NEW YORK STATE OF OPPORTUNITY. Department of Environmental Conservation

QUALITY ASSURANCE PROJECT PLAN

Procedures for Collecting, Reporting and Verifying Wastewater and Developed Sector Data in the Chesapeake Bay Watershed

November 2019

DIVISION OF WATER
BUREAU OF WATER RESOURCE MANAGEMENT
CHESAPEAKE BAY WATERSHED PROGRAM

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Section 2: Table of Contents

Section 3: Version Tracking

This quality assurance project plan (QAPP) replaces the point source portion of New York's QAPPs dated September 2, 2011, April 2015, June 2015, November 2015, and March 2016 for DEC's Chesapeake Bay Watershed Program. This version of the QAPP updates verification procedures described in the June 2015, November 2015, and March 2016 versions by including information requested by EPA in comments dated January 26, 2016 and May 18, 2018.

Section 4: Introduction

New York State is a recipient of Chesapeake Bay Regulatory and Accountability Program (CBRAP) and Chesapeake Bay Implementation Grant (CBIG) funds from the U.S. Environmental Protection Agency (EPA) under Section 117 of the Clean Water Act.

All organizations conducting environmental programs funded by EPA are required to establish and implement a quality assurance system. EPA also requires that all environmental data used in decision-making be supported by an approved QAPP. Activities supported by New York's CBRAP and CBIG funding that require quality assurance include the compilation, management and reporting of discharge data from wastewater treatment plants, and best management practice data from construction sites, stream corridor restoration, wetland restoration and construction, and farms. This document describes the quality assurance procedures established by New York for wastewater and developed sector data. Quality assurance procedures for other nonpoint source data are described in a separate document entitled, *Upper Susquehanna Coalition Quality Assurance Project Plan Procedures for Collecting, Reporting, and Verifying Agricultural, Stream, and Wetland Data in the Chesapeake Bay Watershed*.

In New York, the Department of Environmental Conservation (DEC) is the state agency responsible for water quality compliance and enforcement, permit development and issuance, and Total Maximum Daily Load (TMDL) development and implementation planning. Responsibilities rest with both regional field offices and the central office in Albany. DEC focuses its work on the entities and activities it regulates, including wastewater treatment plants, concentrated animal feeding operations (CAFO), municipal separate storm sewer systems (MS4), and land disturbance activities.

A full description of the objectives, tasks and outputs associated with New York's CBRAP and CBIG grants is included in the workplans for those grants. All work supported by CBRAP and CBIG funding occurs in the Susquehanna and Chemung river watersheds[1] in New York and emphasizes nutrient and sediment reductions.

[1] For purposes of the Chesapeake Bay TMDL, New York's portion of the Chesapeake Bay watershed is described as one watershed; however, New York describes it as two watersheds: the Susquehanna River watershed and the Chemung River watershed.

Section 5: Management of DEC's Chesapeake Bay Watershed Program

This section describes the office locations and duties of DEC staff associated with the CBRAP grant.

5.1.1 Quality Assurance Project Plan

This QAPP governs the operation of DEC's Chesapeake Bay Watershed Program as it relates to the collection, reporting, and verification of wastewater and developed sector data. Each person listed in the organization chart adheres to the procedural requirements of the QAPP and ensures that subordinate personnel do likewise.

This QAPP is reviewed periodically to ensure that the objectives of the CBRAP grant are met. All appropriate persons listed in the organization chart will participate in the review of the QAPP. The Watershed Program Coordinator is responsible for determining that data are of adequate quality to support this project. The project will be modified as directed by the Watershed Program Coordinator and the Watershed Program Coordinator will be responsible for implementing changes to the project and for documenting the effective date of all changes made.

5.1.2 Staff and office locations

DEC staff in DEC's central office in Albany and three regional field offices (Bath, Schenectady and Syracuse) have roles in the collection, reporting and verification of point source data.

Table 1: Watershed Program Staff and Office Locations

Position	Location	DEC Region
Watershed Program Coordinator	Albany	Central Office
Environmental Engineer	Albany	Central Office
Research Scientist	Albany	Central Office
Environmental Engineer	Bath	Region 8
Environmental Engineer	Bath	Region 8
Environmental Engineer	Schenectady	Region 4
Environmental Engineer	Syracuse	Region 7
Environmental Program Specialist	Syracuse	Region 7

5.1.3 Organization chart

The Albany employees focus on management of DEC's Chesapeake Bay Watershed Program, participation in the EPA Chesapeake Bay Program, and administration of the CBRAP grant. The

regional employees focus on compliance and enforcement activities to meet CBRAP grant obligations. Detailed job descriptions are in the Descriptions of duties section below.

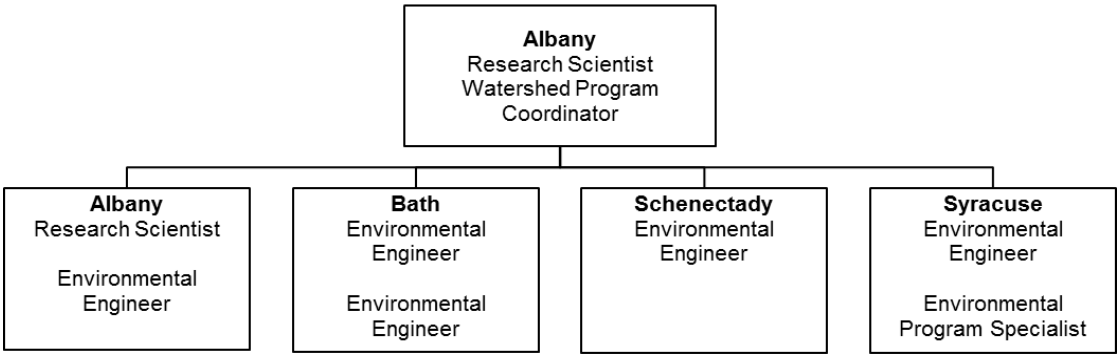

Figure 1. DEC Organization Chart

5.1.4 Descriptions of duties

Watershed Program Coordinator – Albany
The Watershed Program Coordinator oversees day-to-day operations of DEC's Chesapeake Bay Watershed Program and administration of the CBRAP and CBIG grants. In addition, the position works to (1) research improvements to best management practices for road ditch maintenance, animal stream exclusion, enhanced phosphorus removal, nitrogen reduction technology, and riparian set back programs; (2) recommend the course forward to achieve New York's water quality goals and satisfy watershed requirements, (3) coordinate attendance or participation in Chesapeake Bay Program committees and workgroups, as resources permit, and (4) track and assure completion of CBRAP- and CBIG-funded activities and commitments in accordance with established schedules and priorities.

Environmental Engineer – Albany
This Environmental Engineer modifies SPDES discharge permits for wastewater treatment plants as described by New York's Watershed Implementation Plan and reviews engineering plans for modifications to treatment plants in the Chesapeake Bay watershed.

Research Scientist – Albany
This Environmental Program Specialist provides overall program development and coordination to ensure completion of goals and commitments and represents New York in Chesapeake Bay Program workgroups, committees, panels, etc. This Research Scientist ensures that federal and state requirements regarding accountability and transparency are met and that sufficient information is distributed to the public at an appropriate level to understand the same.

Environmental Engineers – DEC Regions 4, 7 & 8 (Schenectady, Syracuse & Bath)
These Environmental Engineers conduct inspections and compliance follow-up activities for SPDES-permitted activities including: wastewater discharges, Concentrated Animal Feeding Operations, municipal separate storm sewer systems and construction sites. Other duties

include reviewing and approving engineering plans and developing and issuing SPDES permit modifications as necessitated by New York's Watershed Implementation Plan.

Environmental Program Specialist – DEC Region 7 (Syracuse)
This Environmental Program Specialist conducts inspections and compliance follow-up activities for SPDES-permitted facilities including: wastewater treatment plants, Concentrated Animal Feeding Operations, municipal separate storm sewer systems and construction sites. Other duties include developing and conducting training and outreach to permittees as described by New York's Watershed Implementation Plan.

Section 6: Wastewater Sector Data

6.1 Significant Wastewater Treatment Plants

30 wastewater treatment plants in New York's portion of the Chesapeake Bay watershed are classified as "Significant." Twenty-six are municipal wastewater treatment plants with individual SPDES-permitted discharge volumes of more than 400,000 gallons per day and four are industrial wastewater treatment plants with a nutrient load equivalent to over 3,800 total phosphorus (lbs./year) or 27,000 total nitrogen (lbs./year)[2].

New York's Significant wastewater treatment plants are listed below in Table 2: New York's Chesapeake Bay Significant Wastewater Treatment Plants. All are permitted through New York's State Pollutant Discharge Elimination System (SPDES) program, which is approved by EPA for control of surface wastewater and stormwater discharges in accordance with the Clean Water Act.

Table 2: New York's Chesapeake Bay Significant Wastewater Treatment Plants

SPDES Permit Number	Facility Name	DEC Region	County
NY0020320	Addison (V)	8	Steuben
NY0022357	Alfred (V)	9	Allegany
NY0003824	Amphenol Corporation	4	Delaware
NY0021431	Bath (V)	8	Steuben
NY0024414	Binghamton-Johnson City	7	Broome
NY0023248	Canisteo (V)	8	Steuben
NY0036986	Chemung Co. Elmira SD #1	8	Chemung
NY0035742	Chemung Co. Elmira SD #2	8	Chemung
NY0213781	Chenango (T) Northgate	7	Broome

[2] As defined by EPA's 2019 Grant and Cooperative Agreement Guidance (https://www.epa.gov/sites/production/files/2016-01/documents/2016cbpograntguidance.pdf)

NY0004189	Chobani	7	Chenango
NY0023591	Cooperstown (V)	4	Otsego
NY0025721	Corning (C)	8	Steuben
NY0027561	Cortland (C)	7	Cortland
NY0027669	Endicott (V)	7	Broome
NY0023906	Erwin (T)	8	Steuben
NY0021407	Greene (V)	7	Chenango
NY0020672	Hamilton (V)	7	Madison
NY0023647	Hornell (C)	8	Steuben
NY0004308	Upstate Farms Cheese	8	Steuben
NY0157295	Leprino Foods	7	Tioga
NY0021423	Norwich (C)	7	Chenango
NY0031151	Oneonta (C)	4	Otsego
NY0022730	Owego (T) #1	7	Tioga
NY0025798	Owego (T) #2	7	Tioga
NY0029262	Owego (V)	7	Tioga
NY0025712	Painted Post (V)	8	Steuben
NY0031411	Richfield Springs (V)	4	Otsego
NY0021466	Sherburne (V)	7	Chenango
NY0029271	Sidney (V)	4	Otsego
NY0031089	Waverly (V)	7	Tioga

6.1.1 Collecting Wastewater Data from Significant Facilities

Discharge information from New York's Significant wastewater plants is submitted to DEC by each significant wastewater treatment plant via monthly Discharge Monitoring Reports (DMR). Each DMR contains sampling results from the plant's wastewater discharge as required by permit monitoring conditions, including flow and nitrogen and phosphorus loads for that month. Permittees prepare, certify, and submit DMRs as instructed by DEC's *DMR Manual for Completing the Discharge Monitoring Report for the State Pollutant Discharge Elimination System (SPDES)*.[3] Permit limits are entered into EPA's online database, the Integrated Compliance Information System (ICIS-NPDES), and on submittal DMR data are also available in ICIS-NDPES. NetDMR is a web-based tool that allows SPDES permittees to electronically sign and submit DMRs directly to EPA and DEC and into the ICIS-NDPES system. All Significant wastewater plants currently submit DMRs to ICIS-NDPES through NetDMR.

A workflow diagram describing the DEC process for handling DMRs is in Appendix A: Discharge Monitoring Report Submittal Processing.

In addition to the general DMR guidance described above, DEC developed guidance specifically for the 30 Significant treatment plants located in the Chesapeake Bay watershed. This guidance

[3] The *DMR Manual* is on DEC's website at http://www.dec.ny.gov/chemical/8461.html.

includes instructions and example calculations for the credits, sub-bubbles, adjusted values, delivered values, and 12-month loads that are unique to the permits for the Significant treatment plants. DEC also developed spreadsheets to be used by permittees that automatically calculate the values needed for each DMR. These documents are available on DEC's internal website[4] and have been provided to the operators of the Significant treatment plants. Division of Water staff in the Albany office train regional staff on the use of these guidance documents as necessary. Regional staff provide the guidance documents to the operators of individual treatment plants and work with the operators to ensure DMR values are calculated and reported accurately.

6.1.2 Reporting Significant Wastewater Data

DEC submits data for the Significant wastewater treatment plants to the Chesapeake Bay Program for annual progress runs according to the schedule outlined in EPA's *Chesapeake Bay Program Office Grant and Cooperative Agreement Guidance* (Grant Guidance). The Chesapeake Bay Program developed an online tool, CBPO Point Source data submission tool[5], to submit annual wastewater data. DEC creates a yearly input deck of facilities within the watershed; new or off-lined facilities can be added or removed. The tool retrieves DMR data for the reporting period from ICIS-NPDES for each of the facilities and compiles the data into an annual data set record. For each outfall, ICIS-NPDES provides average monthly flow and concentration data (mg/L) for the following parameters: NH3, NO3, NO2, TON, TKN, TN, PO4, TOP, TP, CBOD/BOD, DO, and TSS. Within the tool, DEC reviews the annual data set for accuracy using the QA/QC iterative process (Appendix B). The finalized data set is submitted for use in the model.

6.1.3 Verifying Significant Wastewater Data

Discharge data from New York's Significant wastewater treatment plants is verified through the compliance and enforcement procedures described in Section 10: Compliance and Enforcement of Point Sources.

6.2 Non-Significant Wastewater Treatment Plants

Wastewater facilities that do not meet the definition of a "Significant" facility are classified as "Non-Significant". New York has approximately 200 Non-Significant wastewater treatment plants in the Chesapeake Bay watershed. Annual DMR data that is available for a small number of non-significant facilities is collected, reported, and verified using the methods described in Sections 6.1.1, 6.1.2, and 6.1.3 for Significant wastewater treatment plants. For facilities without annual DMR data, state state-specific default values will be reported during the annual progress run data submission as described in Attachment 6 of the Grant Guidance.

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[4] DMR Reporting Guidance Documents: http://internal/dow/dow372.html.
[5] CBP's Point Source Data Submission Application: https://pointsource.chesapeakebay.net/

6.3 Combined Sewer Overflows

Three Combined Sewer Overflow (CSO) facilities are permitted in New York's portion of the Chesapeake Bay watershed: Binghamton Combined Sewer Overflows (NY0024406), Village of Johnson City Overflows (NY0023981), and Chemung County Elmira Sewer District (NY0035742). All three facilities have approved Long Term Control Plans (LTCP) that include requirements for verification of construction, post-construction monitoring and inspection, compliance and enforcement procedures, and tracking and reporting requirements.

6.3.1 Compliance and Enforcement of Combined Sewer Overflows

In addition to the general compliance and enforcement procedures described in Section 10: Compliance and Enforcement of Point Sources, DEC uses the following strategies to ensure compliance with EPA's CSO Control Policy:

1. **Permit requirements and compliance monitoring:** DEC issues SPDES permits to communities with CSO outfalls. The following requirements are included in SPDES permits or Orders on Consent to manage and reduce overflows:

    a. All CSO outfall locations must be listed in the SPDES permit.

    b. Relevant BMPs appropriate to the specific conditions of the CSS are included in the permit.

    c. Most CSO communities are required to develop a LTCP, which is implemented through the SPDES permit or a consent order. If the implementation is governed under a consent order, the compliance schedules are incorporated by reference into the SPDES permit.

    d. In addition to the LTCP requirements, CSO permittees must continue implementation of the applicable 15 CSO BMPs listed in their SPDES permits.

    In addition, DEC uses the following tools to track compliance monitoring of CSO permittees and abatement activities:

    e. DEC developed an annual report template in 2013 to assist communities in reporting and to ensure that DEC receives information necessary to complete its annual reporting requirement to EPA.

    f. A CSO inspection form to assist DEC staff with annual compliance inspections. DEC staff use this form to assess compliance with CSO permit requirements and to get a complete picture of how the control facilities perform and are maintained.

    g. The LTCP compliance schedules are tracked using EPA's ICIS data system and any significant noncompliance is addressed through the SNAP process.

2. **CSO Mapping:** DEC developed a CSO Google Map[6] showing the location of all CSOs and a CSO Wet Weather Advisory[7] webpage to keep the public informed on the CSO program and abatement progress and to help the public make decisions about recreating on waterbodies with CSOs.

6.4 Onsite Wastewater Treatment Systems

As described in New York's Phase II Watershed Implementation Plan[8], DEC does not expect significant nitrogen reductions from onsite wastewater treatment systems (OWTS) in New York and does not currently track, report or verify OWTS BMPs in the Chesapeake Bay watershed.

6.5 Land Application

DEC regulates and permits land application of sewage sludge, non-sewage sludge, septage, food processing, and other solid wastes under *6 NYCRR Subpart 360-4: Land Application Facilities* (https://www.dec.ny.gov/regulations/regulations.html). Each permitted land application facility is required to submit an annual report to DEC that includes the following information: sites used during the year, sites to be used the following year, sludge analysis, current and next year's quantities and application rates, soil analysis, problems, and complaints.

As of June 2018, 24 facilities are permitted by DEC for land application. Five facilities are in the Chesapeake Bay watershed: American Rendering Company (Broome County), Sheesley Sewer Service (Chemung County), City of Hornell (Steuben County), Town of Owego (Tioga County) and Village of Owego (Tioga County). One is a food processing plant, one is a sewer and septic service company and three are wastewater treatment plants.

6.5.1 Biosolids

DEC collects data about land application of biosolids through the annual report required of land application facilities permitted by DEC. This permit program and data are managed by DEC's Division of Materials Management, Bureau of Waste Reduction and Recycling, Organic Recycling and Beneficial Use Section (http://internal/dmm/dmm76.html).

Each year, the Division of Water requests the most recent annual reports for permitted land application facilities from the Division of Materials Management, summarizes it using the template provided by EPA-CBPO and submits according to the schedule outlined in the Grant Guidance.

6.5.2 Spray Irrigation

DEC does not have data about spray irrigation of wastewater in New York. Default data provided by EPA-CBPO is used in place of actual data.

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[6] Map of CSO locations: http://www.dec.ny.gov/pubs/103459.html. The CSO map is in the "Chemical and Pollution Control Maps" table.
[7] CSO Wet Weather Advisory webpage: http://www.dec.ny.gov/chemical/88736.html.
[8] Phase II WIP, Section 8.1: Septic Systems, p. 175.

Section 7: Developed Sector Data

In New York, DEC is responsible for collecting, reporting, and verifying developed stormwater BMP data to the Chesapeake Bay Program. Currently, DEC's construction stormwater general permit (*State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity*[9]) is the only source of erosion and sediment control data that is currently reported to the Chesapeake Bay Program. The construction stormwater general permit notice of intent reports the stormwater performance BMPs used to treat stormwater and the amount of impervious surface reduced during construction. These BMPs are referred to as semi-regulated when installed outside of a municipal stormwater sewer system (MS4). The permit applicant must sign an agreement that they will maintain the BMP; the locality is not required to have an inspection program to enforce maintenance.

MS4s that are located within the boundaries of a Census Bureau defined "urbanized area" are regulated under EPA's Phase II Stormwater Rule. Discharges from MS4s in urbanized or additionally designated areas must be authorized in accordance with a permit for stormwater discharges from MS4s[10].This permit requires MS4s to develop a stormwater management program that will reduce the amount of pollutants carried by stormwater during storm events to waterbodies to the "maximum extent practicable". The goal of the program is to improve water quality and recreational use of waterways. Within the Chesapeake Bay watershed, communities surrounding Binghamton and Elmira are covered under the MS4 program (Figures 2 and 3). The Chesapeake Bay Program refers to these BMPs as regulated because they are subject to inspection and maintenance under the MS4 general permit.

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[9] The construction activity permit and Notice of Intent is available on DEC's website at: www.dec.ny.gov/chemical/43133.html.

[10] The MS4 permit and Notice of Intent is available on DEC's website at: http://www.dec.ny.gov/chemical/43150.html

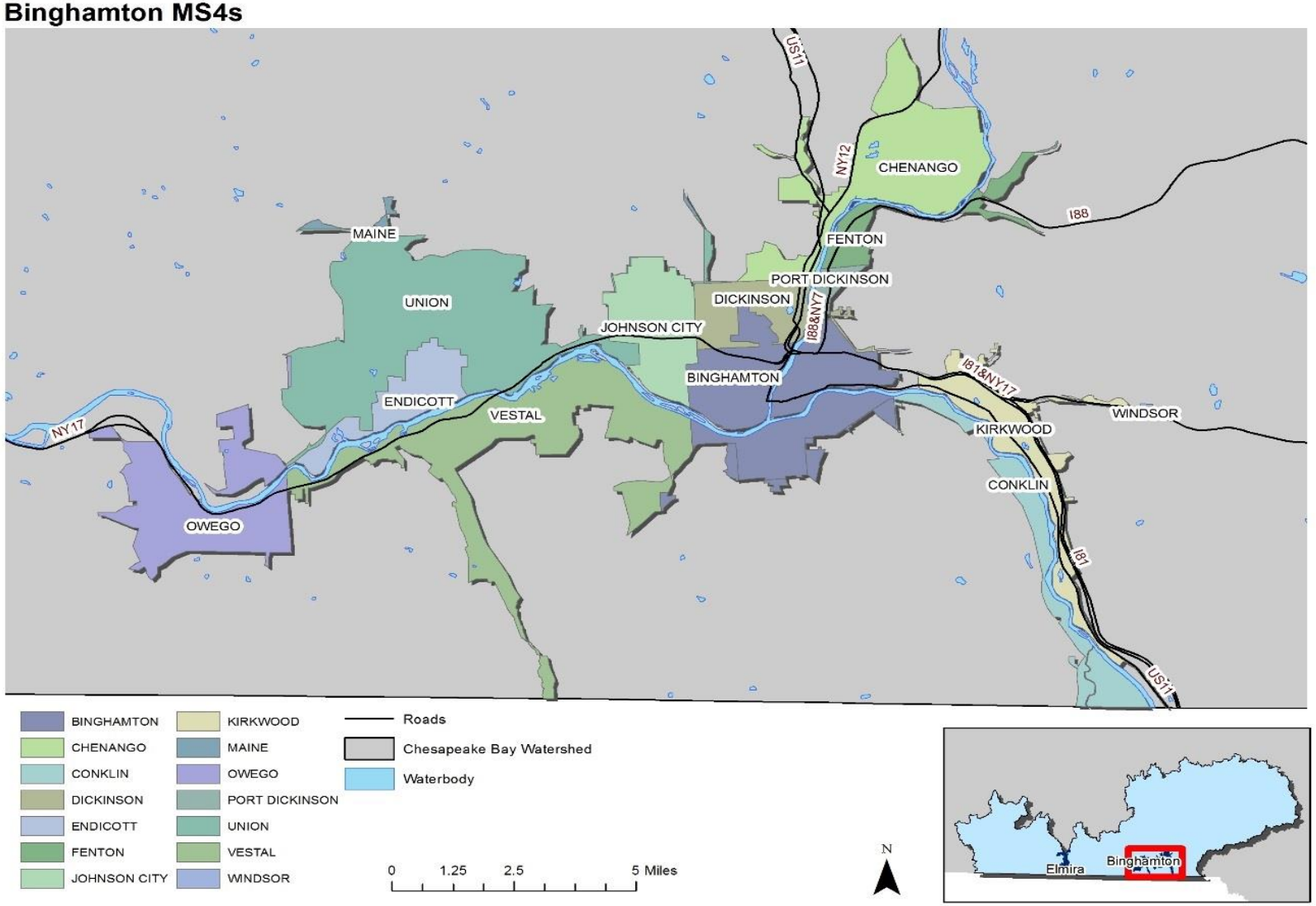

Figure 2. Binghamton MS4 communities

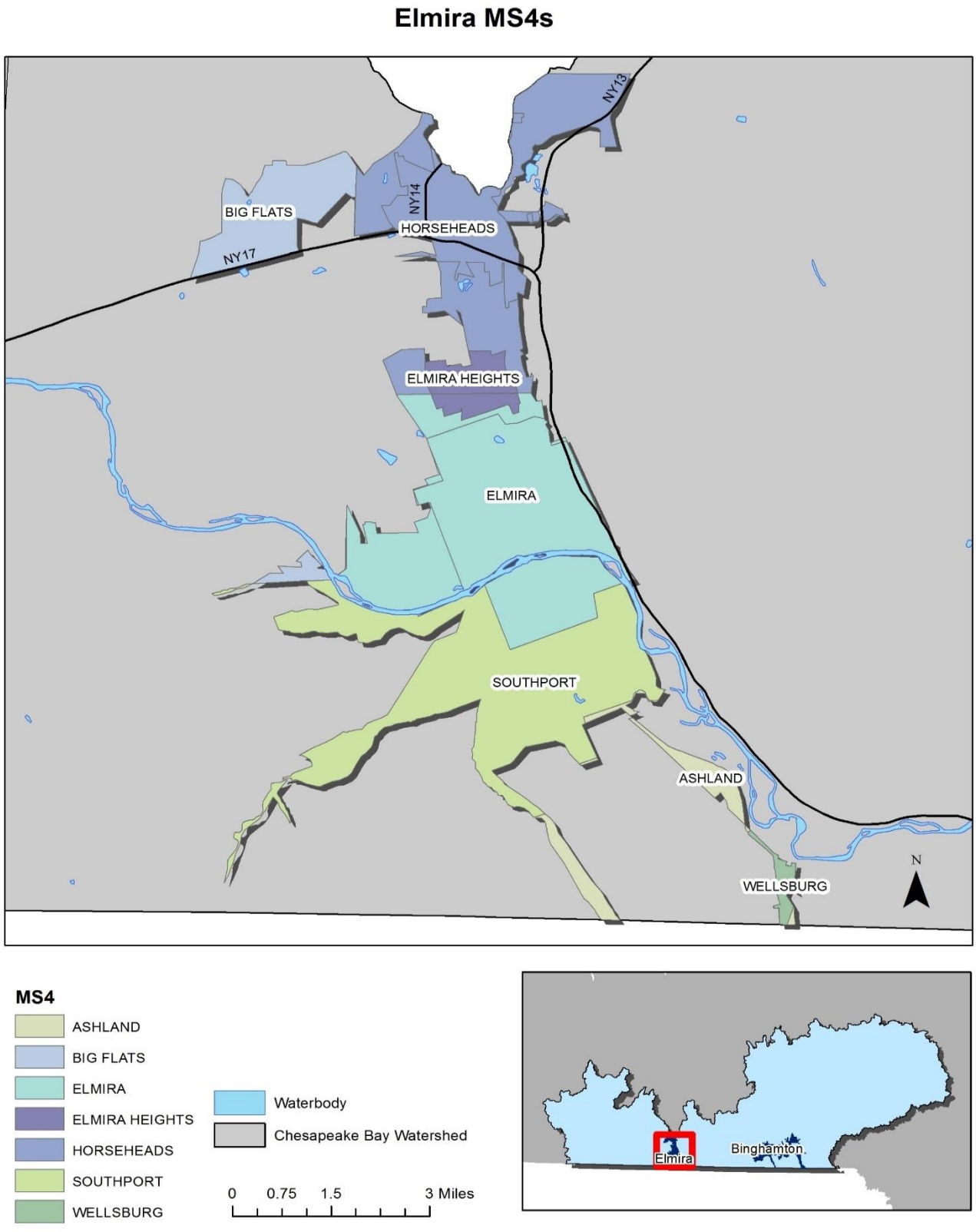

Figure 3. Elmira MS4 communities

7.1 Collecting and Reporting Developed BMP Data

7.1.1 Regulated (Within MS4) BMPs

The MS4 Program requires post-construction BMPs to be implemented by regulated municipalities as part of the fulfillment of Minimum Control Measure 5 (MCM5) in their permits. Procedures to track and inventory post-construction stormwater practices are required.

In New York, the owner or operator of a construction project that will involve soil disturbance of one or more acres must obtain coverage under the construction stormwater general permit. Coverage must be obtained before construction begins and is requested by submitting a *Notice of Intent* (NOI) to DEC. The NOI identifies all erosion and sediment control best management practices to be used during construction and any post-construction stormwater best management practices that will be installed and remain at the site after construction is completed. The information submitted on the NOI is currently tracked by the Division of Water's Stormwater Section in the Water Information System (WIS). The NOI information from WIS is exported into an excel document, clipped to the watershed, and submitted to NEIEN as an XML file.

The inventory is required to include location, type of practice, receiving waterbody name, maintenance needed per NYS Stormwater Management Design Manual, Storm Water Pollution Prevention Plan (SWPPP), dates and type of maintenance performed, and ensures adequate long-term operation and maintenance of management practices by trained staff, including inspection to ensure the practices are performing properly.

7.1.1.1 : Post-Construction BMPs

Using the Notice of Intent, DEC collects information about post-construction stormwater best management practices implemented at the construction site. Post-construction BMPs collected on the NOI will be matched to Chesapeake Bay Program BMPs according to Table 3.

Table 3. Post Construction BMP Practices

DEC Post-Construction Practices	Runoff Reduction Technique/Stormwater Management Practice Code	Chesapeake Bay Program BMP Full Name	Chesapeake Bay Program BMP Short Name
Sheetflow to riparian buffers/filter strips	Area Reduction (RR-2)	Forest Buffer	ForestBufUrban
		Grass Buffers	UrbGrassBuffers
Tree planting/tree pit	Area Reduction (RR-3)	Forest planting; Tree Planting - Canopy	UrbanForPlant, UrbanTreePlant
Disconnection of rooftop runoff	Area Reduction (RR-4)	Impervious Disconnection to amended soils	ImperviousDisconnection
Vegetated swale	Volume Reduction (RR-5)	Vegetated open channel	VegOpChan
Rain garden	Volume Reduction (RR-6)	Bioretention/raingardens - A/B soils, no underdrain	BioRetNoUDAB

		Bioretention/raingardens - A/B soils, underdrain	BioRetUDAB
		Bioretention/raingardens – C/D soils, underdrain	BioRetUDCD
Porous pavement	Volume Reduction (RR-9)	Permeable Pavement – no sandveg with underdrain with AB soils	PermPavNoSV
Infiltration trench	Standard SMPs with RRv Capacity (I-1)	Urban infiltration practices – with sandveg no underdrain	InfiltWithSV
Infiltration basin	Standard SMPs with RRv Capacity (I-2)	Urban infiltration practices – with sandveg no underdrain	InfiltWithSV
Dry well	Standard SMPs with RRv Capacity (I-3)	Infiltration Practices w/ Sand, Veg. - A/B soils, no underdrain	InfiltWithSV
Underground filtration system	Standard SMPs with RRv Capacity (I-4)	Infiltration Practices w/ Sand, Veg. - A/B soils, no underdrain	InfiltWithSV
Bioretention	Standard SMPs with RRv Capacity (F-5)	Bioretention/raingardens	BioRet
Dry swale	Standard SMPs with RRv Capacity (O-1)	Bioswale	BioSwale
Micropool extended detention	Standard SMPs (P-1)	Wet ponds and wetlands	WetPondWetland
Wet pond	Standard SMPs (P-2)	Wet ponds and wetlands	WetPondWetland
Wet extended detention	Standard SMPs (P-3)	Wet ponds and wetlands	WetPondWetland
Multiple pond system	Standard SMPs (P-4)	Wet ponds and wetlands	WetPondWetland
Pocket pond	Standard SMPs (P-5)	Wet ponds and wetlands	WetPondWetland
Surface sand filter	Standard SMPs (F-1)	Filtering practices	Filter
Underground sand filter	Standard SMPs (F-2)	Infiltration Practices w/ Sand, Veg. - A/B soils, no underdrain	Filter
Perimeter sand filter	Standard SMPs (F-3)	Filtering practices	Filter
Organic filter	Standard SMPs (F-4)	Filtering practices	Filter
Shallow wetland	Standard SMPs (W-1)	Wet ponds and wetlands	WetPondWetland
Extended detention wetland	Standard SMPs (W-2)	Wet ponds and wetlands	WetPondWetland
Pond/wetland system	Standard SMPs (W-3)	Wet ponds and wetlands	WetPondWetland
Pocket wetland	Standard SMPs (W-4)	Wet ponds and wetlands	WetPondWetland
Wet swale	Standard SMPs (O-2)	Bioswale	BioSwale

Construction stormwater best management practice data is extracted from the Water Information System (WIS) database as an excel file and reviewed in ArcGIS for location

accuracy. Locations within 200 feet of one another are checked to prevent duplicate records. The Excel file is converted to an XML using a Python script. After the XML file is created, it is uploaded by Division of Water Bureau of Watershed Management Resource Management. DEC submits this data to EPA via NEIEN according to the schedule outlined in EPA's Grant Guidance.

7.1.1.2 : Erosion and Sediment Control BMPs

Permittees covered by the construction stormwater general permit must develop and implement a Stormwater Pollution Prevention Plan (SWPPP) that is prepared by a "qualified professional" (e.g. a Professional Engineer, Soil and Water Conservation District, Registered Landscape Architect, or a Certified Professional in Erosion and Sediment Control). The SWPPP must include an erosion and sediment control plan that addresses the potential for pollutants to be discharged during soil disturbance through practices consistent with the *New York State Standards and Specifications for Erosion and Sediment Control* (Blue Book).[11] The Blue Book provides minimum standards and specifications for meeting DEC's criteria for stormwater discharges associated with construction activity, including minimizing erosion and sediment impacts from construction activity involving soil disturbance. SWPPPs are reviewed by MS4 municipalities only when the project is located within an MS4 area.

Using the Notice of Intent, DEC collects information on the type of erosion and sediment control practices used during construction. Because the Chesapeake Bay Program does not differentiate between types of erosion and sediment control practices for purposes of the Chesapeake Bay Watershed Model, New York only reports the total acreage treated by erosion and sediment control practices.

7.1.2 Semi-regulated BMPs

Semi-regulated BMPs include practices installed locally under a state construction general permit outside of MS4 areas. The locality is not required to have an inspection program to enforce maintenance of the BMPs. The collection and reporting of these BMPs is the same as outlined in section 7.1.1.1 and 7.1.1.2 for regulated BMPs. Locations within 200 feet of one another are checked to prevent duplicate records.

7.2 Verifying Developed Sector Data

7.2.1 Regulated BMPs

Construction stormwater BMPs are initially inspected and verified by a qualified inspector. Construction projects that occur in MS4 areas have SWPPPs reviewed by the MS4 municipality. The inspector completes a final stabilization and post-construction stormwater management

[11] This document is available on DEC's website at: http://www.dec.ny.gov/chemical/29066.html.

practices certification as part of the *Notice of Termination* (NOT)12. A summary of verification procedures for regulated BMPs is provided in Table 4.

Table 4. Jurisdiction Verification Protocol Design Table: MS4 Construction Stormwater

Verification Element	Description
BMP or Group	Regulated Stormwater Management
Geographic Scope	MS4 localities
WIP Priority	High
Data Grouping	Individual MS4 or MS4 Coalitions
BMP Type	Structural Stormwater Management Practices
Initial Inspection	
Method	Field Visit
Frequency	Once
Who Inspects	Qualified Inspector - a person that is knowledgeable in the principles and practices of erosion and sediment control, such as a licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, or other Department endorsed individual(s).
Documentation	Construction Stormwater Notice of Intent and Notice of Termination
Follow-up Check	
Follow-up Inspection	Routine inspection as part of permit requirements
Who Inspects	MS4 Municipality – Trained Person
Documentation	Inventory of post-construction stormwater management practices within the covered entities jurisdiction maintained by MS4 as part of permit requirements
Lifespan/Sunset	10 years
Data QA, Recording & Reporting	Protocol to be determined

7.2.2 Semi-Regulated BMPs

The construction stormwater general permit requires the owner or operator of a construction project to hire a qualified inspector to perform weekly inspections of the best management practices during the construction period to ensure that they are constructed in accordance with the SWPPP and New York State's technical standards. A "qualified inspector" is defined as a person that is knowledgeable in the principles and practices of erosion and sediment control, such as a licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, or other DEC-endorsed individual.

During construction, DEC conducts compliance inspections at some construction sites following the procedures described in Section 10: Compliance and Enforcement of Point Sources.

[12] The construction activity permit and Notice of Intent is available on DEC's website at: https://www.dec.ny.gov/docs/water_pdf/gp015002cnot.pdf

Once the construction project is complete, the qualified inspector is required to perform a final inspection and then certify in the *Notice of Termination* that the best management practices have been constructed in conformance with the SWPPP. The Notice of Termination is then submitted to the Division of Water's Stormwater Section. A summary of verification procedures for construction stormwater BMPs and erosion and sediment control are provided in Tables 6 and 7. The locality is not required to have an inspection program to enforce maintenance of the BMPs. BMPs that are not verified will receive a gradual downgrade in BMP performance over time, such that the BMP credit expires after ten years. Full performance credit is given for the first five years of the BMP lifespan, followed by a 20% downgrade each year over the next five years, as outlined in Part 5: Guidance for Verification of Semi-Regulated BMPs in the 2014 Basinwide Framework for BMP Verification[13].

DEC is in the process of contracting with a third party to perform verification inspections on a sub-sample of their BMP inventory at least once during the prescribed credit duration of the BMP. Non-MS4 communities may elect to reduce the scope of their visual inspections by sub-sampling a representative fraction of their local BMPs and applying the results to their entire population of BMPs that are credited in the model. The sub-sampling method will be designed to have at least an 80% confidence level that the BMPs are reported accurately. There are several well accepted approaches to determining the sample size. These include using a census for a small population of BMPs, imitating a sample size of similar studies, using published tables, and/or applying formulas to calculate a sample size.

Table 5. Jurisdiction Verification Protocol Design Table: Construction Stormwater

Verification Element	Description
BMP or Group	Construction Stormwater
Geographic Scope	Outside of MS4 localities
A. WIP Priority	Medium
B. Data Grouping	
C. BMP Type	Post Construction BMPs
D. Initial Inspection	
Method	Field Visit
Frequency	Once
Who Inspects	Qualified Inspector - a person that is knowledgeable in the principles and practices of erosion and sediment control, such as a licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, or other Department endorsed individual(s).
Documentation	Construction Stormwater Notice of Intent and Notice of Termination
E. Follow-up Check	
Follow-up Inspection	Field inspection of statistical sub-sample TBD
Who Inspects	TBD
Documentation	Verification/Inspection Form

[13] CBP's Strengthening Verification of Best Management Practices Implemented un the Chesapeake Bay Watershed: A Basinwide Framework

F. Lifespan/Sunset	10-year credit
G. Data QA, Recording & Reporting	Construction Stormwater projects are mapped in ArcGIS for location accuracy and to prevent duplication of record.

Table 6. Jurisdiction Verification Protocol Design Table: Erosion & Sediment Control

Verification Element	Description
BMP or Group	Construction Stormwater
Geographic Scope	Outside of MS4 localities
WIP Priority	Medium
Data Grouping	Project
BMP Type	Erosion & Sediment Control
Initial Inspection	Upon completion of NOT
Method	Field Visit
Frequency	Once
Who Inspects	Qualified Inspector - a person that is knowledgeable in the principles and practices of erosion and sediment control, such as a licensed Professional Engineer, Certified Professional in Erosion and Sediment Control (CPESC), Registered Landscape Architect, or other Department endorsed individual(s).
Documentation	Construction Stormwater Notice of Intent and Notice of Termination
Follow-up Check	Annual BMP
Lifespan/Sunset	1 year
Data QA, Recording & Reporting	Construction Stormwater projects are mapped in ArcGIS for location accuracy and to prevent duplication of record

Section 8: Forestry Data

New York does not currently report forest harvesting data but is in the process of developing a data collection, reporting and verification program in order to report acres of harvested forest that follow required erosion and sediment control. Acres of harvested forests will be reported for State Forest lands and private lands receiving tax savings through New York's 480a Forest Tax Law program. Additional private lands forest harvesting data may be collected if DEC foresters provide technical assistance.

Pursuant to Section 9-0505 of New York's Environmental Conservation Law, DEC sells stands of timber from State Forests. State Forests in New York are managed according to sustainability standards set by the Forest Stewardship Council and the Sustainable Forestry Initiative, which includes protecting water quality by following guidelines that address erosion control and minimize forest damage during tree harvesting, road construction, and any other disturbances that may affect water quality. Timber sale contracts include provisions requiring the buyer to implement BMPs to protect environmental resources. These BMPs include the use of temporary bridges or culverts to protect streams, installation of erosion control devices during and at completion of the harvest, seasonal harvesting

restrictions to avoid wet soil conditions, and equipment restrictions to protect sensitive areas, among others.

Private lands eligible under the 480A program must include forest tracks of at least 50 contiguous acres and be harvested in accordance with a sound forest management program. Applications under the 480A program must include a management plan prepared by a professional forester and documentation of erosion and sediment control measures. All applications under the program are approved by DEC's Division of Lands and Forests staff.

Section 9: Data Management Systems

The Division of Water uses EPA's Integrated Compliance Information System-National Pollutant Discharge Elimination System (ICIS-NPDES) as its primary data management tool. However, the ICIS-NPDES system alone is not sufficient to support all of the Division of Water's information needs and additional state systems have been developed to fill gaps in the functionality provided by the EPA systems. Examples of these information systems include:

- **CAFO Database:** The CAFO database is a Microsoft Office Access database that tracks CAFO permits, related facility and contact information, and annual report data. It contains reports for authorization and discontinuance letters, and for summarizing annual report data. This database is updated by Division of Water staff in the Albany office. Regional staff queries the database when needed.

- **eBusiness Portal:** DEC's eBusiness Portal allows online submission of some documents, including CAFO annual compliance reports and Notices of Intent for DEC's construction stormwater general permit. More information is available on DEC's website: http://www.dec.ny.gov/pubs/95925.html. The online submission process allows DEC to more efficiently process documents.

9.1 Data and Network Security

Water quality data is stored electronically on secure Division of Water network drives that are part of the Storage Area Network (SAN) in DEC's data center. The SAN is a redundant array of drives and is backed up nightly to tape. A set of tapes is rotated once a week to the New York State Archives for secure off-site storage. Physical access to the data center is restricted by electronic key card locks.

Network access is restricted to DEC employees with individual password-protected user accounts. Password security is established through mandatory employee cyber security training and quarterly password changes. Access to specific information and files on the Division of Water network drives is limited through permissions granted by project managers and managed by the Division System Administrator's application of read and/or write authorization.

Section 10: Compliance and Enforcement of Point Sources

DEC adheres to the following compliance and enforcement procedures for all point source discharges in New York.

10.1 SPDES Permits

Article 17 of the New York State Environmental Conservation Law authorizes DEC to regulate discharges to the state's water resources through the State Pollutant Discharge Elimination System (SPDES) program.[14] SPDES permits incorporate water quality standards and establish stringent performance standards, effluent limitations and operating conditions designed to protect the state's water resources. These permits require effective implementation of best management practices and timely sampling, analysis and reporting to DEC on the quality of wastewater discharged under a SPDES permit. In addition to issuing permits, DEC ensures compliance by conducting facility inspections, reviewing facility discharge monitoring reports and operating reports, responding to complaints, and requiring certification of wastewater treatment plant operators.

All SPDES permits comply with the following Division of Water Technical and Operational Guidance Series:[15]

- **TOGS 1.2.1 Industrial Permit Writing:** Provides guidance to DEC staff responsible for writing SPDES permits for discharges of wastewater from industrial facilities and for writing requirements equivalent to SPDES permits for discharges from remediation sites. In writing SPDES permits for industrial dischargers, DEC permit writers must determine three basic aspects of each permit: parameters to be regulated, allowable discharge limits, and monitoring requirements to demonstrate compliance with discharge limits. As well as these basic aspects of discharge permits, there are additional considerations such as anti-degradation review.

- **TOGS 1.2.2 Administrative Procedures and Environmental Benefit Permit Strategy for Individual SPDES Permits:** Provides the procedures for implementing the requirements for discharges authorized under the SPDES program, developing new SPDES permits, and renewing, modifying, priority ranking, and tracking existing SPDES permits.

- **TOGS 1.3.3 SPDES Permit Development for POTWs:** Provides technical guidance for permit writers in drafting SPDES permits for Publicly Owned Treatment Works (POTW). This document provides the guidance necessary to draft a SPDES permit for a POTW of any size or classification.

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[14] http://www.dec.ny.gov/permits/6054.html.
[15] All Division of Water TOGS are on DEC's website: http://www.dec.ny.gov/regulations/2652.html.

10.2 Compliance Inspections

DEC staff located in regional field offices ensure compliance with the terms and conditions of SPDES permits with a focus on significant sources of nutrients and sediment and implementation of the 1987 USEPA/NYSDEC Enforcement Agreement. The 1987 Enforcement Agreement outlines the elements necessary to ensure compliance of facilities permitted through the SPDES program and is an essential component of EPA's authorization of New York's SPDES program.

In the Chesapeake Bay watershed, DEC staff conduct compliance inspections and follow-up activities at Chesapeake Bay Significant wastewater treatment plants, Chesapeake Bay Non-Significant wastewater treatment plants, Concentrated Animal Feeding Operations (CAFO), Municipal Separate Storm Sewer Systems (MS4), construction sites, and facilities covered by the Multi-Sector General Permit (MSGP) with the potential to discharge nutrients or sediment.

Note: *EPA Region 2 also conducts inspections at these types of facilities in the Chesapeake Bay watershed as part of its oversight responsibilities.*

10.2.1 Frequency of Compliance Inspections

In the Chesapeake Bay watershed, DEC typically inspects 100% of Significant wastewater treatment plants and CSOs each year; 30-50% of Non-Significant wastewater treatment plants each year; 25-50% of MS4s each year; and 50% of CAFOs each year. Inspection numbers fluctuate from year to year based on changing priorities and staffing levels, but DEC has generally maintained these inspection rates since the start of CBRAP funding in 2011.

10.2.2 Guidance for Compliance Inspections

The DEC *SPDES Inspector Guidance Manual* guides inspectors in conducting consistent and effective municipal and industrial wastewater treatment plant SPDES inspections. The Inspector Guidance Manual is available internally to DEC staff as part of a broader "Compliance Toolbox" developed to guide Division of Water inspectors during all types of inspections (WWTP, CAFO, MS4 and Construction Stormwater).[16]

Topics covered include inspection preparation, inspection forms, types of inspections, inspection procedures, sampling protocol, inspection reporting, and compliance follow-up procedures for the SPDES program. The guidance manual provides guidelines for conducting SPDES inspections including documentation of inspection findings that may be used for compliance and enforcement response to violations of permit requirements and violations of water quality standards.

Inspectors gather all available information prior to an inspection to determine facility compliance for the period and to identify trends based on the compliance history. The inspector may review

[16] The Division of Water's Compliance Toolbox is available on DEC's internal website at http://internal/dow/dow177.html.

Discharge Monitoring Reports, complaints against a facility, prior inspection reports, and the conditions of the facility's permit.

After reviewing preparatory information, the inspector conducts the inspection and rates the facility based on the categories found on the inspection form and any other information that is included in the applicable inspection checklist.

Inspection reports may be delivered while the inspector is at the facility and inspection results may be communicated to the facility owner/operator while on-site. Often however, the inspection report is developed after the inspector returns to the office and is later provided to the operator of the inspected facility. If serious violations are found, the inspector will discuss the issues with the facility operator and may pursue an enforcement action (either formal or informal).

After each inspection, the Division of Water follows the procedures below in preparing, transmitting and storing inspection reports, and entering data into DEC's inspection tracking database, called the *Water Compliance System* (WCS), and EPA's compliance tracking database, called the *Integrated Compliance Information System – National Pollution Discharge Elimination System* (ICIS-NPDES).

- **Inspection report preparation, transmittal and storage:** DEC inspectors prepare and transmit a final report to the permittee. An electronic copy of the report is stored in the Division of Water's Centralized Electronic Document Repository (CEDR).[17]

- **Inspection report data entry:** Inspection data is typically entered in the WCS database by the inspector. In some instances, the inspector may pass the paper inspection form to an administrative staff person to record the core inspection data in the database. Inspection data is transferred from WCS to ICIS-NPDES by the Division of Water's SPDES Compliance Information Section (located in DEC's Central Office in Albany) in accordance with EPA's *ICIS-NPDES User's Guide* after the regional staff enters the inspection into WCS.

The WCS database stores all of DEC's compliance inspection data. The data can be queried and reports generated. The mandatory fields entered for each inspection are: Facility, Inspector, Date, Time, Summary Rating, and if the inspection is complete. This data is entered into WCS within thirty days of the inspection.

To effectively represent DEC, inspectors must have a working knowledge of legal responsibilities and authorities. Reference sources for SPDES legal authorities are maintained in regional offices and periodically reviewed by regional inspectors, particularly in preparation for comprehensive facility inspections. The Division of Water internal website has links to the legal

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[17] CEDR is an access-controlled group of folders in the Division of Water's shared network drive that is designated for the storage of final electronic documents. Use of CEDR to store final documents helps prevent duplicate document storage and confusion about which is the final version of a document. All Division of Water employees at minimum have "read" access to these folders. Higher access levels are granted where appropriate, generally on a facility-specific basis.

reference sources mentioned above. All Division of Water employees have access to the internal website.

10.3 Compliance Assurance

The Division of Water's Bureau of Water Compliance tracks SPDES inspections and reports and pursues enforcement actions if necessary.

The data collected by SPDES permittees is a combination of analyzed onsite parameters and data acquired through samples analyzed by Environmental Laboratory Accreditation Program (ELAP)-certified labs. This data is maintained in the ICIS-NPDES database. Performance of compliance and follow up activities is accomplished through analysis of data acquired directly from the ICIS-NPDES database.

Reported DMR data is compared with the effluent limitations established in the permit to determine if violations have occurred (there may also be influent limits). Late or un-submitted DMRs are tracked as violations. DEC produces Notices of Violation (NOV) for late or missing DMRs. Regional offices are responsible for evaluating the DMR against effluent limits to determine if violations have occurred. Regional offices are also responsible for pursuing enforcement actions relating to effluent exceedances

DEC identifies priority violations in accordance with the Division of Water Technical and Operational Guidance Series (TOGS) 1.4.1 – *Water Integrated Compliance Strategy System* (WICSS).[18] Significant Non-Compliance (SNC) is discussed as part of the Significant Non-Compliance Action Program (SNAP) process. Response to priority violations will be made in accordance with the Division of Water TOGS 1.4.2 – *Compliance and Enforcement of SPDES Permits*.

Violations identified by a DEC inspection in the Chesapeake Bay watershed must be addressed in accordance with the appropriate wet weather strategy. For example, with regard to stormwater, to "address" means to take timely and appropriate formal or informal enforcement action designed to return the noncompliant MS4, construction site or industrial facility to compliance. Appropriate actions for an entity designated to be a "Significant Non-Complier" are generally formal enforcement actions such as administrative compliance orders or judicial referrals. Formal actions should establish enforceable schedules for complying with permit requirements. Informal actions may be appropriate in particular circumstances and include administrative penalty orders and notices of violation. In addition, a noncompliant entity is considered "addressed" if it returns to compliance in a timely manner without an enforcement action. With regard to CAFOs, the DEC *Regional Priority Action Implementation Plan* (PAIP) outlines procedures followed by DEC regional offices for addressing facilities. A facility is considered addressed by one of three ways: 1) no further action is needed; 2) the facility is in compliance; or 3) the facility is in violation and an appropriate enforcement action was taken to require compliance. When an enforcement action is required to return a CAFO to compliance,

[18] All Division of Water TOGS are on DEC's website at http://www.dec.ny.gov/regulations/2652.html.

EPA and/or DEC will use EPA's *Interim Wet Weather Significant Non-Compliance Policy*[19], when deciding what action is most appropriate to address CWA violations at CAFOs.

[19] EPA's *Interim Wet Weather Significant Noncompliance Policy* is on the EPA website at http://cfpub.epa.gov/compliance/resources/policies/civil/cwa/.

10.4 Appendix A: Discharge Monitoring Report Submittal Processing

The following workflow diagram illustrates the process for DMR data submissions.

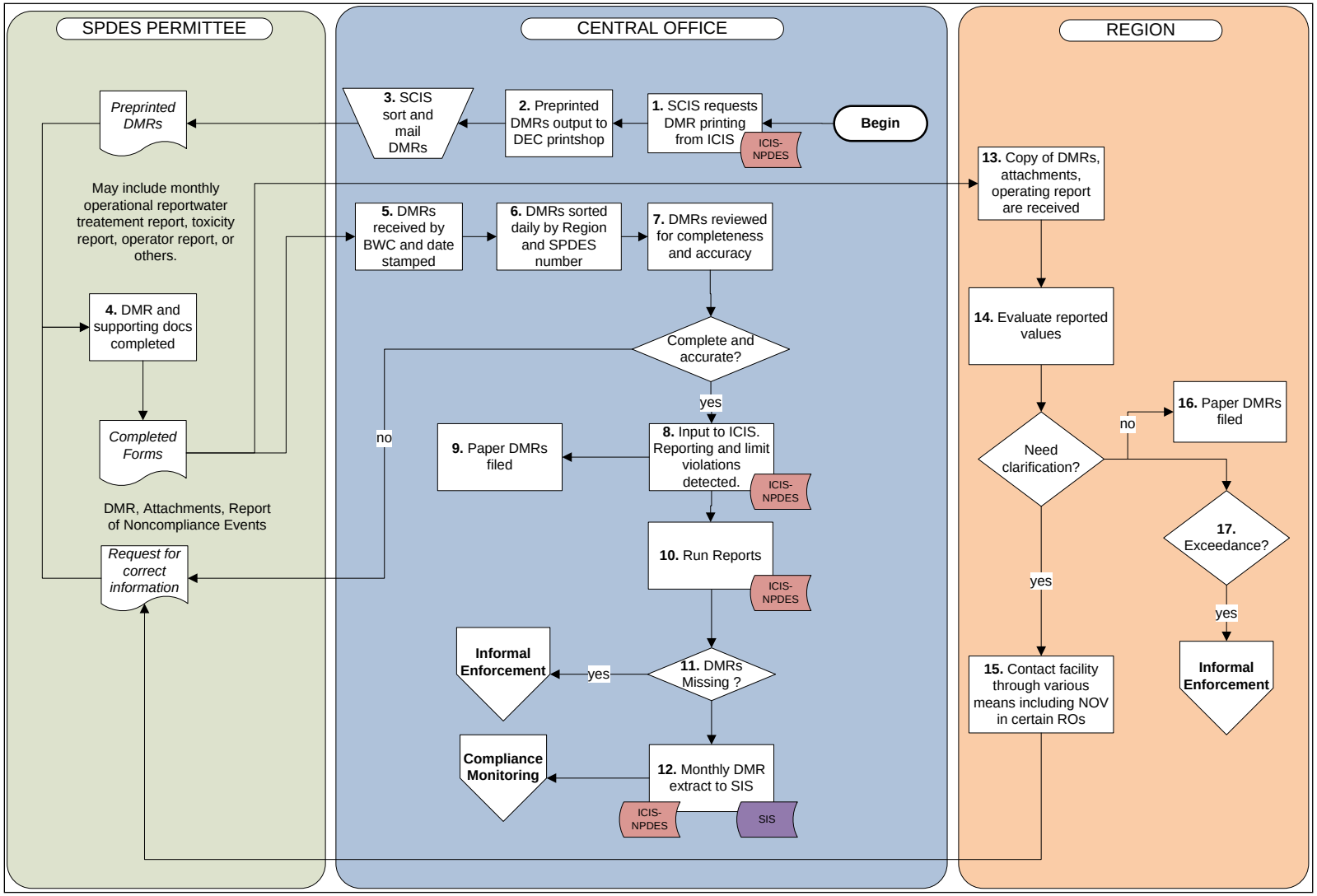


Figure 4: Workflow Diagram – DMR Processing

Each DMR process step is explained in detail in the numbered section below:

10.4.1 DMR preprint and facility DMR preparation

1. When a permit is issued, information about the permit is entered into ICIS-NPDES. The information may include the permitted outfalls, discharge monitoring requirements, reporting frequencies, and specific effluent limits. After the permit information is input, SCIS runs a "DMR Preprint" report from ICIS-NPDES.

2. The preprinted DMRs are output to the DEC printer or stored on a secure portion of the DEC website.

3. SCIS staff sorts the DMRs by SPDES number and mail the preprinted forms to the permittees. Some facilities retrieve their DMR from the DEC website using their facility-specific password.

4. When a reporting period ends, the permittee completes the DMR form, listing summarized sampling results for the period. Any required supplemental information is collected and attached to the DMR. Some examples of supplemental information might include lab reports, copies of log books, copies of non-compliance reports, Monthly Operating Reports (MORs), or Whole Effluent Toxicity (WET) reports.

   Permittees may use their own DMR reporting forms, but they must be approved by DEC and match the exact layout and content of the DEC-provided forms. The original DMR is sent to the CO, and a copy is sent to the applicable RO.

10.4.2 Central Office DMR processing

5. SPDES Compliance and Information Section (SCIS) staff receives and date stamps DMRs and attachments.

6. Complete DMRs are sorted into stacks, separated by RO and SPDES permit number.

7. DMRs are reviewed to ensure that all pages are present, all values are reported, and required signatures are present. If information is missing, the facility DMR contact is informed via email, mail or telephone of the deficiency and the correct information is requested. Some attachments are removed from the DMR packet to be reviewed and input into ICIS-NPDES, to fulfill compliance or permit schedules.

8. DMR data is coded into ICIS-NPDES.

9. Paper DMRs are filed in Central Office.

10. SCIS staff runs reports from ICIS-NPDES, identifying all missing DMRs for the period.

11. If DMRs are missing, SCIS creates and issues an NOV for each missing DMR, and mails them to the permittees. No enforcement discretion is applied during this process.

SCIS has noted that many manual steps are required to generate NOVs. These include extracting a list of facilities that are missing DMRs from ICIS-NPDES, preparing extracted data in Excel, and using MS Word to perform a mail merge into the NOV template.

12. On a monthly basis, EPA extracts a flat-file from ICIS-NPDES containing all DMR data for the most recent period. The data is provided to DEC. DEC imports the DMR data into SIS, making a searchable version of DMR data available to staff.

    Because of this process, DMR data is not very timely. Usually a month passes after a DMR is received before it is imported into SIS.

10.4.3 Regional office DMR processing

13. The RO receives DMRs from each permittee. The RO receives additional information with the copy of the DMR, such as Monthly Operating Reports (MORs), or any requested report of non-compliance.

    Some ROs maintain local tracking spreadsheets to track the receipt of DMRs. Some ROs also input DMR data into spreadsheets for analysis.

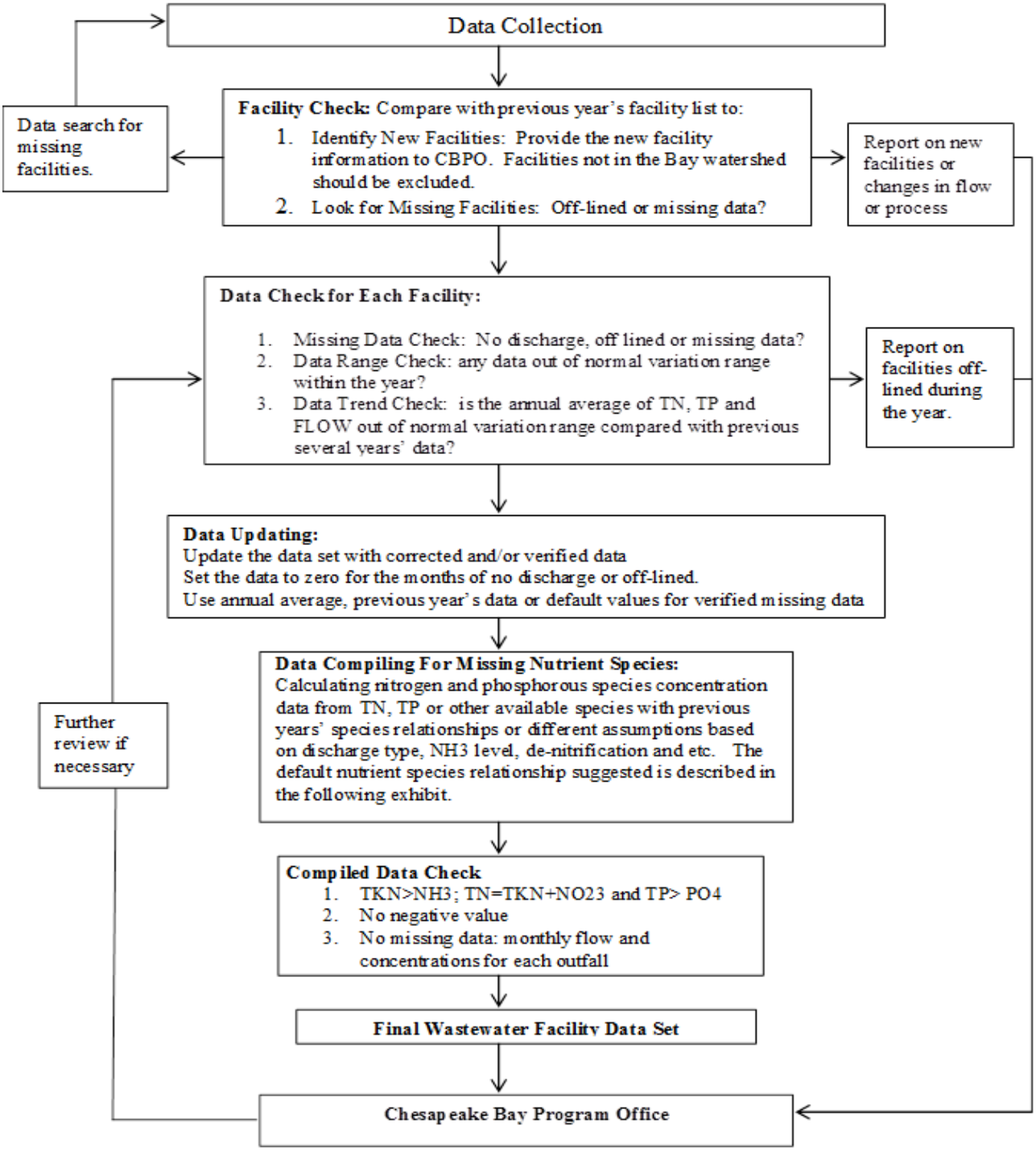
14. DMRs are routed to the appropriate staff person for review. The manual process by which DMRs are sorted and distributed varies by RO, but most do undertake this effort. In some cases, only DMRs with violations are forwarded to the DOW facility manager.

15. If any clarification is needed, such as a missing, illegible, or improbable value on a DMR, RO staff contacts the facility for clarification. In some ROs, NOVs are immediately issued, in an effort to resolve reporting errors.

16. The paper DMR is filed by the RO.

17. If reported values exceed the effluent limits set forth in the permit, RO staff may issue an enforcement action, such as an NOV. The action taken is based on the enforcement discretion of RO staff.

10.5 Appendix B: Wastewater Facility Nutrient Data Processing Flow Diagram



10.6 Appendix C: Dataflow for Nonpoint Source BMPs

Source	Data Type/BMPs	Driver	Data Inspection for Submitting Practice				Submitting to NEIEN
			Method	Freq.	Who Inspects?	Documentation	Processing/ Reporting
Federal Facilities	Urban BMPs	Voluntary	Field Visual	100%	Federal Facilities	Annual excel template populated by Federal Facilities submitted to DEC	DEC Division of Water staff upload the XML to NEIEN Chesapeake Bay Program
Construction Stormwater	Erosion & Sediment Control, Stormwater Treatment, Runoff Reduction, & Impervious Surface Reduction	Regulations, Permit Requirement	Field Visual	100%	Locality or DEC	Excel populated by DEC Division of Water using the Water Information System (WIS)	

10.7 Appendix D: Verification of Nonpoint Source BMPs

Source	Data Type/BMPs	Data Inspection for Verifying Practice			BMP Lifespan (Years)
		Follow-up inspection	Statistical Sub-sample	Response if Problem	
Federal Facilities	Urban BMPs	Federal Facilities	100% Inspected	Inspection updates provided by federal facilities will be used to update data records and extend credit life. If no updates are received, credit durations will require removal of the record from the reporting system.	5-15
Construction Stormwater	Erosion & Sediment Control	Locality or DEC	00% Inspected	N/A	Annual Practice
Construction Stormwater	Post Construction BMPs	Protocol to be determined			10