RAMSEY COUNTY
Working with you to enhance our quality of life

2015 Stormwater Pollution Prevention Plan Annual Report

Ramsey County Municipal Separate Storm Sewer System Permit

June 16, 2016

Ramsey County Public Works

2015 Stormwater Pollution Prevention Program Annual Report

Minimum Control Measure 1: **PUBLIC EDUCATION AND OUTREACH**

1a-1: Distribute Educational Materials

i. Brochures, Newsletters, Posters, and Utility Bill Inserts related to Stormwater, Household Hazardous Waste Collection, Used Oil and Used oil recycling, Master Gardener, Yard Waste disposal, Construction Project updates, and Rain garden construction. Material distributed by Ramsey County Public Works, Ramsey County Public Health Dept., and Ramsey Conservation District = 1,063,185

ii. Other media

Media Type	**Number of Impressions***
Billboards (static and digital)	28,466,030
Bus Sides	35,146,800
Bus Interiors	536,250
Bus Shelters	7,500,000
Train Interiors	2,288,000
Online Banner Ads	18,567,954
Cable Television	1,620,536
Public Radio	1,400,000
Streaming Radio	4,025,732
Total	**99,551,302**

*estimated number of people the ads are reaching

iii. Ramsey County Website Statistics

a) Ramsey County Stormwater Website hits:

Page Title	2010 hits	2011 hits	2012 hits	2013 hits	2014 hits	2015 hits
Stormwater Main Page	272	213	262	248	226	356
Illicit Discharge	88	128	179	128	68	60
RCPW Construction Page	3,897	3,181	4,902	6,624	10,474	8,442
RC Public Health Household Hazardous Waste Page	22,512	28,530	31,705	26,735	37,187	39,749
RC Public Health Yard Waste Page	130,074	117,421	73,534	110,633	134,541	170,676
RC Public Health – Source Separated Organic Waste	Not tracked	Not tracked	Not tracked	Not tracked	Not tracked	9,638
RC Public Health A to Z Waste Disposal Guide **Only tracked for partial year due to system upgrade*	32,838	36,259	5,368*	22,757	79,216	201,213

b) Ramsey County Website Construction Page Update Subscribers (Updates often include environmental permit details and erosion control/stabilization updates)

2011 Subscribers	2012 Subscribers	2013 Subscribers	2014 Subscribers	2015 Subscribers
6,110	**1,575**	**1,916**	**3,797**	**7,224**

c) Comments received on stormwater/IDDE website = 0

1b-1: Implement an Educational Program

i. Tamarack Nature Center - Water Quality Exhibits, Brochures & Educational Programs:

a. Annual visitors:

2009	2010	2011	2012	2013	2014	2015
35,000	39,000	40,000	80,193	99,352	116,932	117,588

b. Water Quality Education & Interpretive Programs participants:

2009	2010	2011	2012	2013	2014	2015
10,000	12,000	750*	12,447	12,709	12,572	1,276*

*Stats for this year did not include school group attendance.

ii. Master Gardener Program/Event Attendees: 20 Master Gardeners training sessions / 1,663 total attendees

iii. Public presentations about shorelines / rain gardens conducted by RCD:

Year	# Presentations	Total Attendance
2010	15	400
2011	16	580
2012	25	560
2013	6	N/A
2014	7	136
2015	6	240

iv. Shoreline vegetation & Rain garden projects by RCD :

	2011			2012			2013			2014			2015		
	Consults	Installations	TP removed (est. lbs/yr)	Consults	Installations	TP removed (est. lbs/yr)	Consults	Installations	TP removed (est. lbs/yr)	Consults	Installations	TP removed (est. lbs/yr)	Consults	Installations	TP removed (est. lbs/yr)
Rain Gardens	245	80	57	214	29	12	284	37	7.9	294	52	13	264	37	11
Shoreline	9	10	33	45	10	26	21	7	1.2	19	5	1	61		
Erosion/Drainage	0			14			3								
WCA/ DNR	35			28			39			54			65		

v. 633-EASY Hotline calls (*Detailed in MCM 3c-1.vi*)

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015
Call Total	28,983	32, 399	27,763	Not tracked	14,546	18,355	16,736	15,976	15,788

1c-1: Education Program – Public Education and Outreach

i. Ramsey County Dept of Health (Haz Waste, HHW, Chemical Safety, Yard Waste Mgmt)

Activity/Training	Year	Sessions	Attendance
Hazardous Waste Generator	2009	14	366
	2010	14	356
	2011	7	253
	2012	20	588
	2013	27	690
	2014	20	403
	2015	25	870
Onsite Hazardous Waste	2009	17	322
	2010	17	376
	2011	18	303
	2012	N/A	237
	2013	110	N/A
	2014	135	N/A
	2015	130	N/A

ii. Ramsey Conservation District

a. Conference - State of the Waters: Drinking Water in Ramsey County

b. Rain Garden / Shoreline Projects:

Activity		Total
Consults/Design Projects	Rain Gardens	264
	Shorelines	61
Completed / Installed Projects	Rain Gardens	37
	Shorelines	

iii. Ramsey County Public Works

a. Provided financial and staff support for 2015 RWMWD Waterfest

b. Cub Scout tour of facility – May 2015

iv. Ramsey-Washington Watershed District Public Works Forum

a. Hosted public education exhibits at 2015 RWMWD Waterfest

v. Rice Creek Watershed District Public Works Forum - No activity

1c-2: Education Program – Public Participation

i. Annual SWPPP Public Meeting Attendance –*Covered in Section #2*

ii. Visits to RCPW Stormwater Website = 356

1c-3: Education Program – Illicit Discharge Detection and Elimination

i. IDDE training presentation at annual Public Works Maintenance Dept Spring Safety Meeting

ii. Household Hazardous Waste Collection Flyers = 652,642

iii. Cities working w/ Ramsey County Public Health for City cleanup activities = not tracked in 2015

iv. IDDE Public Reports = 3

1c-4: Education Program – Construction Site Run-off Control

i. RCPW Pre-Construction Meetings in 2015

Project	**Attendance**
2015 Bituminous Overlay	15
2015 Pedestrian Ramps	15
County E @ Snelling	30
County E – Snelling to Lexington	18
Ford Parkway	24
Hwy 96 – Old 8 to Round Lake	15
Interstate 35W @ Lake Valentine Rd	25

Project	Attendance
Lake Valentine Outlet	12
North Oaks SW	8
Old 8 @ 10th St	18
Randolph 2015	25
Rice Creek Remeander	14
Victoria	17
Warner Bridge	30

ii. RCPW Active projects in 2015 requiring weekly meetings

Project	# Meetings	Avg. Attendance
2015 Bituminous Overlay	N/A	8
County E @ Snelling	15	16
County E – Snelling to Lexington	18	12
Ford Parkway	19	15
Hwy 96 – Old 8 to Round Lake	15	12
Interstate 35W @ Lake Valentine Rd	17	16
Old 8 @ 10th St	15	10
Randolph 2015	25	12
Rice Creek Remeander	2	7
Victoria	18	7
TCAAP Demolition	N/A	8

iii. Public comment of Construction Project SWPPPs = 0
iv. County staff attending Erosion Control Training = 8 people totaling 66 hours
v. See item 1a-1-ii-b): Ramsey County Website - Construction Update Subscriptions
vi. Total new permitted construction projects in 2015 = 5
Total active permitted construction projects = 6

1c-5: Education Program – Post-Construction Stormwater Management in New Development and Redevelopment

i. Stormwater structure maintenance flyers: No new structure flyer distributed in 2015
ii. 2015 New Stormwater Structures / BMPs = 9 (Detailed list under MCM 5a-1)
iii. Public comments on new stormwater structures = 0

1c-6: Education Program – Pollution Prevention/Good Housekeeping for Municipal Operations

i. Number of electronic comments received on Annual Report = #_0__
ii. Comments at annual meeting = #__0_

1d-1: Coordination of Education Program

i. Outside agency programs that Ramsey County participates in = 13
RWMWD Watershed Management Plan, RWMWD/CRWD Joint TAC for Rules, Bennett Lake TMDL TAC, VLAWMO Watershed Management Plan, Como Lake TMDL, MPCA Chloride TMDL, Turtle and White Bear Lake augmentation TAC, USGS WBL/TCMA Surface/Groundwater Modeling TAC, Salt Tolerant Roadside Grasses TAP, North and East Metro GWMA Advisory Team, RWMWD WaterFest, MnDOT Concrete Slurry Management TAC

ii. Public Works Forum attendance numbers and seminar/workshop information posted under 1c-1

1e-1: Annual Public Meeting

Details contained in MCM-2 below

Minimum Control Measure 2: **PUBLIC PARTICIPATION/INVOLVEMENT**

2a-1: Comply with Public Notice Requirements

i. St. Paul Pioneer Press: May 22, June 7, and June 15, 2015
ii. Lillie Suburban Newspaper: May 27, June 3, and June 10, 2015
iii. Ramsey County Website: May 18, 2015

2b-1: Solicit Public Input and Opinion on the Adequacy of the SWPPP

#__0_ comments received at the public meeting on June 18,2015

2c-1: Consider Public Input

#_0__ comments or changes to the SWPPP following public comments in 2015.

Minimum Control Measure 3: **ILLICIT DISCHARGE DETECTION AND ELIMINATION**

3a-1: Storm Sewer System Map

i. GIS Mapping Updates to System in 2015:

a. Updated GPS coordinates on structures
b. Updated inspection records
c. Created county facilities BMP tab
d. Mapped Industrial Stormwater Permittees
e. Mapped reported illicit discharges from 2008-2014

3b-1: Regulatory Control Program

i. Ramsey County Right-of Way Permit

Year	Excavation/ROW Permits Issued	# of Inspections (est.)	Verbal Violation Notices	Revocation of Permits
2009	325	N/A	35	0
2010	385	700+	6	1
2011	293	~300	15-20	0
2012	370	~400	20-30	0
2013	397	~450	10-20	0
2014	459	~500	12	0
2015	678	700+	5	0

ii. The County Right-of-Way Ordinance was revised to include more stringent erosion control provisions in 2009 and adopted by the Ramsey County Board on January 19, 2010. A copy of the new ordinance is available at: http://www.co.ramsey.mn.us/pw/permits.htm

3c-1: Illicit Discharge Detection and Elimination Plan

i. Outfalls identified in the Ramsey County's MS4 = 2857
ii. Outfalls inspected in 2015 = 574
iii. Outfalls requiring removal of illicit discharges = 1 (Material dumped in swale to filtration basin)
iv. Outfalls requiring maintenance = 424 + 46 (2015 total) – 12 (2015 repairs) = 458
v. The Ramsey County Household Hazardous Waste Collection Program served to prevent illegal dumping by providing a location for the public to dispose of waste that may have otherwise made its way into Ramsey County's MS4.

2015 results:

a. Total HHW sites (year-round, satellite, and stand alone collections): 12
b. Total HHW site operating hours & household participation:

Year	Operating Hours	Total Households
2006	1,472	21,956
2007	1,441	23,843
2008	1,439	24,089

Year	Operating Hours	Total Households
2009	1,507	27,007
2010	1,777	26,716
2011	2,360	26,963
2012	1,871	25,540
2013	1,871	25,851
2014	N/A	27,264
2015	1,871	28,987

c. Pharmaceutical collection at the Ramsey County Sheriff's Patrol Station

Year	Residents #	Amount Collected (lbs)
2013	2,843	5,228
2014	3,538	5,987
2015	4,238	8,402

d. Volumes by major category of HHW:

Permanent & Satellite HHW Facilities

Waste Item		2009 (lbs)	2010 (lbs)	2011 (lbs)	2012 (lbs)	2013 (lbs)	2014 (lbs)	2015 (lbs)
Aerosols		43,172	43,836	42,436	43,575	34,908	38,285	39,100
Antifreeze		26,745	26,033	23,808	27,635	23,080	19,625	21,360
Batteries	Lead acid	53,869	48,744	50,482	48,744	40,259	41,880	36,392
	Non-rechargeable	7,509	9,291	9,971	9,291	9,686	8,607	5,026
	Rechargeable	3,501	3,778	3,378	3,778	3,793	2,005	5,886
Compressed gas cylinders		46,954	40,313	34,314	26,548	26,593	24,384	15,164
Corrosive (acids & bases)		7,907	8,143	8,606	7,620	6,519	7,923	8,651
Flammable solvents		116,982	108,138	105,726	110,550	82,337	90,863	93,038
Flammables (liquid & solid)		44,807	46,145	48,767	43,180	36,942	44,897	49,020
Fluorescent & HID lamps		41,999	40,825	46,960	50,363	51,431	49,259	94,045
Latex driveway sealer		19,140	13,920	16,240	12,760	11,600	9,835	10,140
Latex paint		605,956	595,920	643,500	651,248	608,468	649,615	526,603
Lead paint chips		2,159	1,953	1,473	2,048	2,493	1,460	2,070
Mercury		187	235	69	125	34	232	307
Oil paint		201,113	174,229	199,610	222,274	199,306	228,881	170,214
Other		7,160	4,766	5,437	4,715	18,788	4,805	6,939
Pesticides		21,331	30,168	39,104	38,838	34,038	49.208	45,300
Used motor oil		174,742	169,125	154,365	162,237	144,881	135,232	133,525
Used motor oil filters		9,813	7,761	7,500	7,438	6,375	5,396	5,349
Total HHW		**1,487,398**	**1,376,389**	**1,439,728**	**1,474,983**	**1,341,530**	**1,363,233**	**1,273,084**

Ramsey County Public Works oil collection facility

	2008	2009	2010	2011	2012	2013	2014	2015
Used Oil Volume (gallons)	27,130	32,985	27,890	36,310	33,000	26,102	24,085	26,710
Used Oil Filters (lbs.)	19,700	23,700	21,500	21,225	28,500	23,500	17,125	19,870
Antifreeze (gallons)	250	1,105	1,125	690	1,725	1,565	1,480	845

Compost/Yard Waste Collected

	2008	2009	2010	2011	2012	2013	2014	2015
Volume (yd^3)	216,441	136,103*	262,192	307,173	148,811*	283,984	295,646	281,532
Total Visits (vehicles – includes brush)	370,883	429,262	407,081	424,231	436,021	417,249	373,791	336,798
Total Operating Hours/Site	1,360	1,360	1,590	1,390	1,354	1,230	--	1,508
Volume Compost Produced (yd^3)	--	--	--	--	3,690	4,106	5,509	5,414
Source Separated Organics Participation	--	--	--	--	--	--	--	45,636
Source Separated Organics Collected (lbs)	--	--	--	--	--	--	--	474,910

*Leaves/Grass data only. Brush was not included in the final volume

vi. Ramsey County Department of Public Health operates a solid waste disposal hotline providing advice on all aspects of waste disposal.

2015 Call Results:

Topic	2008 Calls	2009 Calls	2010 Calls*	2011 Calls	2012 Calls	2013 Calls	2014 Calls	2015 Calls
Recycling	13,053	10,720	N/A	N/A	2,461	1,786	1,461	1,895
Appliances				610	466	401	266	485
City Clean Up				348	190	173	219	125
Compact Flourescent Bulbs								122
Food Waste/Organics				57	19	7	65	180
Electronic waste		4,316	N/A	1,696	737	472	397	588
Medicine Collection				188	370	444	451	526
Solid Waste				520	300	213	126	1,590
Other waste	8,596	4,098	N/A		94	59	0	
HHW	5,085	4,554	N/A	4,278	3,615	3,493	3,257	3,604
Compost Sites / Yard Waste	4,896	4,061	N/A	6,849	8,509	6,726	5,261	5,255
Other Topics						3,447	4,467	4,180
Taxes	88	15	N/A				6	
Total Calls	**32,399**	**27,763**	N/A	**14,546**	**16,761**	**17,221**	**15,976**	**15,788**

*Call volume not tracked in 2010 due to vendor change. Tracking resumed in 2011

3d-1: Public and Employee Illicit Discharge Information Program
Details covered in 1c-3

3e-1: Identification of Non-Storm Water Discharges and Flows

i. Non-stormwater discharge reporting
   a. Through the IDDE program = 3
   b. Identified by County staff = 8

ii. Ramsey County did not meet with any municipal or private entities to determine their non-stormwater discharges

Minimum Control Measure 4: **CONSTRUCTION SITE STORMWATER RUNOFF CONTROL**

4a-1: Ordinance or other Regulatory Mechanism

i. Right-of-way permits issued (Excavation or Driveway) = 678
ii. Percent of right-of-way permits requiring drainage evaluation and/or connection to Ramsey County's MS4: 413/678 = 61%

4b-1: Construction Site Implementation of Erosion and Sediment Control BMPs

i. RCPW staff attending Erosion Control Training = 8 people totaling 66 hours
ii. Permits obtained for Ramsey County Construction Projects:

Project	NPDES	Watershed District
Ford Parkway	Y	CRWD
Highway 96@ I35W	Y	RCWD
Lake Valentine Outlet	N	RCWD
Lexington @ County F	Y	RCWD
Ramsey County Library – Shoreview	Y	RCWD
Randolph Ave – Brimhall to Syndicate	Y	CRWD
Rice Creek Remeander	Y	RCWD
Warner Bridge	Y	RWMWD

4c-1: Waste Controls for Construction Site Operators

i. Waste control is required for all Ramsey County construction projects under each individual project's SWPPP
ii. Ramsey County Ordinance #2001-287 was amended in 2009 and adopted on January 19, 2010. It now includes waste control for right-of-way projects.

4d-1: Procedure for Site Plan Review

i. Construction project plans prepared/reviewed = 5
ii. Construction permits obtained: See 4b-1
iii. Stormwater modeling projects completed/reviewed = 8
iv. Applicable reviews for each project are required as part of the NPDES permitting process
v. Impaired waters/stream reaches in Ramsey County in 2015 = 49 with 79 total impairments.
   New waters listed in 2015: 0
   TMDL implementation plans approved in 2015: 0

See *Appendix A - Ramsey County 2015 Impaired-TMDL Waters List for details*

4e-1: Establishment of Procedures for the Receipt and Consideration of Reports of Stormwater Noncompliance

i. The public may report illicit discharges using an email form on the Ramsey County website: https://www.ramseycounty.us/residents/environment/stormwater-management/illicit-discharge/report-illicit-discharge
The report is automatically forwarded to the Environmental Services Division

ii. 2015 Complaints = 3

4f-1: Establishment of Procedures for Site Inspections and Enforcement

i. Ramsey County Public Works: Total permitted construction sites = 8
   a. Active Sites = 6
   b. Site monitored for vegetation/completion & closed = 2
   c. Total construction site inspections performed by RCPW staff & contractors in 2015 = 136
   d. Ramsey County Parks active NPDES permitted sites = 9 (Many finished – permit not closed out)
   e. Other Ramsey County facility permitted sites = 2

ii. Ramsey Conservation District Performing Contracted Inspections on the behalf of municipalities:
   a. Inspections performed = 787
   b. Total inspection requiring corrective action = 241

iii. Ramsey County Right-of -Way Permit Inspections
   a. Total Permits = 675
   b. Inspections = 700+
   c. Total inspections requiring correction = 5

4g-1: Erosion Control for Maintenance Activities

Maintenance project erosion control inspections = 64 inspections of 20 sites

Minimum Control Measure 5: **POST-CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT**

5a-1: Development and Implementation of Structural and/or Non-structural BMPs

New Ramsey County Public Works Structural BMPs

Project	BMP Description	Maintenance Responsibility
Ford Parkway	FP Trench #1	RCPW
Ford Parkway	FP Trench #2	RCPW
Ford Parkway	FP Trench #3	RCPW
Hwy 96 @ I35W	Beisswinger's Pond	RCPW
Hwy 96 @ I35W	RWM Pond	RCPW
Randolph Ave	Randolph Trench #1	RCPW
Randolph Ave	Randolph Trench #2	RCPW
Randolph Ave	Randolph Trench #3	RCPW
Warner Bridge	Warner Bridge IB	RCPW
Warner Bridge	Warner Bridge Pond	RCPW

5b-1: Regulatory Mechanism to Address Post Construction Runoff from New Development and Redevelopment

i. Ramsey County Right-of-Way permits requiring review for post-construction BMPs = N/A

5c-1: Long-term Operation and Maintenance of BMPs

i. Maintenance Operations by BMP type:

a. Ponds / Sediment Basins: 16

Name	Maintenance Description
Coral Sea Pond	Vegetation
County C & 35W Pond	Vegetation, delta removal
Farm Pond	Vegetation
Edgerton @ Centerville Basin	Vegetation
Hwy 96/Dale Pond	Vegetation, partial sinkhole repair
Larpenteur / Gottfried Pond	Vegetation, discharge pump repair
Marsden/Arsenal Pond	Vegetation
Moundsview Pond	Vegetation
Naples Pond	Vegetation
Park Pond	Outlet Repair
Silver Lake Road @ Rice Creek Pond	Vegetation
Vadnais Blvd Pond A	Vegetation
Vadnais Blvd Pond B	Vegetation
Wakefield Pond	Vegetation, brushing, sediment delta removal
Wheelock Filter Pond	Cleaned outlet sump

b. Pollution Control Structures/Infiltration BMPs: 22

Name	Maintenance Description
Bald Eagle Ave @ 10th St	Vegetation, trash removal
Bald Eagle Ave @ Soo Line IB	Vegetation, trash removal
Battle Creek North IB	Vegetation
Battle Creek South IB	Vegetation
Coral Sea Infiltration Basin	Vegetation
County F @ Centerville Sediment Sump	Sediment removal
County F Rain Gardens – 6 total	Vegetation, replaced inlet grates, cleared inlet pipes, trash removal
Hawthorne Infiltration Trench	Installed trash hood over pipe inlet
Hoffman Rd @ Cnty F IB	Trash removal
Oxford Biofiltration Basin	Underdrain valve adjustment, vegetation
Park Ave IB	Vegetation, trash removal
Prosperity @ Barclay Trench	Sediment removal
RC Sheriff's Office Rain Garden	Vegetation
RCPW Garage Oil Skimmers	Replaced
RCPW Garage Sediment Sump	Sediment removed
RCPW Parking Lot Rain Garden	Vegetation
Rice St IB	Erosion repairs
Vadnais Blvd IB	Vegetation
WBT Compost Site Sherwood Entrance IB	Inlet swale clearing / Vegetation

c. Infiltration BMP Vegetation Maintenance Performed by the MN Conservation Corps

Year	**Amount**
2012	$2,925.00
2013	$6,581.25
2014	$6,093.75
2015	$4,840.47

ii. Maintenance Agreements for 2015:

BMP	Agency
FP Trench #1	CRWD
FP Trench #2	CRWD
FP Trench #3	CRWD
Beisswinger's Pond	RCWD
RWM Pond	RCWD
Randolph Trench #1	CRWD
Randolph Trench #2	CRWD
Randolph Trench #3	CRWD
Warner Bridge IB	RWMWD
Warner Bridge Pond	RWMWD

Minimum Control Measure 6: **POLLUTION PREVENTION/GOOD HOUSEKEEPING**

6a-1: Municipal Operations and Maintenance Program

i. Ramsey County staff trained in Spill Prevention = 4

ii. Erosion Control Installers trained in 2015 = 5

6a-2: Road Surface Sanding, Salting, and Sweeping

i. Ramsey County MS4 miles swept:

a. Ramsey County has 295 miles of roadway and 935 lane miles.

b. Two sweeping events = 1632 total lane miles swept.

ii. RCPW employees trained in salt application = 60

iii. Sections and miles of road targeted for additional sweeping

Road Section	**Miles**
Bellaire – CR E to South Shore Blvd	1.34
Cleveland Ave – Larpenteur to CR B	1.00
Cleveland Ave – Randolph to Summit	1.00
Como Ave – Marion St to Rice St	0.20
County Road I – Lexington Ave to Hodgson Road	1.00
Dale St – 3320’ N of TH 36 to CR C	0.13
Front Ave – Lexington Ave to Dale St	1.00
Larpenteur Ave – Edgerton St to Parkway Drive	0.33
Lexington Ave – CSAH 96 to CR I	2.00
Lexington Ave – Pleasant Ave to Randolph Ave	0.50
Marion St – St Anthony Ave to Como Ave	0.65
Otter Lake Road – Hennessey Vista to CR H2	0.66
Pennsylvania Ave – Como Ave to Rice St	0.12
Rice St – University Ave to RR Bridge	0.50
St Croix St – TH 280 to Terminal Rd	0.25
Victoria Street – CR B to Lovell	0.38
White Bear Ave – Frost Ave to Cope Ave	0.80
White Bear Ave - RR Bridge to Larpenteur Ave	4.64
White Bear Ave – shopping center entrance to Radatz Ave	0.60

iv. Sand applied in 2015 = 0 tons (Ramsey County is a salt-only applicator)

v. Material recovered during sweeping events:

Year	Amount Recovered (tons)
2007	1,000
2008	684
2009	1,045
2010	1,443
2011	1,107
2012	406.5
2013	1,060
2014	1,384
2015	1,425

vi. Ramsey County Salt Usage per Event

Winter	Season Usage (Tons)	Lbs / lane mile per event	# of Events	Total Snowfall
2007-2008	10,792	647	50	44.6
2008-2009	7,370	821	27	45.0
2009-2010	4,775	718	20	40.7
2010-2011	6,000	703	24	86.6
2011-2012	3,505	536	14	23.0
2012-2013	8,656	561	33	71.0
2013-2014	10,491	607	37	67.7
2014-2015	6,209	428	31	32.0
2015-2016	2,867	321	18	30.1

6b-2: Annual Inspection of All Structural Pollution Control Devices

i. Structural Pollution Control Device Inspections: 25/25 = 100%
ii. Devices requiring maintenance: 9
iii. New devices added: 0

6b-3: Inspection of a Minimum of 20 percent of the MS4 Outfalls, Sediment Basins and Ponds Each Year on a Rotating Basis

i. Outfalls: 574/2857 = 20.1%
Sediment Basins: 2/10 = 20%
Ponds – 42/42 = 100%
ii. Percentage targeted on a five-year basis
Outfalls = 100.0%
Ponds / Sediment Basins – 42/42 = 100%

6b-4: Annual Inspection of All Exposed Stockpile, Storage, and Material Handling Areas

i. RCPW Garage Facility - 4 inspections
ii. Kent St Storage Site - 4 inspections
iii. NPDES Industrial Stormwater Permit was reissued in 2010. All Ramsey County Facilities were determined to be exempt or were certified as No-Exposure

6b-5: Inspection Follow-up Including the Determination of Whether Repair, Replacement, or Maintenance Measures are Necessary and the Implementation of the Corrective Measures

i. Corrective actions determined based on inspection in 2015 = 458
ii. Repairs not completed in 2015:

Structure	**Problem**	**Scheduled Completion of Repair**
Arden Plaza Pond	High sediment levels creating a drainage problem upstream. Drainage area analysis under way. Sediment sampling and dredging needed. (Private ownership with multiple municipalities contributing stormwater)	Pending
Arlington Filter Pond	Sediment dredging needed, Tier 3 PAH contaminated sediment present	On hold
Bald Eagle Ave @ Soo Line IB	Entry swale is clogged with vegetation preventing directed water flow. Replace top 3 feet with millings swale.	Summer / Fall 2016
Bald Eagle Blvd @ Cnty Ditch #11	Culvert extension needed	Summer 2016 (Contractor)
Battle Creek Mitigation Wetland outlet culverts	Pipe separation has created a sinkhole in wetland outlet.	Fall 2016
Battle Creek Lower Pond	Sediment delta & damaged outlet culvert	Pending (Parks and Rec)
Battle Creek South Infiltration Basin	Underdrain is not functioning properly	Pending (City of Maplewood)
Casey Lake Wetland Outlet	Water leaking under the weir. Need to install sheet pile	Pending
Cnty C east of Victoria	Culvert apron has separated from pipe.	Summer 2016
Dale & Hwy 96 Pond	Sediment dredging & sink hole repair	Fall 2016
Eagle Ave @ County Ditch 11	Culvert extension to prevent eroding of the roadside and for public safety.	On hold pending equipment availability
Edgerton Ave @ Sunset Court - Cross culvert	Cross culvert is failing - Replacement needed	Summer 2016
Ford Parkway Bridge Erosion	Severe bank erosion under east abutment of Mississippi River Bridge	Fall 2016 or 2017
Hamline Ave Culvert @ Cnty I	Sinkhole in road from possible culvert failure was patched. Culvert repair still needed.	Pending

Structure	Problem	Scheduled Completion of Repair
Kohler Rd/Edgewood @ Cnty Ditch #14 Culvert	Sinkholes and gullies forming around culvert	Pending
Lambros Ditch	Inlet structures are partly blocked by vegetation. Channel walls are slumping.	Pending
Lexington Ave @ Spring Haven Ct outfall	Storm sewer outfall into wetland is mostly blocked by accumulated sediment.	Summer/Fall 2016
Naples Pond	Outlet partially blocked	Pending
Outfalls from MS4 at multiple (458) locations	Various needs including debris removal, culvert repair, etc	Summer/Fall 2016
Wheelock Filter Pond	Sediment dredging needed, Tier 3 PAH contaminated sediment present	On hold

6b-6: Record Reporting and Retention of all Inspections and Responses to the Inspections

All required inspection reports are kept on file for required time durations

6b-7: Evaluation of Inspection Frequency

i. County facilities under the NPDES Industrial Stormwater Permit were required to be inspected 5 times per year between April & October.

a. As of June 2010, these facilities are no longer required to have NPDES Permits.

b. Inspection schedule alterations:

- Inspection frequency was reduced to quarterly inspections (4) beginning in 2014

6b-8: Lake Water Quality Monitoring

30 lakes are monitored 6-8 times per year for nutrients, suspended solids, clarity, chlorophyll, wet chemistry, pH, and beach E-coli testing (weekly in summer).
See *Appendix B - Ramsey County Lake Water Quality Score Report* for details.

Appendix A - Ramsey County 2015 Impaired Waters List

Waterbody Name	ID	Impaired Use	Impairment Cause	Impairment Status	Added to Inventory
Rice Creek: Unnamed lk (02-0041-00) to Long Lk	07010206-583	Aquatic Life	Aquatic Macroinvertebrate Bioassessments	TMDL Required	2006
Jones	62-0076-00	Aquatic Life	Aquatic Macroinvertebrate Bioassessments	TMDL Required	2008
Rice Creek: Long Lk to Locke Lk	07010206-584	Aquatic Life	Aquatic Macroinvertebrate Bioassessments	TMDL Required	2006
Jones	62-0076-00	Aquatic Life	Aquatic Plant Bioassessments	TMDL Required	2008
Battle Creek: Battle Creek Lk to Pigs Eye Lk	07010206-592	Aquatic Life	Chloride	TMDL Required	2008
Unnamed creek (Lambert Creek): Unnamed ditch to Vadnais Lk	07010206-637	Aquatic Recreation	Fecal Coliform	TMDL Required	2008
Mississippi River: Minnesota R to Metro WWTP (RM 844 to 835)	07010206-505	Aquatic Recreation	Fecal Coliform	TMDL Required	1996
Mississippi River: Lower St Anthony Falls to L & D #1 (RM 853.3 to RM 847.6)	07010206-503	Aquatic Recreation	Fecal Coliform	TMDL Required	2002
Rice Creek: Unnamed lk (02-0041-00) to Long Lk	07010206-583	Aquatic Life	Fishes Bioassessments	TMDL Required	2004
Mississippi River: Minnesota R to Metro WWTP (RM 844 to 835)	07010206-505	Aquatic Consumption	Mercury in Fish Tissue	TMDL Approved	1998
Mississippi River: Metro WWTP to Rock Island RR bridge (RM 835 to 830)	07010206-504	Aquatic Consumption	Mercury in Fish Tissue	TMDL Approved	1998
Mississippi River: Lower St Anthony Falls to L & D #1 (RM 853.3 to RM 847.6)	07010206-503	Aquatic Consumption	Mercury in Fish Tissue	TMDL Approved	1998
ISLAND: BASIN N. OF I-694: IN SHOREVIEW	62-0075-02	Aquatic Consumption	Mercury in Fish Tissue	TMDL Required	2012
Minnesota River: RM 22 to Mississippi R	07020012-505	Aquatic Consumption	Mercury in Fish Tissue	TMDL Approved	1998
Bennett: IN ROSEVILLE	62-0048-00	Aquatic Consumption	Mercury in Fish Tissue	TMDL Approved	2012
Island: Basin S.of I-694: IN SHOREVIEW	62-0075-01	Aquatic Consumption	Mercury in Fish Tissue	TMDL Required	2012
Silver: IN NEW BRIGHTON	62-0083-00	Aquatic Consumption	Mercury in Fish Tissue	TMDL Approved	2012
Carver: IN WOODBURY	82-0166-00	Aquatic Consumption	Mercury in Fish Tissue	TMDL Approved	1998
Tanners: AT MAPLEWOOD	82-0115-00	Aquatic Consumption	Mercury in Fish Tissue	TMDL Approved	2002
Mississippi River: L & D #1 to Minnesota R	07010206-514	Aquatic Consumption	Mercury in Fish Tissue	TMDL Approved	1998
Otter: AT WHITE BEAR LAKE	02-0003-00	Aquatic Consumption	Mercury in Fish Tissue	TMDL Approved	2010
Pickerel: LILYDALE	19-0079-00	Aquatic Consumption	Mercury in Fish Tissue	TMDL Approved	2002
White Bear: IN WHITE BEAR LAKE	82-0167-00	Aquatic Consumption	Mercury in Fish Tissue	TMDL Approved	1998
Phalen: IN ST. PAUL	62-0013-00	Aquatic Consumption	Mercury in Fish Tissue	TMDL Approved	2012
Bald Eagle: AT WHITE BEAR LAKE	62-0002-00	Aquatic Consumption	Mercury in Fish Tissue	TMDL Approved	1998
Gervais: IN LITTLE CANADA	62-0007-00	Aquatic Consumption	Mercury in Fish Tissue	TMDL Approved	1998
Beaver: IN MAPLEWOOD	62-0016-00	Aquatic Consumption	Mercury in Fish Tissue	TMDL Approved	2008
Sucker: IN VADNAIS HEIGHTS	62-0028-00	Aquatic Consumption	Mercury in Fish Tissue	TMDL Approved	1998
East Vadnais: IN VADNAIS HEIGHTS	62-0038-01	Aquatic Consumption	Mercury in Fish Tissue	TMDL Approved	1998
Pleasant: IN NORTH OAKS	62-0046-00	Aquatic Consumption	Mercury in Fish Tissue	TMDL Approved	2002
McCarron: IN ROSEVILLE	62-0054-00	Aquatic Consumption	Mercury in Fish Tissue	TMDL Approved	2006
Como: IN ST. PAUL	62-0055-00	Aquatic Consumption	Mercury in Fish Tissue	TMDL Approved	1998
Owasso: IN SHOREVIEW	62-0056-00	Aquatic Consumption	Mercury in Fish Tissue	TMDL Approved	1998
Josephine: IN ROSEVILLE	62-0057-00	Aquatic Consumption	Mercury in Fish Tissue	TMDL Approved	1998
Turtle: IN SHOREVIEW	62-0061-00	Aquatic Consumption	Mercury in Fish Tissue	TMDL Required	2002
Long: IN NEW BRIGHTON	62-0067-00	Aquatic Consumption	Mercury in Fish Tissue	TMDL Approved	1998
Snail: IN SHOREVIEW	62-0073-00	Aquatic Consumption	Mercury in Fish Tissue	TMDL Approved	2002
Johanna: IN ARDEN HILLS	62-0078-00	Aquatic Consumption	Mercury in Fish Tissue	TMDL Approved	2002
Unnamed	62-0237-00	Aquatic Consumption	Mercury in Fish Tissue	TMDL Approved	2008
Minnesota River: RM 22 to Mississippi R	07020012-505	Aquatic Consumption	Mercury in Water Column	TMDL Approved	1998
Mississippi River: Metro WWTP to Rock Island RR bridge (RM 835 to 830)	07010206-504	Aquatic Consumption	Mercury in Water Column	TMDL Approved	1998
Mississippi River: Minnesota R to Metro WWTP (RM 844 to 835)	07010206-505	Aquatic Consumption	Mercury in Water Column	TMDL Approved	1998
Unnamed	62-0126-00	Aquatic Recreation	Nutrient/Eutrophication Biological Indicators	TMDL Required	2010
Tanners: AT MAPLEWOOD	82-0115-00	Aquatic Recreation	Nutrient/Eutrophication Biological Indicators	Removed from Inventory - Restored By Corrective Actions	2002
Round: IN MAPLEWOOD	62-0012-00	Aquatic Recreation	Nutrient/Eutrophication Biological Indicators	Removal From Inventory Proposed to USEPA	2002
Bald Eagle: AT WHITE BEAR LAKE	62-0002-00	Aquatic Recreation	Nutrient/Eutrophication Biological Indicators	TMDL Approved	2002
Kohlman: IN MAPLEWOOD	62-0006-00	Aquatic Recreation	Nutrient/Eutrophication Biological Indicators	TMDL Approved	2002
Keller: main bay	62-0010-02	Aquatic Recreation	Nutrient/Eutrophication Biological Indicators	TMDL Required	2002
Wakefield: IN MAPLEWOOD	62-0011-00	Aquatic Recreation	Nutrient/Eutrophication Biological Indicators	TMDL Required	2002
Beaver: IN MAPLEWOOD	62-0016-00	Aquatic Recreation	Nutrient/Eutrophication Biological Indicators	TMDL Required	2002
Gilfillan: IN NORTH OAKS	62-0027-00	Aquatic Recreation	Nutrient/Eutrophication Biological Indicators	TMDL Required	2010
Goose: AT WHITE BEAR LAKE	62-0034-00	Aquatic Recreation	Nutrient/Eutrophication Biological Indicators	TMDL Required	2010
Gem: AT TOWN OF GEM LAKE	62-0037-00	Aquatic Recreation	Nutrient/Eutrophication Biological Indicators	TMDL Required	2010
Wilkinson: IN NORTH OAKS	62-0043-00	Aquatic Recreation	Nutrient/Eutrophication Biological Indicators	TMDL Required	2010
Bennett: IN ROSEVILLE	62-0048-00	Aquatic Recreation	Nutrient/Eutrophication Biological Indicators	TMDL Required	2006
Como: IN ST. PAUL	62-0055-00	Aquatic Recreation	Nutrient/Eutrophication Biological Indicators	TMDL Approved	2002
Little Johanna: AT ROSEVILLE	62-0058-00	Aquatic Recreation	Nutrient/Eutrophication Biological Indicators	TMDL Required	2004
Long: IN NEW BRIGHTON	62-0067-00	Aquatic Recreation	Nutrient/Eutrophication Biological Indicators	TMDL Required	2002
Pike: IN NEW BRIGHTON	62-0069-00	Aquatic Recreation	Nutrient/Eutrophication Biological Indicators	TMDL Required	2002
Valentine: IN ARDEN HILLS	62-0071-00	Aquatic Recreation	Nutrient/Eutrophication Biological Indicators	TMDL Required	2002
Island: Basin S.of I-694: IN SHOREVIEW	62-0075-01	Aquatic Recreation	Nutrient/Eutrophication Biological Indicators	TMDL Required	2002
ISLAND: BASIN N. OF I-694: IN SHOREVIEW	62-0075-02	Aquatic Recreation	Nutrient/Eutrophication Biological Indicators	TMDL Required	2002
Silver: IN NEW BRIGHTON	62-0083-00	Aquatic Recreation	Nutrient/Eutrophication Biological Indicators	TMDL Approved	2002
Carver: IN WOODBURY	82-0166-00	Aquatic Recreation	Nutrient/Eutrophication Biological Indicators	TMDL Required	2008

Appendix A - Ramsey County 2015 Impaired Waters List

Waterbody Name	ID	Impaired Use	Impairment Cause	Impairment Status	Added to Inventory
Minnesota River: RM 22 to Mississippi R	07020012-505	Aquatic Life	Oxygen, Dissolved	TMDL Approved	1998
Unnamed ditch (Ramsey/Washington Judicial Ditch 1): Headwaters to Bald Eagle Lk	07010206-565	Aquatic Life	Oxygen, Dissolved	TMDL Required	2004
Unnamed	62-0237-00	Aquatic Consumption	PCB in Fish Tissue	TMDL Required	1998
Mississippi River: L & D #1 to Minnesota R	07010206-514	Aquatic Consumption	PCB in Fish Tissue	TMDL Required	1998
Minnesota River: RM 22 to Mississippi R	07020012-505	Aquatic Consumption	PCB in Fish Tissue	TMDL Required	1998
Mississippi River: Minnesota R to Metro WWTP (RM 844 to 835)	07010206-505	Aquatic Consumption	PCB in Fish Tissue	TMDL Required	1998
Mississippi River: Metro WWTP to Rock Island RR bridge (RM 835 to 830)	07010206-504	Aquatic Consumption	PCB in Fish Tissue	TMDL Required	1998
Little Johanna: AT ROSEVILLE	62-0058-00	Aquatic Consumption	Perfluorooctane Sulfonate (PFOS) in Fish Tissue	TMDL Required	2012
Mississippi River: Metro WWTP to Rock Island RR bridge (RM 835 to 830)	07010206-504	Aquatic Consumption	Perfluorooctane Sulfonate (PFOS) in Fish Tissue	TMDL Required	2008
Johanna: IN ARDEN HILLS	62-0078-00	Aquatic Consumption	Perfluorooctane Sulfonate (PFOS) in Fish Tissue	TMDL Required	2010
Mississippi River: L & D #1 to Minnesota R	07010206-514	Aquatic Consumption	Perfluorooctane Sulfonate (PFOS) in Fish Tissue	TMDL Required	2008
Mississippi River: Minnesota R to Metro WWTP (RM 844 to 835)	07010206-505	Aquatic Consumption	Perfluorooctane Sulfonate (PFOS) in Fish Tissue	TMDL Required	2008
Minnesota River: RM 22 to Mississippi R	07020012-505	Aquatic Life	Turbidity	TMDL Required	1996
Mississippi River: Metro WWTP to Rock Island RR bridge (RM 835 to 830)	07010206-504	Aquatic Life	Turbidity	TMDL Required	1998
Mississippi River: Minnesota R to Metro WWTP (RM 844 to 835)	07010206-505	Aquatic Life	Turbidity	TMDL Required	1998

NATURAL RESOURCES ARE MANAGED TO SUSTAIN AND ENHANCE THE ENVIRONMENT.

PERFORMANCE MEASURES – HIGHLIGHTS

This measure tracks the summer average water quality in Ramsey County lakes for three important water quality parameters: water transparency, nutrients (phosphorus), and algae (measured as chlorophyll). Water quality data provide an important measure of the overall effectiveness of lake management efforts and help direct regulatory efforts of State and local units of government.

PERFORMANCE MEASURES

		2013	2014	2015	2016	2017
#	Performance Measures	Actual	Actual	Actual	Estimate	Estimate
1	Lake Water Quality Score	2.71	2.51	2.84	2.84	2.84

PERFORMANCE MEASURES - DISCUSSION

Public Works has developed a water quality database for recreational lakes in Ramsey County since 1981. In 2015, water sampling was completed on 30 lake basins during the summer (May through September). This measure is based on the Metropolitan Council's Lake Water Quality Report Card. For each lake, a score is assigned for the average summer water transparency, Total Phosphorus concentration, and Chlorophyll a concentration. The scores correspond to ranges in values for each parameter such that a score of '4' or 'A' represents the best water quality and '0' or 'F' represents the poorest water quality. The average water quality score is calculated for each lake and a grade is assigned. This measure reports the overall average numeric score for all County lakes sampled.

Overall, 2015 lake water quality increased relative to 2014. Twelve lakes improved by one grade level and two lakes declined by one grade level. A later than usual ice out in 2014 lead to many lakes having fish kills, which can alter the ecosystems functionality. An early ice out in 2015 combined with above average precipitation were favorable conditions for lakes. Carp removal efforts were performed on Silver W and the Gervais chain of lakes. An alum treatment was performed on Bald Eagle lake. These environmental factors and best management practices, contributed to the increased quality score.

Lake water quality reflects land use and activities within the watershed of a lake as well as internal factors. Ramsey County is a NPDES MS4 permit holder and has developed a Storm Water Pollution Prevention Plan (SWPPP) to reduce water quality impacts. The County's management efforts described in the SWPPP contribute to the reduction of pollutant loading to our lakes and continued improvement in water quality is expected over time.

The lake water quality database is used by the MN Pollution Control Agency to identify Impaired Waters. The County contributes to Total Maximum Daily Load (TMDL) studies for lakes identified as Impaired Waters. State and Water Management Organization (WMO) regulatory requirements related to water quality protection and the management of impaired waters are increasing. County road construction and maintenance projects must meet specific criteria related to erosion control, wetland impacts and mitigation, storm water volume reduction, and water quality.