

2010 Annual Tracking Report for New Wastewater Facilities



Legislative Charge

Minn. Statutes § 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.

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

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Executive Summary

Minn. Stat. § 115.447 (Statute) 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. In 2006, the Minnesota Legislature added a number of new report information elements to this statute, related to pieces of information about the facility and also required a list of any effluent violations for the new facilities for an initial operating period of five (5) years.

A total of 102 new Minnesota permitted wastewater treatment systems have been constructed and put into operation since May 1, 2000. This total number includes three (3) new systems that were constructed and began operation during 2010. None of these new systems reported effluent violations or imminent threats to public health during the period they were in operation during 2010.

The report lists the number of new systems put into service per year from 2000 to 2010 in a series of Tables (see Tables 1, 2, 4, 6, 8 and also Appendix I), and varies from a low number of three (3) up to a high number of 20. Additional information items about each facility are also identified in each of these tables. The report also lists the parameter, the date, and any known information about violations for the new systems in a series of Tables (see Tables 3, 5, 7, 9, and A through H in Appendix II). The annual number of violations per set of new systems, has varied from a low number of zero (0) violations to a high number of 39 violations.

General trends for 2010 are that the number of new systems is the same, the average design flow is stabilizing at approximately 40,000 gallons per day (gpd) per new system, and the average population equivalent served per system is stabilizing at approximately 500.

Introduction

Minn. Stat. § 115.447 was passed in 2000, creating the requirement for the Minnesota Pollution Control Agency 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 the original statute language (see Appendix I for the 2005 Annual Report in this format).

In 2006, the Minnesota Legislature added a number of new report information elements to this statute. This was in response to reported problems with small communities properly treating wastewater and meeting their permit requirements. Subdivision 1 of the Statute was changed to require the MPCA to identify the design engineering firm, the primary construction contractor, and any management company (or contract operations firm) for each new facility. Subdivision 2 was added, and requires the MPCA to report the first five (5) years of monitoring information related to whether or not each new facility is meeting their permit requirements. The 2006 Statute additions have resulted in format modifications for the annual report, and in fact will likely cause the report appearance to slowly evolve over time as each subsequent year of compliance data is included. For example, this 2010 report is the first one to have five (5) years of compliance data for the 2006 new facilities.

This report will begin with a section on the new facilities for 2010.

2010 New Wastewater Systems Report

There have been a total of 102 new Minnesota permitted wastewater treatment systems constructed and put into operation 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 table shows one (1) new SDS permitted wastewater system and two (2) new NPDES permitted wastewater systems began operation in 2010. One of these three (3) systems contracts with an outside management company for operational services. None of these three new systems reported effluent violations while in operation during 2010, and the one (1) new SDS permitted wastewater system did not report any imminent threats to public health during 2010.

Table 1: 2010 New Wastewater Systems

| Permittee | County | Capacity (gallons per day) | Population Equivalent (a) | Permit Type | Owner | Primary Engineering Firm | Primary Contractor | Management Company | 2010 NPDES or SDS Limit Violations |
|--|------------|-------------------------------|---------------------------------|----------------|----------------------------------|--|----------------------------|------------------------|--|
| Blomkest, City of and Svea, City of | Kandiyohi | 40,000 | 533 | NPDES | Blomkest/Svea Sewer Board | Liesch | R&R Excavating | None | No |
| Odin, City of and Ormsby, City of | Watonwan | 31,450 | 419 | NPDES | Odin/Ormsby | Bonestroo/I&S/Bolton and Menk (all equal) | Mathiowitz Construction | None | No |
| Tii Gavo | Washington | 13,000 | 173 | SDS | Superior Land Development LLC | Ayres Associates | Ellingson Companies | Pederson Management | No |
| Total = 3 | | 84,450 | 1,126 | | | | | | |

- (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.

2010 Update for the 2009 New Wastewater Systems

Table 2 shows one (1) new SDS permitted wastewater system and two (2) new NPDES permitted wastewater systems began operation in 2009. None of these three (3) systems contract with an outside management company. Also, none of these new systems reported effluent violations while in operation during 2009, and the one (1) new SDS permitted wastewater system did not report any imminent threats to public health during 2009.

Updated Table 2 shows that one (1) SDS permitted wastewater system reported no effluent violations, and also did not report any imminent threats to public health during 2010. One (1) of the NPDES permitted wastewater systems reported no effluent violations during 2010, and one (1) of the NPDES permitted wastewater systems reported a total of four (4) effluent violations during 2010.

Table 3 shows the summary of the effluent violations for 2010. This table identifies 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 average or mean calculated values and the violation will not identify a specific individual date of when it occurred. The MPCA has identified the month and year of the violation in this table.

Table 2: 2009 New Wastewater Systems (with 2009 & 2010 violations)

| Permittee | County | Capacity (gallons per day) | Population Equivalent (a) | Permit Type | Owner | Primary Engineering Firm | Primary Contractor | Management Company | 2009 NPDES or SDS Limit Violations | 2010 NPDES or SDS Limit Violations |
|------------------------|-----------|-------------------------------|---------------------------------|----------------|-----------------------|---|-------------------------------|-----------------------|--|--|
| Sturgeon Lake, City of | Pine | 83,000 | 1,107 | SDS | City of Sturgeon Lake | LHB, Inc. | Utility Systems of America | None | No | No |
| Urbank, City of | Ottertail | 11,000 | 147 | NPDES | City of Urbank | Widseth Smith Nolting & Associates, Inc. | Kober Excavating | None | No | No |
| Wolf Lake, City of | Becker | 8,400 | 112 | NPDES | City of Wolf Lake | Moore Engineering | Burski Excavating Inc. | None | No | Yes |
| Total = 3 | | 102,400 | 1,365 | | | | | | | |

- (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 3: 2009 New Wastewater Systems – 2010 Violations List

| Community | Permit Type | Parameter | Violation Date | Known Information Regarding Causes of Reported Limit Violations |
|--------------------|-------------|------------|----------------|--|
| Wolf Lake, City of | NPDES | CBOD5 | Oct-10 | Calendar Monthly Average, mg/L. Cause unknown. Returned to compliance. |
| Wolf Lake, City of | NPDES | CBOD5 | Oct-10 | Calendar Monthly Maximum, mg/L. Cause unknown. Returned to compliance. |
| Wolf Lake, City of | NPDES | CBOD5 Mass | Oct-10 | Calendar Monthly Average, kg/day. Cause unknown. Returned to compliance. |
| Wolf Lake, City of | NPDES | CBOD5 Mass | Oct-10 | Calendar Monthly Maximum, kg/day. Cause unknown. Returned to compliance. |
| Total = 4 | | | | |

2010 Update for the 2008 New Wastewater Systems

Table 4 identifies the seven (7) new systems that were constructed and began operation during 2008. In 2008, one (1) of these systems reported effluent violations. This facility reported a total of eight (8) effluent limitation violations in 2008. The other six (6) NPDES permitted wastewater systems did not report any violations. There were zero (0) SDS permitted wastewater systems that began operation in 2008.

Table 4 also shows during 2009 that three (3) of the NPDES permitted wastewater systems reported no effluent violations and four (4) of the NPDES permitted wastewater systems reported a total of 39 effluent violations.

Table 4 has been updated to show the facilities reporting violations in 2010. The 2010 column shows that three (3) of the NPDES permitted wastewater systems reported no effluent violations and four (4) of the NPDES permitted wastewater systems reported a total of 23 effluent violations.

Table 5 shows the 2010 violations list for the 2008 new systems. Table A in Appendix II shows the 2009 violations list, and Table B in Appendix II shows the 2008 violations list for the 2008 new systems. 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 average or mean calculated values and the violation will not identify a specific individual date of when it occurred. The MPCA has identified the month and year of the violation in each of these tables.

Table 4: 2008 New Wastewater Systems (with 2008, 2009 & 2010 violations)

| 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 | 2009 NPDES or SDS Limit Violations | 2010 NPDES or SDS Limit Violations |
|---|-----------|-------------------------------|---------------------------------|----------------|----------------------------|------------------------------------|-----------------------|--------------------------------------|--|--|--|
| Bigelow, City of | Nobles | 26,400 | 352 | NPDES | City of Bigelow | Short Elliott Hendrickson, Inc. | Svoboda Excavating | None | No | No | Yes |
| Effie, City of | Itasca | 21,000 | 280 | NPDES | City of Effie | Liesch Associates | Wagner Construction | None | No | Yes | Yes |
| Hope- Somerset Township | Steele | 10,170 | 136 | NPDES | Hope- Somerset Township | Jacques Whitford NAWE | Heselton Construction | Bruce Frandel, Certified Operator | No | Yes | Yes |
| La Salle, City of | Watsonwan | 15,000 | 200 | NPDES | City of LaSalle | Ayres Associates | Holtmeir Construction | Steve Carson, Certified Operator | No | Yes | No |
| Meriden Township | Steele | 16,100 | 215 | NPDES | Meriden Township | Jacques Whitford NAWE | Niles Weise | None | No | No | No |
| Springsteel Island Sanitary District | Roseau | 25,000 | 333 | NPDES | Lake Township | KBM, Inc | Wagner Construction | None | Yes | Yes | Yes |
| Walters, City of | Faribault | 15,620 | 208 | NPDES | City of Walters | Bonestroo | Hodgeman Drainage | None | No | No | 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 5: 2008 New Wastewater Systems – 2010 Violations List

| Community | Permit Type | Parameter | Violation Date | Known Information Regarding Causes of Reported Limit Violations |
|----------------|-------------|-----------------------|----------------|--|
| Bigelow WWTP | NPDES | pH | Mar-10 | Calendar Month Maximum, SU. Meter error. Returned to compliance |
| Bigelow WWTP | NPDES | pH | May-10 | Calendar Month Maximum, SU. Meter error. Returned to compliance. |
| Bigelow WWTP | NPDES | TSS | Nov-10 | Calendar Month Average, mg/L. Algae Related. Returned to compliance. |
| Effie, City of | NPDES | TSS Percent Removal | Jan-10 | Calendar Monthly Average, %. Concentration and loading limits met. Returned to compliance. |
| Effie, City of | NPDES | CBOD5 | Apr-10 | Calendar Monthly Average,mg/L. Cause unknown. Returned to compliance. |
| Effie, City of | NPDES | CBOD5 | Apr-10 | Maximum Calendar Weekly, mg/L. Cause unknown. Returned to compliance. |
| Effie, City of | NPDES | CBOD5 Percent Removal | Apr-10 | Calendar Monthly Average, %. Cause unknown. Returned to compliance. |
| Effie, City of | NPDES | TSS Percent Removal | Jun-10 | Calendar Monthly Average, %. Concentration and loading limits met. Resolution pending. |
| Effie, City of | NPDES | TSS Percent Removal | Jul-10 | Calendar Monthly Average, %. Concentration and loading limits met. Returned to compliance. |
| Effie, City of | NPDES | TSS Percent Removal | Sep-10 | Calendar Monthly Average, %. Concentration and loading limits met. Returned to compliance. |
| Effie, City of | NPDES | CBOD5 | Oct-10 | Calendar Monthly Average,mg/L. Cause unknown. Returned to compliance. |

Table 5 (continued): 2008 New Wastewater Systems – 2010 Violations List

| Community | Permit Type | Parameter | Violation Date | Known Information Regarding Causes of Reported Limit Violations |
|--------------------------------------|-------------|-----------------------|----------------|--|
| Hope- Somerset Township | NPDES | CBOD5 | Aug-10 | Calendar Monthly Average, mg/L. Cause unknown. Returned to compliance. |
| Hope- Somerset Township | NPDES | CBOD5 Percent Removal | Sep-10 | Calendar Monthly Average, %. Concentration and loading limits met. Returned to compliance. |
| Springsteel Island Sanitary District | NPDES | Total Phosphorus | Jan-09 | Calendar Monthly Average, mg/L. Operator error, not enough chemical added. Returned to compliance. |
| Springsteel Island Sanitary District | NPDES | Total Phosphorus | Jan-09 | Calendar Monthly Average, kg/day. Operator error, not enough chemical added. Returned to compliance. |
| Springsteel Island Sanitary District | NPDES | Total Phosphorus | Feb-09 | Calendar Monthly Average, mg/L. Operator error, not enough chemical added. Returned to compliance. |
| Springsteel Island Sanitary District | NPDES | Total Phosphorus | Feb-09 | Calendar Monthly Average, kg/day. Operator error, not enough chemical added. Returned to compliance. |
| Springsteel Island Sanitary District | NPDES | CBOD5 | Mar-09 | Maximum Calendar Weekly Average, mg/L. Mechanical failure. Returned to compliance. |
| Springsteel Island Sanitary District | NPDES | CBOD5 Mass | Mar-09 | Maximum Calendar Weekly Average, kg/day. Mechanical failure. Returned to compliance. |
| Springsteel Island Sanitary District | NPDES | CBOD5 Percent Removal | Mar-09 | Calendar Monthly Average, %. Mechanical failure. Returned to compliance. |
| Springsteel Island Sanitary District | NPDES | TSS | Mar-09 | Calendar Weekly Average, mg/L. Mechanical failure. Returned to compliance. |
| Springsteel Island Sanitary District | NPDES | TSS | Mar-09 | Calendar Monthly Average, mg/L. Mechanical failure. Returned to compliance. |
| Springsteel Island Sanitary District | NPDES | TSS | Mar-09 | Calendar Weekly Average, kg/day. Mechanical failure. Returned to compliance. |
| Total = 23 | | | | |

2010 Update to the 2007 New Wastewater Systems Report

Table 6 lists the 11 new systems that were constructed and began operation during 2007. This table 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 (see Table E in Appendix II). 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.

Table 6 also shows that during 2008 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 6 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 2008. Two (2) of the SDS permitted wastewater systems did report a total of three (3) limit violations during 2008. A summary of the reported violations during 2008 for these five (5) systems is included in Table D in Appendix II.

During 2009, Table 6 shows two (2) of the NPDES permitted wastewater systems reported no effluent violations, and two (2) of the NPDES permitted wastewater systems reported a total of 11 effluent violations. In addition, 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 2009. Two (2) of the SDS permitted wastewater systems did report a total of four (4) limit violations during 2009. A summary for the five (5) systems reporting violations during 2009 is included in Table C in Appendix II.

Table 6 has been updated to show the 2010 violations. Two (2) of the NPDES permitted wastewater systems reported no effluent violations, and two (2) of the NPDES permitted wastewater systems reported a total of 11 effluent violations. In addition, 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 2009. Two (2) of the SDS permitted wastewater systems did report a total of 12 limit violations during 2009. A summary for the five (5) systems reporting violations during 2010 is included in Table 7.

Table 7 shows the 2010 violations list, Table C (in Appendix II) shows the 2009 violations list, Table D (in Appendix II) shows the 2008 violations list and Table E (in Appendix II) shows the 2007 violations list. 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 average or mean values and the violation will not identify a specific individual date of when it occurred. The MPCA has identified the month and year of the violation in each of these tables.

We have reviewed the four (4) years of operation of the 2007 new systems, and it appears that the violations reported per year has slowly increased from 1 in 2007 to 23 in 2010. This will be analyzed in the emerging trends section of the report (see page 24).

Table 6: 2007 New Wastewater Systems Report (with 2007, 2008, 2009 & 2010 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 | 2009 NPDES or SDS Limit Violations | 2010 NPDES or SDS Limit Violations |
|--|------------|-------------------------------|---------------------------------|----------------|----------------------------------|---|--------------------------------------|-----------------------|--|--|--|--|
| Audubon Development | Washington | 13,000 | 173 | SDS | MBM Development | Ayers Associates | Kober Excavating | Peterson Management | No | No | No | No |
| Conger, City of | Freeborn | 20,730 | 276 | NPDES | City of Conger | Ayres Associates | Contractors Edge Inc. | None | No | Yes | No | Yes |
| Diamond Lake Woods | Hennepin | 13,500 | 180 | SDS | Patrick DeWing | Jacques Whitford NAWE | Kober Excavating | Ecocheck | No | No | No | No |
| Evan, City of | Brown | 12,800 | 171 | NPDES | City of Evan | DeWild Grant Reckert and Associates | TNT Construction | None | No | Yes | Yes | No |
| 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 | No | No |
| Rockpoint Church | Washington | 14,000 | 187 | SDS | Charles Palmer | Jacques Whitford NAWE | Kober Excavating | Ecocheck | No | Yes | No | No |
| Sanctuary | Washington | 21,000 | 280 | SDS | John Arkel | Jacques Whitford NAWE | Kober Excavating | Ecocheck | No | No | No | No |
| Tom's Harbor | Cass | 11,832 | 158 | SDS | Ralph Schmitz | Landecker | Kober Excavating | Harbor Shores LLC | No | No | Yes | Yes |
| Viking, City of | Marshall | 10,500 | 140 | NPDES | City of Viking | Liesch Associates | SJ Louis Construction | None | No | Yes | Yes | Yes |
| Villard, City of | Pope | 34,300 | 457 | SDS | City of Villard | Widseth Smith Nolting & Associates, Inc. | Riley Brothers Construction, Inc. | None | No | No | Yes | Yes |
| Whistling Valley Development, Phase 2 | Washington | 9,000 | 120 | SDS | Anderson Sorenson Homes, Inc. | Jacques Whitford NAWE | Glenn Rehbein Excavating | Ecocheck | Yes | Yes | No | No |
| 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 7: 2007 New Wastewater Systems – 2010 Violation List

| Community | Permit Type | Parameter | Violation Date | Known Information Regarding Causes of Reported Limit Violations |
|-----------------|-------------|----------------|----------------|---|
| Conger, City of | NPDES | CBOD5 Mass | Apr-10 | Calendar Monthly Average, kg/day. Cause unknown. Resolution pending. |
| Conger, City of | NPDES | TSS Mass | Apr-10 | Calendar Monthly Average, kg/day. Possibly algae related to phosphorus from a meat locker. Returned to compliance. |
| Conger, City of | NPDES | CBOD5 Mass | Jun-10 | Calendar Monthly Average, kg/day. Cause unknown. Resolution pending. |
| Conger, City of | NPDES | CBOD5 Mass | Jun-10 | Maximum Calendar Weekly Average, kg/day. Cause unknown. Returned to compliance. |
| Conger, City of | NPDES | TSS Mass | Jun-10 | Calendar Monthly Average, kg/day. Possibly algae related to phosphorus from a meat locker. Resolution pending. |
| Conger, City of | NPDES | TSS Mass | Jun-10 | Maximum Calendar Weekly Average, kg/day. Possibly algae related to phosphorus from a meat locker. Resolution pending. |
| Conger, City of | NPDES | TSS | Oct-10 | Calendar Monthly Average, mg/L. Possibly algae related to phosphorus from a meat locker. Returned to compliance. |
| Conger, City of | NPDES | TSS Mass | Oct-10 | Calendar Monthly Average, kg/day. Possibly algae related to phosphorus from a meat locker. Returned to compliance. |
| Tom's Harbor | SDS | Total Nitrogen | Jan-10 | 12 Month Moving Average, mg/L. Low flow. Resolution pending. |
| Tom's Harbor | SDS | Total Nitrogen | Feb-10 | 12 Month Moving Average, mg/L. Low flow. Resolution pending. |
| Tom's Harbor | SDS | Total Nitrogen | Mar-10 | 12 Month Moving Average, mg/L. Low flow. Resolution pending. |
| Tom's Harbor | SDS | Total Nitrogen | Apr-10 | 12 Month Moving Average, mg/L. Low flow. Resolution pending. |

Table 7 (continued): 2007 New Wastewater Systems – 2010 Violation List

| Community | Permit Type | Parameter | Violation Date | Known Information Regarding Causes of Reported Limit Violations |
|------------------|-------------|-----------------------|----------------|--|
| Tom's Harbor | SDS | Total Nitrogen | May-10 | 12 Month Moving Average, mg/L. Low flow. Resolution pending. |
| Tom's Harbor | SDS | Total Nitrogen | Jun-10 | 12 Month Moving Average, mg/L. Low flow. Resolution pending. |
| Tom's Harbor | SDS | Total Nitrogen | Jul-10 | 12 Month Moving Average, mg/L. Low flow. Resolution pending. |
| Tom's Harbor | SDS | Total Nitrogen | Aug-10 | 12 Month Moving Average, mg/L. Low flow. Resolution pending. |
| Tom's Harbor | SDS | Total Nitrogen | Sep-10 | 12 Month Moving Average, mg/L. Low flow. Resolution pending. |
| Tom's Harbor | SDS | Total Nitrogen | Oct-10 | 12 Month Moving Average, mg/L. Low flow. Resolution pending. |
| Viking, City of | NPDES | TSS Percent Removal | Apr-10 | Calendar Monthly Average, %. Cause unknown. Returned to compliance. |
| Viking, City of | NPDES | CBOD5 Percent Removal | Sep-10 | Calendar Monthly Average, %. Cause unknown. Resolution pending. |
| Viking, City of | NPDES | CBOD5 Percent Removal | Oct-10 | Calendar Monthly Average, %. Cause unknown. Resolution pending. |
| Villard, City of | SDS | Fecal Coliform | May-10 | Single Allowable Value, #/100 ml. Waterfowl related. Returned to compliance. |
| Villard, City of | SDS | Fecal Coliform | Sep-10 | Single Allowable Value, #/100 ml. Waterfowl related. Returned to compliance. |
| Total = 23 | | | | |

2010 Update to the 2006 New Wastewater Systems Report

Table 8 lists the 20 new systems that were constructed and began operation during 2006. This table includes information on 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, 16 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.

During 2007, three (3) of the NPDES permitted wastewater systems reported no effluent violations and 12 of the SDS permitted wastewater systems reported no limit violations. We also can report that none of the 16 SDS permitted wastewater systems reported any imminent threats to public health during 2007. Table 8 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 a total of 13 violations. A summary of the reported violations during 2007 for these five (5) systems is included in Table H in Appendix II.

Table H (see Appendix II) 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 during 2007, it is likely some of these systems have been receiving low influent flow and loadings and those operating conditions were contributing to difficulties with establishing denitrifying bacteria in the individual treatment systems.

Table 8 also shows violations during 2008. It identifies 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 16 SDS permitted wastewater systems reported any imminent threats to public health during 2008. Table 8 identifies that five (5) SDS permitted wastewater systems did report 32 limit violations during 2008. A summary of the reported violations for the five (5) systems is included in Table G in Appendix II.

Table G (see Appendix II) shows all 32 of the reported violations in 2008 for the SDS permitted systems were of the Total Nitrogen limit. The MPCA identified in this table that each of the Total Nitrogen limit violations were reported to be due to low flow. This operating condition was likely to be contributing to low influent loadings that were causing significant difficulty for these wastewater systems to establish denitrifying bacteria in the treatment system.

Table 8 also shows that the four (4) NPDES permitted wastewater systems reported no effluent violations and 12 of the SDS permitted wastewater systems reported zero (0) limit violations during 2009. We also can report that none of the 16 SDS permitted wastewater systems reported any imminent threats to public health during 2009. Table 8 identifies that four (4) SDS permitted wastewater systems did report 32 limit violations (see Table F in Appendix II). The MPCA identified in Table F that each of the Total Nitrogen limit violations were reported to be due to low flow, which was likely to be contributing to low influent loadings that was causing significant difficulty for these wastewater systems to establish denitrifying bacteria in the treatment system.

Table 8 finally lists the facilities with violations reported for 2010. This table includes information that the four (4) NPDES permitted wastewater systems, and ten (10) of the SDS permitted reported no effluent violations for 2010. We also can report that none of the 16 SDS permitted wastewater systems reported any imminent threats to public health during 2010. Table 8 does show that six (6) of the SDS permitted systems did report 44 limit violations. A summary of the six (6) systems reporting violations is included in Table 9.

The MPCA identified in Table 9 that most of the Total Nitrogen limit violations were reported to be due to low flow, which was likely to be contributing to low influent loadings that was causing significant difficulty for these wastewater systems to establish denitrifying bacteria in the treatment system. The MPCA has recognized that these violations are occurring, and continues to develop methods to provide technical operational assistance, changes to permits, or enforcement actions, depending on the causes, to attempt to address these violations.

As a final note for the 2006 new systems, this 2010 update includes limit violations data for 5 years (2006, 2007, 2008, 2009 & 2010), and completes the required reporting for this data by Minn. Statute § 115.447 Subd. 2. The limit violations report for the 2006 new systems will not be included in future Annual Reports.

Table 8: 2006 New Wastewater Systems Report (with 2006 through 2010 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 | 2009 NPDES or SDS Limit Violations | 2010 NPDES or SDS Limit Violations |
|--|------------|-------------------------------|---------------------------------|-------------|------------------------------------|--|----------------------------------|--------------------------------|--|--|--|--|--|
| Cambridge Isanti Middle School | Isanti | 10,176 | 136 | SDS | ISD 911 | North American Wetland Engineering | Kober Excavating | EcoCheck | No | Yes | Yes | No | Yes |
| Camp Victory | Wabasha | 27,000 | 360 | NPDES | Camp Victory Ministries | Arden Environmental Engineering | Ellingson Companies | Bonestroo | No | No | No | No | No |
| Credit River Township - Stonebridge | Scott | 14,400 | 192 | SDS | Credit River Township | Halling Engineering | K.A. Witt Construction, Inc. | EcoCheck | No | No | 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 | No | No | Yes | Yes | No |
| Edgewood Estates Second | Dodge | 24,252 | 323 | SDS | Bigelow Enterprises | Massey Land Surveying and Engineering | Swenke Construction | Curt Reetz, Certified Opeartor | No | No | Yes | Yes | Yes |
| Emily, City of | Crow Wing | 41,600 | 555 | SDS | City of Emily | Short Elliott Hendrickson Inc | Hammerlund Construction | None | No | No | No | No | No |
| Farms of Lake Elmo | Washington | 10,000 | 133 | SDS | M & K Development | Ayers Associates | J.R. Ferche | EcoCheck | No | No | 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. | None | No | No | No | No | No |
| Hammond, City of | Wabasha | 23,000 | 307 | NPDES | City of Hammond | Ayres Associates | Ellingson Companies | Peoples Service | No | Yes | No | No | No |
| Lake Volney Estates | Le Sueur | 11,993 | 160 | SDS | Brian Kocina | I&S Engineers & Architects, Inc | Fessel Environmental Service Inc | None | No | No | No | No | Yes |
| Meadows of Whisper Creek | Hennepin | 20,000 | 267 | NPDES | Greenfield Development, LLC | RLK Kuusisto | Ashbrook, Inc. | Veolia Water | No | No | No | No | No |
| Miller Farms Cluster Development | Washington | 32,000 | 427 | SDS | Derrick Construction Co. | Ayers Associates | Kober Excavating | None | No | No | No | No | Yes |
| Nordwall Estates | Sherburne | 34,200 | 456 | SDS | Gregg Nordwall | John Oliver and Associates | West Branch Construction | None | No | No | No | No | No |
| Preserve at Birch Lake | Chisago | 34,425 | 459 | SDS | SMC Land Development, LLC | North American Wetland Engineering | J.R. Ferche | EcoCheck | No | No | No | No | No |
| River Park | Olmsted | 31,250 | 417 | SDS | Journey Developing, Inc. | McGhie & Betts Inc | Jech Construction | McGhie & Betts Inc | No | Yes | Yes | Yes | Yes |
| Riverwood Hills Septic Drainfield Site | Olmsted | 23,081 | 308 | SDS | Fitzpatrick Construction | McGhie & Betts Inc | Fitzpatrick Construction | McGhie & Betts Inc | No | Yes | Yes | Yes | Yes |
| Tapestry | Washington | 25,125 | 335 | SDS | St. Croix Farms, LLC | Wenck Associates | Kober Excavating | Advanced Septic Solutions Inc. | No | No | No | No | No |
| Trophy Lake Estates III | Chisago | 16,700 | 223 | SDS | Trophy Lake Estates | North American Wetland Engineering | Ferguson Brothers Excavating | Septic Check | No | Yes | No | No | No |
| Waters Edge @ Leech Lake LLC | Cass | 14,100 | 188 | SDS | Wayne Overby | Ecos Engineering | Royal Oaks Construction Inc. | None | No | No | No | No | No |
| Windsor Meadows | Sherburne | 14,850 | 198 | SDS | Alan Gilyard 10-24 Development LLC | Bogart, Pederson, & Associates, Inc. | Meadowvale Construction, Inc. | EcoCheck | No | No | No | No | No |
| Total = 20 | | 451,252 | 6,017 | | | | | | | | | | |

(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 9: 2006 Wastewater Systems – 2010 Violations List

| Community | Permit Type | Parameter | Violation Date | Known Information Regarding Causes of Reported Limit Violations |
|--------------------------------|-------------|----------------|----------------|---|
| Cambridge-Isanti Middle School | SDS | Total Nitrogen | Mar-10 | 12 Month Moving Average, mg/L. Cause unknown. Returned to compliance. |
| Edgewood Estates Second | SDS | Total Nitrogen | Jan-10 | 12 Month Moving Average, mg/L. Low Flow. Resolution pending. |
| Edgewood Estates Second | SDS | Total Nitrogen | Feb-10 | 12 Month Moving Average, mg/L. Low Flow. Resolution pending. |
| Edgewood Estates Second | SDS | Total Nitrogen | Mar-10 | 12 Month Moving Average, mg/L. Low Flow. Resolution pending. |
| Edgewood Estates Second | SDS | Total Nitrogen | Apr-10 | 12 Month Moving Average, mg/L. Low Flow. Resolution pending. |
| Edgewood Estates Second | SDS | Total Nitrogen | May-10 | 12 Month Moving Average, mg/L. Low Flow. Resolution pending. |
| Edgewood Estates Second | SDS | Total Nitrogen | Jun-10 | 12 Month Moving Average, mg/L. Low Flow. Resolution pending. |
| Edgewood Estates Second | SDS | Total Nitrogen | Jul-10 | 12 Month Moving Average, mg/L. Low Flow. Resolution pending. |
| Edgewood Estates Second | SDS | Total Nitrogen | Aug-10 | 12 Month Moving Average, mg/L. Low Flow. Resolution pending. |
| Edgewood Estates Second | SDS | Total Nitrogen | Sep-10 | 12 Month Moving Average, mg/L. Low Flow. Resolution pending. |
| Edgewood Estates Second | SDS | Total Nitrogen | Oct-10 | 12 Month Moving Average, mg/L. Low Flow. Resolution pending. |
| Edgewood Estates Second | SDS | Total Nitrogen | Nov-10 | 12 Month Moving Average, mg/L. Low Flow. Resolution pending. |
| Lake Volney Estates | SDS | Total Nitrogen | Feb-10 | 12 Month Moving Average, mg/L. Cause unknown. Resolution pending. |
| Lake Volney Estates | SDS | Total Nitrogen | Mar-10 | 12 Month Moving Average, mg/L. Cause unknown. Resolution pending. |
| Lake Volney Estates | SDS | Flow | Mar-10 | Calendar Monthly Average, mgd. Cause unknown. Resolution pending. |

Table 9 (continued): 2006 Wastewater Systems – 2010 Violations List

| Community | Permit Type | Parameter | Violation Date | Known Information Regarding Causes of Reported Limit Violations |
|----------------------------------|-------------|----------------|----------------|---|
| Lake Volney Estates | SDS | Flow | Mar-10 | Daily Maximum, mgd. Cause unknown. Resolution pending. |
| Lake Volney Estates | SDS | Total Nitrogen | Apr-10 | 12 Month Moving Average, mg/L. Cause unknown. Resolution pending. |
| Lake Volney Estates | SDS | Flow | Apr-10 | Daily Maximum, mgd. Cause unknown. Resolution pending. |
| Lake Volney Estates | SDS | Total Nitrogen | May-10 | 12 Month Moving Average, mg/L. Cause unknown. Resolution pending. |
| Lake Volney Estates | SDS | Total Nitrogen | Jun-10 | 12 Month Moving Average, mg/L. Cause unknown. Resolution pending. |
| Lake Volney Estates | SDS | Total Nitrogen | Jul-10 | 12 Month Moving Average, mg/L. Cause unknown. Resolution pending. |
| Lake Volney Estates | SDS | Total Nitrogen | Aug-10 | 12 Month Moving Average, mg/L. Cause unknown. Resolution pending. |
| Miller Farms Cluster Development | SDS | Total Nitrogen | Jul-10 | 12 Month Moving Average, mg/L. Cause unknown. Resolution pending. |
| Miller Farms Cluster Development | SDS | Total Nitrogen | Aug-10 | 12 Month Moving Average, mg/L. Cause unknown. Returned to compliance. |
| River Park | SDS | Total Nitrogen | Jan-10 | 12 Month Moving Average, mg/L. Low Flow. Resolution pending. |
| River Park | SDS | Total Nitrogen | Feb-10 | 12 Month Moving Average, mg/L. Low Flow. Resolution pending. |
| River Park | SDS | Total Nitrogen | Mar-10 | 12 Month Moving Average, mg/L. Low Flow. Resolution pending. |
| River Park | SDS | Total Nitrogen | Apr-10 | 12 Month Moving Average, mg/L. Low Flow. Resolution pending. |
| River Park | SDS | Total Nitrogen | May-10 | 12 Month Moving Average, mg/L. Low Flow. Resolution pending. |
| River Park | SDS | Total Nitrogen | Jun-10 | 12 Month Moving Average, mg/L. Low Flow. Resolution pending. |

Table 9 (continued): 2006 Wastewater Systems – 2010 Violations List

| Community | Permit Type | Parameter | Violation Date | Known Information Regarding Causes of Reported Limit Violations |
|--|-------------|----------------|----------------|---|
| River Park | SDS | Total Nitrogen | Jul-10 | 12 Month Moving Average, mg/L. Low Flow. Resolution pending. |
| River Park | SDS | Total Nitrogen | Aug-10 | 12 Month Moving Average, mg/L. Low Flow. Resolution pending. |
| River Park | SDS | Total Nitrogen | Sep-10 | 12 Month Moving Average, mg/L. Low Flow. Resolution pending. |
| River Park | SDS | Total Nitrogen | Oct-10 | 12 Month Moving Average, mg/L. Low Flow. Resolution pending. |
| Riverwood Hills Septic Drainfield Site | SDS | Total Nitrogen | Jan-10 | 12 Month Moving Average, mg/L. Low Flow. Resolution pending. |
| Riverwood Hills Septic Drainfield Site | SDS | Total Nitrogen | Feb-10 | 12 Month Moving Average, mg/L. Low Flow. Resolution pending. |
| Riverwood Hills Septic Drainfield Site | SDS | Total Nitrogen | Mar-10 | 12 Month Moving Average, mg/L. Low Flow. Resolution pending. |
| Riverwood Hills Septic Drainfield Site | SDS | Total Nitrogen | Apr-10 | 12 Month Moving Average, mg/L. Low Flow. Resolution pending. |
| Riverwood Hills Septic Drainfield Site | SDS | Total Nitrogen | May-10 | 12 Month Moving Average, mg/L. Low Flow. Resolution pending. |
| Riverwood Hills Septic Drainfield Site | SDS | Total Nitrogen | Jun-10 | 12 Month Moving Average, mg/L. Low Flow. Resolution pending. |
| Riverwood Hills Septic Drainfield Site | SDS | Total Nitrogen | Jul-10 | 12 Month Moving Average, mg/L. Low Flow. Resolution pending. |
| Riverwood Hills Septic Drainfield Site | SDS | Total Nitrogen | Aug-10 | 12 Month Moving Average, mg/L. Low Flow. Resolution pending. |
| Riverwood Hills Septic Drainfield Site | SDS | Total Nitrogen | Sep-10 | 12 Month Moving Average, mg/L. Low Flow. Resolution pending. |
| Riverwood Hills Septic Drainfield Site | SDS | Total Nitrogen | Oct-10 | 12 Month Moving Average, mg/L. Low Flow. Resolution pending. |
| Total = 44 | | | | |

New Wastewater Facilities Analysis and Trends

2010 Analysis and Trends

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

1. The number of new wastewater systems per year
2. The average wastewater treatment system design capacity per year
3. The average population served per new wastewater treatment system
4. The percentage of new land treatment (SDS permit) systems per year

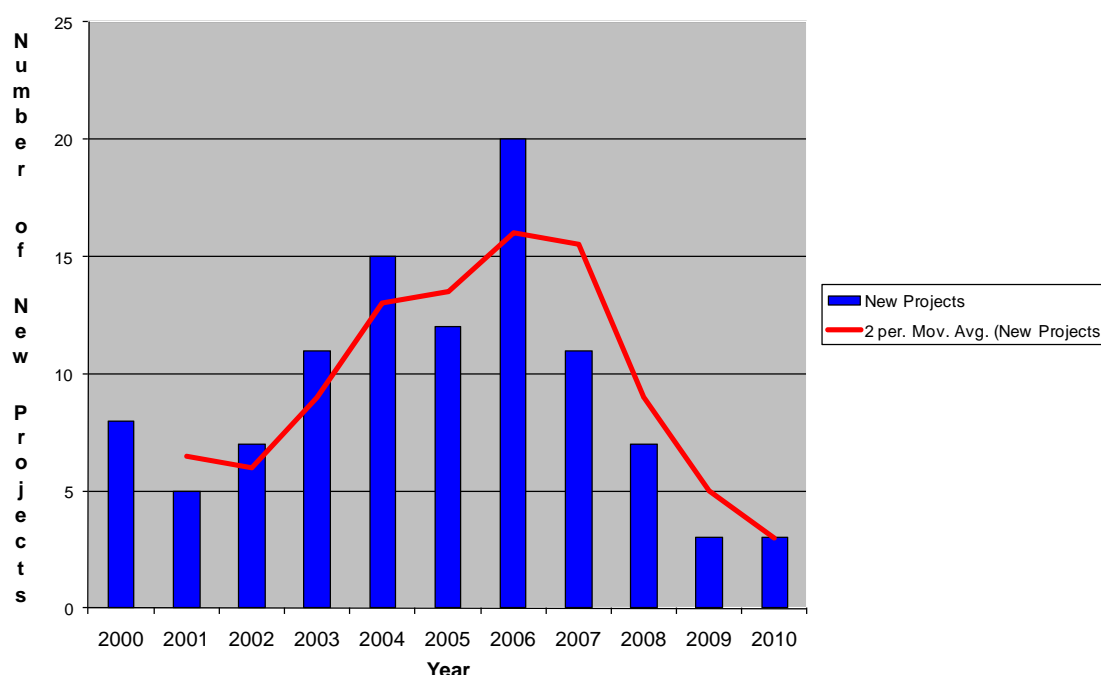
The trends analysis from 2006, 2007, 2008 and 2009 showed some shifts occurring in the data categories. In fact, the 2009 report concluded that there was no real trend pattern for number 4 (% SDS permits per year) and therefore this trend pattern will not be addressed in this report. This report will look at these three sets of data (number 1 through number 3 above), and will explain the analysis from the 2010 viewpoint.

The 2008 & 2009 reports also discussed a possible new emerging trend related to an increase in the number of effluent violations reported per year for the 2006 (and 2007 as well) new wastewater systems. This report will also discuss this emerging trend further.

Number of new wastewater systems per year

Figure 1 shows the number of new wastewater treatment systems per year from 2000 to 2010. The number of new systems per year generally increased from 8 new wastewater systems in 2000 to 20 new systems in 2006. This increasing trend through 2006 has been reversed in 2007 through 2010, with the number of new systems steadily decreasing down to 3 new systems for both 2009 and 2010.

Figure 1: Number of New Wastewater Treatment Systems Per Year



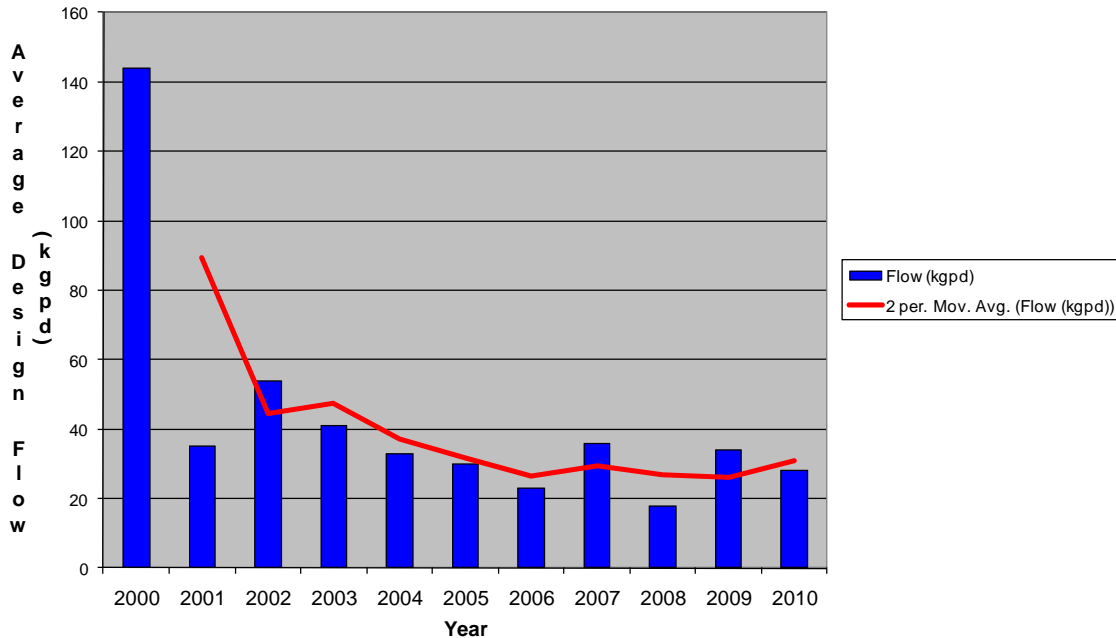
For this report, we have chosen to continue using a trend line that draws segments using the average of the previous two-year period. This trend line shows the generally increasing number of new systems from 2000 through 2006, and also accurately depicts the current downward trend for the number of new systems reported from 2007 through 2010.

This downward trend in the number of new facilities appears to be related directly to the ongoing economic downturn which has affected new housing construction in Minnesota. This is illustrated by information in earlier Tables 1,2 and 4 that show there was only one new privately-owned housing, development-related wastewater system that was constructed and began operation in 2008 through 2010. In contrast, 14 new privately-owned housing, development-related wastewater systems were constructed and began operation in 2006 (see Table 8), and five (5) new privately-owned housing, development-related wastewater systems were constructed and began operation in 2007 (see Table 6).

Average design capacity per system

Figure 2 shows the average design capacity or design flow per system from 2000 to 2010. The average design capacity per system data from 2000 to 2006 showed a general decrease from 144 kgpd (or 144,000 gallons per day) to 23 kgpd. The average design capacity per system data for the time period from 2003 to 2010 has averaged about 20 to 40 kgpd.

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

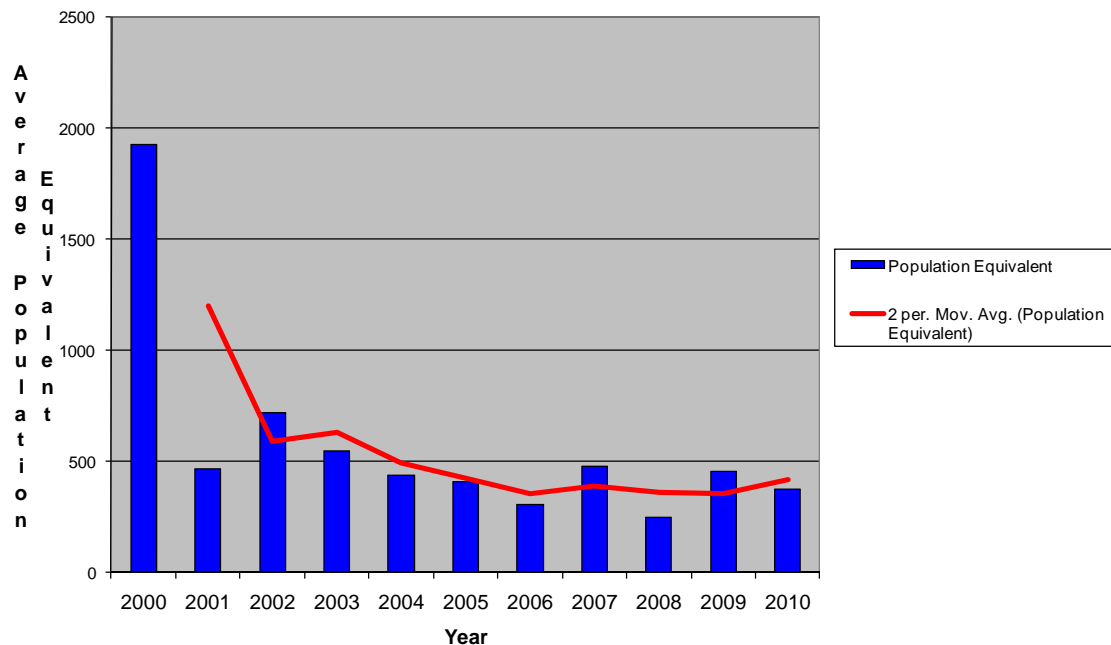


After dropping to the lowest average design flow per system reported in 2008 (18 kgpd or 18,000 gallons per day), the average design flow per new system actually moved up slightly to 34 kgpd (34 kilo gallons per day or 34,000 gallons per day) in 2009, and has decreased slightly to 28 kgpd (28 kilo gallons per day or 28,000 gallons per day). 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. This trend line was selected because it shows a general downward trend for the average design flow per system from 2000 to 2006, and also shows the trend line for the average design flow per system calculated values flattening from 2006 to 2010.

Average population served per new treatment system

Figure 3 shows the average population served per new treatment system per year from 2000 to 2010. In 2010 the average population was 375 (2009 the average population was 455).

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



The average population equivalent per new wastewater treatment system dropped to the lowest ever reported value of 246 in 2008, increased up to 455 in 2009 and has again decreased slightly to 375 in 2010. We have chosen to use the trend line that draws segments for the average of the previous two-year period to analyze this data set also. The trend line shows a similar pattern to Figure 2, with a sharp decrease shown in the data from 2000 to 2006, and then a flattening of the values over the time period from 2007 to 2010. This may be showing the population equivalent being served per system is settling in just below a population equivalent of just under approximately 500.

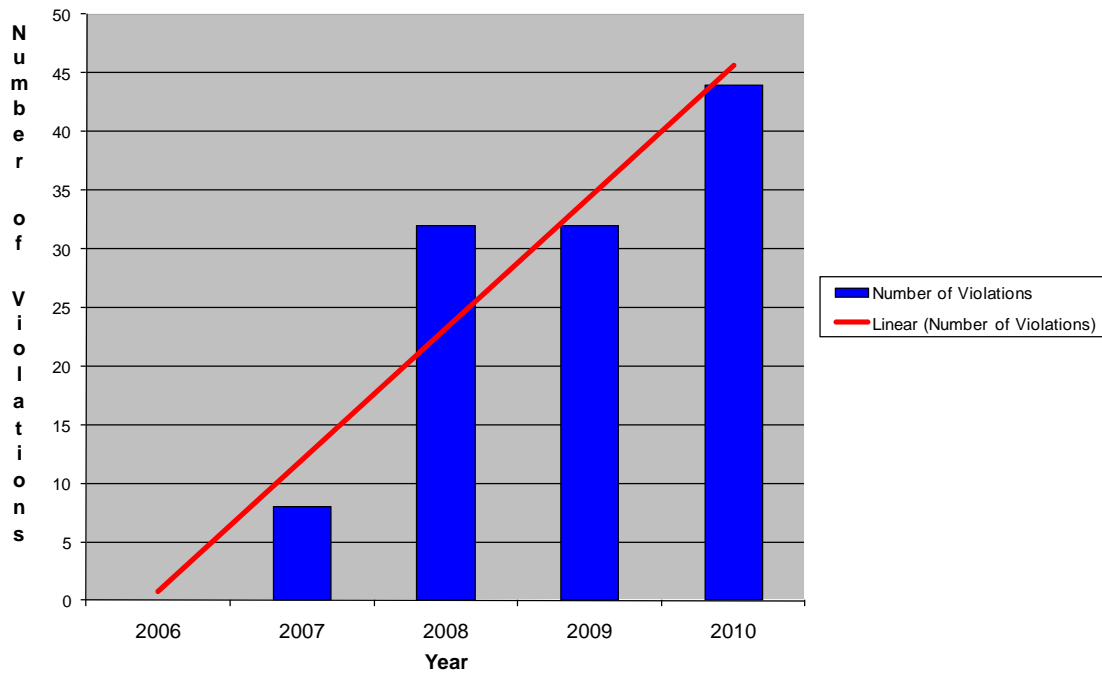
Emerging trend (ET): Increase in number of reported violations

The MPCA reported a possible emerging trend based on reviewing the violations data for the 2006 new systems in both the 2008 & 2009 reports. We did that for the first time in 2008 because violations data was then first available for at least three consecutive years for the 2006 new systems. This possible trend appears worth observing, and as each new year has at least three (3) data years (for example this 2010 report this would include observing the data for the 2006, 2007, and 2008 new systems), we will identify our initial observations.

ET: 2006 New Systems

The 20 new wastewater systems that began operation in 2006 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 32 violations were reported during the 2008 operational period. For the 2009 operational period the number reported violations leveled at total of 32, so it appeared the number of violations was no longer increasing. However, the number of reported for 2010 increased to 44 violations. Figure 4 shows this increasing trend in violations reported per year.

Figure 4: 2006 New Systems - Number of Violations Per Year

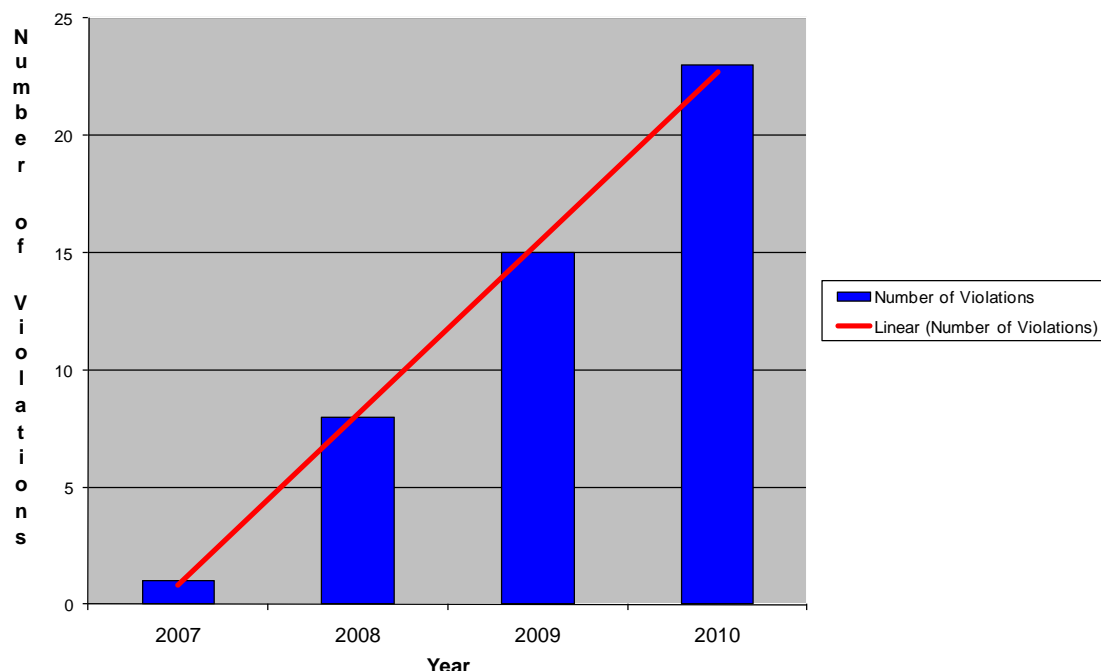


We have chosen to use a linear trend line to show the increasing trend of violations reported per year for the 2006 new systems. This ends the 2006 new systems required 5 years of violations reporting (see page 16).

ET: 2007 New Systems

The 2007 new wastewater systems reported one (1) violation during the 2007 operational period, eight (8) violations were reported in the 2008 operational period, 15 violations were reported during the 2009 operational period, and 23 violations were reported for 2010. Figure 5 shows this increasing trend in violations reported per year.

Figure 5: 2007 New Systems - Number of Violations Per Year



We have chosen to use a linear trend line to show the increasing trend of violations reported per year for the 2006 new systems. We will observe the 2011 violations data to determine if this is a continuing trend that should be discussed in next year report.

ET: 2008 New Systems

The 2008 new wastewater systems reported eight (8) violations during the 2008 operational period, 39 violations were reported in the 2009 operational period, 23 violations were reported during the 2010 operational period. The 2008 new systems are not showing an increasing trend in the number of violations over this three (3) year period of time.

Conclusions

The 2006 changes to Minn. Stat. § 115.477 added new information that was required to be reported by the MPCA beginning with the 2006 Annual Report. The 2010 Annual Report continues to report this new information and as a result, the format for the annual report continues to evolve. During the 2010 period, none of the three (3) new systems reported permit limit violations and the one (1) new SDS permitted wastewater system did not report any imminent threats to public health during 2010.

The 20 new facilities from the 2006 period reported no permit limit violations to the MPCA in 2006. During 2007, five (5) of these 20 systems reported a total of 14 permit limit violations. For 2008, five (5) of these 20 systems reported a total of 32 permit limit violations. In 2009, four (4) of the 20 systems reported a total of 32 permit limit violations. During 2010, six (6) of the 20 systems reported a total of 44 violations. The MPCA will discontinue tracking the operating record of these facilities after this report per the Statute.

The 11 new facilities from the 2007 period had one (1) new facility that reported one (1) permit limit violation to the MPCA in 2007. During 2008, five (5) of these 11 systems reported a total of eight (8) permit limit violations. For 2009, four (4) of the 11 systems reported a total of 15 permit limit violations. During 2010, four (4) of the 11 systems reported a total number of 23 violations. The MPCA will continue to track the operating record of these facilities in this reporting format through 2011 per the Statute.

The seven (7) new facilities from the 2008 period had one (1) facility that reported eight (8) permit limit violations to the MPCA in 2008. During 2009, four (4) of these seven (7) systems reported a total of 39 violations. During 2010, four (4) of these seven (7) systems reported a total of 23 violations. The MPCA will continue to track the operating record of these facilities in this reporting format through 2012 per the Statute.

The three (3) new facilities from the 2009 period had one (1) facility that reported zero (0) permit limit violations to the MPCA in 2009. During 2010, one (1) of these three (3) systems reported a total of four (4) violations. The MPCA will continue to track the operating record of these facilities in this reporting format through 2013 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. For 2009, the number of new systems decreased again, but the population equivalent served was slightly higher. In 2010, the number of new systems has remained the same, and systems average design flow and populations served were slightly lower.

The lower 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 (for population equivalents of approximately less than 500).

In addition, from 2002 to 2006, we observed that the new systems decreased in size. The data does show that the MPCA is still working with a growing number of smaller communities (or new developing areas) to provide their first wastewater treatment systems, and is reducing the number of communities in Minnesota without central wastewater collection and treatment systems.

An emerging trend that has been identified is the number of reported violations per year for the 2006 and 2007 new systems has slowly increased over time. It is also important to identify that the 2008 new systems violations reported per year did fall from 2009 to 2010, which may be a signal that is no longer an emerging trend.

Appendices

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 | Watsonwan | 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 five (**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.

Appendix II: Previous Years Violations Tables

Table A: 2008 New Wastewater Systems - 2009 Violations List

| Community | Permit Type | Parameter | Violation Date | Known Information Regarding Causes of Reported Limit Violations |
|-------------------------|-------------|-----------------------|----------------|--|
| Effie, City of | NPDES | TSS Percent Removal | Feb-09 | Calendar Monthly Average, %. Concentration and loading limits met. Returned to compliance. |
| Effie, City of | NPDES | Fecal Coliform | May-09 | Calendar Geometric Mean, #/100 ml. Low flow, unable to obtain representative sample. Returned to compliance. |
| Effie, City of | NPDES | TSS Percent Removal | Jul-09 | Calendar Monthly Average, %. Concentration and loading limits met. Returned to compliance. |
| Effie, City of | NPDES | Fecal Coliform | Aug-09 | Calendar Geometric Mean, #/100 ml. Low flow, unable to obtain representative sample. Resolution pending. |
| Effie, City of | NPDES | TSS Percent Removal | Sep-09 | Calendar Monthly Average, %. Concentration and loading limits met. Resolution pending. |
| Effie, City of | NPDES | CBOD5 | Sep-09 | Calendar Monthly Average, mg/L. Septic tanks pumped an caused high CBOD5. Resolution pending. |
| Effie, City of | NPDES | Fecal Coliform | Sep-09 | Calendar Geometric Mean, #/100 ml. Low flow, unable to obtain representative sample. Resolution pending. |
| Hope- Somerset Township | NPDES | CBOD5 | Apr-09 | Calendar Monthly Average, mg/L. Cause unknown. Returned to compliance. |
| Hope- Somerset Township | NPDES | CBOD5 | Apr-09 | Maximum Calendar Weekly Average, mg/L. Cause unknown. Returned to compliance. |
| Hope- Somerset Township | NPDES | CBOD5 Percent Removal | Apr-09 | Calendar Monthly Average, %. Cause unknown. Returned to compliance. |
| Hope- Somerset Township | NPDES | CBOD5 Percent Removal | Jun-09 | Calendar Monthly Average, %. Cause unknown. Returned to compliance. |
| Hope- Somerset Township | NPDES | CBOD5 | Aug-09 | Calendar Monthly Average, mg/L. Cause unknown. Returned to compliance. |
| Hope- Somerset Township | NPDES | CBOD5 | Aug-09 | Maximum Calendar Weekly Average, mg/L. Cause unknown. Returned to compliance. |
| Hope- Somerset Township | NPDES | CBOD5 Percent Removal | Aug-09 | Calendar Monthly Average, %. Cause unknown. Returned to compliance. |
| Hope- Somerset Township | NPDES | CBOD5 | Oct-09 | Calendar Monthly Average, mg/L. Cause unknown. Resolution pending. |
| Hope- Somerset Township | NPDES | CBOD5 | Oct-09 | Maximum Calendar Weekly Average, mg/L. Cause unknown. Resolution pending. |

Table A (continued): 2008 New Wastewater Systems - 2009 Violations List

| Community | Permit Type | Parameter | Violation Date | Known Information Regarding Causes of Reported Limit Violations |
|--------------------------------------|-------------|-----------------------|----------------|--|
| La Salle, City of | NPDES | CBOD5 | Mar-09 | Calendar Monthly Average, mg/L. Cause unknown. Returned to compliance. |
| Springsteel Island Sanitary District | NPDES | Total Phosphorus | Jan-09 | Calendar Monthly Average, mg/L. Operator error, not enough chemical added. Returned to compliance. |
| Springsteel Island Sanitary District | NPDES | Total Phosphorus | Jan-09 | Calendar Monthly Average, kg/day. Operator error, not enough chemical added. Returned to compliance. |
| Springsteel Island Sanitary District | NPDES | Total Phosphorus | Feb-09 | Calendar Monthly Average, mg/L. Operator error, not enough chemical added. Returned to compliance. |
| Springsteel Island Sanitary District | NPDES | Total Phosphorus | Feb-09 | Calendar Monthly Average, kg/day. Operator error, not enough chemical added. Returned to compliance. |
| Springsteel Island Sanitary District | NPDES | CBOD5 | Mar-09 | Maximum Calendar Weekly Average, mg/L. Mechanical failure. Returned to compliance. |
| Springsteel Island Sanitary District | NPDES | CBOD5 | Mar-09 | Maximum Calendar Weekly Average, kg/day. Mechanical failure. Returned to compliance. |
| Springsteel Island Sanitary District | NPDES | CBOD5 Percent Removal | Mar-09 | Calendar Monthly Average, %. Mechanical failure. Returned to compliance. |
| Springsteel Island Sanitary District | NPDES | TSS | Mar-09 | Calendar Weekly Average, mg/L. Mechanical failure. Returned to compliance. |
| Springsteel Island Sanitary District | NPDES | TSS | Mar-09 | Calendar Monthly Average, mg/L. Mechanical failure. Returned to compliance. |
| Springsteel Island Sanitary District | NPDES | TSS | Mar-09 | Calendar Weekly Average, kg/day. Mechanical failure. Returned to compliance. |
| Springsteel Island Sanitary District | NPDES | TSS | Mar-09 | Calendar Monthly Average, kg/day. Mechanical failure. Returned to compliance. |
| Springsteel Island Sanitary District | NPDES | Total Phosphorus | Mar-09 | Calendar Monthly Average, mg/L. Operator error, not enough chemical added. Returned to compliance. |
| Springsteel Island Sanitary District | NPDES | Total Phosphorus | Mar-09 | Calendar Monthly Average, kg/day. Operator error, not enough chemical added. Returned to compliance. |
| Springsteel Island Sanitary District | NPDES | Total Phosphorus | Apr-09 | Calendar Monthly Average, mg/L. Operator error, not enough chemical added. Returned to compliance. |
| Springsteel Island Sanitary District | NPDES | Total Phosphorus | May-09 | Calendar Monthly Average, mg/L. Operator error, not enough chemical added. Returned to compliance. |
| Springsteel Island Sanitary District | NPDES | Total Phosphorus | Jun-09 | Calendar Monthly Average, mg/L. Operator error, not enough chemical added. Returned to compliance. |

Table A (continued): 2008 New Wastewater Systems - 2009 Violations List

| Community | Permit Type | Parameter | Violation Date | Known Information Regarding Causes of Reported Limit Violations |
|--------------------------------------|-------------|------------------|----------------|---|
| Springsteel Island Sanitary District | NPDES | TSS | Jul-09 | Calendar Weekly Average, mg/L. Mechanical failure. Returned to compliance. |
| Springsteel Island Sanitary District | NPDES | TSS | Jul-09 | Calendar Monthly Average, mg/L. Mechanical failure. Returned to compliance. |
| Springsteel Island Sanitary District | NPDES | Total Phosphorus | Jul-09 | Calendar Monthly Average, mg/L. Operator error, not enough chemical added. Returned to compliance. |
| Springsteel Island Sanitary District | NPDES | Total Phosphorus | Jul-09 | Calendar Monthly Average, kg/day. Operator error, not enough chemical added. Returned to compliance. |
| Springsteel Island Sanitary District | NPDES | Total Phosphorus | Aug-09 | Calendar Monthly Average, mg/L. Operator error, not enough chemical added. Executed schedule of compliance. |
| Springsteel Island Sanitary District | NPDES | Total Phosphorus | Nov-09 | Calendar Monthly Average, mg/L. Operator error, not enough chemical added. Resolution pending. |
| Total = 39 | | | | |

Table B: 2008 New Wastewater Systems - 2008 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 | | | | |

Table C: 2007 New Wastewater Systems – 2009 Violations List

| Community | Permit Type | Parameter | Violation Date | Known Information Regarding Causes of Reported Limit Violations |
|------------------|-------------|---------------------|----------------|--|
| Evan, City of | NPDES | CBOD5 | Apr-09 | Calendar Weekly Average, mg/L. Cause unknown. Returned to compliance. |
| Tom's Harbor | SDS | Total Nitrogen | Jul-09 | 12 Month Moving Average, mg/L. Cause unknown. Resolution pending. |
| Tom's Harbor | SDS | Total Nitrogen | Aug-09 | 12 Month Moving Average, mg/L. Cause unknown. Returned to compliance. |
| Tom's Harbor | SDS | Total Nitrogen | Oct-09 | 12 Month Moving Average, mg/L. Cause unknown. Resolution pending. |
| Viking, City of | NPDES | TSS Percent Removal | Jan-09 | Calendar Monthly Average, %. Cause unknown. Returned to compliance. |
| Viking, City of | NPDES | Flow | Feb-09 | Daily Maximum, mgd. Cause unknown. Resolution pending. |
| Viking, City of | NPDES | Flow | Mar-09 | Daily Maximum, mgd. Cause unknown. Resolution pending. |
| Viking, City of | NPDES | Flow | Mar-09 | Calendar Monthly Average, mgd. Cause unknown. Resolution pending. |
| Viking, City of | NPDES | Flow | Apr-09 | Daily Maximum, mgd. Cause unknown. Resolution pending. |
| Viking, City of | NPDES | Flow | Apr-09 | Calendar Monthly Average, mgd. Cause unknown. Resolution pending. |
| Viking, City of | NPDES | Flow | May-09 | Daily Maximum, mgd. Cause unknown. Resolution pending. |
| Viking, City of | NPDES | Flow | May-09 | Calendar Monthly Average, mgd. Cause unknown. Resolution pending. |
| Viking, City of | NPDES | Flow | Jun-09 | Daily Maximum, mgd. Cause unknown. Resolution pending. |
| Viking, City of | NPDES | TSS Percent Removal | Oct-09 | Calendar Monthly Average, %. Cause unknown. Resolution pending. |
| Villard, City of | SDS | Fecal Coliform | Jun-09 | Single Allowable Value, #/100 ml. Cause unknown. Returned to compliance. |
| Total = 15 | | | | |

Table D: 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 E: 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 | | | | |

Table F: 2006 Wastewater Systems – 2009 Violations List

| Community | Permit Type | Parameter | Violation Date | Known Information Regarding Causes of Reported Limit Violations |
|--|-------------|----------------|----------------|---|
| Credit River - Territory | SDS | Total Nitrogen | Apr-09 | Instantaneous Maximum, mg/L. Low Flow. Resolution pending. |
| Credit River - Territory | SDS | Total Nitrogen | Jul-09 | Instantaneous Maximum, mg/L. Low Flow. Resolution pending. |
| Credit River - Territory | SDS | Total Nitrogen | Oct-09 | Instantaneous Maximum, mg/L. Low Flow. Resolution pending. |
| Edgewood Estates | SDS | Total Nitrogen | Jan-09 | 12 Month Moving Average, mg/L. Low Flow. Resolution pending. |
| Edgewood Estates | SDS | Total Nitrogen | Feb-09 | 12 Month Moving Average, mg/L. Low Flow. Resolution pending. |
| Edgewood Estates | SDS | Total Nitrogen | Mar-09 | 12 Month Moving Average, mg/L. Low Flow. Resolution pending. |
| Edgewood Estates | SDS | Total Nitrogen | Apr-09 | 12 Month Moving Average, mg/L. Low Flow. Resolution pending. |
| Edgewood Estates | SDS | Total Nitrogen | May-09 | 12 Month Moving Average, mg/L. Low Flow. Resolution pending. |
| Edgewood Estates | SDS | Total Nitrogen | Jun-09 | 12 Month Moving Average, mg/L. Low Flow. Resolution pending. |
| Edgewood Estates | SDS | Total Nitrogen | Jul-09 | 12 Month Moving Average, mg/L. Low Flow. Resolution pending. |
| Edgewood Estates | SDS | Total Nitrogen | Aug-09 | 12 Month Moving Average, mg/L. Low Flow. Resolution pending. |
| Edgewood Estates | SDS | Total Nitrogen | Sep-09 | 12 Month Moving Average, mg/L. Low Flow. Resolution pending. |
| Edgewood Estates | SDS | Total Nitrogen | Oct-09 | 12 Month Moving Average, mg/L. Low Flow. Resolution pending. |
| Edgewood Estates | SDS | Total Nitrogen | Nov-09 | 12 Month Moving Average, mg/L. Low Flow. Resolution pending. |
| Riverwood Hills Septic Drainfield Site | SDS | Total Nitrogen | Jan-09 | 12 Month Moving Average, mg/L. Low Flow. Resolution pending. |
| Riverwood Hills Septic Drainfield Site | SDS | Total Nitrogen | Feb-09 | 12 Month Moving Average, mg/L. Low Flow. Resolution pending. |

Table F (continued): 2006 Wastewater Systems – 2009 Violations List

| Community | Permit Type | Parameter | Violation Date | Known Information Regarding Causes of Reported Limit Violations |
|--|-------------|----------------|----------------|---|
| Riverwood Hills Septic Drainfield Site | SDS | Total Nitrogen | Mar-09 | 12 Month Moving Average, mg/L. Low Flow. Resolution pending. |
| Riverwood Hills Septic Drainfield Site | SDS | Total Nitrogen | Apr-09 | 12 Month Moving Average, mg/L. Low Flow. Resolution pending. |
| Riverwood Hills Septic Drainfield Site | SDS | Total Nitrogen | May-09 | 12 Month Moving Average, mg/L. Low Flow. Resolution pending. |
| Riverwood Hills Septic Drainfield Site | SDS | Total Nitrogen | Jun-09 | 12 Month Moving Average, mg/L. Low Flow. Resolution pending. |
| Riverwood Hills Septic Drainfield Site | SDS | Total Nitrogen | Jul-09 | 12 Month Moving Average, mg/L. Low Flow. Resolution pending. |
| Riverwood Hills Septic Drainfield Site | SDS | Total Nitrogen | Aug-09 | 12 Month Moving Average, mg/L. Low Flow. Resolution pending. |
| River Park | SDS | Total Nitrogen | Jan-09 | 12 Month Moving Average, mg/L. Low Flow. Resolution pending. |
| River Park | SDS | Total Nitrogen | Feb-09 | 12 Month Moving Average, mg/L. Low Flow. Resolution pending. |
| River Park | SDS | Total Nitrogen | Mar-09 | 12 Month Moving Average, mg/L. Low Flow. Resolution pending. |
| River Park | SDS | Total Nitrogen | Apr-09 | 12 Month Moving Average, mg/L. Low Flow. Resolution pending. |
| River Park | SDS | Total Nitrogen | May-09 | 12 Month Moving Average, mg/L. Low Flow. Resolution pending. |
| River Park | SDS | Total Nitrogen | Jun-09 | 12 Month Moving Average, mg/L. Low Flow. Resolution pending. |
| River Park | SDS | Total Nitrogen | Jul-09 | 12 Month Moving Average, mg/L. Low Flow. Resolution pending. |
| River Park | SDS | Total Nitrogen | Aug-09 | 12 Month Moving Average, mg/L. Low Flow. Resolution pending. |
| River Park | SDS | Total Nitrogen | Sep-09 | 12 Month Moving Average, mg/L. Low Flow. Resolution pending. |
| River Park | SDS | Total Nitrogen | Oct-09 | 12 Month Moving Average, mg/L. Low Flow. Resolution pending. |
| Total = 32 | | | | |

Table G: 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 G (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 H: 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 | | | | |