Chesapeake Bay Program Point and Nonpoint Source Data Deliverable Guidance

Contents

Introduction

The requirements described in this document pertain to the submission of all point and nonpoint source data resources delivered to and maintained by CBPO. For more information about the requirements and procedures outlined in this document, please contact the CBPO point and nonpoint source data managers at: pointsource@chesapeakebay.net and non-pointsource@chesapeakebay.net.

The Clean Water Goal Team (CWGT) collaborates with CBPO staff and the PSC to define Chesapeake Bay Program (CBP) progress data submission requirements to meet CBP's communications and management needs. The requirements described in this document reflect the latest agreements of these groups. All progress-related data, documents, and information must adhere to CBPO's Data Deliverable Guidance, as well as the requirements described in this document unless otherwise stated in a work plan. Additionally, all data must be submitted by the established deadlines, in the proper formats, and using the approved submission tools to enable the processing of CBPO's annual progress scenario of the Chesapeake Bay Watershed Model.

Jurisdictions are required to report annually:

- Quality assured point source and nonpoint source nutrient and sediment reduction activities for use in Chesapeake Bay Watershed Model annual assessment scenarios.
- Quality Assurance Project Plans (QAPPs) that describe the procedures for ensuring timely, high-quality data submissions.

The Chesapeake Bay TMDL Progress Schedule is a tool to provide EPA, jurisdictions and other Chesapeake Bay Program partners with a timeline for data submissions and verification reviews to release Chesapeake Bay progress scenarios on Chesapeake Assessment Scenario Tool (CAST). Each year, by August 1st, CBPO updates the schedule for each new annual progress scenario. This ensures that EPA, jurisdictions, and all Chesapeake Bay Program partners have a clear and reliable timeline for upcoming data submissions, quality assurance product finalizations, and verification reviews. These steps are crucial for releasing Chesapeake Bay progress scenarios on CAST in the following year. Progress years run from July 1 through June 30, and the annual progress scenario is released around May of the following year. Each year brings unique communication efforts both before and during the release; therefore, the exact release date of the progress scenario can vary. This can require adjustments to the timeline, so flexibility is built into the process. If a due date falls on a weekend or holiday, it automatically shifts to the next business day (as reflected in the Chesapeake Bay TMDL Progress Schedule).

In the event data are not submitted, or a discrepancy is noted in the current progress year's submissions, the previous progress year's data that was accepted by the partnership will be utilized for that current progress year.

Guidelines and Requirements

Quality Assurance Project Plans

Quality Assurance Project Plans (QAPPs) for the collection and use of environmental data are required from the jurisdictions. These QAPPs (previously known as BMP Verification Program Plans), in part,

document how jurisdictions are reporting implementation data for progress scenarios. QAPPs must be updated each year for the grant monitoring process by project officers, as well as to accommodate work of the CWGT and its workgroups. Additionally, jurisdictions are expected to update their QAPPs when new data sources and methods become available that enable them to enhance reporting of existing or newly approved BMPs. The initial round of updates to QAPPs used for the current progress year is due by September 1st. See the Chesapeake Bay TMDL Progress Schedule for further details. Updates to the QAPP for the current progress year should be submitted in track changes, colored or highlighted text format so that they are easily distinguishable from previously existing QAPP documentation, which should be black. QAPPs are required for all data described in this document. EPA guidance for developing QAPPs is outlined in the *QAPP Standard*.

Jurisdictions should also provide up-to-date documentation explaining methods for tracking, compiling, and reporting BMP implementation and wastewater data through updates to their QAPP(s) prior to submission of the data. For complete guidance on BMP verification and what's needed in QAPP(s), see Appendix Q.

BMP verification is the process that includes initial inspection, follow-up checks and evaluation of BMP performance. The Bay Program verification documentation includes:

- Verification guidance for each source sector;
- Information on access to federal cost-shared practice data;
- Enhanced collection and reporting of agricultural cost shared practices; and
- A report on CBP resource improvement practice definition and verification visual indicators.

It is expected that jurisdictions address all outstanding comments on their QAPP(s) from EPA. Addressing these comments and data problems should occur within 30 days of the completion of EPA's review to ensure full credit of quality data. Any outstanding issues after publication of progress scenario results should be addressed in the next iteration of the document for the following progress year unless otherwise specified by EPA.

Nonpoint Source Data Submissions

All nonpoint source (NPS) data should be reported using CAST by December 1 of the current progress year, including: current and historical best management practice (BMP) implementation data. BMP implementation data are used to create annual progress scenarios using the CBP suite of modeling tools and to make assessments and report out the estimated impacts of restoration efforts. CBPO makes its data submission schema available for jurisdictions to align their data reporting with CBPO data standards. Any corrections to the data should be initiated by the jurisdiction/data submitter.

Submission considerations:

- Minimally, for annual model progress assessments, jurisdictions should submit BMP data for the period of July 1 – June 30 of the model progress year. Outside of this temporal range, data can be submitted and used by CBPO based on the guidance of CBPO subject matter experts, given that implementation, maintenance, and inspection years are accurate or estimated to the best of the data source's ability.
- Accurate implementation years should be reported when the exact date (day/month) is unavailable. It's imperative model BMP data estimate as accurately as possible how on-the-

ground management actions changed through time for the entire data period, 1985 to the current reporting year, to maintain the integrity of the TMDL calculations.
- Jurisdictions should report BMPs as they occur on the landscape at the most site-specific scale possible, considering legal, privacy, and programmatic constraints.
- Jurisdictions should report BMPs at a scale compatible with CBPO modeling tool input requirements.
- BMP data should have accurate implementation, maintenance, and inspections dates; pass/fail inspection results; BMPs names as tracked by jurisdictions; and relevant attributes of each project, such as data source (e.g., Agency).
- All required fields for reported BMPs, as documented in CBPO's BMP Crosswalk need to be complete for the submission to pass initial validation checks. Jurisdictions should utilize the latest version of the following technical documents and submission instructions found on the Progress Reporting section of CAST.

Nutrient and sediment reduction activities that have not been approved for use in progress runs by the partnership will not be credited in the tools. Additionally, BMPs reported for credit need to adhere to the definition of the BMP as approved through the CWGT or higher or formalized by the CBP Partnership prior to establishment of the CBP Expert Panel Protocol. Definitions for all BMPs can be found by downloading the "Source Data" from the CAST documentation page, and relevant BMP Expert Panel reports. The BMP Crosswalk lists all approved and interim BMPs. Additionally, applicable USDA practices that crosswalk to approved CAST BMPs are found here: https://cast.chesapeakebay.net/Documentation/BMPs. The relevant conservation practice standards from the NRCS Field Office Technical Guide can be used to supplement existing definitions in the Source Data for a better understanding of the BMP.

Requesting New BMP Reporting Options

Jurisdictions often track BMPs or units under different names than those used by CBPO. The BMP Crosswalk allows jurisdictions to continue to track BMPs and units in unique ways and to be able to submit this information through CAST. Any requests for changes to the BMP Crosswalk should be made to the CWGT's Watershed Technical Work Group (WTWG) by August 1 at the latest for that year's model progress assessment. The WTWG is responsible for approving the BMP Crosswalk by September 1 following discussions on proposed amendments to the appendix.

Jurisdictions may also request a review of their unique resource improvement practices for inclusion in the BMP crosswalk and availability for progress reporting. These practices include BMPs that offer scientifically similar nutrient and sediment benefits as currently approved CBP or Natural Resources Conservation Service (NRCS) practices but may be designed and/or operated differently. To request review of functionally equivalent practices, jurisdictions must provide a written report that describes the technical specifications of the functionally equivalent practice(s) to the appropriate CBP sector workgroup (Agriculture, Forestry, Urban Stormwater or Wastewater). The sector workgroup, Watershed Technical Workgroup (WTWG), and CWGT will then review the report and recommend accepting or rejecting the functional equivalent practice(s) for that year's and future years' progress reporting.

BMP implementation reporting is meant to track changes in management actions – as the model simulates and estimates conditions in the watershed based on inputs, like BMP data submitted by the states and animal population data from the USDA Census of Agriculture. Changes in management action may include implementation of a new BMP, maintenance of an existing BMP (not to be reported as a

new practice), or renewal of practices such as nutrient management plans. Reporting existing practices in a new year under a new BMP name due to a reinterpretation of the BMP definitions is not considered a change in management, nor is reporting existing practices as if they were implemented in the data year of the annual progress evaluation and verification assessment. The expectation is that new BMPs are tracked, not estimated. For example, BMP implementation should not be estimated by looking at the acreage available to that BMP in the model, assigning a percent implementation to that BMP based on available acreage in CAST, converting that percent implementation to acres, and submitting that acreage for annual progress as if the acreage had been tracked on the ground. This does not apply to BMPs where surveying is a Bay Program-approved collection method and reporting implementation levels as a percent is allowed, like conservation tillage.

BMP inventories (visiting an operation and recording the practices that are on the ground at the time of the visit) are allowed only if each unit of each BMP has accurate implementation and inspection dates (at a minimum, the year should be provided as an exact date cannot always be provided). If the implementation year of an existing BMP cannot be reported to the Bay Program, the practice should not be submitted with the annual data submission. The date of the visit can be recorded as an inspection date in the jurisdiction's database. A jurisdiction should track that practice within their database until the practice can be visited a second time. Once the practice can be visited a second time, and the verifier can report the time passed between the first and second visits or inspections, then practice, along with the time between the first and second inspections, can be reported to the Bay Program with the annual data submission.

For BMPs like Core and Supplemental Nutrient Application Management, CBPO's expectation is that a jurisdiction tracks the degree (acres) of active plans from year to year – accounting for the acreage meeting and not meeting Bay Program BMP definitions and verification requirements – for plans with varying durations, e.g., 1-year, 3-year, 5-year, 10-year, etc. The expectation is that a state's QAPP clearly explain how this accounting is done and how it relates to what's reported annually. CBPO should be able to clearly understand how a jurisdiction determines if a nutrient management core or supplemental practice is meeting CBP verification requirements, BMP definitions, and EP protocols through documentation of acreage with plans that were not being actively implemented at the time of inspection, the timeframe for changes needing to be made for the practices to meet Bay Program requirements, and the acreage found to meet Bay Program requirements at the time of inspection.

Quality Control/Assurance of BMP Implementation Data

Jurisdictions are solely responsible for checking their own implementation data for duplicate, missing, or mistakenly reported data prior to submission for all sources of data, including but not limited to: NRCS and FSA; federal agency data; state agency and local data. All changes to the data must be made by jurisdictions in CAST. CBPO will not change any data outside of CAST for progress reporting purposes unless expressly directed to do so by EPA and the jurisdiction. Part of this quality control process is careful review by jurisdictions of the following reports provided to the jurisdictions via CAST:

- Error Report – provides details of all BMP data submitted, indicating if data are in error (or successes) according to BMP specifications
- Implementation Dates – provides detailed implementation, maintenance, inspection and retirement data for all BMP data submitted, indicating if data fall within the approved BMP lifespan or not.

- Credit Duration – provides detailed information on the total amount of a BMP credited and what would be credited with no expiration for all BMP data submitted.
- BMP Validation – provides list of any invalid data that matches BMP specifications but does not match CAST specifications.
- Submitted Versus Credited – provides total units of BMPs submitted by land use type to CAST.
- BMP Summary – provides summarized total units of broader BMP categories.

Reporting Construction and Harvested Forest Acres

Jurisdictions should report the number of permitted, disturbed acres of construction and forest clearing, as well as an estimate of those acres that were not permitted. BMPs should then be submitted on only the permitted acres. This data should be reported via email to non-pointsource@chesapeakebay.net. More information on the current status of this data across jurisdictions can be found under "CAST Data Update Frequency" in the Progress Reporting Section of TMDL Tracking on the CAST website.

Reporting Animal Information

Animal data may be updated in the Phase 6 Watershed Model every two years. This may be done through the reporting of permitted and unpermitted animals, and the reporting of animal manure nutrient concentrations for poultry and swine.

Jurisdictions should provide the fraction of animal type by county that is considered "permitted" either through an EPA or state program. These data will be used to update the land use acres for permitted feeding operations and unpermitted feeding operations once every two years. This data should be reported via email to non-pointsource@chesapeakebay.net.

To account for the benefits of animal feed/diet for poultry and swine, jurisdictions have the option to provide CBPO nutrient concentration data for poultry litter and other livestock manure. Jurisdictions wishing to provide data should contact non-pointsource@chesapeakebay.net for assistance with required data elements and formatting. Data should be provided for the last three years, if possible, and updated each year to reflect new poultry litter and other livestock manure samples. Jurisdictions that don't report volume data will receive default values according to rules established by the CBP AgWG. These data will be reviewed by the Partnership for use in estimating manure nutrients once every two years.

More information on the current status of this data across jurisdictions can be found under "CAST Data Update Frequency" in the Progress Reporting Section of TMDL Tracking on the CAST website.

Point Source Data Submissions

All point source data should be reported using the Point Source Data Submission Application by December 1 of the current progress year, including:

- Significant and nonsignificant wastewater facilities
- Flow Splits
- CSOs
- Biosolids

- Spray Irrigation (on agricultural and non-agricultural lands)
- Rapid infiltration basins
- Large onsite (septic) systems

Significant and nonsignificant wastewater facility data requirements

For significant and nonsignificant wastewater facilities, jurisdictions are required to report monthly discharge values (flow and concentrations for 10 parameters, as defined on the About section of the Point Source Application) for the progress year (July 1 – June 30). The QAQC procedures listed in Figure 1 are performed by the Point Source Data Submission Application and may also be performed prior to data submission.

Jurisdictions are required to provide data, either measured DMR data or state-specific default values, for all their significant and nonsignificant facilities in their annual progress run data submission. CBPO's Point Source Data Submission Application allows the states to access DMR data for nonsignificant facilities if data are available. If there are no annual DMR available for some or all nonsignificant facilities, the state estimated one-time data, default state-specific values, or previous years' data could be used for these nonsignificant facilities in the report. This approach will let the jurisdictions have full control and understanding of what data are included in the wastewater input decks for each model run.

Significant facilities are listed in jurisdictional Watershed Implementation Plans and meet ONE of the following criteria:

- In West Virginia, Delaware, Pennsylvania, and New York - Facility treating domestic wastewater and the design flow is greater than or equal to 0.4 million gallons per day (MGD).
- In Maryland - Facility treating domestic wastewater and the design flow is greater than or equal to 0.5 MGD.
- In Virginia - Facility treating domestic wastewater and the existing design flow is greater than or equal to 0.5 MGD west of the fall line or 0.1 MGD east of the fall line.
- In the District of Columbia – DC Water's Blue Plains wastewater treatment plant is the only significant facility located in the District. DC Water submits data to EPA CBPO directly, rather than to the jurisdiction (DC's Department of Energy and Environment).
- In the District of Columbia, Delaware, Maryland, New York, and West Virginia - Industrial facilities with a nutrient load equivalent to 3,800 total phosphorus (TP) lbs/year or 27,000 total nitrogen (TN) lbs/year.
- In Pennsylvania – Industrial facilities with a nutrient load greater than or equal to 9,125 lbs/year of TP or greater than or equal to 27,000 lbs/year of TN.
- Any other municipal and industrial wastewater facilities assigned with individual wasteload allocations within a jurisdictional Watershed Implementation Plan.

Any wastewater treatment facilities reported by jurisdictions that do not meet the above definition are nonsignificant facilities.

The jurisdictions must annually update their facility list, especially for significant dischargers and identify the newly added or removed facilities in the annual data report. The location (county, latitude/longitude) of discharge point, significant or nonsignificant, facility type (municipal or industrial), ownership (federal or non-federal) and design flow (MGD) must be reported for newly added facilities using the Point Source Data Submission Application. Any facilities that are newly added to the data report or closed

during the progress year should be updated using the Active/Inactive status in the Point Source Data Submission Application. Any changes on SIG/INSIG for a facility between significant and nonsignificant status should also be included.

Flow and concentration data for the 10 identified parameters must be provided for each outfall. Jurisdictions will submit all parameters in each month's data record for each facility. Data for the following parameters will be submitted: average monthly flows and average monthly concentrations of NH3, TKN (or TON), NO23 (or NO2+NO3), TN, PO4, TP, CBOD5 (preferable) or BOD5, DO and TSS. TOP will automatically be calculated as TP-PO4. All nitrogen species need to be reported as nitrogen; all phosphorus species need to be reported as phosphorus.

In the absence of monthly monitored concentration data for one or more of the above 10 parameters listed for a facility, the jurisdiction will submit the Wastewater Treatment Workgroup (WWTWG) agreed-to default concentration data, calculated data based on the species relationship listed in Table 1, or default values based on state specific information. All default or calculated data must be flagged with an appropriate description such as:

- Average of monthly reported data;
- Default value agreed by the workgroup;
- Default value based on state specific information;
- Calculated as 67% of TP by CBP species ratio;
- Calculated as NO23=TN-TKN; *and*
- Net Value (the influent concentration or load is subtracted).

The Point Source Data Submission Application will automatically make calculations and provide the appropriate description when data are presented to the data submitter. The loading data of industrial facilities with river/stream water uptake should be reported as net loads with average monthly flow and net concentrations for that respective month, as quantified. Jurisdictions not having some of these parameters should report what's available and missing elements will be defaulted according to rules established by the WWTWG. CBPO expects jurisdictions to continue to improve tracking and reporting of data so that currently missing parameters are captured and reported in the future.

Requirements for CSO, biosolid, spray irrigation, rapid infiltration basin, and septic system data

As requested by the CBP partnership, the partnership's Phase 6 Watershed Model has been built to include and track nutrient loads from these non-wastewater treatment plant point sources. CBPO expects jurisdictions to provide available biosolids, spray irrigation, large monitored onsite system, and rapid infiltration basin data where these nutrients are applied to the land. The data includes, where available, the location (county, latitude, and longitude) of application, mass of biosolids or volume of irrigation/large onsite system/rapid infiltration basin, concentrations of nutrients, and the year of applications. The data specifications are detailed in the Non-Wastewater Data section of the Point Source Application.

The Combined Sewer Overflow (CSO) Reduction Tables are for reporting any CSO control progress in terms of the percent flow reduction achieved and the acreages of separation completed by Land-River Segment.

It is expected that jurisdictions will annually submit updates to their biosolids, spray irrigation, large onsite system, CSO reduction, and rapid infiltration data by December 1 via the Point Source Data Submission Application, whenever new data are available. When new data are not available, a CBP protocol exists to use the previous year's data.

More information on the current status of this data (supporting both nonpoint source and point source load allocation results) across jurisdictions can be found under "CAST Data Update Frequency" in the Progress Reporting Section of TMDL Tracking on the CAST website.

Additional specifications for DC Water wastewater and CSO data reporting

CBPO can facilitate formatting DC Water wastewater progress data and check quality control, including the flow allocation among the regions Blue Plains serves—for the data period July 1, through June 30 by the deadline for data submissions, December 1 of each year. If quality data are not received by the deadline, the default is to use the previous year's information unless that yields a net benefit to the composite discharge.

Assistance is appreciated from DOEE and Metropolitan Washington Council of Governments (MWCOG) in the timely reporting of data to the EPA Chesapeake Bay Program as it relates to model calibration, historical data needs, as well as growth and projected capacity information as requested for watershed implementation plan milestones assessments. The annual data reporting would also include daily CSO overflow estimates and LTCP progress data (separation acres and location, storage captured, and equivalent acres retrofitted with green infrastructure).

Sanitary Sewer Exfiltration Data

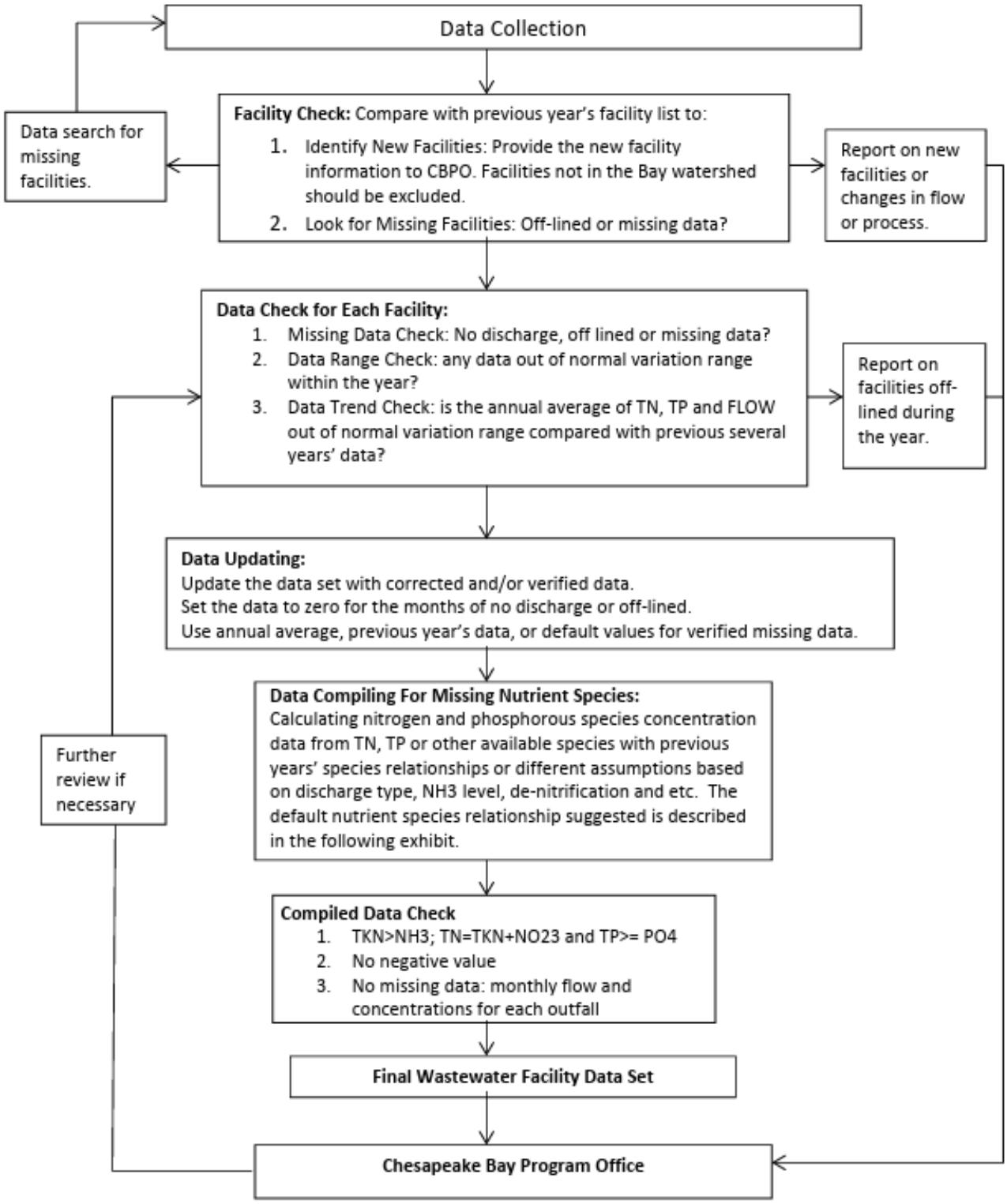
In July 2025, the WWTWG approved the method for calculating the volume and load associated with sanitary sewer exfiltration. All required parameters were either workgroup defined or already supplied through the Point Source Application for wastewater treatment reporting requirements.

Two parameters associated with this method were deemed to be optional for submission: the percent of the sewer network that is gravity main and the percent of the sewer network that is new or newly rehabilitated within the last ten years. The WWTWG decided in February 2026 to provide guidance on how these optional parameters would be reported through the Point Source Application. This included deciding that optional inputs would need to be reported by NPDES ID and that the definition for rehabilitation is "For the purposes of estimating sanitary sewer exfiltration loads, rehabilitation is the systematic repair, renewal, or replacement of existing sanitary sewer pipes, joints, laterals, manholes, and appurtenant structures to restore hydraulic integrity and to prevent or reduce infiltration of groundwater into the system and unintended exchange of wastewater with surrounding soils, groundwater, or stormwater conveyances."

For the optional fraction gravity line parameter, default values of 95% gravity line for non-coastal plain model units and 90% gravity line for coastal plain model units will be applied if no data is submitted. Any reported values will be back-casted and assumed to be static through time. If nothing has changed from the previous submission period, the submitter will be asked to copy over the values from the previous year.

For the optional fraction new or newly rehabilitated, values will be reported as the sum of rehabilitation conducted within the last 10 years from the date of submission. If no data is submitted, the value is assumed to be null as this method was designed to be conservative in estimating loads from sanitary sewer exfiltration. If data is only submitted for one year, missing values are interpolated from the last reported value up to three additional years with no back-casting. If nothing has changed from the previous submission period, the submitter will be asked to copy over the values from the previous year.

Figure 1. Wastewater Facility Nutrient and TSS Data Processing Flow Diagram



Tables 1-4. Species Relationships

Type of Facility		NH_3/NO_{23}/TON (w/o Nitrification)	NH_3/ NO_{23}/TON (w/ Nitrification)[3]	NH_3/ NO_{23}/TON (w/ Denitrification)
Municipalities (phase IV)		80/5/15[1]	7/85/8	12/73/15
Municipalities (phase V)		80/3/17[5]	7/80/13[5]	12/73/15[2]
Industries	Chemical	7/85/8[4]		
	Pulp & Paper	1/0/99[5]		
	Poultry Facilities w/BNR			8/75/17[5]
	Nonchemical (includes seafood, poultry, & food processors w/out BNR)	80/3/17[5]	7/85/8[4]	8/75/17[5]

(1) Stearns and Wheler recommended 80/0/20; however, the PSWG (now the WWTWG) felt that there would often be minimal (5%) NO_x present.

(2) Unchanged from the ratio recommended by Stearns and Wheler in Phase IV.

(3) Apply this relationship wherever NH_3 limits apply.

(4) Assumed by performing an analysis of MD chemical industry wastewater effluents which showed it is very close to the relationship for nitrifying sewage. This would apply to all chemical discharges and assumes that wastewaters are treated chemically and thus would not vary as for sewage relationships.

(5) Updated, as based on an analysis of actual data from plants operating in Virginia.

Type of Facility	PO_4/TOP (w/o TP control)	PO_4/TOP (w/ TP control)
All	71/29[6]	67/33[6]

(6) Determined by averaging the actual data from MD and VA plants (including Blue Plains for "with TP Reduction"). Facility with TP control is defined as facility having a permit limit for total phosphorus.

Period	TSS default (all jurisdictions)	TSS default (w/o NRT)	TSS default (w/ NRT)
1985-1990[7]	45		
1990-2000	25		
2000-2010		15	8

Type of Facility	DO concentration 1985-1990	DO concentration 1990-2010
All	4.5 mg/l [7]	5.0 mg/l

(7) Considers a number of nutrient management facilities operating across the watershed.