Instructions for Completing the Annual Chesapeake Bay Spreadsheet

The Annual Chesapeake Bay Spreadsheet is used to document sampling results for nutrients (Total Phosphorus, Total Nitrogen and Nitrogen species) throughout the Compliance Year and report credit transactions and offsets applied toward compliance with Annual Net Mass Load limits ("Cap Loads"). Use of the Spreadsheet is requested by all facilities with Cap Loads in NPDES permits, and is required by DEP's Nutrient Trading Program in order to generate credits.

The Spreadsheet is available as a macro-enabled spreadsheet (.xlsm, for Excel versions 2007 and later) and a spreadsheet without macros (.xls, for Excel versions earlier than 2007). Facilities are strongly encouraged to use the macro-enabled spreadsheet, as DEP has not tested the version without macros for accuracy.

Users may download the spreadsheet from DEP's Chesapeake Bay – Wastewater website (www.depweb.state.pa.us/npdes-bay) or DEP's DMR Supplemental Reports website (www.depweb.state.pa.us, select Water, Bureau of Point and Non-Point Source Management, Wastewater Management, Discharge Monitoring Report Information and PA DMR Supplemental Reports).

Click on the appropriate link and save the spreadsheet file to your computer. If you open the file directly from the website, without first saving the file to your computer, the file may be locked in Read Only mode. Save the file to your computer first and then open it in order to use the spreadsheet. Save the file using the same extension as the original file (i.e., save .xlsm version of spreadsheet as an .xlsm file and save .xls version as an .xls file).

When you open the macro-enabled spreadsheet, you should see a yellow Security Warning message at the top of the screen. Click "Enable Content". The warning should then disappear.



In some versions of Excel you may see a blue Security warning. Click on Options and then select Enable this Content, and select OK.



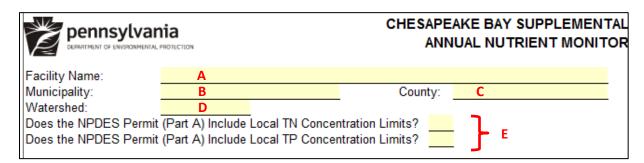


There are three worksheets located in the lower left corner within this Excel spreadsheet: the Annual Nutrient Monitoring (Nutrient Monitoring) worksheet, the Annual Nutrient Budget (Nutrient Budget) worksheet, and the Instructions worksheet. Start with the Nutrient Monitoring worksheet.



Nutrient Monitoring Worksheet

The first thing you need to do is enter the information for your facility in the fields located on the top left corner of the first worksheet (the Nutrient Monitoring worksheet).



- A. Facility Name
- B. Municipality
- C. County
- D. Watershed number
- E. If Part A of the NPDES permit includes numeric <u>concentration</u> limits for either Total Nitrogen (TN) or Total Phosphorus (TP), select "Yes" from the drop-down menu. If there are no numeric

concentration limits, select "No" from the drop-down menu. If you select "Yes", a field will appear to enter your concentration limit.

Facility Name:	Anywhere STP					
Municipality:	Anywhere Boro	ough	Coun	ity:	Somewhere	
Watershed:	George					
Does the NPDES Permit	(Part A) Include	Local TN Concer	tration Limits?	Yes	▼ Limit	mg/L
Does the NPDES Permit	(Part A) Include	Local TP Concer	tration Limits?	No		

If you need to change your answer from "Yes" to "No" and have entered a concentration limit value, make sure you delete the concentration limit value in addition to switching your choice from the dropdown. If you leave the value in place, it will affect the calculations for credit generation.

Concentration Limits?	No 🔻	2
Concentration Limits:	INO .	

Make sure you enter the average monthly <u>concentration</u> limit (mg/L) from your permit, <u>NOT</u> the average monthly mass limit (lbs/day). A sample image of where those limits are listed in the Effluent Limitations table in Part A of a permit is shown below – make sure you enter the values listed in your permit.

Outfall 001, Continued (from January 01, 2013 through December 31, 2015)

			Effluent l	mitations	\		Monitoring Re	quirements
Parameter	Mass Units	(lbs/day) (1)		Concentrati	ons (mg/L)		Minimum (2)	Required
raiailletei	Average Monthly	Daily Maximum	Inst. Minimum	Average Monthly	Daily Maximum	Instant. Maximum	Measurement Frequency	Sample Type
Total Suspended Solids								24-Hr
Raw Sewage Influent	Report	XXX	XXX	Report	XXX	XXX	1/week	Composite
								24-Hr
Total Dissolved Solids	62,550	125,100	XXX	1,000	2,000	2500	1/quarter	Composite
Fecal Coliform (CFU/100 ml) May 1 - Sep 30	XXX	XXX	XXX	200 Geo Mean	XXX	1,000	1/day	Grab
Fecal Coliform (CFU/100 ml) Oct 1 - Apr 30	XXX	XXX	XXX	200 Geo Mean	XXX	1,000*	1/day	Grab
Total Nitrogen (3)	1,877	XXX	XXX	30	xxx	60	1/month	24-Hr Composite
Ammonia Nitrogen May 1 - Oct 31	125	XXX	XXX	2.0	XXX	4.0	1/day	24-Hr Composite
Ammonia-Nitrogen Nov 1 - Apr 30	375	XXX	XXX	6.0	XXX	12.0	1/day	24-Hr Composite
Total Phosphorus	125	XXX	XXX	2.0	xxx	4.0	1/day	24-Hr Composite
	XXX	Donort	XXX	XXX	Danast	XXX	2/4005	24-Hr
Copper, Total	^^^	Report	^^^	^^^	Report	^^^	2/year	Composite
Bis(2-Ethylhexyl)Phthalate	XXX	XXX	XXX	XXX	Report	XXX	1/year	24-Hr Composite

Enter the rest of the information for your facility on the top right side of the first worksheet (the Nutrient Monitoring worksheet). This section must be completely filled out in order for the second worksheet (Nutrient Budget) to function correctly.

RSTU	V W X Y Z AA	AB AC AD	AE AF AG	AH AI AJ AH
Y SUPPLEMEN	TAL REPORT			
ITRIENT MONIT	ORING			View Statistics
	Compliance Year:	Α	Outfall:	В
	NPDES Permit No.:	С		
	This permit will expire	on: D		
E	TN Delivery Ratio:		TP Delivery Rat	io:
F	TN Cap Load (lbs):		TP Cap Load (II	bs):

A. Select the Compliance Year from the drop-down list. The year you select should be the year in which the end of the compliance period occurs (2016 would be the selection for Oct. 1, 2015 – Sept. 30, 2016). Once selected, the Sample Date fields in the main body of the worksheet will auto-fill with every day of that year.

- B. Outfall number
- C. NPDES Permit number
- D. Permit Expiration Date ("This permit will expire on:")
- E. Enter the TN and TP Delivery Ratios for your facility; delivery ratios are found in the Phase 2 WIP Wastewater Supplement, available on DEP's website at www.depweb.state.pa.us/npdes-bay.
- F. Enter Cap Loads (Annual Net Mass Load limits) for TN and TP from your NPDES permit.

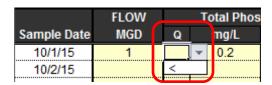
Your permit may contain more than one Effluent Limitations table that includes TN & TP cap load limits. Make sure that you reference limit values from the table that corresponds with the compliance year for which you are reporting information.

Next, you will complete the main body of the table. Fields available for data entry are highlighted in yellow.

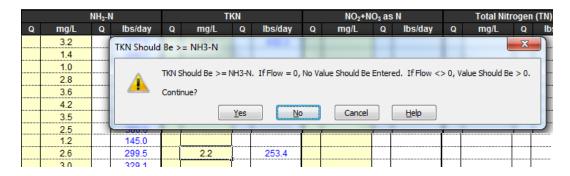
	FLOW	Total Phosporus (TP)						NH ₃ -I	V		TI	(N			NO₂+NO₃ as N			
Sample Date	MGD	Q	mg/L	Q	lbs/day	Q	mg/L	Q	lbs/day	Q	mg/L	Q	lbs/day	Q	mg/L	Q	lbs/day	
10/1/15																		
10/2/15																		
10/3/15																		
10/4/15																		
10/5/15																		

Start by entering the average daily effluent Flow in million gallons per day (MGD) for each day in which you have nutrient parameter concentrations to report. Then enter the corresponding nutrient parameter concentrations in mg/L. Repeat this for each day you have data to report for the entire Compliance Year. If no monitoring data are available for the day, leave the row blank. Note – if you would like to copy data from another spreadsheet to paste into the Annual Chesapeake Bay Spreadsheet, the source data will need to be formatted identically as the Bay spreadsheet (i.e., two columns merged).

Enter the results exactly as received from the laboratory, including any non-detect notations. If you need to enter a non-detect notation, click in the "Q" (Qualifier) column box next to the value. A dropdown arrow will appear. Select the less than symbol ("<") from the dropdown menu. If you need to clear the < symbol or any value, click on the cell and press Backspace on your keyboard.



A warning will appear if a value you enter does not fall within normal parameters. Click "Yes" if that value is the value you received from the lab (even though it triggered the error warning), or you can click "No" or "Cancel" if you need to correct the value.



The worksheet will automatically calculate the daily loading (lbs/day) for all parameters and the Total Nitrogen concentrations (shown in blue). Daily concentrations for Total Nitrogen are calculated by summing the concentrations for TKN (Total Kjeldahl Nitrogen) and $NO_2 + NO_3$ as N (Nitrite plus Nitrate).

	FLOW Total Phosporus (TP)				ıs (TP)	NH₃-N TKN				NO ₂ +NO₃ as N				Total Nitrogen (TN)							
Sample Date	MGD	Q	mg/L	Ø	lbs/day	Q	mg/L	Ø	lbs/day	Q	mg/L	Q	lbs/day	Q	mg/L	Ø	lbs/day	Q	ma/L	Q	lbs/day
10/1/15	0.498						73.5		305.3												
10/2/15	0.691						77.5		446.6												
10/3/15	0.706		0.312		1.8		60.0		353.3		62.5		368.0		11.2		65.9		73.70		433.9
10/4/15	0.629						49.2		258.1												
10/5/15	0.724	<	▼ 0.1	<	0.6		54.5		329.1		68.9		416.0		28.6		172.7		97.50		588.7
10/6/15	0.786						71.5		468.7												

Average annual concentrations and mass loadings (Avg row), as well as the Annual Total Mass Loads in lbs/yr (white text in black fields row), are automatically calculated at the bottom of the worksheet. Prior to the end of the Compliance Year, the Annual Total Mass Loads are estimates based on the data entered thus far.

Avg	12.654	٧	0.9	٧	132	٧	0.5	<	70	1.8	191	٧	3.6	<	354	5.6	564
Ai	nnual Total M	ass I	Loads (lbs):	<	48120			<	25718		69604			<	129211		205814

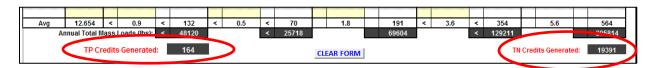
For those using the macro-enabled spreadsheet, at any point if you want to see what your annual totals are, you can click the "View Statistics" button in the upper right corner of the screen. This will jump the worksheet down to the bottom where those totals are located.



For those using the macro-enabled spreadsheet, there is also a "Clear Form" button at the bottom of the worksheet. This will clear all data from the body of the table and cannot be undone. Make sure you really want to clear all data before clicking this! A warning message will appear prior to deleting the data that the user must acknowledge.

CLEAR FORM

If TP and/or TN credits were generated, the number of credits that may be verified and registered by DEP are also shown at the bottom of the page.



The formula for calculating credit values is contained within the Phase 2 WIP Wastewater Supplement, available on DEP's website at www.depweb.state.pa.us/npdes-bay. Please note that if a local TP and/or TN limit is entered and there is non-compliance with the limit for more than two monitoring periods, or if the Annual Total Mass Loads exceed the Cap Loads, the spreadsheet will indicate that the facility is ineligible to trade credits.



To complete this worksheet, the person preparing the report needs to read the certification statement at the bottom of the report. If that person agrees to the statement, they should enter their name ("Prepared By"), job title ("Title"), DEP License number ("License No." - if applicable), and date the form was completed ("Date"). The report is not considered complete unless this portion of the report is filled out.

my inquiry of the person or persons who manage	vas prepared under my direction or supervision in accordanc the system or those persons directly responsible for gatheri ubmitting false information, including the possibility of fine an	ing the information, the information subr	mitted is, to the best of my knowledge and belief, true,	, accurate and complete. I
Prepared By: Title:		License No.: Date:		

Monthly statistics are available below the certification section. Click on the Show button to show these statistics and Hide to hide the statistics. These statistics may be useful during the course of the Compliance Year for Monthly DMR reporting.

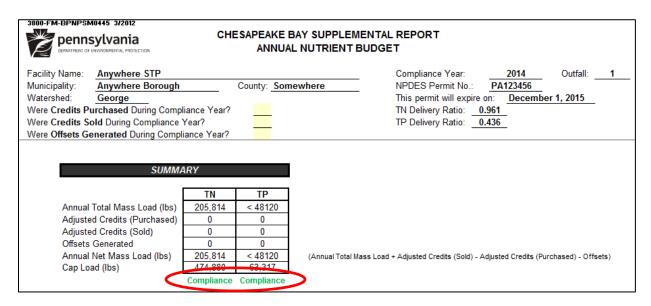
NOTE – Although the Annual Chesapeake Bay Spreadsheet is intended for one annual submission at the time the Annual DMR is submitted, the Spreadsheet may be submitted with Monthly DMRs as well, particularly when there are monitoring requirements in the permit for parameters that are reported monthly. For example, facilities may elect to attach the Spreadsheet to Monthly DMRs to report daily concentration results for Ammonia-Nitrogen and/or Total Phosphorus. If results for nutrient parameters are reported on the Spreadsheet and submitted with Monthly DMRs, the "Daily Effluent Monitoring" report (typically submitted monthly) does not need to include those same results.

Nutrient Budget Worksheet

Click on the "Nutrient Budget" tab at the bottom left of the screen.



Most of the information at the top of the worksheet will autopopulate based on the information that was entered on the Nutrient Monitoring worksheet.



The worksheet will indicate whether you are in compliance with Cap Loads ("Compliance" per above) or if you are presently in violation of Cap Loads ("Violation" per below). If a violation has occurred, a note will appear stating what is needed to achieve compliance.

SUMMA	ARY		
	TN	TP	
Annual Total Mass Load (lbs)	3,995	1,712	
Adjusted Credits (Purchased)	0	0	
Adjusted Credits (Sold)	0	0	
Offsets Generated	0	0	
Annual Net Mass Load (lbs)	3,995	1,712	(Annual Total Mass Load + Adjusted Credits (Sold) - Adjusted Credits (Purchased) - Offsets)
Cap Load (lbs)	2,000	1,000	
	Violation	Violation	1995 TN Credits/Offsets and 712 TP Credits/Offsets are needed to achieve comp

If you have not purchased or sold credits, and have no offsets to report during the Compliance Year and Truing Period (Oct. 1 through Nov. 28), select "No" in answer to the three questions at the top of the worksheet.

Were Credits Purchased During Compliance Year?	No
Were Credits Sold During Compliance Year?	No
Were Offsets Generated During Compliance Year?	No 🕶

If you have purchased credits during the Compliance Year and/or Truing Period (Oct. 1 through Nov. 28), select "Yes" from the dropdown menu to the right of the "Were **Credits Purchased** During Compliance Year?" question. For the macro-enabled spreadsheet, a "Credits Purchased" table will appear.

Facility Name:	Anywhere STP			Compliance Year:		2014	Outfall:	
Municipality:	Anywhere Borough	County:	Somewhere	NPDES Permit No.:	PA	123456		
Watershed:	George			This permit will expir	e on:	December	r 1, 2015	
Were Credits Po	urchased During Compliance Year?	Yes	▼	TN Delivery Ratio:	0.961	_		
Were Credits So	old During Compliance Year?			TP Delivery Ratio:	0.436			
Were Offsets Ge	enerated During Compliance Year?					_		

Credits Purchased					
Credit Type	Registry No.	Contract Effective Date	DEP Approval Date	No. Credits Purchased	Adjusted Credits (Ibs)*
	No Condito Describerand (D				

^{*} Adjusted Credits = No. Credits Purchased / Delivery Ratio

Enter the information for your DEP-registered credit purchases. Select the "Credit Type" (either Nitrogen or Phosphorus) from the first drop-down list and enter the DEP Registry number ("Registry No."), effective date of the contract ("Contract Effective Date"), date of DEP's letter or email registering credits ("DEP Approval Date"), and the number of credits purchased ("No. Credits Purchased"). Enter each purchase or sale transaction on a separate line. When all the required information about the transaction has been entered, the "Adjusted Credits (lbs)" will be calculated automatically (by dividing the credits purchased by the TN/TP Delivery Ratio entered on the Nutrient Monitoring worksheet) and reflected in the Summary Table at the bottom of the worksheet in the "Adjusted Credits (Purchased)" row.

Credits Purchased						
Credit Type	Registry No.	Contract Effective Date	DEP Approval Date	No. Credits Purchased	Adjusted Credits (lbs)*	
Nitrogen	P-1700-372	10/10/2015	10/10/2015	2,000	2,026	
Phosphorus	PA123456	10/30/2015	10/30/2015	350	803	
·						

^{*} Adjusted Credits = No. Credits Purchased / Delivery Ratio

SUMMARY					
	TN	TP			
Annual Total Mass Load (Ibs	3,995	1.712			
Adjusted Credits (Purchased	2,026	803			
Adjusted Credits (Sold)	0	0			
Offsets Generated	0	0			
Annual Net Mass Load (Ibs)	1,969	909			
Cap Load (lbs)	2,000	1,000			
	Compliance	Compliance			

(Annual Total Mass Load + Adjusted Credits (Sold) - Adjusted Credits (Purchased) -

<u>If you have sold credits</u> during the Compliance Year and Truing Period (Oct. 1 through Nov. 28), select "Yes" from the dropdown menu to the right of the "Were **Credits Sold** During Compliance Year?" question. For the macro-enabled spreadsheet, a "Credits Sold" table will appear.

penns DEPNAITMENT OF E	Sylvania ENVIRONMENTAL PROTECTION	CHESAPEAKE BAY SUPPLEME ANNUAL NUTRIENT B				
Facility Name:	Anywhere STP		Compliance Year:	2014	Outfall:	1
Municipality:	Anywhere Borough	County: Somewhere	NPDES Permit No.:	PA123456	_	
Watershed:	George		This permit will expire	e on: Decembe	er 1, 2015	
Were Credits P	urchased During Compliance	Year? No	TN Delivery Ratio: 0	.961		
Were Credits Se	old During Compliance Year?	Yes ▼	TP Delivery Ratio: 0	.436		
Were Offsets G	enerated During Compliance	Vear2				

Credits Sold					
Credit Type	Registry No.	Contract Effective Date	DEP Approval Date	No. Credits Sold	Adjusted Credits (lbs)*
					(100-2)

^{*} Adjusted Credits = No. Credits Sold / Delivery Ratio

Enter the information for your DEP-registered credit sales. Select the "Credit Type" (either Nitrogen or Phosphorus) from the first drop-down list and enter the DEP Registry number ("Registry No."), effective date of the contract ("Contract Effective Date"), date of DEP's letter or email registering credits ("DEP Approval Date"), and the number of credits sold ("No. Credits Sold"). Enter each purchase or sale transaction on a separate line. When all the required information about the transaction has been entered, the "Adjusted Credits (lbs)" will be calculated automatically (by dividing the credits sold by the

TN/TP Delivery Ratio entered on the Nutrient Monitoring worksheet) and reflected in the Summary Table at the bottom of the worksheet in the "Adjusted Credits (Sold)" row.

Were Credits Purchased During Compliance Year?

Were Credits Sold During Compliance Year?

Were Offsets Generated During Compliance Year?

Were Offsets Generated During Compliance Year?

	Credits Sold					
Credit Type	Registry No.	Contract Effective Date	DEP Approval Date	No. Credits Sold	Adjusted Credits (lbs)*	
Nitrogen	PA123456	10/15/2015	10/20/2015	1,000	1,041	
Phosphorus	p-150-381	10/15/2015	10/20/2015	200	459	

^{*} Adjusted Credits = No. Credits Sold / Delivery Ratio

SUMMARY					
	TN	TP			
Annual Total Mass Load (lbs	205,814	< 48120	ı		
Adjusted Credits (Purchased	0	0	L		
Adjusted Credits (Sold)	1,041	459			
Offsets Generated	0	0	Γ		
Annual Net Mass Load (lbs)	206,855	< 48579	ı		
Cap Load (lbs)	474,880	63,317			
	Compliance	Compliance			

(Annual Total Mass Load + Adjusted Credits (Sold) - Adjusted Credits (Purchased) - Offsets)

If you have generated offsets during the Compliance Year that have been approved by DEP and/or there are offsets recognized in your permit, select "Yes" from the dropdown menu to the right of the "Were **Offsets Generated** During Compliance Year?" question. For the macro-enabled spreadsheet, an "Offsets Generated" table will appear.

PENNSYLVANIA CHESAPEAKE BAY SUPPLEMENTAL REPORT ANNUAL NUTRIENT BUDGET	
Facility Name: Anywhere STP Compliance Year: 2016	Outfall: 1
Municipality: Somewhere Twp County: Nowhere NPDES Permit No.: PA123456	
Watershed: Rainbow This permit will expire on: October 1	2020
Were Credits Purchased During Compliance Year? No TN Delivery Ratio: 0.987	
Were Credits Sold During Compliance Year? No TP Delivery Ratio: 0.436	
Were Offsets Generated During Compliance Year? Yes	
Offsets Generated	
Offset Type Source Amount (lbs) DEP Approval Date Approva	Method

Enter the information for your DEP-approved offsets. Select the "Offset Type" (either Nitrogen or Phosphorus) and "Source" from the drop-down lists, and enter the number of pounds of offsets claimed ("Amount (lbs)"). For septage (only septage, not holding tank or other hauled in wastes), divide the total gallons of septage received by 1,000 and multiply by 3 to determine the total amount (lbs) of offsets to

report in the Offsets Generated table. Enter the "DEP Approval Date" for the offsets. For offsets identified and approved in permits, list the date of permit issuance; otherwise list the date of written DEP approval. Select the "Approval Method" (either DEP permit or DEP letter). Enter each offset type on a separate line. When all the required information about the offset has been entered, the "Offsets Generated" will be calculated automatically and reflected in the Summary Table at the bottom of the worksheet.

	Offsets (Generated		
Offset Type	Source	Amount (lbs)	DEP Approval Date	Approval Method
Nitrogen	Hauled-In Septage	2,000.0	1/1/2015	DEP Permit
Phosphorus	Transfer from Another Facility	800.0	1/1/2015	DEP Letter
	SUMMARY			
	SUMWART			
	TN TP			
	oad (lbs) 3,995 1,712			
Annual Total Mass I				
Annual Total Mass I Adjusted Credits (P	urchased) 0 0			
	· — — — — — — — — — — — — — — — — — — —			
Adjusted Credits (P	· — — — — — — — — — — — — — — — — — — —			

If needed, there is a "Clear Form" button on the upper right corner of the worksheet. This will clear all data from the worksheet and cannot be undone. Make sure you really want to clear all data before clicking this!

CLEAR FORM

Once you have entered all the credits purchased/sold and offsets for the Compliance Year and Truing Period for your facility, the final step in completing the worksheet is for the person preparing the report to read the certification statement at the bottom of the report. If that person agrees to the statement, they should enter their name ("Prepared By"), job title ("Title"), DEP License No. ("License No." - if applicable), and date the form was completed ("Date"). The report is not considered complete unless this portion of the report is filled out.

my inquiry of the person or persons who manage	vas prepared under my direction or supervision in accordanc the system or those persons directly responsible for gatheri submitting false information, including the possibility of fine an	ing the information, the information subr	nitted is, to the best of my knowledge and belief, true	, accurate and complete. I
Prepared By: Title:		License No.: Date:		