



2008 ANNUAL TRACKING REPORT FOR NEW WASTEWATER FACILITIES

Date: January 30, 2009

Prepared by:



Minnesota Pollution Control Agency

**520 Lafayette Road North
St. Paul, Minnesota 55155-4194**

651-296-6300

1-800-657-3864

TTY: 651-282-5332

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Cover Page Pictures

Clockwise, beginning with the top left picture, City of Effie, Inside of Bioclere Unit by Brett Balavance, MPCA, Springsteel Island Sanitary District, Inside of Treatment Facility under Construction by Brett Balavance, MPCA, City of Bigelow, Stabilization Pond by Pam Meyer, MPCA.

MPCA Staff Assistance

The primary author would like to acknowledge with sincere appreciation the assistance of the following MPCA staff in assembling the information contained in this legislative report: Brett Ballavance, Herschel Blasing, John Carney, Holly Christensen, Gene Erickson, Brad Gillingham, Nathan Groh, Dennis Hayes, Corey Hower, Phil Larson, Jaramie Logelin, Aaron Luckstein, Susan Mahowald, Eudale Mathiason, Corey Mathisen, Pam Meyer, Eric Pederson, Teri Roth, Dave Sahli, Vinod Sathyaseelan, Paul Scheirer, and Charly Wojtysiak.

This report identifies the total number of new wastewater treatment systems built in Minnesota after May 1, 2000. The statutory requirement for this report is found in Minn. Stat. § 115.447, which reads:

115.447 TRACKING REPORT FOR NEW WASTEWATER FACILITIES.

Subd. 1. Annual report required. The Pollution Control Agency shall annually prepare a report tracking the location and capacity of each new wastewater treatment system requiring a national pollutant discharge elimination system or state disposal system permit built after May 1, 2000. The report shall also include the name of the owner, primary engineering firm that designed the facilities, the primary contractor that constructed the facilities, and any management company, other than the owner, that manages the facilities. The annual report must also provide the total number of new systems built after that date. The commissioner shall submit the report to the legislative committees with jurisdiction over environmental policy and finance, and publish the report on the agency's Web site, by February 1 of each year.

Subd. 2. New facilities not meeting permit requirements. (a) The report required under subdivision 1 shall include the information required in paragraphs (b) and (c) for the first five years of operation of a new facility.

(b) For national pollutant discharge elimination system permitted facilities, provide a list of reported effluent violations that occurred during each calendar year. This list should include the effluent parameter violated; the violation date; and, if available, any known information regarding the causes of the reported limit violations.

(c) For state disposal system permitted facilities, provide a summary of conditions at the facilities which pose an imminent threat to public health and safety as defined in rules of the Pollution Control Agency, or a list of reported limit violations that occurred during each calendar year. This list should include the parameter violated; violation date; and, if available, any known information regarding the causes of the reported public health risk or limit violations.

History: 2000 c 492 art 1 s 43; 2006 c 244 s 1

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If you have any questions or would like additional information, please contact Randy Thorson at 651-757-2779 or randy.thorson@pca.state.mn.us.

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Introduction

Minn. Stat. § 115.447 was passed in 2000, creating the requirement for the Minnesota Pollution Control Agency (MPCA) to submit an annual report identifying the total number of new wastewater treatment systems constructed after May 1, 2000. From 2001 through 2005, the MPCA prepared this annual report as required by statute language (see Appendix I for the 2005 report in this format).

In 2006, the Minnesota Legislature added a number of new items to this statute to be included in this report. This was in response to reported problems with small communities properly treating wastewater and meeting their permit requirements. These new items, required in Subdivision 1 of the Statute, included identification of the design engineering firm, the primary construction contractor, and any management or contract operations company that is assisting the owner to manage the facilities. In addition, the new language in Subdivision 2 required five (5) years of reporting relating to systems that are not meeting their permit requirements. The 2006 Statute changes resulted in a modification in the format and appearance in the 2006 report, and in fact will likely cause the format of the annual report to slowly evolve each year to include each subsequent year of compliance data until the first five (5) years from initial operation of the reported 2006 new facilities is reached in 2010. This report will begin with a section on the new facilities for 2008.

2008 New Wastewater Systems Report

There have been a total of 97 new Minnesota permitted wastewater treatment systems since May 1, 2000. These new systems are serving communities, housing developments and locations that previously had no central wastewater collection and treatment system requiring either a National Pollutant Discharge Elimination System (NPDES) or State Disposal System (SDS) Permit.

This total number includes the seven (7) new systems that were constructed and began operation during 2008, which are listed in Table 1.

Table 1 includes information on the seven (7) new NPDES permitted wastewater systems, and shows that one (1) of these systems reported effluent violations during the period that it was in operation during 2008. The one facility reporting violations had a total of eight (8) effluent limitation violations. The other six (6) new NPDES permitted wastewater systems did not report any violations. There were zero (0) new SDS permitted wastewater systems that began operation in 2008.

Table 2 lists the community, permit type, effluent parameter, violation date, and the known information regarding the causes of the reported violations. The statute language requires a violation date to be reported. In most cases permit effluent limitations are monthly averages and the violation will not identify a specific individual date of when it occurred. The MPCA will identify the month and year of the violation in this table.

Table 1: 2008 New Wastewater Systems Report

Community	County	Capacity (gallons per day)	Population Equivalent (a)	Permit Type	Owner	Primary Engineering Firm	Primary Contractor	Management Company	2008 NPDES or SDS Limit Violations
Bigelow, City of	Nobles	26,400	352	NPDES	City of Bigelow	Short Elliott Hendrickson, Inc.	Svoboda Excavating		No
Effie, City of	Itasca	21,000	280	NPDES	City of Effie	Liesch Associates	Wagner Construction		No
Hope- Somerset Township	Steele	10,170	136	NPDES	Hope- Somerset Township	Jacques Whitford NAWE	Heselton Construction		No
La Salle, City of	Watonwan	15,000	200	NPDES	City of LaSalle	Ayres Associates	Holtmeir Construction		No
Meriden Township	Steele	16,100	215	NPDES	Meriden Township	Jacques Whitford NAWE	Niles Weise		No
Springsteel Island Sanitary District	Roseau	25,000	333	NPDES	Lake Township	KBM, Inc	Wagner Construction		Yes
Walters, City of	Faribault	15,620	208	NPDES	City of Walters	Bonestroo	Hodgeman Drainage		No
Total = 7		129,290	1,724						

(a) Population Equivalent – The population equivalent is calculated by dividing the design capacity by average per capita usage estimated at 75 gallons per day. The number does not necessarily match the U.S. census population of the community.

Table 2: 2008 New Wastewater Systems Violations List

Community	Permit Type	Parameter	Violation Date	Known Information Regarding Causes of Reported Limit Violations
Springsteel Island Sanitary District	NPDES	BOD	Jun-08	Calendar Monthly Average, mg/L. Cause unknown. Returned to compliance.
Springsteel Island Sanitary District	NPDES	TSS	Jun-08	Calendar Monthly Average, mg/L. Cause unknown. Resolution pending.
Springsteel Island Sanitary District	NPDES	Total Phosphorus	Jun-08	Calendar Monthly Average, mg/L. Cause unknown. Resolution pending.
Springsteel Island Sanitary District	NPDES	TSS	Jul-08	Calendar Monthly Average, mg/L. Cause unknown. Returned to compliance.
Springsteel Island Sanitary District	NPDES	Total Phosphorus	Jul-08	Calendar Monthly Average, mg/L. Cause unknown. Resolution pending.
Springsteel Island Sanitary District	NPDES	Total Phosphorus	Aug-08	Calendar Monthly Average, mg/L. Cause unknown. Resolution pending.
Springsteel Island Sanitary District	NPDES	Total Phosphorus	Sep-08	Calendar Monthly Average, mg/L. Cause unknown. Resolution pending.
Springsteel Island Sanitary District	NPDES	Total Phosphorus	Oct-08	Calendar Monthly Average, mg/L. Cause unknown. Resolution pending.
Total = 8				

2008 Update to the 2007 New Wastewater Systems Report

Table 3 lists the 11 new systems that were constructed and began operation during 2007. As the MPCA first reported in January 2008, this list includes four (4) new NPDES permitted wastewater systems, and none of these systems reported effluent violations during the period that they were in operation during 2007. In addition, seven (7) new SDS permitted wastewater systems began operation in 2007 and one (1) of these systems reported one (1) violation during 2007. The other six (6) new SDS permitted wastewater systems did not report any violations during 2007. None of the seven (7) new SDS permitted wastewater systems reported any imminent threats to public health during 2007.

We have updated the Table 3 information to show a column to indicate if any of these systems have experienced any violations during 2008. Table 3 shows that one (1) of the NPDES permitted wastewater systems reported no effluent violations during 2008 and three (3) of the NPDES permitted wastewater systems reported a total of five (5) effluent violations. In addition, Table 3 indicates that five (5) of the SDS permitted wastewater systems reported no limit violations and none of the seven (7) SDS permitted wastewater systems reported any imminent threats to public health during 2007. Two (2) of the SDS permitted wastewater systems did report a total of three (3) limit violations during 2008.

Table 4 shows the 2008 violations list and Table 5 shows the 2007 violations list respectively. Each of these tables identify the community, permit type, effluent parameter, violation date, and the known information regarding the causes of the reported violations. The statute language requires a violation date to be reported, in most cases permit effluent limitations are monthly averages and the violation will not identify a specific individual date of when it occurred. The MPCA will identify the month and year of the violation in each of these tables.

Table 3: 2007 New Wastewater Systems Report (with 2007 & 2008 Violations)

Community	County	Capacity (gallons per day)	Population Equivalent (a)	Permit Type	Owner	Primary Engineering Firm	Primary Contractor	Management Company	2007 NPDES or SDS Limit Violations	2008 NPDES or SDS Limit Violations
Audubon Development	Washington	13,000	173	SDS	MBM Development	Ayers Associates	Kober Excavating	Peterson Management	No	No
Conger, City of	Freeborn	20,730	276	NPDES	City of Conger	Ayres Associates	Contractors Edge Inc.		No	Yes
Diamond Lake Woods	Hennepin	13,500	180	SDS	Patrick DeWing	Jacques Whitford NAWE	Kober Excavating	Jacques Whitford EcoCheck	No	No
Evan, City of	Brown	12,800	171	NPDES	City of Evan	DeWild Grant Reckert and Associates	TNT Construction		No	Yes
Lake Shetek Sanitary District	Murray	232,000	3,093	NPDES	Lake Shetek Sanitary District	Bolton and Menk, Inc.	Dunnick Brothers	City of Currie	No	No
Rockpoint Church	Washington	14,000	187	SDS	Charles Palmer	Jacques Whitford NAWE	Kober Excavating	Jacques Whitford EcoCheck	No	Yes
Sanctuary	Washington	21,000	280	SDS	John Arkel	Jacques Whitford NAWE	Kober Excavating	Jacques Whitford EcoCheck	No	No
Tom's Harbor	Cass	11,832	158	SDS	Ralph Schmitz	Landecker	Kober Excavating	Harbor Shores LLC	No	No
Viking, City of	Marshall	10,500	140	NPDES	City of Viking	Liesch Associates	SJ Louis Construction		No	Yes
Villard, City of	Pope	34,300	457	SDS	City of Villard	Widseth Smith Nolting & Associates, Inc.	Riley Brothers Construction, Inc.		No	No
Whistling Valley Development, Phase 2	Washington	9,000	120	SDS	Anderson Sorenson Homes, Inc.	Jacques Whitford NAWE	Glenn Rehbein Excavating	Jacques Whitford EcoCheck	Yes	Yes
Total = 11		392,662	5,235							

(a) Population Equivalent – The population equivalent is calculated by dividing the design capacity by average per capita usage estimated at 75 gallons per day. The number does not necessarily match the U.S. census population of the community.

Table 4: 2007 New Wastewater Systems – 2008 Violations List

Community	Permit Type	Parameter	Violation Date	Known Information Regarding Causes of Reported Limit Violations
Conger, City of	NPDES	BOD	Oct-08	Calendar Monthly Average, kg/day. Cause unknown. Resolution pending.
Conger, City of	NPDES	TSS	Oct-08	Calendar Monthly Average, kg/day. Cause unknown. Resolution pending.
Conger, City of	NPDES	TSS	Oct-08	Maximum Calendar Week Average, kg/day. Cause unknown. Resolution pending.
Evan, City of	NPDES	pH	May-08	Calendar Monthly Maximum, SU. Returned to compliance.
Rock Point Church	SDS	Total Nitrogen	Sep-08	12 Month Moving Average, mg/L. Likely due to low flow to system and difficulty maintaining denitrifying bacteria. Resolution pending.
Rock Point Church	SDS	Total Nitrogen	Oct-08	12 Month Moving Average, mg/L. Likely due to low flow to system and difficulty maintaining denitrifying bacteria. Resolution pending.
Viking, City of	NPDES	Flow	Oct-08	Allowable Daily Maximum, mgd. Cause unknown. Resolution pending.
Whistling Valley Development, Phase 2	SDS	Total Nitrogen	Mar-08	Calendar Quarterly Average, mg/L. Returned to compliance.
Total = 8				

Table 5: 2007 New Wastewater Systems – 2007 Violations List

Community	Permit Type	Parameter	Violation Date	Known Information Regarding Causes of Reported Limit Violations
Whistling Valley Development, Phase 2	SDS	Total Nitrogen	Jan-07	Calendar Quarterly Average (January to March) violated. Likely due to low flow to system and difficulty establishing denitrifying bacteria. Returned to compliance.
Total = 1				

2008 Update to the 2006 New Wastewater Systems Report

Table 6 lists the 21 new systems that were constructed and began operation during 2006. As the MPCA first reported in January 2007, this list includes four (4) new NPDES permitted wastewater systems, and none of these systems reported effluent violations during the period that they were in operation during 2006. In addition, 17 new SDS permitted wastewater systems began operation in 2006 and none of these systems reported any violations or imminent threats to public health during 2006.

The Table 6 information was updated in January 2008 to show a column to indicate if any of these systems experienced any violations or imminent threats to public health during 2007. Table 6 shows that three (3) of the NPDES permitted wastewater systems reported no effluent violations during 2007 and 13 of the SDS permitted wastewater systems reported no limit violations. We also can report that none of the 17 SDS permitted wastewater systems reported any imminent threats to public health during 2007.

Table 6 does identify that one (1) NPDES permitted wastewater system did report one (1) effluent violation during 2007 and also indicates that four (4) SDS permitted wastewater systems did report 13 limit violations. A summary of the reported violations for these five (5) systems is included in Table 8.

Table 8 shows a majority of the reported violations for the SDS permitted systems were of the Total Nitrogen limit. While the MPCA reported that known information regarding the cause of these violations was not available in January 2008, it is likely some of these systems may have been experiencing low influent flow and loadings that were contributing to difficulty with establishing denitrifying bacteria in the individual treatment systems.

We have now updated the Table 6 information for this report to show a column to indicate if any of these systems have experienced any violations or imminent threats to public health during 2008. Table 6 shows that the four (4) NPDES permitted wastewater systems reported no effluent violations during 2008 and eleven (11) of the SDS permitted wastewater systems reported zero (0) limit violations. We also can report that none of the 17 SDS permitted wastewater systems reported any imminent threats to public health during 2008.

Table 6 identifies that five (5) SDS permitted wastewater systems did report 32 limit violations. Table 6 also shows that one (1) SDS permitted wastewater system did not submit all of the required monthly Discharge Monitoring Reports (DMRs) during 2008. For the DMRs that were submitted during 2008, this wastewater system had zero (0) violations reported. Resolution of the missing DMRs is pending. A summary of the reported violations for the five (5) systems is included in Table 7.

Table 7 shows all 32 of the reported violations in 2008 for the SDS permitted systems were of the Total Nitrogen limit. While the MPCA reported that known information regarding the cause of these violations was not available in January 2008 (see Table 8), it is very likely these systems were experiencing low influent flow and loadings that were contributing to difficulty with establishing denitrifying bacteria in the individual

wastewater treatment systems. In Table 7, the MPCA is now reporting that each of the Total Nitrogen limit violations were due to low flow, which may be contributing to low influent loadings that may be continuing to cause significant difficulty for these wastewater systems to establish denitrifying bacteria in the treatment system. The MPCA has recognized that these violations are occurring, and is considering ways to provide technical operational assistance, changes to permits, or enforcement actions, depending on the causes, to these systems to attempt to address these violations.

Table 6: 2006 New Wastewater Systems Report (with 2006, 2007 & 2008 Violations)

Community	County	Capacity (gallons per day)	Population Equivalent (a)	Permit Type	Owner	Primary Engineering Firm	Primary Contractor	Management Company	2006 NPDES or SDS Limit Violations	2007 NPDES or SDS Limit Violations	2008 NPDES or SDS Limit Violations
Cambridge Isanti Middle School	Isanti	10,176	136	SDS	ISD 911	North American Wetland Engineering	Kober Excavating	EcoCheck Inc.	No	Yes	Yes
Camp Victory	Wabasha	27,000	360	NPDES	Camp Victory Ministries	Arden Environmental Engineering	Ellingson Companies		No	No	No
Credit River Township - Stonebridge	Scott	14,400	192	SDS	Credit River Township	Halling Engineering	K.A. Witt Construction, Inc.	EcoCheck Inc.	No	No	No
Credit River Township - Territory, Phase 7	Scott	15,300	204	SDS	Credit River Township	Halling Engineering	K.A. Witt Construction, Inc.	EcoCheck Inc.	No	No	Yes
Diamond Lake Woods	Hennepin	13,500	180	SDS	Dewing Development Corp.	North American Wetland Engineering	Kober Excavating	EcoCheck Inc.	No	No	No
Edgewood Estates Second	Dodge	24,252	323	SDS	Bigelow Enterprises	Massey Land Surveying and Engineering	Swenke Construction		No	No	Yes
Emily, City of	Crow Wing	41,600	555	SDS	City of Emily	Short Elliott Hendrickson Inc	Hammerlund Construction		No	No	No
Farms of Lake Elmo	Washington	10,000	133	SDS	M & K Development	Ayers Associates	J.R. Ferche	EcoCheck Inc.	No	No	No
Gary, City of	Norman	27,800	371	NPDES	City of Gary	Widseth Smith Nolting & Associates, Inc.	R.J. Zavoral and Sons, Inc.		No	No	No
Hammond, City of	Wabasha	23,000	307	NPDES	City of Hammond	Ayres Associates	Ellingson Companies	Peoples Service	No	Yes	No
Lake Volney Estates	Le Sueur	11,993	160	SDS	Brian Kocina	I&S Engineers & Architects, Inc	Fessel Environmental Service Inc		No	No	U
Meadows of Whisper Creek	Hennepin	20,000	267	NPDES	Greenfield Development, LLC	RLK Kuusisto	Ashbrook, Inc.	Veolia Water	No	No	No
Miller Farms Cluster Development	Washington	32,000	427	SDS	Derrick Construction Co.	Ayers Associates	Kober Excavating		No	No	No
Nordwall Estates	Sherburne	34,200	456	SDS	Gregg Nordwall	John Oliver and Associates	West Branch Construction		No	No	No
Preserve at Birch Lake	Chisago	34,425	459	SDS	SMC Land Development, LLC	North American Wetland Engineering	J.R. Ferche	EcoCheck Inc.	No	No	No
River Park	Olmsted	31,250	417	SDS	Journey Developing, Inc.	McGhie & Betts Inc	Jech Construction		No	Yes	Yes
Riverwood Hills Septic Drainfield Site	Olmsted	23,081	308	SDS	Fitzpatrick Construction	McGhie & Betts Inc	Fitzpatrick Construction		No	Yes	Yes
Tapestry	Washington	25,125	335	SDS	St. Croix Farms, LLC	Wenck Associates	Kober Excavating	Advanced Septic Solutions Inc.	No	No	No
Trophy Lake Estates III	Chisago	16,700	223	SDS	Trophy Lake Estates	North American Wetland Engineering	Ferguson Brothers Excavating	EcoCheck Inc.	No	Yes	No
Waters Edge @ Leech Lake LLC	Cass	14,100	188	SDS	Wayne Overby	Ecos Engineering	Royal Oaks Construction Inc.		No	No	No
Windsor Meadows	Sherburne	14,850	198	SDS	Alan Gilyard 10-24 Development LLC	Bogart, Pederson, & Associates, Inc.	Meadowvale Construction, Inc.	EcoCheck Inc.	No	No	No
Total = 21		464,752	6,197								

(a) Population Equivalent – The population equivalent is calculated by dividing the design capacity by average per capita usage estimated at 75 gallons per day. The number does not necessarily match the U.S. census population of the community.

U – Unknown, there are missing Discharge Monitoring Reports (DMRs) for the facility. No violations on DMRs submitted, resolution pending on missing DMRs.

Table 7: 2006 Wastewater Systems – 2008 Violations List

Community	Permit Type	Parameter	Violation Date	Known Information Regarding Causes of Reported Limit Violations
Cambridge Isanti Middle School	SDS	Total Nitrogen	Mar-08	Calendar year average, taken quarterly. Low Flow. Resolution pending.
Cambridge Isanti Middle School	SDS	Total Nitrogen	Jun-08	Calendar year average, taken quarterly. Low Flow. Resolution pending.
Cambridge Isanti Middle School	SDS	Total Nitrogen	Sep-08	Calendar year average, taken quarterly. Low Flow. Resolution pending.
Credit River Territory	SDS	Total Nitrogen	Apr-08	Instantaneous Max, mg/L. Low Flow, High Background Nitrogen in Soils. Resolution pending.
Credit River Territory	SDS	Total Nitrogen	Jul-08	Instantaneous Max, mg/L. Low Flow, High Background Nitrogen in Soils. Resolution pending.
Credit River Territory	SDS	Total Nitrogen	Oct-08	Instantaneous Max, mg/L. Low Flow, High Background Nitrogen in Soils. Resolution pending.
Edgewood Estates	SDS	Total Nitrogen	Mar-08	12 Month Moving Average, mg/L. Low Flow. Resolution pending.
Edgewood Estates	SDS	Total Nitrogen	Apr-08	12 Month Moving Average, mg/L. Low Flow. Resolution pending.
Edgewood Estates	SDS	Total Nitrogen	May-08	12 Month Moving Average, mg/L. Low Flow. Resolution pending.
Edgewood Estates	SDS	Total Nitrogen	Jun-08	12 Month Moving Average, mg/L. Low Flow. Resolution pending.
Edgewood Estates	SDS	Total Nitrogen	Jul-08	12 Month Moving Average, mg/L. Low Flow. Resolution pending.
Edgewood Estates	SDS	Total Nitrogen	Aug-08	12 Month Moving Average, mg/L. Low Flow. Resolution pending.
Edgewood Estates	SDS	Total Nitrogen	Sep-08	12 Month Moving Average, mg/L. Low Flow. Resolution pending.
Edgewood Estates	SDS	Total Nitrogen	Oct-08	12 Month Moving Average, mg/L. Low Flow. Resolution pending.
Edgewood Estates	SDS	Total Nitrogen	Nov-08	12 Month Moving Average, mg/L. Low Flow. Resolution pending.

Table 7 (continued): 2006 Wastewater Systems – 2008 Violations List

Community	Permit Type	Parameter	Violation Date	Known Information Regarding Causes of Reported Limit Violations
Riverwood Hills Septic Drainfield Site	SDS	Total Nitrogen	Jan-08	12 Month Moving Average, mg/L. Low Flow. Resolution pending.
Riverwood Hills Septic Drainfield Site	SDS	Total Nitrogen	Feb-08	12 Month Moving Average, mg/L. Low Flow. Resolution pending.
Riverwood Hills Septic Drainfield Site	SDS	Total Nitrogen	Mar-08	12 Month Moving Average, mg/L. Low Flow. Resolution pending.
Riverwood Hills Septic Drainfield Site	SDS	Total Nitrogen	Apr-08	12 Month Moving Average, mg/L. Low Flow. Resolution pending.
Riverwood Hills Septic Drainfield Site	SDS	Total Nitrogen	May-08	12 Month Moving Average, mg/L. Low Flow. Resolution pending.
Riverwood Hills Septic Drainfield Site	SDS	Total Nitrogen	Jun-08	12 Month Moving Average, mg/L. Low Flow. Resolution pending.
Riverwood Hills Septic Drainfield Site	SDS	Total Nitrogen	Jul-08	12 Month Moving Average, mg/L. Low Flow. Resolution pending.
Riverwood Hills Septic Drainfield Site	SDS	Total Nitrogen	Aug-08	12 Month Moving Average, mg/L. Low Flow. Resolution pending.
Riverwood Hills Septic Drainfield Site	SDS	Total Nitrogen	Sep-08	12 Month Moving Average, mg/L. Low Flow. Resolution pending.
Riverwood Hills Septic Drainfield Site	SDS	Total Nitrogen	Oct-08	12 Month Moving Average, mg/L. Low Flow. Resolution pending.
River Park	SDS	Total Nitrogen	Apr-08	12 Month Moving Average, mg/L. Low Flow. Resolution pending.
River Park	SDS	Total Nitrogen	May-08	12 Month Moving Average, mg/L. Low Flow. Resolution pending.
River Park	SDS	Total Nitrogen	Jun-08	12 Month Moving Average, mg/L. Low Flow. Resolution pending.
River Park	SDS	Total Nitrogen	Jul-08	12 Month Moving Average, mg/L. Low Flow. Resolution pending.
River Park	SDS	Total Nitrogen	Aug-08	12 Month Moving Average, mg/L. Low Flow. Resolution pending.
River Park	SDS	Total Nitrogen	Sep-08	12 Month Moving Average, mg/L. Low Flow. Resolution pending.
River Park	SDS	Total Nitrogen	Oct-08	12 Month Moving Average, mg/L. Low Flow. Resolution pending.
Total = 32				

Table 8: 2006 Wastewater Systems – 2007 Violations List

Community	Permit Type	Parameter	Violation Date	Known Information Regarding Causes of Reported Limit Violations
Cambridge Isanti Middle School	SDS	Total Nitrogen	Sep-07	Not available. Ongoing resolution pending.
Hammond, City of	NPDES	Fecal Coliform	Apr-07	Not available. Returned to compliance.
River Park	SDS	Flow	Apr-07	Not available. Returned to compliance.
Riverwood Hills Septic Drainfield Site	SDS	Total Nitrogen	May-07	Not available. Ongoing resolution pending.
Riverwood Hills Septic Drainfield Site	SDS	Total Nitrogen	Jun-07	Not available. Ongoing resolution pending.
Riverwood Hills Septic Drainfield Site	SDS	Total Nitrogen	Jul-07	Not available. Ongoing resolution pending.
Riverwood Hills Septic Drainfield Site	SDS	Total Nitrogen	Aug-07	Not available. Ongoing resolution pending.
Riverwood Hills Septic Drainfield Site	SDS	Total Nitrogen	Sep-07	Not available. Ongoing resolution pending.
Riverwood Hills Septic Drainfield Site	SDS	Total Nitrogen	Oct-07	Not available. Ongoing resolution pending.
Trophy Lake Estates III	SDS	Total Nitrogen	Jul-07	Not available. Ongoing resolution pending.
Trophy Lake Estates III	SDS	Total Nitrogen	Aug-07	Not available. Ongoing resolution pending.
Trophy Lake Estates III	SDS	Total Nitrogen	Sep-07	Not available. Ongoing resolution pending.
Trophy Lake Estates III	SDS	Total Nitrogen	Oct-07	Not available. Ongoing resolution pending.
Trophy Lake Estates III	SDS	Total Nitrogen	Nov-07	Not available. Ongoing resolution pending.
Total = 14				

New Wastewater Facilities Analysis and Trends

2006 Trends Recap

The MPCA has been reporting to the Legislature on new wastewater treatment systems since 2001 and has collected enough data points to provide some analysis on the trends that have been observed, beginning with the 2006 New Wastewater Facilities Report. In the 2006 New Wastewater Facilities Report we first reported these four general observations:

1. Increase in the number of new wastewater systems per year
2. Decrease in average wastewater treatment system design capacity per year
3. Smaller average population served per new wastewater treatment system
4. Higher percentage of new land treatment (SDS permit) systems per year

Are these observations accurate when comparing the 2008 data with the data collected from 2000 to 2007? The next section of the report will analyze these statements based on the 2008 data set.

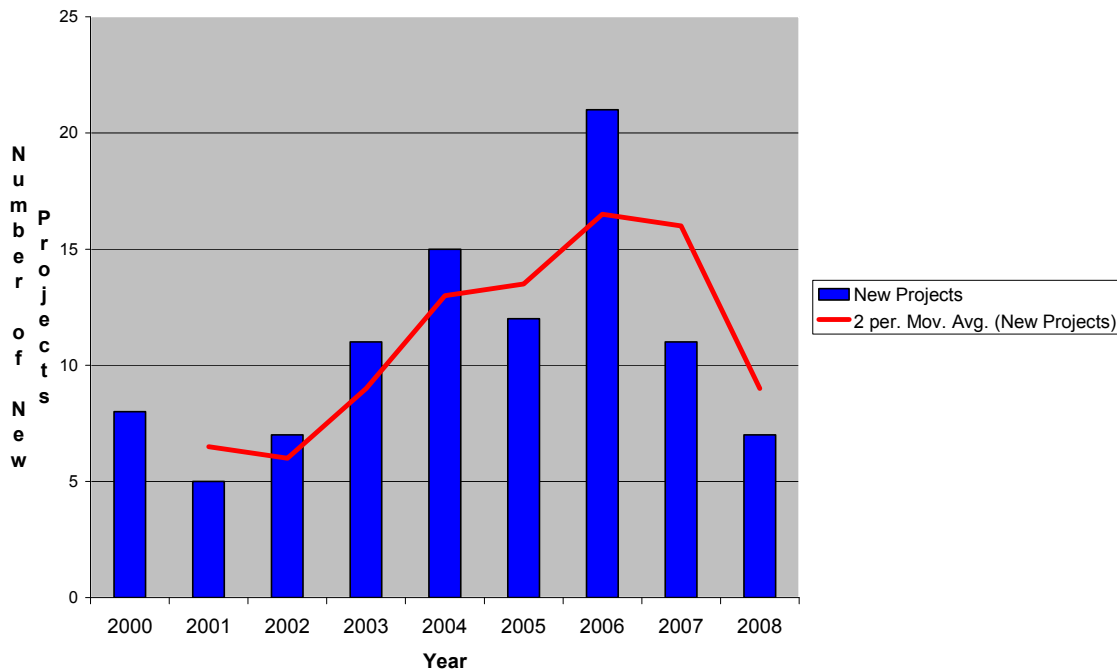
2008 Analysis and Trends

For 2008, the MPCA will take one more look at the four trends identified for the 2006 Report. We will also look at the data reported for additional emerging trends to analyze.

Trend 1: Increasing number of new wastewater systems per year?

No, the number of new systems has actually decreased from 2006 to 2008. The number of new systems has gone from 21 new wastewater systems in 2006 down to the current number of 7 new systems for 2008. This reversed the increasing trend in the number of new systems from 2001 to 2006. Figure 1 shows the number of new wastewater treatment systems per year, including data from 2000 to 2008.

Figure 1: Number of New Wastewater Treatment Systems Per Year



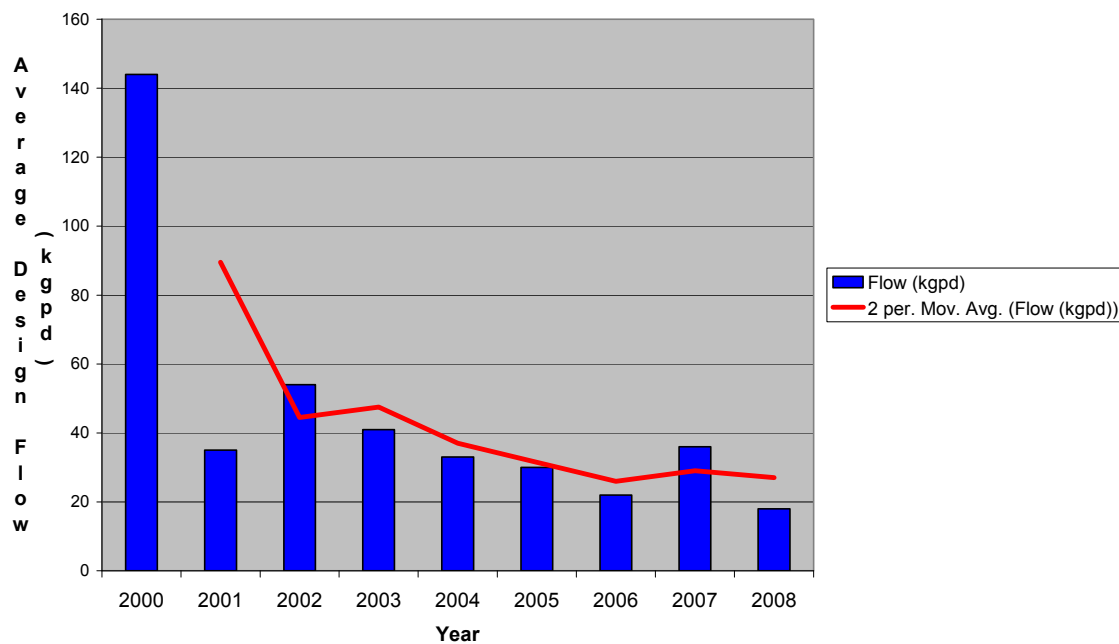
For this graph in the 2008 report, we used a straight line equation trend line for the entire data set (2000 to 2007) which had a slope that shows an increasing number of new systems for an average year. For this report, it was clear that the trend from 2006 to 2008 was showing a decreasing number of new systems, so we have chosen to use a trend line that draws segments using the average of the previous two year period. This trend line more accurately shows the current downward trend for the number of new systems.

This trend appears to be directly tied to the current economic downturn, and is reflected in the reduction in the number of new private-owned housing, development-related wastewater systems shown in Table 3. There were no private-owned housing, development-related wastewater systems that were constructed and began operation in 2008.

Trend 2: Decrease in average design capacity per system?

Yes, the 2008 data shows a decrease in the average design capacity per system. Figure 2 shows the average design capacity or design flow per system per year from 2000 to 2008.

Figure 2: New Wastewater Treatment Systems - Facility Average Design Flow (kgpd)

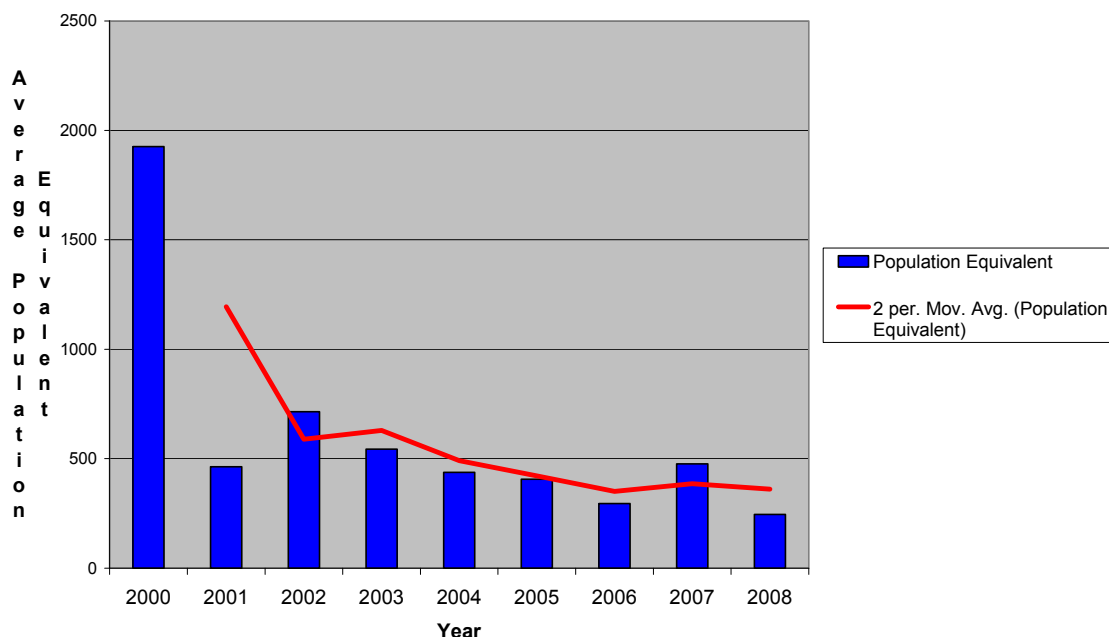


The average design flow per new system actually dropped to 18 kgpd (18 kilo gallons per day or 18,000 gallons per day), which is the lowest average design flow per system reported from 2000 to 2008. We have chosen to use the trend line that draws segments for the average of the previous two-year period for this data set also. We have chosen this trend line because it stills shows the general downward trend for the average design flow per system, and reduces the severe slope of a straight line trend line (used in the 2007 Report), due to the high average design flow shown in 2000.

Trend 3: Smaller average population served per new treatment system?

Yes, the 2008 data shows that the average population served per treatment system is smaller. Figure 3 shows the average population served per new treatment system per year from 2000 to 2008.

Figure 3: New Wastewater Treatment Systems - New Facilities Average Population Equivalent Served



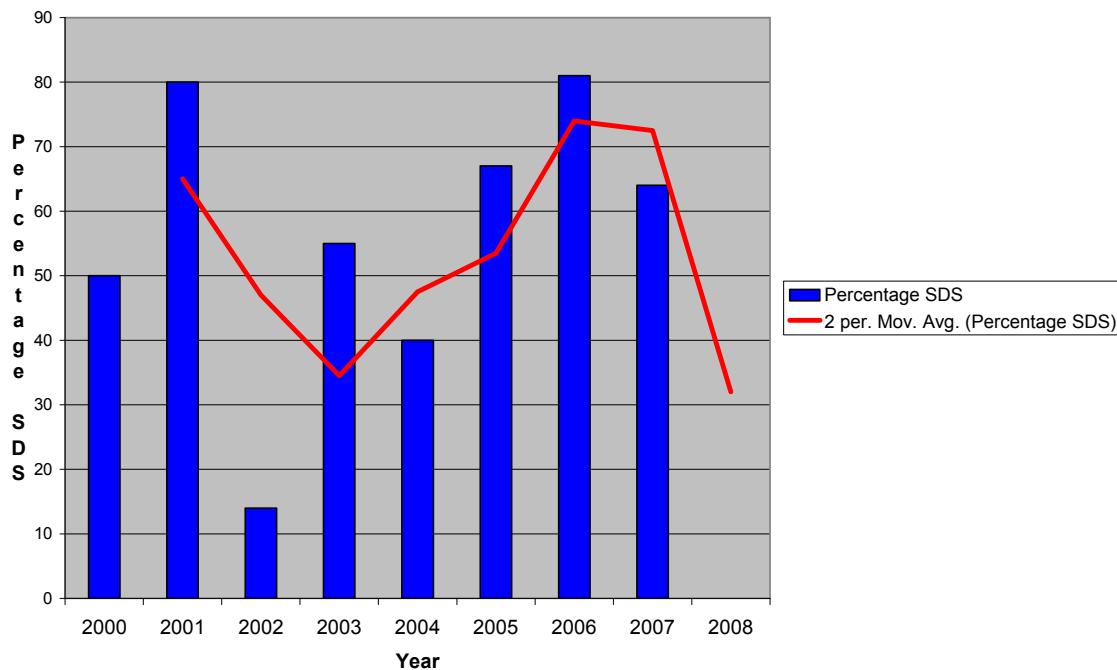
The average population equivalent per new wastewater treatment system decreased to 246 in 2008 from 476 in 2007, and is the lowest reported average population served per system for the entire data set from 2000 to 2008.

Trend 4: Higher percentage land treatment systems per year?

The answer to this question for the 2008 data is a resounding no. Figure 4 shows that no new land treatment or SDS permitted systems were constructed and began operation in 2008.

Looking at the data from 2000 to 2007, it appears that having no new land treatment systems for 2008 is an anomaly in the data set. This appears to be due in large part to the economic downturn and the reduced number of new private-owned housing, development-related wastewater systems. As reported in the discussion section above on Trend 1, there were no new private development treatment systems in 2008, and the MPCA has observed in past years that the private housing developments leaned toward using land treatment systems. It is also unusual that all of the new small community systems for 2008 were NPDES permitted wastewater treatment systems, as these smaller communities have also chosen, in many cases, to use land treatment systems from 2000 to 2007.

Figure 4: Percentage SDS



New trend

The MPCA has observed one new trend emerging from the data that merits reporting. The 21 new wastewater systems that began operation in 2006 have reported an increase in the number of violations from 2006 to 2008. The 2006 new wastewater systems reported zero (0) violations during the 2006 operational period, eight (8) violations were reported in the 2007 operational period, and thirty two (32) violations were reported during the 2008 operational period.

Conclusions

The 2006 changes to Minn. Stat. § 115.477 added new information to be reported by the MPCA beginning with the 2006 Annual Report. The 2007 Annual Report continued reporting this new information and reflected an evolving format for the Annual Report which continued to be refined for the 2008 Annual Tracking Report for New Wastewater Treatment Facilities. During the 2008 period, the MPCA can report that only one (1) of the seven (7) new systems reported permit limit violations and the total number of violations for that system was eight (8).

The 21 new facilities from the 2006 period reported no permit limit violations to the MPCA in 2006. During 2007, five (5) of these 21 systems reported permit limit violations, and a total of 14 violations were recorded. For 2008, five (5) of these 21 systems reported permit limit violations, and a total of 32 violations were recorded.

The MPCA will continue to track the operating record of these facilities in this reporting format through 2010 per the Statute.

The 11 new facilities from the 2007 period reported one (1) permit limit violation to the MPCA in 2007. During 2008, five (5) of these 11 systems reported permit limit violations, and a total of eight (8) violations were recorded. MPCA will continue to track the operating record of these facilities in this reporting format through 2011 per the Statute.

The MPCA has also observed general trends in the reported data, beginning in the 2006 Report. From 2000 to 2006, an increasing number of new wastewater treatment systems were being constructed each year with these systems decreasing in capacity (or design flow) and serving smaller populations. In 2007, each of these trends were moderately reversed with fewer new systems being constructed, and the systems average design flow and populations served slightly increasing. By 2008, the number of new systems, the systems average design flow and populations served were all decreasing or lower. Similar to our observation reported in 2007, the decreasing number of new systems seems to be mainly attributed to fewer private housing development wastewater treatment systems being constructed. This continues to be a reasonable conclusion as the economic news reports in Minnesota are that the number of new houses being constructed is down even further and the housing sales market is down. In general, the size (capacity) and population served per system is still reflecting that the MPCA is issuing new permits to small wastewater system projects.

In addition, from 2002 to 2006 we observed a general increase in the use of land based wastewater disposal systems (SDS permits) as the new systems decreased in size. In 2007 the portion of projects that were SDS permits were also down slightly, but the percentage of SDS systems still exhibited a majority of the new systems for this year. For 2008, the percentage of SDS permitted wastewater systems dropped to zero (0). It appears that this is an anomaly in the data set, because in five of the seven years from 2000 to 2007 the land treatment option was the primary choice for these small community treatment systems. We will continue to observe this possible trend for next year. However we believe the general observation that the MPCA is working more with smaller communities (or new developing areas) to provide their first wastewater treatment systems, reducing the number of communities without central wastewater collection and treatment systems is still accurate.

**Appendix I: 2005 Annual Tracking Report for New Wastewater Facilities
(for years 2000 – 2005) Minn. Stat. § 115.447**

2005 – The following **(12)** wastewater treatment facilities were put into service during calendar year 2005 in communities that previously had no central collection and treatment:

Community	County	Capacity (gallons/day)	Pop Equiv.*	Permit Type
Big Sandy Lodge & Resort	Aitkin	25,070	334	SDS
Clearwater Harbor Sewage Treatment Facility	Stearns	28,000	373	SDS
Clontarf, City of	Swift	23,500	313	NPDES
Credit River Township - Territory	Scott	13,500	180	SDS
Frontenac Heritage Acres 3 rd Addition	Goodhue	19,875	265	SDS
Garvin, City of	Lyon	21,500	286	NPDES
Highland Farms	Sherburne	14,000	186	SDS
Otsego (West), City of	Wright	72,000	960	NPDES
Prinsburg, City of	Kandiyohi	40,875	545	NPDES
Thumper Pond Development	Otter Tail	49,100	654	SDS
Windsor Oaks of Elk River	Sherburne	12,363	164	SDS
Whispering Ridge Cluster Development	Sherburne	45,450	606	SDS
		365,233	4,866	

2004 – The following **(15)** wastewater treatment facilities were put into service during calendar year 2004 in communities that previously had no central collection and treatment:

Community	County	Capacity (gallons/day)	Pop Equiv.*	Permit Type
Aspen Hills (Star City Builder)	Sherburne	19,500	260	NPDES
Avoca, City of and Iona, City of	Murray	74,000	986	NPDES
Cedar Mills, City of	Meeker	9,150	122	NPDES
Crane Lake, City of	St. Louis	52,390	698	NPDES
Crosslake, City of	Crow Wing	150,000	2,000	NPDES
Delft Sanitary District	Cottonwood	5,700	76	NPDES
Dehli, City of	Redwood	14,400	192	NPDES
Hidden Haven (Schlichting Development, Inc.)	Sherburne	22,500	300	SDS
Lakes of Fairhaven (Sienna Corporation)	Stearns	15,525	207	SDS
Lutsen Resort (Lutsen Resort Company)	Cook	25,500	340	SDS
Nerstrand, City of	Rice	48,000	640	NPDES
Revere, City of	Redwood	17,900	238	NPDES
Roscoe, City of	Stearns	15,955	212	SDS
Woods at Eagle Lake (Scott Breuer Const., Inc.)	Sherburne	13,838	184	SDS
Wyldeewood Acres	Washington	9,000	120	SDS
		493,358	6,575	

2003 – The following (11) wastewater treatment facilities were put into service during calendar year 2003 in communities that previously had no central collection and treatment:

Community	County	Capacity (gallons/day)	Pop Equiv.*	Permit Type
Benton Utilities	Benton	150,000	2,000	NPDES
Country Meadows/Cmark Builders	Sherburne	17,100	228	SDS
Delavan, City of	Faribault	54,000	720	NPDES
Lansing Township	Mower	26,000	347	NPDES
Lismore Hutterian Brethren	Big Stone	13,000	173	SDS
Monterey Heights/Rolling Oaks	Scott	23,400	312	SDS
Sergeant , City of	Mower	10,600	141	NPDES
Town & Country Aspen Hills Development	Sherburne	19,500	260	NPDES
Turtle Run South	Anoka	85,000	1,133	SDS
Whistling Valley	Washington	11,000	147	SDS
Windsor Park 3rd Addition	Sherburne	39,600	528	SDS
		449,200	5,989	

2002 – The following (7) wastewater treatment facilities were put into service during calendar year 2002 in communities that previously had no central collection and treatment:

Community	County	Capacity (gallons/day)	Pop Equiv.*	Permit Type
Dumont, City of	Traverse	14,900	199	NPDES
Farwell-Kensington	Douglas	76,300	1,017	NPDES
Greenfield, City of	Hennepin	200,000	2,667	NPDES
Lewisville, City of	Watonwan	37,700	503	NPDES
Lutsen (Superior National Golf Properties)	Cook	21,000	280	SDS
Tamarack, City of	Aitkin	7,000	93	NPDES
Woodstock, City of	Pipestone	18,500	247	NPDES
		375,400	5,006	

2001 – The following **(5)** wastewater treatment facilities were put into service during calendar year 2001 in communities that previously had no central collection and treatment:

Community	County	Capacity (gallons/day)	Pop Equiv.*	Permit Type
Andover Elementary School (ISD # 11)	Anoka	15,000	200	SDS
Bejou, City of	Mahnomen	17,700	236	SDS
Carriage Station (Lake Elmo)	Washington	44,000	587	SDS
Big Stone Hutterite Colony (near Graceville)	Big Stone	10,400	139	NPDES
Turtle Run South (Oak Grove)	Anoka	86,300	1,151	SDS
		173,400	2,313	

2000 – The following **(8)** wastewater treatment facilities were put into service from May 1st to December 31st of calendar year 2000, in communities that previously had no central collection and treatment (the May 1st start date for calendar year 2000 is as stipulated in Minn. Stat. § 115.447):

Community	County	Capacity (gallons/day)	Pop Equiv.*	Permit Type
Birchwood Terrace (mobile home park)	Chisago	21,000	280	SDS
Fields of St. Croix Phase 2 (Lake Elmo)	Washington	31,000	413	SDS
Hanover, City of	Hennepin/Wright	645,000	8,600	NPDES
Hidden River (near South Haven)	Wright	17,000	227	SDS
Jackson Meadows (Marine on St. Croix)	Washington	5,500	73	SDS
Kilkenny, City of	Le Sueur	23,000	307	NPDES
Otsego (East), City of	Wright	400,000	5,333	NPDES
Palisade, City of	Aitkin	13,000	173	NPDES
		1,155,500	15,406	

*Pop. Equiv. – The population equivalent to the daily design flow of the treatment plant where average *per capita* usage is estimated at 75 gallons per day. This number does not necessarily match the US census population of the community.