Survey of Municipal Stormwater Source Control Programs

1 March 2016

Stormwater Source Control Effectiveness Study

City of Lakewood and Cardno GS, Inc. consultants

INTRODUCTION

The City of Lakewood and Cardno consultants are conducting a stormwater source control data assessment as an effectiveness study of the coordinated Regional Stormwater Monitoring Program (RSMP) funded by municipal stormwater permittees. The objective of the assessment is to provide information that can help NPDES municipal stormwater permittees improve their environmental inspection programs. Inspection programs to be evaluated are those targeting stormwater source control activities and related BMPs on commercial properties and at businesses. The study design includes first surveying permittees about the types of inspection data available starting with the previous permit cycle for western Washington (2007-2012) through the present. Based on the results of this survey we will seek to collect, analyze, and report on your collective experience to address the source control effectiveness questions (see below).

This document provides a brief description of the study, a survey, and a spreadsheet, each designed to help us better understand each jurisdiction's inspection programs. The survey (see pages 3-10) will gather information about the types of source control programs implemented by NPDES municipal stormwater permittees, the purpose and goals of the programs, and the types of data available for analysis. A request for your inspection data will be conducted after we review the survey results. These data will be analyzed to assess the effectiveness of both permit-required and non-permit-required actions and approaches. All study findings will be posted on the RSMP website[1].

EFFECTIVENESS QUESTIONS

Effectiveness studies were identified from a list of prioritized effectiveness questions, which included several questions on source control. A technical advisory committee established for this study comprised primarily of municipal stormwater permittees has reviewed and refined the source control effectiveness questions, which are listed below. A separate document entitled Source Control Study Data Analysis Plan (posted on the RSMP website) was also prepared to provide the methodology to assess and analyze the gathered data and how each effectiveness question will be addressed. The source control effectiveness questions are listed below and represent the refined questions after review by the technical advisory committee.

[1] http://www.ecy.wa.gov/programs/wq/stormwater/municipal/rsmp/rsmp.html. Follow the link to Effectiveness Studies and click on the Source Control tab.

Source Control Effectiveness Questions
1.1. What is the optimum frequency of inspections to maintain the functionality of structural BMPs for treatment and flow control at stormwater facilities on commercial property? 1.2. What is the optimum frequency of inspections to ensure the proper use of structural and operational source control BMPs at businesses? a. Which is more effective for specific high value BMPs: focusing on the property owners or focusing on the business owners, or a combination of the two? Comment: Target both structural and operational BMP types, and situations where a business owner is and is not cooperative and willing. b. Which required BMPs were implemented based upon follow up inspection? Which optional BMPs were installed based upon follow up inspection? c. What were the primary barriers to not adopting or installing BMPs? d. Address the connection between in-person visits and source control BMPs, and identify situations where technical assistance and/or follow-up inspections are needed to ensure required BMPs are implemented. Comment: Gather data about percent compliance. Partner with Ecology Local Source Control program to do this study. 2. Are stormwater source control inspections more effective if combined with other types of inspections? How can coordination of inspections be improved or better organized regionally for referral of issues to the correct entity?

The final effectiveness question (number 2 above) related to combining inspection efforts will be addressed during a later phase of the project and is not included in this portion of the study.

SURVEY AND DATA REQUEST PROCESS

At this time, we are asking municipal stormwater permittees in western Washington to please complete the survey below. We want to minimize your valuable municipal staff time; therefore, we are first asking about your inspection programs via a survey in order to focus the data request that will follow.

Specifically, we are seeking information about municipal inspections on private commercial properties and at businesses that include a stormwater component and were done starting with the previous permit cycle (2007-2012) through the present. This information will inform us how best to acquire your data and will help us determine how to standardize data from multiple jurisdictions. We will review the survey responses and follow-up with a data request based on the type and format of data available from your jurisdiction as you indicate in the survey questions. Here are the four steps we envision for the survey and data request process:

Step 1 Complete the survey on the following pages. We want to learn more about your program since we anticipate there will be multiple program structures among permittees.

Step 2 Review the attached spreadsheet that contains a list of potential data fields. Indicate which ones are available from your jurisdiction and in what form those data are available. Please include information about electronically stored (computer) and hard copy (paper) inspection data.

Step 3. Send the survey and spreadsheet back to us and we will review it and determine which data variables we will request from your jurisdiction. Please include a contact email and phone number if we need to contact your jurisdiction to clarification of any survey responses.

Email the survey and spreadsheet by April 22 to: James Packman, Cardno consultants, james.packman@cardno-gs.com. For questions, call 206-267-1400, ext 8234.

Step 4. We will follow-up with your jurisdiction with a specific data request based on data available.

This study is also coordinating with the Ecology Local Source Control (LSC) program since it focuses on business inspections. However, LSC program staff has informed us that limited data are available that would help address the effectiveness questions, and there have been issues with the LSC databases over the years. Thus, we are seeking data directly from permittees first and will supplement as possible with LSC program data.

SURVEY - Please complete and email to James Packman, james.packman@cardno-gs.com by April 22, 2016.

Permittee:_____

Contact name:_____

Contact email and phone:_____

1. **What are the drivers/purposes of your inspection programs? Check all that apply.**

❒	Meet the minimum requirements of the NPDES Municipal stormwater permit.
❒	Inspect sites above and beyond the NPDES permit requirements.
❒	Meet MTCA requirements for contaminated site clean-up.
❒	Meet local TMDL requirements.
❒	Assess small quantity hazardous waste generators (SQG).
❒	Assess medium or large quantity hazardous waste generators (MQG or LQG).
❒	Protect riparian, nearshore, or marine habitat, such as for fish or shellfish.
❒	Protect endangered species.
❒	Protect the municipal storm sewer system.
❒	Protect water quality in receiving water bodies.
❒	Other: *E.g. Other permits*

2. **Please describe your jurisdiction's working definition of a few terms in the context of stormwater management at businesses and on commercial properties:**

Inspection:

Compliance:

Source Control:

3. Estimate the level of effort your jurisdiction spends inspecting annually among the three main types of best management practices (BMPs) described below. To do so, estimate the number of hours or percentage of FTE that your jurisdiction inspects each?

BMP Type	**% time inspected**
Operational Source Control BMPs –non-structural practices implemented by the property or business owner that prevent or reduce pollutants. Examples include good housekeeping, spill prevention, employee training, technical assistance, etc.	
Structural Source Control BMPs – structural, mechanical devices, or facilities that prevent or treat stormwater pollution, such as cover, containment, diversion of water to sanitary sewer, capture and reuse devices (i.e. solvent sink), etc.	
Treatment and Flow Control BMPs –structures or facilities that remove or reduce pollutants in stormwater that discharge directly from the property, such as vaults, ponds, oil-water separators, or other engineered structures or systems.	
Other BMPs (optional) - industrial waste water, inspections not necessarily related to source control such as industrial wastewater.	

4. For each BMP type from the three categories in question 3, please list the top 5 most valuable BMPs inspected by your program. BMP "value" is your jurisdiction's perception of the BMP's impact on improving stormwater runoff quality.

5 Most Valuable BMPs	**Operational**	**Structural**	**Treatment & Flow Control**
1			
2			
3			
4			
5			

5. Check yes or no for inspection programs and sources of data available from your jurisdiction that relate to stormwater source control.

#	Inspection Program	Source Control-related Data Available	
		Yes	No
1	Environmental/stormwater/maintenance		
2	Hazardous material/waste management		
3	Fats/oils/grease (FOG) inspections		
4	Industrial pre-treatment		
5	Moderate Risk Waste program		
6	Incentive program (e.g. EnviroStars)		
7	Health/restaurant inspections		
8	Fire/Safety inspection		
9	other:		
10	other:		
11	other:		

6. Check all programs that use inspections and describe the different types of inspections that contribute to your jurisdiction's data sources for stormwater source control.

Types of Inspections	1. Envr/Stormwater	2. Haz/Waste	3. FOG	4. Indust. Pre-treat	5. MR Waste	6. Incentive	7. Health	8. Fire/Safety	9-11. Other	Description
Screening										
Initial										
Follow-up										
Emergency/Spill Response										
Illicit Discharge/Connection										
other:										
other:										

7. Check all programs in which inspection data are stored in various formats. If possible, please attach a sample page or report from your database(s) that have some of the same variables as on the attached spreadsheet list.

Data Storage Mode	**1. Envr/Stormwater**	**2. Haz/Waste**	**3. FOG**	**4. Indust. Pre-treat**	**5. MR Waste**	**6. Incentive**	**7. Health**	**8. Fire/Safety**	**9-11. Other**	**Sample Page or Report Attached (Y/N)**
Excel/spreadsheet										
Access/relational database										
City Works or other public works software										
other:										
Paper files										
Scanned files saved on computer (indicate approx. percentage of records)										
Other:										
Other:										
Other:										

8. **Please fill out the DATA AVAILABLE column in the attached spreadsheet to provide us with more specificity on data available from your jurisdiction. Your response will help us greatly to identify the initial list of variables for the assessment.**

9. **Describe how follow-up inspections are linked to specific issues related to compliance? For example, what percentage of out-of-compliance businesses or commercial properties receives follow-up inspections? Is there a set follow-up inspection schedule or expected number of follow-ups planned each year?**

10. **Has your jurisdiction performed data analysis on your own inspection data that may be relevant to the effectiveness questions being addressed in this study? If so, please describe. Are digital copies of those reports available? If so, we would appreciate receiving a copy (please send back with the survey).**

11. Please let us know how we can best work with your jurisdiction for the upcoming data request.

12. We welcome other comments or suggestions you may have for the study.

Stormwater Source Control Effectiveness Study
Data Variables List

NPDES Permittee:	
Contact name:	
Contact email and phone:	

Instructions: Review the list of variables/data fields (first column) and indicate if the data are available (last column) from your inspection program(s).
Under "Other" at the bottom of the list, add additional variables your program collects that may be useful for this study.
Email completed variables list and survey by April 22 to James Packman, Cardno consultants, james.packman@cardno-gs.com.

VARIABLES/DATA FIELDS	DATA AVAILABLE (Check all that apply)	FIELD DEFINITION
NPDES Permittee		name of NPDES jurisdiction
INSPECTION TYPE OR FREQUENCY		
Type of inspection		refers to the type of inspection associated with a single inspection cycle, e.g. annual, initial, follow-up, final, etc.
Initial inspection date		date of first inspection associated with a single inspection cycle
Follow-up inspection date		date of follow-up inspection(s) associated with a single inspection cycle
Date of follow-up activity (non-inspection)		date of follow-up activity that is not an inspection, e.g. technical assistance
Frequency of initial inspection		frequency of initial inspections associated with inspection cycles at a given business or property
Frequency of follow-up inspection		frequency of follow-up inspections associated with inspection cycles at a given business or property
COMPLIANCE		
Date of compliance		date overall compliance observed
Date of non-compliance		date non-compliance was observed
Compliance status		compliance status during inspection
Reason for inspection		the main purpose of the inspection, e.g. routine, maintenance, spill reponse, etc.
Number of inspections to achieve compliance		number of inspections made between date of non-compliance observation and date of compliance
BMPs		
BMP type		operational, structural, or treatment/flow control BMP type
BMP function		short text describing main purpose of BMP
BMP name		name of BMP (any type), e.g. oil-water separator, secondary containment, training
BMP size/volume		size or capacity of structural BMP
Aspects of BMP evaluation		characteristics of a BMP (any type) evaluated during an inspection, e.g. operation/usage, cleaning/maintenance, structure integrity, completeness of records, etc.
High value BMP?		indicates if BMP is considered high value by jurisdiction
BMP required/optional		indicates if BMP is required or optional per local, state, or federal regulations
Inspection that BMP is associated with		indicates what inspection cycle BMP information is associated with
BARRIERS		
Technical assistance offered		indicates if technical assistance was offered and what kind
Barriers to BMP implementation		indicates if barriers to BMP implementation were noted as part of inspection
PROPERTY/BUSINESS INFORMATION		
Property or business name (DBA)		name of business or property, legal name or "doing business as" name
Primary NAICS #		North American Industry Classification System number
Primary NAICS description		North American Industry Classification System description
Primary SIC #		Standard Industrial Classification number
Primary SIC description		Standard Industrial Classification description
Role of contact at business/property		Role of person at business/property with whom inspection took place
Business/Property address		Address of business or property where inspection occurred

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VARIABLES/DATA FIELDS	DATA AVAILABLE (Check all that apply)	FIELD DEFINITION
Generator status		Small, Medium, or Large quantity generator per WA Hazardous Waste Regs
Individual discharge permit?		Does business/property have an individual permit for discharging stormwater or other waste streams?
Cooperation level of business/property contact		short text describing cooperativeness of business/property contact during inspection
Risk level of business/property activity		risk level for potential pollution by business/property activity (if assigned by jurisdiction)
High risk business/property activity		are activities at business/property considered high risk for environmental pollution potential?
Non-English primary language		indicates if language other than English is primary language spoken at business/property
Multiple tenant business/property?		Are there multiple tenants at a business or property?
Are BMPs shared at multiple tenant locations?		Are BMPs shared among tenants?
OTHER		