

SPDES Compliance and Enforcement Annual Report: April 1, 2009 - March 31, 2010

Bureau of Water Compliance
Division of Water

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Table of Contents

Executive Summary.....	1
Introduction.....	3
Water Quality Management	3
SPDES Program Overview	5
SPDES Permits in Effect.....	6
SPDES Program Monitoring and Compliance	9
SPDES Program Enforcement.....	12
How Enforcement Improves Water Quality	15
2009-2010 Compliance and Enforcement Highlights	16
Appendix A - Definition of Terms	24
Appendix B –	
SPDES Program Compliance Monitoring and Enforcement Activities.....	30

Regarding this report:

- This report details activities and provides data for the period of April 1, 2009 through March 31, 2010 (State Fiscal Year 2009/10).
- Footnotes will either clarify an issue in the report body or provide a website address for obtaining additional information.
- Hyperlinks directed to the corresponding NYSDEC webpage are available only for the online version of this report.

Executive Summary

Article 17 of New York State Environmental Conservation Law authorizes the New York State Department of Environmental Conservation (NYSDEC) to regulate discharges to our state's water resources through the [State Pollutant Discharge Elimination System \(SPDES\)](#)¹ permitting program. This annual report provides a summary of NYSDEC's compliance and enforcement activities associated with the implementation of the SPDES permitting program for state fiscal year 2009/10 (SFY 2009/10).

SPDES permits incorporate current water quality standards and establish stringent performance standards, effluent limitations, and operating conditions designed to protect our state's water resources. These permits require effective implementation of best management practices and timely sampling, analysis, and reporting to NYSDEC on the quality of wastewater discharged under the SPDES permit. In addition to issuing permits, NYSDEC conducts facility inspections and continually reviews facility discharge data to ensure compliance.

From the inception of the Clean Water Act (CWA) in 1972 until the mid-1990s, NYSDEC efforts focused primarily on point source discharges from municipal and industrial wastewater treatment plants. Expansion of the SPDES permit program in the late 1990s led to NYSDEC issuing SPDES permits for stormwater runoff from construction, industrial and municipal areas, and for waste management activities associated with animal feeding operations. Accordingly, the number of SPDES-permitted facilities has nearly doubled since 1998.

The regulation of stormwater and animal agriculture runoff has led to an overall improvement in water quality. However, other challenges to water quality remain, including pollutants resulting from atmospheric deposition and from pharmaceuticals and personal care products that many households routinely flush down the drain.

A significant challenge to the state's water resources is for NYSDEC to maintain a sufficient level of staffing necessary to maintain the gains in water quality improvements since passage of the Clean Water Act. Given the near doubling of SPDES-permitted facilities over the past 10 years, the resources necessary to issue permits, inspect facilities, and enforce permits and regulations have not kept pace.

With limited resources, NYSDEC must continually prioritize its efforts to address sources of pollution having the highest potential to impact public health, groundwater, surface water and other natural resources.

Notable accomplishments during SFY 2009/10 include:

¹ www.dec.ny.gov/permits/6054.html

- NYSDEC and its partners² executed 226 enforcement actions resulting in the assessment of almost \$32 million in penalties and \$10.5 million in environmental benefit projects.
- The percentage of facilities in Significant Non-Compliance (SNC) fell from 28 percent to 19 percent for the state's 346 major-class facilities. This was a result of more timely enforcement by NYSDEC for priority violations of SPDES permits.
- NYSDEC and its partner organizations conducted 3,221 compliance inspections. This was a slight decrease from the 3,305 inspections conducted over the 2008 state fiscal year.
- All inspections conducted during SFY 2009/10 included a compliance rating of either "satisfactory," "marginal," or "unsatisfactory" assigned to the facility. These ratings provide the general compliance status observed during the inspection and help guide NYSDEC's response to inspection findings.
- On January 22, 2009, NYSDEC's commissioner delegated authority to the director of the Division of Water (or the director's designee) to execute routine orders on consent for SPDES violations for failure to submit required reports and certifications in a timely manner. Fully implemented during SFY 2009/10, this change has enabled NYSDEC to streamline the enforcement process for these types of violations.

NYSDEC anticipates there will be changes to the SPDES compliance assurance program as the United States Environmental Protection Agency (EPA) has released its Clean Water Enforcement Action Plan.³ Changes proposed in this plan include: the requirement for electronic submittal of discharge monitoring reports and notices of intent for permit coverage; increased cooperation and work plan coordination between USEPA regional offices and states; and focusing compliance and enforcement activities on watersheds impacted by water quality and facility sectors with poor compliance. NYSDEC expects that implementation of these changes will increase the efficiency and effectiveness of the SPDES compliance assurance program.

This annual report has been prepared to enhance the public's understanding of how NYSDEC's compliance assurance and enforcement of SPDES permits results in the protection of water quality.

² Partners include the EPA, county health departments, and the Interstate Environmental Commission

³ www.epa.gov/oecaerth/civil/cwa/cwaenplan.html

Introduction

NYSDEC protects New York State's water resources through various regulations, policies and partnerships. The agency's Division of Water (DOW), [Bureau of Water Compliance \(BWC\)](#), with support from the Office of General Council and the Division of Law Enforcement, manages the compliance and enforcement elements of the State Pollutant Discharge Elimination System (SPDES) Permit Program.

BWC has prepared this report to summarize DOW's compliance and enforcement activities related to the SPDES Permit Program during SFY 2009/10. For additional information on all DOW programs and functions, please visit NYSDEC's website at: www.dec.ny.gov/chemical/290.html.

Water Quality Management

To address current challenges and ongoing needs, DOW implements its policies and priorities on a continuous basis through the water management cycle, shown in Figure 1.

Figure 1



This cycle consists of five basic steps, each interdependent upon one another. These steps are:

- **Monitoring**

NYSDEC gathers information on the health of the state's waters by monitoring important characteristics such as pH, dissolved oxygen, temperature, and numerous chemical and biological components in key locations throughout the state. Supplementing these data are the results of aquatic organism sampling, as the type and number of these organisms assist in determining the health of a waterbody. Monitoring data become part of NYSDEC's [Waterbody Inventory](#).⁴

- **Assessment**

A key element of assessment includes assigning a 'best use' for a waterbody, such as being a source of drinking water or being used for swimming or fishing. Water quality standards establish criteria for defining the maximum level of pollutants allowable for a waterbody to still meet its best-use designation. NYSDEC maintains a [Priority Waterbody List \(PWL\)](#)⁵ of the waters that do not meet standards or are unable to support their designated best uses and a [CWA Section 303d list](#)⁶ of those non-supporting waters that require development of a [Total Maximum Daily Load \(TMDL\)](#).⁷

- **Planning and Management**

Water resources found on the PWL have problems attributable to different sources of pollution such as malfunctioning sewage treatment plants, street runoff during storm events, or contaminated runoff from industrial, farming, or construction activities. NYSDEC uses the PWL to manage water resources and plan staff assignments. Examples of water quality management plans currently underway are upgrades to municipal wastewater systems discharging to Onondaga Lake and the Long Island Sound. Upgrades will enhance the removal of phosphorus and nitrogen. Excessive amounts of these nutrients in wastewater discharge support undesirable plant growth and reduce oxygen available to aquatic life.

- **Implementation and Permitting**

Monitoring, assessment, and management planning all contribute to implementation of the SPDES Permit Program. SPDES permits issued for discharges to waters of the state may contain performance standards that protect water quality. They also may include schedules of compliance that require the permittee to upgrade or install new treatment technology by a specific date. In addition, NYSDEC works cooperatively with local governments and organizations to encourage control of non-point sources of pollution, such as polluted runoff from stormwater and agriculture operations.

⁴ www.dec.ny.gov/chemical/23846.html

⁵ www.dec.ny.gov/chemical/23846.html

⁶ www.dec.ny.gov/chemical/31290.html

⁷ **Total Maximum Daily Load** is a calculation of the maximum amount of a pollutant, or multiple pollutants, that a waterbody can receive and still meet water quality standards.

- **Compliance and Enforcement**

Compliance assurance and enforcement includes the evaluation of discharge monitoring reports that dischargers submit as a condition of their SPDES permit. NYSDEC evaluates these reports to determine the compliance status of a facility. NYSDEC also relies on facility inspections and other reports, such as monthly operating reports, to determine compliance status. Upon identifying a minor violation of a SPDES permit, NYSDEC may initiate informal enforcement action by sending a warning letter or a Notice of Violation (NOV) to promote a voluntary return to compliance. When a voluntary return to compliance does not occur, or as conditions may warrant, formal enforcement action is considered. Formal enforcement actions include an Order on Consent, Notice of Enforcement Hearing and Complaint, Cease and Desist Directive, Commissioner's Order, or a ticket issued by an environmental conservation officer (ECO).

SPDES Program Overview

The federal [Clean Water Act \(CWA\)](#)⁸ authorized development of a national program for implementing requirements for all discharges to surface waters of the United States. The United States Environmental Protection Agency (EPA) authorizes New York State's SPDES program to regulate discharge activities falling under the federal program. New York's SPDES program extends beyond the requirements of the CWA by also regulating discharges to groundwater.

NYSDEC implements the SPDES program through the issuance of wastewater discharge permits, including both individual permits and general permits. These permits establish stringent performance standards and operating conditions designed to protect the state's waters.

- An individual SPDES permit applies to a single facility, in one location, possessing unique discharge characteristics and other factors.
- A general SPDES permit applies to a category of dischargers with similar operations or pollutants. Additionally, a general permit requires that each permit issued contains similar effluent limits, operating conditions, and the same or similar monitoring.

These permits may incorporate current water quality standards, effective implementation of best management practices (BMP) by permitted facilities, and timely sampling, analysis and reporting to NYSDEC on the quality of wastewater discharged under the SPDES permit.

A permit, once issued, requires the owner or operator to comply with specific conditions. For larger, more complex facilities, these requirements typically include limits on physical, chemical or biological characteristics of the discharge. For smaller facilities, including those discharging to groundwater, the permit may simply require maintaining data and information at the facility site for review by NYSDEC staff during an inspection. In addition to the specific conditions found in the permit document itself, the SPDES permit also references "general conditions" required

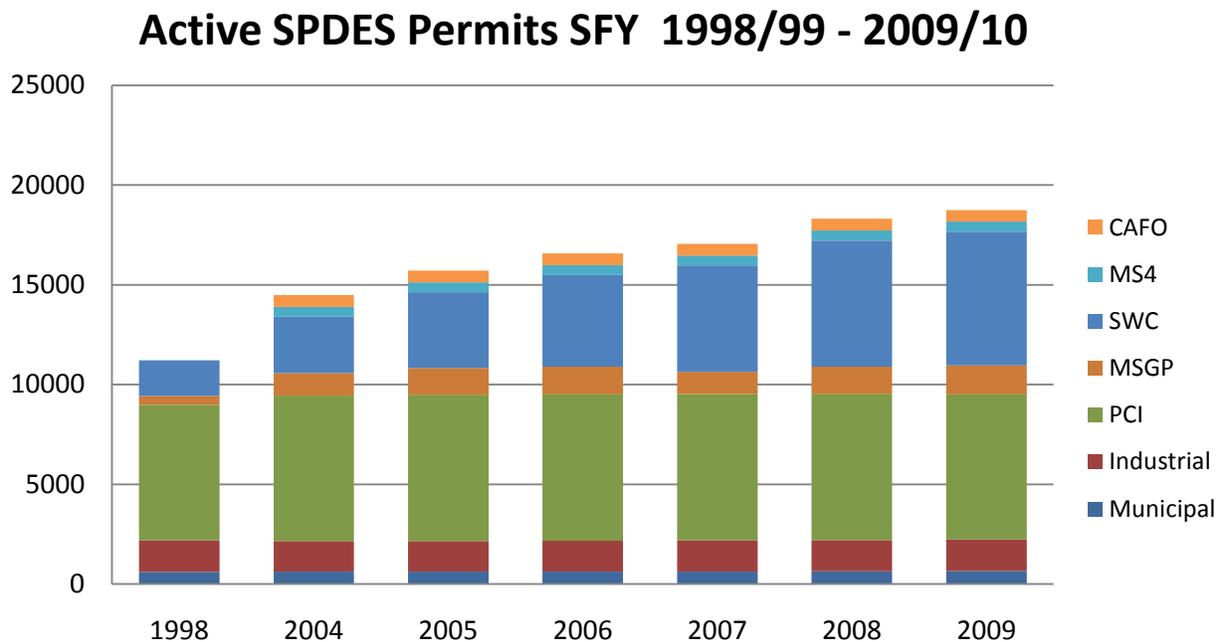
⁸ <http://epw.senate.gov/water.pdf>

by the SPDES regulation [6 NYCRR Part 750-2](#).⁹ This regulation contains requirements that are applicable to all permittees, including records retention, proper operation and maintenance of a treatment plant, and requirements to report treatment plant bypasses and non-compliance events to NYSDEC.

SPDES Permits in Effect

Since 1998, the number of facilities covered under an individual or general SPDES permit in New York State has increase significantly from 11,210 facilities in SFY 1998/99 to 18,748 facilities in SFY 2009/10. As depicted in Figure 2, this increase is largely due to the addition of several new SPDES general permits, primarily those relating to stormwater and animal farming activities.

Figure 2



NYSDEC issues individual SPDES permits for three discharge categories:

- **Municipal**

This category includes all publicly owned treatment works (POTW, as defined by [Section 201 of the CWA](#)), owned by either a municipality or the state (does not include federally owned treatment works). A POTW is classified as either major or minor based on the facility’s design flow, population served, or potential for significant water quality impacts. In SFY 2009/10, there were 635 POTWs in New York State.

⁹ www.dec.ny.gov/regs/4584.html

- **Industrial**

Industrial discharges are discharges resulting from industrial, manufacturing, trade or business processes. Industrial treatment facilities are classified as major, minor, or non-significant based on the characteristics of the wastewater, complexity of treatment processes, and the facility's design flow. In SFY 2009/10, there were 1,579 industrial facilities in New York State.

- **Private, Commercial, and Institutional (PCI)**

Private, commercial, and institutional-type (PCI) facilities primarily discharge domestic sewage with no addition of industrial waste. PCI discharges generally refer to wastewaters generated by a single facility or building complex under single ownership and may or may not be under public ownership. Examples include restaurants, schools, apartment complexes, mobile home parks, and campgrounds. PCI facilities discharging 1,000-10,000 gallons per day of treated sanitary waste to groundwater may not require an individual SPDES permit if they qualify and obtain coverage under the PCI general permit described below. PCI facilities requiring individual SPDES permits are classified as minor or non-significant. In SFY 2009/10, 6,338 PCI facilities discharged under an individual SPDES permit.

The second type of SPDES permit is a general permit. General permits are issued to cover a category of dischargers involving the same or similar operations and discharging similar types of pollutants. NYSDEC has issued general permits covering the following categories of dischargers:

- **Stormwater Discharges from Construction Activities (SWC)**

This general permit covers stormwater discharges resulting from construction activities involving soil disturbances of one or more acres. The owner or operator must obtain coverage under the SPDES general permit prior to commencing construction activity. In SFY 2009/10, there were 6,709 sites covered under this SPDES general permit.

- **Multi-Sector General Permit (MSGP)**

This general permit covers stormwater discharges associated with 31 different categories of industrial activities.¹⁰ Examples of such activities include concrete manufacturing, vehicle dismantling, scrap metal recycling, or any activity NYSDEC designates as requiring this type of permit. In SFY 2009/10, there were 1,448 MSGP sites covered under this SPDES general permit.

- **Municipal Separate Storm Sewer System (MS4)**

This general permit covers separate storm sewer systems carrying stormwater and runoff from a city, town, or village that are not part of a combined sewage system and that discharge to surface waters of the state. In SFY 2009/10, there were 522 MS4s in New York State.

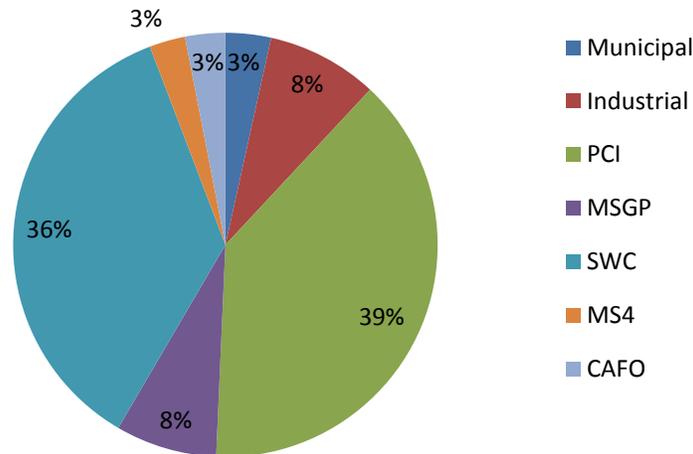
¹⁰ www.dec.ny.gov/chemical/9009.html

- Concentrated Animal Feeding Operation (CAFO)**
 This general permit covers discharges that originate from feeding operations where animals are raised and kept in confined situations and that meet threshold population criteria (variable depending upon breed/age of the animal).¹¹ In SFY 2009/10, there were 569 permitted CAFOs in New York State.
- Private, Commercial, and Institutional (PCI)**
 This permit is issued for a discharge to groundwater of 1,000-10,000 gallons per day of treated sanitary waste, with no addition of industrial wastes from on-site treatment works serving PCI facilities.

The percentage of SPDES-permitted facilities in each discharge category is shown in Figure 3.

Figure 3

SPDES-Permitted Facilities by Discharge Class - SFY 2009/10



The following general permits are under development by NYSDEC:

- Winery – to regulate wastewater originating from the production of wine
- Aquatic pesticides – to regulate the application of pesticides registered for use on surface waters

NYSDEC will evaluate the resources necessary to ensure compliance with these categories of dischargers as part of the work planning process. Additional information on SPDES permits is available at: www.dec.ny.gov/permits/6054.html.

¹¹ www.dec.ny.gov/permits/6285.html

SPDES Program Monitoring and Compliance

NYSDEC monitors SPDES-permitted facilities and the quality of wastewater they discharge through active and passive methods consisting of the following:

- Receiving periodic discharge monitoring reports (DMR) from permitted facilities that provide laboratory analysis of wastewater discharged by the facility¹²
- Performing routine facility inspections
- Responding to citizen complaints of illegal or questionable activities and situations
- Requiring certification of wastewater treatment plant operators and providing technical and regulatory assistance and training

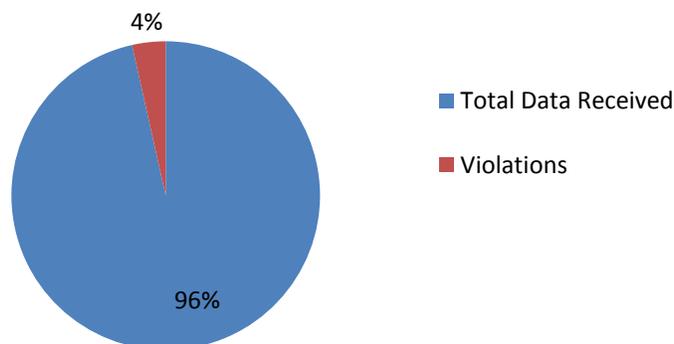
Discharge Monitoring Reports

The cornerstone of NYSDEC's surveillance program involves receiving a DMR on a recurring basis. Any SPDES-permitted facility identified as being a "significant" facility is required to periodically report sample results representative of the discharge from that facility. Each month, NYSDEC receives nearly 1,600 DMRs reporting data on a monthly, quarterly, semi-annual, or annual basis, depending on the requirements of the SPDES permit for that facility. In SFY 2009/10, NYSDEC received over 20,000 DMRs that contained over 500,000 data points.

The DMR provides NYSDEC with sampling data that is evaluated to determine the compliance status of a permitted facility by comparing actual effluent discharge quality to the SPDES permit limits. NYSDEC enters this effluent quality data into EPA's compliance data system. NYSDEC and EPA use this data system to detect violations and support further compliance and enforcement activities. As shown in Figure 4, data received by NYSDEC indicates that approximately 96% of all monitored effluent values comply with the respective permit limits.

Figure 4

Individual SPDES Permit Data Received in 2009



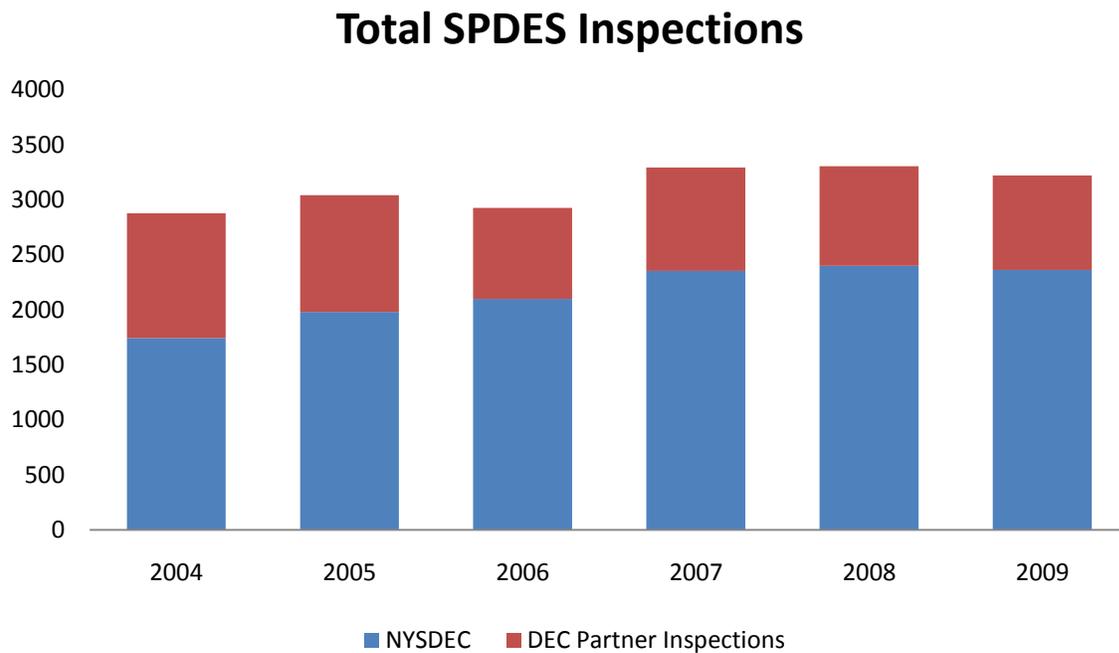
¹² SPDES permits require that any discharge data submitted to NYSDEC be determined through sample analysis at an ELAP-approved laboratory. Visit www.wadsworth.org/labcert/elap/elap.html for details.

Reported discharge data for SPDES-permitted facilities is accessible from the EPA Enforcement and Compliance History Online (ECHO) webpage at: www.epa-echo.gov/echo/index.html.

Inspections

To further ensure compliance with SPDES permits, NYSDEC maintains a field presence through nine regional and five sub-regional offices, with additional support from staff in Albany headquarters. These staff issue permits, perform inspections, collect samples, certify facility operation staff, provide technical assistance, review discharge data and respond to citizen complaints involving water quality. In the last three years, NYSDEC has conducted an average of nearly 2,400 compliance inspections, with an additional 900 performed by partner organizations such as county health departments (Figure 5).

Figure 5



Citizen Complaints

Inquiries and complaints by citizens and observations of possible violations assist NYSDEC's SPDES program compliance and enforcement efforts. NYSDEC investigates these complaints to determine any impact upon the environment or public health. If staff finds a violation, NYSDEC seeks corrective action to minimize impacts and, if necessary, pursues enforcement through the Office of General Counsel or Division of Law Enforcement.

Certification and Training

Competent and credentialed operators serve as frontline defenders of public health in their own communities. Since 1937, New York State has required certification of municipal wastewater treatment plant operators. [Part 650¹³](#) of Title 6 of *New York Codes, Rules and Regulations* details requirements of the Wastewater Operator Certification Program. Prior to receiving this certificate, an individual must complete NYSDEC-approved training, possess hands-on operational experience at a treatment facility, and pass a certification exam. Additionally, operators must re-certify every five years by completing NYSDEC-approved training. Over 3,100 individuals currently possess NYSDEC-issued wastewater treatment operator certificates.

Staff reductions in DOW have made it necessary for NYSDEC to find alternative solutions in meeting strategic training needs of wastewater treatment operators and local officials. In response, NYSDEC has begun a cooperative effort with the New York Water Environment Association (NYWEA) to assist in meeting training needs. In late 2009, NYSDEC and NYWEA surveyed the training needs of wastewater treatment facility personnel across the state, continuing a survey that NYSDEC alone had done since 1992. NYWEA used the results to develop and implement a training plan that meets the needs of some of these operators.

During SFY 2009/10, NYSDEC, with assistance from NYWEA and the New England Interstate Water Pollution Control Commission, delivered a total of 16 seminars and workshops. These outreach events were held in locations across the state and focused on topics such as:

- Operations and maintenance
- Process control
- Nutrient removal
- Sample collection and laboratory analysis
- Control of fats, oils, and grease (FOG)
- Energy consumption efficiency
- Troubleshooting and problem solving

Several of these events specifically targeted elected local officials, covering strategies to efficiently finance and operate their communities' wastewater infrastructure while maintaining compliance with their SPDES permits. Overall, about 530 operational, administrative, and managerial local officials attended the events.

¹³ www.dec.ny.gov/regs/4624.html

SPDES Program Enforcement

When NYSDEC becomes aware of violations of a SPDES permit, staff respond by using appropriate and available tools—various informal or formal enforcement actions—to expedite a return to compliance. Typically, staff initially respond with an informal enforcement action, such as sending a warning letter, holding a compliance conference with the permittee, or issuing a Notice of Violation (NOV), to promote voluntary compliance with regulations and permit requirements.

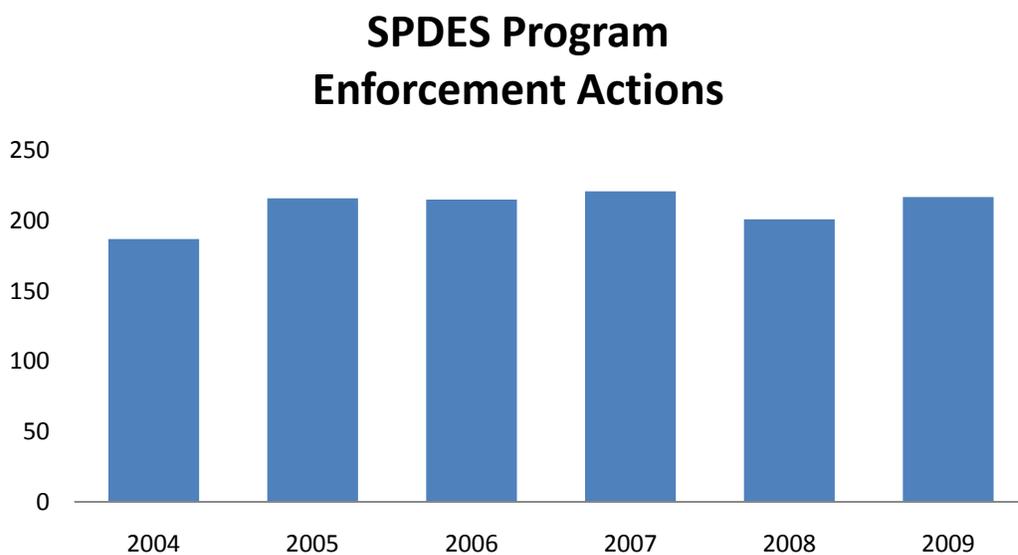
Formal enforcement becomes necessary when a return to compliance is not achieved through informal enforcement actions or when a violation results in significant negative impact to the environment or public health. NYSDEC has many formal enforcement tools at its disposal. The most commonly used are tickets issued by an ECO and Orders on Consent. An ECO-issued ticket for a discharge violation requires payment of a penalty by the respondent. An Order on Consent is a legally binding document issued by NYSDEC and agreed to by the SPDES permit holder.

An Order on Consent commonly includes some or all of the following:

- Payable penalty
- Suspended and/or stipulated penalties
- Interim SPDES permit effluent limits
- Compliance schedule for corrective action

Figure 6 shows the annual number of NYSDEC enforcement actions (ECO tickets and Orders on Consent) since 2004.

Figure 6



EPA/NYSDEC Enforcement Agreement

An essential component of EPA's authorization of the SPDES program is the EPA/NYSDEC 1987 Enforcement Agreement. This agreement outlines the elements necessary to ensure compliance of facilities permitted under the SPDES program. These elements include:

- Monitoring permit compliance
- Maintaining and sharing compliance information with EPA
- Applying criteria to identify facilities in Significant Non-Compliance
- Identifying facilities that require enforcement action to restore compliance
- Ensuring timely and appropriate enforcement response to SNC violations

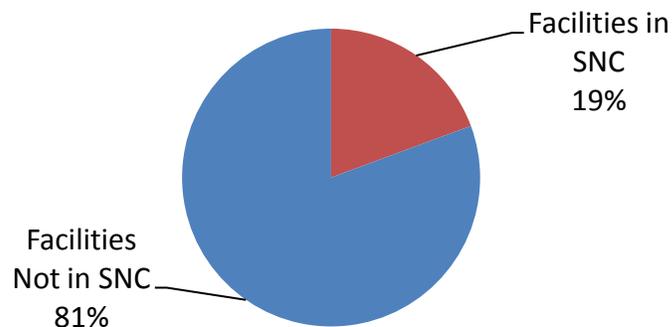
The enforcement agreement also establishes procedures for EPA oversight of New York State SPDES enforcement activities with priority given to major dischargers in Significant Non-Compliance (SNC). SNC consists of more severe violations, including:

- Discharge monitoring values exceeding an EPA-accepted threshold
- A facility's failure to provide a specific document or report required as a condition in a legally binding Order on Consent or other enforcement action
- A discharge that threatens public health or the environment

To ensure that SNC violations are addressed in a consistent manner, the agreement includes threshold criteria that, once exceeded, require formal enforcement action to return the facility to compliance. NYSDEC and EPA meet quarterly to ensure that SNC violations meeting these criteria are addressed in accordance with the enforcement agreement. At each quarterly meeting, EPA typically presents NYSDEC with a list of about 30-40 major facilities meeting the SNC criteria. The facilities on this list change from quarter to quarter as some return to compliance while others join the list.

Figure 7

Major-class Facilities in SNC for at least one-quarter in SFY 2009/10



The SNC rate provides a summary of facilities that met the SNC criteria at least once during the entire year. As shown in Figure 7, in SFY 2009/10, the SNC rate for the 346 major SPDES-permitted facilities in New York State was 19%. This is a decrease from the previous year's rate of 28% and compares favorably to the national average of 24%, as reported in the EPA [Clean Water Act Enforcement Action Plan](#).¹⁴

A facility can have a violation or meet the SNC criteria for a variety of reasons. These reasons may include operational issues, temporary process upsets caused by illegal dumping into the sewer system, or factors that remain unknown until thoroughly investigated. However, with properly trained personnel and good operational and maintenance programs, treatment facility operators usually make corrective actions before a violation becomes SNC.

While the rate of SNC in New York State is comparable to the national figure, New York is unique in the number and ages of facilities it permits through the SPDES program, primarily municipal wastewater treatment facilities. Having long been leaders in providing water quality protection through the collection and treatment of wastewater, many of New York's systems are reaching the end of their effective lives. Presently, they serve over 15 million state residents.

Once a collection and treatment system reaches the end of its useful life, unexpected or even catastrophic failure may occur, potentially impacting public health and the environment. Recent efforts at the federal and state level have sought to identify these impacts and obtain the necessary public investment to ensure continuation of effective treatment and disposal of wastewater.

In 2008, NYSDEC released the report, [Wastewater Infrastructure Needs of New York State](#),¹⁵ which details the history and outlook for municipal wastewater collection and treatment in the state. This report also indicates that the projected 20-year needs of New York's municipal wastewater treatment facilities are in excess of \$36 billion. A national review of wastewater collection and treatment needs is available from EPA at: <http://water.epa.gov/scitech/datait/databases/cwns/>.

¹⁴ www.epa.gov/oecaerth/civil/cwa/cwaenfplan.html

¹⁵ www.dec.ny.gov/chemical/42383.html/

How Enforcement Improves Water Quality

SPDES permits are issued with discharge limits designed to protect public health and water quality. New or revised policies or regulations may require SPDES permits to be modified to include more stringent limits than were previously in place. In these cases, NYSDEC establishes a schedule of compliance that allows the permitted facility to meet the new discharge limits over time.

A schedule of compliance may include specific deadlines for the facility to design and install equipment or features necessary to comply with new limits. If elements of the schedule of compliance are not met, NYSDEC may initiate enforcement action such as an Order on Consent. This imposes a financial penalty and may adjust the discharge limits that the facility must adhere to under the revised SPDES permit.

For example, Long Island Sound has widespread water quality problems due to low levels of dissolved oxygen, especially at lower depths during warmer months. Extensive research conducted by NYSDEC in cooperation with the Connecticut Department of Environmental Protection (CTDEP) and EPA indicate that low levels of dissolved oxygen are largely attributable to the excessive discharge of nitrogen.

In 2000, both CTDEP and NYSDEC issued TMDLs requiring a 58.5% reduction in point-source discharges of nitrogen over a 15-year period, starting on August 1, 1999 and ending August 1, 2014. NYSDEC subsequently issued SPDES permit modifications to 23 municipal wastewater treatment plants that discharge into the Long Island Sound.

While most permitted facilities were able to meet these new discharge limits, some were not. As a result, NYSDEC and the New York State attorney general's office initiated enforcement actions against the non-complying facilities. This resulted in the issuance of either an administrative Order on Consent or a judicial Consent Decree to develop revised enforceable schedules and allow completion of the upgrades.

When complete, compliance with this combination of permits, orders and judgments will result in 23 advanced wastewater treatment plant upgrades at a cost of about \$2 billion. It is estimated that these upgrades will remove 17,079 tons per year of nitrogen from the Long Island Sound ecosystem, enhance dissolved oxygen levels, and lessen the negative impact upon aquatic life.

2009-2010 Compliance and Enforcement Highlights

➤ Municipal Wastewater Treatment Plant Compliance

Onondaga Lake, Onondaga County

After years of negotiation and progress to clean Onondaga Lake, in September 2009, the State of New York, Onondaga County, and the Atlantic States Legal Foundation signed an amended consent judgment to further revitalize this natural resource. The agreement requires the use of “green infrastructure” building techniques and other means to minimize and eliminate combined sewer overflows (CSO)¹⁶ within the Onondaga Lake watershed.

Green infrastructure involves the use of natural processes to capture and treat stormwater using soil and vegetation. These systems include tree trenches, rain gardens, green roofs, rain barrels, and porous pavement. Using such means to control stormwater runoff minimizes the amount of water that reaches a waterbody, thus reducing potential negative impacts. Some of the signature projects planned are:

- Construction of a 60,000-square-foot green roof on the OnCenter Complex. The green roof would be the one of the largest in the Northeast.
- Restoration of a wetland to treat combined sewer overflow discharges in the Harbor Brook Sewer District
- Development of a stormwater capture and reuse system at the War Memorial

Special acknowledgement to the Onondaga Lake Partnership for material used in this section. Additional information regarding Onondaga Lake restoration efforts is available at: www.onlakepartners.org.

Village of Altamont Wastewater Treatment Plant, Albany County

The Village of Altamont has a long history of providing wastewater treatment for its residents, with its first facility built in 1920. The current WWTP uses a bypass structure to avoid overloading subsequent treatment operations during periods of high flows due to rain or melting snow. Such an event is commonly known as a sanitary sewer overflow (SSO). When an SSO occurs, village staff add chlorine to this untreated wastewater prior to discharge to deactivate any harmful bacteria present. As a condition of its SPDES permit, the village is required to notify NYSDEC promptly when an SSO occurs.

Altamont has undertaken various projects to reduce high wet-weather flows to their WWTP, including the construction of equalization tanks (storm-surge tanks). However, high wet-weather flows continue to bypass secondary treatment when the capacity of these equalization tanks is exceeded, resulting in violations.

In March 2010, the Village of Altamont entered into an Order on Consent with NYSDEC in response to these violations. This order requires the village to submit a plan and schedule for eliminating the bypass, with all upgrades to the plant to be completed by June 1, 2013. The

¹⁶ A combined sewer overflow is a discharge of untreated wastewater that typically occurs during a storm when sewers that carry both domestic sewage and stormwater are overwhelmed by stormwater.

order also includes a penalty of \$5,000, with \$3,000 of this amount payable and \$2,000 suspended upon full compliance with the order. A plan submitted by the village proposes to convert the storm-surge tanks to secondary treatment units and perform other improvements to the facility.

Village of Sackets Harbor Wastewater Treatment Plant, Jefferson County

During 2009, the Village of Sackets Harbor began construction of a new wastewater treatment plant (WWTP) in another step to fully restore compliance with its SPDES permit. In 2002, the village signed an Order on Consent with NYSDEC in response to significant SPDES discharge violations. Excess flow into the treatment plant led to raw sewage overflows directly into Lake Ontario and a discharge that violated permit limits. Investigation later revealed that these excessive flows were due to high amounts of inflow and infiltration (I&I)¹⁹ into the sewer system.

The original collection system, consisting primarily of vitrified clay pipes, dates back to 1927. Reportedly, many cellar drains and sump pumps connect to this collection system. Heavy rain and/or melting snow often led to excessive flow to the WWTP which led, in turn, to violations of the SPDES permit. While cellar drains and sump pumps offer convenient disposal to a homeowner, they can overwhelm a WWTP not designed for such additional flow. Originally constructed in 1977, subsequent upgrades took place during 1981, 1990, and 1999.



In agreeing to the Order on Consent, the village committed to accomplish the following goals:

- Reduce I&I entering the collection system and/or expand treatment facilities.
- Eliminate collection system raw sewage overflows.
- Develop and implement an approved [wet weather operating plan](#).¹⁷

Soon after signing the order, village staff, with technical assistance from NYSDEC, began improving the managerial, financial, and technical performance of this system. NYSDEC approved the village's wet weather operating plan in 2002. In conjunction with rehabilitation of

¹⁷ A wet-weather operating plan is a document used by wastewater collection and/or treatment staff to provide guidance on operational changes to make during wet weather conditions.

the collection system, the village significantly reduced the number and volume of overflow events. The new WWTP is due to begin receiving waste on June 1, 2011.

The new facility incorporates several 'green' features to enhance efficiency and minimize operational costs. The primary item is in the design and process for treating wastewater. The facility uses a sequencing batch reactor (SBR) which is notable for accomplishing multiple tasks efficiently in one tank. The previous treatment process relied upon several tanks and a less energy-efficient means to biologically treat the water.

Additional efficiency features include the following:

- Installing LED lights throughout the facility and pump station to reduce lighting costs, extend bulb life, and reduce maintenance expenses
- Installing photovoltaic cells (solar panels) to generate electricity. This project will provide electricity sufficient to power the administrative office and laboratory.
- Installing high-efficiency pumps and mechanical blowers to lower electrical costs
- Building rain gardens to manage stormwater needs of the facility grounds
- Reusing treated wastewater for internal facility needs such as cleaning and solids washing
- Applying porous asphalt to parking areas to minimize stormwater runoff

Village of Williamsville, Erie County

The Village of Williamsville originally entered into an Order on Consent with NYSDEC in 1997, requiring it to conduct a study of its wastewater collection system and reduce eight sanitary sewer overflows (SSO) within the community. Williamsville completed the study around 2001 and then began remediation efforts. By 2005, the village had successfully eliminated three SSO discharge points.

On October 9, 2009, the Village of Williamsville and NYSDEC entered into a revised Order on Consent schedule. This schedule required updating and full implementation of the Collection System Monitoring and Maintenance Plan and construction of the upgraded piping under Ellicott Creek by November 30, 2010 (actual completion was in summer 2010). While completing this work, the village also sealed four of the remaining five SSO discharge points. With one remaining SSO discharge point, the village is continuing with yearly monitoring and maintenance of the wastewater collection system. In an encouraging sign, NYSDEC stocked portions of Ellicott Creek in Williamsville with 1,250 rainbow trout during 2010.

➤ **Industrial Facility Compliance**

Great Lakes Kraut Company, Ontario County

Upon receiving odor complaints from people living near this firm's processing plant, NYSDEC staff began to investigate possible sources. Working with the company, they determined that some of the wastewater treatment equipment needed repair to provide sufficient levels of oxygen to properly function. Unfortunately, these initial repairs did not alleviate the problem, and odor complaints continued.

Due to ongoing concerns, environmental conservation officers (ECO) began investigating the facility and executed a search warrant at the plant on November 3, 2009. This investigation revealed that the company had significantly increased production of sauerkraut without any changes to the treatment system. More serious was evidence of improper completion of discharge monitoring reports and other potential violations of the SPDES permit.

With assistance from the Ontario County district attorney's office, the company agreed to sign an Order on Consent and pay a \$60,000 penalty. This order also required the company to conduct an engineering evaluation of the wastewater treatment plant and production processes, provide backup power for the wastewater treatment aeration system, and apply for an updated SPDES permit.

Before the 2010 processing season began, the company had installed more aeration capacity and cleaned and properly disposed of sludge from waste lagoons. On a positive note, there were no odor complaints arising from processing operations at the plant during 2010.

➤ **Private, Commercial, and Institutional Facility Compliance**

Birches Sewage Treatment Plant, Nassau County

This county-owned facility had a long history of non-compliance with its SPDES permit limits. Initial enforcement action by NYSDEC took place in 1998, with an Order on Consent requiring the county to construct a new wastewater treatment plant. After delays and subsequent enforcement by NYSDEC, a referral for additional enforcement was made to the state attorney general's office. In August 2009, NYSDEC and the county entered into a revised Order on Consent requiring the county to build a pump station and force main to convey sewage to the Glen Cove Wastewater Treatment Plant. The revised order also assessed a financial penalty of \$237,500, of which \$87,500 is payable, with \$150,000 suspended upon completion of construction of the pump station and force main.

➤ Multi-Sector General Permit (MSGP) Compliance

Marinas in Suffolk and Nassau counties

In early 2009, NYSDEC Region 1 staff began investigating how many marinas or similar dockage-type facilities existed on Long Island (Nassau and Suffolk counties) and if these facilities were candidates for permitting by NYSDEC. An initial survey determined that nearly 400 facilities potentially subject to the MSGP program existed on Long Island. Only 32 of these facilities were permitted through NYSDEC under the program, making it clear that action was necessary.

Between April 1, 2009 and March 31, 2010, staff conducted 61 inspections of the identified marinas. Thirty-three (33) notices of violation (NOV) were issued to those facilities operating without permit coverage. Of these facilities, two were issued short-form orders on consent¹⁸ for failure to comply with NOV directives. Inspections of several of these facilities revealed that most were dockage facilities with no industrial activity on-site. This resulted in most inspected facilities receiving a satisfactory rating.

When these inspections began in 2009, it became evident to NYSDEC staff that many of those in the marina industry on Long Island had inadequate and incorrect information regarding permit requirements. Because of this, in June 2009, NYSDEC staff, with assistance from the New York Marine Trades Association, delivered an informational presentation to approximately 60 Long Island marina owners/operators. The presentation focused on the need for permit coverage, how to obtain that coverage, and what is required to be in a stormwater pollution prevention plan (SWPPP).



The presentation and enforcement initiative resulted in approximately 50 additional permits being issued in SFY 2009/10.

A 2003 study conducted by New York Sea Grant determined that recreational boating had an \$843 million impact on the NYC/Long Island metro area and a \$1.8 billion impact statewide.

¹⁸ A short-form Order on Consent is an abbreviated formal enforcement similar to the 'long' version of an Order on Consent.

➤ **Construction Stormwater General Permit Compliance**

New York Mets/Citifield New Stadium Construction, Queens County

This construction project for the New York Mets/Citifield Stadium site initially obtained coverage under the SPDES General Permit for Stormwater Discharges from Construction Activities in June 2006. Hunt Construction Group, Inc. and Bovis Lend Lease, Inc. were the contractors for the construction project. During site visits by NYSDEC in April and October 2007, numerous violations of the permit conditions were noted. As a result, these contractors and the City of New York were assessed a civil penalty of \$20,000.

➤ **MS4 Compliance**

City of Mount Vernon, Westchester County

During routine sampling of the Hutchinson River on July 16, 2008, Westchester County Department of Health staff found elevated levels of enterococcus bacteria in the city's MS4 system. Levels of bacteria such as this are violations of the Phase II SPDES General Permit for MS4 issued to the City of Mount Vernon. NYSDEC alleged that the city failed to notify them of unpermitted discharges to waters of the state and that the city violated multiple requirements of its SPDES general permit.

In December 2009, NYSDEC executed an Order on Consent to resolve these violations. This order assessed a penalty of \$50,000 with an additional penalty of \$50,000 suspended, provided the city fully adheres to this executed order. The city paid an additional penalty of \$5,000 for failure to adhere to terms of a previously executed Order on Consent.

➤ **CAFO Compliance**

Rusty Creek Partnership, Clinton County

Improperly applying manure to farm fields in March 2008 led to the contamination of groundwater that was the source of water for six neighborhood wells. NYSDEC's response was to execute an Order on Consent against this upstate farm, resulting in the farm owners paying a penalty of \$5,000. NYSDEC suspended an additional penalty of \$5,000 upon completion of all items in the compliance schedule associated with the order.

Leduc's Green Acre Farm, Clinton County

During November 2007, NYSDEC received a citizen complaint of manure flowing from this farm's property into a tributary of the Great Chazy River. A subsequent investigation by the department confirmed this. In October 2009, the department executed an Order on Consent assessing a payable penalty of \$500, with a \$2,500 penalty suspended pending completion of all items outlined in the order.

➤ **Routine DMR Enforcement**

In December 2008, the Bureau of Water Compliance (BWC) initiated an enforcement initiative for non-submittal of DMRs. This routine enforcement process uses a Notice of Violation (NOV) in place of a reminder letter to notify the permittee that the DMR was not received and that they are in violation of their SPDES permit. The NOV contains a 30-day deadline by which to submit the delinquent DMR. If the department does not receive the delinquent DMR within 30 days, staff will send an Order on Consent with penalty to the permittee. The NOV informs the permittee that once the department sends an Order on Consent, there is no opportunity to settle the matter without payment of a penalty. This is a statewide initiative, and there are no exceptions to the timeframe or penalty due to the critical importance of self-reporting for SPDES compliance.

Implementing this initiative has enabled BWC to determine that there are many repeat violators. BWC's approach is to deter repeat violations by increasing the penalty if a permittee had opportunity to agree to an order sent through this initiative.

BWC plans to continue implementation of the routine DMR enforcement initiative and expand the initiative to similar SPDES violations to meet the Division of Water's goal of increased compliance.

➤ **Streamlining Enforcement Procedures**

Pursuant to the Commissioner's Delegation of Authority #09-01 issued on January 22, 2009, the director of the Division of Water (DOW) or the director's designee can now execute routine orders on consent for SPDES violations for failure to submit required reports and certifications in a timely manner. This has enabled DOW to streamline the enforcement process for these types of violations. Specifically, this delegation of authority applies to an abbreviated Order on Consent, also known as a short-form Order on Consent for SPDES violations consisting of the failure to submit the following items in a timely manner:

- Discharge monitoring reports (DMR) for SPDES permits
- Annual Certification Report on flow capacity of any publicly owned treatment works (POTW)
- Comprehensive Nutrient Management Plan certifications required for permitted CAFO facilities
- Municipal Compliance certifications required of permitted MS4s
- Reports required of MSGP facilities

For additional information about NYSDEC's enforcement policies, go to:
www.dec.ny.gov/regulations/2379.html.

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Appendix A - Definition of Terms

Clean Water Act (CWA) – This is the primary federal law governing water pollution control. Passed in 1972, this act relies upon the Federal Water Pollution Control Act amendments of 1972 for much of its authority.

Combined Sewer Overflow (CSO) – A discharge of untreated wastewater from a combined sewer system at a point before the headworks of a POTW. CSOs generally occur during wet weather (rainfall or snowmelt).

Compliance Schedule – A schedule of remedial measures included in a permit or legally enforceable action, with a sequence of interim requirements (e.g., actions, operations, or milestone events) leading to compliance with the CWA and regulations

Comprehensive Nutrient Management Plan (CNMP) – This is a conservation plan, unique to animal feeding operations, designed to evaluate all aspects of farm production and offer conservation practices that help achieve production and natural resource conservation goals. The New York State Soil and Water Conservation Committee, with guidance from other partner agencies, established a comprehensive certification process to ensure that certified planners from both the public and private sectors are available and qualified to meet the high standards for CNMP development and implementation.

Concentrated Animal Feeding Operation (CAFO) – A lot or facility (other than an aquatic animal production facility) where the following conditions exist:

- Animals (other than aquatic animals) have been, are, or will be stabled or confined and fed or maintained for a total of 45 days or more in any 12-month period.
- Crops, vegetation, forage growth, or post-harvest residues are not sustained in the normal growing season over any portion of the lot or facility.

CAFO Permit – A SPDES permit that covers all applicable CAFOs statewide with generic requirements for wastewater discharges, including surface water and groundwater. A CNMP is a requirement for all CAFO permits, details site-specific requirements for each CAFO, and becomes an enforceable condition of the permit.

Construction Stormwater Permit - Stormwater Discharges from Construction Activity General Permit (GP-0-10-001), issued pursuant to Article 17, Title 7, 8 and Article 70 of the Environmental Conservation Law, authorizes stormwater discharges from eligible construction activities under the terms and conditions of the permit.

Discharge Monitoring Report (DMR) – The self-monitoring report that permitted facilities submit to NYSDEC, typically on a monthly basis, detailing facility effluent data

Drainage Basin – The land area from which all precipitation runs off into streams, rivers, lakes, and reservoirs

ECO – Environmental conservation officer. ECOs are members of the NYSDEC Division of Law Enforcement and enforce New York State’s Environmental Conservation Law.

Infiltration – This is the seepage of groundwater into a sewer system, including service connections. Seepage frequently occurs through defective or cracked pipes, pipe joints, or manhole walls.

Inflow – This water enters a sewer system from roof leaders, foundation drains, storm sewers, leaky manhole covers, or numerous other sources.

Industrial Discharge Permit – This category of permit applies to those facilities that conduct industrial activities and are not municipal or PCI-class facilities

Major Municipal Facility – A publicly owned treatment facility that treats wastewater flows of 1.0 million gallons per day (MGD) or greater and has an EPA or state-approved industrial pre-treatment program. This may also include publicly owned treatment facilities with a design flow of 0.5 to 1.0 million gallons per day that USEPA or NYSDEC designate as being a major-class facility.

Major Industrial Facility – An industrial facility with a discharge that is relatively large in volume, has “toxicity potential” as defined by the *USEPA NPDES Permit Writers’ Manual* and meets certain rating criteria developed by EPA in conjunction with NYSDEC

Minor Municipal Facility – A POTW that is neither a “Major Municipal Facility” nor a “Non-Significant Facility”

Minor Industrial Facility – This is an industrial facility that is neither a “Major Industrial Facility” nor a “Non-Significant Facility.”

Multi-Sector General Permit (MSGP) – This class of permit provides SPDES permit coverage to facilities with stormwater discharges to waters of the state from a point source that conducts industrial activities within 40 CFR Part 122.26(b)(14)(I) through (ix) and (xi), as well as other miscellaneous industrial activities designated by NYSDEC on a case-by-case basis.

Municipal Discharge Permit – This category of permit applies to publicly owned wastewater treatment plants discharging municipal sewage. Municipal sewage is wastewater composed of residential sewage with or without the admixture of industrial wastewater.

Municipal Separate Storm Sewer System (MS4) – A conveyance or system of conveyances:

- Owned or operated by a state, county, or other public body created by state law having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes
- Designed or used for collecting or conveying stormwater
- Is not a combined sewer
- Is not part of a publicly owned treatment works

MS4 Permit – This general permit, issued pursuant to Article 17, Title 7, 8 and Article 70 of the Environmental Conservation Law, authorizes operators of an MS4 in New York State to discharge to waters of the United States in accordance with the conditions and requirements set forth in the general permit.

National Pollutant Discharge Elimination System (NPDES) – The federal Clean Water Act authorized development of NPDES for implementing requirements for all discharges to surface waters of the United States (NPDES does not cover discharges to ground water). Under New York State Environmental Conservation Law, NYSDEC administers the state's program for meeting the requirements of NPDES.

Non-Significant Facility – A facility that NYSDEC determines poses a minimal water quality risk and possesses a SPDES permit that does not contain limitations for the discharge of priority pollutants or other toxic constituents

Notice of Violation (NOV) – A NOV is written notification of non-compliance from NYSDEC. This should be the minimum department response to all SNC and is often the last informal enforcement activity prior to commencement of formal enforcement.

Order on Consent – A legally binding agreement negotiated by NYSDEC and a SPDES permittee, which addresses specific violations and includes provisions for a payable penalty. An order on consent may also include suspended and/or stipulated penalties, interim effluent limitations, and a compliance schedule for corrective action.

Priority Pollutants – These are chemical pollutants that USEPA regulates and for which it has published analytical test methods.

Private, Commercial, or Institutional (PCI) Permit – This class of SPDES permit regulates the discharge of wastewater from a facility meeting the criteria of a PCI facility.

Publicly Owned Treatment Works (POTW) – A treatment facility owned by a state or municipality.

Sanitary Sewer Overflow (SSO) – An SSO is the occasional, unintentional discharge of raw sewage from municipal sanitary sewers. These discharges can occur at sewage pump stations, manholes, or in home basements.

Secondary Treatment – This is the technology-based requirement for direct discharging by a POTW. Secondary treatment consists of a combination of physical and biological processes typical for the treatment of pollutants in sewage.

Short-form Order on Consent – This is an abbreviated, formal enforcement similar to the ‘long’ version of an Order on Consent. Short-form orders are appropriate in cases of non-compliance when:

- Remedial action is not necessary or complete.
- Only minor compliance activity is required.
- The short-form order is approved by NYSDEC’s regional attorney and relevant program supervisors.
- The assessed penalty amount is \$10,000 or less.

Significant Non-Compliance (SNC) – SNC is the compliance status of a significant class facility that has at least one unresolved, significant, non-compliance occurrence during the report period. Examples of such an occurrence include submitting a permit or compliance schedule milestone after the deadline, failure to submit a DMR, or effluent discharge violations that exceed the threshold outlined in the NYSDEC/USEPA enforcement agreement.

State Pollutant Discharge Elimination System (SPDES) – The SPDES program goes beyond the requirements of the federal NPDES program in that the SPDES program also regulates discharges to groundwater of the state. The minimum threshold for applicability of SPDES to groundwater discharges is 1,000 gallons per day for sanitary wastewater, while discharges including any industrial wastewater have no minimum threshold. The New York State Department of Health regulates discharges of less than 1,000 gallons per day, consisting of only sanitary wastewater.

Stormwater Construction (SWC) Permit – This SPDES permit covers all applicable stormwater discharges relating to eligible construction activities.

Total Maximum Daily Load (TMDL) – A TMDL is a calculation of the maximum amount of a pollutant, or multiple pollutants, that a waterbody can receive and still meet water quality standards.

Total Suspended Solids (TSS) – Listed as a conventional pollutant in the Clean Water Act of 1972, TSS is a measurement of solids that are visible and/or in suspension of a water sample. SPDES permits extensively require this analysis as an effective means to measure the quality of water discharged.

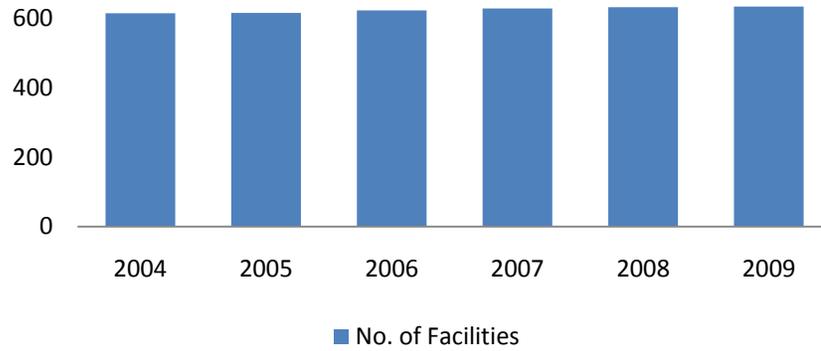
Unpermitted Discharge – A discharge not authorized by a SPDES permit or in violation of a SPDES permit.

Wet Weather Operating Plan – This describes a document used by wastewater collection and/or treatment staff to provide guidance on operational changes to make during wet weather conditions. These changes allow for the highest degree of treatment when flows exceed design standards.

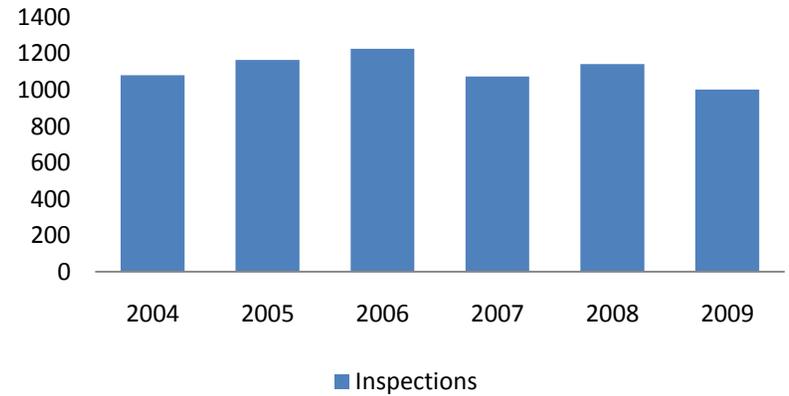
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**Appendix B –
SPDES Program Compliance Monitoring and Enforcement Activities**

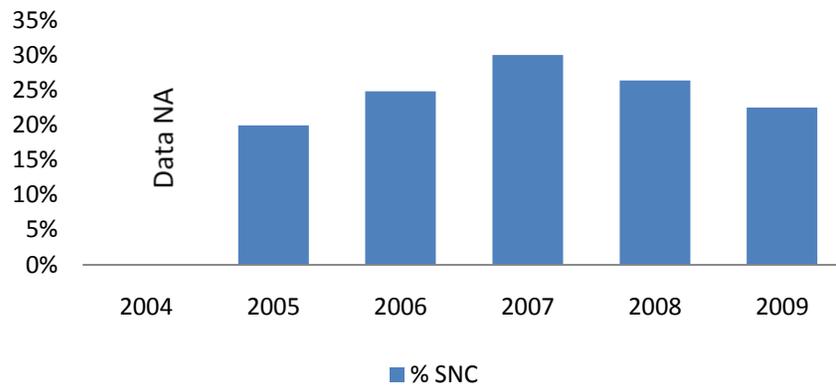
SPDES Permitted Municipal Facilities



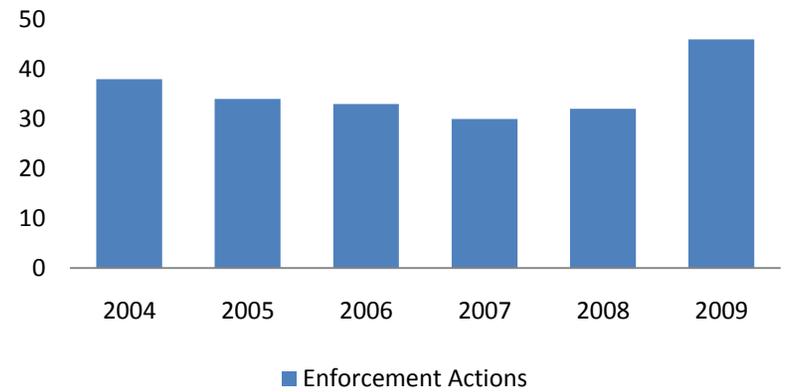
Municipal Facility Inspections



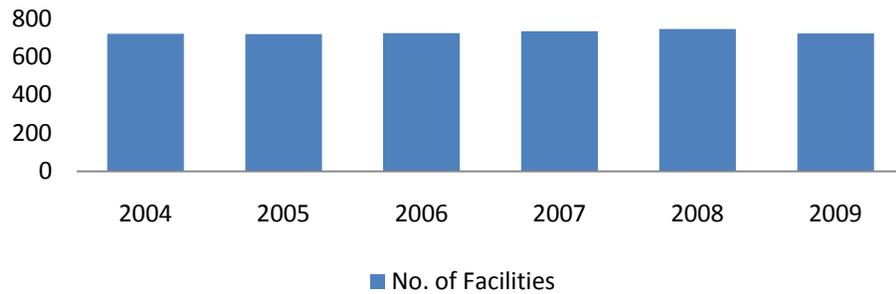
% of Municipal Facilities in SNC



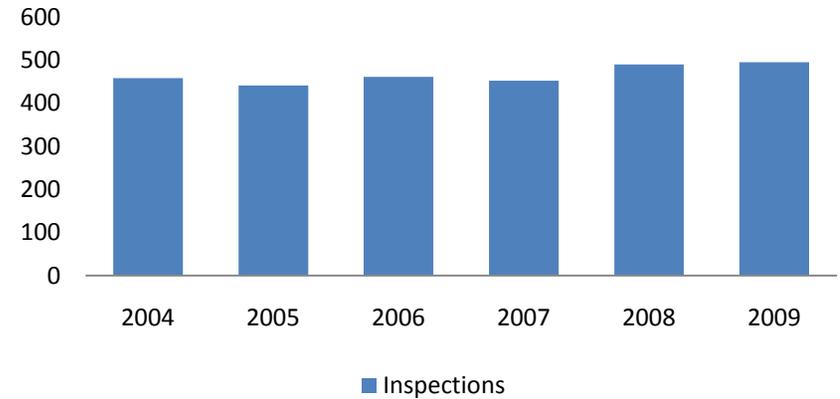
Enforcement Actions Municipal Facilities



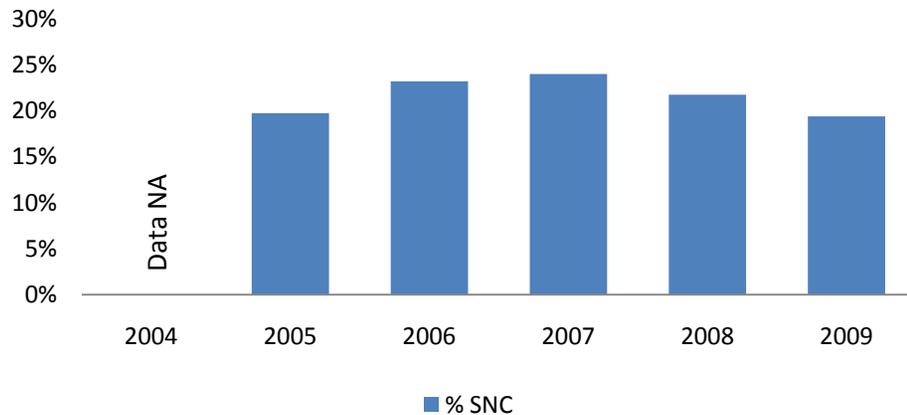
**SPDES Permitted
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Significant Class**



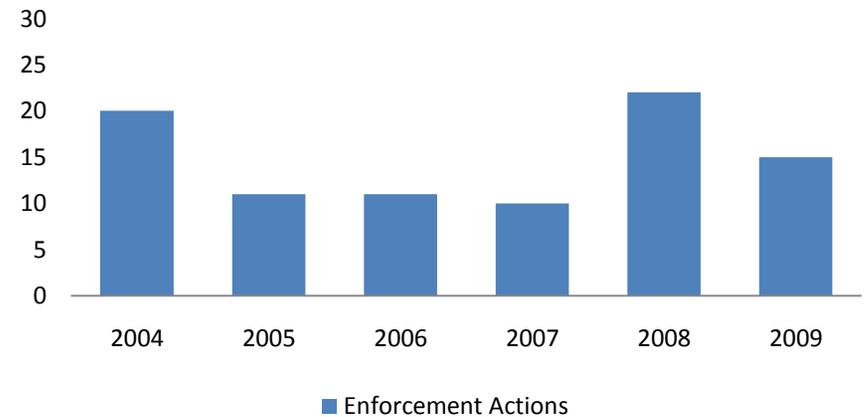
**Significant Industrial
Facility Inspections**



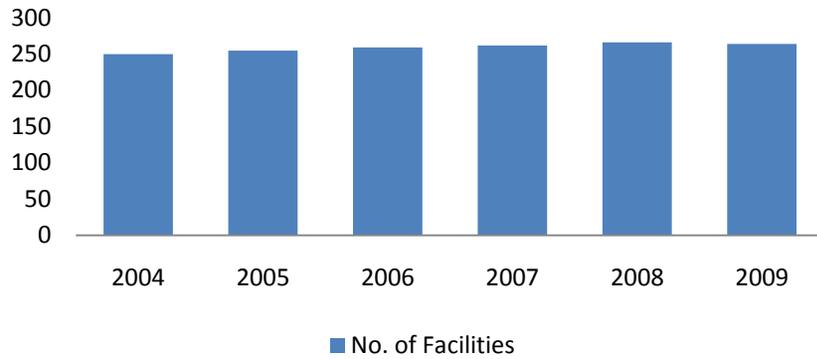
**% of Significant Industrial
Facilities in SNC**



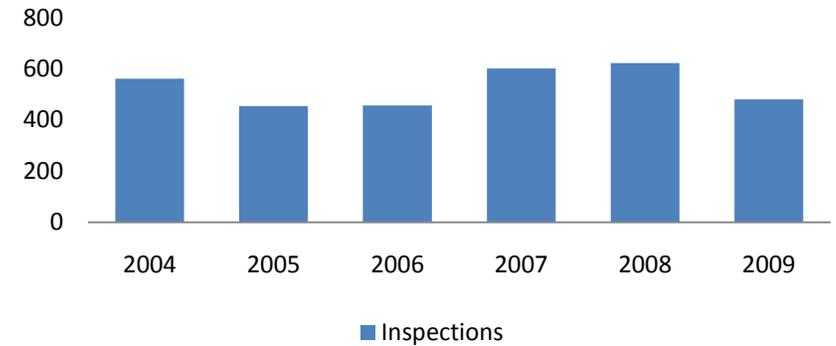
**Enforcement Actions
Significant Industrial Facilities**



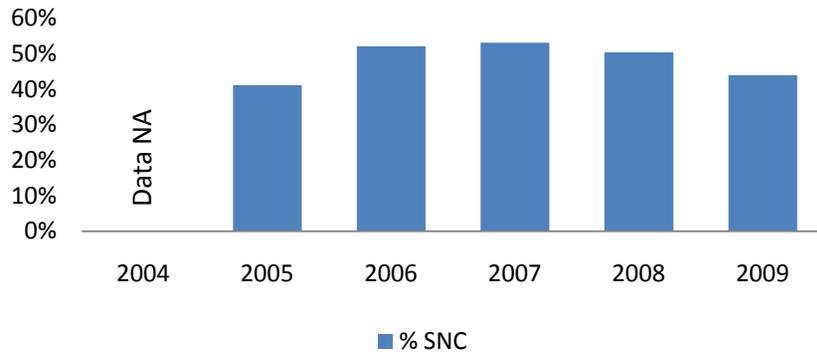
**SPDES Permitted PCI Facilities
Significant Class**



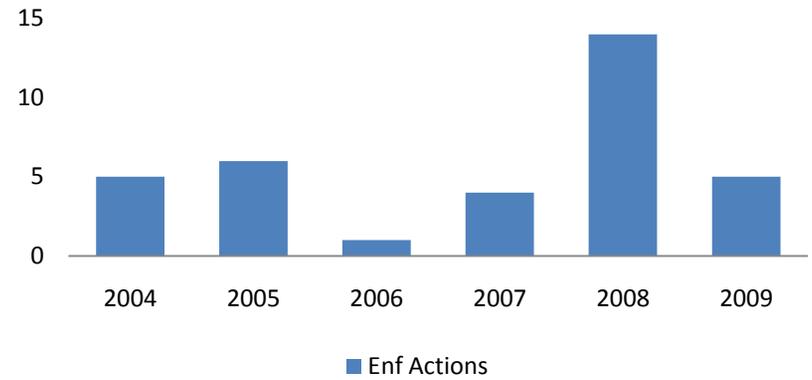
**Significant PCI
Facility Inspections**



**% of Significant PCI
Facilities in SNC**



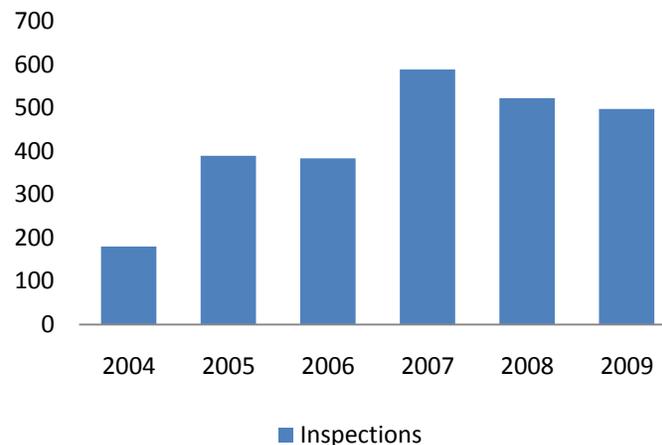
**Enforcement Actions
Significant PCI Facility**



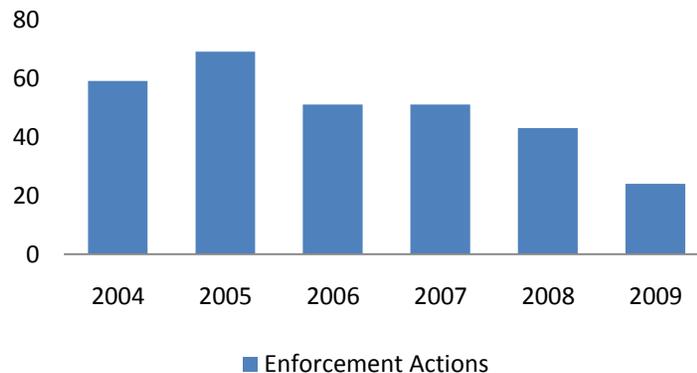
Number of SPDES General Permits Stormwater Construction



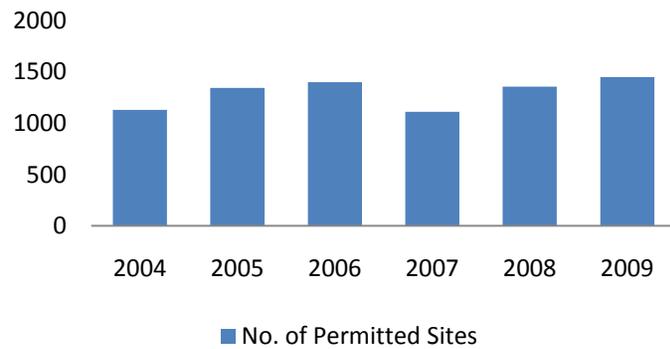
Inspections Stormwater Construction



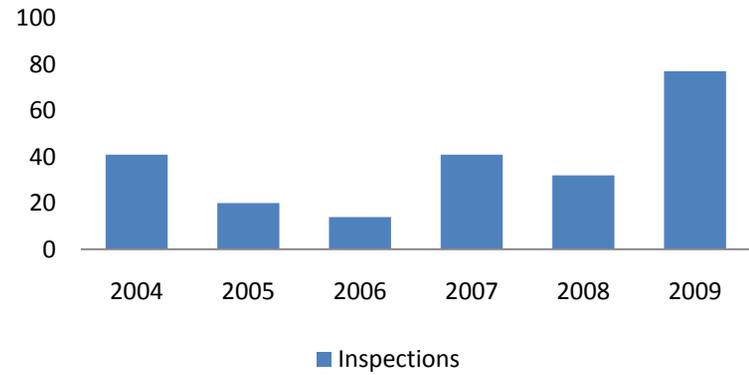
Enforcement Actions Stormwater Construction



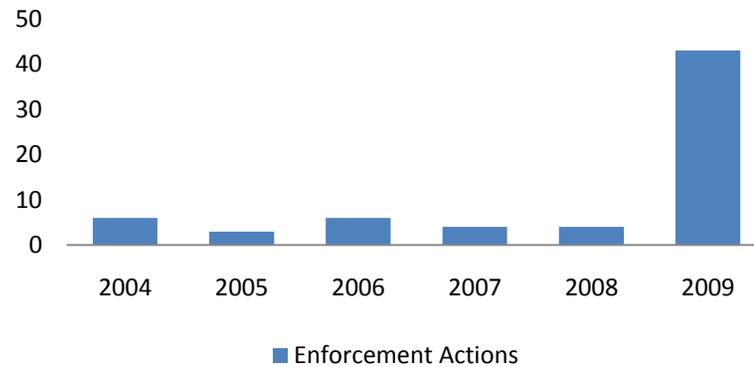
Number of SPDES General Permits Multi-Sector (MSGP)



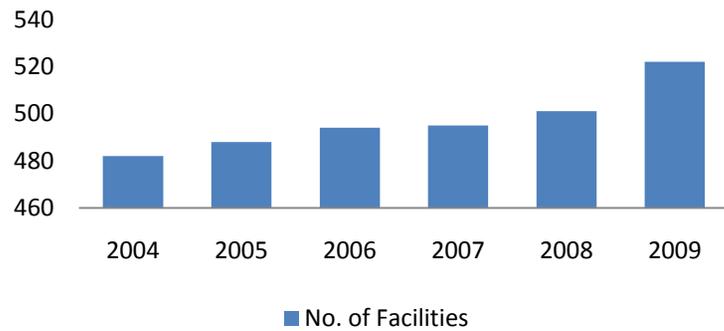
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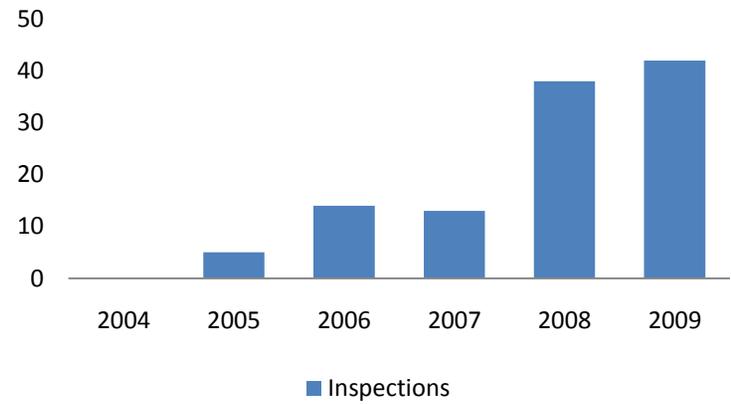
Enforcement Actions Multi-Sector (MSGP)



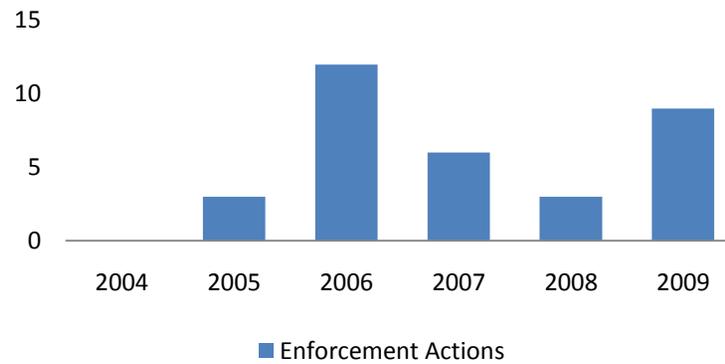
Number of MS4 Permitted Communities



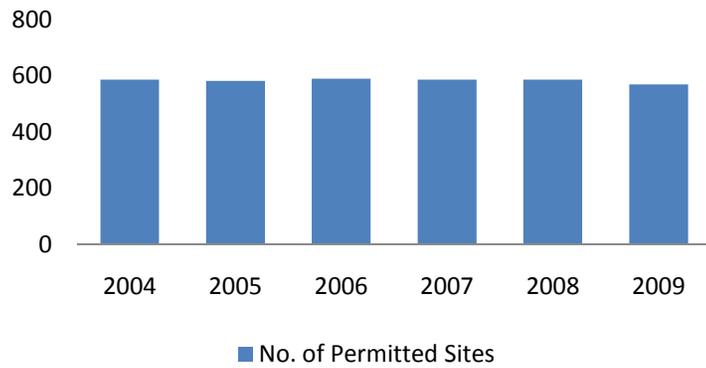
MS4 Inspections



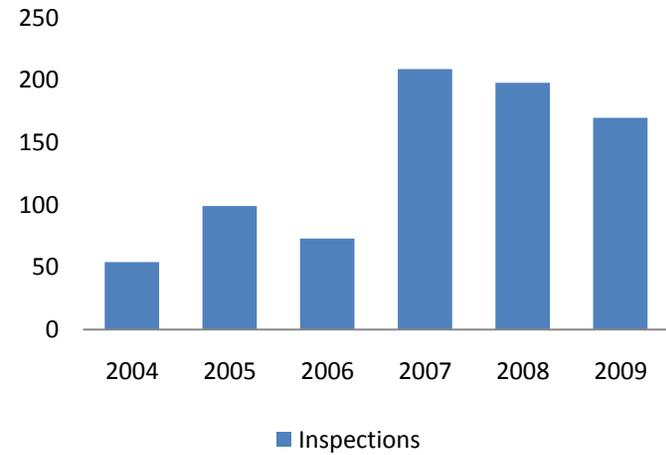
Enforcement Actions MS4



Number of CAFO Permitted Sites



CAFO Site Inspections



Enforcement Actions CAFO

