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Appendix A – 2012 Financial Report
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Appendix C – 2012 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 2012 reporting requirements.

The Lower Rum River Watershed Management Organization (LRRWMO) is a joint powers organization under Minnesota Statutes, Section 471.59. It is comprised of the cities of Anoka and Ramsey, and portions of the cities of Andover and Coon Rapids. 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 LRRWMO meets every month on the third Thursday at 8:30 am at the Anoka City Hall.
II.  Activity Report

a.  Current Board Members

CITY OF ANDOVER
Todd Haas  (Chair)  Bruce Perry  (Alternate)
1685 Crosstown Blvd NW  17337 Roanoke St NW
Andover, MN  55034   Anoka, MN 55304
763.755.5100    763.427.4485
t.haas@andovermn.gov  bpmpandover@comcast.net

CITY OF ANOKA
Carl Anderson  (Treasurer)  Jeff Weaver  (Alternate)
2015 1st Ave N  2015 1st Ave N
Anoka, MN 55303   Anoka, MN 55303
763.576.2781    763.421.5522
carl.anderson.eng@comcast.net  angler55303@yahoo.com

CITY OF COON RAPIDS
Ron Manning  Bruce Sanders  (Alternate)
11155 Robinson Dr  11155 Robinson Dr
Coon Rapids, MN 55433  Coon Rapids, MN 55433
763.767.6493    763.767.6493
rmanning@coonrapidsmn.gov  bsanders@coonrapidsmn.gov

CITY OF RAMSEY
Mark Kuzma (Vice Chair)  Randy Backous  (Alternate)
7550 Sunwood Dr NW  7550 Sunwood Dr NW
Ramsey, MN 55303   Ramsey, MN 55303
763.576.4366    763.576.4364
mkuzma@ci.ramsey.mn.us  rbackous@ci.ramsey.mn.us

Lake Itasca, City of Ramsey
### b. Employees and Consultants

The LRRWMO does not employ staff, but does utilize consulting services. A description of contracted services is listed below:

<table>
<thead>
<tr>
<th>Consultant/Partner</th>
<th>Contact</th>
<th>Work Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anoka Conservation District</td>
<td>Jamie Schurbon</td>
<td>- Water quality and hydrological monitoring, and special studies.</td>
</tr>
<tr>
<td></td>
<td>Water Resource Specialist</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1318 McKay Dr NW, #300 Ham Lake, MN 55304</td>
<td></td>
</tr>
<tr>
<td></td>
<td>763-434-2030 ext. 12 <a href="mailto:jamie.schurbon@anokaswcd.org">jamie.schurbon@anokaswcd.org</a></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Website maintenance.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Administer the WMO’s cost share grant program.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Public outreach.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Assistance preparing annual reports to BWSR.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Assistance reviewing local water plans.</td>
</tr>
<tr>
<td>Barr Engineering</td>
<td>Bob Obermeyer</td>
<td>- Permit reviews.</td>
</tr>
<tr>
<td></td>
<td>Senior Water Resources Engineer</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4700 West 77th St Minneapolis, MN 55435-4803</td>
<td></td>
</tr>
<tr>
<td></td>
<td>952-832-2857 <a href="mailto:bobermeyer@barr.com">bobermeyer@barr.com</a></td>
<td>- Technical and engineering guidance.</td>
</tr>
<tr>
<td>City of Anoka Finance Department</td>
<td>Lori Yager, Finance Director</td>
<td>- Deputy Treasurer.</td>
</tr>
<tr>
<td></td>
<td>2015 First Ave North Anoka, MN 55303-2270</td>
<td></td>
</tr>
<tr>
<td></td>
<td>763-576-2771 <a href="mailto:lyager@ci.anoka.mn.us">lyager@ci.anoka.mn.us</a></td>
<td></td>
</tr>
<tr>
<td>Kennedy &amp; Graven</td>
<td>Charlie LeFevere</td>
<td>- Legal services.</td>
</tr>
<tr>
<td></td>
<td>Attorney</td>
<td></td>
</tr>
<tr>
<td></td>
<td>470 Pillsbury Center Minneapolis, MN 55402</td>
<td></td>
</tr>
<tr>
<td></td>
<td>612-337-9215 <a href="mailto:clefevere@kennedy-graven.com">clefevere@kennedy-graven.com</a></td>
<td></td>
</tr>
<tr>
<td>Timesaver Off Site Secretarial Service</td>
<td>Carla Wirth</td>
<td>- Administrative secretary.</td>
</tr>
<tr>
<td></td>
<td>28601 Hub Dr Madison Lake, MN 56063</td>
<td></td>
</tr>
<tr>
<td></td>
<td>612-251-8999 <a href="mailto:Timesaver02@aol.com">Timesaver02@aol.com</a></td>
<td>- Recording secretary for meetings.</td>
</tr>
</tbody>
</table>
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 LRRWMO solicited proposals in early 2012 for work to occur 2013 and 2014. The request for proposals was posted in the State Register, with closing dates in March 2012. Thereafter, proposals were reviewed and firms selected. Proposals were sought for the following categories of work:

Legal Services
Proposals received: Kennedy and Graven
Selected: Kennedy and Graven
Date of selection: April 19, 2012

Flaherty Hood

3rd Generation Watershed Management Plan Implementation
(water monitoring, public education, annual reporting, etc)
Proposals received: Anoka Conservation District
Selected: Anoka Conservation District
Date of selection: May 17, 2012

Engineering Services, including permit review and WCA TEP Representative
Proposals received: Barr Engineering
 Houston Engineering
 Stonebrooke Engineering
 Emmons and Olivier Resources, Inc.
Selected: Barr Engineering
Date of selection: May 17, 2012

Secretarial Services
Number proposals received: 2
Selected: Timesaver Off Site Secretarial
Date of selection: April 19, 2012

d. Implementation of Watershed Management Plan

The current LRRWMO Watershed Management Plan was approved by the Minnesota Board of Water and Soil Resources (BWSR) in late 2011 and adopted by the LRRWMO on January 19, 2012. Implementation began that same year. On the whole, the plan contains a detailed schedule of tasks that the LRRWMO should accomplish each year in order to realize its goals. The table on the following page compares planned work to our accomplished work.

The LRRWMO deviated from its work plan in the following ways:

Change   Removed Rogers and Sunfish Lake water quality monitoring.
Reason Sunfish Lake is being monitored by the Anoka Ramsey Community College. Rogers Lake was dropped because the lake is already designated as impaired and efforts should go toward water quality improvement.

Change Eliminated river water quality monitoring from the top and bottom of the WMO’s jurisdictional area.

Reason MPCA will be conducting monitoring starting in 2013 for the Rum River Watershed Restoration and Protection Project.

Change Did not monitor groundwater levels or trends.

Reason Groundwater monitoring is best done at a regional level. The MN DNR has taken the lead.
### Comparison of work planned in the LRRWMO Watershed Management Plan and work accomplished

Information is shown beginning in 2012, the first year of implementation of the 3rd Generation Plan. The work plan for 2013 is also shown.

<table>
<thead>
<tr>
<th>Task</th>
<th>Planned</th>
<th>Accomplished</th>
<th>In Watershed Plan</th>
<th>Plan to Do</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Monitoring</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lake levels</td>
<td>Itasca, Round, Sunfish, Rogers Lakes</td>
<td>Itasca, Round, Sunfish, Rogers Lakes</td>
<td>Itasca, Round, Sunfish, Rogers Lakes</td>
<td>Itasca, Round, Sunfish, Rogers Lakes</td>
</tr>
<tr>
<td>Lake water quality</td>
<td>Round, Rogers, Sunfish Lakes</td>
<td>Round Lake. Sunfish Lake done by community college.</td>
<td>Sunfish Lake</td>
<td>By community college</td>
</tr>
<tr>
<td>Stream water quality</td>
<td>Trott Br</td>
<td>Trott Br</td>
<td>Trott Br</td>
<td>By MPCA</td>
</tr>
<tr>
<td>Stream hydrology</td>
<td>Trott Br</td>
<td>Trott Br</td>
<td>Trott Br</td>
<td>-</td>
</tr>
<tr>
<td>Stream rating curve</td>
<td>Trott Br</td>
<td>Trott Br</td>
<td></td>
<td></td>
</tr>
<tr>
<td>River water quality</td>
<td>Top/ bottom of WMO area</td>
<td>Top/bottom of WMO area</td>
<td>1 site monitored by MPCA</td>
<td></td>
</tr>
<tr>
<td>River biomonitoring with St Francis High School classes</td>
<td>Rum R near St. Francis HS</td>
<td>Rum R near St. Francis HS</td>
<td>Rum R near St. Francis HS</td>
<td>Rum R near St. Francis HS</td>
</tr>
<tr>
<td>Reference wetland hydrology</td>
<td>2 sites</td>
<td>2 sites</td>
<td>3 sites</td>
<td>3 sites</td>
</tr>
<tr>
<td><strong>Water Quality Improvement Projects</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water quality improvement cost share fund</td>
<td>$1,000</td>
<td>$1,000</td>
<td>$1,000</td>
<td>$1,000</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Website or newsletter</td>
<td>• WMO website.</td>
<td>• WMO website.</td>
<td>• WMO website.</td>
<td>• Annual newsletter</td>
</tr>
<tr>
<td></td>
<td>• Web video – scenic river rules.</td>
<td>• Web video – scenic river rules.</td>
<td>• Unspecified promotion of water quality practices.</td>
<td>• Website overhaul.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Web video - water conservation.</td>
</tr>
<tr>
<td>Elected officials info dinner</td>
<td></td>
<td></td>
<td></td>
<td>April 25, 2013 event planned</td>
</tr>
<tr>
<td>Wetland Education</td>
<td></td>
<td></td>
<td></td>
<td>Wetland ed – website, property owner packet, newsletter articles, local officials workshop</td>
</tr>
<tr>
<td><strong>Inventories and Studies</strong></td>
<td></td>
<td></td>
<td></td>
<td>County geologic atlas phase I to be completed.</td>
</tr>
<tr>
<td>Study groundwater levels, trends</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
<td>Being led by City of Anoka, with WMO involvement</td>
</tr>
<tr>
<td>Anoka dam assessment</td>
<td></td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Planning and Reports</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Annual Report to BWSR</td>
<td>Write and submit</td>
<td>Wrote and submitted</td>
<td>Write and submit</td>
<td>Write and submit</td>
</tr>
<tr>
<td>Annual Report to State Auditor</td>
<td>Write and submit</td>
<td>Wrote and submitted</td>
<td>Write and submit</td>
<td>Write and submit</td>
</tr>
<tr>
<td>Review member cities’ annual reports to the LRRWMO</td>
<td>Review cities’ reports</td>
<td>LRRWMO Bd will do.</td>
<td>Review cities’ reports</td>
<td>LRRWMO Bd will do.</td>
</tr>
<tr>
<td>Review revised city Local Water Plans</td>
<td>Yes</td>
<td>None ready for review</td>
<td>Yes, due Dec. 2013</td>
<td>Will review all 4 city local water plans</td>
</tr>
</tbody>
</table>
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### Status of Local Plan Adoption and Implementation

All LRRWMO member cities have local water plans must be updated for consistency with the LRRWMO Watershed Management Plan, which was adopted in January 2012. These updates are due December 14, 2013. The City of Andover has been granted an extension because the city is in both the LRRWMO and Coon Creek Watershed District (CCWD), which is presently updating its watershed plan. The extension will allow the city to perform updates needed for both watershed organizations simultaneously. The City of Coon Rapids may similarly delay local water plan updates as the city petitions to have portions of their city in the LRRWMO be incorporated into the CCWD.

To track member cities’ progress on local plan implementation, the LRRWMO 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.

<table>
<thead>
<tr>
<th>City of Andover</th>
<th>Andover is in the process of updating its local water plan for consistency with the LRRWMO plan, and estimates completion in June 2014. The LRRWMO has formally granted an extension to this timeline.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local Water Plan Status</td>
<td>The city has all of the ordinances required by the LRRWMO, except a floodplain ordinance. A floodplain ordinance is anticipated to be completed by December 2013.</td>
</tr>
<tr>
<td>Submitted 2012 annual report to LRRWMO?</td>
<td>Yes</td>
</tr>
</tbody>
</table>
| Some Recent Implementation Accomplishments | • Street sweeping completed annually.  
• Water control structures and stormwater treatment basins are inspected every five years.  
• The City recently purchased open space, Martin’s Meadows. Efforts underway include prairie establishment, buckthorn control, and scenic overlook site stabilization.  
• Reached 3,300 households repeatedly with multiple public education efforts including newsletter articles, brochures available at city hall, local television announcements about water quality, and similar information at the North Suburban Home Show. Topics have included lawn care, adopt-a-park, picking up pet waste, wetland protection BMPs, controlling invasive species, water conservation, and yard waste management.  
• During a 2012 street reconstruction additional stormwater treatment was added, including weirs and sumps.  
• Andover is actively inspecting its outfalls into the Rum River and other public waters. Records are maintained in Geomoose software.  
• Periodic inspections of active developments to ensure adequate erosion and sediment controls are in place.  
• Habitat improvement projects such as Kelsey Round Lake Park are ongoing. |
## City of Anoka

### Local Water Plan Status
Anoka is in the process of updating its local water plan for consistency with the LRRWMO plan, and estimates completion November 2013. The city has all of the ordinances required by the LRRWMO, and will review them for consistency.

### Submitted 2012 annual report to LRRWMO?
Yes

### Some Recent Implementation Accomplishments
- Street sweeping the city three times annually and the downtown weekly in season.
- Inspected water level controls annually and basins bi-annually.
- Cleaned three of five stormwater separators, generating 20 cy of disposed material.
- Cleaned one stormwater pond, generating 100 cy of disposed material.
- Installed one Vortec separator and one sump with screen in 2012.
- Reach 7,500 households with a newsletter article about yard waste disposal, brochure about phosphorus, and others about water conservation and hazardous waste disposal.
- Wellhead protection efforts including education about hazardous waste.
- Identify and address stormwater issues during each roadway project.

## City of Coon Rapids

### Local Water Plan Status
The City of Coon Rapids will petition BWSR to have the small portions of the city in the LRRWMO incorporated into the Coon Creek Watershed District. A local water plan update is anticipated to be completed in February 2013. The city has all of the ordinances required by the LRRWMO.

### Submitted 2012 annual report to LRRWMO?
Yes

### Some Recent Implementation Accomplishments
- Street sweeping three times per year, collecting 6,810 cubic yards of material in 2012.
- Inspected and cleaned 20% of water control structures and treatment basins annually.
- Illicit discharge detection and elimination in two instances in 2012.
- Vacuumed and cleaned 20% of all structures.
- Educational materials mailed to 25,776 households on topics of water conservation, hazardous waste disposal, yard waste management, and pet waste disposal.
  Educational media used included newsletters, website, and local television.
- Additional work part of the City’s Storm Water Pollution Prevention Program.

## City of Ramsey

### Local Water Plan Status
Anoka is in the process of updating its local water plan for consistency with the LRRWMO plan, and estimates completion September 2013. The city has all of the ordinances required by the LRRWMO.

### Submitted 2012 annual report to LRRWMO?
Yes

### Some Recent Implementation Accomplishments
- Annual street sweeping.
- Implementing a five year plan for inspecting stormwater ponds.
- Reached 9,500 households in 2012 with newsletters about wetland protection and water conservation.
- Held an annual environmental expo community event.
f. Public Outreach

The LRRWMO and its member cities do regular public outreach and education projects. These include:

- **WMO website**, including 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. In 2013 the website is being overhauled.

- **Newsletter articles** – Articles are published by each of the member cities and printed in their newsletters. Copies of several of these articles are provided in Appendix C.

- **Public officials meetings** – In 2013 the LRRWMO is hosting a dinner meeting for local officials. The purpose is to ensure elected officials understand the role of the WMO and discuss upcoming projects. Such a meeting was last held in 2008.

- **Bi-annual river float with city officials and staff** – Every other year the WMO Board, along with city staff and officials, floats the Rum River. The trip is an opportunity to inspect for violations or problems, as well as share an appreciation of the river with decision-makers.

- **A wetland education series** – From 2013 to 2020 the LRRWMO is conducting a six-part education program about wetlands. The purpose is to improve public understanding of wetland values and rules. It includes on-line resources, property owner packets, newsletters, signage near public wetlands, elected officials workshops, and local events exhibits.
## Permits, Variances, and Enforcement Actions

The LRRWMO’s permit activity is summarized in the table below.

<table>
<thead>
<tr>
<th>Permit Name</th>
<th>Permit #</th>
<th>City</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oakwood Wetland Bank</td>
<td>2012-01</td>
<td>Ramsey</td>
<td>Received Part B of the wetland application for a 6.8-acre wetland creation south of 167th Avenue and west of T.H. 47—<strong>Project was approved.</strong></td>
</tr>
<tr>
<td>North Commons Park</td>
<td>2012-02</td>
<td>Ramsey</td>
<td>Park located within Ramsey Town Center. Stormwater requirements, rate, volume, and water quality management provided through existing infrastructure—<strong>Project was approved.</strong></td>
</tr>
<tr>
<td>Sunwood Drive Realignment</td>
<td>2012-03</td>
<td>Ramsey</td>
<td>C.S.A.H. 83 reconstructed between U.S. 10 and Sunwood Drive Intersection—<strong>Project was Approved</strong></td>
</tr>
<tr>
<td>Riverway Clinic</td>
<td>2012-04</td>
<td>Anoka</td>
<td>Riverway Clinic to be located at Jacob Lane and Greenhaven Road. Stormwater management requirements are met—<strong>Project was approved.</strong></td>
</tr>
<tr>
<td>2012 Stormwater Improvements</td>
<td>2012-06</td>
<td>Ramsey</td>
<td>Storm sewer improvements in the area of 6310 163rd Lane—<strong>Project was approved.</strong></td>
</tr>
<tr>
<td>Castle Field</td>
<td>2012-07</td>
<td>Anoka</td>
<td>New baseball field at Anoka High School. Stormwater management requirements are met—<strong>Project was approved.</strong></td>
</tr>
<tr>
<td>North Commons-Ramsey Town Center</td>
<td>2012-09</td>
<td>Ramsey</td>
<td>12-acre, 17-lot single-family residential subdivision within the Ramsey Town Center—<strong>Project was approved.</strong></td>
</tr>
<tr>
<td>Barrott Garage Construction</td>
<td>2012-10</td>
<td>Andover</td>
<td>Garage to be constructed adjacent to a land-locked basin. Variance requested for low floor to be constructed lower than the required 2 feet of freeboard. Indemnification waiver submitted—<strong>Project was approved.</strong></td>
</tr>
<tr>
<td>Sunwood Retail</td>
<td>2012-11</td>
<td>Ramsey</td>
<td>5.1-acre site located in Ramsey Town Center. Volume reduction provided on-site with water quality provided in a downstream regional basin—<strong>Project was approved.</strong></td>
</tr>
<tr>
<td>Northgate Performing Arts Center</td>
<td>2012-12</td>
<td>Ramsey</td>
<td>1.4-acre site located in Ramsey Town Center. Volume reduction provided on-site with water quality provided in a downstream regional basin—<strong>Project was approved.</strong></td>
</tr>
<tr>
<td>Quality R.V. Parking Lot Expansion</td>
<td>2012-15</td>
<td>Ramsey</td>
<td>Expansion of existing/display lot at 8170 Highway 10. On-site basins provided stormwater management, meeting LRRWMO criteria—<strong>Project was approved.</strong></td>
</tr>
<tr>
<td>Seasons of Ramsey</td>
<td>2012-19</td>
<td>Ramsey</td>
<td>Replat of a portion of Town Center Garden, 3rd Addition. 5-acre site with 52 multi-family units proposed. Stormwater management meeting LRRWMO stormwater management requirements provided within an existing depression area located at 147th Lane NW and Rhineo Street NW—<strong>Project was approved.</strong></td>
</tr>
<tr>
<td>Rum River Regional Trail</td>
<td>2012-20</td>
<td>Anoka</td>
<td>8-foot wide paved off-road connection of the Rum River Regional Trail through River Front Park—<strong>Project approved.</strong></td>
</tr>
</tbody>
</table>
h. Status of Locally Adopted Wetland Banking Program

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

i. 2013 Work Plan

Planned 2013 activities are listed in the table below. Most routine administrative tasks are excluded.

<table>
<thead>
<tr>
<th>Task</th>
<th>Purpose</th>
<th>Description</th>
<th>Locations or Action</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lake Level Monitoring</strong></td>
<td>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.</td>
<td>Weekly water level monitoring in lakes by volunteers. All are available on the Minnesota DNR website using the “LakeFinder” feature (<a href="http://www.dnr.mn.us.state">www.dnr.mn.us.state</a> [lakefind]index.html).</td>
<td>Itasca Lake Round Lake Sunfish Lake Rogers Lake</td>
<td>$800</td>
</tr>
<tr>
<td><strong>Lake Water Quality Monitoring</strong></td>
<td>To detect water quality trends and diagnose the cause of changes.</td>
<td>May through September lake water quality monitoring through the MPCA’s volunteer monitoring program. Work is done by Anoka Ramsey Community College.</td>
<td>Sunfish Lake By community college</td>
<td></td>
</tr>
<tr>
<td><strong>Rum River Invertebrate Biomonitoring</strong></td>
<td>To assess overall river health. To provide a hands-on educational experience to high school students.</td>
<td>Facilitated by the ACD, science classes from Anoka High School assess aquatic insect populations. Students will collect macroinvertebrate samples, identify them, and calculate indices of river health. Anoka Conservation District staff provide instruction, oversight, and write a final report. This monitoring has been conducted for more than 10 years.</td>
<td>Rum River at Bunker Lake Blvd</td>
<td>$825</td>
</tr>
<tr>
<td>Task</td>
<td>Purpose</td>
<td>Description</td>
<td>Locations or Action</td>
<td>Cost</td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>-------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------</td>
<td>-----------</td>
</tr>
<tr>
<td>Reference Wetland Hydrology Monitoring</td>
<td>The ACD maintains a network of 18 reference wetlands throughout the county. These data aid in understanding of water conditions in wetlands, surficial water table changes, and trends. It is useful for regulatory determinations (for example, is a dry area actually a wetland, or are all wetlands dry right now?) and resolving water level disputes. Each reference wetland has been monitored for more than 10 years, providing a long term record.</td>
<td>Install and maintain a WL40 electronic water level monitoring device at the edge of reference wetlands. These devices measure water levels every four hours. Data are made available at any time through the ACD website.</td>
<td>AEC Ref Wtld Rum Central Ref Wtld New site TBD</td>
<td>$1,680</td>
</tr>
<tr>
<td>LRRWMO Website</td>
<td>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.</td>
<td>Maintain and update the WMO website with current information about the organization, and meeting minutes and agendas. Web videos developed by the LRRWMO are also featured on the website.</td>
<td><a href="http://www.anokanaturalresources.com/lrrwmo/">http://www.anokanaturalresources.com/lrrwmo/</a></td>
<td>$525 annual maint $875 website overhaul</td>
</tr>
<tr>
<td>Promotion of Water Quality Improvement Projects</td>
<td>To increase awareness of the LRRWMO and its programs, as well as educate the public on water quality issues.</td>
<td>In 2013 a web video about water conservation will be produced and posted to the LRRWMO website.</td>
<td>Watershed-wide</td>
<td>$1,200</td>
</tr>
<tr>
<td>Wetland Public Education</td>
<td>To increase public awareness of wetland values and regulation.</td>
<td>In 2013: 1.Website. 2.Property owner packet 3.City newsletter articles 4.Local officials workshop</td>
<td>Watershed-wide</td>
<td>$11,140</td>
</tr>
<tr>
<td>Elected Officials Meeting</td>
<td>To inform city councils about the WMO and discuss upcoming projects.</td>
<td>An April 23, 2013 evening meeting featuring three guest speakers.</td>
<td>Watershed-wide</td>
<td>$0</td>
</tr>
<tr>
<td>Prepare Annual Report to State Auditor</td>
<td>To provide transparency and accountability of organization operations.</td>
<td>An annual financial report and online reporting of WMO finances though the State Auditor’s SAFES website is completed by the WMO’s Deputy Treasurer.</td>
<td>Watershed-wide</td>
<td>$0</td>
</tr>
<tr>
<td>Prepare Annual Report to BWSR</td>
<td>To provide transparency and accountability of organization operations.</td>
<td>Produce an annual report of WMO activities and finances that satisfies Minnesota Rules 8410.0150.</td>
<td>Watershed-wide</td>
<td>$850</td>
</tr>
<tr>
<td>Task</td>
<td>Purpose</td>
<td>Description</td>
<td>Locations or Action</td>
<td>Cost</td>
</tr>
<tr>
<td>------</td>
<td>---------</td>
<td>-------------</td>
<td>---------------------</td>
<td>------</td>
</tr>
<tr>
<td><strong>Cost Share Grants for Water Quality Improvement</strong></td>
<td>To improve water quality in lakes, rivers, and streams.</td>
<td>These grants offer up to 70% cost sharing of the materials needed for a water quality improvement project. Typical projects include erosion correction, lakeshore restoration, and rain gardens. The Anoka Conservation District provides administration.</td>
<td>Offer grants</td>
<td>$1,000</td>
</tr>
<tr>
<td><strong>Review Member City Local Water Plans</strong></td>
<td>To ensure consistency between the WMO plan and city plans.</td>
<td>The WMO will review each city’s local water plan for consistency with the 3rd Generation LRRWMO plan, and provide approval. Deadline is December 14, 2013.</td>
<td>Watershed-wide</td>
<td>$2,000</td>
</tr>
<tr>
<td><strong>Anoka Dam Assessment</strong></td>
<td>To ensure proper maintenance and viability of the dam. Consideration is given to modifying the dam to serve as an Asian carp barrier.</td>
<td>The City of Anoka is seeking an engineering study to determine maintenance needed and modifications for the dam to serve as a carp barrier. The LRRWMO is playing a supporting and coordinating role.</td>
<td>Anoka Dam</td>
<td>$3,000</td>
</tr>
</tbody>
</table>

The LRRWMO deviated from its watershed management plan for 2013 in the following ways:

- **Change Added an evening meeting with elected officials from each member city.**
  - **Reason:** While not in the watershed plan, it is the intent of the WMO to periodically meet with elected officials to ensure the understand the WMO and discuss upcoming projects.

- **Change Removed Trott Brook stream water quality monitoring.**
  - **Reason:** The MPCA is monitoring this site in 2013.

- **Change Removed Trott Brook stream hydrology monitoring.**
  - **Reason:** The primary purpose of hydrology monitoring at this site would be to calculate pollutant loadings from water quality monitoring data. No water quality monitoring is planned at this site in 2013.

- **Change Removed Sunfish Lake water quality monitoring.**
  - **Reason:** Sunfish Lake is being monitored by the Anoka Ramsey Community College.

- **Change Did not monitor groundwater levels or trends.**
  - **Reason:** Groundwater monitoring is best done at a regional level. The MN DNR has taken the lead.
III. Financial and Audit Report

a. 2012 Financial Summary
   See Appendix A.

b. Fund Balances
   See Appendix A.

c. Financial Audit Documentation
   An annual financial report is complete. That report is Appendix A.
   
   The WMO understands that BWSR is revising MN Rules 8410 to require audits for WMOs with annual expenditures <$150,000 once every five years. The LRRWMO anticipates this rule revision, and plans on that timeline.
d. 2013 Budget

At its January 17, 2013 meeting the LRRWMO Board approved the 2013 budget shown below.

**REVENUE:**

<table>
<thead>
<tr>
<th>Assessments</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Andover</td>
<td>$13,578</td>
</tr>
<tr>
<td>Anoka</td>
<td>$10,815</td>
</tr>
<tr>
<td>Coon Rapids</td>
<td>$918</td>
</tr>
<tr>
<td>Ramsey</td>
<td>$24,689</td>
</tr>
<tr>
<td></td>
<td>$50,000</td>
</tr>
<tr>
<td>Permits</td>
<td>$20,000</td>
</tr>
<tr>
<td>Interest earnings</td>
<td>$100</td>
</tr>
<tr>
<td><strong>TOTAL REVENUES</strong></td>
<td><strong>$70,100</strong></td>
</tr>
</tbody>
</table>

**EXPENDITURES:**

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineering</td>
<td>$3,500</td>
</tr>
<tr>
<td>Permit Review</td>
<td>$16,000</td>
</tr>
<tr>
<td>Legal</td>
<td>$4,350</td>
</tr>
<tr>
<td>Financial Services</td>
<td>$2,400</td>
</tr>
<tr>
<td>Secretarial Services</td>
<td>$7,000</td>
</tr>
<tr>
<td>Postage, Copying, etc.</td>
<td>$1,500</td>
</tr>
<tr>
<td>Insurance</td>
<td>$2,300</td>
</tr>
<tr>
<td>Promotion of WQ Projects/Education</td>
<td>$1,200</td>
</tr>
<tr>
<td>Web Site Maintenance</td>
<td>$1,400</td>
</tr>
<tr>
<td>Report to BWSR</td>
<td>$850</td>
</tr>
<tr>
<td>Grant funding</td>
<td>$2,000</td>
</tr>
<tr>
<td>Lake Level Monitoring</td>
<td>$800</td>
</tr>
<tr>
<td>Lake, River &amp; Stream quality monitoring</td>
<td>$2,300</td>
</tr>
<tr>
<td>Stream Hydrology, rating &amp; biomonitoring</td>
<td>$1,000</td>
</tr>
<tr>
<td>Wetland Hydrology monitoring</td>
<td>$1,800</td>
</tr>
<tr>
<td>Review city local water plans for compliance</td>
<td>$2,000</td>
</tr>
<tr>
<td>Anoka Dam Assessment</td>
<td>$3,000</td>
</tr>
<tr>
<td>Wetland Public Education</td>
<td>$11,140</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>$3,000</td>
</tr>
<tr>
<td><strong>TOTAL ..................................................</strong></td>
<td><strong>$67,540</strong></td>
</tr>
</tbody>
</table>

**NET INCOME**

$2,560
Appendix A:

2012 Financial Report
LOWER RUM RIVER WATER MANGEMENT ORGANIZATION

ANNUAL FINANCIAL REPORT

For the year ended January 31, 2013

Prepared by the Deputy Treasurer

Lori Yager
LOWER RUM RIVER WATER MANAGEMENT ORGANIZATION

Annual Financial Report

Year ended January 31, 2013

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| Appointed Officials | 1 |

FINANCIAL SECTION

BASIC FINANCIAL STATEMENTS

Financial Statements:
- Statement of Net Assets 2
- Statement of Activities – Budget and Actual 3
- Statement of Cash Flows 4
Notes to Financial Statements 5
Lower Rum River Water Management Organization Board

Appointed Officials

January 31, 2013

Todd Haas, Chair
Ron Manning, Vice Chair                      Mark Kuzma, Secretary
Carl Anderson, Treasurer

Administrative Staff

Carla Wirth                                  Administrative Secretary
Lori Yager                                    Deputy Treasurer
## Assets

Current assets:

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash and investments</td>
<td>$63,128</td>
</tr>
<tr>
<td>Accounts receivable</td>
<td>$3,978</td>
</tr>
<tr>
<td>Total current assets</td>
<td>$67,106</td>
</tr>
</tbody>
</table>

## Liabilities

Current liabilities:

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounts payable</td>
<td>$2,401</td>
</tr>
<tr>
<td>Deposits</td>
<td>$33,359</td>
</tr>
<tr>
<td>Total current liabilities</td>
<td>$35,760</td>
</tr>
</tbody>
</table>

## Net Assets

Unrestricted:

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unrestricted</td>
<td>$31,346</td>
</tr>
</tbody>
</table>

Total liabilities and net assets:

<table>
<thead>
<tr>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>$67,106</td>
</tr>
</tbody>
</table>
## LOWER RUM RIVER WATER MANAGEMENT ORGANIZATION

### STATEMENT OF REVENUES, EXPENSES, AND CHANGES IN NET ASSETS

#### BUDGETARY COMPARISON SCHEDULE

**YEAR ENDED JANUARY 31, 2013**

<table>
<thead>
<tr>
<th></th>
<th>Final Budget</th>
<th>Actual</th>
<th>Variance from Budget Positive (Negative)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Operating Revenues</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assessments from</td>
<td>$ 80,000</td>
<td>$ 80,000</td>
<td>$ -</td>
</tr>
<tr>
<td>participating cities</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Permits</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service fees</td>
<td>2,000</td>
<td>1,920</td>
<td>(80)</td>
</tr>
<tr>
<td>Engineering fees</td>
<td>18,000</td>
<td>14,253</td>
<td>(3,747)</td>
</tr>
<tr>
<td>Intergovernmental</td>
<td>-</td>
<td>2,405</td>
<td>2,405</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>-</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td><strong>Total revenues</strong></td>
<td>100,000</td>
<td>98,594</td>
<td>(3,827)</td>
</tr>
<tr>
<td><strong>Operating Expenses</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engineering Fees:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Permits</td>
<td>16,000</td>
<td>14,253</td>
<td>1,747</td>
</tr>
<tr>
<td>3rd Generation Management Plan</td>
<td>-</td>
<td>1,063</td>
<td>(1,063)</td>
</tr>
<tr>
<td>Administrative</td>
<td>3,500</td>
<td>882</td>
<td>2,618</td>
</tr>
<tr>
<td>Legal and professional fees</td>
<td>8,350</td>
<td>1,652</td>
<td>6,698</td>
</tr>
<tr>
<td>Insurance</td>
<td>2,200</td>
<td>1,371</td>
<td>829</td>
</tr>
<tr>
<td>Secretarial services and</td>
<td>11,500</td>
<td>8,881</td>
<td>2,619</td>
</tr>
<tr>
<td>supplies</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Projects</td>
<td>29,050</td>
<td>12,050</td>
<td>17,000</td>
</tr>
<tr>
<td>Other</td>
<td>6,000</td>
<td>5,959</td>
<td>41</td>
</tr>
<tr>
<td><strong>Total expenditures</strong></td>
<td>76,600</td>
<td>46,111</td>
<td>30,489</td>
</tr>
<tr>
<td><strong>Operating income (loss)</strong></td>
<td>23,400</td>
<td>52,483</td>
<td>26,662</td>
</tr>
<tr>
<td><strong>Nonoperating revenues:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interest income</td>
<td>100</td>
<td>21</td>
<td>(79)</td>
</tr>
<tr>
<td><strong>Change in net assets</strong></td>
<td>$ 23,500</td>
<td>52,504</td>
<td>$ 26,662</td>
</tr>
<tr>
<td><strong>Net assets at beginning of year</strong></td>
<td>(21,158)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Net assets at end of year</strong></td>
<td>$ 31,346</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
LOWER RUM RIVER WATER MANAGEMENT ORGANIZATION

STATEMENT OF CASH FLOWS
YEAR ENDED JANUARY 31, 2013

Cash flows from operating activities:
  Received from member cities $ 80,000
  Received from customers 20,674
  Received from other governments 2,405
  Payments to suppliers for goods and services (50,189)

  Net cash provided by (used in) operating activities 52,890

Cash flows from investing activities:
  Investment earnings 21

  Net increase in cash and investments 52,911

Cash and cash equivalents at beginning of year 10,217
Cash and cash equivalents at end of year $ 63,128

Reconciliation of operating income (loss) to net cash provided (used) by operating activities:
  Operating gain $ 52,504

Change in assets and liabilities:
  Accounts receivable (3,978)
  Due from other governmental units 0
  Accounts payable (4,078)
  Deposits 8,463

  Total adjustments 407

  Net cash provided by operating activities $ 52,911
1. NATURE OF THE ORGANIZATION

The Organization is a watershed management organization which has been created to fulfill the requirements and purposes of Minnesota Statutes 103B.201 to 103B.251. The purpose of such an organization as defined by Minnesota Statutes 103B.201 is to “protect, preserve and use natural surface and ground water storage and retention systems in order to (a) reduce to the greatest practical extent the public capital expenditures necessary to control excessive volumes and rate of runoff, (b) protect and improve surface and ground water quality, (c) prevent flooding and erosion from surface flows, (d) promote ground water recharge, (e) protect and enhance fish and wildlife habitat and water recreational facilities, and (f) secure the other benefits associated with the proper management of surface and ground water.”

The cities of Anodover, Anoka, Coon Rapids and Ramsey formed the Organization by executing a joint powers agreement in accordance with Minnesota Statute 103B.211 dated July 15, 1985.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

The accompanying summary of significant accounting policies is presented to assist the reader in understanding the Organization’s financial statements. The financial statements are representations of the Organization’s Board which is responsible for their integrity and objectivity. The following is a summary of the more significant accounting policies:

A. Measurement Focus, Basis of Accounting, and Financial Statement Presentation

The financial statements are reported using the “economic resources” measurement focus and the accrual basis of accounting. Revenues are recorded when earned and expenses are recorded when a liability is incurred, regardless of the timing of the related cash flows. Grants and similar items are recognized as revenue as soon as all eligibility requirements imposed by the provider have been met.

Private-sector standards of accounting and financial reporting issued prior to December 1, 1989, generally are followed in both the government-wide and proprietary fund financial statements to the extent that those standards do not conflict with or contradict guidance of the Governmental Accounting Standards Board. Governments also have the option of following subsequent private-sector guidance for their business-type activities and enterprise funds, subject to this same limitation. The Organization has elected not to follow subsequent private-sector guidance.

Operating revenues and expenses generally result from providing services and producing and delivering goods in connection with the principal ongoing operations. The principal operating revenue of the Organization are charges to customers for permits. Operating expenses for the Organization include engineering services and administrative expenses. All revenues and expenses not meeting this definition are reported as nonoperating revenues and expenses.
B. Cash and cash equivalents

Cash balances are invested to the maximum extent possible. For the purposes of the statement of cash flows, the Organization considers all highly liquid investments with a maturity of three months or less when purchased to be “cash equivalents”.

C. Income taxes

As a joint powers watershed management organization, the Organization is exempt from both Federal and Minnesota income taxes. Accordingly, no provision for income taxes is included in these financial statements.

D. Receivables and Payables

Receivables represent outstanding reimbursements from permit holders for work already completed and paid for by the Organization. Payables are recorded for services completed for the Organization but unpaid as of the end of the current fiscal year. Deposits represent amounts owed to permit holders at year end for services yet to be done.

3. CASH AND INVESTMENTS

The Organization follows State Statute guidelines for investment purposes. The State Statute allows for investments in United States securities, state and local government general obligation securities rated “A” or better by a national bond rating agency, state and local government revenue securities rated “AA” or better by a national bond rating agency, commercial paper rated in the highest quality category by two national rating agencies and that mature in 270 days or less, certificates of deposit, bankers acceptance and repurchase agreements.

(a) Interest Rate Risk

Interest rate risk is the risk that the fair value of investments will be adversely affected by a change in interest rates. The Organization does not have a formal investment policy related to interest rate risk. As of January 31, 2012 the Organization had the following investments and maturities:

<table>
<thead>
<tr>
<th>Investment type:</th>
<th>Fair Value</th>
<th>Less than one year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Money Market Account</td>
<td>$ 63,128</td>
<td>$63,128</td>
</tr>
</tbody>
</table>
3. CASH AND INVESTMENTS (continued)

(b) Credit Risk

Credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligations. Credit risk is measured using credit quality ratings of investments in debt securities as described by nationally recognized rating agencies such as Standard & Poor’s and Moody’s.

The following table lists the credit quality ratings per Moody’s and/or Standard and Poor’s of the Organization’s investments as of January 31, 2013:

<table>
<thead>
<tr>
<th>Investment type:</th>
<th>Fair Value</th>
<th>Unrated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Money Market Account</td>
<td>$ 63,128</td>
<td>$63,128</td>
</tr>
</tbody>
</table>

(c) Custodial Credit Risk

Custodial credit risk is the risk that, in the event of the failure of a counterparty, the Organization will not be able to recover the value of the investments, collateral securities, or deposits that are in the possession of the counterparty. The Organization does not have a formal policy related to custodial credit risk of investments or deposits. At January 31, 2013 all of the Organization’s investments are insured and registered, and are held by the counterparty’s agent in the Organization’s name.

4. REVENUES

Assessments from participating cities:

Member cities are assessed on an annual basis for estimated Organization costs by motion of the Organization’s Governing Board. Administrative and planning costs are apportioned by a formula taking into account both valuation and gross area equally. Projects and improvement costs are charged to the benefiting properties by a formula adopted by the Organization’s Governing Board. Member city assessments for administrative and planning costs were as follows:

<table>
<thead>
<tr>
<th>Year Ended January 31,</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Andover</td>
<td>$21,606</td>
</tr>
<tr>
<td>Anoka</td>
<td>17,342</td>
</tr>
<tr>
<td>Coon Rapids</td>
<td>1,890</td>
</tr>
<tr>
<td>Ramsey</td>
<td>39,162</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$80,000</strong></td>
</tr>
</tbody>
</table>
4. REVENUES (continued)

Permits:

The Organization issues permits for construction to cover the costs associated with the review of grading, drainage and erosion control plans of the projects to improve overall water quality. The Organization earns $100 for administrative costs for each permit it processes. A deposit is received upon application of the permit which is used to cover the administration costs and all professional services incurred to complete the permit process. Any remaining deposit excess is refunded upon issuance of the permit.

5. RISK MANAGEMENT

The Organization participates in a public entity risk pool to mitigate its exposure to these risks. Liability coverage’s are provided through a pooled self-insurance plan with other cities. The Organization has a $250 deductible per occurrence for its coverage.
Appendix B:

Newsletter Articles
Clean Yard, Clean Water

How a tidy yard can help local water quality

Not only is it beautiful, but a tidy yard can help preserve the health of our local waterways. Many people are unaware, however, that a tidy yard can also contribute to better water quality. Here are some tips to help keep our local waterways clean and healthy:

1. **Clean up your yard waste.** Leaf blowers and yard trimmers can be used to collect yard waste for pick-up, and then it should be disposed of properly.
2. **Mulch and compost.** Composting green waste helps to reduce the amount of waste sent to landfills and contributes to soil health.
3. **Correct drainage issues.** Poorly designed or lack of proper drainage can lead to water runoff and pollution. Fixing these issues can help prevent water pollution.
4. **Use water-efficient landscaping.** Traditional lawns require a lot of water and chemicals. Water-efficient plants require less water and are better for the environment.

Lower Rum River Watershed Management Organization

The Lower Rum River Watershed Management Organization (LRWRWMO) is a non-profit organization that works to protect and enhance the water quality and aquatic habitat of the Lower Rum River Watershed. They work to educate the public about the importance of keeping our waters clean and healthy.

For more information, visit their website at www.lowerrumriverwatershed.org.
City of Andover 2012 Newsletter articles pertaining to the LRRWMO and water resources.
City of Ramsey 2012 Newsletter articles pertaining to the LRWMO and water resources.
Lawn Care and Stormwater Ponds

The city of Ramsey has a number of lakes, stormwater ponds, open areas and wetlands within its boundaries. All stormwater, whether natural (rainfall and snow melt), or maintained (lawn watering, car washing or other discharges), enters the pond systems through channels in streets and sewers. As the runoff flows over rooftops, patios, lawns, streets and natural areas, it picks up grass clippings, leaves, animal waste, fertilizers and other chemicals (pollutants) and carries them into the ponds.

Algal blooms (green growth on the surface) occur in ponds when there is excess phosphorus in the water. Phosphorus is found in lawn clippings, leaves, animal waste and fertilizers. State law has banned phosphorus in fertilizers since 2006, however, it is always good to check the label before purchasing any fertilizer. The phosphorus number (P) on the package [N-P-K] should be zero.

- What can you do to improve water quality?
- Use your soil tester and follow the recommendations from the test for fertilizer application. Test information is available at the University of Minnesota Extension Service: http://soils.extension.umn.edu/
- There are also commercial firms that provide soil tests (check the yellow pages).
- Spread fertilizer from perimeter to sidewalks. Spraying the surface can push the fertilizer into the storm sewer systems. Aerate your spreading pattern so fertilizer is not going directly onto pavement or adjacent waterways.
- Match your clippings back into the yard. Doing this continuously is equivalent to one application of fertil.
- Remove leaves and grass clippings from paved surfaces. Do not place lawn clippings and leaves where water runs off into stormwater ponds.

Water Conservation

The Lower Ramsey River Water Management Organization (LRWMO), which includes all of Ramsey and Andover, is a regional group that seeks to improve and protect lakes, rivers, streams, groundwaters and other water sources across municipal boundaries. The LRWMO members are located on the Andover land base of which, as the name implies, is dominated by mostly sandy soils. Sandy soils have low water holding capacity, and water can travel to lakes and rivers down through soil and out of the root zone through quaking, summer lawn watering, or by simply water. In contrast, the amount of water used per day for agriculture, or on average, it is much greater than non-consumptive water.

- As populations continue to grow in the western counties, the demand for water will also grow. Consequently, the population of the member communities of the LRWMO is forecast to increase by roughly 13,000 people by the year 2030. This means enormous pressure on the groundwater supply, or aquifer. An increase in the number of users means, to the aquifer, our current source of drinking water, will be depleted more and more.

- While groundwater is a renewable resource, activities such as pumping wells, using improperly surfaces, and changing environmental conditions, can result in the recharge of aquifers. Continued depletion of the aquifer can result in the need to explore alternative options for water, such as harvesting from the Mississippi River, which would require the construction of water treatment facilities.

Snowplowing

The winter season is fast approaching and we all know what means = snowplowing. You can find more information on Environmentally Sound Operations, the Mailbox Replacement Policy, City Policy on Snow Removal, Ice Control and Brookside parking on the website at www.cityoframsey.com.

The city of Ramsey also has an after-hours snowplow service that can be reached at 763-435-9513, which is available 24/7. During regular business hours you can contact the Public Works Department at 763-435-9620.
City of Coon Rapids 2012 Newsletter articles pertaining to the LRRWMO and water resources.
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Appendix C:

2012 Water Monitoring and Management Work Results
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Excerpt from the 2012 Anoka Water Almanac

Chapter 4: Lower Rum River Watershed

Prepared by the Anoka Conservation District
### CHAPTER 4: LOWER RUM RIVER WATERSHED

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

![Map of 2012 Monitoring Sites](image-url)
Lake Level Monitoring

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

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: Itasca, Round, Rogers, and Sunfish/Grass Lakes

Results: Lake levels were measured by volunteers throughout the 2012 open water season. Lake gauges were installed and surveyed by the Anoka Conservation District and MN DNR. Lakes had sharply increasing water levels in spring and early summer 2012 when heavy rainfall totals occurred. Little rainfall fell later in the year and lake levels fell dramatically.

All lake level data can be downloaded from the MN DNR website’s Lakefinder feature. 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.

In 2012 Sunfish/Grass Lake water levels were measured infrequently. The volunteer for this lake has been asked to take more readings in the future or provide notice that they cannot so another volunteer can be found.
Lake Water Quality

Description: May through September every-other-week monitoring of the following parameters: total phosphorus, chlorophyll-a, secchi transparency, dissolved oxygen, turbidity, temperature, conductivity, pH, and salinity.

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

Locations: Round Lake

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

Originally, Sunfish/Grass Lake was also to be monitored in 2012. After discovery that the local community college was monitoring it was dropped.

Lower Rum River Watershed Lake Water Quality Monitoring Sites
**Round Lake**  
*City of Andover, Lake ID # 03-0089*

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

**2012 Results**  
In 2012 Round Lake’s water quality was very good compared with other lakes in this region (NCHF Ecoregion) receiving an overall A letter grade. Average total phosphorus was the lowest on record (19.0 ug/L) and chlorophyll $a$ was only slightly higher than the lowest recorded value from 2003. Secchi transparency was 11.4 feet, which is the best ever observed at this lake. Phosphorus and algae was highest in early spring. The first water sample taken in mid-May had much higher levels of TP and chlorophyll $a$ than subsequent samples. This could be the result of a very mild winter with little snow cover (more light penetration) and early ice out.

**Trend Analysis**  
Nine years of water quality monitoring have been conducted by the Anoka Conservation District (1998-2000, 2003, 2005, 2007, and 2009-2010, 20012), which is a marginal number of years for a powerful statistical test of trend analysis. In 2010, the results of the analysis indicated a significant trend of declining water quality across the years studied (repeated measures MANOVA with response variables TP, Cl-$a$, and Secchi depth, $F_{2,5} = 9.6065, p = 0.0194$). When the analysis is run to include the exceptional water quality observed in 2012 no significant water quality changes are apparent ($F_{2,6} = 0.66, p = 0.29$).

**Discussion**  
2012 was a welcome return to good water quality for Round Lake. There was growing concern about a trend toward poorer water quality. Phosphorus and chlorophyll-$a$ had increased substantially in each of four monitored years from 2005-2009, and 2010 was similar to 2009. These were years of low lake levels. There was speculation that in-lake sources of nutrients, driven by sediment mixing, were a source of phosphorus. During low water there is more wind mixing because of shallow water depths, and in these years there was also a conspicuous reduction of chara (a plant-like algae) carpeting the bottom. In 2012 water levels recovered substantially in spring, chara was once again blanketing the lake bottom, and water quality was dramatically improved. It does seem that low water levels in Round Lake lead to poorer water quality. Additional monitoring in the future can help verify.

Since at least the 1980’s there have been complaints about low water in Round Lake. The lake has few surface water in-flows, so groundwater is important to lake hydrology. There have been concerns that local surficial groundwater levels, and hence the lake, are negatively impacted by a variety of causes including irrigation, residential groundwater use, stormwater management, road embankments, and others. Each has been studied by groups including the MN DNR, Anoka Conservation District, Watershed Organizations, and City. None have been found to cause lower-than-expected lake levels. But there is evidence that Round Lake levels do behave differently from other nearby lakes. Moreover, studies by the Metropolitan Council and others have found regional surficial water tables are being drawn down by groundwater pumping throughout the metro. Several lakes, including Round and Bunker Lakes are believed to be victims of this groundwater overuse.

Conservation of groundwater must become a regional and local priority, least there will be negative impacts on lakes. In fact many negative impacts are already being documented. At Round Lake, where water quality appears linked to water levels, this issue is very important.
### Round Lake Water Quality Data

#### 2012 Water Quality Data

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*Reporting Limit

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### Round Lake Water Quality Results

#### 2012 Phosphorus, Chlorophyll-a, and Transparency

![Graph showing Phosphorus, Chlorophyll-a, and Transparency]

#### Historic Summertime Means

![Graph showing Historic Summertime Means]

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4-110
### Round Lake Summertime Historic Mean

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### Carlson’s Trophic State Index

![Carlson’s Trophic State Index Diagram](image.png)
Stream Water Quality - Chemical Monitoring

Description: The Rum River has been monitored simultaneously at three strategic locations in 2004, 2009, 2010, and 2011. 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: Trott Brook at County Road 5

Results: Results are presented on the following pages. Results from the Metropolitan Council’s monitoring station on the Rum River at the Anoka Dam can be obtained from the Metropolitan Council (see http://www.metrocouncil.org/Environment/RiversLakes/).

2012 Rum River Monitoring Sites
**Stream Water Quality Monitoring**

**TROTT BROOK**

Trott Brook at Co. Rd. 5, Ramsey

STORET SiteID = S003-176

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**Years Monitored**


**Background**

Trott Brook is a medium-sized creek that flows south through Sherburne County, paralleling the Anoka-Sherburne County boundary before turning east through the City of Ramsey where outlets to the Rum River. Overall, the watershed is rural or suburban residential, and areas within the watershed are undergoing rapid development. The creek is about 25 feet wide and 2.5 feet deep at the monitoring site during baseflow. The monitoring site is approximately one mile upstream of Trott Brook’s confluence with Ford Brook.

**Methods**

In 1998, 2003, 2006 and 2012 monitoring was conducted at the County Road 5 crossing. This is the farthest-downstream, publicly-accessible site before the confluence with Ford Brook or the Rum River. The stream was monitored during both storm and baseflow conditions by grab samples. Eight water quality samples were taken each year, except in 1998 when only four samples were taken. Half of samples were 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. Lab analyses of sulfates and hardness were added in 2012 because these parameters can affect chloride toxicity. During every sampling the water level (stage) was recorded. Continuous water levels were also recorded throughout the 2012 open water season. In 2012 a rating curve was developed for the site, allowing flow to be calculated from the water levels.

All data from monitoring is held in the MN Pollution Control Agency’s EQuIS database, which is available through their website. That raw data includes more information that is presented in this report, including the field crew’s notes. The raw data is also available from the Anoka Conservation District.

**Results and Discussion**

Trott Brook water quality is generally good except for low dissolved oxygen. Summarized water quality results include:

- **Dissolved pollutants**, as measured by conductivity and chlorides, are within the typical range for streams in the area and well below the state chloride standard.

- **Phosphorus** was low during baseflow and higher during storms. Fourteen of 28 (50%) of samples exceeded 100 ug/L. All but one of these were during storms. Presently there is no state water quality standard for phosphorus in streams, however a standard around 100 ug/L is likely to be adopted soon. Trott Brook might exceed that new standard when it is adopted.

- **Suspended solids and turbidity** were low during all conditions.
- pH was within the range considered normal and healthy for streams in this area.
- Dissolved oxygen (DO) dips below the state water quality standard routinely. Over all conditions in the last 10 years, eight of 22 measurements (36%) were below the state water quality threshold of 5 mg/L. Based on this information, Trott Brook does not meet state water quality standards for dissolved oxygen, however the state has not yet listed it as such. Additional monitoring with deployable equipment that records around-the-clock DO levels would be the next step to verify this condition.

In 2013-14 the MPCA and local partners will be doing additional monitoring as part of the Rum River Watershed Restoration and Protection Plan project. That monitoring will include the parameters discussed in this report, several other chemical parameters, and fish and/or invertebrates. If Trott Brook is found to be impaired for any parameter at that time a Total Maximum Daily Load (TMDL) study will be completed. That study will determine pollutant reductions needed to meet water quality standards and likely means to meet those reductions. An implementation plan will be prepared to identify projects to address the water quality problems. It will largely fall to local entities, such as the Anoka Conservation District and Lower Rum River WMO, to install these projects.

**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 is a test for chloride salts, the most common of which are road de-icing chemicals. Chlorides can also be present in other pollutant sources, such as wastewater. Dissolved 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 Trott Brook is upstream from the Twin Cities drinking water intakes on the Mississippi River.

Conductivity and chlorides in Trott Brook are within the acceptable range, and similar to other nearby streams. The median for both parameters is nearly identical for the median of all monitored streams in Anoka County. The median conductivity for Trott Brook was 0.440 mS/cm; for all streams in Anoka County it is 0.362 mS/cm. The median chlorides for Trott Brook was 19 mg/L; for all streams in Anoka County it is 17 mg/L. The highest observed chloride concentration was 30 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.

Conductivity and chlorides were similar during storms and baseflow. If runoff were the only source, we would expect these parameters to be highest during storms. An well-documented reason dissolved pollutants are elevated during baseflow too is because of road deicing salt infiltration into the shallow groundwater.

Hardness and sulfate in the water affect the toxicity of chlorides so these parameters were measured in 2012. The State of Iowa has developed equations to adjust the maximum allowable chlorides based upon sulfates and hardness. Minnesota is considering the same approach. Because Trott Brook chlorides are far lower than state standards, the effect of sulfates and hardness is of minimal interest and not investigated.
Conductivity during baseflow and storm conditions  Black squares are individual readings from 2012. Grey squares are individual readings from previous years. 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  Black squares are individual readings from 2012. Grey squares are individual readings from previous years. Box plots show the median (middle line), 25th and 75th percentile (ends of box), and 10th and 90th percentiles (floating outer lines).

Total Phosphorus

Total phosphorus, a 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.

Total phosphorus concentrations in Trott Brook were acceptable during baseflow but more variable and sometimes high during storms. The median phosphorus for Anoka County streams is 135 ug/L. There is no state water quality standard for this parameter in streams, however one is likely to be adopted soon at around 130 ug/L. In Trott Brook the median phosphorus during baseflow was 84 ug/L, which is desirable. The median phosphorus during storms was 131 ug/L but ranged from 56 ug/L to 316 ug/L. Across all samples, seven of 28 (25%) of measurements were greater than 130 ug/L; all but one were during storms. In all, phosphorus in Trott Brook is flirting with unacceptably high levels and should be an area of pollution control effort as the watershed urbanizes.
Total phosphorus during baseflow and storm conditions  Black squares are individual readings from 2012. Grey squares are individual readings from previous years. 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.

Turbidity in Trott Brook is acceptably low. The current state water quality threshold for turbidity is 25 NTU. If a stream exceeds this value on three occasions and at least 10% of all sampling events, then it is declared impaired for turbidity (20 sample minimum). Trott Brook turbidity exceeded 25 NTU only once of 33 measurements. Turbidity was higher during storms (median 5 NTU, range 0-31) than during baseflow (median 2 NTU, range 0-8).

Total suspended solids (TSS) are also acceptably low in Trott Brook. Presently TSS is only used in state water quality standards as a surrogate for turbidity when little turbidity data exists. The threshold is 100 mg/L. In the future the MPCA plans to switch to using TSS for the water quality standard. In Trott Brook the median of all TSS measurements was only 7 mg/L. During baseflow (median 5 mg/L) TSS was lower than during storms (median 12 mg/L). The maximum observed during any conditions was 59 mg/L.

Turbidity during baseflow and storm conditions  Black squares are individual readings from 2012. Grey squares are individual readings from previous years. 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**  Black squares are individual readings from 2012. Grey squares are individual readings from previous years. Box plots show the median (middle line), 25th and 75th percentile (ends of box), and 10th and 90th percentiles (floating outer lines).

![Graph showing total suspended solids during baseflow and storm conditions](image)

**Dissolved Oxygen**

Dissolved oxygen is necessary for aquatic life, including fish. Organic pollution consumes oxygen when it decomposes. If oxygen levels fall below 5 mg/L aquatic life begins to suffer, therefore the state water quality standard is a daily minimum of 5 mg/L. The stream is impaired if 10% of observations are below this level in the last 10 years. Dissolved oxygen levels are typically lowest in the early morning because of decomposition consuming oxygen at night without offsetting oxygen production by photosynthesis.

In Trott Brook dissolved oxygen (DO) dips below the state water quality standard routinely. The median DO during baseflow was 7.16 mg/L but during storms was just 5.19 mg/L. Readings below 5 mg/L were observed in all of the four monitored years except 1998. In 1998 the lowest observed DO was 5.36 mg/L. Over all conditions in the last 10 years, eight of 22 measurements (36%) were below 5 mg/L. Based on this information, Trott Brook does not meet state water quality standards for dissolved oxygen although it has not yet been declared “impaired.” Additional monitoring with deployable equipment that record around-the-clock DO levels would be the next step to verify this condition.

The most common reason for low oxygen is high levels of organic material. Decomposition of these materials consumes oxygen. Trott Brook and its ditch tributaries flow through expanses of wetland where organic soils dominate. Decomposition in those wetlands could contribute to the low stream DO. The relatively low suspended solids and phosphorus in the stream suggest that direct discharges of organic materials into the stream are not a significant cause of low DO.

**Dissolved oxygen during baseflow and storm conditions**  Black squares are individual readings from 2012. Grey squares are individual readings from previous years. Box plots show the median (middle line), 25th and 75th percentile (ends of box), and 10th and 90th percentiles (floating outer lines).

![Graph showing dissolved oxygen during baseflow and storm conditions](image)
**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. All pH measurements at Trott Brook have been within this range. No concerns have been noted.

**pH during baseflow and storm conditions**  Black squares are individual readings from 2012. Grey squares are individual readings from previous years. Box plots show the median (middle line), 25th and 75th percentile (ends of box), and 10th and 90th percentiles (floating outer lines).
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 behind Anoka High School, south side of Bunker Lake Blvd, Anoka

**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, because each gives only a partial picture of stream condition. Compare the numbers to county-wide averages. This gives some sense of what might be expected for streams in a similar landscape, but does not necessarily reflect what might be expected of a minimally impacted stream. Some key numbers to look for include:

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

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

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

**RUM RIVER**

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

---

**Last Monitored**
By Anoka High School in 2012

**Monitored Since**
2001

**Student Involvement**
70 students in 2012, approximately 480 since 2001

**Background**
The Rum River originates from Lake Mille Lacs, and flows south through western Anoka County where it joins the Mississippi River in the City of Anoka. In Anoka County the river has both rocky riffles (northern part of county) as well as pools and runs with sandy bottoms. The river’s condition is generally regarded as excellent. Most of the Rum River in Anoka County has a state “scenic and recreational” designation. The sampling site is near the Bunker Lake Boulevard bridge behind Anoka High School. Most sampling is not conducted in a backwater rather than the main channel.

**Results**
The results for spring 2012 were within the range experienced in previous years. More families were found than the average in Anoka County streams. This should be expected as most other sites are small streams and this is a river. The number of sensitive EPT families and the FBI score were poorer than the county average. Taken together, the invertebrate data indicates poorer river health than is desirable. A complicating factor is that sampling was in backwaters rather than the main channel, and a poorer invertebrate community would be expected there.

**Summarized Biomonitoring Results for Rum River behind Anoka High School**
Biomonitoring Data for the Rum River behind Anoka High School
Data presented from the most recent five years. Contact the ACD to request archived data.

<table>
<thead>
<tr>
<th>Year</th>
<th>2008</th>
<th>2009</th>
<th>2009</th>
<th>2010</th>
<th>2010</th>
<th>2011</th>
<th>2011</th>
<th>2012</th>
<th>Mean</th>
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<tr>
<td>Season</td>
<td>Fall</td>
<td>Spring</td>
<td>Fall</td>
<td>Spring</td>
<td>Fall</td>
<td>Spring</td>
<td>Fall</td>
<td>Spring</td>
<td>2012 Anoka Co.</td>
<td>1998-2012 Anoka Co.</td>
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<tr>
<td>FBI</td>
<td>7.00</td>
<td>6.80</td>
<td>7.80</td>
<td>7.20</td>
<td>8.30</td>
<td>4.70</td>
<td>7.30</td>
<td>6.90</td>
<td>5.5</td>
<td>5.8</td>
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<tr>
<td># Families</td>
<td>15</td>
<td>24</td>
<td>20</td>
<td>26</td>
<td>28</td>
<td>22</td>
<td>12</td>
<td>23</td>
<td>17.4</td>
<td>14.5</td>
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<tr>
<td>EPT</td>
<td>1</td>
<td>7</td>
<td>1</td>
<td>4</td>
<td>4</td>
<td>9</td>
<td>3</td>
<td>3</td>
<td>4.0</td>
<td>4.3</td>
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<tr>
<td>Date</td>
<td>13-Oct</td>
<td>8-May</td>
<td>28-Sep</td>
<td>18-May</td>
<td>10-Jun</td>
<td>5-Oct</td>
<td>8-May</td>
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<tr>
<td>Sampled By</td>
<td>AHS</td>
<td>AHS</td>
<td>AHS</td>
<td>AHS</td>
<td>AHS</td>
<td>ACD</td>
<td>ACD</td>
<td>AHS</td>
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<tr>
<td>Sampling Method</td>
<td>MH</td>
<td>MH</td>
<td>MH</td>
<td>MH</td>
<td>MH</td>
<td>MH</td>
<td>MH</td>
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<tr>
<td>Mean # Individuals/Rep.</td>
<td>626</td>
<td>880</td>
<td>585</td>
<td>443</td>
<td>610</td>
<td>604</td>
<td>188</td>
<td>502</td>
<td></td>
<td></td>
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<tr>
<td># Replicates</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td></td>
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<tr>
<td>Dominant Family</td>
<td>Baetidae</td>
<td>Siphlonuridae</td>
<td>Hyalellidae</td>
<td>Gastropoda</td>
<td>Hyalellidae</td>
<td>baetidae</td>
<td>hyalellidae</td>
<td>silphonuridae</td>
<td></td>
<td></td>
</tr>
<tr>
<td>% Dominant Family</td>
<td>26.5</td>
<td>40.7</td>
<td>39.1</td>
<td>31.8</td>
<td>34.1</td>
<td>57.5</td>
<td>63.3</td>
<td>37.8</td>
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<tr>
<td>% Ephemeroptera</td>
<td>26.5</td>
<td>48.2</td>
<td>0.9</td>
<td>8.1</td>
<td>0.9</td>
<td>59.3</td>
<td>11.2</td>
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<tr>
<td>% Trichoptera</td>
<td>0</td>
<td>0.1</td>
<td>0</td>
<td>0</td>
<td>0.2</td>
<td>0</td>
<td>0</td>
<td>1.2</td>
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<td></td>
</tr>
<tr>
<td>% Plecoptera</td>
<td>0</td>
<td>2.6</td>
<td>0</td>
<td>0.5</td>
<td>0</td>
<td>3.8</td>
<td>0.5</td>
<td>0</td>
<td></td>
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</tr>
</tbody>
</table>

Supplemental Stream Chemistry Readings
Data presented from the most recent five years. Contact the ACD to request archived data.

<table>
<thead>
<tr>
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<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>pH</td>
<td>8.5</td>
<td>7.42</td>
<td>7.75</td>
<td>7.91</td>
<td>7.82</td>
<td>7.24</td>
<td>7.22</td>
<td>7.84</td>
<td>7.98</td>
<td>8.10</td>
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<tr>
<td>Conductivity (mS/cm)</td>
<td>0.283</td>
<td>0.243</td>
<td>0.348</td>
<td>0.276</td>
<td>0.421</td>
<td>0.207</td>
<td>0.399</td>
<td>0.296</td>
<td>0.296</td>
<td>0.205</td>
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<tr>
<td>Turbidity (NTU)</td>
<td>17</td>
<td>13</td>
<td>3</td>
<td>6</td>
<td>5</td>
<td>7</td>
<td>7</td>
<td>18</td>
<td>10</td>
<td>7</td>
</tr>
<tr>
<td>Dissolved Oxygen (mg/L)</td>
<td>11.41</td>
<td>9.72</td>
<td>8.99</td>
<td>10.82</td>
<td>8.76</td>
<td>6.93</td>
<td>na</td>
<td>6.85</td>
<td>7.91</td>
<td>7.87</td>
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<td>Salinity (%)</td>
<td>0.01</td>
<td>0</td>
<td>0.01</td>
<td>0.01</td>
<td>0.01</td>
<td>0</td>
<td>0.01</td>
<td>0.01</td>
<td>0.01</td>
<td>0.00</td>
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<tr>
<td>Temperature (°C)</td>
<td>15.3</td>
<td>10.6</td>
<td>12.3</td>
<td>17.2</td>
<td>15.5</td>
<td>14.8</td>
<td>12.2</td>
<td>20.7</td>
<td>15.3</td>
<td>15.7</td>
</tr>
</tbody>
</table>

Discussion
Biomonitoring results for this site are much different from the upstream in St. Francis. In St. Francis the Rum River harbors the most diverse and pollution-sensitive macroinvertebrate community of all sites monitored in Anoka County. At the City of Anoka diversity has been moderately high, but the biotic indices were poorer than average because most families were generalists.

The largest reason difference between St. Francis and Anoka invertebrate communities is likely habitat differences. The river near St. Francis has a steeper gradient, and has a variety of pools, riffles, and runs. Downstream, near Anoka, the river is much slower moving, lacking pools, riffles and runs. The bottom is silt-laden. The area is more developed, so there are more direct and indirect human impacts to the river.

Water quality is good throughout the Rum River, though slightly poorer in Anoka than St. Francis. Chemical monitoring in 2004, 2009, 2010, and 2011 revealed that total suspended solids, conductivity, and chlorides were all slightly higher near Anoka than upstream. This is probably due to more urbanized land uses and the accompanying storm water inputs. Given that water quality is still very good even in these downstream areas, it is unlikely that water quality is the primary factor limiting macroinvertebrates at the City of Anoka.

One additional factor to consider when comparing the up and downstream monitoring results is the type of sampling location. Sampling near Anoka was conducted mostly in a backwater area that has a mucky bottom and does not receive good flow. This area is unlikely to be occupied by families which are pollution intolerant.
Stream Hydrology

**Description:** Continuous water level monitoring in streams.

**Purpose:** To provide understanding of stream hydrology, including the impact of climate, land use or discharge changes. These data are also needed for calculation of pollutant loads and use of computer models for developing management strategies. In the Sunrise River Watershed, the monitoring sites are the outlets of the Sunrise River Watershed Management Organization’s jurisdictional area, thereby allowing estimation of flows and pollutant loads leaving the jurisdiction.

**Locations:** Trott Brook at County Road 5

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**Lower Rum River Watershed Stream Hydrology Monitoring Sites**
Stream Hydrology Monitoring

TROTT BROOK
at County Road 5 (Nowthen Blvd NW), Ramsey
STORET SiteID = S003-176

Notes
Trott Brook is a medium-sized creek that flows south through Sherburne County, paralleling the Anoka-Sherburne County boundary before turning east through the City of Ramsey where outlets to the Rum River. Overall, the watershed is rural or suburban residential, and areas within the watershed are undergoing rapid development. The creek is about 25 feet wide and 2.5 feet deep at the monitoring site during baseflow.

A rating curve for this site was developed in 2012:
Flow (cfs) = 9.1917(stage-859)^2 − 37.669(stage-859) + 41.931

Summary of All Monitored Years

<table>
<thead>
<tr>
<th>Year</th>
<th>Max</th>
<th>Median</th>
<th>Min</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2012 Hydrograph

<table>
<thead>
<tr>
<th>Date</th>
<th>Elevation (ft)</th>
<th>Precipitation (in)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/2/12</td>
<td>864.50</td>
<td>0.0</td>
</tr>
<tr>
<td>4/1/12</td>
<td>864.00</td>
<td>0.0</td>
</tr>
<tr>
<td>5/31/12</td>
<td>863.50</td>
<td>0.0</td>
</tr>
<tr>
<td>6/30/12</td>
<td>863.00</td>
<td>0.0</td>
</tr>
<tr>
<td>7/30/12</td>
<td>862.50</td>
<td>0.0</td>
</tr>
<tr>
<td>8/29/12</td>
<td>862.00</td>
<td>0.0</td>
</tr>
<tr>
<td>9/28/12</td>
<td>861.50</td>
<td>0.0</td>
</tr>
<tr>
<td>10/28/12</td>
<td>861.00</td>
<td>0.0</td>
</tr>
</tbody>
</table>
Stream Rating Curves

Description: Rating curves are the mathematical relationship between water level and flow volume. They are developed by manually measuring flow at a variety of water levels. These water level-flow measurements are plotted and the equation of a line best fitting these points is calculated. That equation allows flow to be calculated from water level measurements. Continuous water level monitoring in streams.

Purpose: To allow flow to be calculated from water level, which is easier to monitor.

Locations: Trott Brook at County Road 5

Results: In 2012 ACD staff manually measured flow in Trott Brook under a variety of water level conditions. 16 such measurements were used to develop the rating curve presented below. The equation was used to calculate flow from continuous stream water level monitoring measurements.

Trott Brook at County Road 5 Rating Curve

Rating Curve
Trott Brook at CR 5

Flow (cfs) = 9.1917x^2 - 37.669x + 41.931
where X = stage minus 859

R^2 = 0.81

![Rating Curve Graph]
Wetland Hydrology

Description: Continuous groundwater level monitoring at a wetland boundary to a depth of 40 inches. County-wide, the ACD maintains a network of 21 wetland hydrology monitoring stations.

Purpose: To provide understanding of wetland hydrology, including the impact of climate and land use. These data aid in delineation of nearby wetlands by documenting hydrologic trends including the timing, frequency, and duration of saturation.

Locations: AEC Reference Wetland, Connexus Energy Property on Bunker Lake Blvd, Ramsey
          Rum River Central Reference Wetland, Rum River Central Park, Ramsey

Results: See the following pages. Raw data and updated graphs can be downloaded from www.AnokaNaturalResources.com using the Data Access Tool.
Wetland Hydrology Monitoring

AEC Reference Wetland

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

Site Information

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

Soils at Well Location:

<table>
<thead>
<tr>
<th>Horizon</th>
<th>Depth</th>
<th>Color</th>
<th>Texture</th>
<th>Redox</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>0-15</td>
<td>10yr2/1</td>
<td>Sandy Loam</td>
<td>-</td>
</tr>
<tr>
<td>Bw</td>
<td>15-40</td>
<td>10yr3/2</td>
<td>Gravelly Sandy loam</td>
<td>-</td>
</tr>
</tbody>
</table>

Surrounding Soils: Hubbard coarse sand

Vegetation at Well Location:

<table>
<thead>
<tr>
<th>Scientific</th>
<th>Common</th>
<th>% Coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Populus tremuloides</td>
<td>Quaking Aspen</td>
<td>30</td>
</tr>
<tr>
<td>Salix bebbiana</td>
<td>Bebb Willow</td>
<td>30</td>
</tr>
<tr>
<td>Carex Spp</td>
<td>Sedge undiff.</td>
<td>30</td>
</tr>
<tr>
<td>Solidago canadensis</td>
<td>Canada Goldenrod</td>
<td>20</td>
</tr>
</tbody>
</table>

Other Notes: Well is located at the wetland boundary.

2012 Hydrograph

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

**RUM RIVER CENTRAL REFERENCE WETLAND**
Rum River Central Regional Park, Ramsey

**Site Information**

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

**Soils at Well Location:**

<table>
<thead>
<tr>
<th>Horizon</th>
<th>Depth</th>
<th>Color</th>
<th>Texture</th>
<th>Redox</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>0-12</td>
<td>10yr2/1</td>
<td>Sandy Loam</td>
<td>-</td>
</tr>
<tr>
<td>Bg1</td>
<td>12-26</td>
<td>10yr5/6</td>
<td>Sandy Loam</td>
<td>-</td>
</tr>
<tr>
<td>Bg2</td>
<td>26-40</td>
<td>10yr5/2</td>
<td>Loamy Sand</td>
<td>-</td>
</tr>
</tbody>
</table>

**Surrounding Soils:** Zimmerman fine sand

**Vegetation at Well Location:**

<table>
<thead>
<tr>
<th>Scientific</th>
<th>Common</th>
<th>% Coverage</th>
</tr>
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<tbody>
<tr>
<td>Phalaris arundinacea</td>
<td>Reed Canary Grass</td>
<td>40</td>
</tr>
<tr>
<td>Corylus americanum</td>
<td>American Hazelnut</td>
<td>40</td>
</tr>
<tr>
<td>Onoclea sensibilis</td>
<td>Sensitive Fern</td>
<td>30</td>
</tr>
<tr>
<td>Rubus strigosus</td>
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</tr>
<tr>
<td>Quercus rubra</td>
<td>Red Oak</td>
<td>20</td>
</tr>
</tbody>
</table>

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

**2012 Hydrograph**

Well depth was 40 inches, so a reading of –40 indicates water levels were at an unknown depth greater than or equal to 40 inches.
Water Quality Grant Fund

**Description:** The LRRWMO provided cost share for projects on either public or private property that will improve water quality, such as repairing streambank erosion, restoring native shoreline vegetation, or rain gardens. This funding was administered by the Anoka Conservation District, which works with landowners on conservation projects. Projects affecting the Rum River were given the highest priority because it is viewed as an especially valuable resource.

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

**Results:** Projects receiving grant funds are reported in the year they are installed. In 2012 the Smith Rum Riverbank Stabilization used $1,596.92 of LRRWMO cost share dollars.

**LRRWMO Cost Share Fund Summary**

<table>
<thead>
<tr>
<th>Year</th>
<th>Action Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>LRRWMO Contribution</td>
<td>+ $1,000.00</td>
</tr>
<tr>
<td>2008</td>
<td>Expense – Herrala Rum Riverbank stabilization</td>
<td>- $150.91</td>
</tr>
<tr>
<td>2008</td>
<td>Expense – Rusin Rum Riverbank stabilization</td>
<td>- $225.46</td>
</tr>
<tr>
<td>2009</td>
<td>LRRWMO Contribution</td>
<td>+ $1,000.00</td>
</tr>
<tr>
<td>2009</td>
<td>Expense – Rusin Rum Riverbank bluff stabilization</td>
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<tr>
<td>2010</td>
<td>LRRWMO Contribution</td>
<td>+ $0</td>
</tr>
<tr>
<td>2010</td>
<td>LRRWMO Expenses</td>
<td>- $0</td>
</tr>
<tr>
<td>2011</td>
<td>LRRWMO Contribution</td>
<td>+ $0</td>
</tr>
<tr>
<td>2011</td>
<td>Expense - Blackburn Rum Riverbank</td>
<td>- $543.46</td>
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<tr>
<td>2012</td>
<td>LRRWMO Contribution</td>
<td>+ $1,000.00</td>
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<tr>
<td>2012</td>
<td>Expense – Smith Rum Riverbank</td>
<td>- $1,596.92</td>
</tr>
<tr>
<td><strong>Fund Balance</strong></td>
<td></td>
<td>$431.20</td>
</tr>
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**Smith Rum River Stabilization**

Anoka Conservation District (ACD) staff installed a cedar tree revetment on a residential property that borders the Rum River in Ramsey during the fall of 2012. Cedar tree revetments are a cost-effective bioengineering practice that can be used to stabilize mild or moderately eroding streambanks. The Smith property had moderate bank undercutting. Installation of the 70 foot cedar tree revetment will slow or stop the erosion and reduce the likelihood of a much larger and more expensive corrective project in the future. Because this project was on a steep slope below a home, it was a high priority for the landowner. It benefits river water quality by reducing sediment delivered to the river, and improves habitat.

Cedar tree revetments are created by anchoring cut cedar trees to the bank. In this case, the trees were harvested at no cost from an Anoka County park where they were undesirable. Each tree was anchored to the toe of the slope using cable, horseshoe clamps, and a duckbill anchor driven 3-4 feet into the bank. The tree’s many branches deflect the water’s energy from the bank. This low cost treatment is highly effective on mild to moderate problem areas.

**Project Funding**

<table>
<thead>
<tr>
<th>Source</th>
<th>Amount</th>
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<tr>
<td>LRRWMO Water Quality Cost Share</td>
<td>$1,596.92</td>
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<tr>
<td>Ag Preserves Water Quality Cost Share</td>
<td>$563.88</td>
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<tr>
<td>Landowner</td>
<td>$2,160.80</td>
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<td><strong>TOTAL</strong></td>
<td>$4,321.60</td>
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</table>
Public Education – Web Video

Description: The Lower Rum River Watershed Management Organization (LRRWMO) contracted the Anoka Conservation District (ACD) to create a short web video about state scenic river rules that apply to the Rum River. The video is to be posted on the LRRWMO website.

Purpose: To improve public understanding of the LRRWMO, its functions, and accomplishments.

Location: www.AnokaNaturalResources.com/LRRWMO

Results: As of January 27, 2013 the video production is in process. Appropriate video clips have been compiled. Many of these video clips were collected by ACD staff during the LRRWMO’s boat tour of the river in September 2011. The video compilation will be completed and presented to the LRRWMO Board before March 31, 2012.

Review Member Communities’ Local Water Plans

Description: Member cities must have local water plans and ordinances consistent with the LRRWMO 3rd Generation Watershed Management Plan (MN Rules 8410.0130 and 84100160). Cities might start this process in 2012, and the deadline for completion is December 14, 2013. The LRRWMO has approval authority over the Local Water Management Plans. Once a community submits their updated Local Water Management Plan to the WMO for review, the WMO has 60 days to provide comments. The Metropolitan Council has a simultaneous 45 day review period, and the WMO’s review of the Plan must include a review of Metropolitan Council’s comments. The LRRWMO has requested that the ACD assist with their review of local water plans as they are completed. It is anticipated that communities will submit plans for review in both 2012 and 2013.

Purpose: To ensure the policies and actions in the LRRWMO 3rd Generation Watershed Management Plan are implemented consistently across the watershed.

Location: Watershed-wide

Results: As of January 7, 2012 no cities have submitted local water plan updates to the LRRWMO for review. Cities should be reminded of the December 14, 2013 deadline.
LRRWMO Website

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

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

Location: www.AnokaNaturalResources.com/LRRWMO

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

Information about the LRRWMO includes:
- a directory of board members,
- meeting minutes and agendas,
- descriptions of work that the organization is directing,
- highlighted projects,
- permit applications,
- the watershed management plan,
- annual reports, and others.

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

LRRWMO Website Homepage

Welcome

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

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

All of the WMO’s activities are guided by their Watershed Management Plan.
Financial Summary

ACD accounting is organized by program and not by customer. This allows us to track all of the labor, materials and overhead expenses for a program. We do not, however, know specifically which expenses are attributed to monitoring which sites. To enable reporting of expenses for monitoring conducted in a specific watershed, we divide the total program cost by the number of sites monitored to determine an annual cost per site. We then multiply the cost per site by the number of sites monitored for a customer.

Lower Rum River Watershed Financial Summary

<table>
<thead>
<tr>
<th>Revenues</th>
<th>LRRWMO</th>
<th>1100</th>
<th>680</th>
<th>550</th>
<th>1800</th>
<th>1370</th>
<th>1330</th>
<th>795</th>
<th>5967</th>
<th>1597</th>
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<tr>
<td>Other Service Fees</td>
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<td>Local Water Planning</td>
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<td>1503</td>
<td>940</td>
<td>5967</td>
<td>2161</td>
<td>1420</td>
<td>18248</td>
</tr>
</tbody>
</table>

Expenses-

| Capital Outlay/Equip | 8   | 7   | 3   | 23  | 17  | 9   | 11  | 3   | 0    | 3   | 84   |
| Personnel Salaries/Benefits | 737 | 655 | 426 | 1333 | 1287 | 797 | 745 | 303 | 0    | 538 | 6822 |
| Overhead            | 59  | 52  | 35  | 102 | 112 | 65  | 60  | 29  | 0    | 52  | 565  |
| Employee Training   | 2   | 2   | 2   | 1   | 2   | 2   | 1   | 2   | 0    | 4   | 16   |
| Vehicle/Mileage     | 16  | 14  | 9   | 27  | 28  | 16  | 16  | 4   | 0    | 9   | 138  |
| Rent                | 33  | 30  | 22  | 50  | 53  | 36  | 30  | 20  | 0    | 36  | 312  |
| Program Participants| 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 2161 | 0   | 2161 |
| Program Supplies    | 5   | 4   | 14  | 0   | 545 | 575 | 77  | 0   | 0    | 0   | 1220 |
| McKay Expenses      | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0    | 0   | 0    |
| TOTAL               | 860 | 764 | 510 | 1535| 2044| 1503| 940 | 360 | 0    | 641 | 9157 |

NET                      | 240 | 0   | 40  | 265 | 0   | 0   | 0   | 5607| 2161 | 779 | 9091 |

Recommendations

- **Actively participate in the MPCA Rum River WRAPP (Watershed Restoration and Protection Plan) which is beginning in 2013.** This WRAPP is an assessment of the entire Rum River watershed. This is an opportunity for the LRRWMO to prioritize and coordinate efforts with upstream entities and state agencies. TMDL studies with regulatory implications will likely arise out of this project.

- **Diagnose low dissolved oxygen in Trott Brook.** Water quality and hydrology monitoring is planned during 2012 for the Rum River WRAPP project. A TMDL study and implementation plan are desirable outcomes.

- **Remind LRRWMO Cities that local water plans must be updated,** reviewed, and approved by the LRRWMO by December 14, 2013. The review process takes several months.

- **Implement water conservation measures throughout the watershed and promote it metro-wide.** Depletion of surficial water tables are having observable, sometimes dramatic, impacts
on some lake levels and wetlands. Metropolitan Council models predict 3+ ft drawdown of surface waters in certain areas by 2030, and 5+ ft by 2050.

➢ Repeat periodic tours of the Rum River by the LRRWMO Board. These boat tours are useful for identifying problems and the overall condition of the resource.

➢ Continue lake level monitoring, especially on Round Lake where residents have expressed concerns with levels. Other nearby lakes should be monitored for comparison and problems.

➢ Facilitate resident efforts to control aquatic plant growth on Rogers Lake as a means to improving low dissolved oxygen problems. In early 2010 a meeting for residents was held, interest expressed, but coordination and work needed by residents did not materialize. Treatments should occur in early spring, occur on no more than 15% of the lake, be coordinated, and proceed under DNR permits.

➢ Emphasize protection of Rum River water quality. The river’s water quality declines slightly in the LRRWMO and anticipated future development could cause further deterioration.

➢ Complete a stormwater retrofitting assessment for the City of Anoka. The project will identify and rank projects that improve stormwater runoff before it is discharged to the Rum River.

➢ Continue the existing cost share grant program for water quality improvement projects on private properties.

➢ Encourage public works departments to implement measures to minimize road deicing salt applications. Monitoring and special investigations in the LRRWMO and elsewhere nearby have shown that road salts are a serious and widespread sources of stream degradation.