

**LOWER RUM RIVER WATERSHED MANAGEMENT ORGANIZATION**  
**ANDOVER - ANOKA - COON RAPIDS - RAMSEY**  
2015 First Avenue • Anoka, MN 55303

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TO: The Minnesota Board of Water and Soil Resources  
FROM: Lower Rum River Watershed Management Organization  
Todd Haas, Chairperson  
DATE: May, 2011  
SUBJECT: Annual Activity Report for Fiscal Year 2010  
Begin Date: 2-1-10 End Date: 1-31-11

In response to Minnesota Board of Water and Soil Resources (BWSR) annual requirements, the Lower Rum River Watershed Management Organization (LRRWMO), created by a joint powers agreement, submits the following:

**I. LIST BOARD MEMBERS, ADVISORS, EMPLOYEES AND CONSULTANTS**

- See Appendix A

**II. REPORTING YEAR'S WORK PLAN**

- A. LIST GOALS/OBJECTIVES IDENTIFIED IN THE REPORTING YEAR'S WORK PLAN:
- B. LIST ACHIEVEMENTS FROM REPORTING YEAR'S WORK PLAN:
- C. LIST THOSE ITEMS IDENTIFIED IN REPORTING YEAR'S WORK PLAN NOT ACCOMPLISHED, AND GIVE AN EXPLANATION OF WHY THEY COULDN'T BE ACCOMPLISHED:

GOAL: Adoption of Third Generation Water Management Plan.

ACHIEVEMENT: ***Objective pending.***

- *The LRRWMO retained the services of Barr Engineering for the update of the Third Generation Water Management Plan. A public hearing was held on December 16, 2010, and the LRRWMO is currently addressing regulatory agency comments. It is anticipated the Third Generation Water Management Plan will be adopted in April of 2011.*
- *The LRRWMO, on November 18, 2010, authorized a proposal with the Anoka Conservation District (ACD) to form of a Technical Advisory Committee (TAC) to study and provide recommendations on storm water controls and wetland protection. Said recommendations will be received in fiscal 2011.*

GOAL: Raise public awareness of LRRWMO by: posting meeting agenda and inviting public to participate.

ACHIEVEMENT: **Objective reached.**

- *The LRRWMO maintains a website where meeting announcements, agendas, and minutes are posted. Meeting agendas are also posted in a public place and indicate “PUBLIC WELCOME TO ATTEND.” See pages 4-108-109 of Appendix B for additional detail.*
- *The City of Andover has created three rain gardens that are located in the Coon Creek Watershed District. Two rain gardens are located on private property and one is located in a park next to Crooked Lake.*
- *The City of Anoka approved the Anoka Halloween Ambassador’s project to paint hydrants and stencil/paint storm sewers with “Only Rain Down the Drain” message to educate and remind the public that storm sewers drain to the river. The City of Anoka also provided an educational presentation before its Planning Commission.*
- *The City of Coon Rapids held a Green Expo in April of 2010 at its City Hall during which “Splish-Splash” an educational video was displayed. The video discusses the importance of clean water, the scarcity of this valuable resources and problems that can occur if it is not conserved.*
- *The City of Ramsey held an Environmental Expo and Tree Sale at its municipal center on May 1, 2010, from 9 a.m. to 2 p.m. that included a number of exhibitors, each representing a ‘green’ industry. Several presentations were made and information provided on the topics of recycling, conservation, energy conservation, renewable/alternative energy, ‘green’ cleaning products, and runoff models. The Expo was educational in format, including presentations on energy conservation tips and energy efficient landscaping.*

GOAL: Conduct a Rum River canoe trip in June of 2010 with Board Members and DNR.

ACHIEVEMENT: **Objective not reached.**

*In 2010, the LRRWMO did not conduct a canoe trip of the Rum River to inspect for areas of erosion and Code violations; however, a canoe trip will be scheduled in 2011.*

GOAL: Maintain web site created by the Anoka Conservation District that details the WMO's contact information, boundaries, wetlands regulatory information, meeting agendas and minutes, permit process, and testing and biomonitoring data.

ACHIEVEMENT: **Objective reached.**

**Website is: [www.AnokaNaturalResources.com/LRRWMO](http://www.AnokaNaturalResources.com/LRRWMO)**

GOAL: Contract with the Anoka Conservation District (ACD) in 2010 to conduct lake level monitoring (Itasca, Round, and Rogers Lakes), lake water quality monitoring (Round Lake), stream biomonitoring with students from Anoka High School (Rum River), stream water quality monitoring in conjunction with the ACD and Upper Rum River WMO (Rum River), and hydrology monitoring in one reference wetland (next to the Connexus Energy office building in Ramsey).

ACHIEVEMENT: **Objective reached.**

*This data has been entered into the ACD data base and is included in the ACD annual report, which is attached as Appendix B.*

GOAL: Encourage water quality improvement projects by continuing to offer water quality improvement cost share grants to residents.

ACHIEVEMENT: **Objective reached.**

*The LRRWMO contributed \$1,000 in 2006 and \$1,000 in 2009 to a cost share grant fund administered by the Anoka Conservation District (ACD). Funds were not expended until 2008 when \$376.37 was expended for two projects, both involving cedar tree riverbank stabilizations on the Rum River. In 2009, \$52.05 was expended for Rusin Rum riverbank bluff stabilization. See page 4-106 of Appendix B for additional detail.*

GOAL: Increase public involvement with LRRWMO by: Continuing to identify residents to assist with lake monitoring in conjunction with the Anoka Conservation District.

ACHIEVEMENT: **Objective reached.**

*The LRRWMO has worked in conjunction with the ACD to identify residents who monitor water levels on Round, Rogers, and Itasca Lakes.*

GOAL: Continue effort in the enforcement of the 1991 Wetland Conservation Act as the Local Governmental Unit (LGU) for the cities of Andover, Anoka, and Ramsey within the LRRWMO jurisdiction; Coon Rapids has assumed its own LGU authority.

ACHIEVEMENT: **Objective reached.**

*The LRRWMO continues to monitor enforcement of the 1991 Wetland Conservation Act as the LGU for the cities of Andover, Anoka, and Ramsey.*

### III. PROJECTED WORK PLAN FOR UP-COMING FISCAL YEAR

#### A. LIST MAIN GOALS AND OBJECTIVES OF YOUR WORK PLAN FOR THE NEXT FISCAL YEAR:

1. *Adoption of Third Generation Water Management Plan.*
2. *Raise public awareness of LRRWMO by: Posting meeting agenda and inviting public to participate.*
3. *Conduct a Rum River canoe trip in June of 2011 to check for violations with Board Members, MnDNR, and Anoka Conservation District, and encourage representatives from each of the four cities to participate or any other agency that would be interested.*
4. *Maintain web site created by the Anoka Conservation District that details the WMO's contact information, boundaries, wetlands regulatory information, meeting agendas and minutes, permit process, and testing and biomonitoring data.*
5. *Contract with the Anoka Conservation District in 2011 for lake level monitoring (Itasca, Round, and Rogers Lakes), lake water quality monitoring (Rogers Lake), biomonitoring with Anoka High School students (Rum River), and hydrology monitoring in one reference wetland.*
6. *Encourage water quality improvement projects by continuing to offer water quality improvement cost share grants to residents.*
7. *Increase public involvement with LRRWMO by: Continuing to identify residents to assist with lake monitoring in conjunction with the Anoka Conservation District.*
8. *Continue effort in the enforcement of the 1991 Wetland Conservation Act as the Local Governmental Unit (LGU) for the cities of Andover, Anoka, and Ramsey within the LRRWMO jurisdiction; Coon Rapids has assumed its own LGU authority.*

### IV. SUMMARY OF PERMITS, PROJECT REVIEWS, VARIANCES, AND ENFORCEMENT ACTIONS

#### A. TOTAL NUMBER AND SUMMARY OF THE TYPES OF PERMITS ISSUED AND DENIED BY THE WMO:

*See Appendix C.*

#### B. TOTAL NUMBER AND SUMMARY OF THE TYPES OF PROJECTS REVIEWED BY THE WMO:

*See Appendix C.*

#### C. SUMMARY OF VARIANCES TO PLAN OR LOCAL PLAN (LIST TYPES AND GRANTOR):

*No variances were issued. Plans/proposals were required to meet the requirements of the LRRWMO and/or other state agencies.*

D. SUMMARY OF ENFORCEMENT ACTIONS TAKEN RELATIVE TO PLAN OR LOCAL PLAN (LIST TYPES AND LGU):

*No enforcement actions were taken by the LRRWMO. The Minnesota Department of Natural Resources (DNR) issued one Cease and Desist Orders within the LRRWMO jurisdiction that resulted in a Restoration Order. The offender complied with the Restoration Order and the file was closed.*

V. SUMMARY OF WATER QUALITY MONITORING DATA

ATTACH YOUR MET COUNCIL SUMMARY REPORT OR BRIEFLY SUMMARIZE, WHICH BODIES OF WATER WERE MONITORED, WHAT PARAMETERS WERE MEASURED, THE FREQUENCY OF MONITORING AND WHO COLLECTED THE DATA. INDICATE ANY TRENDS NOTED IF AN ANALYSIS OF THE DATA WAS CONDUCTED:

*Water quality monitoring data is administered by the Anoka Conservation District (ACD). Appendix B is a report of water monitoring work completed in 2010.*

VI. STATUS OF LOCAL PLANS ADOPTION

A. LIST OF LOCAL PLANS APPROVED BY WMO AND DATE OF APPROVAL:

<i>Andover:</i>	<i>Approved as of 2005</i>
<i>Anoka:</i>	<i>Approved as of 2001</i>
<i>Coon Rapids:</i>	<i>Approved as of 2004</i>
<i>Ramsey:</i>	<i>Approved as of 2008</i>

B. DATE DUE OF LOCAL PLANS:

<i>Andover:</i>	<i>As determined by BWSR</i>
<i>Anoka:</i>	<i>As determined by BWSR</i>
<i>Coon Rapids:</i>	<i>As determined by BWSR</i>
<i>Ramsey:</i>	<i>As determined by BWSR</i>

VII. SUMMARY OF WRITTEN CORRESPONDENCE

ATTACH A COPY OF THE WRITTEN COMMUNICATION FOR GENERAL CIRCULATION THE WMO USED TO ACHIEVE COMPLIANCE WITH MS 103B.227, SUBD. 4

*See Appendix D.*

## VIII. BIENNIAL SOLICITATION FOR PROFESSIONAL SERVICES

WAS THE ORGANIZATION REQUIRED TO SOLICIT PROPOSALS FOR PROFESSIONAL, ENGINEERING AND LEGAL SERVICES THIS YEAR?

*Requests for Quotes will be obtained following adoption of the Third Generation Plan. Objective pending.*

## IX. STATUS OF LOCALLY ADOPTED WETLAND BANKING PROGRAM

SUMMARIZE ANY WETLAND REPLACEMENT IN WMO DONE THROUGH THE USE OF WETLAND BANKING CREDITS, BANKING CREDITS ESTABLISHED, CREDIT BALANCES, AND WHAT LGUs APPROVED SUCH REPLACEMENTS:

- *The LRRWMO, in July of 1992, approved a mitigation policy whereby Anoka County will be allowed to accrue up to one acre of wetland losses; at which time that entity would be required to replace the total accrued lost wetland acreage. However, a ranking system for providing wetland area greater than required is pending.*
- *Only one developer, Russell Johanson, has qualified and banked approximately 0.6864 acres of excess wetland. A certain amount of those banked credits have been purchased by an adjacent property owner.*
- *The LRRWMO, on July 17, 2008, accepted the recommendation of TEP on certification of the Alpine Park wetland bank for the maximum amount allowable by BWSR (0.38 acres of new wetland credit and 0.38 acres of upland buffer) and ACOE (0.38 acres of wetland credit and 0.50 acres of upland buffer).*
- *The LRRWMO, on February 18, 2010, accepted the recommendation of TEP to approve the optional purchase of 5,360 square feet of wetland replacement credits to satisfy the wetland replacement mitigation requirements for Permit #2004-25, Kimberly Oaks, in Andover. Approval was subject to the conditions that a minimum of 5,360 square feet of wetland replacement credit must be purchased from a state-certified wetland bank within Anoka County; and, proof of that wetland bank credit purchase must be provided by April 15, 2010.*

## X. ANNUAL BUDGET SUMMARY FOR CURRENT REPORTING YEAR

*See Appendix E.*

# LOWER RUM RIVER WATERSHED MANAGEMENT ORGANIZATION

ANDOVER - ANOKA - COON RAPIDS - RAMSEY

2015 First Avenue • Anoka, MN 55303

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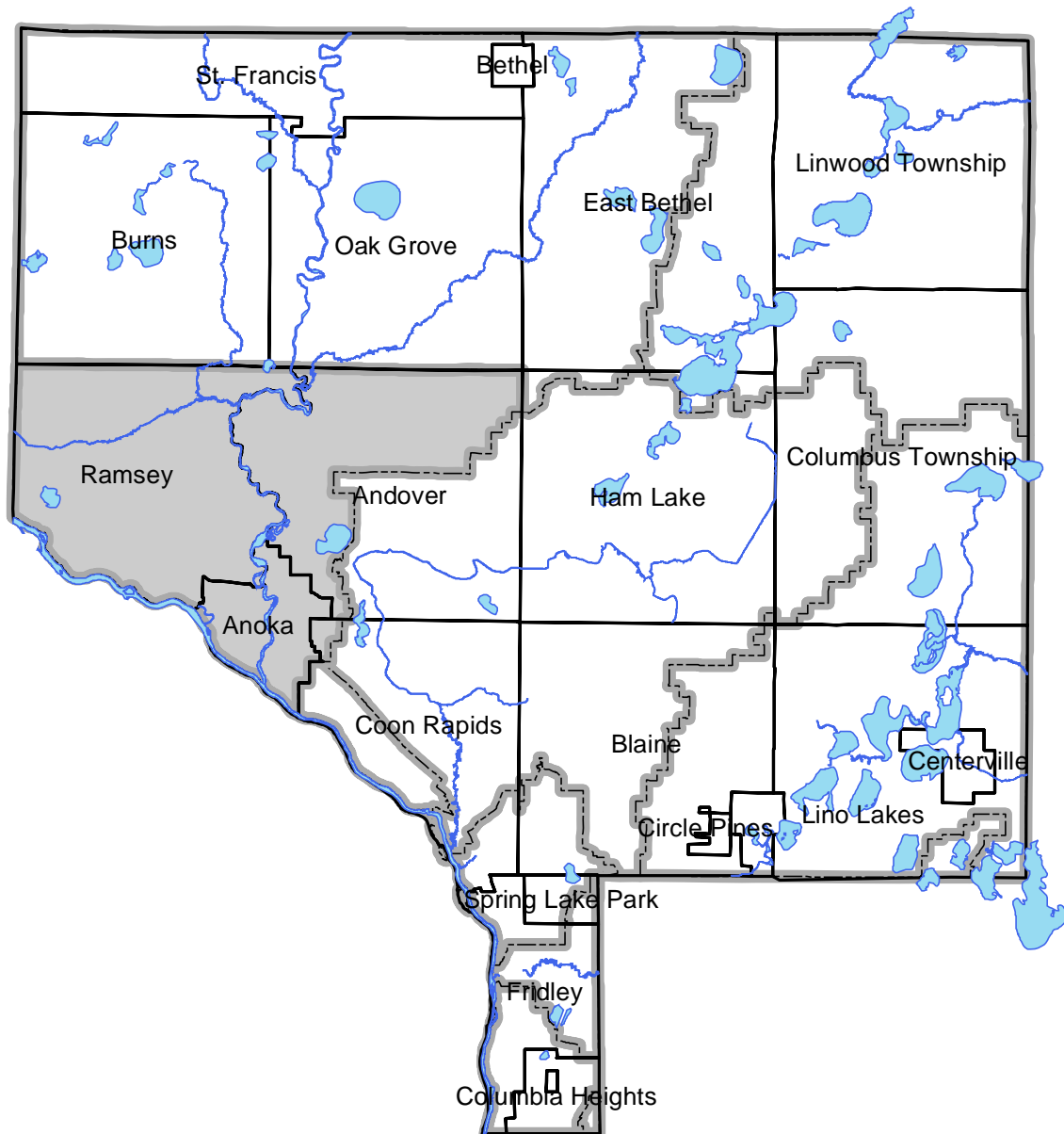
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# Excerpt from the 2010 Anoka Water Almanac

## *Chapter 4: Lower Rum River Watershed*



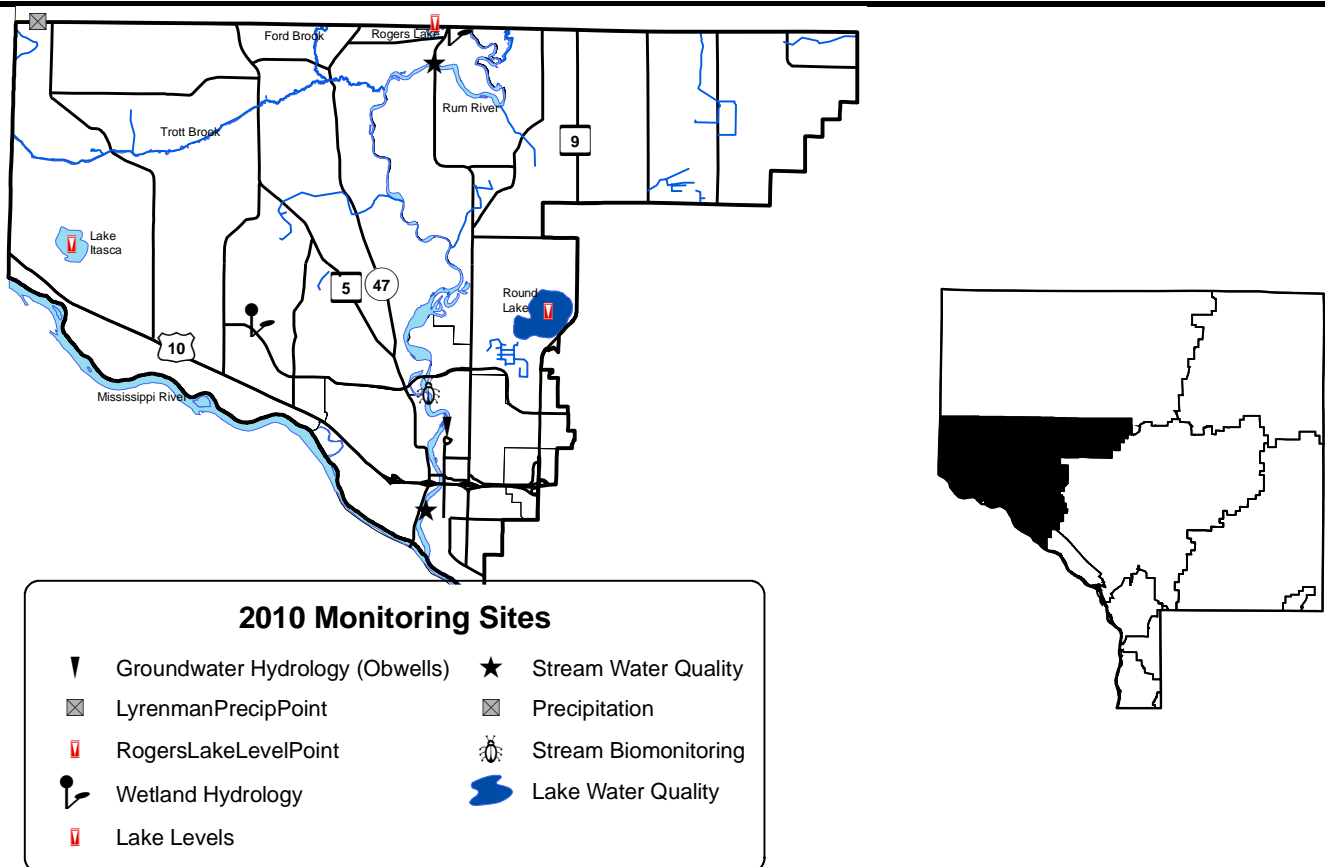
Prepared by the Anoka Conservation District



# CHAPTER 4: LOWER RUM RIVER WATERSHED

Task	Partners	Page
Lake Levels	LRRWMO, ACD, volunteers, MN DNR	4-86
Lake Water Quality	LRRWMO, ACD, ACAP	4-88
Stream Water Quality – Chemical	MC, ACD	4-91
Stream Water Quality – Biological	LRRWMO, ACD, ACAP, Anoka High School	4-100
Wetland Hydrology	LRRWMO, ACD, ACAP	4-103
Water Quality Grant Fund	LRRWMO, ACD, landowners	4-106
Water Quality Improvement Projects	LRRWMO, ACD, landowners	4-107
LRRWMO Website	LRRWMO, ACD	4-108
Financial Summary		4-110
Recommendations		4-110
Groundwater Hydrology (obwells)	ACD, MNDNR	Chapter 1
Precipitation	ACD, volunteers	Chapter 1

ACAP = Anoka County Ag Preserves, ACD = Anoka Conservation District, LRRWMO = Lower Rum River Watershed Mgmt Org, MC = Metropolitan Council, MNDNR = MN Dept. of Natural Resources



# Lake Level Monitoring

**Description:** Weekly water level monitoring in lakes. The past five years are shown below, and all historic data are available on the Minnesota DNR website using the “LakeFinder” feature ([www.dnr.mn.us.state/lakefind/index.html](http://www.dnr.mn.us.state/lakefind/index.html)).

**Purpose:** To understand lake hydrology, including the impact of climate or other water budget changes. These data are useful for regulatory, building/development, and lake management decisions.

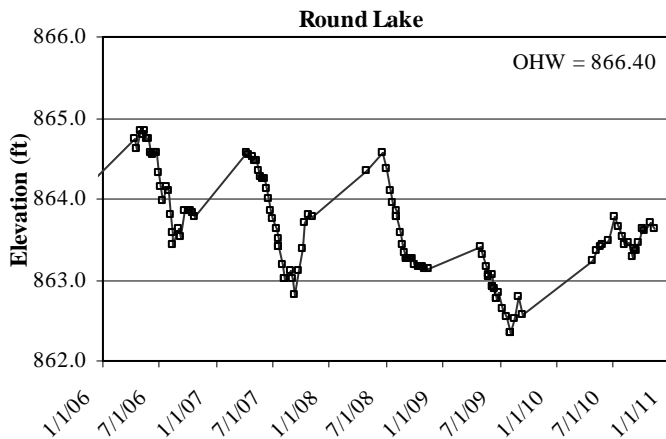
**Locations:** Lake Itasca, Round Lake, Rogers Lake

**Results:** Water levels were measured on Rogers, Round, and Itasca lakes 17, 18, and 159 times respectively. The level in Itasca Lake was measured much more frequently because a WL40 data logger was installed to record daily water levels. Reading a manual gauge was not possible because water was low, forcing placement of the gauge far from shore where volunteers could not read it.

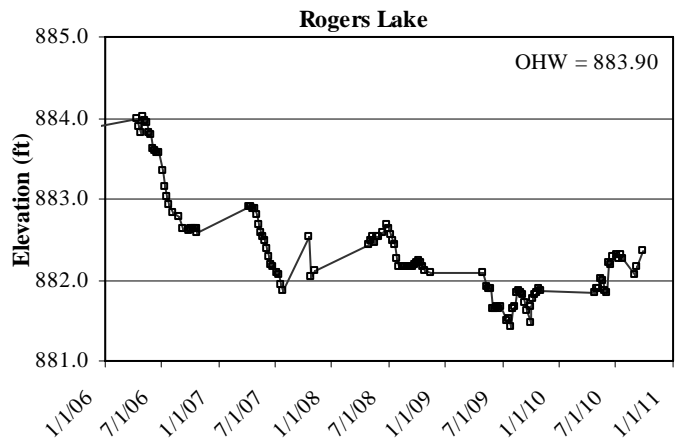
In 2010 these lakes began to rebound from record and near-record low water levels in 2009 because of near normal rainfall. The average water level in Round Lake increased by 0.65 feet between 2009 and 2010. Rogers Lake declined nearly continuously between 2006 and 2009, with a total drop of over two feet. The average Rogers Lake level increased by 0.37 feet between 2009 and 2010. The average Itasca Lake level in was 0.29 feet higher in 2010 than 2009.

Ordinary High Water Level (OHW), the elevation below which a DNR permit is needed to perform work, is listed for each lake on the corresponding graphs below.

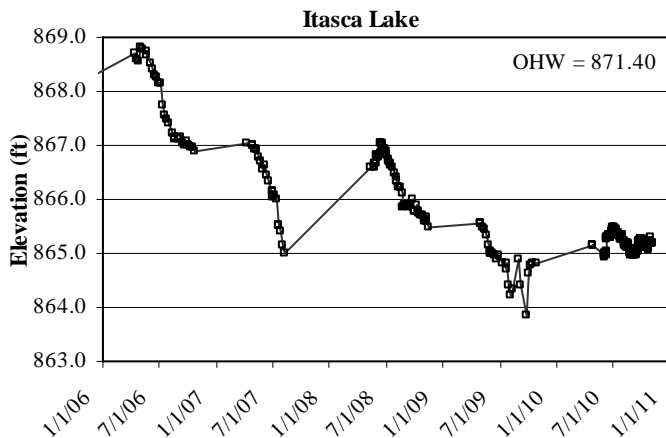
**Round Lake Levels 2006-2010**



**Rogers Lake Levels 2006-2010**



**Itasca Lake Levels 2006-2010**



### Lower Rum River Watershed Lake Levels Summary 2006-2010

Lake	Year	Average	Min	Max
Itasca	2006	867.81	866.90	869.77
	2007	866.25	865.01	867.03
	2008	866.36	865.50	867.05
	2009	864.90	863.86	865.57
	2010	865.19	864.92	865.47
Rogers	2006	883.28	882.59	884.02
	2007	882.19	881.79	882.91
	2008	882.33	882.09	882.69
	2009	881.73	881.43	882.08
	2010	882.10	881.84	882.36
Round	2006	864.21	863.44	864.85
	2007	864.21	863.44	864.85
	2008	863.52	863.09	864.54
	2009	862.84	862.35	863.41
	2010	863.49	863.23	863.79

## Lake Water Quality

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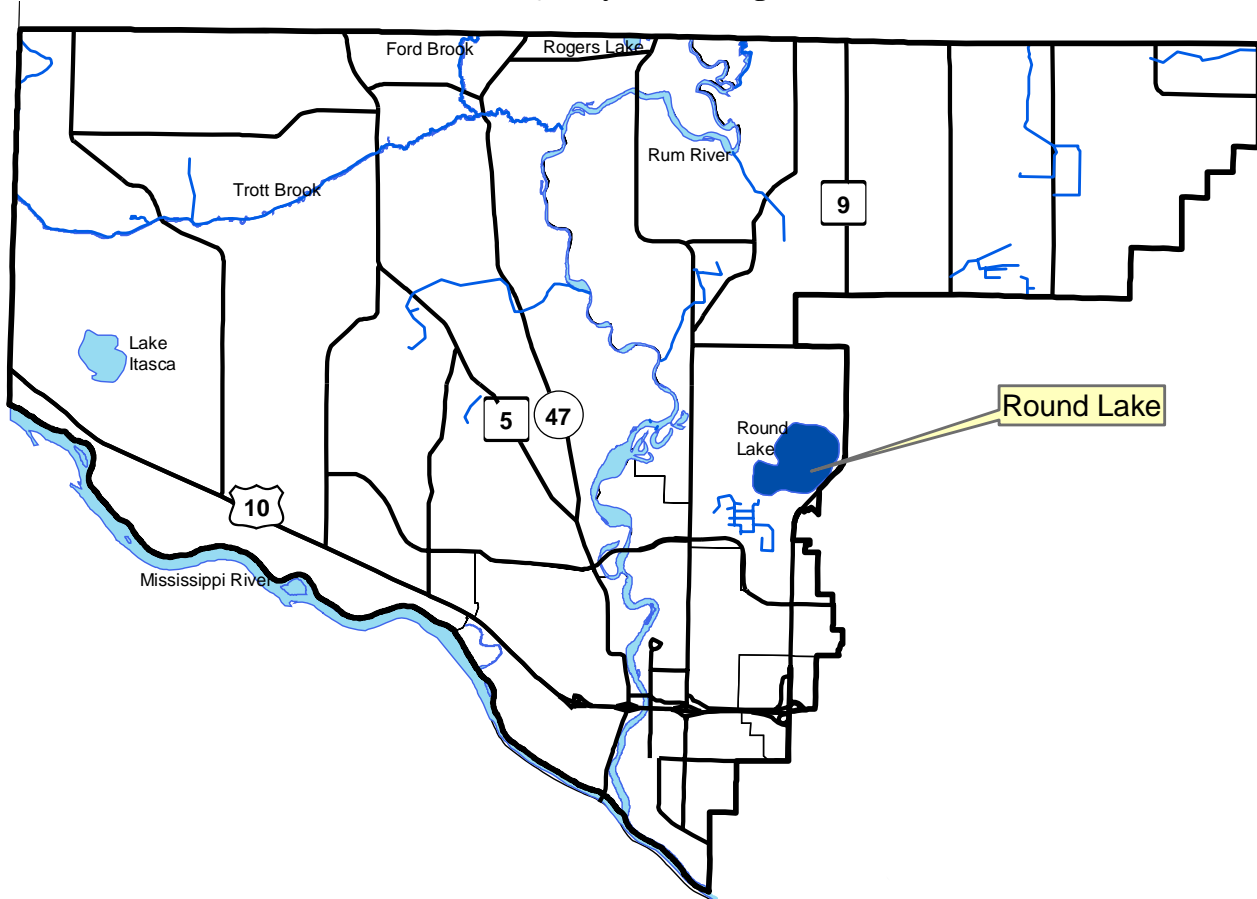
**Description:** May through September twice-monthly monitoring of the following parameters: total phosphorus, chlorophyll-a, Secchi transparency, dissolved oxygen, turbidity, temperature, conductivity, pH, and salinity.

**Purpose:** To detect water quality trends and diagnose the cause of changes.

**Locations:** Round Lake

**Results:** Detailed data for each lake are provided on the following pages, including summaries of historical conditions and trend analysis. Previous years' data are available from the ACD. Refer to Chapter 1 for additional information on interpreting the data and on lake dynamics.

### Lower Rum River Watershed Lake Water Quality Monitoring Sites



## Round Lake

City of Andover, Lake ID # 03-0089

### Background

Round Lake is located in southwest Anoka County. It has a surface area of 220 acres and maximum depth of 19 feet, though the majority of the lake is less than 4 feet deep. The lake is surrounded by cattails and has submerged vegetation interspersed throughout the basin. This lake has a small watershed, with a watershed to surface area ratio of less than 10:1. Public access is from a dirt ramp on the lake's southeast side. Almost no boating and only wintertime fishing occurs. Wildlife, especially waterfowl, usage of the lake is relatively high.

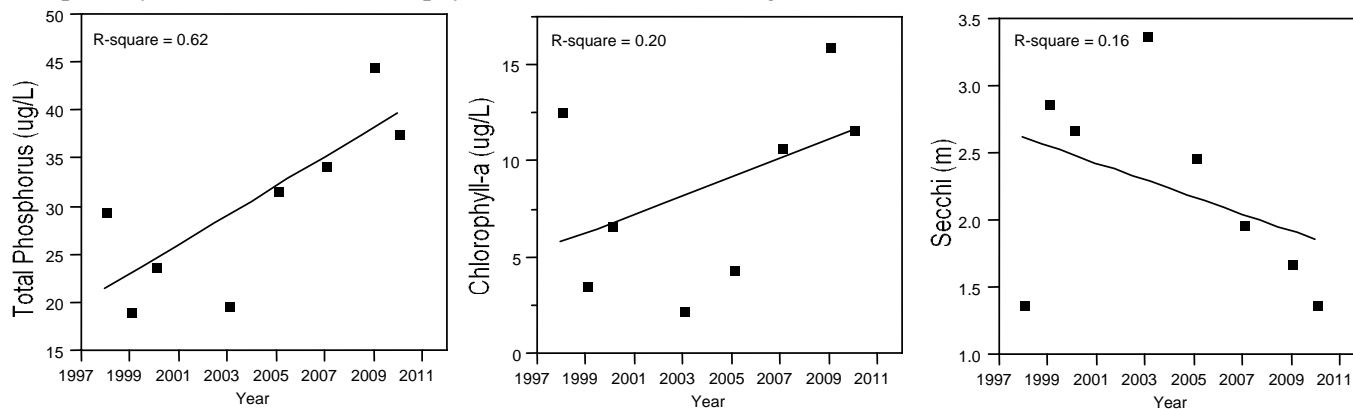
### 2010 Results

In 2010 Round Lake had average water quality compared with other lakes in this region (NCHF Ecoregion) receiving an overall C letter grade, but water quality was poorer than in most previous years. The lake was slightly eutrophic. Average total phosphorus and chlorophyll *a* were only slightly lower than the highest recorded values from 2009. Secchi transparency was only 4.6 feet, which is the poorest ever observed at this lake.

Lake water quality changed throughout the growing season, but was generally poorer than desired through summer. Total phosphorus concentrations were between 25 and 50  $\mu\text{g/L}$ , which is a relatively large range. This variability in total phosphorus was positively correlated with changes in chlorophyll *a* concentrations. The highest chlorophyll *a* (and total phosphorus) occurred in the spring and mid-late summer. Secchi transparency was consistently poor throughout the summer ranging between 3.4 and 5.7 feet. Subjective ratings of physical condition and recreational suitability by ACD staff indicated minimal problems in the spring, but conditions quickly deteriorated to "definite/high algae" and "swimming impaired" throughout the remainder of 2010.

### Trend Analysis

Eight years of water quality monitoring have been conducted by the Anoka Conservation District (1998-2000, 2003, 2005, 2007, and 2009-2010), which is a marginal number of years for a powerful statistical test of trend analysis. Nevertheless, the results of the analysis indicate a significant trend of declining water quality across the years studied (repeated measures MANOVA with response variables TP, Cl-a, and Secchi depth,  $F_{2,5} = 9.6065$ ,  $p = 0.0194$ ). Examined individually, all three parameters are trending poorer, but the relationship is weak for transparency ( $R^2 = 0.16$ ) and chlorophyll *a* ( $R^2 = 0.20$ ), and strongest for TP ( $R^2 = 0.62$ ).



### Discussion

There are few obvious impacts to the lake. Shoreline development and recreational use is light, while the watershed is small with residential land uses. Because long term data are lacking for this lake it is unclear what is "normal" water quality, but poorer recent years are concerning. Possible factors affecting water quality include low water levels and expansion of Round Lake Boulevard, but each is speculative and not supported by data.

The low water levels could be negatively affecting water quality by making the unconsolidated bottom sediments more susceptible to wind mixing. These sediments could be a source of non-algal turbidity or phosphorus. But the low water levels have also resulted in expansion of emergent plants which can benefit water quality. At the

same time, the submerged plant community seems to be in decline, presumably because of poorer transparency (and therefore light) and/or greater wind mixing.

Another possible impact on water quality is the expansion of Round Lake Boulevard in summer 2004. This road is 100-300 feet from the lake along the entire eastern shore. It was expanded from two lanes to four. Several new stormwater treatment basins were installed next to the roadway to help protect the lake. Yet some residents were concerned. Water quality has continued to deteriorate during the four monitoring years following the road expansion. It seems unlikely that the road would be responsible for this water quality change given the practices in place to protect the lake and the fact that surrounding areas are residential, but it cannot be eliminated as a possibility.

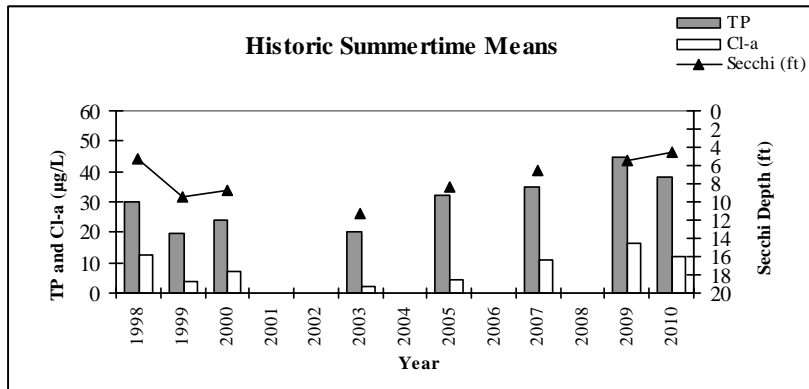
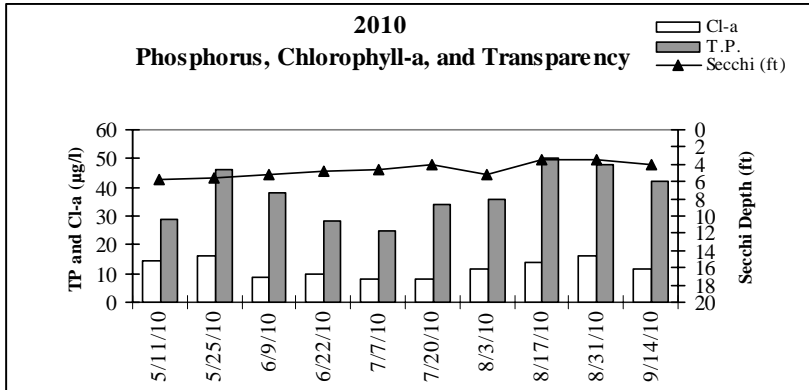
In the end, the reason for poorer water quality in recent years is uncertain. There are no apparent management changes that should be made. This leaves future monitoring and re-evaluation as the only recommendation.

### 2010 Round Lake Water Quality Data

Round Lake 2010	Date	5/11/2010	5/25/2010	6/9/2010	6/22/2010	7/7/2010	7/20/2010	8/3/2010	8/17/2010	8/31/2010	9/14/2010	Average	Min	Max
Units	R.L.*	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results
pH		0.1	7.62	7.92	7.73	8.00	8.37	8.11	7.97	7.75	7.78	8.10	7.94	8.37
Conductivity	mS/cm	0.01	0.427	0.432	0.430	0.368	0.335	0.343	0.371	0.377	0.404	0.396	0.388	0.432
Turbidity	FNRU	1.0	6	11	10	9	12	15	11	11	17	17	12	17
D.O.	mg/L	0.01	11.14	7.33	6.44	9.67	8.89	8.97	7.72	11.27	8.37	N/A	8.87	6.44
D.O.	%	1.0	94	84	66	110	104	100	88	115	90	N/A	95	66
Temp.	°C	0.10	10.2	24.5	19.7	24.5	26.9	25.2	26.9	21.5	24.8	19.1	22.3	10.2
Temp.	°F	0.10	50.4	76.1	67.5	76.1	80.4	77.4	80.4	70.7	76.6	66.4	72.2	50.4
Salinity	%	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Cl-a	µg/L	1.0	14.6	16.0	8.9	9.8	7.9	8.1	11.5	14.1	16.0	11.3	11.8	7.9
T.P.	mg/L	0.005	0.029	0.046	0.038	0.028	0.025	0.034	0.036	0.050	0.048	0.042	0.038	0.050
T.P.	µg/L	5	29	46	38	28	25	34	36	50	48	42	38	50
Secchi	ft	0.1	5.7	5.6	5.1	4.9	4.6	4.1	5.1	3.4	3.5	4.1	4.6	3.4
Secchi	m	0.1	1.7	1.7	1.6	1.5	1.4	1.2	1.6	1.0	1.1	1.2	1.4	1.0
Field Observations														
Physical			2	2.0	2.0	3.0	4.0	4.0	4.0	4.0	4.0	3.0	3.2	2.0
Recreational			2	2.0	2.0	3.0	3.0	3.0	4.0	4.0	4.0	3.0	3.0	2.0

\*Reporting Limit

### Round Lake Water Quality Results



Agency	Year	TP (µg/L)	Cl-a (µg/L)	Secchi (m)	Secchi (ft)	ACD	
Round Lake Summertime Historic Mean	1998	29.8	1.6	2.7	8.8	2000	
	1999	19.6	2.9	2.7	9.5	2000	
	2000	24.1	2.4	2.4	6.9	2000	
	2003	20.0	2.4	3.4	11.3	2003	
	2005	32.0	2.5	2.0	8.3	2005	
	2007	34.7	2.0	2.0	6.5	2007	
	2009	45.0	16.2	1.7	5.5	2009	
	2010	38.0	11.8	1.4	4.6	2010	
	Carlson's Trophic State Indices	1998	53	56	55	55	2000
		1999	47	44	45	45	2000
2000		50	48	46	48	2000	
2003		47	39	42	43	2003	
2005		54	46	47	49	2005	
2007		55	50	50	53	2007	
2009		59	58	52	56	2009	
2010		57	55	55	56	2010	
Round Lake Water Quality Report Card		Year	1998	1999	2000	2003	2005
		TP (µg/L)	B	A	B	A	B
	Cl-a (µg/L)	B	A	A	A	B+	
	Secchi (m)	C	B	B	A	B	
	Secchi (ft)	B	A	B	A	B	
	Overall	B	A	B	A	B	

## **Stream Water Quality - Chemical Monitoring**

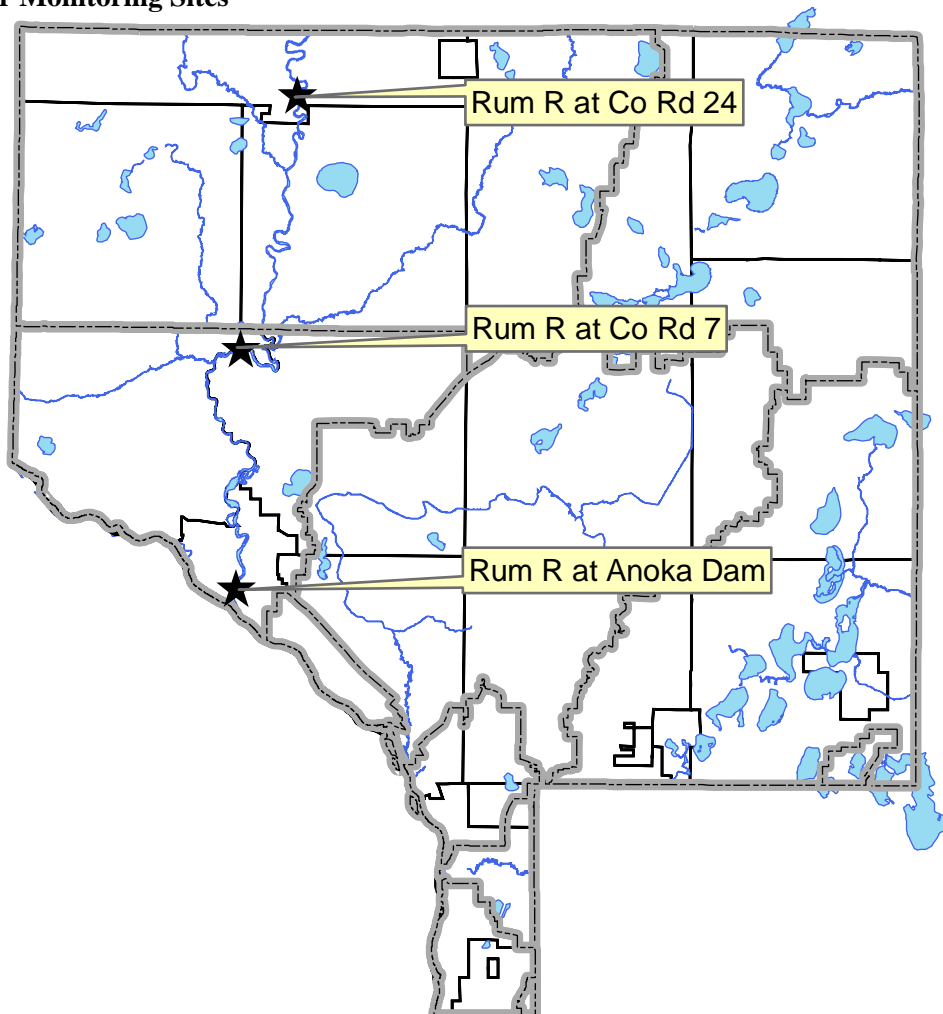
**Description:** The Rum River has been monitored simultaneously at three strategic locations in 2004, 2009, and 2010. The locations include the approximate top and bottom of the Upper and Lower Rum River Watershed Management Organizations. The two organizations share the middle location. The Metropolitan Council collects additional data at the farthest downstream location. Collectively, the data collected allow for an upstream to downstream water quality comparison within Anoka County, as well as within each watershed organization. While other Rum River monitoring has occurred, it is excluded from this report in order to include only data that were collected simultaneously for the greatest comparative value.

**Purpose:** To detect water quality trends and problems, and diagnose the source of problems.

**Locations:** Rum River at Co Rd 24  
Rum River at Co Rd 7  
Rum River at the Anoka Dam

**Results:** Results are presented on the following page, with a focus on comparing river conditions from upstream to downstream. More detailed reporting for the Metropolitan Council WOMP monitoring station, including additional parameters and analysis are presented elsewhere by the Metropolitan Council (see <http://www.metrocouncil.org/Environment/RiversLakes/>).

### **2010 Rum River Monitoring Sites**



## Stream Water Quality Monitoring

### RUM RIVER

Rum River at Co. Rd. 24 (Bridge St), St. Francis	STORET SiteID = S000-066
Rum River at Co. Rd. 7 (Roanoke St), Ramsey	STORET SiteID = S004-026
Rum River at Anoka Dam, Anoka	STORET SiteID = S003-183

#### Years Monitored

At Co. Rd. 24 –	2004, 2009, 2010
At Co. Rd. 7 –	2004, 2009, 2010
At Anoka Dam –	1996-2010 by the Met Council WOMP program

#### Background

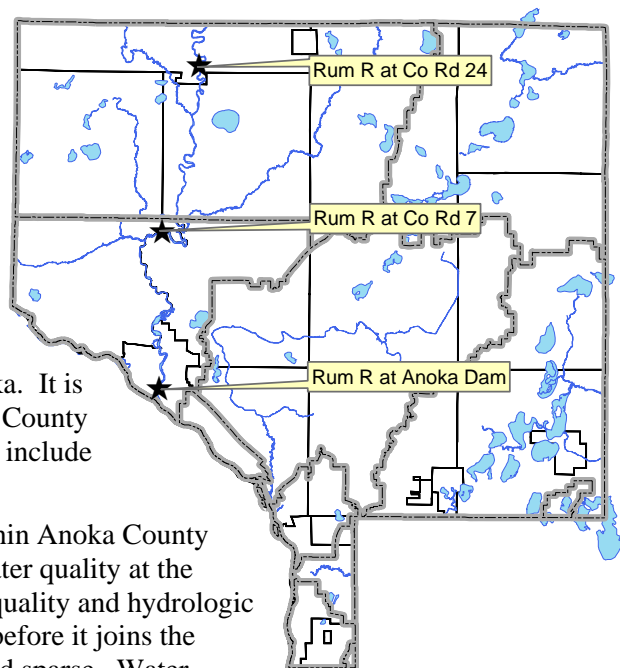
The Rum River is regarded as one of Anoka County's highest quality and most valuable water resources. It is designated as a state scenic and recreational river throughout Anoka County, except south of the county fairgrounds in Anoka. It is used for boating, tubing, and fishing. Much of western Anoka County drains to the Rum River. Subwatersheds that drain to the Rum include Seelye, Trott, and Ford Brooks, and Cedar Creek.

The extent to which water quality improves or is degraded within Anoka County has been unclear. The Metropolitan Council has monitored water quality at the Rum's outlet to the Mississippi River since 1996. This water quality and hydrologic data is well suited for evaluating the river's water quality just before it joins the Mississippi River. Monitoring elsewhere has been sporadic and sparse. Water quality changes might be expected from upstream to downstream because land use changes dramatically from rural residential in the upstream areas of Anoka County to suburban in the downstream areas.

#### Methods

In 2004, 2009, and 2010 monitoring was conducted at three locations simultaneously to determine if Rum River water quality changes in Anoka County, and if so, generally where changes occur. The Upper and Lower Rum River Watershed Management Organizations contributed to this work and monitoring sites were strategically located near the upper and lower boundary of each organization's jurisdictional boundary. The Metropolitan Council maintains a permanent monitoring station at the Anoka Dam, the farthest downstream monitoring site. The Metropolitan Council monitoring was coordinated to occur with the watershed organization monitoring so the data and costs could be shared. The Anoka Conservation District did the field work for both Metropolitan Council and the watershed organizations, ensured monitoring for both programs was conducted simultaneously so the data and costs could be shared, and reports the data together for a more comprehensive analysis of the river from upstream to downstream.

The river was monitored during both storm and baseflow conditions by grab samples. Eight water quality samples were taken each year; half during baseflow and half following storms. Storms were generally defined as one-inch or more of rainfall in 24 hours or a significant snowmelt event combined with rainfall. In some years, particularly the drought year of 2009, smaller storms were sampled because of a lack of larger storms. All storms sampled were significant runoff events. Parameters tested with portable meters included pH, conductivity, turbidity, temperature, salinity, and dissolved oxygen. Parameters tested by water samples sent to a state-certified lab included total phosphorus, total suspended solids, and chlorides. Ten additional parameters were tested by the Metropolitan Council at their laboratory for the Anoka Dam site only and are not reported here. During every sampling the water level (stage) was recorded. The monitoring station at the Anoka Dam includes automated





equipment that continuously tracks water levels and calculates flows. Water level and flow data for other sites was obtained from the US Geological Survey, who maintains a hydrological monitoring site at Viking Boulevard.

The purpose of this report is to make an upstream to downstream comparison of Rum River water quality. It includes only parameters and dates that were simultaneously tested at all three sites. It does not include additional parameters tested at the Anoka Dam or additional monitoring events at that site. For that information, see Metropolitan Council reports at <http://www.metrocouncil.org/Environment/RiversLakes>. All other raw data can be obtained from the Anoka Conservation District and is also available through the Minnesota Pollution Control Agency's EQuIS database, which is available through their website.

## **Results and Discussion**

Overall, Rum River water quality is good throughout Anoka County, however it does decline slightly below the County Road 7 bridge (i.e. in the Cities of Andover, Anoka, and Ramsey) and during storms. The declines in water quality below that point are modest, as are declines in water quality during storms. Dissolved pollutants (as measured by conductivity and chlorides), total phosphorus, turbidity, and total suspended solids were all generally near or below the median of all 34 Anoka County streams that have been monitored, while pH and dissolved oxygen levels were appropriate.

Two areas of concern were noted. First, dissolved pollutants increased at each monitoring site downstream. Dissolved pollutants were highest during baseflow, indicating pollutants have infiltrated into the groundwater which feeds the river and tributaries during baseflow. Road deicing salts are likely the most significant dissolved pollutant. Secondly, total suspended solids increased notably below County Road 7. This was most pronounced during storms.

It is important to recognize the limitations of this report. The data is only from 2004, 2009, and 2010 when all three sites were monitored simultaneously to allow comparisons. It includes drought years (2009), years with slightly above normal precipitation (2010), and years with some excessively wet and some excessively dry months (2004). We did not sample any extreme floods when river water quality is likely worst. If a more detailed analysis of river water quality is desired, data from many years and a variety of conditions is available for the Anoka Dam site through the Metropolitan Council. Their work includes composite samples throughout storms.

On the following pages data are presented and discussed for each parameter. The last section outlines management recommendations. The Rum River is an exceptional waterbody, and its protection and improvement should be a high priority.

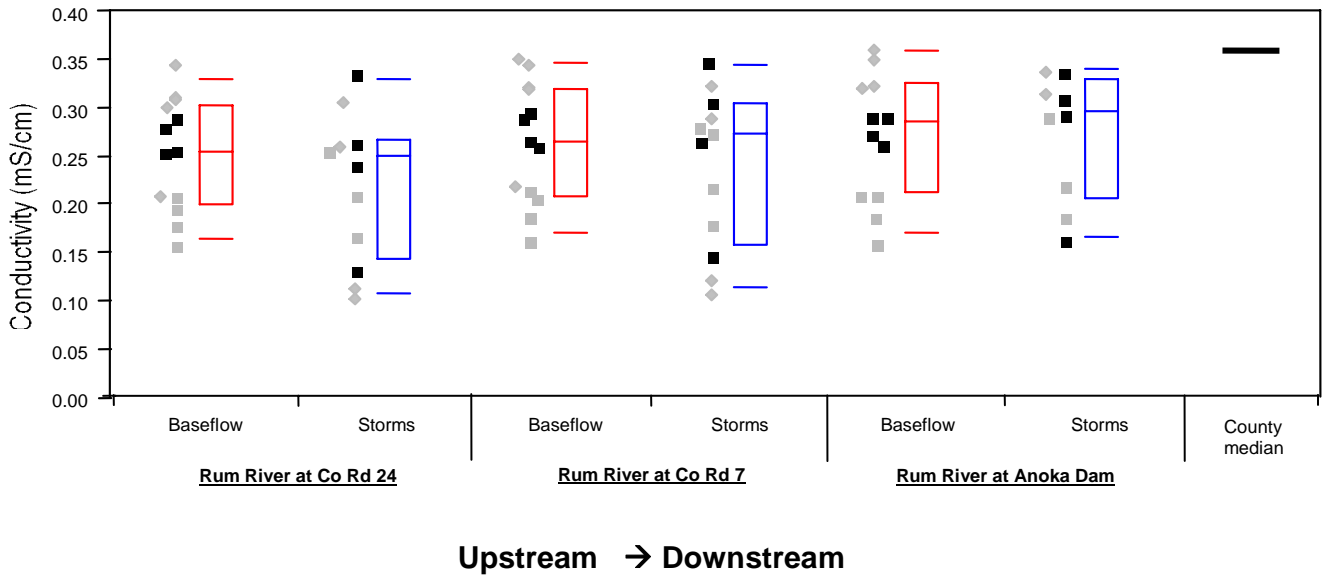
### ***Conductivity and chlorides***

Conductivity and chlorides are measures of dissolved pollutants. Dissolved pollutant sources include urban road runoff, industrial chemicals, and others. Metals, hydrocarbons, road salts, and others are often of concern in a suburban environment. Conductivity is the broadest measure of dissolved pollutants we used. It measures electrical conductivity of the water; pure water with no dissolved constituents has zero conductivity. Chlorides tests for chloride salts, the most common of which are road de-icing chemicals. Chlorides can also be present in other pollutant types, such as wastewater. These pollutants are of greatest concern because of the effect they can have on the stream's biological community. They can also be of concern because the Rum River is upstream from the Twin Cities drinking water intakes on the Mississippi River.

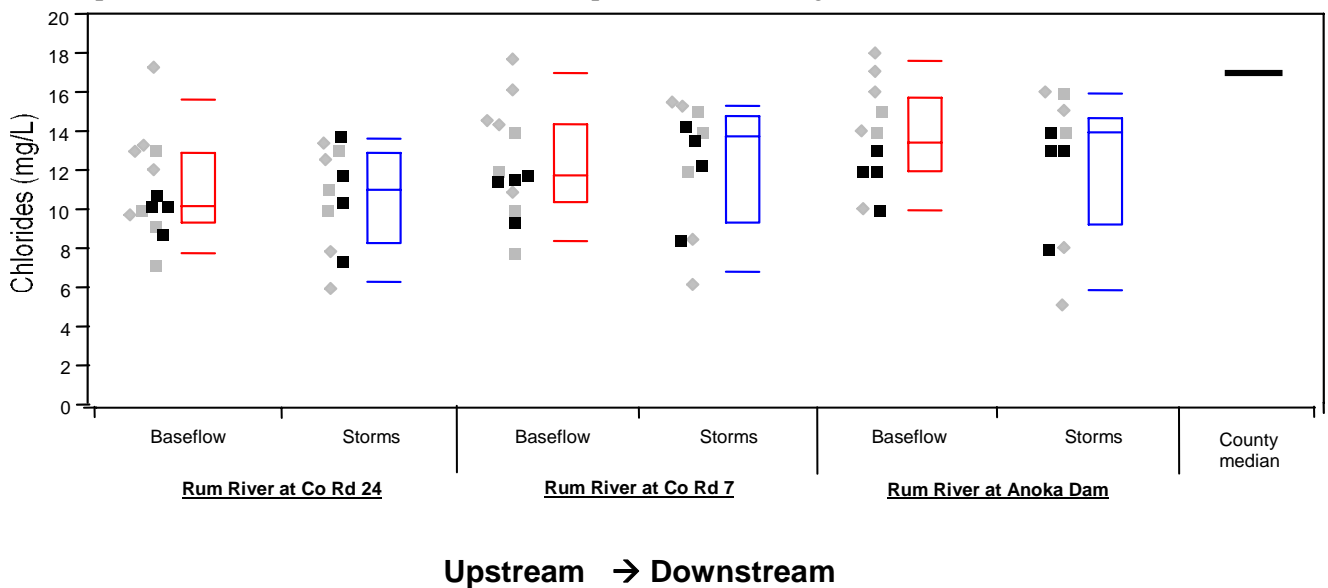
Conductivity is acceptably low in the Rum River, but increases downstream (see figure below) and during baseflow. Median conductivity from upstream to downstream was 0.256 mS/cm, 0.272 mS/cm, and 0.296 mS/cm, respectively. This is lower than the median for 34 Anoka County streams of 0.362 mS/cm. The maximum observed conductivity in the Rum River was 0.365 mS/cm. Conductivity was lowest at all sites during storms, suggesting that stormwater runoff contains fewer dissolved pollutants than the surficial water table that feeds the river during baseflow. High baseflow conductivity has been observed in most other nearby streams too,

studied extensively, and the largest cause has been found to be road salts that have infiltrated into the shallow aquifer. Geologic materials also contribute, but to a lesser degree. Baseflow conductivity increases from upstream to downstream, reflecting greater road densities and deicing salt application. Storm conductivity, while lower than baseflow, did also increase from upstream to downstream. This is reflective of greater stormwater runoff and pollutants associated with the more densely developed lower watershed.

**Conductivity during baseflow and storm conditions** Grey squares are individual readings from 2004; grey diamonds are 2009 readings, and black squares are 2010 readings. Box plots show the median (middle line), 25<sup>th</sup> and 75<sup>th</sup> percentile (ends of box), and 10<sup>th</sup> and 90<sup>th</sup> percentiles (floating outer lines).



**Chloride during baseflow and storm conditions** Grey squares are individual readings from 2004; grey diamonds are 2009 readings, and black squares are 2010 readings. Box plots show the median (middle line), 25<sup>th</sup> and 75<sup>th</sup> percentile (ends of box), and 10<sup>th</sup> and 90<sup>th</sup> percentile (floating outer lines).



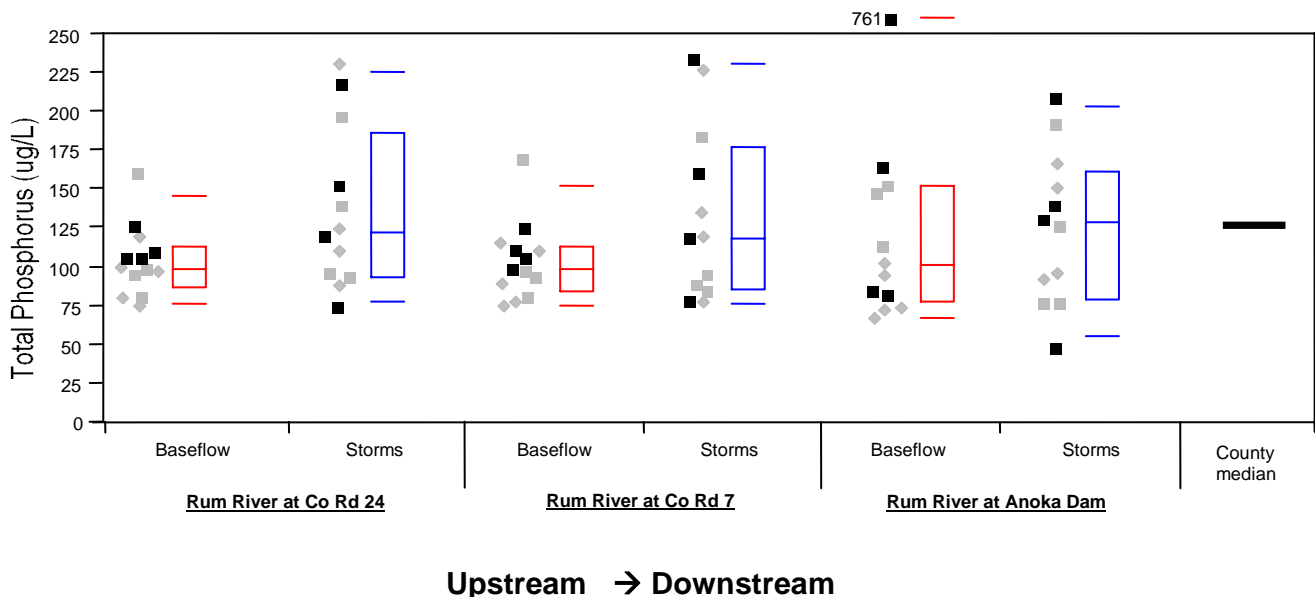
Chloride results parallel those found for conductivity (see figure above), supporting the hypothesis that chloride is an important cause of the conductivity. Chloride levels in the Rum River (median 11, 12, and 14 mg/L from upstream to downstream) are similar to the median for Anoka County streams of 12 mg/L. The highest observed value was 18 mg/L, though higher levels may have occurred during snowmelts which were not monitored. The levels observed are much lower than the Minnesota Pollution Control Agency’s (MPCA) chronic standard for aquatic life of 230 mg/L. Like conductivity, chlorides were slightly higher during baseflow than storms at each site and increased from upstream to downstream. Road deicing salt infiltration into the shallow groundwater is likely the primary contributor, as described above.

**Total Phosphorus**

Total phosphorus in the Rum River is acceptably low and is similar to the median for all other monitored 34 Anoka County streams (see figure below). This nutrient is one of the most common pollutants in our region, and can be associated with urban runoff, agricultural runoff, wastewater, and many other sources. The median phosphorus concentration at each of the three monitored sites was 106, 105, and 113 ug/L. These upstream-to-downstream differences are negligible and there is no trend of increasing phosphorus downstream. All sites occasionally experience phosphorus concentrations higher than the median for Anoka County streams of 128 ug/L. All of the highest observed total phosphorus readings were during storms, including the maximums at each site of 230, 234, and 761 ug/L (upstream to downstream). In all, phosphorus in the Rum River is at acceptable levels but should continue to be an area of pollution control effort as the area urbanizes.

One 2010 total phosphorus reading was excessively high, but we feel this outlier is likely an error. On September 22 a reading of 761 ug/L was recorded at the Anoka Dam. This was recorded as a baseflow sample because no recent rains had occurred, but was during a period of extended high water. River stage was approximately 0.5 feet higher than during the other baseflow samples. During this event dissolved phosphorus was analyzed in addition to total phosphorus. Dissolved phosphorus was only 13% of total phosphorus. Therefore most of the total phosphorus must be particulate phosphorus. Yet, inconsistently, there were few particulates in the water; total suspended solids was only 6 mg/L. Likewise, nothing in the field notes suggest unusually high turbidity. If this reading of 761 ug/L total phosphorus is excluded, as it probably should be, the next highest observed TP at this site is 209 ug/L.

**Total phosphorus during baseflow and storm conditions** Grey squares are individual readings from 2004; grey diamonds are 2009 readings, and black squares are 2010 readings. Box plots show the median (middle line), 25<sup>th</sup> and 75<sup>th</sup> percentile (ends of box), and 10<sup>th</sup> and 90<sup>th</sup> percentiles (floating outer lines).



### ***Turbidity and Total Suspended Solids (TSS)***

Turbidity and total suspended solids (TSS) are two different measurements of solid material suspended in the water. Turbidity is measured by refraction of a light beam passed through a water sample. It is most sensitive to large particles. Total suspended solids is measured by filtering solids from a water sample and weighing the filtered material. The amount of suspended material is important because it affects transparency and aquatic life, and because many other pollutants are attached to particles. Many stormwater treatment practices such as street sweeping, sumps, and stormwater settling ponds target sediment and attached pollutants. Suspended solids in the Rum River are moderately high, but only at the Anoka Dam and during storms. The results for turbidity and TSS differ, lending insight into the types of particles that are problematic.

It is important to note the suspended solids can come from sources in and out of the river. Sources on land include soil erosion, road sanding, and others. Riverbank erosion and movement of the river bottom also contributes to suspended solids. A moderate amount of this “bed load” is natural and expected.

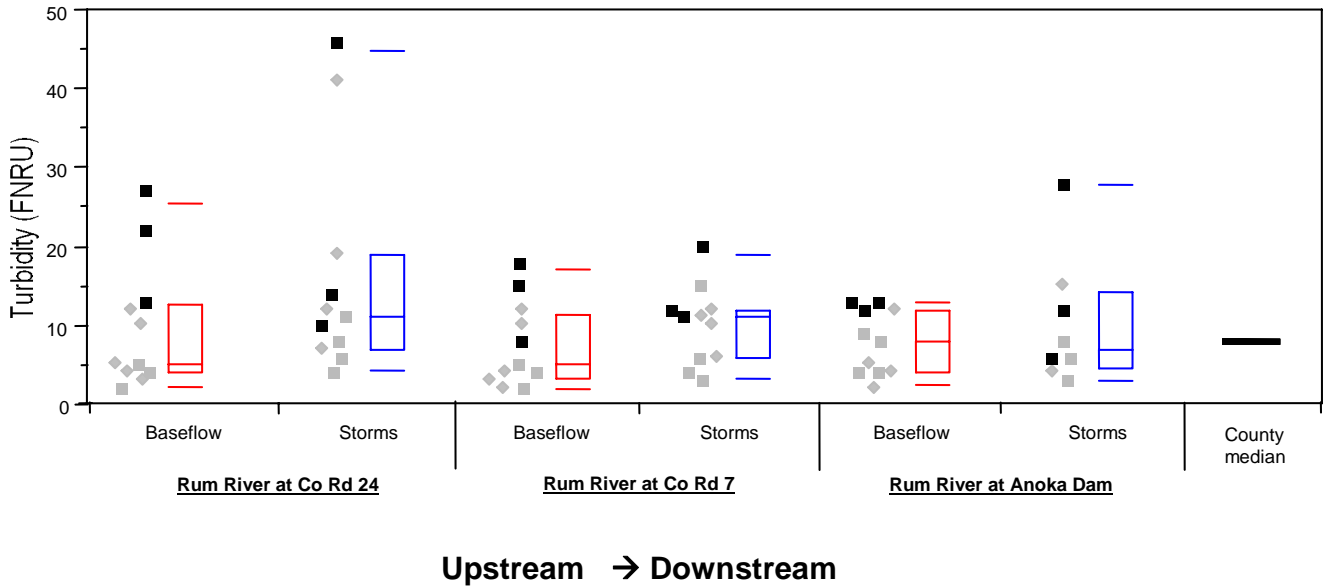
In the Rum River, turbidity was low with only slight increases during storms and no apparent increase at downstream monitoring sites (see figure below). The median turbidity at each site was 10, 8, and 8 FNRU (upstream to downstream), which is similar to the median for Anoka County streams of 8 FNRU. Turbidity was elevated on a few occasions, especially during storms. The maximum observed was 46 FNRU. The Rum River’s turbidity exceeded the Minnesota Pollution Control Agency’s water quality standard of 25 NTU during only four of 65 events (6%).

TSS was similar at the two upstream sites, but higher at the Anoka Dam (see figure below). The countywide TSS median for streams is 12 mg/L. The median at the Rum River sites from upstream to down stream was 8, 9, and 15 mg/L. At all the sites the median during storms was higher than baseflow. At the upstream site the difference between median TSS during storms and baseflow was 2 mg/L, while at County Road 7 it was 4 mg/L and at the Anoka Dam 8 mg/L. TSS during storms was much more variable due to variability in storms sampled. The maximum readings and moderate increases during storms are not unexpectedly high for a large river, and are within the range that should be considered healthy. At the same time, the increase in TSS between County Road 7 and the Anoka Dam is concerning. While it is concerning to have noticeable water quality deterioration in such a short stretch of river, it is not unexpected given the higher levels of land development between these two sites. No sites approached the Minnesota Pollution Control Agency’s surrogate turbidity standard of 100 mg/L TSS.

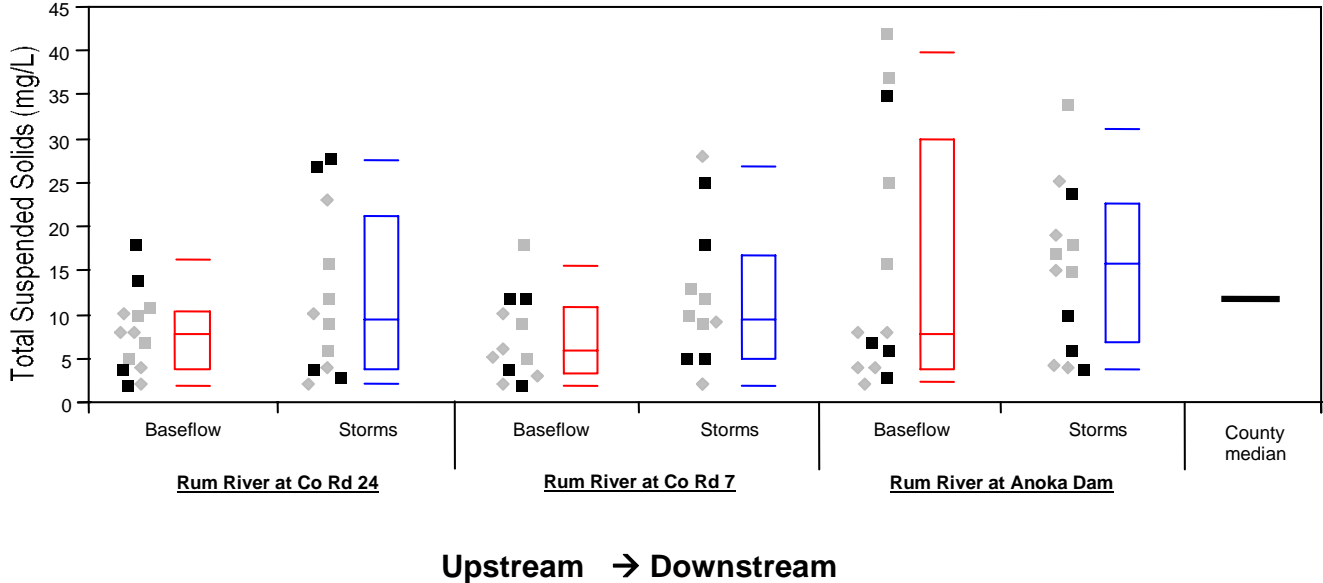
Differences between TSS and turbidity lend insight into the nature of any problems. TSS showed increases at the downstream monitoring site, while turbidity did not. Turbidity is most sensitive to large particles. Therefore, the downstream increases are likely due to smaller particles. Other pollutants, such as phosphorus and metals, are most highly correlated with smaller particles. These other pollutants can “hitch a ride” on smaller particles because of their greater surface area and, in the case of certain soils, ionic charge. Furthermore, small particles stay suspended in the water column and therefore are more likely to be transported by stream flows and are more difficult to remove with stormwater practices like settling ponds.

It should be noted that the data presented here do not include monitoring of any large flood events. The water is known to become muddier during such floods.

**Turbidity during baseflow and storm conditions** Grey squares are individual readings from 2004; grey diamonds are 2009 readings, and black squares are 2010 readings. Box plots show the median (middle line), 25<sup>th</sup> and 75<sup>th</sup> percentile (ends of box), and 10<sup>th</sup> and 90<sup>th</sup> percentiles (floating outer lines).



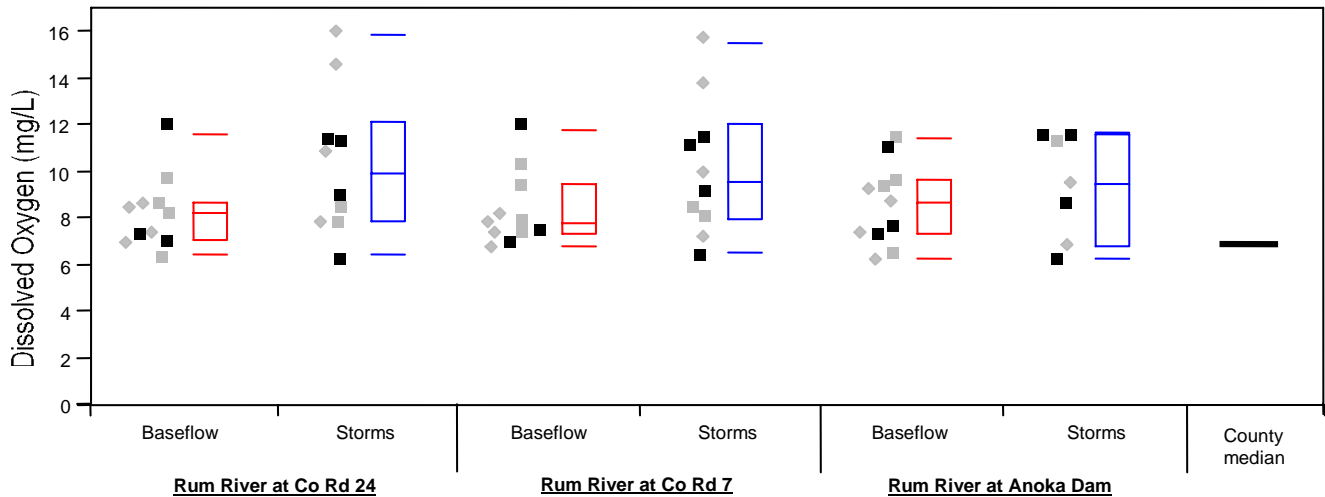
**Total suspended solids during baseflow and storm conditions** Grey squares are individual readings from 2004; grey diamonds are 2009 readings, and black squares are 2010 readings. Box plots show the median (middle line), 25<sup>th</sup> and 75<sup>th</sup> percentile (ends of box), and 10<sup>th</sup> and 90<sup>th</sup> percentiles (floating outer lines).



**Dissolved Oxygen**

Dissolved oxygen is necessary for aquatic life, including fish. Organic pollution consumes oxygen when it decomposes. If oxygen levels fall below 4 mg/L aquatic life begins to suffer. In the Rum River dissolved oxygen was always above 6 mg/L at all monitoring sites.

**Dissolved oxygen during baseflow and storm conditions** Grey squares are individual readings from 2004; grey diamonds are 2009 readings, and black squares are 2010 readings. Box plots show the median (middle line), 25<sup>th</sup> and 75<sup>th</sup> percentile (ends of box), and 10<sup>th</sup> and 90<sup>th</sup> percentiles (floating outer lines).



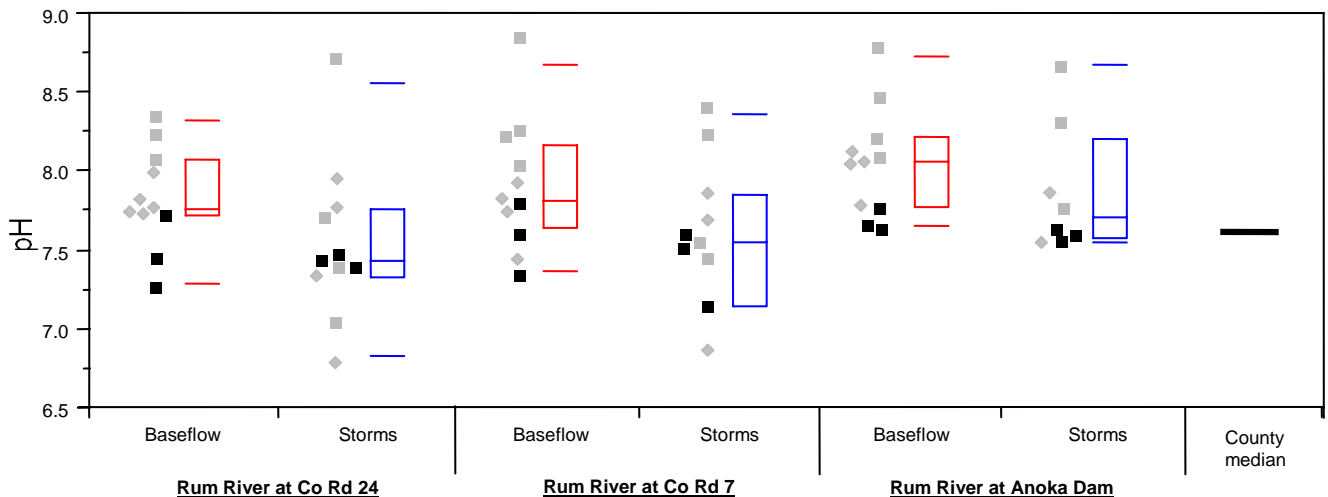
Upstream → Downstream

**pH**

pH refers to the acidity of the water. The Minnesota Pollution Control Agency’s water quality standard is for pH to be between 6.5 and 8.5. The Rum River is regularly within this range (see figure below). Each of the three sites exceeded 8.5 on one occasion, but the highest was only 8.85. This rare and modest exceedance of the state water quality standard is not concerning.

It is interesting to note that pH is lower during storms than during baseflow. This is because the pH of rain is typically lower (more acidic). While acid rain is a longstanding problem, it’s affect on this aquatic system is small.

**pH during baseflow and storm conditions** Grey squares are individual readings from 2004; grey diamonds are 2009 readings, and black squares are 2010 readings. Box plots show the median (middle line), 25<sup>th</sup> and 75<sup>th</sup> percentile (ends of box), and 10<sup>th</sup> and 90<sup>th</sup> percentiles (floating outer lines).



Upstream → Downstream

## Recommendations

While the Rum River's water quality is generally good, it does show some deterioration in the downstream areas that are most developed. Protection of the Rum River should be a high priority for local officials. Large population increases are expected for the Rum River's watershed within Anoka County and have the potential to degrade water quality unless carefully sited and managed. Development pressure is likely to be especially high near the river because of its scenic and natural qualities. Measures to maintain the Rum River's good water quality should include:

- Enforce the building and clear-cutting setbacks from the river required by state scenic rivers laws to avoid bank erosion problems and protect the river's scenic nature.
- Use the best available technologies to reduce pollutants delivered to the river and its tributaries through the storm sewer system. Any new development should consider low impact development strategies that minimize stormwater runoff production. Aggressive stormwater treatment should be pursued in all areas of the watershed, not just those adjacent to the river. The area's soils are well suited to stormwater treatment by infiltration.
- Seek improvements to the existing stormwater conveyance system below County Road 7. Total suspended solids in the river increase significantly in this portion of the watershed, reaching their highest concentrations during storms.
- Utilize all practical means to reduce road deicing salt applications. These may include more efficient application methods, application only in priority areas, alternate chemicals, or others. Road salt infiltration into the shallow groundwater has become a regional problem. Deicing salts are apparent year-round in the groundwater that feeds area streams.
- Survey the river by boat for bank erosion problems and initiate projects to correct them.
- Continue education programs to inform residents of the direct impact their actions have on the river's health.
- Continue regular water quality monitoring. In addition to continuous monitoring of the Rum River by Metropolitan Council's Watershed Outlet Monitoring Program (WOMP), additional upstream monitoring should be conducted every 2-3 years. Monitoring should be coordinated to occur on the same days as the Met Council testing so direct comparisons are possible. Additionally, periodic monitoring of the primary tributary streams should also occur every 2-3 year. The Upper and Lower Rum River Watershed Management Organizations are best suited to do this watershed-level monitoring and should coordinate.

## **Stream Water Quality – Biological Monitoring**

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- Description:** This program combines environmental education and stream monitoring. Under the supervision of ACD staff, high school science classes collect aquatic macroinvertebrates from a stream, identify their catch to the family level, and use the resulting numbers to gauge water and habitat quality. These methods are based upon the knowledge that different families of macroinvertebrates have different water and habitat quality requirements. The families collectively known as EPT (Ephemeroptera, or mayflies; Plecoptera, or stoneflies; and Trichoptera, or caddisflies) are pollution intolerant. Other families can thrive in low quality water. Therefore, a census of stream macroinvertebrates yields information about stream health.
- Purpose:** To assess stream quality, both independently as well as by supplementing chemical data. To provide an environmental education service to the community.
- Locations:** Rum River behind Anoka High School, south side of Industry Ave, Anoka
- Results:** Results for each site are detailed on the following pages.

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### **Tips for Data Interpretation**

Consider all biological indices of water quality together rather than looking at each alone, because each gives only a partial picture of stream condition. Compare the numbers to county-wide averages. This gives some sense of what might be expected for streams in a similar landscape, but does not necessarily reflect what might be expected of a minimally impacted stream. Some key numbers to look for include:

- # Families                      Number of invertebrate families. Higher values indicate better quality.
- EPT                                Number of families of the generally pollution-intolerant orders Ephemeroptera (mayflies), Plecoptera (stoneflies), Trichoptera (caddisflies). Higher numbers indicate better stream quality.
- Family Biotic Index (FBI)      An index that utilizes known pollution tolerances for each family. Lower numbers indicate better stream quality.

<b>FBI</b>	<b>Stream Quality Evaluation</b>
0.00-3.75	Excellent
3.76-4.25	Very Good
4.26-5.00	Good
5.01-5.75	Fair
5.76-6.50	Fairly Poor
6.51-7.25	Poor
7.26-10.00	Very Poor

- % Dominant Family                      High numbers indicates an uneven community, and likely poorer stream health.
-



# Biomonitoring

## RUM RIVER

behind Anoka High School, Anoka  
 STORET SiteID = S003-189

### Last Monitored

By Anoka High School in 2010

### Monitored Since

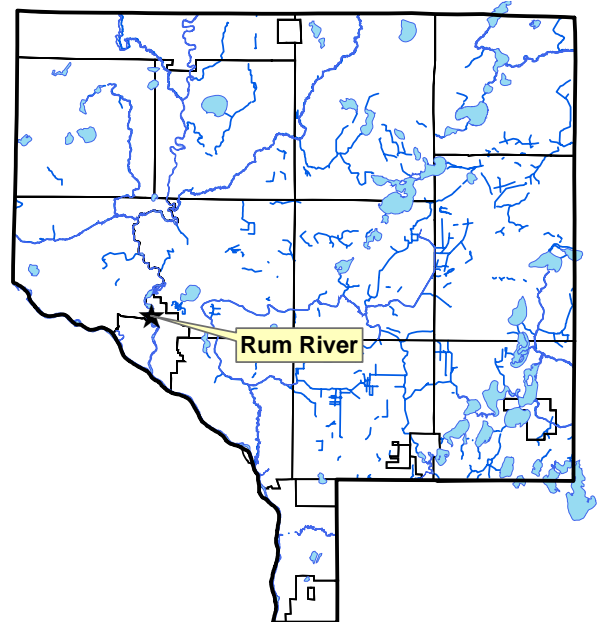
2001

### Student Involvement

40 students in 2010, approximately 410 since 2001

### Background

The Rum River originates from Lake Mille Lacs, and flows south through western Anoka County where it joins the Mississippi River in the City of Anoka. Other than the Mississippi, this is the largest river in the county. In Anoka County the river has both rocky riffles (northern part of county) as well as pools and runs with sandy bottoms. The river's condition is generally regarded as excellent. Most of the Rum River in Anoka County has a state "scenic and recreational" designation. The sampling site is near the Bunker Lake Boulevard bridge behind Anoka High School.

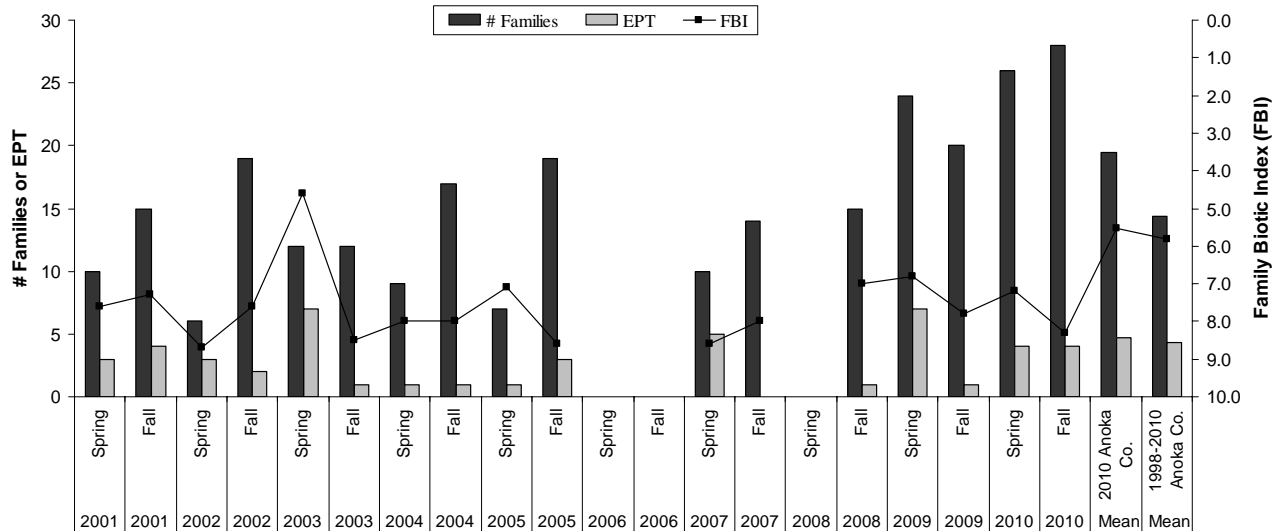


Most sampling is not conducted in the main channel. Rather, it occurs in a backwater area. Water is not flowing in this location and the bottom is mucky. This site is not particularly representative of this reach of the river.

### Results

Anoka High School monitored this site in both spring and fall 2010. The results for this site in 2010 were slightly better than most previous years, though this may be due to doubling of the number of students sampling compared to previous years. In 2010 more families (26 and 28) were found than ever before at this site, nearly double the county-wide average. Larger rivers generally have more families than smaller streams. In the spring and fall four pollution-sensitive EPT families were found. Because most species were not particularly sensitive to pollution, the Family Biotic Index was lower than the county average and similar to previous years. One likely reason few sensitive families were found is that sampling was in a mucky backwater. More may have been found in the main channel.

### Summarized Biomonitoring Results for Rum River behind Anoka High School



## Biomonitoring Data for Rum River at Anoka High School

Data presented from the most recent five years. Contact the ACD to request archived data.

Year	2006	2006	2007	2007	2008	2008	2009	2009	2010	2010	Mean	Mean
Season	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	Spring	Fall	2010 Anoka Co.	1998-2010 Anoka Co.
FBI			8.60	8.00		7.00	6.80	7.80	7.20	8.30	5.5	5.8
# Families			10	14		15	24	20	26	28	19.4	14.3
EPT			5	0		1	7	1	4	4	4.7	4.3
Date			7-May	22-Oct		13-Oct	8-May	28-Sep	18-May	7-Oct		
Sampled By			AHS	AHS		AHS	AHS	AHS	AHS	AHS		
Sampling Method			MH	MH		MH	MH	MH	MH	MH		
Mean # Individuals/Rep.			208	244		626	880	585	443	816		
# Replicates			1	1		1	1	2	1	1		
Dominant Family			Corixidae	Coenagrionidae		Baetidae	Siphonuridae	Hyalellidae (formerly Talitridae)	Gastropoda	Hyalellidae (formerly Talitridae)		
% Dominant Family			91.8	37.3		26.5	40.7	39.1	31.8	34.1		
% Ephemeroptera			5.3	0		26.5	48.2	0.9	8.1	0.9		
% Trichoptera			0	0		0	0.1	0	0	0.2		
% Plecoptera			0.5	0		0	2.6	0	0.5	0		

## Supplemental Stream Chemistry Readings

Data presented from the most recent five years. Contact the ACD to request archived data.

Parameter	5/7/2007	10/22/2007	10/10/2008	5/8/2009	9/28/2009	5/18/2010	10/7/2010
pH	8.5	7.42	7.75	7.91	7.82	7.24	7.22
Conductivity (mS/cm)	0.283	0.243	0.348	0.276	0.421	0.207	0.399
Turbidity (NTU)	17	13	3	6	5	7	7
Dissolved Oxygen (mg/L)	11.41	9.72	8.99	10.82	8.76	6.93	na
Salinity (%)	0.01	0	0.01	0.01	0.01	0	0.01
Temperature (°C)	15.3	10.6	12.3	17.2	15.5	14.8	12.2

## Discussion

Biomonitoring results for this site are much different from the monitoring farther upstream in St. Francis. In St. Francis the Rum River harbors the most diverse and pollution-sensitive macroinvertebrate community of all sites monitored in Anoka County. At the Anoka location diversity has been high in recent samplings, but the biotic indices indicate a poorer than average river health. The reason for this dramatic difference is probably habitat differences, and to a lesser extent, water quality.

The habitat and overall nature of the river is different in St. Francis and Anoka. In the upstream areas around St. Francis the river has a steeper gradient, moves faster, and has a variety of pools, riffles, and runs.

Downstream, near Anoka, the river is much slower moving, lacking pools, riffles and runs. The bottom is heavily silt laden. The area is more developed, so there are more direct and indirect human impacts to the river.

Water quality declines downstream, though it is still quite good at all locations. Chemical monitoring in 2004, 2009, and 2010 revealed that total suspended solids, conductivity, and chlorides were all higher near Anoka than upstream. This is probably due to more urbanized land uses and the accompanying storm water inputs. Given that water quality is still quite good even in these downstream areas, it is unlikely that water quality is the primary factor limiting macroinvertebrates at the City of Anoka.

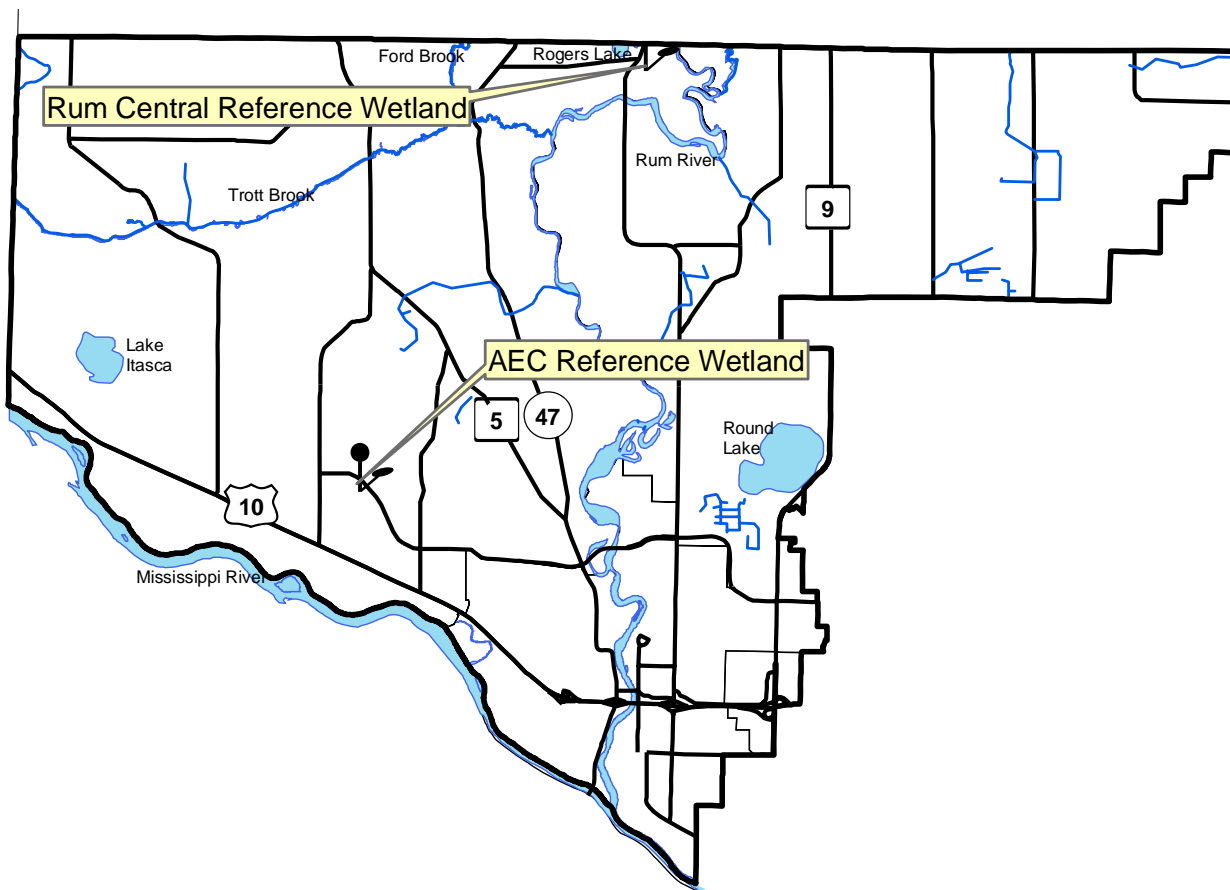
One additional factor to consider when comparing the up and downstream monitoring results is the type of sampling location. Sampling near Anoka was conducted mostly in a backwater area that has a mucky bottom and does not receive good flow. This area is unlikely to be occupied by families which are pollution intolerant because those families generally favor rocky habitats and require high dissolved oxygen not found in stagnant areas.



## Wetland Hydrology

- Description:** Continuous groundwater level monitoring at a wetland boundary to a depth of 40 inches. County-wide, the ACD maintains a network of 21 wetland hydrology monitoring stations.
- Purpose:** To provide understanding of wetland hydrology, including the impact of climate and land use. These data aid in delineation of nearby wetlands by documenting hydrologic trends including the timing, frequency, and duration of saturation.
- Locations:** AEC Reference Wetland, Connexus Energy Property on Industry Ave, Ramsey  
Rum River Central Reference Wetland, Rum River Central Park, Ramsey
- Results:** See the following pages. Raw data and updated graphs can be downloaded from [www.AnokaNaturalResources.com](http://www.AnokaNaturalResources.com) using the Data Access Tool.

### Lower Rum River Watershed Wetland Hydrology Monitoring Sites



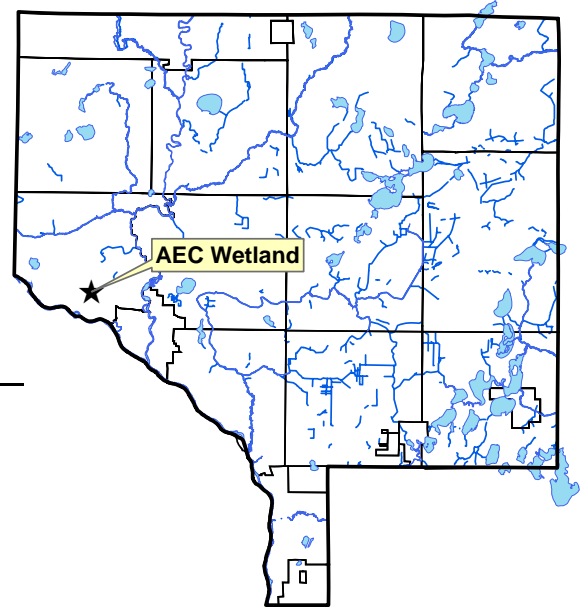
# Wetland Hydrology Monitoring

## AEC REFERENCE WETLAND

Cottonwood Park, adjacent to Connexus Energy Offices (formerly Anoka Electric Coop), Ramsey

### Site Information

**Monitored Since:** 1999  
**Wetland Type:** 3  
**Wetland Size:** ~18 acres  
**Isolated Basin?** No, probably receives storm water  
**Connected to a Ditch?** No



### Soils at Well Location:

Horizon	Depth	Color	Texture	Redox
A	0-15	10yr2/1	Sandy Loam	-
Bw	15-40	10yr3/2	Gravelly Sandy loam	-

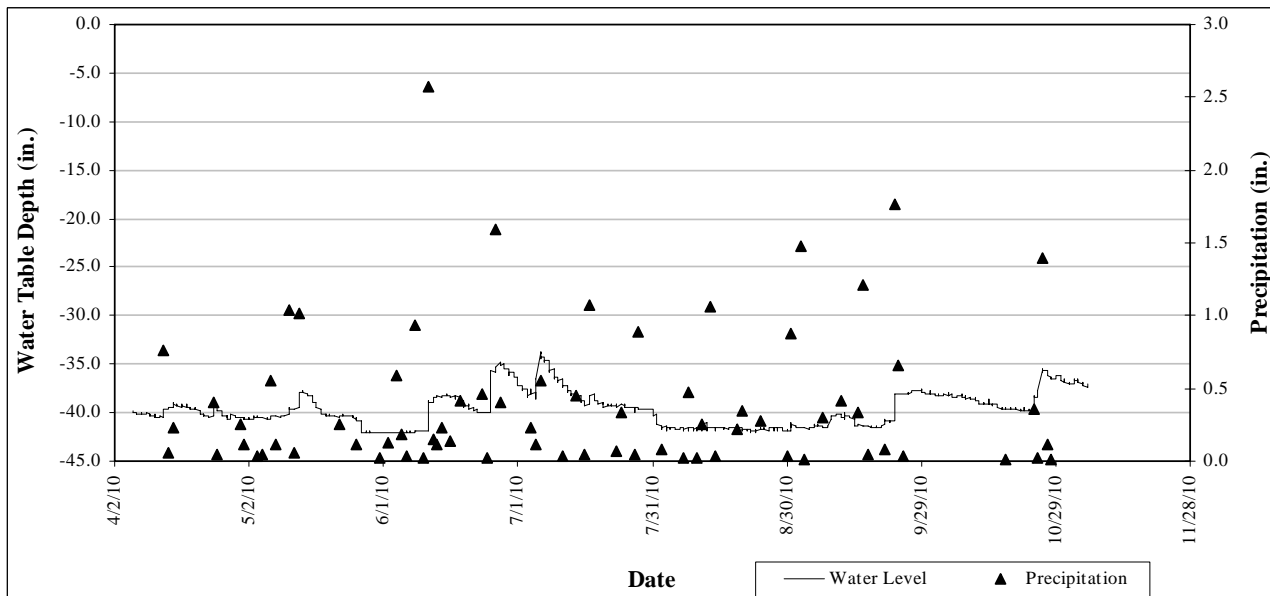
**Surrounding Soils:** Hubbard coarse sand

### Vegetation at Well Location:

Scientific	Common	% Coverage
Populus tremuloides	Quaking Aspen	30
Salix bebbiana	Bebb Willow	30
Carex Spp	Sedge undiff.	30
Solidago canadensis	Canada Goldenrod	20

**Other Notes:** Well is located at the wetland boundary.

### 2010 Hydrograph



Well depth was 42 inches, so a reading of -42 indicates water levels were at an unknown depth greater than or equal to 42 inches.

# Wetland Hydrology Monitoring

## RUM RIVER CENTRAL REFERENCE WETLAND

Rum River Central Regional Park, Ramsey

### Site Information

**Monitored Since:** 1997  
**Wetland Type:** 6  
**Wetland Size:** ~0.8 acres  
**Isolated Basin?** Yes  
**Connected to a Ditch?** No

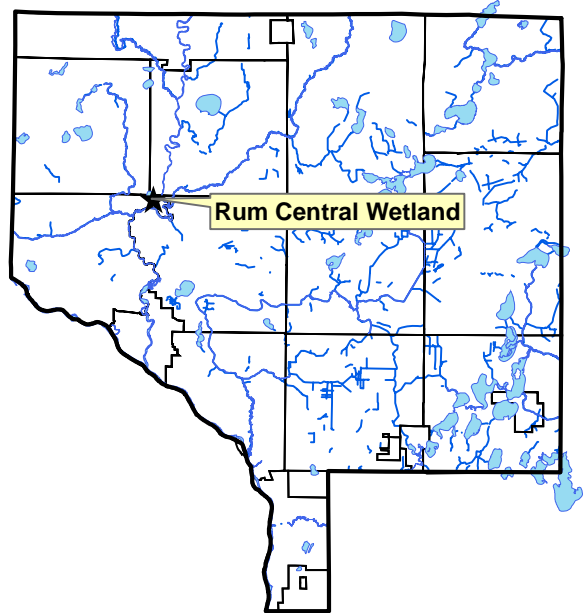
### Soils at Well Location:

Horizon	Depth	Color	Texture	Redox
A	0-12	10yr2/1	Sandy Loam	-
Bg1	12-26	10ry5/6	Sandy Loam	-
Bg2	26-40	10yr5/2	Loamy Sand	-

**Surrounding Soils:** Zimmerman fine sand

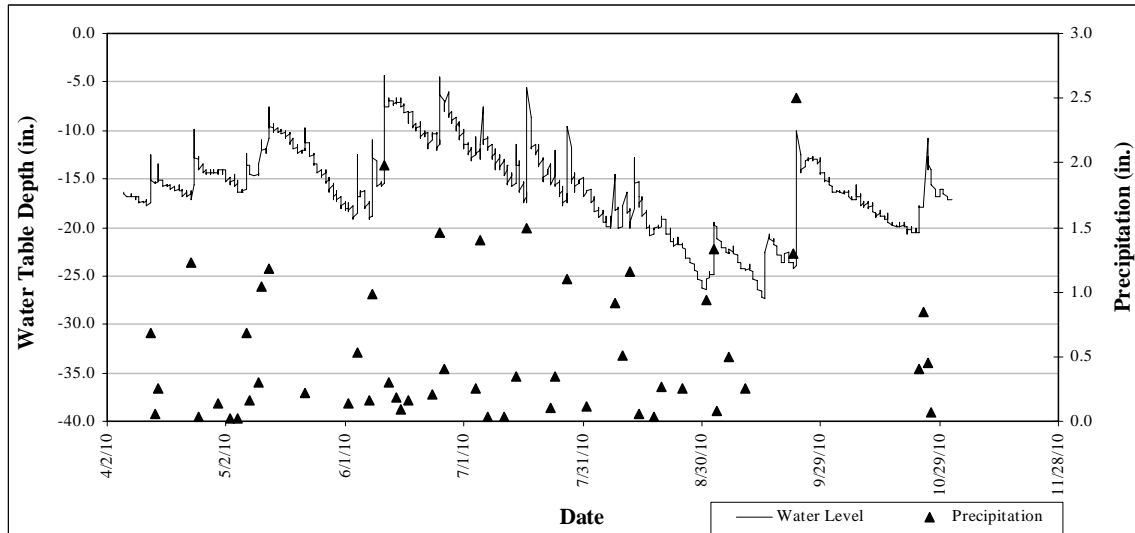
### Vegetation at Well Location:

Scientific	Common	% Coverage
Phalaris arundinacea	Reed Canary Grass	40
Corylus americanum	American Hazelnut	40
Onoclea sensibilis	Sensitive Fern	30
Rubus strigosus	Raspberry	30
Quercus rubra	Red Oak	20



**Other Notes:** Well is located at the wetland boundary.

### 2010 Hydrograph



Well depth was 40 inches, so a reading of -40 indicates water levels were at an unknown depth greater than or equal to 40 inches.

## **Water Quality Grant Fund**

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- Description:** The LRRWMO provided cost share for projects on either public or private property that will improve water quality, such as repairing streambank erosion, restoring native shoreline vegetation, or rain gardens. This funding was administered by the Anoka Conservation District, which works with landowners on conservation projects. Projects affecting the Rum River were given the highest priority because it is viewed as an especially valuable resource.
- Purpose:** To improve water quality in lakes streams and rivers by correcting erosion problems and providing buffers or other structures that filter runoff before it reaches the water bodies.
- Results:** Projects reported in the year they are installed. No projects were installed in 2010.

### **LRRWMO Cost Share Fund Summary**

2006 LRRWMO Contribution	+	\$1,000.00
2008 Expense – Herrala Rum Riverbank stabilization	-	\$ 150.91
2008 Expense – Rusin Rum Riverbank stabilization	-	\$ 225.46
2009 LRRWMO Contribution	+	\$1,000.00
2009 Expense – Rusin Rum Riverbank bluff stabilization	-	\$ 52.05
2010 LRRWMO Contribution	+	\$ 0
<u>2010 LRRWMO Expenses</u>	-	<u>\$ 0</u>
<b>Fund Balance</b>		<b>\$1,571.58</b>



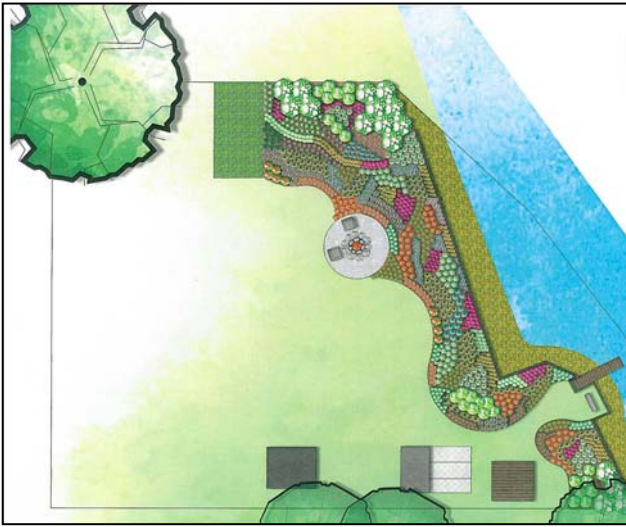
## Water Quality Improvement Projects

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**Description:** Projects on either public or private property that will improve water quality, such as repairing streambank erosion, restoring native shoreline vegetation, or rain gardens. These projects are partnerships between the landowner, the Anoka Conservation District, and sometimes with grant funding from the watershed organization or the Anoka Conservation District.

**Purpose:** To improve water quality in lakes streams and rivers by correcting erosion problems and providing buffers or other structures that filter runoff before it reaches the water bodies.

**Results:** Projects are described in a separate report produced by the Anoka Conservation District.



# LRRWMO Website

**Description:** The Lower Rum River Watershed Management Organization (LRRWMO) contracted the Anoka Conservation District (ACD) to design and maintain a website about the LRRWMO and the Lower Rum River watershed. The website has been in operation since 2003. The LRRWMO pays the ACD annual fees for maintenance and update of the website.

**Purpose:** To increase awareness of the LRRWMO and its programs. The website also provides tools and information that helps users better understand water resources issues in the area. The website serves as the LRRWMO's alternative to a state-mandated newsletter.

**Location:** [www.AnokaNaturalResources.com/LRRWMO](http://www.AnokaNaturalResources.com/LRRWMO)

**Results:** The LRRWMO website contains information about both the LRRWMO and about natural resources in the area.

Information about the LRRWMO includes:

- a directory of board members,
- meeting minutes and agendas,
- descriptions of work that the organization is directing,
- highlighted projects,
- permit applications.

Other tools on the website include:

- an interactive mapping tool that shows natural features and aerial photos
- an interactive data download tool that allows users to access all water monitoring data that has been collected
- narrative discussions of what the monitoring data mean

## LRRWMO Website Homepage

*Lower Rum River Watershed Management Organization*

### Welcome

The Lower Rum River Watershed Management Organization (LRRWMO) is a joint powers special purpose unit of government including the cities of Ramsey, Anoka, and portions of Coon Rapids and Andover. The WMO Board is made up of representatives from each of these cities. This organization seeks to protect and improve lakes, rivers, streams, groundwater, and other water resources across municipal boundaries. These goals are pursued through:

- water quality and flow monitoring
- investigative studies of problems
- coordinating improvement projects
- education campaigns
- a permitting process
- others at the WMO's discretion

All of the WMO's activities are guided by their Watershed Management Plan.

database access mapping tool

Google



## Interactive Mapping Tool

## Interactive Data Access Tool

# Financial Summary

ACD accounting is organized by program and not by customer. This allows us to track all of the labor, materials and overhead expenses for a program. We do not, however, know specifically which expenses are attributed to monitoring which sites. To enable

reporting of expenses for monitoring conducted in a specific watershed, we divide the total program cost by the number of sites monitored to determine an annual cost per site. We then multiply the cost per site by the number of sites monitored for a customer.

## Lower Rum River Watershed Financial Summary

Lower Rum River Watershed	Website	Volunteer Precip	Ref Wet	Lake LVI	Obwell	Lake WQ	Stream WQ	WO MP	Student Bio	Geologic Atlas	Total
<b>Revenues</b>											
LRRWMO	540	0	535	450	0	1025	1560	0	780	0	4890
State	0	0	0	0	110	0	0	0	0	0	110
Anoka Conservation District	2699	115	36	347	181	34	12	1744	365	1137	6672
County Ag Preserves	0	0	0	0	0	490	0	0	264	0	754
Regional/Local	0	0	0	0	0	0	0	500	0	0	500
Other Service Fees	194	0	0	0	0	0	0	0	0	0	194
Local Water Planning	0	0	0	0	0	1306	84	0	0	0	1389
<b>TOTAL</b>	<b>3433</b>	<b>115</b>	<b>571</b>	<b>797</b>	<b>291</b>	<b>2855</b>	<b>1656</b>	<b>2244</b>	<b>1408</b>	<b>1137</b>	<b>14508</b>
<b>Expenses-</b>											
Capital Outlay/Equip	243	14	44	42	34	396	118	394	50	119	1455
Personnel Salaries/Benefits	1767	80	420	617	203	1595	852	1433	1091	755	8812
Overhead	1296	15	68	89	39	640	381	314	140	204	3186
Employee Training	14	1	3	5	2	10	4	6	11	3	60
Vehicle/Mileage	27	1	6	9	3	26	14	24	16	12	137
Rent	83	4	23	33	10	66	59	70	52	43	443
Program Participants	0	0	0	0	0	0	0	0	0	0	0
Program Supplies	1	0	7	0	0	97	209	4	47	1	366
Equipment Maintenance	1	0	0	1	0	24	19	1	1	1	48
<b>TOTAL</b>	<b>3433</b>	<b>115</b>	<b>571</b>	<b>797</b>	<b>291</b>	<b>2855</b>	<b>1656</b>	<b>2244</b>	<b>1408</b>	<b>1137</b>	<b>14508</b>
<b>NET</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

## Recommendations

- **Continue monitoring Round Lake** water quality at least every other year to determine if poorer water quality recently is within this lake's natural variation, due to low water levels, or is indicative of new negative influences on the lake.
- **Emphasize protection of Rum River water quality.** The river's water quality declines slightly in the LRRWMO and anticipated future development could cause further deterioration. Continued retrofitting existing stormwater treatment in built-up areas is recommended.
- **Continue coordinating monitoring of the Rum River** with the neighboring Upper Rum River WMO and the Metropolitan Council, who runs a monitoring site at the Anoka Dam.
- **Diagnose the cause of periodically low dissolved oxygen in Trott Brook.**
- **Continue lake level monitoring, especially on Round Lake** where residents have expressed concerns with levels. Other nearby lakes should be monitored for comparison and problems.
- **Facilitate resident efforts to control aquatic plant growth on Rogers Lake** as a means to improving low dissolved oxygen problems. Treatments should occur in early spring, occur on

- no more than 15% of the lake, be coordinated, and proceed under DNR permits. In early 2010 a meeting for residents was held, interest expressed, but coordination and work needed by residents did not materialize.
- **Continue the existing cost share grant program for water quality improvement projects** on private properties. This program should be actively promoted by identifying problems and contacting landowners.
- **Encourage public works departments to implement measures to minimize road deicing salt applications.** Monitoring and special investigations in the LRRWMO and elsewhere nearby have shown that road salts are a serious and widespread sources of stream degradation.
- **Promote groundwater conservation.** Water tables in the LRRWMO appear depressed due to regional over-pumping. Metropolitan Council models predict 3+ft drawdown of surface waters in certain areas by 2030, and 5+ft by 2050.
- **Incorporate the above recommendations into the LRRWMO Watershed Plan.** The Plan is being updated in 2010-11.

## 2010 Lower Rum River Water Management Organization (LRRWMO) Permit Summary

Permit Name	Permit #	City	Summary
Allina Medical Clinic	2010-01	Ramsey	28,500 sq. ft building within Ramsey Town Center. Project was approved.
East Town Center Park	2010-02	Ramsey	8-acre park within Ramsey Town Center. Project was approved.
2010 Street Reconstruction Project	2010-03	Andover	Street and utility reconstruction in the Woodland Meadows development. Project was approved.
UTE Street Improvements	2010-04	Ramsey	Street and utility construction. Project was approved.
2010 Street Reconstruction Project	2010-05	Anoka	Street and utility reconstruction. Project was approved.
Hawkrigde Park Reconstruction	2010-06	Andover	Four-phase park reconstruction. Project was approved.
Anoka Seventh Adventist Church	2010-07	Andover	Parking lot reconstruction. Project was approved
Anoka Covenant Church	2010-08	Anoka	Parking lot reconstruction. Project was approved.
151 <sup>st</sup> Ave, 152 <sup>nd</sup> Ave, and Fluorine St.	2010-09	Ramsey	Street reconstruction and drainage improvements. Project was approved.
Paving and Drainage Improvements			
Alpine Drive Trail Construction	2010-10	Ramsey	10-foot wide bituminous—5,235 feet in length. Project was approved.
The Residence at the COR	2010-11	Ramsey	Multi-story apartment building within Ramsey Town Center. Project was approved.
Suite Living	2010-12	Ramsey	Multi-story assisted living building within the Ramsey Town Center. Project was approved.
C.S.A.H. 116 Reconstruction	2010-13	Anoka/Ramsey	C.S.A.H. 116 reconstruction for Germanium Street in Anoka to Basalt Street in Ramsey. Project was approved.
Legacy Christian Academy	2010-14	Ramsey	K-12 school. 137-acre site. Six proposed on-site stormwater management basins. Project was approved.
Ramsey Medical Building	2010-15	Ramsey	21,800 sq. ft. building within Ramsey Town Center. Project was approved.

Permit Name	Permit #	City	Summary
The Homestead at Anoka	2010-16	Anoka	Senior housing and memory care facility. Project was approved.
CR 57 and Alpine Drive Roadway Improvements	2010-17	Ramsey	Roadway improvements. 4,822 sq. ft. of wetland impacts. Mitigation provided through the BWSR Road Replacement Program. Project was approved.

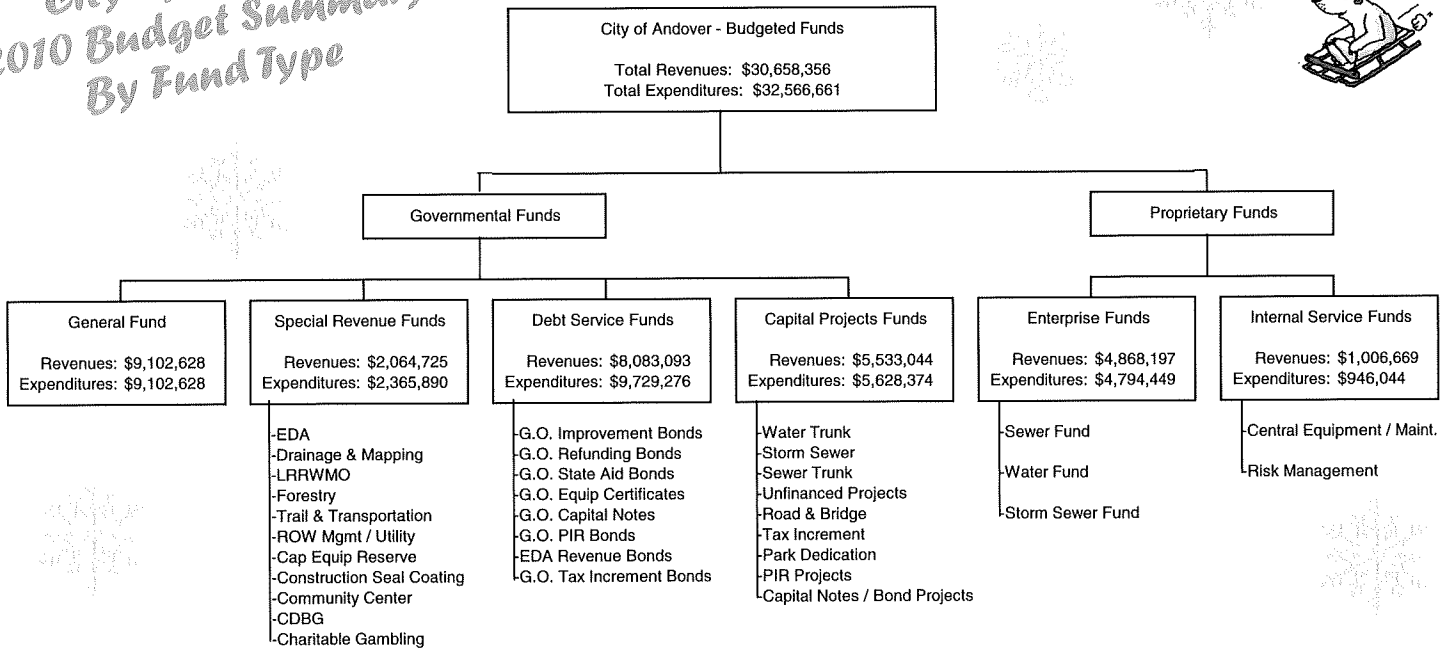
# Andover Today

NEWSLETTER

## CITY OF ANDOVER 2010 BUDGET & CERTIFIED 2010 PROPERTY TAX LEVY

### CITY OF ANDOVER 2010 Budget Summary By Fund Type

*City of Andover  
2010 Budget Summary  
By Fund Type*



Each year the City Council is required by state law to adopt an annual budget and submit a property tax levy certification to Anoka County Property Records and Taxation Division. The deadline for the 2010 budget was December 28<sup>th</sup>. The 2010 Budget and Tax Levy certification were adopted by the City Council at the December 15, 2009 regular meeting.

the outcomes of budget workshops with the Council and numerous staff meetings. The overall City of Andover 2010 Budget proposes total revenues of \$30,658,356 and total expenditures of \$32,566,661. The \$1,908,305 of expenditures over revenues is largely due to prepaying debt in order to save on interest expenditures.

is classified as a special levy for the payment of debt and the payment of bonds of another local unit of government. In summary, the proposed tax levy reflects an increasing City tax rate to 36.711% from 32.484% in 2009 with taxable market values decreasing to \$2,667,327,500 from \$2,962,595,600 in 2009. The City tax rate for 2010 does not include the voter approved referendum levy based on market value.

The 2010 Budget and Levy certification are

The 2010 Budget proposes a total property tax levy of \$10,856,299 of which, \$1,900,566

Continued on Page 6

## NOTICE FOR CITY OF ANDOVER NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PUBLIC MEETING

**\* Overall Summary**

The City of Andover is required to comply with the latest storm water runoff regulations set forth by the Minnesota Pollution Control Agency (MPCA). There is a General Permit, which authorizes the City to discharge storm water into water bodies as long as the water meets the guidelines of the permit. The City accomplishes this by operating a program satisfying a series of Best Management Practices (BMP's). These are found in the City's Storm Water Pollution Prevention Program (SWPPP).

**\* Meeting Components:**

- The public will have an opportunity to make oral and/or written comments on the adequacy of the City's program/SWPPP.
- To request a copy of the City's SWPPP contact City Hall or the City's website at [www.ci.andover.mn.us](http://www.ci.andover.mn.us)
- The City will consider the comments received and include them in its Annual Report to the MPCA and make necessary adjustments based on the review.
- If you have any questions, contact Kameron Kytonen, Natural Resources Technician at (763) 767-5137.

\* The meeting will be held during the City Council meeting at 7:00 p.m. Tuesday, February 2<sup>nd</sup> at Andover City Hall.



# Rain Garden Maintenance

**Water! after planting every day for first 2 weeks**



*1st months*

1 ✓	2	3	4	5	6	7
8	9	10	11	12	13	14

✓	<b>week 3: 1-inch of rain or watering</b>
	<b>week 4: " "</b>
	<b>week 5: " "</b>
	<b>week 6: " "</b>
	<b>week 7: " "</b>
	<b>week 8: " "</b>
	<b>week 9: " "</b>
	<b>week 10: " "</b>

*monthly*

## Monthly



**Weed**



**repair erosion**



**re-mulch bare spots**

*yearly*

## Yearly

In Spring, when 4-6" tall



**cut or mow dead veg to 6"**



**add 3 inches shredded mulch**

*as needed*

## As Needed



**dig out inlet**



**pick out litter**



**re-plant**

# CLEAN WATER STARTS AT HOME – TIP #3: FALL CARE

Healthy soil is key for healthy lawns & healthy lawns can be good for water quality.

For more information contact Dawn at Coon Creek Watershed District (763)755-0975 or email: [info@cooncreekwd.org](mailto:info@cooncreekwd.org).

**Mulch** leaves and grass - natural fertilizers - with your lawnmower to return nutrients to the soil and help keep clippings off the streets...and phosphorus out of water!

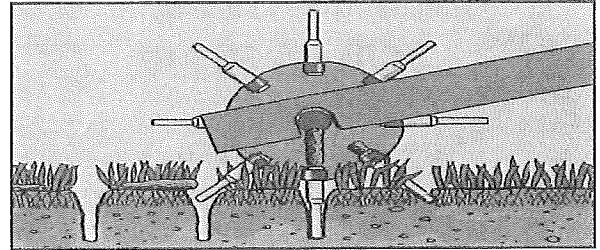
**Mow High – 3 inches tall for grass height** That's wider than a dollar bill by 1/2 inch! Why? To keep moisture in and shade weeds out. Also, grass roots grow longer, and won't dry out as fast.

**Aerate your lawn mid-October.** How? Use a core aerator, available for rent at many home & garden stores. Water can reach the roots more easily and runoff is minimized.

**Wait to fertilize until after aeration** if you use commercial fertilizer. Then it can absorb and be saved for plants in spring. Make sure your lawn fertilizer has no phosphorus – look for a “0” in the middle of three numbers on the bag indicating nitrogen (N), phosphorus (P), & potassium (K) amounts.

## WEB Resources:

- Aeration - [www.gardening.cornell.edu/homegardening/scene5e77.html](http://www.gardening.cornell.edu/homegardening/scene5e77.html)
- See if your yard is a Clean Water yard: [www.gardening.cornell.edu/homegardening/scenec189.html](http://www.gardening.cornell.edu/homegardening/scenec189.html)
- Guidance on healthy lawns with minimum care, try UM Extension Service: <http://www.extension.umn.edu/topics.html?topic=5&subtopic=292>



## BEWARE OF PLANTING TREES TOO DEEP! THE TREE MAY DEVELOP STEM-GIRDLING ROOTS (SGR'S)

Planting a tree; there's nothing to it, right? You just dig a hole, put the tree in, back fill and water. Well, it's not quite that simple. How you plant a tree will dictate the long-term health of your tree.

One common mistake people make is planting the tree too deep, which may cause SGR's.

### General rules:

- Plant the tree at the correct depth; don't plant it too deep.
  - Plant the tree so the root collar (the junction where the uppermost main roots join the main stem or trunk) is level or slightly above the final grade of the site.
  - If a tree is planted too deep, the roots will tend to grow up and wrap around the trunk and may actually have a girdling effect on the stem; this will restrict its ability to grow properly and cause mortality.
- Backfill the hole after the tree is planted with soil found on the site.
- Lightly compact the soil as you backfill; add water every so often.
- After the backfilling, mulching with wood chips is recommended.
  - A few of the many benefits that mulch provides for trees are: it retains soil moisture, adds nutrients to the soil, and helps stabilize the soil temperature.
  - Add mulch to a maximum depth of four inches.
  - Keep the mulch two to four inches away from the main stem to prevent cankers, rotting and other potential problems.
  - Keep the tree adequately watered, especially during the first couple years after planting.



Large roots compressing stem of tree as a result of being planted too deep.



A properly planted tree; roots are growing out and away from trunk.

For pictures and more detailed information on stem-girdling roots and proper tree planting, check out the City of Andover website and follow the links: City Departments, Natural Resources.

## RUN TO END HUNGER 5K RUN/3K WALK

**SATURDAY, SEPTEMBER 25<sup>TH</sup> @ ANDOVER COMMUNITY CENTER (WEST ENTRANCE)**

**REGISTRATION BEGINS AT 8:15 A.M. RACE STARTS AT 9:00 A.M.**

The Run To End Hunger is a fund raising event for Project Plenty, a non profit organization providing hunger relief services to local families in need. Refreshments, door prizes, and awards will

be handed out following the event. Help us fight hunger in the Andover community by registering online at [www.ProjectPlenty.org](http://www.ProjectPlenty.org)

1. Burning is allowed between 8:00 a.m. to midnight any day of the week, with a maximum duration of six hours.
2. Fires cannot exceed three feet in diameter and a flame height of approximately three feet.
3. Only clean dry wood with a minimum of 1 inch diameter can be burned. No brush, yard, building, household waste, or treated wood is allowed.
4. A responsible adult must be present at all times.
5. The fire must be on your property. If the fire is in an easement area, you must have approval from all involved parties.
6. A means of controlling or extinguishing the fire must be available at all times. (Buckets, shovels, and garden hoses, for example)
7. Fires are not allowed if winds are in excess of 15 miles per hour.
8. Recreational fires cannot be conducted within 25 feet of a structure.
9. A police or fire officer may withdraw fire permission due to climatic conditions, extreme dryness, nuisance problems, or violations of the guidelines.
10. Violation of these provisions is subject to a \$75 administrative citation. A second violation is double the previous fine.

### BOXES FOR THE MILITARY

The Super Senior Club has sent over 220 care packages to overseas military personnel. Items or cash donations can be dropped off at the Senior Center in City Hall between 8:00 a.m. and 4:30 p.m. If you know of someone serving overseas, give the name to the Senior Center and they will send a care package. Call 763-767-6473.

### VACANT PROPERTY MONITORING

If you need to report an issue at a vacant home, call the Neighborhood Reinvestment Division at 763-767-6517. Staff will visit the property and investigate the condition of the home, and work with the bank or property owner to resolve the issues. Do not enter the home yourself.

The City tracks vacant homes to reduce the risk of deterioration by:

- making sure windows and doors are closed and secured;
- shutting water off at the street to reduce the risk of property damage;
- making sure the lawn is mowed;
- making sure people are not living in them illegally;
- removing items left outside by the previous occupant.

If you see suspicious activity at a vacant home, call 911.

### WATERSHEDS PROTECT OUR RESOURCES

To manage water resources for flooding and stormwater pollution, among other things, there are three different watershed management organizations (WMOs) that are special units of government with legal boundaries closely following those subwatersheds: Coon Creek Watershed District (763-755-0975), Lower Rum River WMO (612-251-8999), and Six Cities WMO (763-767-6458).

Permits help keep track of how water resources are being impacted. For any permitting questions regarding floodplain, wetlands or stormwater, or community service projects like creek cleanups or storm drain stenciling, contact your watershed organization.

Visit [www.coonrapidsmn.gov/Engineering](http://www.coonrapidsmn.gov/Engineering) to view a map of the City's watershed districts.

election to August 10  
(Candidates: Tim How  
Ward 5 Councilmemb  
Bruce Sanders; Alan  
reduce the field to two  
22 precincts will be c  
8:00 p.m. To find  
[www.sos.state.mn.us](http://www.sos.state.mn.us)

### ABSENTEE V

Eligible Coon Rapids  
tee ballot in person  
available at the Ano  
Reasons for need  
absence from prec  
observation; or serv  
voting for the Aug  
and on September  
Applications are  
[www.sos.state.mn.](http://www.sos.state.mn.)

### COOK ARE

Cook Ice Arena is  
Registration is bei  
School. Registra  
program will open

Summer public sk  
3:30 p.m.-5:30 p.m.

Youth and adult  
times. Stick & Pu  
permits. For mo  
visit [www.cookiec](http://www.cookiec)





# Compost Bin and Rain Barrel Truckload Sale

## Saturday, May 15, 9:00 am to 3:00 pm

### 11000 Crooked Lake Boulevard, Coon Rapids (Old Target Parking Lot)

The city of Ramsey, along with Andover, Anoka, Blaine, Coon Rapids, East Bethel and Fridley is hosting a one day only compost bin and rain barrel sale on Saturday, May 15. Both the Earth Machine™ backyard compost bin and the System rain barrel will be available at terrific sale prices while supplies last and both help protect the environment by conserving water and landfill space. For more information about either product, please visit their respective websites: [www.earthmachine.com](http://www.earthmachine.com) and [www.system.com](http://www.system.com). For more information about the sale event, please contact Environmental Coordinator Chris Anderson at 763-433-9905 or e-mail [canderson@ci.ramsey.mn.us](mailto:canderson@ci.ramsey.mn.us).



a \$100 value for only  
**\$49.00**  
tax included

#### Compost Bin and Rain Barrel Information

- Roughly 600 pounds of food waste per home can be diverted from landfills by backyard composting.
- Compost is a valuable soil amendment that conserves water and replenishes soil nutrients.
- One inch of rainfall on a 1,000 sq. ft. roof can produce up to 600 gallons of water that can be harvested for your lawn and garden without turning on your tap.
- Harvesting rain water with a rain barrel can help prevent run off that can carry sediment, pesticides and fertilizers to our waterways.



a \$120 value for only  
**\$55.00**  
tax included

## New Law on Compostable Bags and Yard Waste



As of January 1, 2010, residents that bag their yard waste are now required to use compostable bags—either paper bags or compostable plastic bags. This new law DOES NOT impact you if you have a yard waste service that collects yard waste in a cart or if you bring your yard waste to a collection facility and remove the yard waste from the bags yourself.



Using paper and compostable plastic bags rather than traditional black plastic bags will greatly reduce the amount of plastic being sent to local composting facilities. Since local composting facilities will have less plastic to screen out of their finished compost, processing costs should be reduced and the quality of the finished compost will be enhanced.

Compostable plastic bags can be distinguished from the traditional plastic bags by their clear or green-tinted opaque color. Most home improvement, grocery and hardware stores now carry compostable plastic bags. If you can't find them at your local store, ask an employee and keep in mind that many store owners are just learning of this requirement also.



For more information on the new compostable plastic bag requirements and how they may affect you, please visit [www.rethinkrecycling.com](http://www.rethinkrecycling.com) or call your waste hauler directly.

## Lawn Care and Stormwater Ponds

The city of Ramsey has a number of lakes, stormwater ponds, rivers and wetlands within its boundaries. Many of these features are used for stormwater detention, water quality treatment and flood control. The city is responsible for maintenance of the pipes and banks of the facilities and does not treat for algae, odors, weeds or other aesthetic concerns. Stormwater ponds are designed to retain water between storms. Ponds are also designed with a flow restriction so that downstream properties are not flooded. All runoff, whether natural (rainfall and snow melt) or manmade (lawn watering, car washing or other discharges), enters the pond system through ditches and storm sewers. As the runoff flows over roof tops, pavement, lawns and natural area, it picks up grass clippings, leaves, animal waste, fertilizers and other chemicals (pollutants) and carries them to the ponds.

Sand and soil carried in the runoff settles in ponds. The dissolved pollutants can attach to soil particles and sink to the bottom of the pond. Algae blooms occur in ponds when there is excess phosphorus in the water. Phosphorus can wash off from bare soil and is found in lawn clippings, leaves, animal waste and fertilizer. State law has banned phosphorus in fertilizer since 2004; however, it is always good to check the label before purchasing any fertilizer. The middle number (P) on the package [N-P-K] should be zero.

What can you do to improve water quality?

- Have your soil tested and follow the recommendations for fertilizer application. Test information

is available from the University of Minnesota Extension Service <http://soiltest.cfans.umn.edu/>.

There are also commercial firms who provide soil tests (check the Yellow Pages).

- Sweep up fertilizer from pavement and sidewalks. Spraying the surface can push the fertilizer into the storm sewer system. Adjust your spreading pattern so fertilizer is not going directly into the pond.
- Mulch your clippings back into the yard. Doing this consistently is equivalent to one application of fertilizer.
- Sweep leaves and grass clippings off paved surfaces. Do not pile lawn clippings and leaves where water running under them will enter the storm sewer/pond system.
- Wash your car on the lawn, not on the driveway.

- Collect animal waste and place in garbage.
- Create a natural buffer strip adjacent to water features on your property. The native vegetation will filter the water leaving your lawn before it enters the pond. Information can be found by searching for buffer strip at <http://www.extension.umn.edu/>
- Properly dispose of used household chemicals through the City recycling day or at the County Hazardous Waste Facility, 3230 101<sup>st</sup> Ave NE, Blaine.

Incorporating these simple measures in your lawn care program will improve the water quality in your local pond and the waters downstream. Please encourage your neighbors and friends to also try these practices. Please feel free to contact Leonard Linton at 763 433-9834 or [llinton@ci.ramsey.mn.us](mailto:llinton@ci.ramsey.mn.us) for more information.

## Attention Snowmobilers!

Recreational vehicles may only be operated north of the 16700 block in the city of Ramsey.

The city's recreational vehicle ordinance provides reasonable regulations for the operation of snowmobiles, all-terrain vehicles, off-highway motorcycles and other recreational vehicles on public and private property within the city of Ramsey.

Loading and unloading of snowmobiles and ATV's is available in the parking lots of Central and Elmcrest Parks to access the designated use area north of the 16700 block.

City ordinance also restricts the operation of recreational vehicles off of private property between November 1 and March 31, if there is not a minimum of six (6) inches of snow cover on the ground.

A map of the designated-use area and the Recreational Vehicle Ordinance are available on the city's website at [www.ci.ramsey.mn.us](http://www.ci.ramsey.mn.us); and clicking on the link in the Frequently Accessed Information box, or by contacting the Ramsey Police Department at 763-427-6812.

You are invited to the



3rd Annual  
Wine Tasting



Fundraising Event

Sponsored by

Rotary Club of Ramsey

To be held at the beautiful  
LINKS AT NORTHFORK  
9333 Alpine Drive NW  
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Thursday, March 12, 2009

6:30 – 9:00 pm

\$15.00 Advance Sale

\$20.00 at door

(Advance sale tickets available at  
Coborn's Liquor – Ramsey)



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\*PRIZE RAFFLE

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(Purchase a necklace for \$20.00 for  
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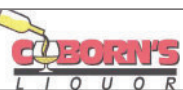


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## Landscaping/Water Conservation Workshops

The city of Ramsey is partnering with the Anoka Conservation District to host two landscaping workshops. The first is May 13 from 6:30 - 8:30 pm and the second is June 12 from 8:00 am to 12:00 noon. Both workshops will be held at the Ramsey Municipal Center, 7550 Sunwood Drive, in the Alexander Ramsey Room. The workshops will focus on water smart landscaping and rain gardens. Both of these workshops are FREE! Details and registration information are available on the city's website at [www.ci.ramsey.mn.us](http://www.ci.ramsey.mn.us). Look in the "In the News" section or <http://www.ci.ramsey.mn.us/departments/Community/enviro.asp> and click on "Landscaping/Water Conservation Workshops". Please contact Environmental Coordinator Chris Anderson at 763-433-9905 or [canderson@ci.ramsey.mn.us](mailto:canderson@ci.ramsey.mn.us) with questions.

## Free Car Seat INSPECTIONS for Anoka County Residents

Safe Kids Anoka County offers several car seat clinics throughout the year for Anoka County residents to have their car seats inspected by trained technicians. Four out of five car seats are installed wrong! Get yours checked. Appointments are required.

March 10, 4:00 – 7:00 pm

Fridley Fire Department  
6431 University Avenue  
Appointments: 763-572-3626

April 14, 4:00 – 7:00 pm

Ramsey Fire Station  
15050 Armstrong Blvd NW  
Appointments: 763-433-9891

## Good Clean Community Fun

Is your neighborhood or business looking for a way to become involved in the community? Do you want to get to know each other better and have an impact on the environment in your neighborhood? We have a great program that you can participate in that helps clean up our city. It is called Adopt -A-Spot.

The Adopt-A-Spot program asks individuals, organizations, or businesses to "ADOPT" a street, park, trail, lot, or hotspot anywhere in the city, that they agree to keep cleared of litter for at least two years (two clean-ups per year). We provide trash bags, reflective vests, gloves, and dispose of the collected litter for you.

Contact Chandra Kreyer at 763-433-9891 or [ckreyer@ci.ramsey.mn.us](mailto:ckreyer@ci.ramsey.mn.us) to see if YOUR spot is available. Your adopted spot will also be marked with a special Adopt-A-Spot recognition sign.

The 2010 Audit is currently being conducted and, once completed, will be mailed under separate cover.