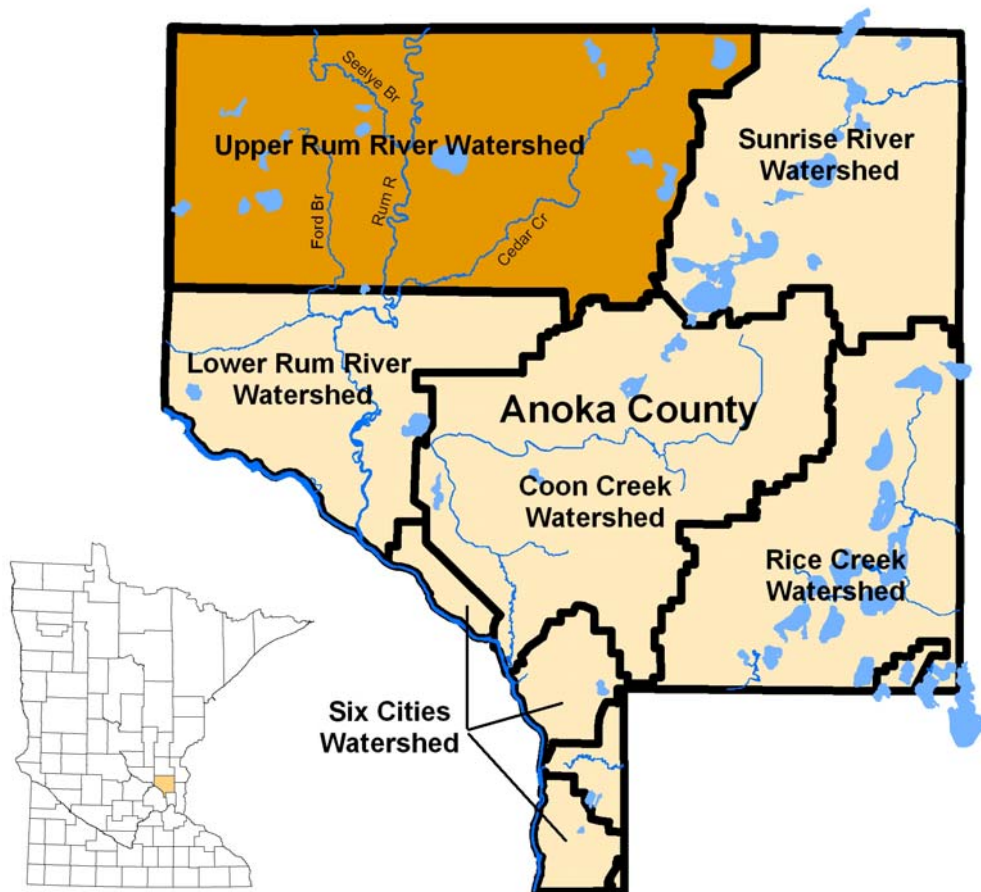


2010 Annual Report

Upper Rum River

Watershed Management Organization

Bethel - East Bethel - Ham Lake
Nowthen - Oak Grove - St. Francis



April 15, 2010

Table of Contents

I. Introduction	3
II. Activity Report	
a. Current Board Members	4
b. Employees and Consultants	5
c. Solicitations for Services	5
d. Implementation of Watershed Management Plan	6
e. Status of Local Plan Adoption and Implementation	9
f. Public Outreach	12
g. Permits, Variances, and Enforcement Actions	13
h. Status of Locally Adopted Wetland Banking Program	13
i. 2011 Work Plan	13
III. Financial and Audit Report	
a. 2010 Financial Summary	15
b. Fund Balances	16
c. 2010 Financial Audit Documentation	16
d. 2011 Budget	16

Appendix A – 2010 Water Monitoring and Management Work Results

I. Introduction

This report has been prepared to meet the annual watershed management organization reporting requirements of Minnesota Rules 8410.0150. The report is intended to fulfill 2010 reporting requirements.

The Upper Rum River Watershed Management Organization (URRWMO) is a joint powers organization under Minnesota Statutes, Section 471.59. It is comprised of the cities of Bethel, Oak Grove, Nowthen, and St. Francis, and portions of the cities of East Bethel and Ham Lake. Board members are appointed by the member cities. The organization's direction is laid out in its watershed management plan and the member municipalities' local water plans. The URRWMO meets every other month on the first Tuesday at 7pm at the Oak Grove City Hall.



II. Activity Report

a. Current Board Members

CITY OF BETHEL

Todd Miller (Chair)
PO Box 15
Bethel, MN 55005
763.434.8331
tmiller@popp.net

Vacant

CITY OF EAST BETHEL

Steve Voss
19262 East Front Blvd NE
East Bethel, MN 55092
763.434.4562
steve.voss@ci.east-bethel.mn.us

Jared Trost
23016 Sunset Rd NE
East Bethel, MN 55005
763.477.8309
trost010@umn.edu

CITY OF HAM LAKE

Mary Ann Empson
700 173rd Ave NE
Ham Lake, MN 55303
763.434.6034
maempson1@msn.com

Vacant

CITY OF NOWTHEN

Orval Leistico
21413 Nowthen Blvd
Elk River, MN 55330
763.441.1959
ojnowthen@q.com

Vacant

CITY OF OAK GROVE

Ed Faherty
2847 Greenwald Island
Cedar, MN 55011
763.753.3452
fahertye@msn.com

John Wangenstein
19230 Orchid Street
Anoka, MN 55304
763.213.0155
johnw.8462@usfamily.net

CITY OF ST. FRANCIS

LeRoy Schaffer
4526 234th Avenue NW
St. Francis, MN 55070
763.235.2314
lschaffer@stfrancismn.org

Vacant

b. Employees and Consultants

The URRWMO does not employ staff, but does utilize consulting services and enters into cooperative agreements with other government agencies. A description of contracted services is listed below:

Consultant/Partner	Contact	Work Description
Anoka Conservation District	Jamie Schurbon, Water Resource Specialist 1318 McKay Drive NW, #300 Ham Lake, MN 55304 763-434-2030 ext. 12 jamie.schurbon@anokaswcd.org	<ul style="list-style-type: none"> • Water quality and hydrological monitoring, and special studies. • Website maintenance. • Administer the WMO’s cost share grants for water quality improvement projects. • Assistance preparing annual newsletter article. • Assistance preparing annual reports to BWSR. • Assistance reviewing local water plans.
Gail Gessner	Gail Gessner 4621 203rd Lane NW Oak Grove, MN 55303 763-753-2368 bethelgail@hotmail.com	<ul style="list-style-type: none"> • Recording secretary for meetings

c. Solicitations for Services

Minnesota Statutes 103B.227 require watershed management organizations to solicit bids for professional services at least once every two years. The URRWMO solicited bids in 2010 for work to occur 2011. Work included hydrology monitoring, water quality monitoring, website, and preparing annual reports. We solicited proposals by placing a public notice (shown at right) in the Anoka Union newspaper, which serves the entire URRWMO area. The advertisement was published twice, on December 3 and 10, 2010. We also placed the advertisement and the detailed request for proposals on our website.

The URRWMO Board discussed responses received at their Jan. 4, 2011 meeting. Only one response was received, from the

ADVERTISEMENT FOR BIDS

Request for Professional
Services-Water Resource Monitoring
and Management

The upper Rum River Watershed Management Organization (URRWMO) is accepting bids for professional services for 2011. The URRWMO is a special purpose unit of government serving northwestern Anoka County, Services needed include water quality monitoring, hydrological monitoring, website management, public education, reporting and administration of a small grant program. A detailed list of services needed and more information about the URRWMO can be found at www.AnokaNaturalResources/urrwmo. All direct questions can be sent to tmiller@popp.net or info@bethelmn.govoffice2.com by January 3,2011

abcdefghijklmnopqrstuvwxyz
Published in Anoka County Union
December 3 & 10, 2010

Anoka Conservation District. They were selected to perform the work. The Public Notice ran Dec. 3 and Dec. 10, 2010.

d. Implementation of Watershed Management Plan

The URRWMO Watershed Management Plan was last updated and approved by the Minnesota Board of Water and Soil Resources (BWSR) in 2007. Implementation of the updated plan also began in 2007. The new plan contains a detailed schedule of tasks that the URRWMO should accomplish each year in order to realize its goals. The table on the following two pages compares our planned work to our accomplished work.

Comparison of work planned in the URRWMO Watershed Management Plan (including amendments) and work accomplished for the last 3 years. The work plan for 2011 is also shown.

Task	2008		2009		2010		2011	
	Planned	Accomplished	Planned	Accomplished	Planned	Accomplished	Planned	In Work Plan
Monitoring								
Lake Levels		George, East Twin Lakes	George, East Twin Lakes	George, East Twin Lakes	George, East Twin Lakes	George, East Twin Lakes	George, East Twin Lakes	George, East Twin, Minard, and Cooper Lakes
Lake Water Quality	George, East Twin Lakes	George, East Twin Lakes					George, East Twin Lakes	George, East Twin Lakes
Stream Water Quality	Cedar, Ford, and Seelye Brooks to be monitored 1 year during 2008-2012		Rum River, 2 sites Cedar, Ford, and Seelye Brooks to be monitored 1 year during 2008-2012	Rum River, 2 sites	Rum River, 2 sites Cedar, Ford, and Seelye Brooks to be monitored 1 year during 2008-2012	Rum River, 2 sites. Done in coordination with Lower Rum R WMO and Met Council monitoring	Rum River, 2 sites Cedar, Ford, and Seelye Brooks to be monitored 1 year during 2008-2012	Rum River, 2 sites Cedar, Ford, and Seelye Brooks
Groundwater Levels					Develop groundwater level monitoring plan in 2010-11		Develop groundwater level monitoring plan in 2010-11	
Water Quality Improvement								
Water Quality Improvement Cost Share Fund	\$1,000	\$1,990 carry over	\$1,000	\$1,990 carry over	\$1,000	\$500 plus \$1,990 carry over	\$1,000	\$567 + \$1,385.50 carry over. Crooked Br streambank stabilization at Petro property
Public Education								
Website or Newsletter	Annual newsletter, Maintain and update website	Maintain and update URRWMO Website	Annual newsletter, Maintain and update website	Annual newsletter, Maintain and update website	Annual newsletter, Maintain and update website	Annual newsletter, Maintain and update website	Annual newsletter, Maintain and update website	Annual newsletter, Maintain and update website
Other Education								
Inventories and Studies								
Erosion Mapping					Field study of Rum R. erosion and initiate corrective actions	Field study of Rum R. erosion and offer technical and corrective assistance to owners with problems	Field study of Rum R. erosion and initiate corrective actions	Study completed in 2010. Ongoing work with landowners to correct problems
Study groundwater levels, trends, water quality and capacity.			Groundwater study, including aquifer capacity-2010-2017.	Contributing \$5,000 to initiate Co. Geologic Atlas.	Groundwater study, including aquifer capacity-2010-2017.	Contributing \$2,830 to County Geologic Atlas.		
Planning and Reporting								
Annual Report to BWSR	Write and submit	2007 Annual Report submitted March 27, 2008	Write and submit	2008 Annual Report submitted April 9, 2009	Write and submit	Contracted with Anoka Cons. District to assist with reporting	Write and submit	Contracted with Anoka Cons. District to assist with reporting
Draft and adopt Plan Amendments: Water quality, stormwater infiltration, and wetland standards. Water monitoring plan	Formal process to amend new standards to URRWMO Plan	Completed. Approved by BWSR 1-8-09. Adopted by the URRWMO 2-3-09.						
Develop template for cities to annually report to URRWMO	Create reporting template	Completed						
Review member cities' annual reports to the URRWMO	Review cities' reports	Done by URRWMO Bd	Review cities' reports	Done by URRWMO Bd	Review cities' reports	Done by URRWMO Bd	Review cities' reports	URRWMO Bd will do
Review member city Local Water Plans, once revised	Review draft Local Water Plans for compliance with URRWMO Plan	Bethel and Nowthen draft Plans reviewed, revised, and approved	Complete review of draft Local Water Plans for compliance with URRWMO Plan	St. Francis, Oak Grove, & Ham Lake draft Plans reviewed, revised, and approved. East Bethel plan approved pending minor edits	Complete review of draft Local Water Plans for compliance with URRWMO Plan	Requested edits to E Bethel plan were received, plan approved. All are now done.		
Review WMO Plan, including past work and upcoming budget	Review WMO Plan, work and budget	Done by WMO Board during annual reporting	Review WMO Plan, work and budget	Done by WMO Board during annual reporting	Review WMO Plan, work and budget	Done by WMO Board during annual reporting	Review WMO Plan, work and budget	WMO Board will do during annual reporting
Update Joint Powers Agreement		Minor updates in progress		Minor updates in progress	WMO Board continues work on JPA updates	Minor updates remain outstanding, despite work	WMO Board continues work on JPA updates	
Set aside matching funds for future grants	\$1,000	Unable with current finance administration	\$1,000	Unable with current finance administration	\$1,000	Unable with current finance administration	\$1,000	Unable with current finance administration
Other	Review and adjust, if necessary, URRWMO Boundary with CCWD	Boundary adjustment completed in 2007	Review East Bethel's wetland management plan along TH65	Not needed - development has not proceeded				

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e. Status of Local Plan Adoption and Implementation

All URRWMO member cities have local water plans which are consistent with the URRWMO Watershed Management Plan and have been approved by the URRWMO. All were updated in 2008 or 2009 for consistency with the URRWMO Plan, which was approved in 2007. These plans are now being implemented.

To track member cities’ progress on local plan implementation, the URRWMO requires a brief annual report from each city and provides a template for this report. In addition to serving as a reporting tool, we hope that the template serves as a “to do” list for our cities. These reports are available upon request, and are summarized in the table below.

Status of city local water plans and some recent accomplishments toward plan implementation.

City of Bethel	
Local Water Plan Status	Bethel’s new local water plan has been approved by the URRWMO and favorably reviewed by the Metropolitan Council. The URRWMO approved the plan in February 2009. The City has indicated that several ordinance revisions are also planned to achieve consistency with URRWMO standards. The City of Bethel needs several ordinance updates for compliance with URRWMO standards, including erosion and sediment control, stormwater, and floodplain. In their 2010 report to the URRWMO the city did not provide a target completion date for these ordinances.
Submitted 2010 annual report to URRWMO?	Yes
Some Recent Implementation Accomplishments	<ul style="list-style-type: none"> • Educational efforts that reached 171 households on the topics of hazardous waste disposal and yard waste management. • Plans to identify all water control structures in 2011, with inspections to begin in the fall of 2011. • Street sweeping. • Completed a wetland ordinance. • Development of a map in 2008 that includes ponds, lakes, streams, wetlands, and major storm sewer crossings. • Development in 2008 of an engineering manual with stormwater construction requirements.
City of East Bethel	
Local Water Plan Status	East Bethel’s local water plan was approved by the URRWMO in 2010. Previously, a draft had been reviewed in May 2009, and was approved contingent upon several minor revisions. Those revisions were received in 2010, and favorably reviewed. The city still lacks several needed ordinances, including erosion and sediment control, stormwater, and wetlands.
Submitted 2010 annual report to URRWMO?	Yes
Some Recent Implementation	<ul style="list-style-type: none"> • City is currently updating its subdivision ordinance, which will address several areas where the city’s current ordinances do not meet URRWMO standards. These include

- Accomplishments** erosion and sediment control, stormwater, and wetlands.
- In 2010 the City required delineation and functions and values assessments for seven wetlands. These were required for road, bridge, trail, and utilities projects. Each wetland was classified and regulated accordingly. There were four high priority wetlands, one medium priority, and one low priority.
 - NPDES Phase II stormwater regulation implementation, including educational efforts, developed an illicit discharge detection program, and developed and illicit discharge inspection form.
 - Street sweeping.
 - Inventoried existing water quality and rate control ponds.
 - Developed stormwater treatment basin and sump inspection program, which will begin in 2011.
 - Educational efforts that reached 11,000 residents on the topics of wetland buffers, water conservation, hazardous waste disposal, yard waste management, and pet waste disposal.
 - Inspecting land disturbance activities weekly or after rain events.

City of Ham Lake

Local Water Plan Status Ham Lake’s new local water plan has been favorably reviewed by the Metropolitan Council and URRWMO. The URRWMO approved the plan in May 2009, with contingencies. At their December 7, 2009 meeting, the Ham Lake City Council approved the local water plan with revisions that met the URRWMO’s contingencies.

Submitted 2010 annual report to URRWMO? Yes

- Some Recent Implementation Accomplishments**
- Stormwater system illicit discharge detection and elimination through City ordinance 08-03.
 - Annual inspection of all structural pollution control devices, and maintenance based upon inspection reports. This includes 165 outlet baffles acting as pollution control devices for the stormwater collection and sedimentation ponds in the City.
 - Routine inspection of land disturbance activities.
 - Street sweeping by May 1 in the spring, once during summer, and other times as needed.
 - Inspection of 20% of MS4 outfalls, sedimentation basins, and ponds each year on a rotating basis. Any cleaning or maintenance is based on the inspection reports.
 - Educational efforts through the City’s newsletter, which reaches the entire population of 14,000+. Educational article topics in 2010 included water quality monitoring, groundwater protection, water conservation, hazardous waste disposal, yard waste management, and pet waste disposal. Additional education is accomplished through the city’s website.
 - Created guidelines for development and made them available to developers, community staff, and the city council.

City of St. Francis

Local Water Plan Status St. Francis’ local water plan has been approved by the URRWMO. The city first submitted a revised local water plan that was favorably reviewed by the Metropolitan Council on May 5, 2009 and approved contingent upon several minor revisions by the URRWMO on the same day. Revisions were made by the city to address the contingencies and the URRWMO approved the St. Francis local water plan on September 1, 2009.

The City has indicated that several ordinance reviews and possibly revisions are also

planned to achieve consistency with the URRWMO standards. Ordinances needing review and possible update or creation include shoreland, stormwater, floodplain, and wetlands. The City lacks a shoreland ordinance, as required by the URRWMO.

Submitted 2010 annual report to URRWMO?

Yes

Some Recent Implementation Accomplishments

- Inspecting construction projects weekly or after rain events.
- Swept all streets with improved surfaces (urban and rural) in spring. Swept all urban streets again in the fall.
- Development of a GIS inventory and inspection plan for stormwater treatment basins and water control structures is underway. Inspections will begin in fall 2011.
- Educational efforts that reached 7,500 residents on the topics of water conservation, yard waste management, and hazardous waste disposal.
- Routine removal of sediment from a Stormceptor treatment device on Rum River Boulevard.

City of Nowthen

Local Water Plan Status

Nowthen’s local water plan has been approved by the URRWMO. The URRMO Board first reviewed the plan in February 2009, where some deficiencies were found. The City revised the plan based upon URRWMO comments. The revised plan was approved by the URRWMO Board in May 2009. The Metropolitan Council has also indicated that they found the draft plan satisfactory in their January 2009 letter.

The City has the full suite of water protection ordinances required by the URRWMO.

Submitted 2010 annual report to URRWMO?

Yes

Some Recent Implementation Accomplishments

- Updated ordinances in 2010, including erosion control, stormwater, and wetland ordinances for consistency with the URRWMO Plan.
- Adopted an illicit discharge ordinance in 2010.
- Swept streets in areas with curb and gutter and other priority areas, including Rogers Lake Area, Quiet Meadows, Autumn Acres, East Twin Lakes Parking Lots, and Garnet Street.
- City’s Storm Water Pollution Prevention Plan (SWPPP) was adopted April 14, 2009. Several deadlines for accomplishments under the SWPPP are in 2010.
- Annual inspections of stormwater basins and sumps.
- Educational efforts to approximately 2,300 residents on topics of hazardous waste disposal, groundwater protection, and the activities of the URRWMO.

City of Oak Grove

Local Water Plan Status

Oak Grove’s local water plan has been approved by the URRWMO. The City first submitted its local water plan to the URRWMO in early 2009. The URRWMO noted several deficiencies in a comment letter dated February 3, 2009. Revisions were made and the URRWMO approved the plan in May 2009. The Metropolitan Council favorably reviewed the plan (letter dated Sept. 9, 2009). The City already has all of the ordinances required by the URRWMO Plan.

Submitted 2010 annual report to URRWMO?

Yes

Some Recent

- The Public Works Department inspected 88 storm ponds in 2010 and their attached facilities. Of those inspected, 15 had issues ranging from gopher mounds to poor

Implementation Accomplishments

- vegetation. Issues are being addressed as they are identified.
- Began revising the city’s wetland ordinance, which will include buffer widths required by the URRWMO. Completion is anticipated in June 2010.
- Street sweeping in spring.
- Ongoing work to complete BMP’s in the city’s Storm Water Pollution Prevention Plan.
- Completed mapping of stormwater conveyance system.
- Educational efforts that reached 4,000 residents on the topics of groundwater protection, hazardous waste disposal, pet waste disposal, and yard waste management.

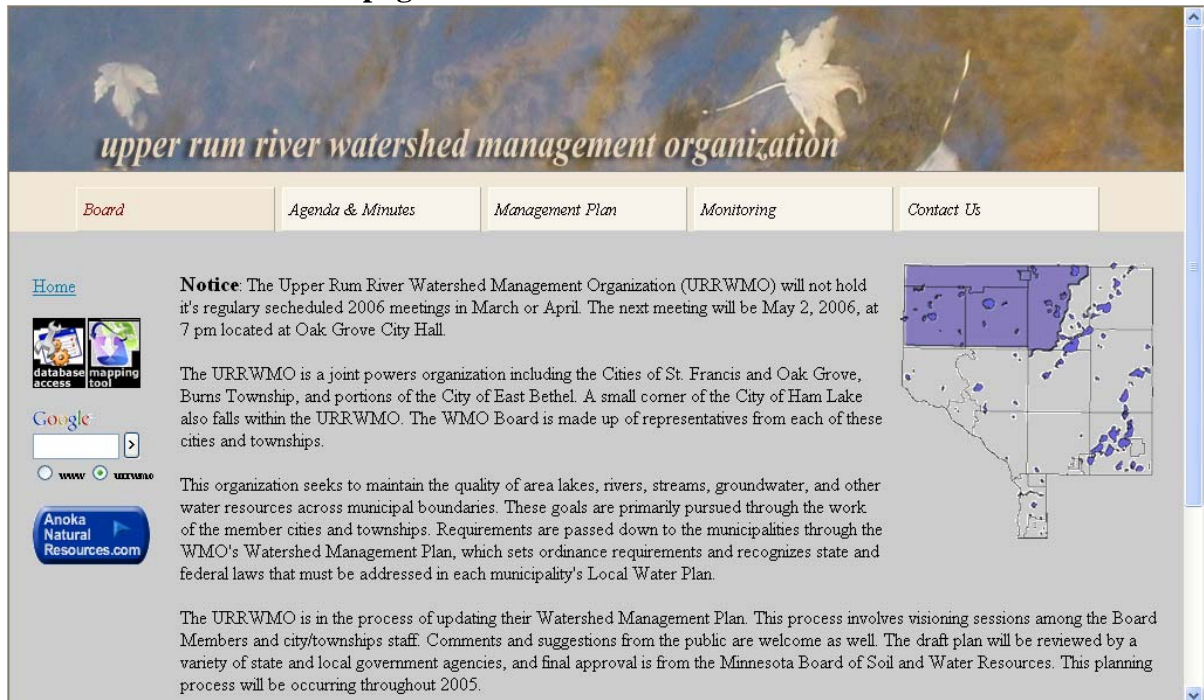
f. Public Outreach

The URRWMO and its member cities do occasional public outreach and education projects (see tables above), but the URRWMO’s website serves as the primary, continuous public outreach tool. The website was designed in 2003 and has been in continuous operation since. Website contents include general information about the organization, the watershed management plan, meeting agendas and minutes, water monitoring results, profiles of WMO projects, access to mapping and data access tools, and others.

The website serves as an alternative to the state-mandated annual newsletter. The URRWMO ensures visibility of its website by asking member cities and townships to post the URRWMO website address in their newsletters. Links to the URRWMO website are also provided through other websites including the Anoka Natural Resources, Anoka Conservation District, and member municipality websites.

The website address is <http://www.anokanaturalresources.com/urrwmo>

URRWMO Website homepage



g. Permits, Variances, and Enforcement Actions

The URRWMO does not issue permits, variances, or take enforcement actions. These responsibilities are held by the member municipalities.

h. Status of Locally Adopted Wetland Banking Program

The URRWMO does not have a locally adopted wetland banking program.

i. 2011 Work Plan

Task	Purpose	Description	Locations or Action	Cost
Lake Level Monitoring	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. Cooper and Minard Lakes are being added in 2011, though they were not in the watershed management plan. Water level issues and citizen complaints have become frequent at these lakes.	Weekly water level monitoring in lakes by volunteers. All are available on the Minnesota DNR website using the "LakeFinder" feature (www.dnr.mn.us.state/lakefind/index.html).	East Twin Lake Lake George Cooper Lake Minard Lake	\$620
Lake Water Quality Monitoring	To detect water quality trends and diagnose the cause of changes.	May through September twice-monthly monitoring of the following parameters: total phosphorus, chlorophyll-a, secchi transparency, dissolved oxygen, turbidity, temperature, conductivity, pH, and salinity.	East Twin Lake Lake George	\$2,090
Stream Water Quality Monitoring	To detect water quality trends and diagnose the cause of changes. To measure upstream to downstream changes in water quality within the URRWMO area.	Grab sample water quality monitoring, including: total phosphorus, total suspended solids, chlorides, dissolved oxygen, turbidity, temperature, conductivity, pH, and salinity. Water level will be recorded during each sampling. Analysis includes an overall assessment and an upstream to downstream assessment.	Rum River at Hwy 24 (top of URRWMO area) Rum River at Hwy 7 (bottom of URRWMO area). Seeyle Brook Cedar Creek Ford Brook	\$6,060
URRWMO Website	To increase awareness of the URRWMO 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 URRWMO's alternative to a state-mandated newsletter.	Maintain and update the URRWMO website with current information about the organization, and meeting minutes and agendas.	http://www.ano.kanaturalresources.com/urrwmo/	\$270

Upper Rum River WMO Annual Report 2010

Task	Purpose	Description	Locations or Action	Cost
URRWMO Annual Newsletter	To increase awareness of the URRWMO and its programs, as well as educate the public on water quality issues. A featured topic in the 2009 article will be cost share grants available to residents for water quality improvement projects.	In order to achieve the greatest distribution at the lowest cost the URRWMO will draft an newsletter article and ask that member cities include it in their newsletters.	Watershed-wide	\$350
Prepare 2010 Annual Report to BWSR	To provide transparency and accountability of organization operations.	Produce an annual report of URRWMO activities and finances that satisfies Minnesota Rules 8410.0150.	Secured Anoka Conservation District staff to assist with this task.	\$630
Cost Share Grants for Water Quality Improvement	To improve water quality in lakes, rivers, and streams.	These grants offer up to 70% cost sharing of the materials needed for a water quality improvement project. The landowner is responsible for remaining materials costs, all labor, and any aesthetic components of the project. Typical projects include erosion correction, lakeshore restoration, and rain gardens. The Anoka Conservation District provides administration of grants and technical assistance to landowners.	Offer grants	\$567 plus \$1,385.50 carry over from previous years
Review member cities' annual reports to the URRWMO	To track member cities' progress on local plan adoption and implementation. In addition, we hope that the reporting template will serve as a "to do" list for our cities.	The URRWMO will review annual reports from member cities. Completed reports are due to the URRWMO by February 15 so the information can be included in the URRWMO's annual report to BWSR (this report).	Review of six cities' reports by URRWMO Board.	\$0

III. Financial and Audit Report

a. 2010 Financial Summary

Expenditures and revenues for the year are detailed in the table below. Each municipality's contribution (WMO revenue) follows the WMO's joint powers agreement.

Expenditures		Amount	
Administrative			
Insurance – League of MN Cities Insurance Trust		\$2,277.00	
Insurance late pymt refund - League MN Cities Ins Trust		-\$228.00	
Insurance dividend – League of MN Cities Insurance Trust		-\$317.00	
Secretarial services - Gail Gessner		\$625.00	
Postage		\$00.00	
Copies		\$11.00	
City of Oak Grove administration fees		\$300.00	
	SUBTOTAL	\$2,668.00	
Non-Administrative			
Water Monitoring (lake levels, River water quality monitoring, Rum River Field review) - Anoka Conservation District (ACD)		\$9,085.00	
Website – ACD		\$270.00	
2009 annual report to BWSR – ACD		\$500.00	
URRWMO annual newsletter article – ACD		\$275.00	
Anoka County Geologic Atlas - ACD		\$2,830.00	
Cost share grant fund for water quality projects		\$500.00	
	SUBTOTAL	\$13,460.00	
GRAND TOTAL		\$16,128.00	
Revenues (% cost distribution specified in JPA)		Amount	
Administrative			
City of Bethel	(16.67% of expenses)	\$ 444.66	(16.67%)
Burns Township	(16.67% of expenses)	\$ 444.66	(16.67%)
City of East Bethel	(16.67% of expenses)	\$ 444.67	(16.67%)
City of Ham Lake	(16.67% of expenses)	\$ 444.67	(16.67%)
City of Oak Grove	(16.67% of expenses)	\$ 444.67	(16.67%)
City of St. Francis	(16.67% of expenses)	\$ 444.67	(16.67%)
	SUBTOTAL	\$2,668.00	
Non-Administrative			
City of Bethel	(1.08% of expenses)	\$ 145.37	(1.08%)
City of Nowthen	(23.66% of expenses)	\$3,184.64	(23.66%)
City of East Bethel	(24.21% of expenses)	\$3,258.67	(24.21%)
City of Ham Lake	(0.99% of expenses)	\$ 133.25	(0.99%)
City of Oak Grove	(29.69% of expenses)	\$3,996.28	(29.69%)
City of St. Francis	(20.37% of expenses)	\$2,741.80	(20.37%)
	SUBTOTAL	\$13,460.01	
GRAND TOTAL		\$16,128.01	

b. Fund Balances

The URRWMO’s general fund balance at the end of 2010 was \$0. Revenues matched expenditures.

The URRWMO contributes to a fund for cost share grants for water quality improvement projects. This is part of a larger county-wide fund administered by the Anoka Conservation District. URRWMO dollars can only be awarded to projects in the URRWMO area. The fund balance history is:

2006-09 URRWMO Contributions	+	\$1,990.00
2006-09 Expenditures		\$ 0
2010 URRWMO Contribution	+	\$ 500.00
<u>2010 Expenditure- Petro streambank stabilization (encumbered) -</u>		<u>\$1,104.50</u>
Fund Balance		\$ 1,385.50

a. 2009 Financial Audit Documentation

The Sunrise River Watershed Management Organization has discussed the appropriate type of financial audit for their organizations, and other similar including the URRWMO. After discussions with Jim Haertel, Metro Region Supervisor, at the MN Board of Water and Soil Resources in 2010 it was determined that the SRWMO may do a modified cash audit to meet audit requirements. Please see the financial information provided above.

Additional scrutiny of the URRWMO finances occurs through the audit of the City of Oak Grove finances. All URRWMO revenues and expenditures are administered through the City of Oak Grove, 19900 Nightingale St. NW Cedar, MN 55011. The City of Oak Grove has undergone a complete financial audit yearly by a certified accounting firm. The 2010 audit will be completed in June 2011. When completed the audit will be available for review at the City of Oak Grove. The audits are conducted by:

Melissa A Schlingman, Senior Staff Accountant
 DeWenter, Viere, Ltd.
 320.650.0223 Direct
 Mschlingman@kdv.com
<http://www.kdv.com>

b. 2011 Budget

At its May 4, 2010 meeting the SRWMO Board approved a 2011 budget of \$16,617. Details of that budget are in the table on the following page.

2011 URRWMO Budget

		<u>Bethel</u>	<u>East Bethel</u>	<u>Ham Lake</u>	<u>Nowthen</u>	<u>Oak Grove</u>	<u>St. Francis</u>
NON-ADMINISTRATIVE BUDGET (costs split by percentages)		1.08%	24.21%	0.99%	23.66%	29.69%	20.37%
Lake Levels Monitoring - Lake George & East Twin Lake	\$310.00	\$3.35	\$75.05	\$3.07	\$73.35	\$92.04	\$63.15
Rum River Water Quality Monitoring - upstream & downstream	\$2,332.00	\$25.19	\$564.58	\$23.09	\$551.75	\$692.37	\$475.03
URRWMO website - Public Education	\$280.00	\$3.02	\$67.79	\$2.77	\$66.25	\$83.13	\$57.04
URRWMO annual newsletter - Public Education	\$285.00	\$3.08	\$69.00	\$2.82	\$67.43	\$84.62	\$58.05
Prepare 2009 annual report to BWSR - Reporting	\$515.00	\$5.56	\$124.68	\$5.10	\$121.85	\$152.90	\$104.91
Lake Water Quality Monitoring - Lake George & East Twin Lake	\$2,150.00	\$23.22	\$520.52	\$21.29	\$508.69	\$638.34	\$437.96
Stream Water Quality Monitoring - Seelye Brook, Cedar Creek & Ford Brook	\$4,035.00	\$43.58	\$976.87	\$39.95	\$954.68	\$1,197.99	\$821.93
Water quality cost share grant fund - Projects and Studies	\$1,000.00	\$10.80	\$242.10	\$9.90	\$236.60	\$296.90	\$203.70
	\$10,907.00	\$117.80	\$2,640.58	\$107.98	\$2,580.60	\$3,238.29	\$2,221.76
ADMINISTRATIVE BUDGET (costs split equally six ways)		<u>Bethel</u>	<u>East Bethel</u>	<u>Ham Lake</u>	<u>Nowthen</u>	<u>Oak Grove</u>	<u>St. Francis</u>
Copies	\$50.00	\$8.33	\$8.33	\$8.33	\$8.33	\$8.33	\$8.33
Postage	\$60.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00	\$10.00
Recording secretary	\$1,200.00	\$200.00	\$200.00	\$200.00	\$200.00	\$200.00	\$200.00
Insurance-League of MN Cities insurance trust	\$2,500.00	\$416.67	\$416.67	\$416.67	\$416.67	\$416.67	\$416.67
Administrative fee-Oak Grove	\$300.00	\$50.00	\$50.00	\$50.00	\$50.00	\$50.00	\$50.00
Audit	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Budget for URRWMO matching participation on future grant opportunities (table V-1 of URRWMO plan)	\$1,000.00	\$166.67	\$166.67	\$166.67	\$166.67	\$166.67	\$166.67
Public notice of watershed plan amendments	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Solicit bids for professional services	\$100.00	\$16.67	\$16.67	\$16.67	\$16.67	\$16.67	\$16.67
Public outreach (each share based on LGU percentages)	\$500.00	\$5.40	\$121.05	\$4.95	\$118.30	\$148.45	\$101.85
	\$5,710.00	\$873.73	\$989.38	\$873.28	\$986.63	\$1,016.78	\$970.18
Grand Total	\$16,617.00	\$991.53	\$3,629.97	\$981.26	\$3,567.23	\$4,255.07	\$3,191.94

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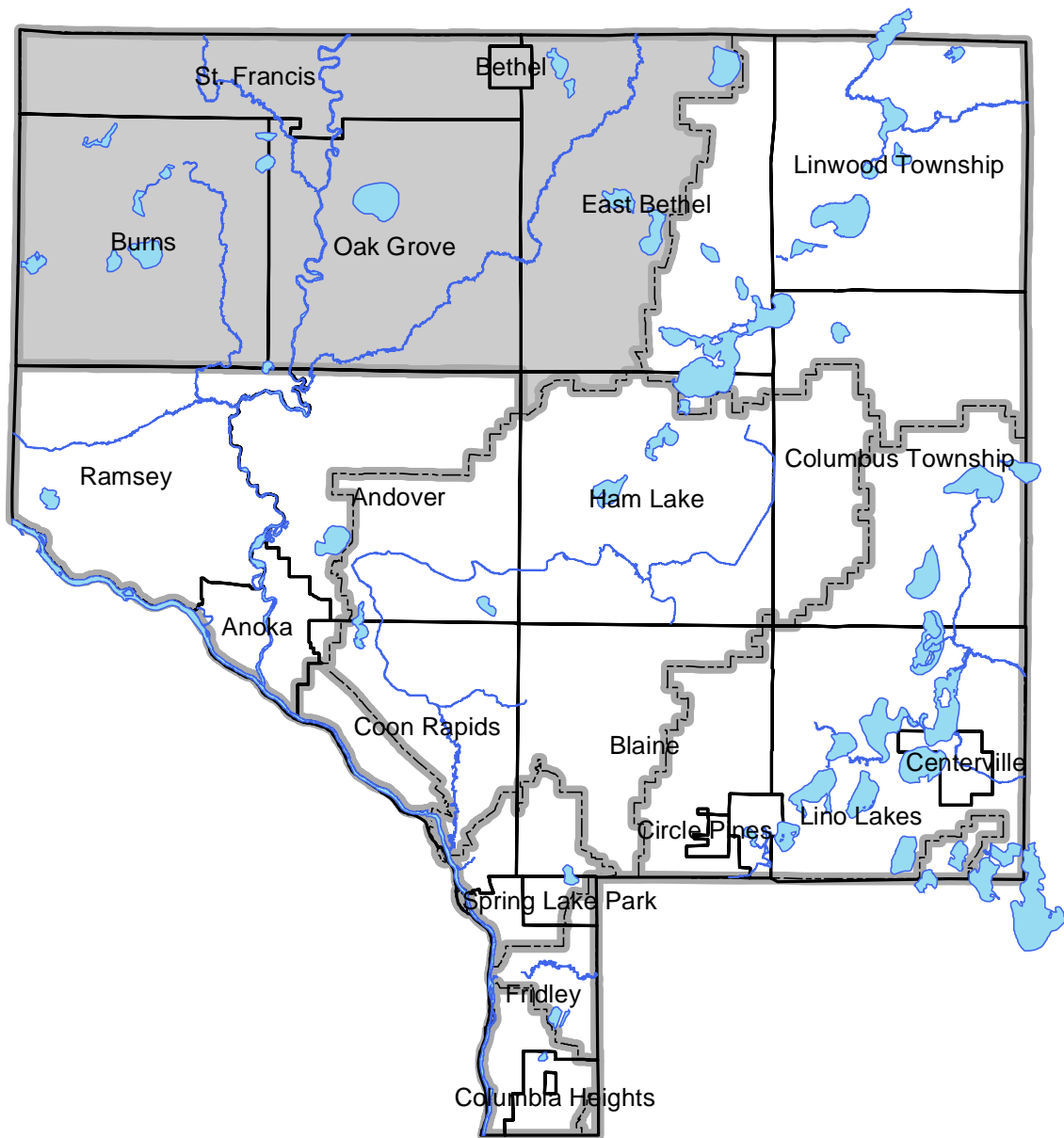
Appendix A:

2010 Water Monitoring and Management Work Results

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Excerpt from the 2010 Anoka Water Almanac

Chapter 3: Upper Rum River Watershed

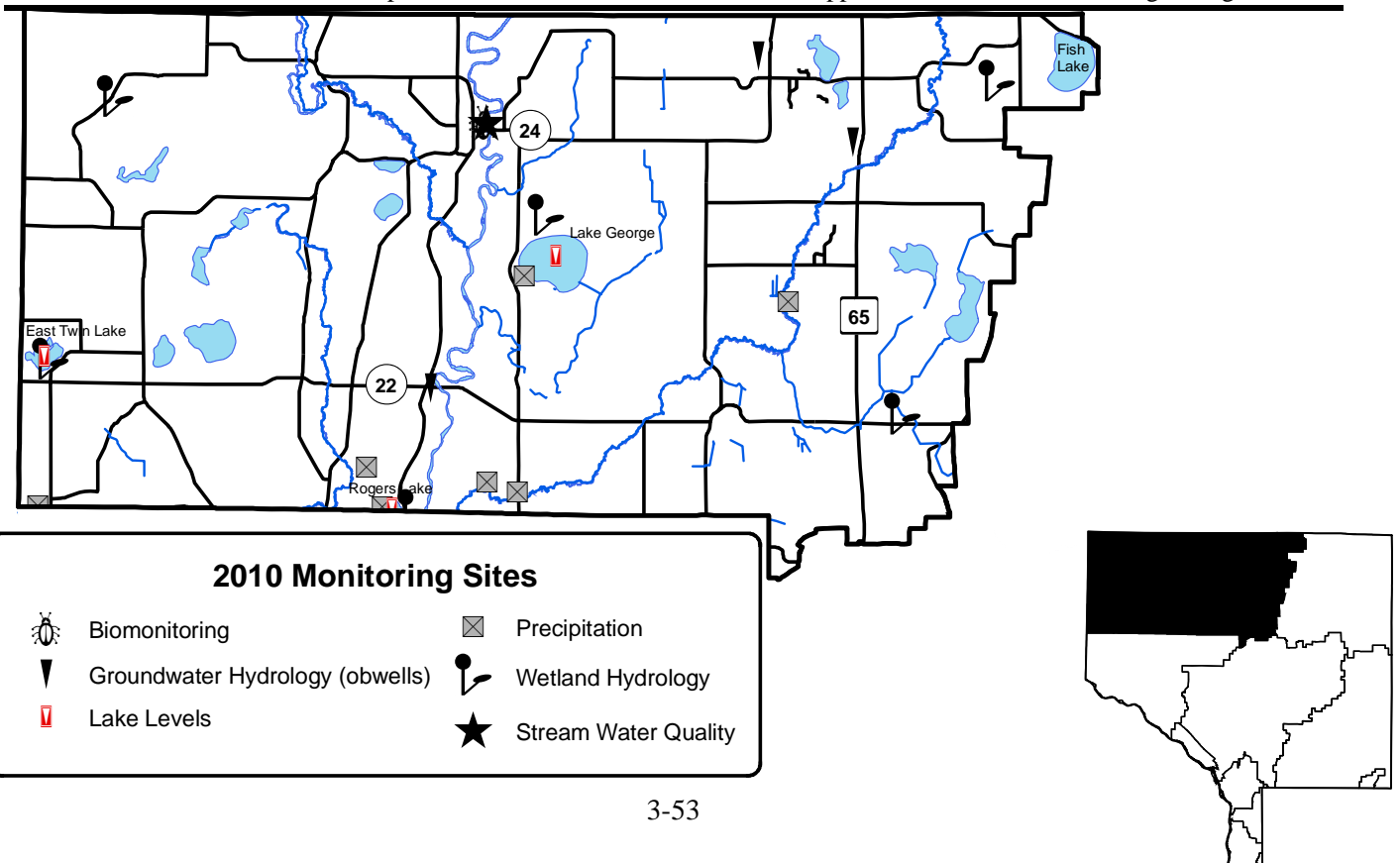


Prepared by the Anoka Conservation District

CHAPTER 3: UPPER RUM RIVER WATERSHED

Task	Partners	Page
Lake Level Monitoring	URRWMO, ACD, MN DNR, volunteers	3-54
Stream Water Quality – Chemical Monitoring	URRWMO, LRRWMO, ACD, MC	3-56
Stream Water Quality – Biological Monitoring	ACD, ACAP, St. Francis High School	3-65
Wetland Hydrology	ACD, ACAP	3-68
Rum River Erosion Field Survey	URRWMO, ACD	3-74
Water Quality Grant Fund	URRWMO, ACD	3-75
Water Quality Improvement Projects	URRWMO, ACD, Landowners	3-77
Anoka County Geologic Atlas	All Anoka Co watershed orgs, ACD, MN DNR, MN Geological Survey	3-78
URRWMO Website	URRWMO, ACD	3-80
URRWMO Annual Newsletter	URRWMO, ACD	3-82
URRWMO 2009 Annual Report to BWSR	URRWMO, ACD	3-83
Financial Summary		3-84
Recommendations		3-84
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 = Minnesota Dept. of Natural Resources, URRWMO = Upper Rum River Watershed Mgmt Org



Lake Levels

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).

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: East Twin Lake, Lake George, Rogers Lake

Results: Water levels on Lake George, Rogers, and East Twin Lakes were measured by volunteers 37, 17, and 23 times, respectively, in 2010. Lake levels increased modestly over the previous years as a result of the above average rainfall observed during the summer of 2010.

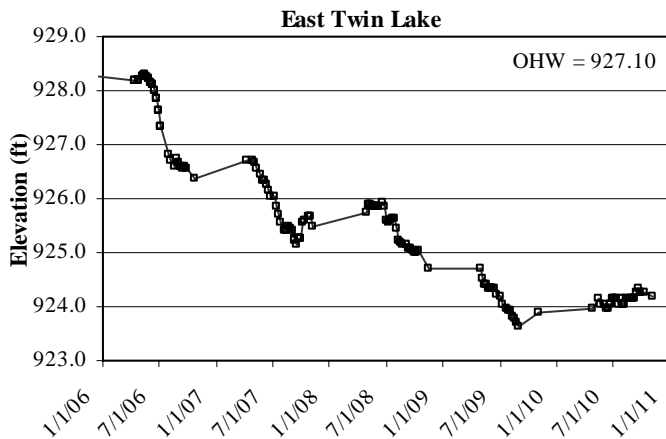
East Twin Lake has declined nearly continuously since late 2006. In 2006 water was abnormally high due to a beaver dam, which was removed. Water declines in the following years were initially due to this dam removal, but more recently reflect drought. The consistent trend of decreasing water levels was not observed in 2010. Rather, water levels remained relatively constant throughout the year.

Relative to 2009, the average lake level in Lake George increased by 0.6 feet during 2010. Lake George water levels have been relatively constant, but low, in recent years because of drought conditions. Management of the lake’s only inlet, County Ditch #19, remains to be of interest - residents have complained it is clogged and needs maintenance.

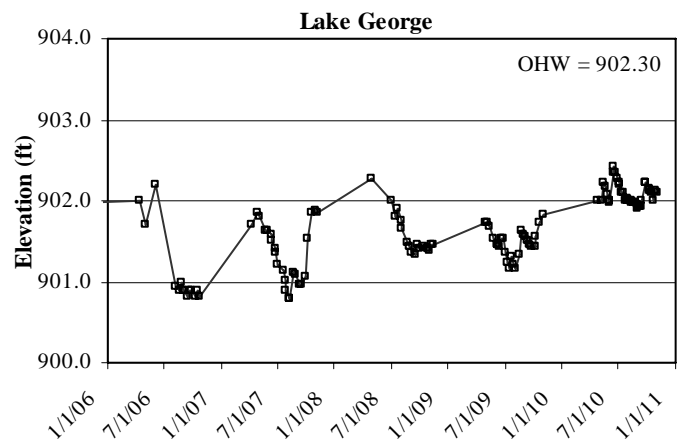
Rogers Lake declined nearly continuously between 2006 and 2009, with a total drop of over two feet. Increases late in the year of 2009 were sustained in 2010 and further increases were observed. The average lake level increased by 0.37 feet between 2009 and 2010.

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.

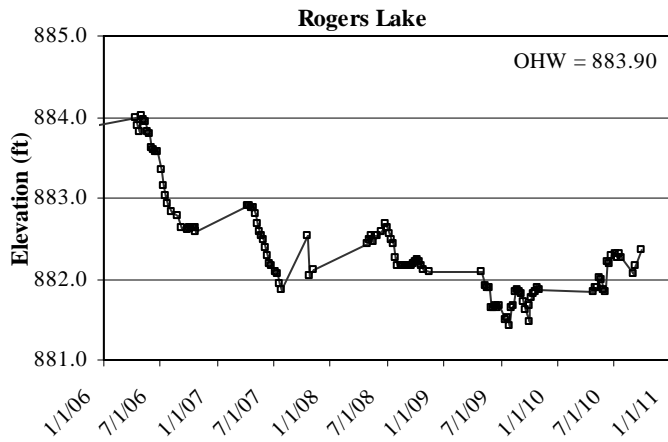
East Twin Lake Levels 2006-2010



Lake George Levels 2006-2010



Rogers Lake Levels 2006-2010



Upper Rum River Watershed Lake Levels Summary 2006-2010

Lake	Year	Average	Min	Max
East Twin	2006	927.61	926.37	928.29
	2007	925.79	925.15	926.71
	2008	925.45	924.70	925.94
	2009	924.13	923.62	924.72
	2010	924.12	923.95	924.35
George	2006	901.13	900.82	902.20
	2007	901.36	900.78	901.88
	2008	901.59	901.33	902.27
	2009	901.48	901.16	901.82
	2010	902.08	901.91	902.41
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

Stream Water Quality - Chemical Monitoring

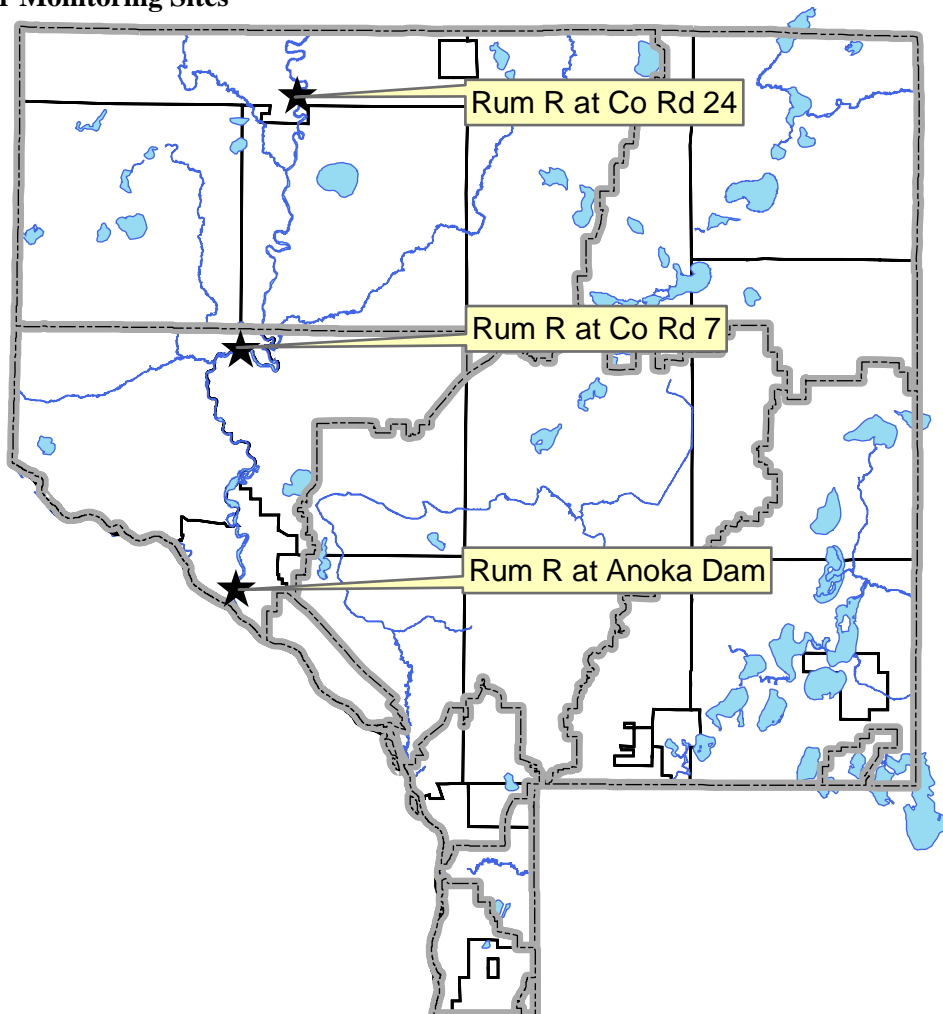
Description: The Rum River has been monitored simultaneously at three strategic locations in 2004, 2009, and 2010. The locations include the approximate top and bottom of the Upper and Lower Rum River Watershed Management Organizations. The two organizations share the middle location. The Metropolitan 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

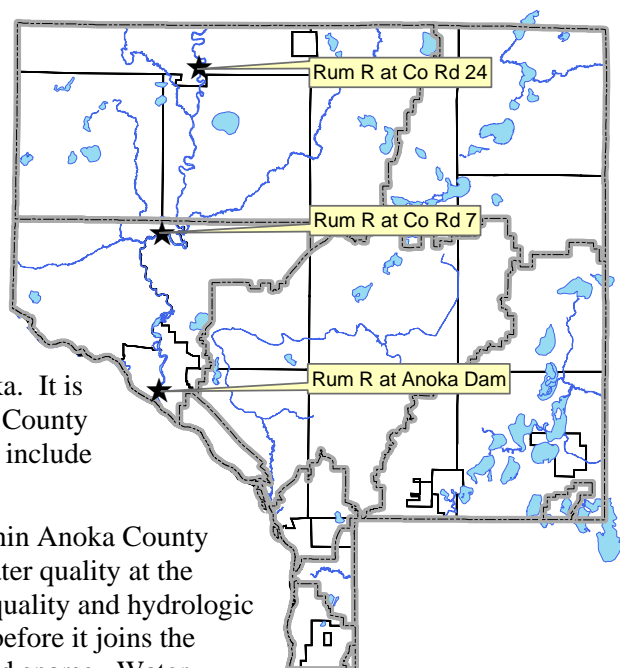
The Rum River is regarded as one of Anoka County's highest quality and most valuable water resources. It is designated as a state scenic and recreational river throughout Anoka County, except south of the county fairgrounds in Anoka. It is used for boating, tubing, and fishing. Much of western Anoka 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.

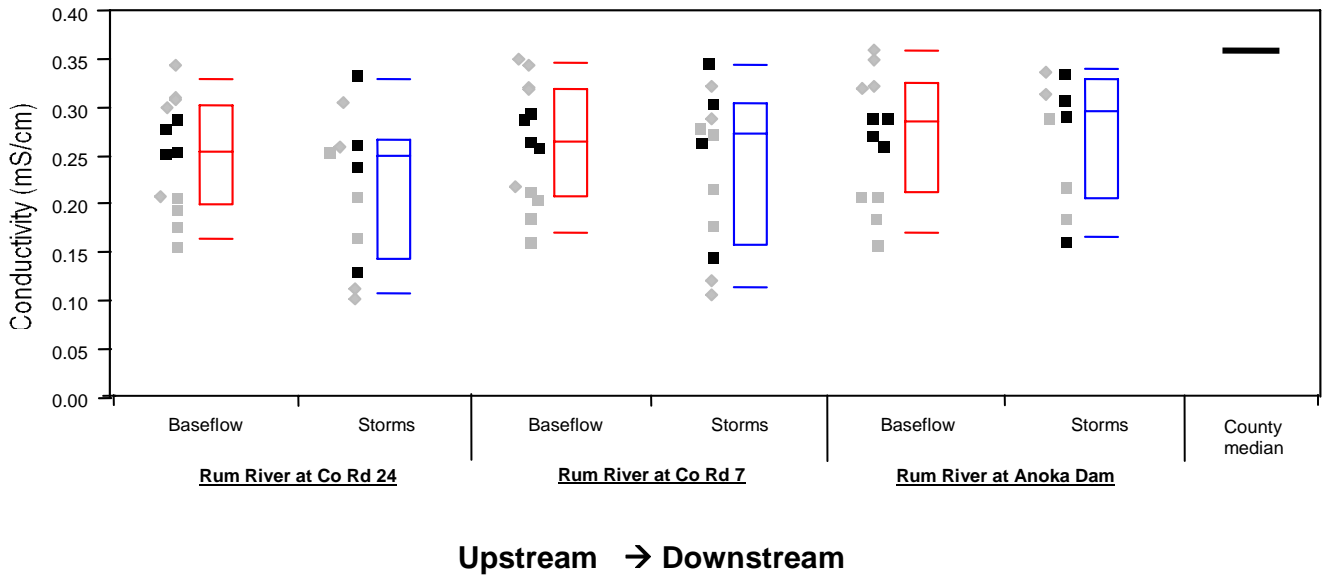
Conductivity and chlorides

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.

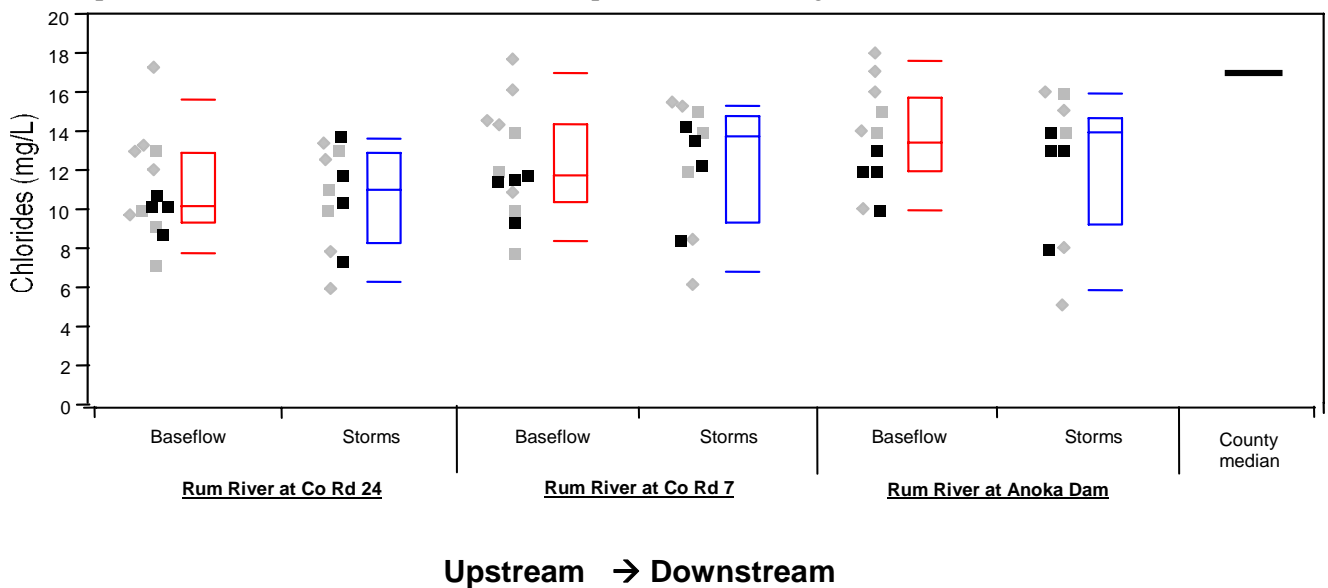
Conductivity is acceptably low in the Rum River, but increases downstream (see figure below) and during baseflow. Median conductivity from upstream to downstream was 0.256 mS/cm, 0.272 mS/cm, and 0.296 mS/cm, respectively. This is lower than the median for 34 Anoka County streams of 0.362 mS/cm. The 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), 25th and 75th percentile (ends of box), and 10th and 90th 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), 25th and 75th percentile (ends of box), and 10th and 90th percentiles (floating outer lines).



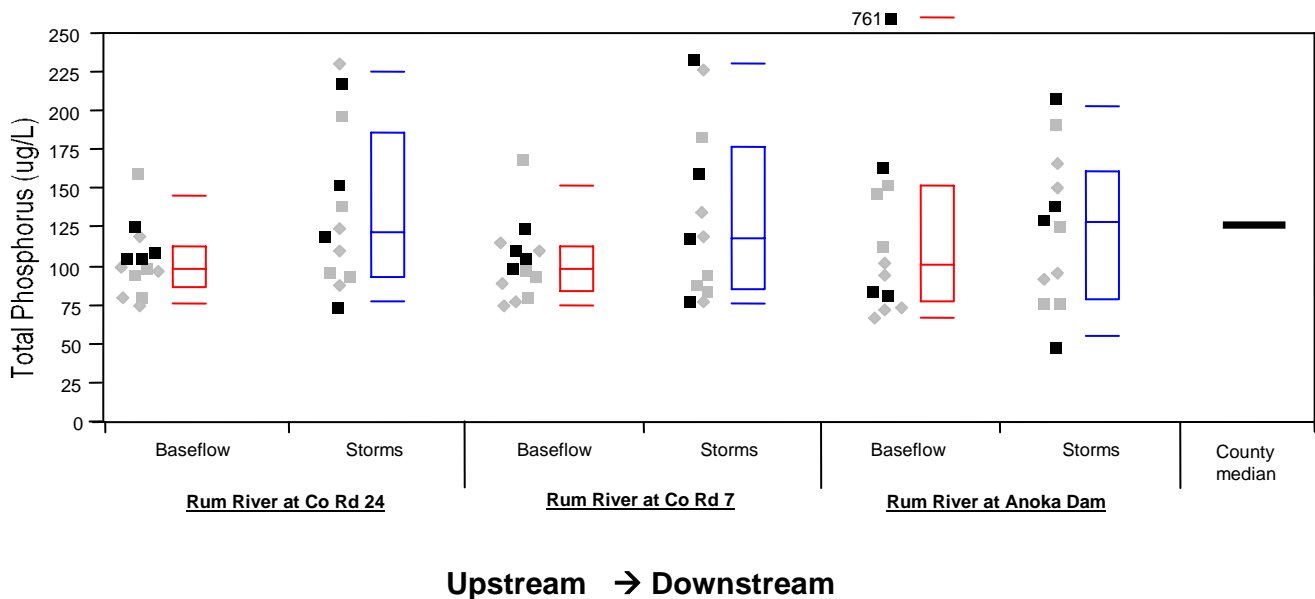
Chloride results parallel those found for conductivity (see figure above), supporting the hypothesis that chloride is an important cause of the conductivity. Chloride levels in the Rum River (median 11, 12, and 14 mg/L from upstream to downstream) are similar to the median for Anoka County streams of 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), 25th and 75th percentile (ends of box), and 10th and 90th 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.

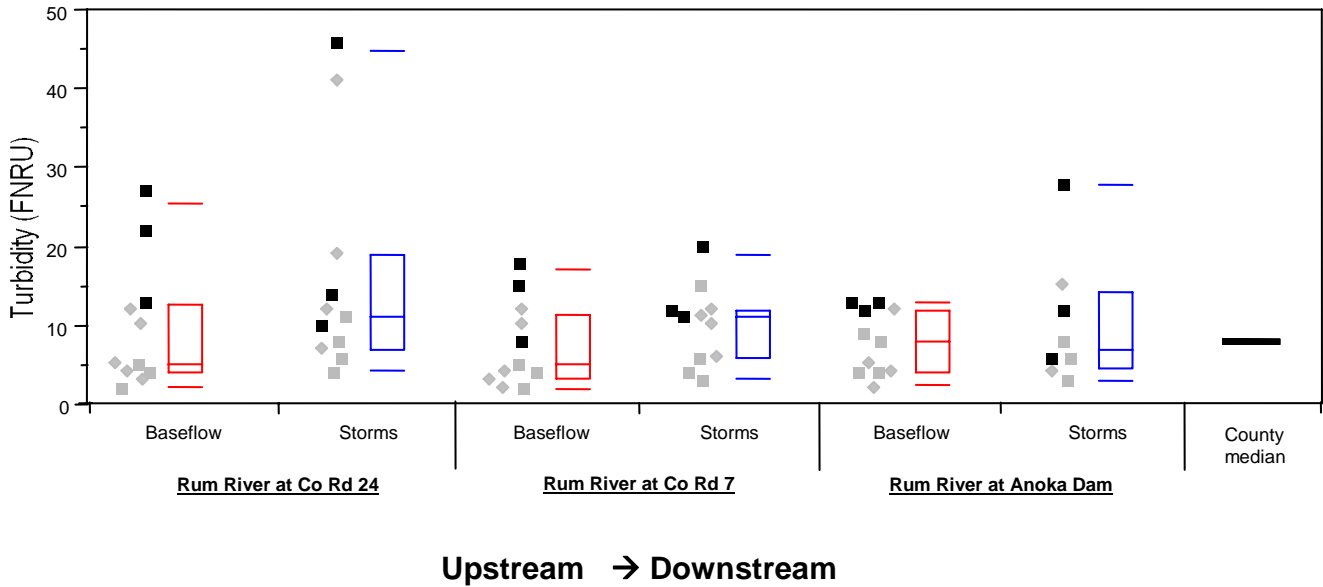
In the Rum River, turbidity was low with only slight increases during storms and no apparent increase at downstream monitoring sites (see figure below). The median turbidity at each site was 10, 8, and 8 FNRU (upstream to downstream), which is similar to the median for Anoka County streams of 8 FNRU. 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.

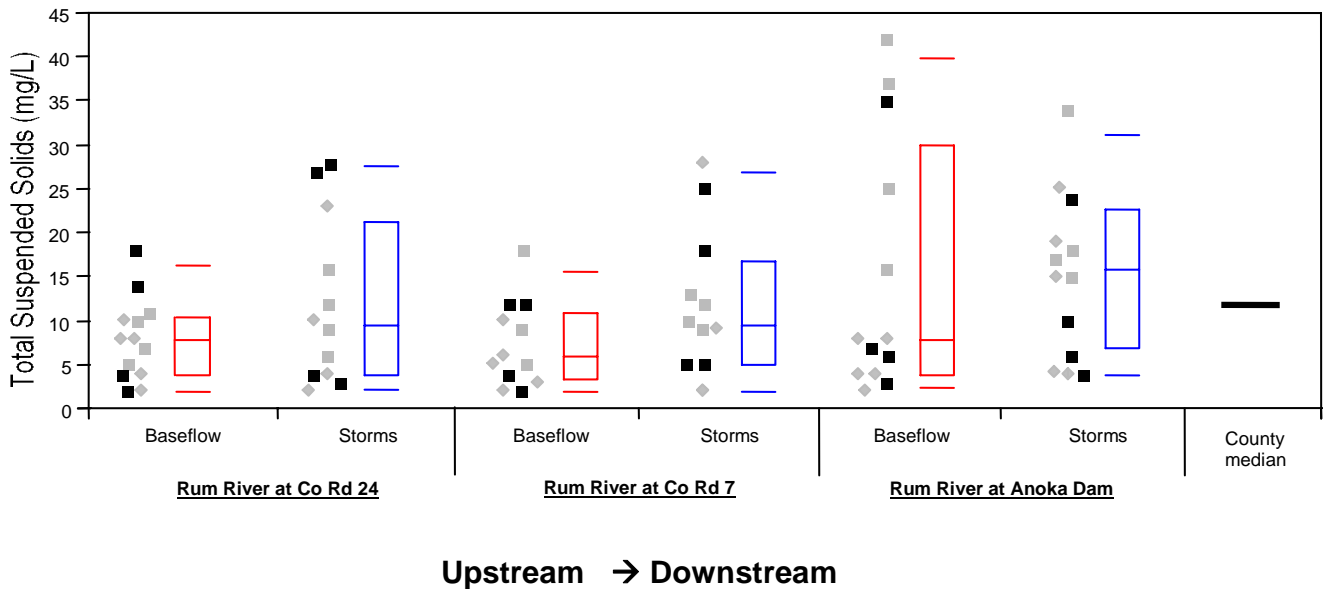
Differences between TSS and turbidity lend insight into the nature of any problems. TSS showed increases at the downstream monitoring site, while turbidity did not. Turbidity is most sensitive to large particles. Therefore, the downstream increases are likely due to smaller particles. Other pollutants, 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), 25th and 75th percentile (ends of box), and 10th and 90th percentiles (floating outer lines).



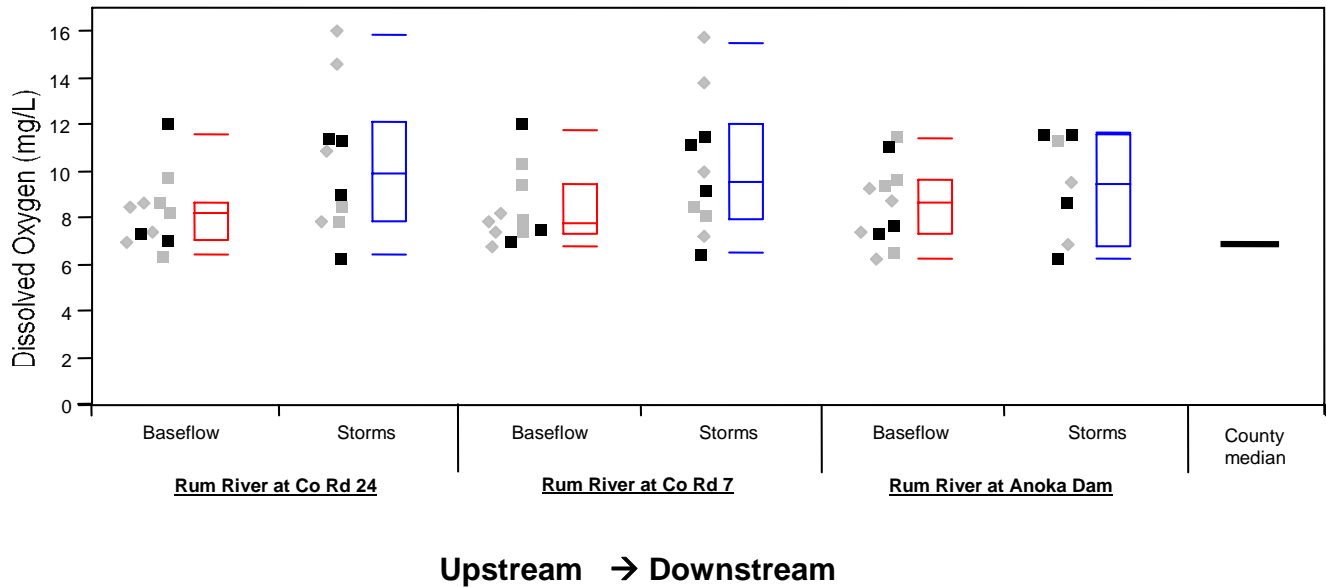
Total suspended solids during baseflow and storm conditions Grey squares are individual readings from 2004; grey diamonds are 2009 readings, and black squares are 2010 readings. Box plots show the median (middle line), 25th and 75th percentile (ends of box), and 10th and 90th percentiles (floating outer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

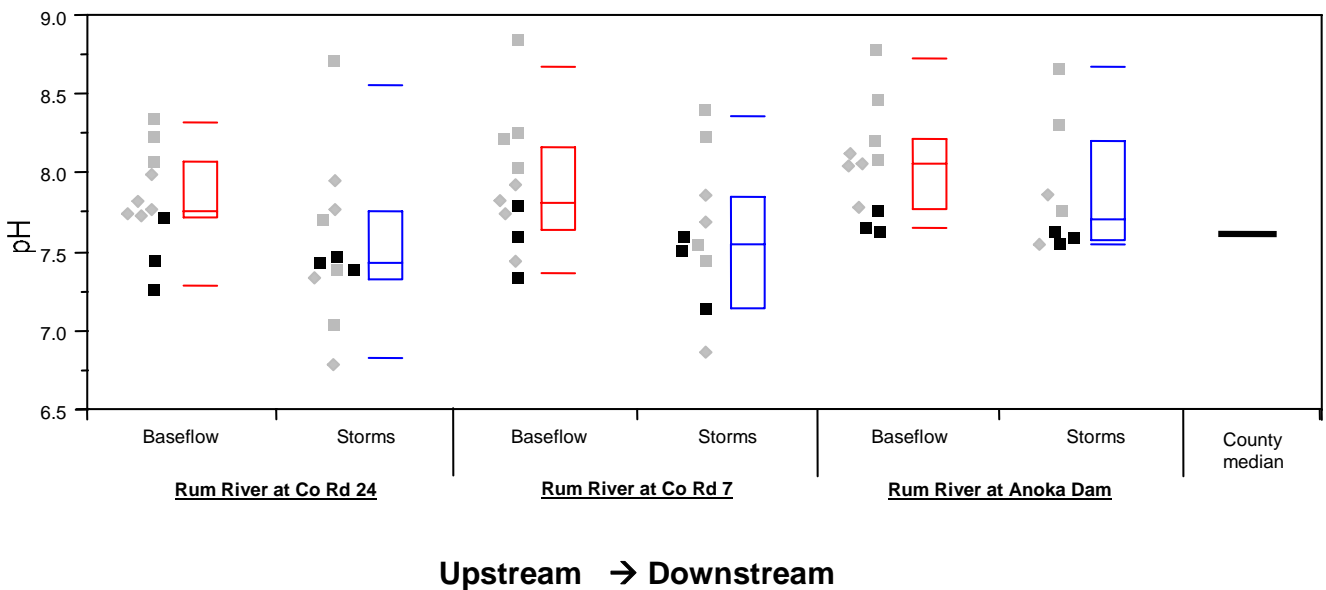


pH

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 results 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), 25th and 75th percentile (ends of box), and 10th and 90th percentiles (floating outer lines).



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

- 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 at Hwy 24, Rum River North County Park, St. Francis
- Results:** Results for each site are detailed on the following pages.

Tips for Data Interpretation

Consider all biological indices of water quality together rather than looking at each alone, as 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.

FBI	Stream Quality Evaluation
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

at Hwy 24, Rum River North County Park, St. Francis

Last Monitored

By St. Francis High School in 2010

Monitored Since

2000

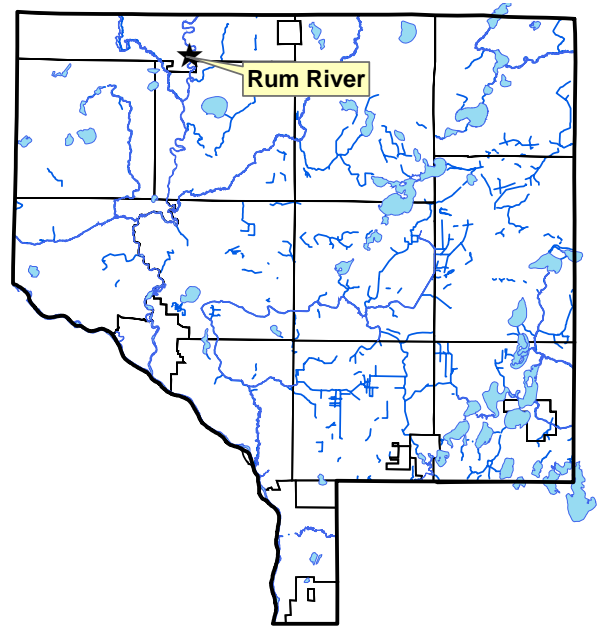
Student Involvement

90 students in 2010, approximately 1,070 since 2000

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 ripples as well as pools and runs with sandy bottoms. The river's condition is generally regarded as excellent. Portions of the Rum in Anoka County have a state "scenic and recreational river" designation.

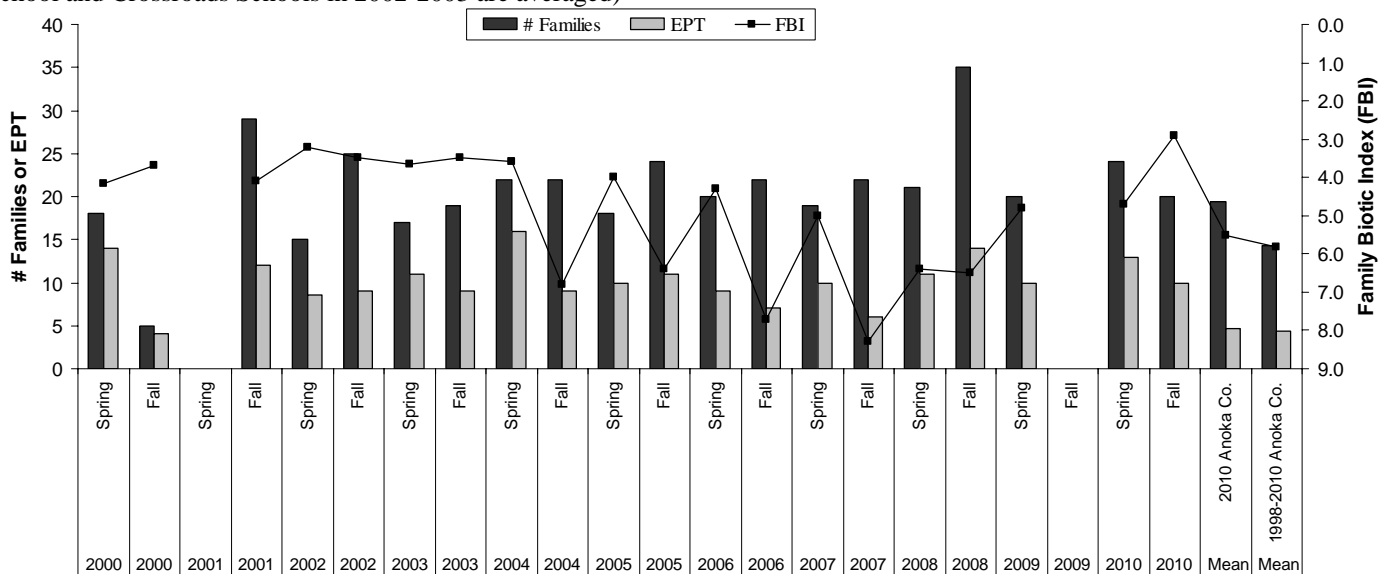
The sampling site is in Rum River North County Park. This site is typical of the Rum in northern Anoka County, having a rocky bottom with numerous pool and ripple areas.



Results

St. Francis High School classes monitored the Rum River in spring 2010, with Anoka Conservation District (ACD) oversight. During the fall of 2010, ACD staff monitored the site because students were unable to sample due to a combination of high water conditions and class schedules. Biological data for 2010, and historically, indicate the Rum River in northern Anoka County has the best conditions of all streams and rivers monitored throughout Anoka County. In 2010 the number of families, number of EPT families, and Family Biotic Index (FBI) were substantially above the county averages. Twenty four families were found in spring 2010 and 35 in fall 2008.

Summarized Biomonitoring Results for Rum River at Hwy 24, St. Francis (samplings by St. Francis High School and Crossroads Schools in 2002-2003 are averaged)



Biomonitoring Data for Rum River at Rum River North County Park, St. Francis

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	4.30	7.70	5.00	8.30	6.40	6.50	4.80	Unusable	4.7	2.9	5.5	5.8
# Families	20	22	19	22	21	35	20	Sample	24	20	19.4	14.3
EPT	9	7	10	6	11	14	10		13	10	4.7	4.3
Date	25-May	2-Oct	16-May	11-Oct	27-May	30-Sep	29-Apr	13-Oct	27-Apr	29-Oct		
Sampled By	SFHS	SFHS	SFHS	SFHS	SFHS	SFHS	SFHS	SFHS	SFHS	ACD		
Sampling Method	MH	MH	MH	MH	MH	MH	MH	MH	MH	MH		
Mean # Individuals/Rep.	152	187	262	502	348	156	267		142	274		
# Replicates	2	2	2	2	2	4	2		3	1		
Dominant Family	Hydropsychidae	Corixidae	Hydropsychidae	Corixidae	Corixidae	Corixidae	Corixidae		Nemouridae	Leptophlebiidae		
% Dominant Family	35.3	66.3	42.7	58.8	57.5	61.4	24.3		28.1	39.4		
% Ephemeroptera	20.8	9.9	17.2	2	11.9	17.9	18.7		23.9	51.1		
% Trichoptera	35.3	4.8	44.3	1.0	5.9	6.9	20.2		10.8	6.2		
% Plecoptera	22.4	1.6	8.0	0.2	17.1	2.1	27.7		32.8	26.6		

Supplemental Stream Chemistry Readings

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

Parameter	5/25/2006	10/2/2006	5/16/2007	10/11/2007	5/27/2008	9/30/2008	4/29/2009	10/13/2009	4/27/2010	10/29/2010
pH	7.7	7.94	8.53	7.76	7.73	7.7	7.62	7.87	na	7.51
Conductivity (mS/cm)	0.265	0.351	0.278	0.242	0.284	0.341	0.266	0.291	0.324	0.249
Turbidity (NTU)	14	6	11	17	7	4	6	na	2	362
Dissolved Oxygen (mg/L)	8	10.87	10.34	9.66	10.18	7.83	10.53	12.22	9.14	na
Salinity (%)	0.01	0.01	0.01	0	0.01	0.01	0.01	0.01	0.01	0
Temperature (°C)	18.3	14.7	16.8	12.3	15.3	13.4	12.2	5.2	12	7.2

Discussion

Both chemical and biological monitoring indicate the good quality of this river. Habitat is ideal for a variety of stream life, and includes a variety of substrates, plenty of woody snags, riffles, and pools. Water chemistry monitoring done at various locations on the Rum River throughout Anoka County found that water quality is also good. Both habitat and water quality decline, but are still good, in the downstream reaches of the Rum River where development is more intense and the Anoka Dam creates a slow moving pool.

Water resource management should be focused upon protecting the Rum's quality. Some steps to protect the Rum River could include:

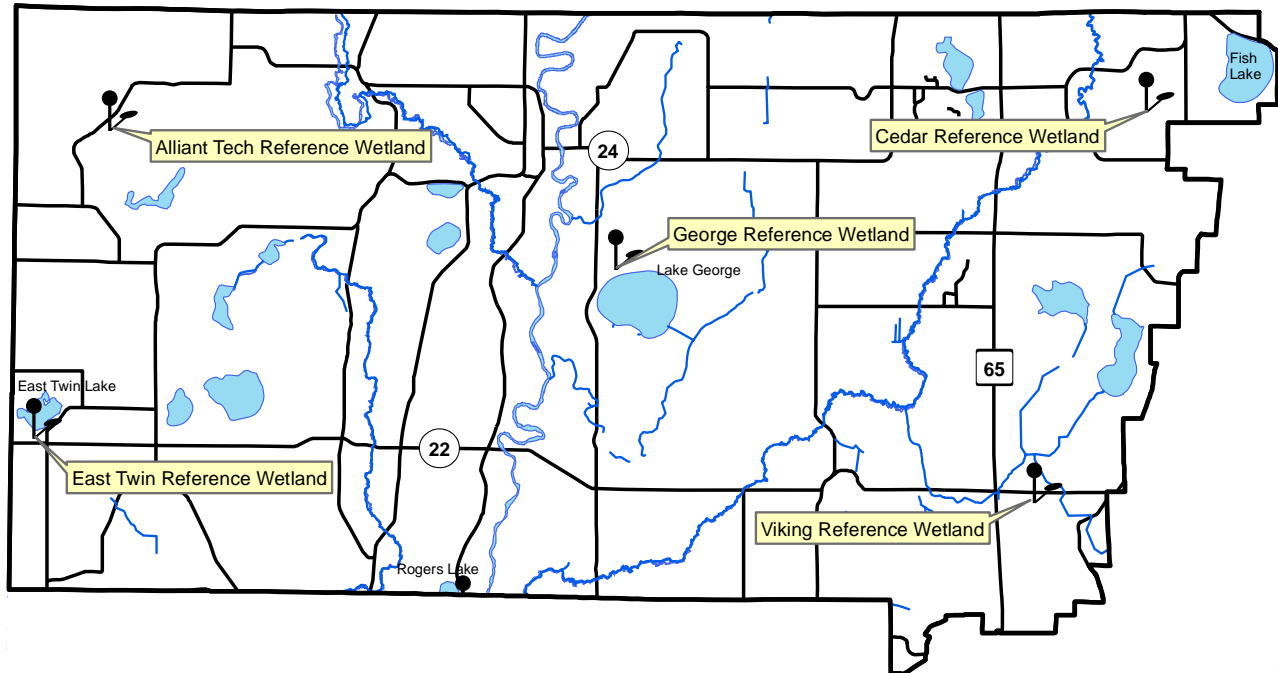
- Enforce the building and clear cutting setbacks from the river required by state scenic river laws.
- Use the best available technologies to reduce pollutants delivered to the river and its tributaries through the storm sewer system. This should include all of the watershed, not just those adjacent to the river.
- Education programs to encourage actions by residents that will benefit the river's health.
- Continue water quality monitoring programs.



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 18 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:** Alliant Tech Reference Wetland, Alliant Tech Systems property, St. Francis
Cedar Creek, Cedar Creek Natural History Area, East Bethel
East Twin Reference Wetland, East Twin Township Park, Nowthen
Lake George Reference Wetland, Lake George County Park, Oak Grove
Viking Meadows Reference Wetland, Viking Meadows Golf Course, East Bethel
- Results:** See the following pages. Raw data and updated graphs can be downloaded from www.AnokaNaturalResources.com using the Data Access Tool.

Upper Rum River Watershed Wetland Hydrology Monitoring Sites



Wetland Hydrology Monitoring

ALLIANT TECH REFERENCE WETLAND

Alliant Techsystems Property, St. Francis

Site Information

Monitored Since: 2001
Wetland Type: 5
Wetland Size: ~12 acres
Isolated Basin? Yes
Connected to a Ditch? No

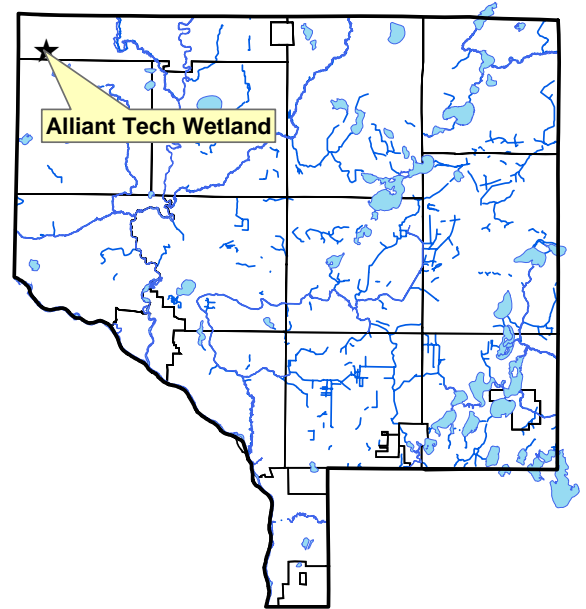
Soils at Well Location:

Horizon	Depth	Color	Texture	Redox
A	0-8	N2/0	Mucky loam	-
Bg	8-35	5y5/1	Sandy loam	-

Surrounding Soils: Emmert

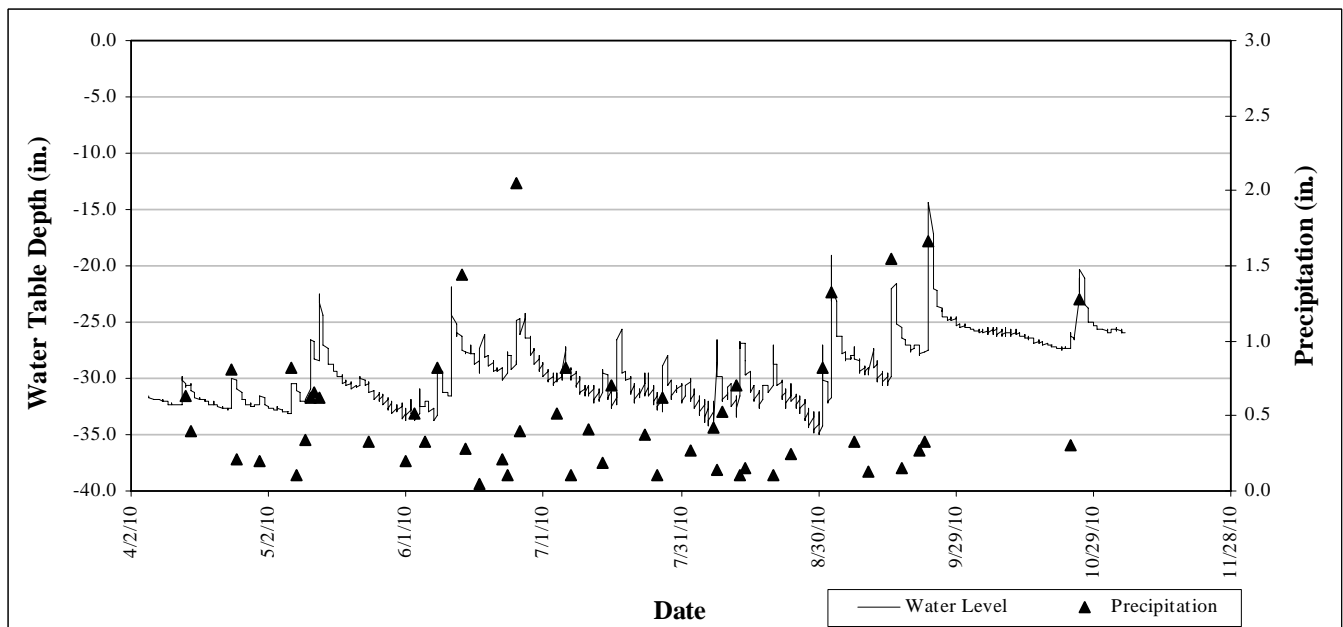
Vegetation at Well Location:

Scientific	Common	% Coverage
Carex Spp	Sedge undiff.	90
Lycopus americanus	American Bungleweed	20
Phalaris arundinacea	Reed Canary Grass	5



Other Notes: This wetland lies next to the highway, in a low area surrounded by hilly terrain. It holds water throughout the year, and has a beaver den.

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.

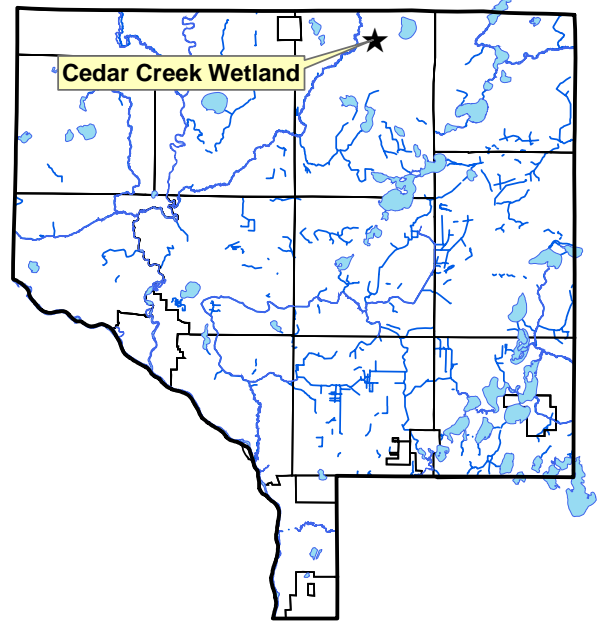
Wetland Hydrology Monitoring

CEDAR CREEK REFERENCE WETLAND

Univ. of Minnesota Cedar Creek Natural History Area, East Bethel

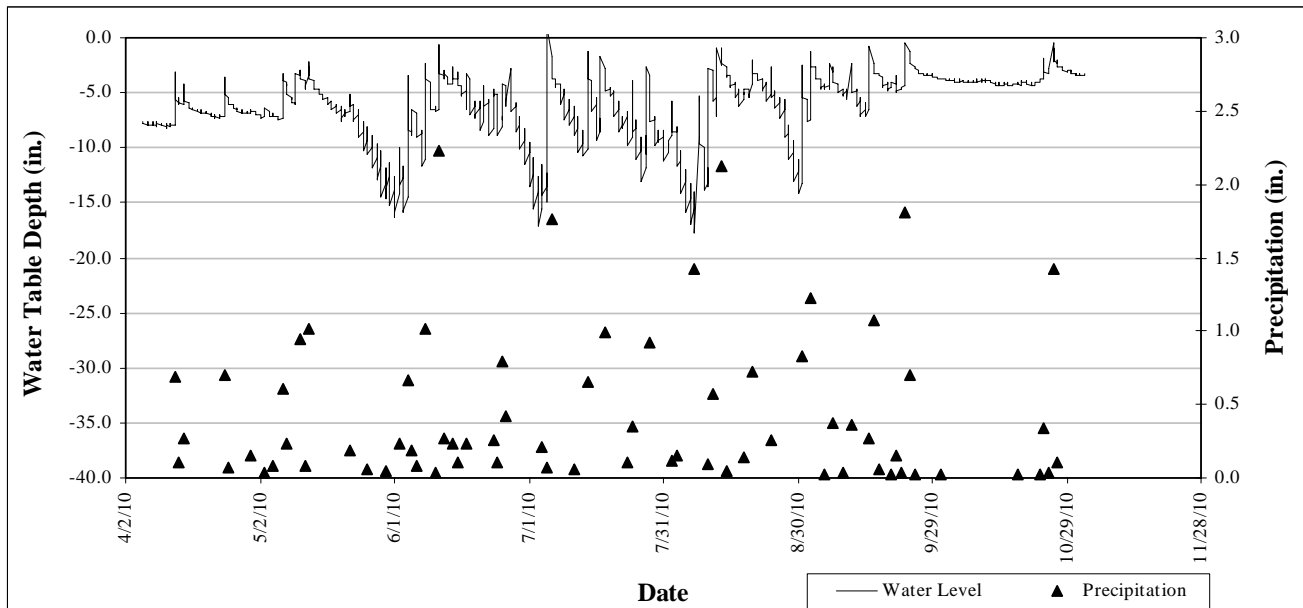
Site Information

Monitored Since: 1996
Wetland Type: 6
Wetland Size: unknown, likely >150 acres
Isolated Basin? No
Connected to a Ditch? No
Soils at Well Location: not yet available
Surrounding Soils: Zimmerman
Vegetation at Well Location: not yet available
Other Notes:



The Cedar Creek Ecosystem Science Reserve, where this wetland is located, is a University of Minnesota research area. Much of this area, including the area surrounding the monitoring site, is in a natural state. This wetland probably has some hydrologic connection to the floodplain of Cedar Creek, which is 0.7 miles from the monitoring site.

2010 Hydrograph



Well depth was 37 inches, so a reading of -37 indicates water levels were at an unknown depth greater than or equal to 37 inches.

Wetland Hydrology Monitoring

EAST TWIN REFERENCE WETLAND

East Twin Lake Township Park, Nowthen

Site Information

Monitored Since: 2001
Wetland Type: 5
Wetland Size: ~5.9 acres
Isolated Basin?: Yes
Connected to a Ditch?: No

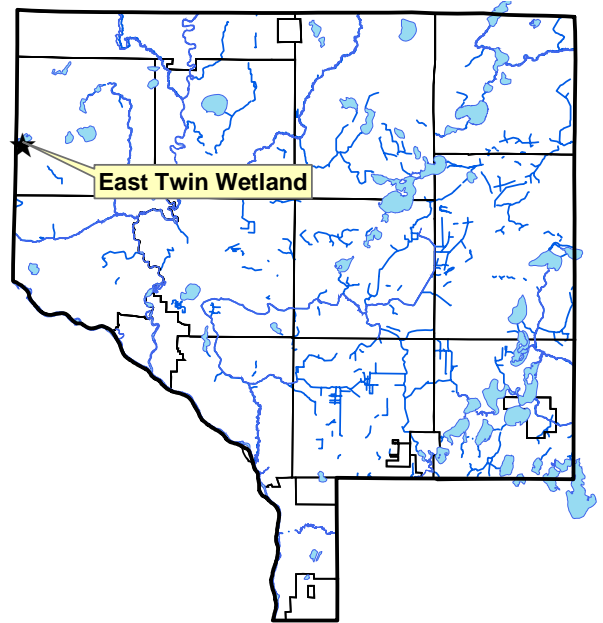
Soils at Well Location:

Horizon	Depth	Color	Texture	Redox
A	0-8	10yr 2/1	Mucky Loam	-
Oa	Aug-40	N2/0	Organic	-

Surrounding Soils: Lake Beach, Growton and Heyder fine sandy loams

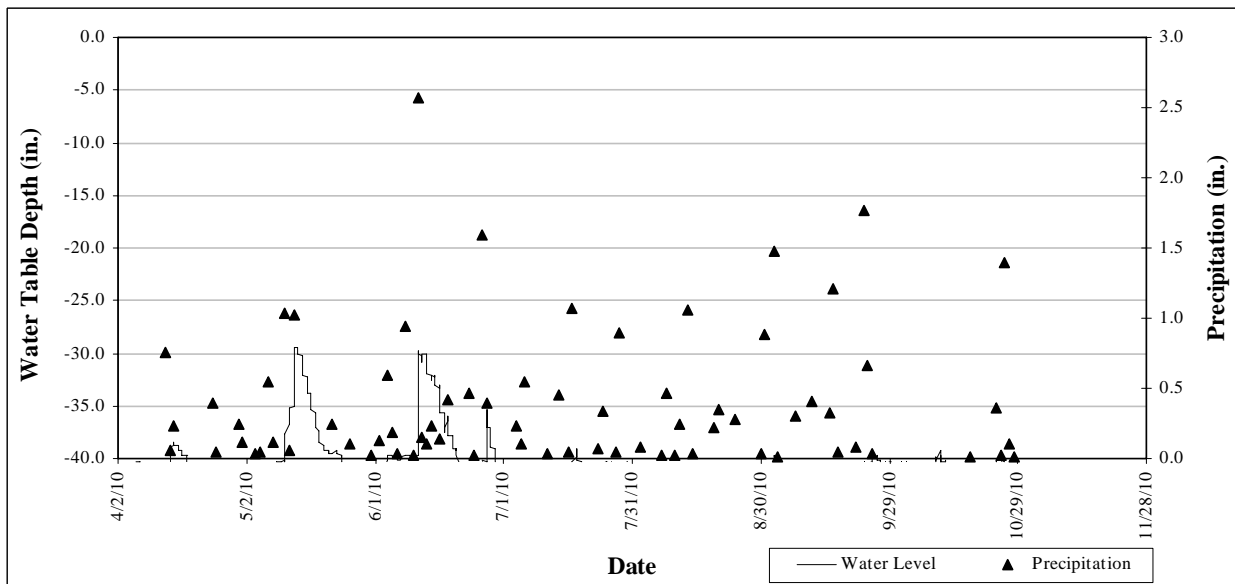
Vegetation at Well Location:

Scientific	Common	% Coverage
Phalaris arundinacea	Reed Canary Grass	100
Cornus amomum	Silky Dogwood	30
Fraxinus pennsylvanica	Green Ash	30



Other Notes: This wetland is located within East Twin Lake County Park, and is only 180 feet from the lake itself. Water levels in the wetland are influenced by lake levels.

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.

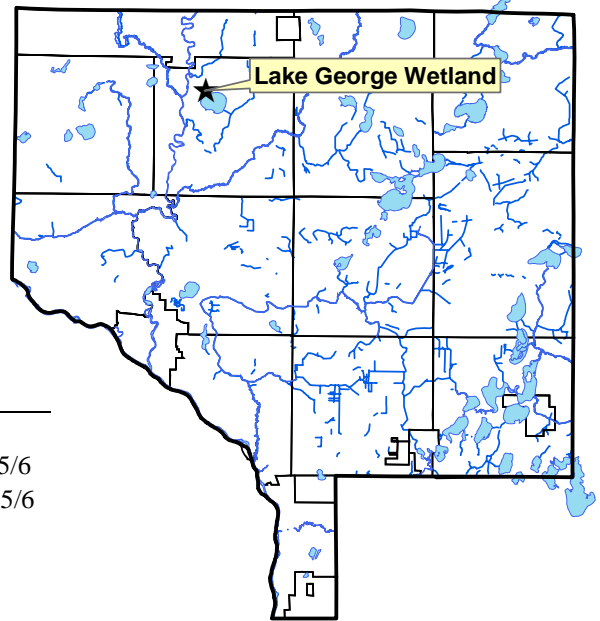
Wetland Hydrology Monitoring

LAKE GEORGE REFERENCE WETLAND

Lake George County Park, Oak Grove

Site Information

Monitored Since: 1997
Wetland Type: 3/4
Wetland Size: ~9 acres
Isolated Basin? Yes, but only separated from wetland complexes by roadway.
Connected to a Ditch? No
Soils at Well Location:



Horizon	Depth	Color	Texture	Redox
A	0-8	10yr2/1	Sandy Loam	-
Bg	8-24	2.5y5/2	Sandy Loam	20% 10yr5/6
2Bg	24-35	10gy 6/1	Silty Clay Loam	10% 10yr 5/6

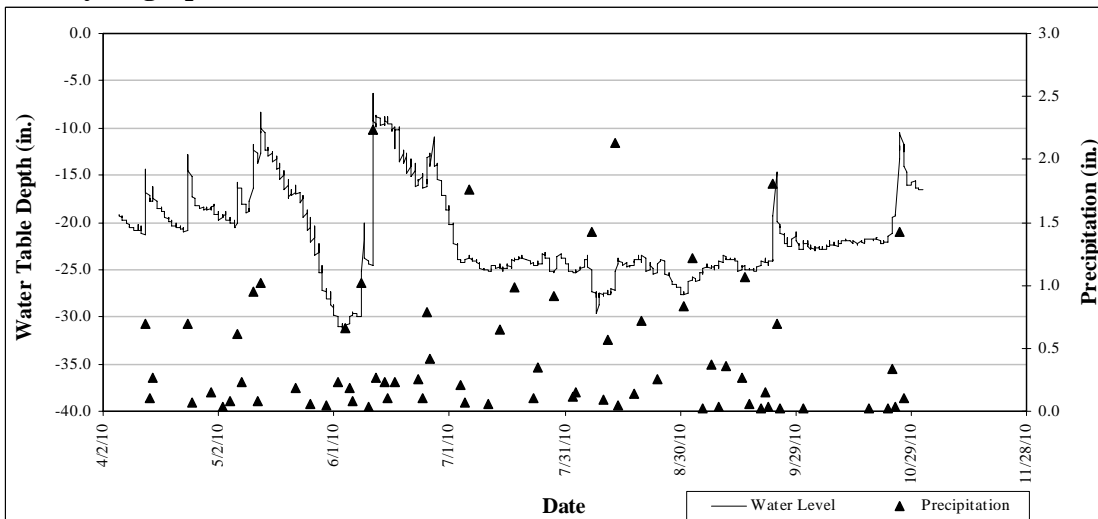
Surrounding Soils: Lino loamy fine sand and Zimmerman fine sand

Vegetation at Well Location:

Scientific	Common	% Coverage
Cornus stolonifera	Red-osier Dogwood	90
Populus tremuloides	Quaking Aspen	40
Quercus rubra	Red Oak	30
Onoclea sensibilis	Sensitive Fern	20
Phalaris arundinacea	Reed Canary Grass	10

Other Notes: This wetland is located within Lake George County Park, and is only about 600 feet from the lake itself. Much of the vegetation within the wetland is cattails.

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.

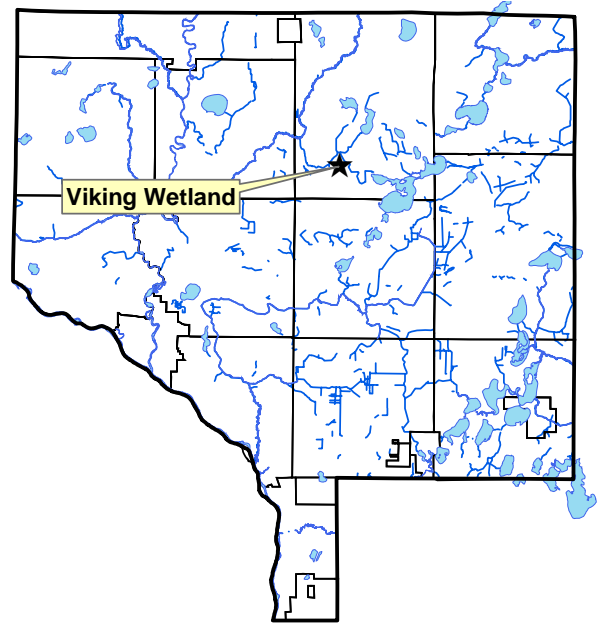
Wetland Hydrology Monitoring

VIKING MEADOWS REFERENCE WETLAND

Viking Meadows Golf Course, East Bethel

Site Information

Monitored Since: 1999
Wetland Type: 2
Wetland Size: ~0.7 acres
Isolated Basin?: No
Connected to a Ditch?: Yes, highway ditch is tangent to wetland



Soils at Well Location:

Horizon	Depth	Color	Texture	Redox
A	0-12	10yr2/1	Sandy Loam	-
Ab	12-16	N2/0	Sandy Loam	-
Bg1	16-25	10yr4/1	Sandy Loam	-
Bg2	25-40	10yr4/2	Sandy Loam	5% 10yr5/6

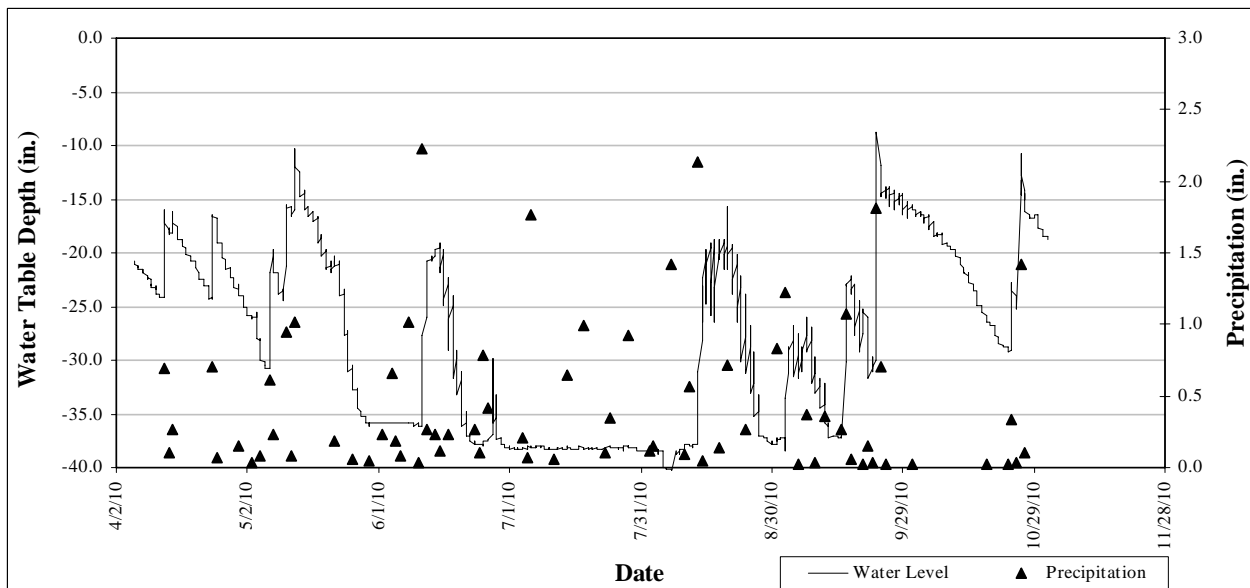
Surrounding Soils: Zimmerman fine sand

Vegetation at Well Location:

Scientific	Common	% Coverage
Phalaris arundinacea	Reed Canary Grass	100
Acer rubrum (T)	Red Maple	75
Acer negundo (T)	Boxelder	20

Other Notes: This wetland is located at the entrance to Viking Meadows Golf Course, and is adjacent to Viking Boulevard (Hwy 22).

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.

Rum River Erosion Field Survey

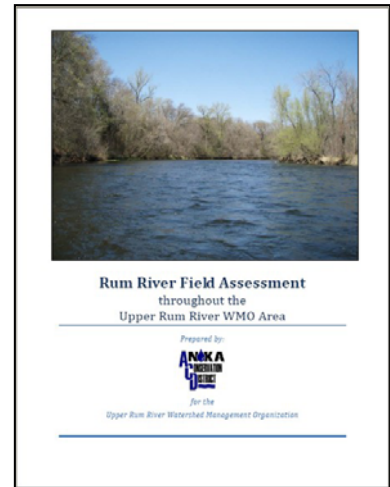
Description: The URRWMO Watershed Management Plan calls for the WMO to do a field review of the Rum River in 2010-11. The purpose is to locate erosion and other problems that are negatively impacting Rum River water quality, fisheries, or scenic nature. The survey was conducted by boat using a GPS to document locations of significant features, which were also photo-documented. Significant features that were inventoried included erosion, major obstructions, possible violations of scenic and recreational river laws or other waters laws, and outfall pipes and other direct discharges to the river. The information is compiled in a GIS and maps were produced.

Correction of erosion and violations of scenic and recreational river laws were pursued. Where erosion was present the landowner was contacted. A customized layout of the erosion problem, and information about possible solutions and funding assistance were mailed to landowners with moderate-to-serious riverbank erosion. Where possible scenic river rule violations were found, we sent our findings to the city administering the scenic river rules.

Purpose: To document and correct riverbank erosion. To correct violations of scenic river rules.

Locations: Entire length of the Rum River in the Upper Rum River WMO.

Results: The Rum River field survey and follow-up work was completed in 2010. The maps, photos, and other information collected are too large to present in this report. They can be found in a stand-alone report produced by the Anoka Conservation District for the Upper Rum River WMO.



Summary of Results

16	River miles were studied.
15	Instances of significant erosion documented.
3	Apparent violations of state scenic and recreational river laws were forwarded to the City of St. Francis. Some may not have been violations because of rule differences in the urban district of St. Francis.
11	Informational packets sent to landowners with moderate-to-severe riverbank erosion.
4	Responses received from landowners who received informational packets. Additional assistance is being provided to them.
120	Geo-tagged photos.
82	Waypoints collected identifying erosion, rule violations, outfall pipes, recreational opportunities, and others.
1	Final report including maps, a 120-photo collection, and summary of findings

Water Quality Grant Fund

Description: In 2006 the Upper River Watershed Management Organization (URRWMO) partnered with the Anoka Conservation District's (ACD) Water Quality Cost Share Program. The URRWMO contributes funds to be used as cost share grants for projects that improve water quality in lakes, streams, or rivers within the URRWMO area. The ACD provides administration of the grants. Grant awards follow ACD policies and generally cover 50% or 70% of materials (see http://www.anokanaturalresources.com/acd/fin_assist/financial_assist.htm). The ACD Board of Supervisors approves any dispersments. Eligible projects included those that correct erosion, filter runoff to waterbodies, or restore native shoreline vegetation adjacent to a lake or stream. Grant administration is through the Anoka Conservation District for efficiency and simplicity. The ACD administers a variety of other similar grants, thus providing a one-stop-shop for residents. Additionally, the ACD's technical staff provide project consultation and design services at low or no cost, which is highly beneficial for grant applicants. ACD staff also have expertise to process and scrutinize grant requests. Lastly, the ACD Board meets monthly, and can therefore respond to grant requests rapidly, while URRWMO meetings are much less frequent.

The Anoka Conservation District (ACD) and Upper Rum River WMO have both undertaken to promoted these types of projects and the availability of cost share. For example, in 2007 the URRWMO did a customized mailing to 20 homeowners on East Twin and George Lakes who had been identified with erosion problems or likely to develop problems. The ACD also mentions the grants during presentations to lake associations and other community groups, community newsletters, and in website postings. In order to promote these types of projects the ACD also assists landowners throughout projects, including design, materials acquisition, installation, and maintenance.

Purpose: To improve water quality in area lakes, streams and rivers.

Locations: Throughout the watershed.

Results: Projects are reported in the year they are installed. In 2010 installation began on a Crooked Brooked (Ditch 67) streambank stabilization at the Petro Property.

URRWMO Cost Share Fund Summary

2006 URRWMO Contribution	+	\$ 990.00
2006 Expenditures		\$ 0.00
2007 URRWMO Contribution	+	\$ 1,000.00
2007 Expenditures		\$ 0.00
2008 Expenditures		\$ 0.00
2009 Expenditures		\$ 0.00
2010 URRWMO Contribution	+	\$ 500.00
<u>2010 Expenditure- Petro streambank stabilization (encumbered) -</u>		<u>\$1,104.50</u>
Fund Balance		\$ 1,385.50

Petro Streambank Stabilization Summary

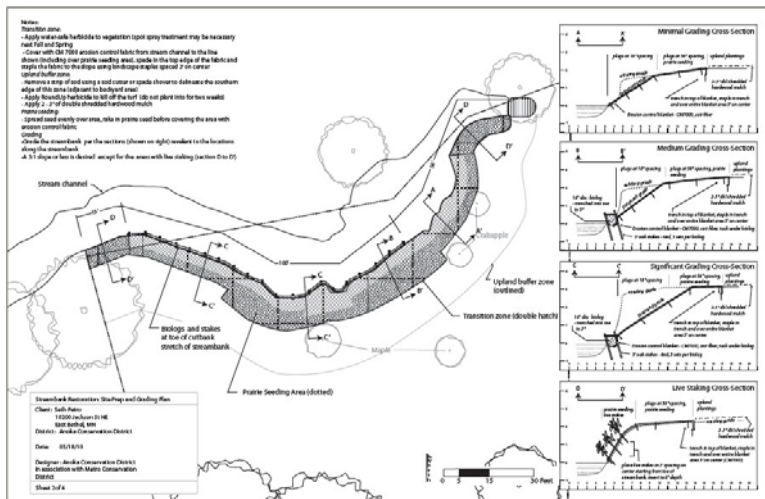
Full project details are available in the Anoka Conservation District's Annual Water Quality Projects Report.

Brief Description:

Crooked Brook flows to Cedar Creek and eventually the Rum River. The project location is 0.8 miles west of Highway 65 and 0.1 mile south of Viking Boulevard. Prior to the project the stream bank was actively eroding. The project will involve invasive species removal, grading, stabilization using fabrics and biologs, and a buffer planting using native plants. The project serves as an example for neighboring property owners, all of whom mow to the edge of the streambank and have varying degrees of streambank erosion. Project installation began in September 2010 and will conclude in spring 2011. Grant payout will occur upon project completion.

Funding sources:

- | | |
|--|-------------|
| 1. State native buffer cost-share grant | |
| a. grading, stabilization material, herbicide | \$1,064.75 |
| 2. URRWMO water quality cost share grant | |
| a. plants, mulch, silt fence | \$1,104.50 |
| 3. Landowner | |
| a. Materials | \$2,169.25 |
| b. Labor | \$10,000.00 |
| 4. Project design was provided by the Anoka Conservation District. | |

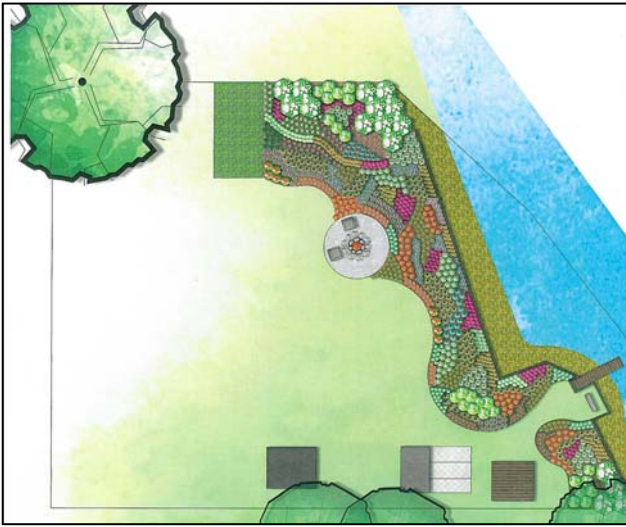


Water Quality Improvement Projects

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.



Anoka County Geologic Atlas

Description: A map-based report of groundwater and geology to be used for community planning and groundwater management. The Atlas provides detailed information about groundwater:

- Aquifers, including identifying future water sources,
- Aquifer sustainability,
- Recharge areas,
- Sensitivity to pollution,
- Flow directions,
- Connections to lakes, streams, and wetlands,
- Chemistry,
- Wellhead protection, and others...

Results are provided as GIS files and paper maps, and are especially useful to community planners.

Geologic Atlases are a partnership of the MN Geological Survey, MN DNR, and local governments. 94% of funding was secured by the MN Geological Survey (MGS) and MN Department of Natural Resources (DNR) from the Legislative-Citizen Commission for Minnesota Resources (LCCMR). A required local contribution totaling 6% of project expenses was provided by the seven Anoka County watershed organizations and the Anoka Conservation District. Completion of the project requires 4-5 years.

Purpose: To gain knowledge about groundwater and geology that enables improved management of groundwater, including availability, pollution prevention, and pollution management.

Locations: Throughout Anoka County.

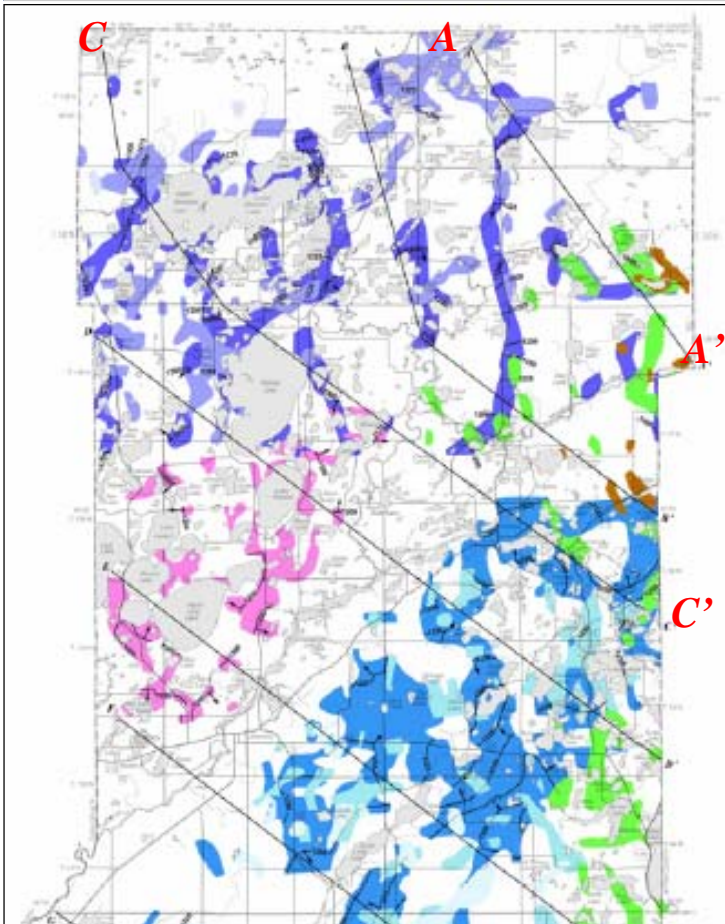
Results: An Anoka County Geologic Atlas began in 2009 with financial support from all seven Anoka County Watershed Management Organizations and the Anoka Conservation District. These funds were used to locate approximately 9,500 groundwater wells, with approximately an additional 500 located in early 2010. Boring logs from these wells and others already in the County Well Index will be used to create the geologic atlas. The MGS has begun the process of using these wells to create the geologic atlas. Thereafter the DNR will perform a groundwater analysis for the atlas. In total, the geologic atlas is expected to be completed around 2014. An example of portions of a geologic atlas from Crow Wing County are on the following page.

EXAMPLE GEOLOGIC ATLAS WORK PRODUCTS

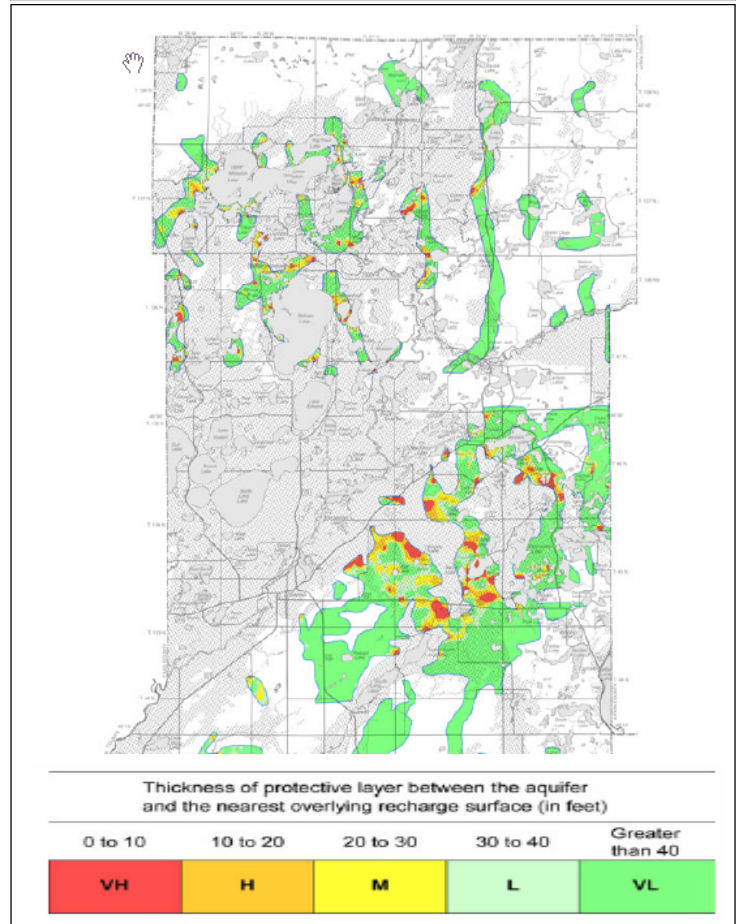
Crow Wing County Geologic Atlas

Excerpted from: Peterson, T. 2008. Hydrogeology, Pollution Sensitivity, and Lake and -Groundwater Interaction. MN Ground Water Association Newsletter 27-3.

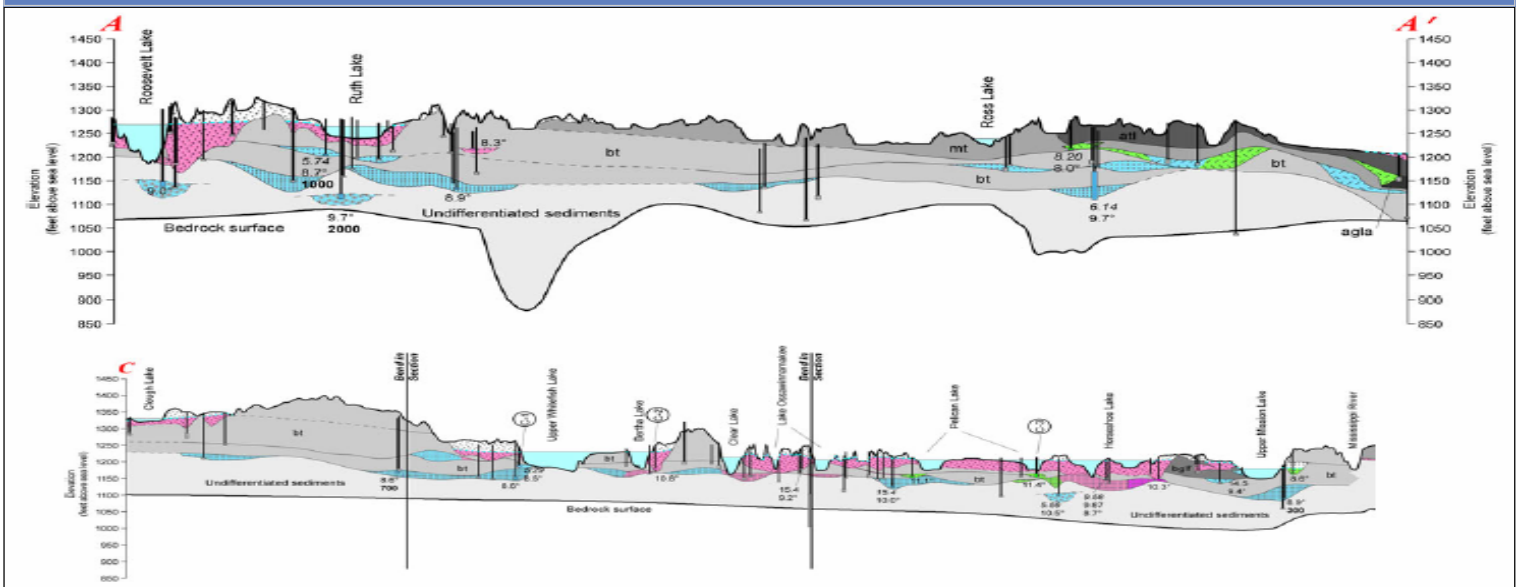
Extent and Distribution of Buried Aquifers Including Direction of Flow



Pollution Sensitivity of Buried Aquifers



Selected hydro-geologic cross sections showing groundwater residence time. Cross sections A-A' and the Northwest 2/3 of C-C' are shown. See above figure for cross section location.



URRWMO Website

Description: The Upper Rum River Watershed Management Organization (URRWMO) contracted the Anoka Conservation District (ACD) to design and maintain a website about the URRWMO and the Upper Rum River watershed. The website has been in operation since 2003.

Purpose: To increase awareness of the URRWMO 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 URRWMO's alternative to a state-mandated newsletter.

Location: www.AnokaNaturalResources.com/URRWMO

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

Information about the URRWMO includes:

- a directory of board members,
- meeting minutes and agendas,
- watershed management plan and annual reports,
- descriptions of work that the organization is directing,
- highlighted projects.

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

URRWMO Website Homepage

more on next page

Interactive Mapping Tool

Anoka Conservation District

Turn On/Off Features

- Boat Ramps
- Contours
- Land Cover
- Land General
- Monitor Sites
- Natural Community
- Park Outlines
- Rare Resources
- Sections
- Soils
- Sub Watersheds
- Wetland Auth.
- Wetlands
- Wetlands (DIR)
- Wildlife Corridors
- Aerial Imagery

To get started, do one of the following:

- *Click on the house image next to "Locate Address" on the right-hand margin.
- *Click on the binoculars image next to "Find Feature" on the right-hand margin.
- *Click on the map and drag a box to zoom further in to a location.
- *Click on the "Help" button on the left-hand margin.

Zoom In X: 509384.615; Y: 5028151.923 Map Assistant

Interactive Data Access Tool

ANOKA NATURAL RESOURCES

Home || Contact Us

TOOLBOX

- Mapping Utility
- Database Access

LIBRARY

- Water
- Soil
- Resource Management
- Wetlands
- Agency Directory

Data Access

STEP ONE: Select the result you want to see (predefined charts do not necessarily show all parameters available for download):

Create charts Create data download (.csv)

STEP TWO: Select from the following query options

Data type: Hydrology Chemistry Biology All

Resource Type: Lakes Streams Wetlands All

Monitoring site: All Sites OR AEC Ref Wetland at old Anoka Elec Coop/Connexus

STEP THREE: Select a time frame (it may work best to select all years to see when data are available and avoid empty data sets)

Beginning month and year: Jan 1996

Ending month and year: Dec 2005

Go Reset

Anoka Natural Resources was developed and is maintained

URRWMO Annual Newsletter

Description: The URRWMO Watershed Management Plan calls for an annual URRWMO newsletter in addition to the website. The URRWMO will produce a newsletter article including information about the URRWMO, its programs, related educational information, and the URRWMO website address. This article was provided to each member city, and they will be asked to include it in their city newsletters.

Purpose: To increase public awareness of the URRWMO and its programs.

Locations: Watershed-wide.

Results: The Anoka Conservation District assisted the URRWMO by drafting the annual newsletter article. The URRWMO Board reviewed and edited the draft article. The finalized article was sent to each member community on June 15, 2010 with a request that they include it in their city newsletter. Contents of the article included:

- a map of the URRWMO area,
- description of the URRWMO role,
- discussion of work focused upon the Rum River in 2010 including:
 - water quality monitoring throughout the URRWMO and
 - a survey of the entire river in the URRWMO looking for water quality impacts, followed by efforts to correct those impacts,
- past Rum River water quality monitoring results,
- grant information for residential water quality improvement projects,
- URRWMO meeting schedule,
- Information about URRWMO Board vacancies,
- URRWMO website address, and
- phone number for more information.

2010 URRWMO Newsletter Article

UPPER RUM RIVER WATERSHED MANAGEMENT ORGANIZATION monitors water quality, offers grants to residents

Lakes, streams, and the Rum River are the focus of the Upper Rum River Watershed Management Organization (URRWMO). This special purpose unit of government is formed jointly by the cities of Bethel, East Bethel, Ham Lake, Nowthen, Oak Grove, and St. Francis. The URRWMO area has several high quality waterbodies, including East Twin Lake, Lake George, and the Rum River. But there are concerns too, including water quality in Crooked Brook and Rogers Lake. The URRWMO works to protect high water quality and improve it where necessary. They especially concentrate on water-related issues that cross municipal boundaries, requiring multi-city coordination.



Rum River Erosion and Water Quality

The Rum River is arguably our most notable waterbody. Locally, the Rum River is designated as a state Scenic and Recreational Waterway, is a great fishery, and is thought to have good water quality. To assess the river's current condition, the URRWMO has begun systematic monitoring of the river's water quality. Additionally, in 2010 the river was surveyed to identify erosion and other issues which affect water quality.

Water quality monitoring of the river is occurring at both the north and south ends of the URRWMO area. This allows detection of any changes that may occur along this stretch of the river. To date, they've observed little change in water quality from St. Francis to the northern border of Ramsey. However, there is a low-level increase in chlorides from upstream to downstream, which is likely due to road deicing salts. The chloride increase exists throughout the year, because these salts have infiltrated into the shallow groundwater that feeds the river during dry conditions. During summer storms the chlorides are diluted, further evidence that groundwater is an important source. The highest salt concentrations would likely occur during spring melt, but this has not yet been monitored. Road salts are a widespread water quality concern, especially downstream where road densities are higher due to urbanization.

This spring the URRWMO mapped erosion and other possible impacts to the river, such as violations of State scenic river rules. Riverbank erosion can threaten water quality, fish habitat, and properties through decreased shoreline stability. Overall, this stretch of the river is beautiful, but some problem areas were identified. The URRWMO will be contacting property owners and offering assistance to those interested in improving their property.

Grants

How we manage our own properties can have significant impacts on lakes and rivers, both positive and negative. Understanding the public benefits of high water quality, the URRWMO offers grants to encourage water quality improvement projects on private property. Cost-share grants are available to landowners for projects such as erosion control, stormwater runoff treatment, and/or native vegetation restoration adjacent to lakes and streams. Applications are accepted at any time on a first-come, first-serve basis. The grants are competitive, and the highest ranking projects will be those that will most directly benefit a public waterbody.

Grants typically cover 60-70% of project materials. Remaining costs and labor are the landowner's responsibility. The Anoka Conservation District (ACD) offers free on-site consultations and can assist with project design. The grants are administered through the ACD, and interested landowners should contact Jamie Schurbon at 763-434-2030 extension 12.

Meetings and Contacts

More information about the URRWMO can be found on their website at www.anoka.naturalresources.com/urwmo. Citizens are welcome and encouraged to attend URRWMO meetings. Remaining 2010 meetings are July 6, September 7, and November 9 at 7:00 p.m. at the Oak Grove City Hall (south entrance).

Become an Upper Rum River WMO Board Member

There are currently vacant URRWMO board member positions for the cities of Ham Lake, Oak Grove, and St. Francis. If you live in one of those communities and would like to serve, please contact the city. URRWMO board members are appointed by the city.



Example of erosion along the Rum River identified during a spring 2010 field survey.

URRWMO 2009 Annual Report to BWSR

Description: The Upper Rum River Watershed Management Organization (URRWMO) is required by law to submit an annual report to the Minnesota Board of Water and Soil Resources (BWSR), the state agency with oversight authorities. This report consists of an up-to-date listing of URRWMO Board members, activities related to implementing the URRWMO Watershed Management Plan, the status of municipal water plans, financial summaries, and other work results. The report is due annually 120 days after the end of the URRWMO’s fiscal year (April 30th).

Purpose: To document required progress toward implementing the URRWMO Watershed Management Plan and to provide transparency of government operations.

Locations: Watershed-wide

Results: The Anoka Conservation District assisted the URRWMO with preparation of a 2009 Upper Rum River WMO Annual Report. ACD provided copies of this report and a cover letter to the entire URRWMO Board on April 8, 2010 for review. On April 21, 2010 the final draft was sent to the URRWMO Chair, Todd Miller. The Chair submitted the report to BWSR.

Cover

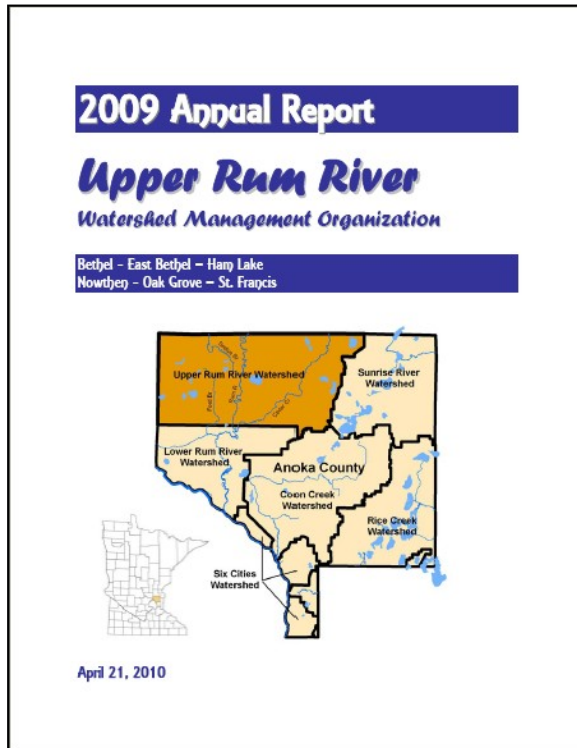


Table of Contents

Upper Rum River WMO Annual Report 2009

Table of Contents	
I. Introduction	3
II. Activity Report	
a. Current Board Members	4
b. Employees and Constraints	5
c. Solicitations for Services	5
d. Implementation of Watershed Management Plan	5
e. Status of Local Plan Adoption and Implementation	9
f. Public Outreach	13
g. Permits, Variances, and Enforcement Actions	13
h. Status of Locally Adopted Wetland Banking Program	13
i. 2010 Work Plan	13
III. Financial and Audit Report	
a. 2009 Financial Summary	16
b. Fund Balances	17
c. 2009 Financial Audit Documentation	17
d. 2010 Budget	17
Appendix A – 2009 Water Monitoring and Management Work Results	

2

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.

Upper Rum River Watershed Financial Summary

Upper Rum River Watershed	Website	Articles and Gen Edu	Volunteer Precip	Lake Lvl	Obwell	Stream WQ	WO MP	Student Bio	Rum River Field Assmt	WMO Annual Rpt BWSR	Geologic Atlas	Total
Revenues												
URRWMO	270	275	0	300	0	1845	0	0	6940	500	2830	12960
State	0	0	0	0	330	0	0	0	0	0	0	330
Anoka Conservation District	1350	1531	288	232	544	0	1744	817	0	786	0	7292
County Ag Preserves	0	0	0	0	0	0	0	591	0	0	0	591
Regional/Local	0	0	0	0	0	0	500	0	0	0	0	500
Other Service Fees	97	0	0	0	0	0	0	0	0	0	0	97
Local Water Planning	0	0	0	0	0	0	0	0	0	0	0	(0)
TOTAL	1716	1806	288	532	874	1845	2244	1408	6940	1286	2830	21769
Expenses-												
Capital Outlay/Equip	122	249	35	28	103	118	394	50	572	12	272	1955
Personnel Salaries/Benefits	883	1163	200	411	609	852	1433	1091	3005	1078	1733	12459
Overhead	648	194	38	60	116	381	314	140	496	80	468	2934
Employee Training	7	6	2	4	5	4	6	11	23	8	8	84
Vehicle/Mileage	13	18	3	6	9	14	24	16	46	15	27	192
Rent	41	42	10	22	31	59	70	52	101	44	100	572
Program Participants	0	0	0	0	0	0	0	0	0	0	0	0
Program Supplies	1	131	0	0	1	209	4	47	3	45	1	442
Equipment Maintenance	1	1	0	0	0	19	1	1	3	2	2	31
TOTAL	1716	1806	288	532	874	1656	2244	1408	4249	1286	2611	18670
NET	0	0	0	0	0	189	0	0	2691	0	219	3100

Recommendations

➤ Promote groundwater conservation.

Metropolitan Council models predict 3+ft drawdown of surface waters in parts of the URRWMO by 2030, and 5+ft by 2050.

➤ Correct water quality issues discovered during the 2010 Rum River survey.

➤ Consider a St. Francis stormwater assessment that is aimed at identifying and installing cost effective stormwater treatment opportunities before water is discharged into the Rum River. The assessment should be focused on those portions of the city that are generally lacking sufficient stormwater treatment.

➤ Encourage public works departments to implement measures to minimize road deicing salt applications. These salts are the most noticeable form of Rum River deterioration in the URRWMO. MN DOT, University of Minnesota Extension, and others offer training on this topic.

➤ Investigate the condition of Ditch 19, the only inlet to Lake George. Residents have complained that condition of the ditch and water

control structures are contributing to low lake water levels in recent years. Anoka County is the legal ditch authority.

➤ Facilitate resident efforts to control aquatic plant growth on Rogers Lake as a means to improving low dissolved oxygen problems. In 2010 a neighborhood meeting was held, and while there was enthusiasm from residents, the needed follow-up by residents did not occur.

➤ Continue coordinating Rum River monitoring in cooperation with the Lower Rum River WMO, Metropolitan Council, and ACD.

➤ Promote water quality improvement projects for lakes, streams, and rivers. Cost share grants are available through the URRWMO and ACD to encourage landowners to do projects that will have public benefits to water quality. Technical assistance for landowners is available through the Anoka Conservation District.

➤ Monitor water quality of Lake George and East Twin Lake every three years to track any trends or changes. Next monitoring should be in 2011.