

Amendment to the Upper Rum River Watershed Management Organization (URRWMO) Watershed Management Plan

Water Quality Monitoring Plan

The following standards were recommended by a Technical Advisory Committee including representation from each URRWMO member city, local and state agencies, and the Builders Association of the Twin Cities. Each member community should consider this amendment as they update their local water plan for consistency with the URRWMO Plan.

Effective date: _____ (date of URRWMO Board adoption)

Introduction

The URRWMO will monitor water quality to ensure the URRWMO water quality standards are met. Periodic monitoring allows the URRWMO to assess the impact their communities are having on the water resources and detect developing problems. Information provided by monitoring also helps ensure good management to protect problems.

The URRWMO monitoring plan focuses on major recreational water bodies including East Twin Lake, Lake George, and the Rum River and its major tributaries. East Twin Lake and Lake George were selected because of their value as recreational lakes. The Rum River has been selected both because of its recreational value and because it is designated as a state scenic and recreational river. All of these selected waterbodies have very good water quality which the URRWMO wants to protect.

Monitoring will include water quality and hydrology measurements. Water quality parameters selected for testing are the most common pollutants. Hydrology monitoring is paired with water quality monitoring in rivers and streams so pollutant loads can be calculated. Lake level data is collected because it is useful for resolving water level disputes, determining flood elevations, studying surface to groundwater interactions and determining local zoning (such as floodplain and shoreland).

Monitoring Sites

Monitoring sites on the Rum River have been strategically selected to test water quality as the river enters and leaves the URRWMO area. The northern (upstream) site is located in the Rum River North County Park (Figure 1). Although this is approximately two miles south of the URRWMO's northern border, it is the closest public access to the URRWMO boundary and there are minimal inputs to the river in that stretch. The southern (downstream) site is located where County Highway 7 (Roanoke St) crosses the Rum River in Andover (Figure 2). The boat launch in the Rum River Central Regional Park is closer to the southern boundary of the URRWMO, but it fails to include the input from Cedar Creek. Cedar Creek serves as drainage for a large portion of the URRWMO. The up- and downstream Rum River sites will be tested simultaneously so the URRWMO-area's impact on water quality can be seen.

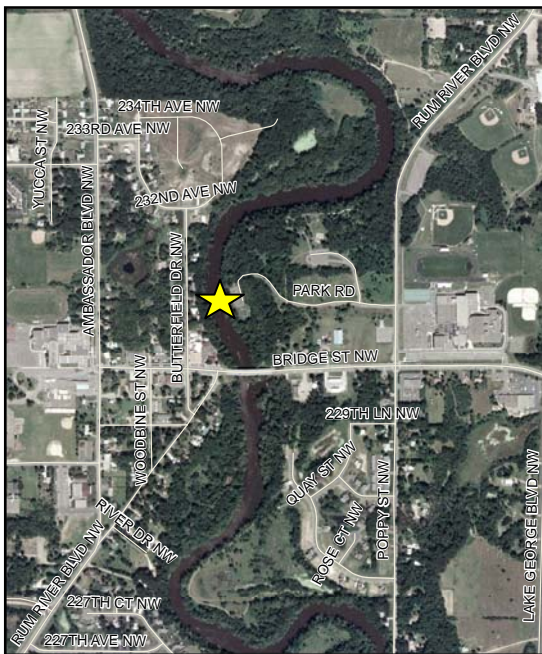


Figure 1. Northern Rum River Monitoring Site

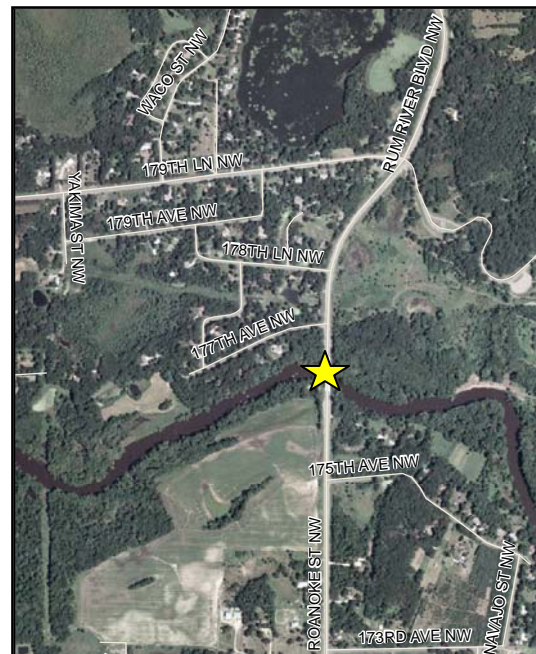


Figure 2. Southern Rum River Monitoring Site

The Rum River's tributaries will be monitored at the bottom of their watersheds. Seelye Brook and Cedar Creek monitoring sites are located just upstream of their confluences with the Rum River at Highway 7 and Highway 9, respectively. Ford Brook, which joins Trott Brook before reaching the Rum River will be monitored just south of where it leaves the URRWMO at Highway 63 in Ramsey. All of these streams drain portions of the URRWMO and monitoring will provide information on their impact on the Rum River.

Lakes George and East Twin will be monitored, as in the past, at the deepest spot in each lake. In both of these lakes the deepest spot is near the center of

the lake. This spot should be located with a depth finder each time the lake is monitored.

Methods

Lakes and flowing waterbodies (rivers and streams) will be monitored differently (Table 1). Lakes will be monitored every two weeks from May to September (ten times total) for total phosphorus, chlorophyll-a and Secchi depth. Additional parameters may be measured as well. River and stream water quality monitoring will include at least eight samples between March and November. Half of the samples should be within 24 hours after a 1-inch or greater storm or major snowmelt, and half during baseflow. At a minimum, the parameters monitored will include total phosphorus, total suspended solids, and turbidity.

Table 1. Water Quality Monitoring Methods Summary

Waterbody	Parameters	Methods
Lakes: East Twin Lake George	Total phosphorus	10 measurements taken every two weeks from May-Sept
	Chlorophyll-a	
	Secchi	
Rum River (2 sites) and Tributaries Seelye Cedar Ford	Total phosphorus Total suspended solids	A minimum of 8, and preferably 10, measurements between March and November. Half of the measurements should be within 24 hours after a 1-inch or greater storm or major snowmelt, and half during baseflow.

Other desirable parameters may be measured if costs are low

A monitoring schedule has been developed to accelerate baseline data collection where little data exists and to maintain baseline data where an adequate dataset already exists (Table 2). The Rum River will be monitored annually for at least three years beginning in 2009. After this period, it should be monitored every 2-3 years, and no less than two of every five years. Major tributaries to the Rum River, including Seelye, Cedar, and Ford Brooks, should be monitored at least one year between 2009-2012. If Rum River monitoring detects problems the URRWMO may decide to do more frequent tributary monitoring. East Twin Lake and Lake George already have adequate baseline data, and will be monitored every 2-3 years starting in 2008, and no less than two of every five years.

Table 2. Water Quality Monitoring Schedule

Waterbody	2008	2009	2010	2011	2012
East Twin Lake Lake George	X			X	
Rum River (2 sites)		X	X	X	
Seelye Brook	Monitor each at least one year, and additionally at the discretion of URRWMO Board if a problem is detected				
Cedar Creek					
Ford Brook					

Hydrology monitoring will be done by volunteers, ACD staff and the USGS (Table 3). Lake levels will be measured every week by volunteers living on or near the lake. They will submit readings from a staff gauge to ACD for analysis and reporting to the MN DNR. Rum River hydrology data is collected by the US Geological Survey (USGS) near St. Francis. Their data is available online. Water level measurements for Rum River tributaries will be taken during water quality monitoring using a staff gauge.

Table 3. Hydrology Monitoring Summary

Waterbody	Method	Duration
East Twin Lake Lake George	Weekly volunteer staff gauge readings submitted to ACD	April-October
Rum River	USGS automated station readings	Ice-out conditions
Seelye Brook Cedar Creek Ford Brook	Staff gauge readings only when water quality samples are taken	Ice-out conditions

Costs

Estimated fees for monitoring are based on 2008 Anoka Conservation District fee schedule (Table 4). In the past, fees have increased 3-5% per year due to inflation.

Table 4. Estimated Annual Water Monitoring Costs

Site	Hydrology Monitoring	Water Quality Monitoring	Total Annual Cost
East Twin Lake	\$110	\$920	\$1,030
Lake George	\$110	\$920	\$1,030
Rum River	Provided by USGS online data	\$915/site	\$915/site
Seelye Brook Cedar Creek Ford Brook	Included		

Estimated fees are from the Anoka Conservation District's 2008 fee schedule.

Expiration

This monitoring plan will be reviewed and revised as necessary in 2012, and will expire in 2017 with the Watershed Management Plan.