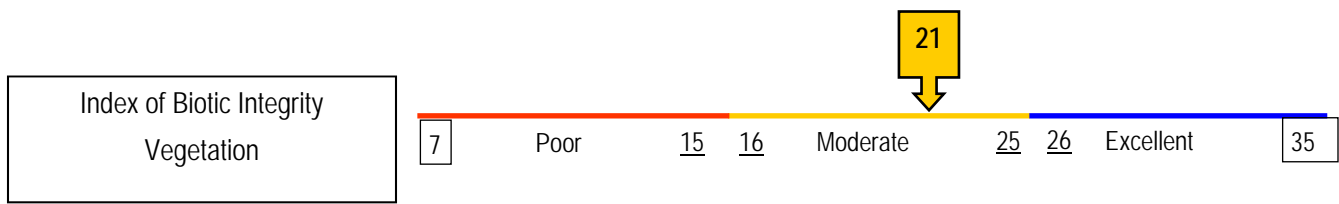
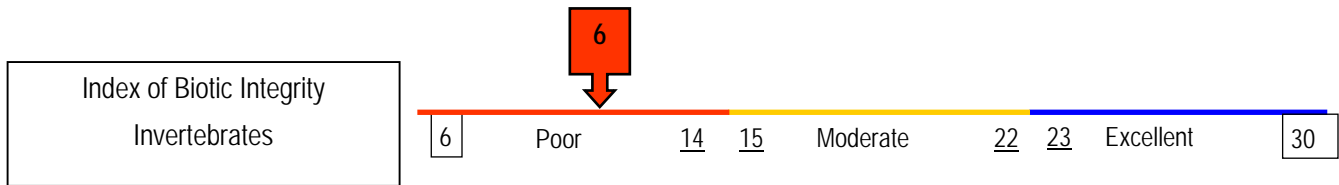


Minneapolis

Site: MP-13

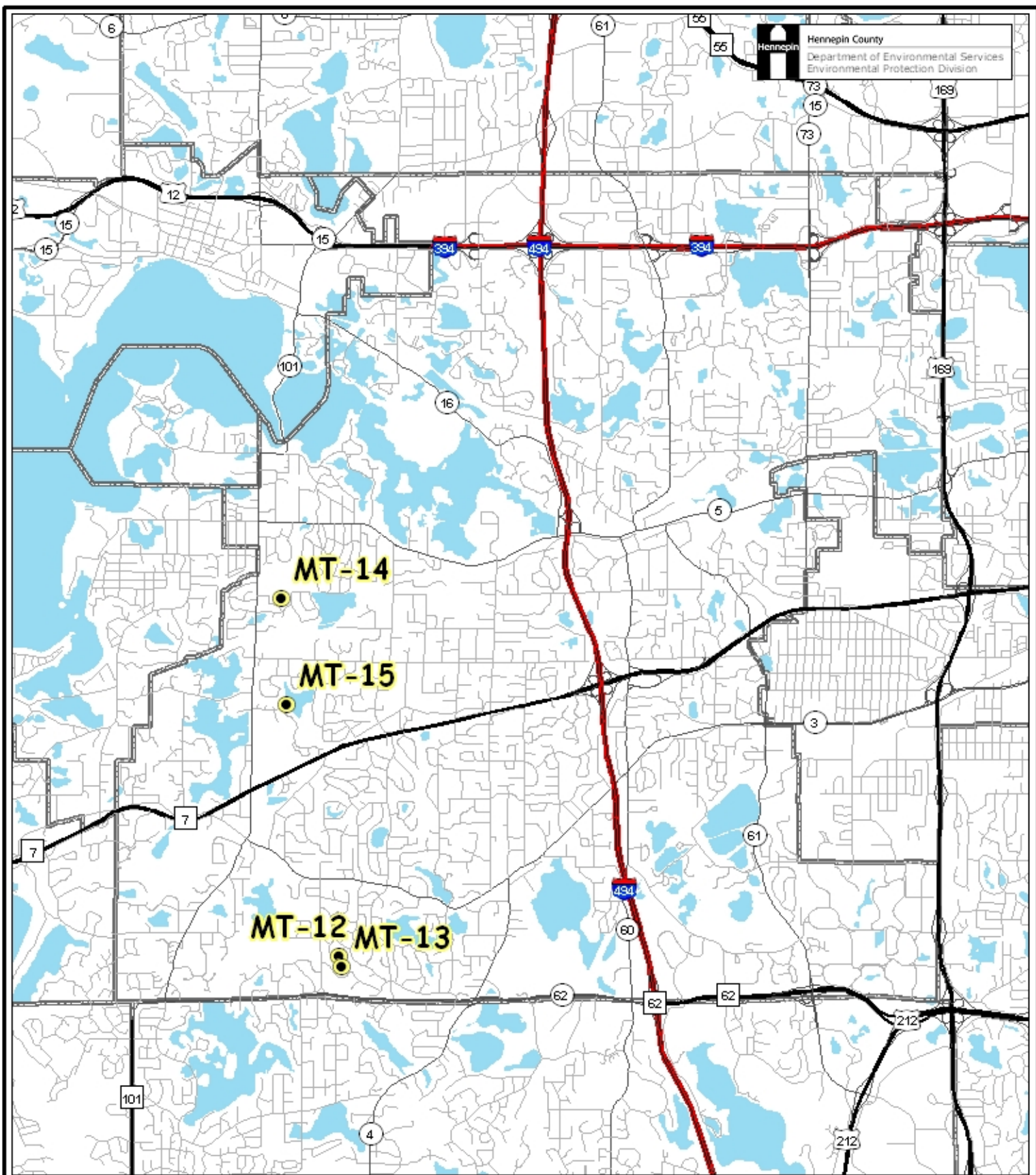
Southwest Calhoun

This wetland is a stormwater catchment basin that was “built” around the year 2000. The wetland is small and surrounded by trees and shrubs on one side and mown grass on the other. There is a shoreline restoration project underway where the team surveyed vegetation. The score here for vegetation is high which is representative of the restoration area only. The rest of the wetland has mown edges.



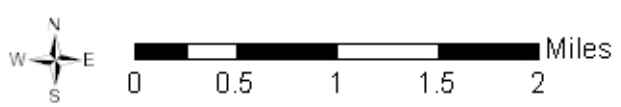
Monitoring Results MP-13	
Year	2009
Invertebrate	<u>Poor</u>
Vegetation	<u>Moderate</u>





Hennepin County
 Department of Environmental Services
 Environmental Protection Division

**2009 City of Minnetonka
 Wetland Health Evaluation Sites**



Legend

- 2009 Monitoring Sites
- Municipal Boundaries
- Public Waters Inventory - DNR

Source Information:
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Minnetonka 2009 Metric Scores

Metric	MT-12	MT-13	MT-14	MT-15
# Kinds of Leeches	5	5	5	3
% Corixidae	1	5	5	5
# Kinds of Odonata	1	1	3	5
# ETSD	3	5	5	5
# Kinds of Snails	3	5	3	3
Total Invertebrate Taxa	5	5	5	5
Invertebrate Totals (30 Max)	18 Moderate	26 Excellent	26 Excellent	26 Excellent
Vascular Genera	5	5	5	3
Nonvascular Genera	3	5	3	1
Grasslike Genera	5	3	5	3
<i>Carex</i> Cover	1	1	1	1
<i>Utricularia</i> Presence	1	1	1	1
Aquatic Guild	3	5	3	3
Persistent Litter	3	5	3	1
Vegetation Totals (35 Max)	23 Moderate	25 Moderate	21 Moderate	13 Poor



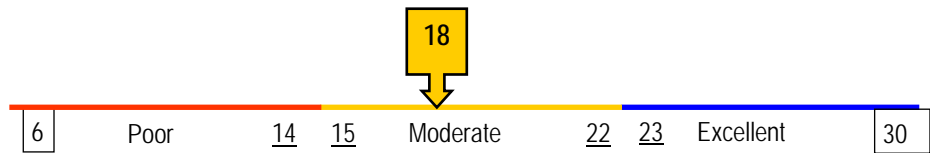
Minnetonka

Site: MT-12

Boulder Creek North

This wetland is located within a heavy residential area just north of County Road 62 which intersects Minnetonka and Eden Prairie. The access point is Scenic Place at the end of the cul du sac. This wetland is surrounded by a mixture of trees and shrubs nestled among private property. This wetland is on property owned by the City of Minnetonka.

Index of Biotic Integrity
Invertebrates



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Vegetation



Monitoring Results MT-12	
Year	2009
Invertebrate	<u>Moderate</u>
Vegetation	<u>Moderate</u>

Scale	
Excellent	
Moderate	
Poor	



Minnetonka

Site: MT-13

Boulder Creek South

Site MT13 located on the same tract of land owned by the city as site MT12. It is directly south of MT12 and is an open water Type 5 wetland that gets deep fairly quickly on both sides. The surrounding vegetation consists of trees, shrubs and scrub grasses.



Monitoring Results MT-13	
Year	2009
Invertebrate	<u>Excellent</u> / <u>Moderate</u>
Vegetation	<u>Moderate</u> / <u>Moderate</u>

= cross check

Scale	
Excellent	
Moderate	
Poor	

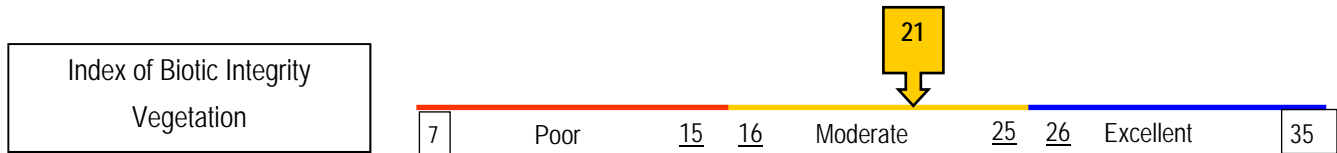
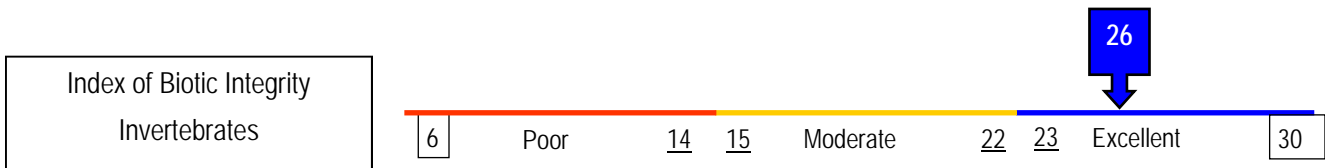


Minnetonka

Site: MT-14

Vandan Road

MT14 is located in Minnetonka just east of Highway 101 off of Ridgeview Drive. The wetland is a Type 5 with residential development along the western edge. The wetland is situated in a park area with baseball fields to the northwest. The team noted a large amount of sand near the drainage culvert heading toward the wetland. Also noted were quantities of three-sided sedge and marsh marigold. This is the second year of monitoring for this site.



Monitoring Results MT-14	
Year	2009
Invertebrate	<u>Excellent</u>
Vegetation	<u>Moderate</u>

Scale

Excellent	
Moderate	
Poor	



Minnetonka

Site: MT-15

Saddlewood Drive

This wetland is located in a private residential neighborhood off of Saddlewood Drive in Minnetonka. The wetland is city property but access to it is by landowner permission only. This wetland is surrounded by cattail mats along the immediate edge and mown grass upland. The yards back up to the margin slope to the wetland. The open water is in the center of the wetland with an abundance of thick, healthy coontail. This is the second year of monitoring for this site.

Index of Biotic Integrity
Invertebrates

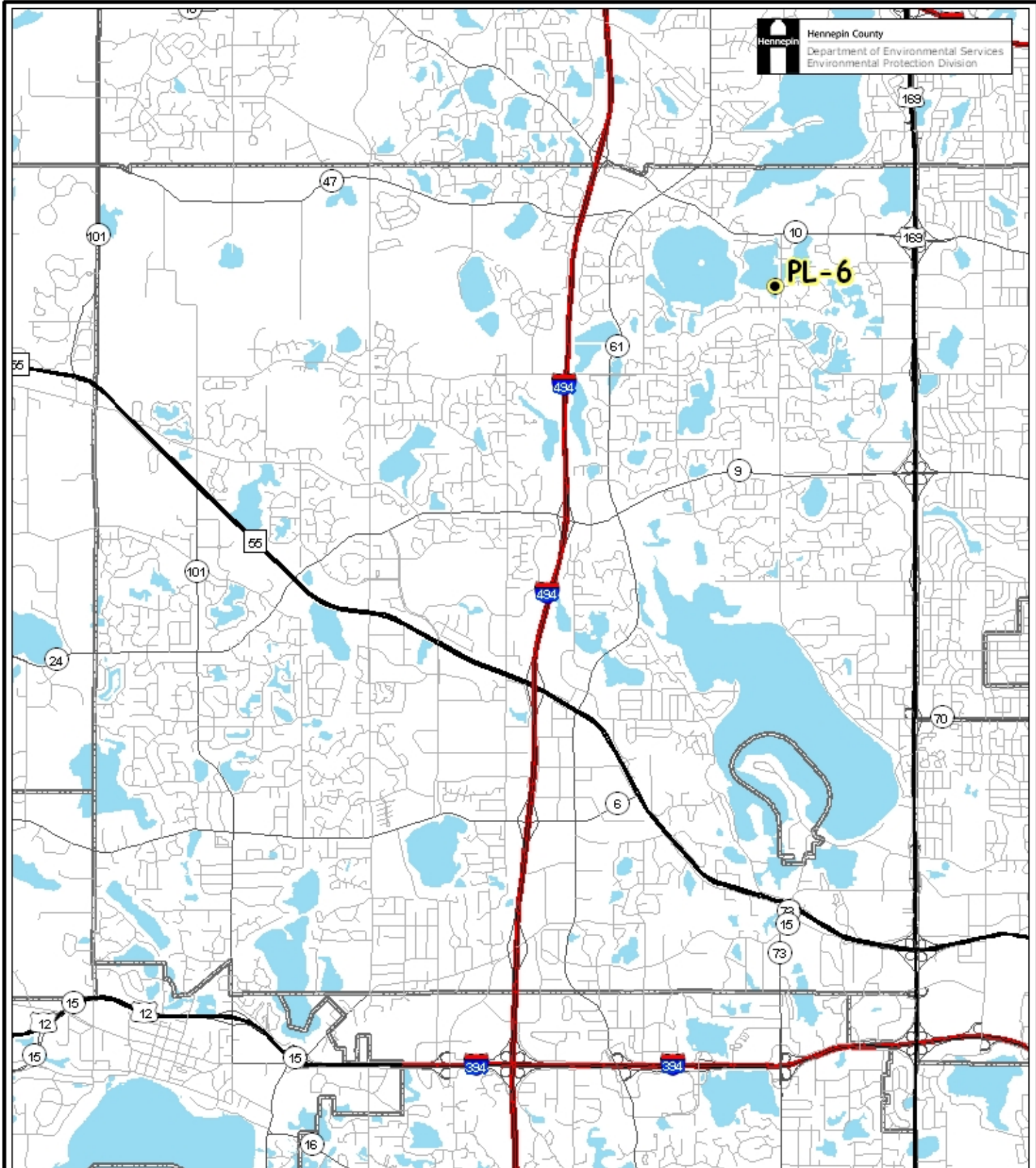


Index of Biotic Integrity
Vegetation






Monitoring Results MT-15	
Year	2009
Invertebrate	<u>Excellent</u>
Vegetation	<u>Poor</u>

Scale	
Excellent	
Moderate	
Poor	



**2009 City of Plymouth
 Wetland Health Evaluation Sites**

Legend

-  2009 Monitoring Sites
-  Municipal Boundaries
-  Public Waters Inventory - DNR

Source Information:
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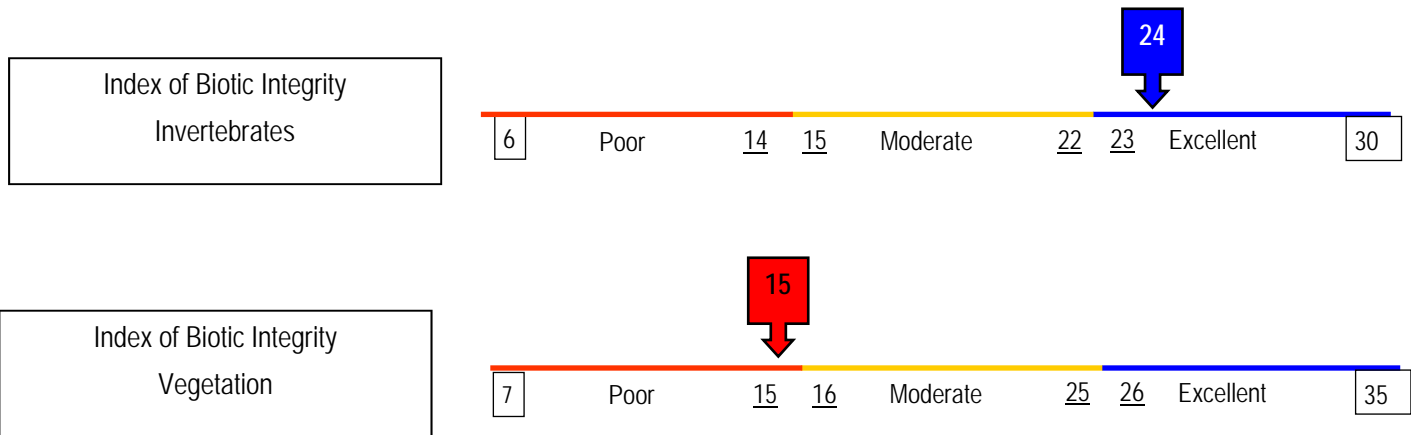
Plymouth 2009 Metric Scores

Metric	PL-6 Bass Lake
# Kinds of Leeches	3
% Corixidae	5
# Kinds of Odonata	5
# ETSD	5
# Kinds of Snails	1
Total Invertebrate Taxa	5
Invertebrate Totals (30 Max)	24 Excellent
Vascular Genera	5
Nonvascular Genera	1
Grasslike Genera	3
<i>Carex</i> Cover	1
<i>Utricularia</i> Presence	1
Aquatic Guild	3
Persistent Litter	1
Vegetation Totals (35 Max)	15 Poor



Plymouth Site: PL6 Timber Shores Park

Bass Lake (PL-6) is a large Type 3 wetland within the large Elm Creek watershed. The watershed has approximately 20 percent impervious surface. This Type 3 wetland is located just south of Highway 10 to the east of 494 in Plymouth. Bass Lake is immediately upstream of this wetland. PL6 is within a close proximity to other wetlands in the immediate area and private homes and a park nearby.



PL6 Monitoring Results 2005-2009				
Year	2005	2006	2008	2009
Invertebrate	<u>Poor</u>	<u>Moderate</u>	<u>Moderate</u>	<u>Excellent</u>
Vegetation	<u>Poor</u>	<u>Poor</u>	<u>Moderate</u>	<u>Poor</u>







For more information about the Hennepin County
Wetland Health Evaluation Program, please contact:

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Hennepin County Environmental Services

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Minneapolis, MN 55401

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612-596-9129

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