

Exchange Compliance Plan 2017 Annual Update



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Virginia Department of Environmental Quality
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Introduction



1.1 Purpose

This Chesapeake Bay Nutrient Credit Exchange Program Compliance Plan 2017 Annual Update (“Exchange Compliance Plan”) was prepared by the Virginia Nutrient Credit Exchange Association, Inc. (“The Exchange”) in collaboration with participating owners of regulated facilities (“Participants”). This Exchange Compliance Plan updates and supersedes the Exchange Compliance Plan 2016 Annual Update, which was submitted by The Exchange to the Virginia Department of Environmental Quality (“DEQ”) on January 30, 2016. The original Exchange Compliance Plan was submitted by The Exchange to DEQ on July 31, 2007 and approved by DEQ by letter dated September 7, 2007. Similarly, the Annual Updates for each year from 2008 through 2016 were all submitted to DEQ in a timely manner and were subsequently approved by DEQ. All DEQ approval letters are attached at Appendix A.

This Exchange Compliance Plan continues a “realistically aggressive” program of work to meet the nitrogen and phosphorus waste load allocations of the Participants’ facilities. This Exchange Compliance Plan utilizes voluntary, market-based nutrient credit trading as a means of achieving compliance more cost-effectively and more expeditiously than would otherwise be possible. It is grounded in the 20-plus year history of policy development by the U.S. Environmental Protection Agency (“EPA”) and the Chesapeake Bay Program (“CBP”) regional partnership recognizing pollutant credit trading as a useful tool for advancing water quality protection programs. Supporting national and regional policy is set forth in:

- EPA Effluent Trading In Watersheds Policy (1996)
- Draft Framework for Watershed-Based Trading (1996)
- CBP Nutrient Trading Fundamental Principles and Guidelines (2001)
- EPA Water Quality Trading Policy (2003)
- EPA Permit Writers Toolkit for Trading (2007)
- EPA Chesapeake Bay Total Maximum Daily Load (2010)

Specific authorization and detailed requirements for the Virginia Nutrient Credit Exchange Program were first enacted during the 2005 Session of the General Assembly. The program has been expanded by legislation numerous times since 2005. In addition, the State Water Control Board and DEQ have issued implementation regulations and guidance on numerous occasions since 2005. Key references include:

- Chesapeake Bay Watershed Nutrient Credit Exchange Program, Va. Code § 62.1-44.19:12 et seq. (2005, as amended)
- Regulation for Nutrient Enriched Waters and Dischargers within the Chesapeake Bay Watershed, 9 VAC 25-40 (2005)
- General VPDES Watershed Permit Regulation for Total Nitrogen and Total Phosphorus Discharges and Nutrient Trading in the Chesapeake Bay Watershed in Virginia, 9 VAC 25-820-70 (2006, as amended or reissued from time to time) (“General Permit”)

- DEQ Guidance Memo No. 07-2008, Amendment No. 2: Permitting Considerations for Facilities in the Chesapeake Bay Watershed (2007)
- DEQ Addendum No. 1 to Guidance Memo No. 07-2008, Amendment No. 2: Permitting Considerations for Facilities in the Chesapeake Bay Watershed (2009)
- Virginia Chesapeake Bay TMDL Phase I Watershed Implementation Plan (2010)
- Virginia Chesapeake Bay TMDL Phase II Watershed Implementation Plan (2012)

The initial focus of the Exchange Compliance Plan was on the construction of a large number of nutrient removal technology upgrades at Participants' facilities to achieve compliance with the new Chesapeake Bay nitrogen and phosphorus waste load allocations adopted by the State Water Control Board. Once initial compliance was achieved through this construction program (Compliance Year 2011), the focus shifted to maintaining compliance through an ongoing program of additional facility upgrades over time as is now occurring.

At present, as provided for under the EPA Chesapeake Bay TMDL (Appendix X) and Virginia Phase I Watershed Implementation Plan, DEQ is undertaking a comprehensive study of existing James River Site-specific numeric Chlorophyll-a criteria assessment method and the associated modelling framework. The outcome of this study is expected to be used to determine final nutrient allocation for the James River basin. In the meantime, the James River allocations are stringently regulated pursuant to the 2005 Virginia allocations as modified by the 2010 EPA Chesapeake Bay TMDL Stage 1A and 1B additional reductions.

This document serves two primary purposes. First, certain information contained herein is submitted on behalf of the Participants in satisfaction of each Participant's regulatory obligation under Part I.D. of the General Permit (9 VAC 25-820-70 Part I.D), which states:

Annual update of compliance plan. Every owner or operator of a facility required to submit a registration statement shall either individually or through the Virginia Nutrient Credit Exchange Association submit updated compliance plans to the department no later than February 1 of each year. The compliance plans shall contain sufficient information to document a plan for the facility to achieve and maintain compliance with applicable total nitrogen and phosphorus individual waste load allocations on the registration list and aggregate waste load allocations in Part I C 3. Compliance plans for facilities that were required to submit a registration statement with the department under Part I G 1 a may rely on the acquisition of point source credits in accordance with Part I J of this general permit, but not the acquisition of credits through payments into the Water Quality Improvement Fund, to achieve compliance with the individual and combined waste load allocations in each tributary. Compliance plans for expansions or new discharges for facilities that are required to submit a registration statement with the department under Part I G 1 b and c may rely on the acquisition of allocation in accordance with Part II B of this general permit to achieve compliance with the individual and combined waste load allocations in each tributary.

The second purpose of this Exchange Compliance Plan is to serve as a comprehensive document for planning and implementing nutrient credit trading at the basin level through The Exchange. The Exchange is a not-for-profit, voluntary association of owners of regulated

facilities that serves as a facilitator of nutrient trading among its members as provided in Virginia Code section 62.1-44.19:17.

1.2 Definitions

The terms used in this Exchange Compliance Plan shall have the same definitions as set forth in The Exchange's Credit Exchange Policy for the Purchase and Sale of Chesapeake Bay Nutrient Credits, which is set forth in Section 8.

Any terms not defined in the Credit Exchange Policy shall have the same definition as provided in 9 VAC 25-820-10, unless a different meaning is intended by the usage herein.

The term "Declared Load", which appears on the river basin graphs, means the maximum delivered load that a facility can discharge and still meet its commitments to either supply or purchase Class A Credits. For a Class A Seller, Declared Load equals Delivered WLA minus Class A Credits supplied. For a Class A Buyer, Declared Load equals Delivered WLA plus Class A Credits purchased. For a Participant that is neither a Class A Seller nor a Class A Buyer (i.e., a Neutral Participant), Declared Load equals Delivered WLA.

1.3 Regulatory and Non-Regulatory Information

As mentioned above, the Exchange Compliance Plan serves a dual purpose. Certain information set forth herein is required by the General Permit. This regulatory information is provided (1) in the Compliance Statements for facilities subject to reduced waste load allocations in the James River basin and (2) in Section 7 of the Exchange Compliance Plan.

Additional information set forth herein is beyond that required by regulation and is not submitted for review and approval as such. This additional information, i.e., non-regulatory information, is presented for the efficiency of gaining multiple uses of a single, more comprehensive document for effective planning by The Exchange and the Participants. Non-regulatory information includes but is not limited to: design flow; projections of actual flow, concentration, load and Credits; future capital projects; Preliminary Use of Credits; detailed trading ledgers for projections; The Exchange's Credit Exchange Policy (including its Credit Price Schedule) (Section 8); and a summary and projection of needs for and availability of WQIF grant funding, which is an essential funding source for many of the planned facility upgrades discussed herein (Appendix C).

1.4 Exchange Compliance Plan Content Overview

The Exchange Compliance Plan contains a separate section for each tributary, or basin, as follows:

- Section 2 – Potomac-Shenandoah River Basin
- Section 3 – Rappahannock River Basin
- Section 4 – York River Basin
- Section 5 – James River Basin
- Section 6 – Eastern Shore Basin

The Trading Optimization Model, previously described in The Exchange’s written materials and presentations, was used to generate a plan illustrating nutrient removal projects, Credit generation and Credit exchanges in each basin. Schedules and results are based on owner-provided facility-specific data. The organization and description of the Exchange Compliance Plan components is summarized below.

The Exchange Compliance Plan for the James River basin distinguishes between the James “Upper” and James “Lower” basins. This manner of presentation is convenient in that it (1) simplifies the analysis of the James River exchanges and (2) clearly demonstrates that the partial, one-way restriction on James River trading is met (i.e., facilities in the areas previously identified as upper and middle portions of the basin are not proposing to acquire any Credits generated by facilities in the lower basin). Notwithstanding this two-part presentation, facilities in the lower portion may obtain Credits from upstream facilities. In the future, Class A Credit exchanges may be specified in a plan update. Similarly, Credits may be exchanged from the Upper James to the Lower James during any Reconciliation Year as needed. Therefore, despite the distinction between the Upper and Lower portions of the James River basin herein, the basin continues to be viewed and managed as a single unit consistent with applicable regulations.

Plan Summary

The Plan Summary is a visual synopsis of each basin. Separate summaries are presented for nitrogen and phosphorus.

For Class A Credit management purposes, the Plan Summary compares the “Declared Load” to the Delivered WLA for all Participants for an 8-year period (currently, through the year 2024). The Declared Load illustration represents the Class A Credit trading positions of Participant facilities. Because Declared Load is a Class A Credit concept, it excludes—by definition—forecasted Class B Credits and thereby tends to overstate the forecasted actual load, which is addressed by the “Expected Load” discussed below.

For overall compliance purposes and The Exchange’s broader management purposes, the Plan Summary also illustrates Expected Load, which is a forecast of the aggregate load of all Participant facilities. In contrast to the Declared Load line, the Expected Load line intentionally ignores the Class A Credit sales decisions of individual Participants and thereby takes into account all Credits projected to be generated by Participants prior to adjustments for Preliminary Use of Credits. In this respect, the Expected Load line is not representative of Class A Credit commitments that Participants in The Exchange’s voluntary, market-based program have decided to make. However, it does illustrate projected aggregate performance and more comprehensively reflects the favorable nutrient reduction trends of The Exchange as a whole.

Also for The Exchange’s management purposes, green or brown bars at the bottom of the Plan Summary chart are plotted against the secondary Y-axis and represent Class A Credit supplies that exceed Class A Credit requests for a given Compliance Year.

Trading Ledger

Each basin’s nutrient section presents annual trading ledgers for 2017 through 2021. For each Participant, the Expected Load, Expected Credits, Expected Net Credits, Class A Credit sales, and Class A Credit purchases are presented. The ledger also accounts for projected Class B Credits. Where Class A Credit purchases are not projected to be satisfied using only Class A

Credit sales, a portion of each Buyer's demand is anticipated to be satisfied on a pro rata basis using Class B Credits. Aggregate basin information is shown in the blue bar at the top of the ledger.

Based on the number of Credits projected in each market, Class A Credit and Class B Credit sales prices are estimated in accordance with the Credit Exchange Policy. These prices, which include the Class A Buyer price, are displayed at the top of the trading ledger. Since The Exchange "clears the market" by purchasing all Credits generated by Participants as provided in the Credit Exchange Policy, the Class A Seller price reflects the difference between the volume of Credits supplied and the volume of credits purchased in the Class A market.

Where multiple facilities under common ownership or operation have been "bubbled" at the Participant's election pursuant to 9 VAC 25-820-70 Part I.B.2, these facilities are listed in order and highlighted in light blue (and pale yellow, if more than one bubble exists in a consecutive alphabetical listing of Participants/Facilities).

Where a participating facility has provided advance notice of a Private Exchange pursuant to Section 4.9 of the Credit Exchange Policy, an estimate of the amount of Credits to be exchanged is noted as a Preliminary Use of Credits on the applicable Trading Ledger. As of this time, Participants have given notice of the following Private Exchanges factored into this Exchange Compliance Plan:

Potomac

Arlington County WWTP and Arlington County MS4 (Nitrogen/Phosphorus)
Arlington County WWTP and George Mason University (Nitrogen/Phosphorus)
Town of Leesburg and Loudoun Milling (Nitrogen/Phosphorus)

Rappahannock

None

York

None

James

AdvanSix-Hopewell and Hopewell RWTF (Nitrogen)
Chesterfield County and South Central Wastewater Authority (Nitrogen/Phosphorus)
Chesterfield County and Dominion-Chesterfield (Nitrogen/Phosphorus)
Chesterfield County and Tranlin Paper Company (Nitrogen)

Eastern Shore

Tangier Island and Tyson Foods (Nitrogen/Phosphorus) (pending)

In certain instances, a listed Private Exchange may include terms that are not readily capable of representation within The Exchange's uniform basis and facility-level formats used herein; notwithstanding that formatting limitation, it is the intent of The Exchange to fully accommodate the terms of such Private Exchanges for which Participants have given proper notice.

Facility Summaries and Compliance Statements

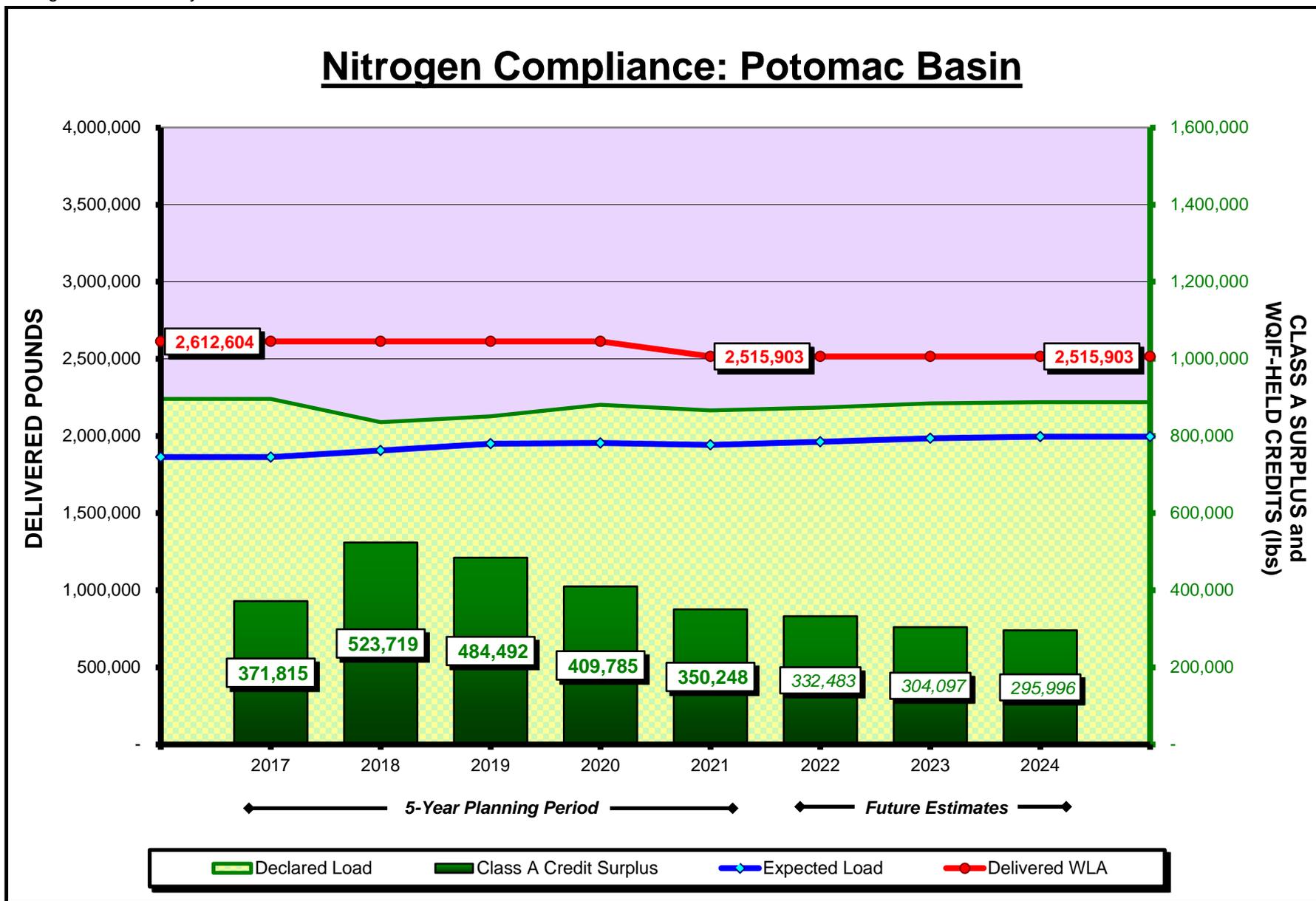
For each basin, facility-specific information is included immediately following the Trading Ledger. This includes Facility Summaries for Nitrogen and for Phosphorus for each facility. For facilities with reduced waste load allocations pursuant to the Chesapeake Bay TMDL, a Compliance Statement is provided with additional information with respect to the timing and manner of achieving compliance.

Development of each Annual Update of the Exchange Compliance Plan requires data collection from Participants on a schedule that provides The Exchange and its advisors adequate time to collect and compile data covering over 100 facilities. The timeline for such data collection is governed by the Nutrient Credit Services Agreement between The Exchange and each Participant. A copy of the agreement is provided as Appendix B hereto. Consequently, the data contained in the Facility Summaries and Compliance Statements was collected approximately five months in advance of submittal of the Annual Update to DEQ and generally would not reflect changed circumstances at the facility level, if any, subsequent to data collection. Data changes subsequent to data collection, if any, would be reflected in the next Annual Update.

SECTION 2

Potomac-Shenandoah River Basin Exchange Compliance Plan





POTOMAC Basin: Nitrogen Credit Ledger

POTOMAC Basin: Nitrogen Credit Ledger											
Compliance Year:	2017	Credit Forecasts		Preliminary Use of Credits			Credit Exchange (Pounds)				
Facility Name	Delivered WLA	Expected Load	Expected Credits	In-Bubble Exchange	Private Exchange	WQIF-Held Credits	Expected Net Credits		Class A Sales	Class A* Purchases	Class B** (expected)
								PRICE:	\$ 0.14	\$ 3.75	\$ 0.01
The Exchange (group)	2,612,604	1,862,461	750,143	-	(274)	(24,365)	725,504		387,985	(16,170)	353,689
ACSA-Fishersville	4,873	1,791	3,082	(3,082)	-	-	-		-	-	-
ACSA-Greenville	1,424	482	942	(414)	-	-	528		209	-	319
ACSA-Harriston	1,025	197	828	(828)	-	-	-		-	-	-
ACSA-Middle River	8,284	3,655	4,629	-	-	-	4,629		1,833	-	2,796
ACSA-Mt. Sidney	854	1,268	(414)	414	-	-	-		-	-	-
ACSA-Stuarts Draft	2,436	571	1,865	-	-	-	1,865		738	-	1,127
ACSA-Vesper View	1,025	530	495	-	-	-	495		196	-	299
ACSA-Weyers Cave	1,462	5,372	(3,910)	3,910	-	-	-		-	-	-
Alexandria Renew Ent.	493,381	363,640	129,741	-	-	-	129,741		65,000	-	64,741
Arlington Co.	365,284	228,417	136,867	-	-	-	136,867		136,867	-	-
Berryville	5,373	3,070	2,303	-	-	-	2,303		2,100	-	203
Broadway Regional	5,601	4,860	741	-	-	-	741		-	-	741
Fairfax Co-Noman Cole	612,158	433,079	179,079	-	-	-	179,079		71,632	-	107,447
FCWSA-Vint Hill	579	207	372	-	-	-	372		-	-	372
Front Royal	29,725	25,247	4,478	-	-	-	4,478		1,120	-	3,358
FWSA-Opequon	31,681	19,004	12,677	-	-	-	12,677		3,000	-	9,677
FWSA-Parkins Mill	15,837	9,819	6,018	-	-	-	6,018		1,000	-	5,018
HRRSA-North River	55,746	36,664	19,082	-	-	-	19,082		19,082	-	-
KGCSA-Dahlgren S.D.	9,137	6,091	3,046	-	-	-	3,046		-	-	3,046
KGCSA-Fairview Beach	1,827	731	1,096	(427)	-	-	669		-	-	669
KGCSA-Purkins Corner	1,096	1,523	(427)	427	-	-	-		-	-	-
Leesburg	97,458	29,623	67,835	-	(274)	(24,365)	43,196		-	-	43,196
Loudoun Water- Broad Run	119,264	44,114	75,150	-	-	-	75,150		32,526	-	42,624
Luray	8,187	1,688	6,499	-	-	-	6,499		6,499	-	-
Massanutten PSC	6,030	4,834	1,196	-	-	-	1,196		-	-	1,196
Merck	4,824	14,473	(9,649)	-	-	-	(9,649)		-	(9,649)	-
MillerCoors LLC	18,091	18,091	-	-	-	-	-		-	-	-
Mt. Jackson	2,900	2,154	746	-	-	-	746		-	-	746
Purcellville	13,157	7,894	5,263	-	-	-	5,263		2,632	-	2,631
PWCSA-HL Mooney	219,280	173,597	45,683	-	-	-	45,683		31,978	-	13,705
Stafford Co-Aquia	73,093	62,129	10,964	-	-	-	10,964		9,868	-	1,096
Stoney Creek	2,891	2,814	77	-	-	-	77		-	-	77
Strasburg	5,134	11,655	(6,521)	-	-	-	(6,521)		-	(6,521)	-
UOSA	302,607	295,441	7,166	-	-	-	7,166		-	-	7,166
VA Am. Water PW Sec. 1	42,029	22,461	19,568	-	-	-	19,568		-	-	19,568
VA Am. Water PW Sec. 8	42,029	22,461	19,568	-	-	-	19,568		-	-	19,568
Waynesboro	6,822	2,814	4,008	-	-	-	4,008		1,705	-	2,303
Purchase by Eastern Shore	-	-	-	-	-	-	-		-	-	-

*** For this Compliance Year, 0% of all Class A Credit Purchases are expected to be satisfied using Class B Credits.**

*** Expected Class B Credits are estimates only. Actual Class B Credits—and the resulting Class B sales price—will vary from estimates based on actual Delivered Loads in the Compliance Year.*

POTOMAC Basin: Nitrogen Credit Ledger

POTOMAC Basin: Nitrogen Credit Ledger											
Compliance Year:	2018	Credit Forecasts		Preliminary Use of Credits				Credit Exchange (Pounds)			
Facility Name	Delivered WLA	Expected Load	Expected Credits	In-Bubble Exchange	Private Exchange	WQIF-Held Credits	Expected Net Credits		Class A Sales	Class A* Purchases	Class B** (expected)
								PRICE:	\$ 0.07	\$ 3.78	\$ 0.02
The Exchange (group)	2,612,604	1,906,103	706,501	-	(274)	(24,365)	681,862		535,306	(11,587)	158,143
ACSA-Fishersville	4,873	1,845	3,028	(3,028)	-	-	-		-	-	-
ACSA-Greenville	1,424	497	927	(675)	-	-	252		118	-	134
ACSA-Harriston	1,025	203	822	(822)	-	-	-		-	-	-
ACSA-Middle River	8,284	3,764	4,520	-	-	-	4,520		2,123	-	2,397
ACSA-Mt. Sidney	854	1,307	(453)	453	-	-	-		-	-	-
ACSA-Stuarts Draft	2,436	588	1,848	-	-	-	1,848		869	-	979
ACSA-Vesper View	1,025	546	479	-	-	-	479		225	-	254
ACSA-Weyers Cave	1,462	5,534	(4,072)	4,072	-	-	-		-	-	-
Alexandria Renew Ent.	493,381	367,386	125,995	-	-	-	125,995		94,496	-	31,499
Arlington Co.	365,284	232,985	132,299	-	-	-	132,299		132,299	-	-
Berryville	5,373	3,070	2,303	-	-	-	2,303		2,000	-	303
Broadway Regional	5,601	4,924	677	-	-	-	677		-	-	677
Fairfax Co-Noman Cole	612,158	455,738	156,420	-	-	-	156,420		156,420	-	-
FCWSA-Vint Hill	579	219	360	-	-	-	360		-	-	360
Front Royal	29,725	25,303	4,422	-	-	-	4,422		1,056	-	3,366
FWSA-Opequon	31,681	18,402	13,279	-	-	-	13,279		-	-	13,279
FWSA-Parkins Mill	15,837	11,086	4,751	-	-	-	4,751		-	-	4,751
HRRSA-North River	55,746	36,664	19,082	-	-	-	19,082		19,082	-	-
KGCSA-Dahlgren S.D.	9,137	6,700	2,437	-	-	-	2,437		-	-	2,437
KGCSA-Fairview Beach	1,827	731	1,096	(427)	-	-	669		-	-	669
KGCSA-Purkins Corner	1,096	1,523	(427)	427	-	-	-		-	-	-
Leesburg	97,458	31,261	66,197	-	(274)	(24,365)	41,558		-	-	41,558
Loudoun Water- Broad Run	119,264	54,929	64,335	-	-	-	64,335		56,632	-	7,703
Luray	8,187	1,688	6,499	-	-	-	6,499		6,499	-	-
Massanutten PSC	6,030	2,975	3,055	-	-	-	3,055		-	-	3,055
Merck	4,824	14,473	(9,649)	-	-	-	(9,649)		-	(9,649)	-
MillerCoors LLC	18,091	18,091	-	-	-	-	-		-	-	-
Mt. Jackson	2,900	2,237	663	-	-	-	663		-	-	663
Purcellville	13,157	9,648	3,509	-	-	-	3,509		2,023	-	1,486
PWCSA-HL Mooney	219,280	175,881	43,399	-	-	-	43,399		30,379	-	13,020
Stafford Co-Aquia	73,093	64,596	8,497	-	-	-	8,497		7,647	-	850
Stoney Creek	2,891	2,814	77	-	-	-	77		-	-	77
Strasburg	5,134	7,072	(1,938)	-	-	-	(1,938)		-	(1,938)	-
UOSA	302,607	292,754	9,853	-	-	-	9,853		-	-	9,853
VA Am. Water PW Sec. 1	42,029	22,842	19,187	-	-	-	19,187		11,512	-	7,675
VA Am. Water PW Sec. 8	42,029	22,842	19,187	-	-	-	19,187		11,512	-	7,675
Waynesboro	6,822	2,985	3,837	-	-	-	3,837		414	-	3,423
Purchase by Eastern Shore	-	-	-	-	-	-	-		-	-	-

*** For this Compliance Year, 0% of all Class A Credit Purchases are expected to be satisfied using Class B Credits.**

*** Expected Class B Credits are estimates only. Actual Class B Credits—and the resulting Class B sales price—will vary from estimates based on actual Delivered Loads in the Compliance Year.*

POTOMAC Basin: Nitrogen Credit Ledger

POTOMAC Basin: Nitrogen Credit Ledger											
Compliance Year:	2019	Credit Forecasts		Preliminary Use of Credits				Credit Exchange (Pounds)			
Facility Name	Delivered WLA	Expected Load	Expected Credits	In-Bubble Exchange	Private Exchange	WQIF-Held Credits	Expected Net Credits		Class A Sales	Class A* Purchases	Class B** (expected)
								PRICE:	\$ 0.08	\$ 3.82	\$ 0.02
The Exchange (group)	2,612,604	1,950,681	661,923	-	(2,899)	(24,365)	634,659		496,157	(11,665)	150,167
ACSA-Fishersville	4,873	1,900	2,973	(2,973)	-	-	-		-	-	-
ACSA-Greenville	1,424	512	912	(479)	-	-	433		433	-	-
ACSA-Harriston	1,025	209	816	(816)	-	-	-		-	-	-
ACSA-Middle River	8,284	3,877	4,407	-	-	-	4,407		4,407	-	-
ACSA-Mt. Sidney	854	1,346	(492)	492	-	-	-		-	-	-
ACSA-Stuarts Draft	2,436	606	1,830	-	-	-	1,830		1,830	-	-
ACSA-Vesper View	1,025	563	462	(462)	-	-	-		-	-	-
ACSA-Weyers Cave	1,462	5,700	(4,238)	4,238	-	-	-		-	-	-
Alexandria Renew Ent.	493,381	371,223	122,158	-	-	-	122,158		91,620	-	30,538
Arlington Co.	365,284	237,554	127,730	-	(2,625)	-	125,105		125,105	-	-
Berryville	5,373	3,377	1,996	-	-	-	1,996		1,900	-	96
Broadway Regional	5,601	4,719	882	-	-	-	882		-	-	882
Fairfax Co-Noman Cole	612,158	470,904	141,254	-	-	-	141,254		127,128	-	14,126
FCWSA-Vint Hill	579	244	335	-	-	-	335		-	-	335
Front Royal	29,725	25,359	4,366	-	-	-	4,366		4,000	-	366
FWSA-Opequon	31,681	19,289	12,392	-	-	-	12,392		-	-	12,392
FWSA-Parkins Mill	15,837	9,027	6,810	-	-	-	6,810		-	-	6,810
HRRSA-North River	55,746	38,191	17,555	-	-	-	17,555		15,000	-	2,555
KGCSA-Dahlgren S.D.	9,137	5,025	4,112	-	-	-	4,112		-	-	4,112
KGCSA-Fairview Beach	1,827	731	1,096	(427)	-	-	669		-	-	669
KGCSA-Purkins Corner	1,096	1,523	(427)	427	-	-	-		-	-	-
Leesburg	97,458	32,898	64,560	-	(274)	(24,365)	39,921		-	-	39,921
Loudoun Water- Broad Run	119,264	61,380	57,884	-	-	-	57,884		57,884	-	-
Luray	8,187	2,533	5,654	-	-	-	5,654		5,654	-	-
Massanutten PSC	6,030	2,975	3,055	-	-	-	3,055		-	-	3,055
Merck	4,824	14,473	(9,649)	-	-	-	(9,649)		-	(9,649)	-
MillerCoors LLC	18,091	18,091	-	-	-	-	-		-	-	-
Mt. Jackson	2,900	2,237	663	-	-	-	663		-	-	663
Purcellville	13,157	7,894	5,263	-	-	-	5,263		2,632	-	2,631
PWCSA-HL Mooney	219,280	178,165	41,115	-	-	-	41,115		28,781	-	12,334
Stafford Co-Aquia	73,093	67,063	6,030	-	-	-	6,030		4,462	-	1,568
Stoney Creek	2,891	2,814	77	-	-	-	77		-	-	77
Strasburg	5,134	7,150	(2,016)	-	-	-	(2,016)		-	(2,016)	-
UOSA	302,607	300,006	2,601	-	-	-	2,601		-	-	2,601
VA Am. Water PW Sec. 1	42,029	23,984	18,045	-	-	-	18,045		10,827	-	7,218
VA Am. Water PW Sec. 8	42,029	23,984	18,045	-	-	-	18,045		10,827	-	7,218
Waynesboro	6,822	3,155	3,667	-	-	-	3,667		3,667	-	-
Purchase by Eastern Shore	-	-	-	-	-	-	-		-	-	-

*** For this Compliance Year, 0% of all Class A Credit Purchases are expected to be satisfied using Class B Credits.**

*** Expected Class B Credits are estimates only. Actual Class B Credits—and the resulting Class B sales price—will vary from estimates based on actual Delivered Loads in the Compliance Year.*

POTOMAC Basin: Nitrogen Credit Ledger

POTOMAC Basin: Nitrogen Credit Ledger											
Compliance Year:	2020	Credit Forecasts		Preliminary Use of Credits			Credit Exchange (Pounds)				
Facility Name	Delivered WLA	Expected Load	Expected Credits	In-Bubble Exchange	Private Exchange	WQIF-Held Credits	Expected Net Credits		Class A Sales	Class A* Purchases	Class B** (expected)
								PRICE:	\$ 0.09	\$ 3.86	\$ 0.02
The Exchange (group)	2,612,604	1,954,879	657,725	-	(2,899)	(24,365)	630,461		421,490	(11,705)	220,676
ACSA-Fishersville	4,873	1,957	2,916	(2,916)	-	-	-		-	-	-
ACSA-Greenville	1,424	527	897	(771)	-	-	126		126	-	-
ACSA-Harriston	1,025	216	809	(809)	-	-	-		-	-	-
ACSA-Middle River	8,284	3,994	4,290	-	-	-	4,290		4,290	-	-
ACSA-Mt. Sidney	854	1,386	(532)	532	-	-	-		-	-	-
ACSA-Stuarts Draft	2,436	624	1,812	-	-	-	1,812		1,812	-	-
ACSA-Vesper View	1,025	580	445	(445)	-	-	-		-	-	-
ACSA-Weyers Cave	1,462	5,871	(4,409)	4,409	-	-	-		-	-	-
Alexandria Renew Ent.	493,381	375,061	118,320	-	-	-	118,320		-	-	118,320
Arlington Co.	365,284	242,122	123,162	-	(2,625)	-	120,537		120,537	-	-
Berryville	5,373	3,223	2,150	-	-	-	2,150		2,100	-	50
Broadway Regional	5,601	4,780	821	-	-	-	821		-	-	821
Fairfax Co-Noman Cole	612,158	456,834	155,324	-	-	-	155,324		155,324	-	-
FCWSA-Vint Hill	579	256	323	-	-	-	323		-	-	323
Front Royal	29,725	25,415	4,310	-	-	-	4,310		4,000	-	310
FWSA-Opequon	31,681	19,955	11,726	-	-	-	11,726		-	-	11,726
FWSA-Parkins Mill	15,837	8,077	7,760	-	-	-	7,760		-	-	7,760
HRRSA-North River	55,746	38,191	17,555	-	-	-	17,555		15,000	-	2,555
KGCSA-Dahlgren S.D.	9,137	5,482	3,655	-	-	-	3,655		-	-	3,655
KGCSA-Fairview Beach	1,827	822	1,005	(427)	-	-	578		-	-	578
KGCSA-Purkins Corner	1,096	1,523	(427)	427	-	-	-		-	-	-
Leesburg	97,458	34,535	62,923	-	(274)	(24,365)	38,284		-	-	38,284
Loudoun Water- Broad Run	119,264	66,788	52,476	-	-	-	52,476		52,476	-	-
Luray	8,187	2,533	5,654	-	-	-	5,654		5,654	-	-
Massanutten PSC	6,030	3,055	2,975	-	-	-	2,975		-	-	2,975
Merck	4,824	14,473	(9,649)	-	-	-	(9,649)		-	(9,649)	-
MillerCoors LLC	18,091	18,091	-	-	-	-	-		-	-	-
Mt. Jackson	2,900	2,278	622	-	-	-	622		-	-	622
Purcellville	13,157	8,333	4,824	-	-	-	4,824		2,412	-	2,412
PWCSA-HL Mooney	219,280	180,449	38,831	-	-	-	38,831		27,182	-	11,649
Stafford Co-Aquia	73,093	67,063	6,030	-	-	-	6,030		5,427	-	603
Stoney Creek	2,891	2,814	77	-	-	-	77		-	-	77
Strasburg	5,134	7,190	(2,056)	-	-	-	(2,056)		-	(2,056)	-
UOSA	302,607	299,087	3,520	-	-	-	3,520		-	-	3,520
VA Am. Water PW Sec. 1	42,029	23,984	18,045	-	-	-	18,045		10,827	-	7,218
VA Am. Water PW Sec. 8	42,029	23,984	18,045	-	-	-	18,045		10,827	-	7,218
Waynesboro	6,822	3,326	3,496	-	-	-	3,496		3,496	-	-
Purchase by Eastern Shore	-	-	-	-	-	-	-		-	-	-

*** For this Compliance Year, 0% of all Class A Credit Purchases are expected to be satisfied using Class B Credits.**

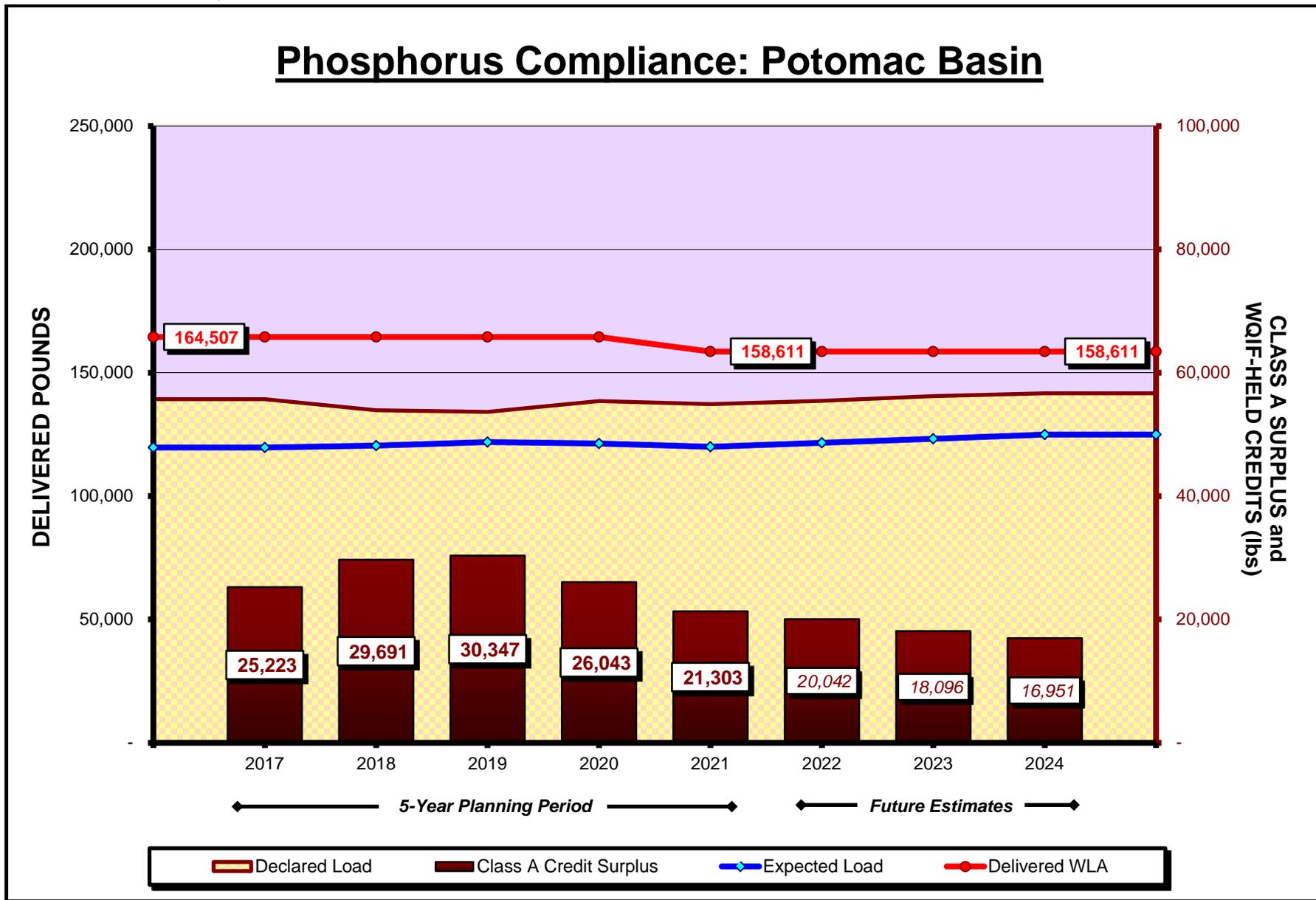
*** Expected Class B Credits are estimates only. Actual Class B Credits—and the resulting Class B sales price—will vary from estimates based on actual Delivered Loads in the Compliance Year.*

POTOMAC Basin: Nitrogen Credit Ledger

Compliance Year:	2021	Credit Forecasts		Preliminary Use of Credits			Expected Net Credits	Credit Exchange (Pounds)			
		Facility Name	Delivered WLA	Expected Load	Expected Credits	In-Bubble Exchange		Private Exchange	WQIF-Held Credits	Class A Sales	Class A* Purchases
								PRICE:	\$ 0.07	\$ 3.87	\$ 0.01
The Exchange (group)	2,515,720	1,941,647	574,073	-	(2,899)	(19,492)	551,682	358,399	(8,151)	201,434	
ACSA-Fishersville	2,924	1,209	1,715	(1,715)	-	-	-	-	-	-	-
ACSA-Greenville	854	303	551	(425)	-	-	126	126	-	-	-
ACSA-Harriston	626	136	490	-	-	-	490	490	-	-	-
ACSA-Middle River	4,970	2,468	2,502	-	-	-	2,502	2,502	-	-	-
ACSA-Mt. Sidney	513	864	(351)	351	-	-	-	-	-	-	-
ACSA-Stuarts Draft	1,462	386	1,076	(1,076)	-	-	-	-	-	-	-
ACSA-Vesper View	626	338	288	-	-	-	288	288	-	-	-
ACSA-Weyers Cave	914	3,779	(2,865)	2,865	-	-	-	-	-	-	-
Alexandria Renew Ent.	493,381	375,061	118,320	-	-	-	118,320	-	-	118,320	-
Arlington Co.	365,284	246,690	118,594	-	(2,625)	-	115,969	115,969	-	-	-
Berryville	4,435	2,661	1,774	-	-	-	1,774	1,650	-	124	-
Broadway Regional	3,538	3,057	481	-	-	-	481	-	-	481	-
Fairfax Co-Noman Cole	612,158	488,630	123,528	-	-	-	123,528	123,528	-	-	-
FCWSA-Vint Hill	579	268	311	-	-	-	311	-	-	311	-
Front Royal	24,365	20,832	3,533	-	-	-	3,533	3,200	-	333	-
FWSA-Opequon	25,589	14,790	10,799	-	-	-	10,799	-	-	10,799	-
FWSA-Parkins Mill	12,791	6,524	6,267	-	-	-	6,267	-	-	6,267	-
HRRSA-North River	35,475	24,628	10,847	-	-	-	10,847	4,600	-	6,247	-
KGCSA-Dahlgren S.D.	9,137	5,939	3,198	-	-	-	3,198	-	-	3,198	-
KGCSA-Fairview Beach	1,827	822	1,005	(579)	-	-	426	-	-	426	-
KGCSA-Purkins Corner	1,096	1,675	(579)	579	-	-	-	-	-	-	-
Leesburg	77,966	29,541	48,425	-	(274)	(19,492)	28,659	-	-	28,659	-
Loudoun Water- Broad Run	109,884	69,052	40,832	-	-	-	40,832	40,832	-	-	-
Luray	6,432	1,990	4,442	-	-	-	4,442	4,442	-	-	-
Massanutten PSC	4,020	2,037	1,983	-	-	-	1,983	1,983	-	-	-
Merck	3,216	9,648	(6,432)	-	-	-	(6,432)	-	(6,432)	-	-
MillerCoors LLC	12,060	12,060	-	-	-	-	-	-	-	-	-
Mt. Jackson	2,132	1,675	457	-	-	-	457	-	-	457	-
Purcellville	8,406	6,164	2,242	-	-	-	2,242	1,121	-	1,121	-
PWCSA-HL Mooney	219,280	181,363	37,917	-	-	-	37,917	28,438	-	9,479	-
Stafford Co-Aquia	73,093	67,063	6,030	-	-	-	6,030	5,427	-	603	-
Stoney Creek	2,065	1,865	200	-	-	-	200	200	-	-	-
Strasburg	4,059	5,778	(1,719)	-	-	-	(1,719)	-	(1,719)	-	-
UOSA	302,607	302,434	173	-	-	-	173	-	-	173	-
VA Am. Water PW Sec. 1	42,029	23,984	18,045	-	-	-	18,045	10,827	-	7,218	-
VA Am. Water PW Sec. 8	42,029	23,984	18,045	-	-	-	18,045	10,827	-	7,218	-
Waynesboro	3,898	1,949	1,949	-	-	-	1,949	1,949	-	-	-
Purchase by Eastern Shore	-	-	-	-	-	-	-	-	-	-	-

* For this Compliance Year, 0% of all Class A Credit Purchases are expected to be satisfied using Class B Credits.

** Expected Class B Credits are estimates only. Actual Class B Credits—and the resulting Class B sales price—will vary from estimates based on actual Delivered Loads in the Compliance Year.



POTOMAC Basin: Phosphorus Credit Ledger

Compliance Year:											
	2017	Credit Forecasts		Preliminary Use of Credits			Credit Exchange (Pounds)				
Facility Name	Delivered WLA	Expected Load	Expected Credits	In-Bubble Exchange	Private Exchange	WQIF-Held Credits	Expected Net Credits		Class A Sales	Class A* Purchases	Class B** (expected)
								PRICE:	\$ 1.11	\$ 5.65	\$ 0.21
The Exchange (group)	164,507	119,683	44,824	-	(27)	(1,234)	43,563		32,322	(7,099)	18,340
ACSA-Fishersville	1,974	604	1,370	(1,148)	-	-	222		86	-	136
ACSA-Greenville	1,028	424	604	(209)	-	-	395		153	-	242
ACSA-Harriston	411	232	179	-	-	-	179		69	-	110
ACSA-Middle River	3,355	1,645	1,710	-	-	-	1,710		660	-	1,050
ACSA-Mt. Sidney	617	826	(209)	209	-	-	-		-	-	-
ACSA-Stuarts Draft	1,974	514	1,460	-	-	-	1,460		564	-	896
ACSA-Vesper View	411	328	83	-	-	-	83		32	-	51
ACSA-Weyers Cave	242	1,390	(1,148)	1,148	-	-	-		-	-	-
Alexandria Renew Ent.	29,603	21,818	7,785	-	-	-	7,785		3,900	-	3,885
Arlington Co.	21,925	13,705	8,220	-	-	-	8,220		8,220	-	-
Berryville	339	194	145	-	-	-	145		110	-	35
Broadway Regional	1,172	1,099	73	-	-	-	73		-	-	73
Fairfax Co-Noman Cole	36,729	25,985	10,744	-	-	-	10,744		10,744	-	-
FCWSA-Vint Hill	148	53	95	-	-	-	95		-	-	95
Front Royal	1,974	2,235	(261)	-	-	-	(261)		-	(261)	-
FWSA-Opequon	6,217	3,947	2,270	-	-	-	2,270		-	-	2,270
FWSA-Parkins Mill	2,467	1,529	938	-	-	-	938		-	-	938
HRRSA-North River	10,262	6,631	3,631	-	-	-	3,631		3,631	-	-
KGCSA-Dahlgren S.D.	914	457	457	(40)	-	-	417		-	-	417
KGCSA-Fairview Beach	179	72	107	-	-	-	107		-	-	107
KGCSA-Purkins Corner	106	146	(40)	40	-	-	-		-	-	-
Leesburg	4,934	1,833	3,101	-	(27)	(1,234)	1,840		-	-	1,840
Loudoun Water- Broad Run	1,809	765	1,044	-	-	-	1,044		493	-	551
Luray	789	333	456	-	-	-	456		456	-	-
Massanutten PSC	727	4,646	(3,919)	-	-	-	(3,919)		-	(3,919)	-
Merck	592	2,368	(1,776)	-	-	-	(1,776)		-	(1,776)	-
MillerCoors LLC	2,220	2,220	-	-	-	-	-		-	-	-
Mt. Jackson	339	168	171	-	-	-	171		-	-	171
Purcellville	727	436	291	-	-	-	291		145	-	146
PWCSA-HL Mooney	13,157	10,416	2,741	-	-	-	2,741		2,467	-	274
Stafford Co-Aquia	4,386	3,728	658	-	-	-	658		592	-	66
Stoney Creek	354	533	(179)	-	-	-	(179)		-	(180)	1
Strasburg	474	1,437	(963)	-	-	-	(963)		-	(963)	-
UOSA	4,934	3,185	1,749	-	-	-	1,749		-	-	1,749
VA Am. Water PW Sec. 1	2,522	1,348	1,174	-	-	-	1,174		-	-	1,174
VA Am. Water PW Sec. 8	2,522	1,348	1,174	-	-	-	1,174		-	-	1,174
Waynesboro	1,974	1,085	889	-	-	-	889		-	-	889
Purchase by Eastern Shore	-	-	-	-	-	-	-		-	-	-

*** For this Compliance Year, 0% of all Class A Credit Purchases are expected to be satisfied using Class B Credits.**

*** Expected Class B Credits are estimates only. Actual Class B Credits—and the resulting Class B sales price—will vary from estimates based on actual Delivered Loads in the Compliance Year.*

POTOMAC Basin: Phosphorus Credit Ledger

Compliance Year: 2018											
Facility Name	Delivered WLA	Credit Forecasts		Preliminary Use of Credits			Expected Net Credits	Credit Exchange (Pounds)			
		Expected Load	Expected Credits	In-Bubble Exchange	Private Exchange	WQIF-Held Credits			Class A Sales	Class A* Purchases	Class B** (expected)
The Exchange (group)	164,507	120,450	44,057	-	(27)	(1,234)	42,796	PRICE:	\$ 0.68	\$ 5.70	\$ 0.19
									34,263	(4,572)	13,105
ACSA-Fishersville	1,974	623	1,351	(1,189)	-	-	162		75	-	87
ACSA-Greenville	1,028	437	591	(234)	-	-	357		165	-	192
ACSA-Harriston	411	239	172	-	-	-	172		79	-	93
ACSA-Middle River	3,355	1,694	1,661	-	-	-	1,661		766	-	895
ACSA-Mt. Sidney	617	851	(234)	234	-	-	-		-	-	-
ACSA-Stuarts Draft	1,974	529	1,445	-	-	-	1,445		665	-	780
ACSA-Vesper View	411	338	73	-	-	-	73		34	-	39
ACSA-Weyers Cave	242	1,431	(1,189)	1,189	-	-	-		-	-	-
Alexandria Renew Ent.	29,603	22,043	7,560	-	-	-	7,560		5,670	-	1,890
Arlington Co.	21,925	13,979	7,946	-	-	-	7,946		7,946	-	-
Berryville	339	194	145	-	-	-	145		130	-	15
Broadway Regional	1,172	1,114	58	-	-	-	58		-	-	58
Fairfax Co-Noman Cole	36,729	27,344	9,385	-	-	-	9,385		9,385	-	-
FCWSA-Vint Hill	148	56	92	-	-	-	92		-	-	92
Front Royal	1,974	2,240	(266)	-	-	-	(266)		-	(266)	-
FWSA-Opequon	6,217	4,095	2,122	-	-	-	2,122		-	-	2,122
FWSA-Parkins Mill	2,467	1,727	740	-	-	-	740		-	-	740
HRRSA-North River	10,262	6,631	3,631	-	-	-	3,631		3,631	-	-
KGCSA-Dahlgren S.D.	914	503	411	(40)	-	-	371		-	-	371
KGCSA-Fairview Beach	179	72	107	-	-	-	107		-	-	107
KGCSA-Purkins Corner	106	146	(40)	40	-	-	-		-	-	-
Leesburg	4,934	2,022	2,912	-	(27)	(1,234)	1,651		-	-	1,651
Loudoun Water- Broad Run	1,809	952	857	-	-	-	857		857	-	-
Luray	789	333	456	-	-	-	456		456	-	-
Massanutten PSC	727	2,389	(1,662)	-	-	-	(1,662)		-	(1,662)	-
Merck	592	2,368	(1,776)	-	-	-	(1,776)		-	(1,776)	-
MillerCoors LLC	2,220	2,220	-	-	-	-	-		-	-	-
Mt. Jackson	339	174	165	-	-	-	165		-	-	165
Purcellville	727	533	194	-	-	-	194		140	-	54
PWCSA-HL Mooney	13,157	10,553	2,604	-	-	-	2,604		2,344	-	260
Stafford Co-Aquia	4,386	3,876	510	-	-	-	510		459	-	51
Stoney Creek	354	533	(179)	-	-	-	(179)		-	(180)	1
Strasburg	474	1,162	(688)	-	-	-	(688)		-	(688)	-
UOSA	4,934	3,156	1,778	-	-	-	1,778		-	-	1,778
VA Am. Water PW Sec. 1	2,522	1,371	1,151	-	-	-	1,151		691	-	460
VA Am. Water PW Sec. 8	2,522	1,371	1,151	-	-	-	1,151		691	-	460
Waynesboro	1,974	1,151	823	-	-	-	823		79	-	744
Purchase by Eastern Shore	-	-	-	-	-	-	-		-	-	-

* For this Compliance Year, 0% of all Class A Credit Purchases are expected to be satisfied using Class B Credits.

** Expected Class B Credits are estimates only. Actual Class B Credits—and the resulting Class B sales price—will vary from estimates based on actual Delivered Loads in the Compliance Year.

POTOMAC Basin: Phosphorus Credit Ledger

Compliance Year:	2019	Credit Forecasts		Preliminary Use of Credits			Expected Net Credits	Credit Exchange (Pounds)			
		Facility Name	Delivered WLA	Expected Load	Expected Credits	In-Bubble Exchange		Private Exchange	WQIF-Held Credits	Class A Sales	Class A* Purchases
								PRICE:	\$ 0.48	\$ 5.76	\$ 0.17
The Exchange (group)	164,507	121,859	42,648	-	(639)	(1,234)	40,775		33,448	(3,101)	10,428
ACSA-Fishersville	1,974	641	1,333	(1,232)	-	-	101	101	-	-	
ACSA-Greenville	1,028	450	578	(259)	-	-	319	319	-	-	
ACSA-Harriston	411	246	165	-	-	-	165	165	-	-	
ACSA-Middle River	3,355	1,745	1,610	-	-	-	1,610	1,610	-	-	
ACSA-Mt. Sidney	617	876	(259)	259	-	-	-	-	-	-	
ACSA-Stuarts Draft	1,974	545	1,429	-	-	-	1,429	1,429	-	-	
ACSA-Vesper View	411	348	63	-	-	-	63	63	-	-	
ACSA-Weyers Cave	242	1,474	(1,232)	1,232	-	-	-	-	-	-	
Alexandria Renew Ent.	29,603	22,273	7,330	-	-	-	7,330	5,500	-	1,830	
Arlington Co.	21,925	14,253	7,672	-	(612)	-	7,060	7,060	-	-	
Berryville	339	213	126	-	-	-	126	110	-	16	
Broadway Regional	1,172	978	194	-	-	-	194	-	-	194	
Fairfax Co-Noman Cole	36,729	28,254	8,475	-	-	-	8,475	8,475	-	-	
FCWSA-Vint Hill	148	62	86	-	-	-	86	-	-	86	
Front Royal	1,974	2,245	(271)	-	-	-	(271)	-	(271)	-	
FWSA-Opequon	6,217	4,292	1,925	-	-	-	1,925	-	-	1,925	
FWSA-Parkins Mill	2,467	1,875	592	-	-	-	592	-	-	592	
HRRSA-North River	10,262	6,907	3,355	-	-	-	3,355	2,800	-	555	
KGCSA-Dahlgren S.D.	914	503	411	(40)	-	-	371	-	-	371	
KGCSA-Fairview Beach	179	72	107	-	-	-	107	-	-	107	
KGCSA-Purkins Corner	106	146	(40)	40	-	-	-	-	-	-	
Leesburg	4,934	2,221	2,713	-	(27)	(1,234)	1,452	-	-	1,452	
Loudoun Water- Broad Run	1,809	1,064	745	-	-	-	745	745	-	-	
Luray	789	340	449	-	-	-	449	449	-	-	
Massanutten PSC	727	1,194	(467)	-	-	-	(467)	-	(467)	-	
Merck	592	2,368	(1,776)	-	-	-	(1,776)	-	(1,776)	-	
MillerCoors LLC	2,220	2,220	-	-	-	-	-	-	-	-	
Mt. Jackson	339	174	165	-	-	-	165	-	-	165	
Purcellville	727	436	291	-	-	-	291	146	-	145	
PWCSA-HL Mooney	13,157	10,690	2,467	-	-	-	2,467	2,220	-	247	
Stafford Co-Aquia	4,386	4,024	362	-	-	-	362	199	-	163	
Stoney Creek	354	533	(179)	-	-	-	(179)	-	(180)	1	
Strasburg	474	881	(407)	-	-	-	(407)	-	(407)	-	
UOSA	4,934	3,221	1,713	-	-	-	1,713	-	-	1,713	
VA Am. Water PW Sec. 1	2,522	1,439	1,083	-	-	-	1,083	650	-	433	
VA Am. Water PW Sec. 8	2,522	1,439	1,083	-	-	-	1,083	650	-	433	
Waynesboro	1,974	1,217	757	-	-	-	757	757	-	-	
Purchase by Eastern Shore	-	-	-	-	-	-	-	-	-	-	

* For this Compliance Year, 0% of all Class A Credit Purchases are expected to be satisfied using Class B Credits.

** Expected Class B Credits are estimates only. Actual Class B Credits—and the resulting Class B sales price—will vary from estimates based on actual Delivered Loads in the Compliance Year.

POTOMAC Basin: Phosphorus Credit Ledger

Compliance Year: 2020											
Facility Name	Delivered WLA	Credit Forecasts		Preliminary Use of Credits			Expected Net Credits	Credit Exchange (Pounds)			
		Expected Load	Expected Credits	In-Bubble Exchange	Private Exchange	WQIF-Held Credits			Class A Sales	Class A* Purchases	Class B** (expected)
The Exchange (group)	164,507	121,333	43,174	-	(639)	(1,234)	41,301	PRICE:	\$ 0.45	\$ 5.81	\$ 0.09
									28,539	(2,496)	15,258
ACSA-Fishersville	1,974	660	1,314	(1,277)	-	-	37		37	-	-
ACSA-Greenville	1,028	464	564	(285)	-	-	279		279	-	-
ACSA-Harriston	411	253	158	-	-	-	158		158	-	-
ACSA-Middle River	3,355	1,797	1,558	-	-	-	1,558		1,558	-	-
ACSA-Mt. Sidney	617	902	(285)	285	-	-	-		-	-	-
ACSA-Stuarts Draft	1,974	562	1,412	-	-	-	1,412		1,412	-	-
ACSA-Vesper View	411	358	53	-	-	-	53		53	-	-
ACSA-Weyers Cave	242	1,519	(1,277)	1,277	-	-	-		-	-	-
Alexandria Renew Ent.	29,603	22,504	7,099	-	-	-	7,099		-	-	7,099
Arlington Co.	21,925	14,527	7,398	-	(612)	-	6,786		6,786	-	-
Berryville	339	203	136	-	-	-	136		130	-	6
Broadway Regional	1,172	990	182	-	-	-	182		-	-	182
Fairfax Co-Noman Cole	36,729	27,410	9,319	-	-	-	9,319		9,319	-	-
FCWSA-Vint Hill	148	65	83	-	-	-	83		-	-	83
Front Royal	1,974	2,250	(276)	-	-	-	(276)		-	(276)	-
FWSA-Opequon	6,217	4,440	1,777	-	-	-	1,777		-	-	1,777
FWSA-Parkins Mill	2,467	1,677	790	-	-	-	790		-	-	790
HRRSA-North River	10,262	6,907	3,355	-	-	-	3,355		2,800	-	555
KGCSA-Dahlgren S.D.	914	548	366	(40)	-	-	326		-	-	326
KGCSA-Fairview Beach	179	81	98	-	-	-	98		-	-	98
KGCSA-Purkins Corner	106	146	(40)	40	-	-	-		-	-	-
Leesburg	4,934	2,428	2,506	-	(27)	(1,234)	1,245		-	-	1,245
Loudoun Water- Broad Run	1,809	1,158	651	-	-	-	651		651	-	-
Luray	789	340	449	-	-	-	449		449	-	-
Massanutten PSC	727	368	359	-	-	-	359		359	-	-
Merck	592	2,368	(1,776)	-	-	-	(1,776)		-	(1,776)	-
MillerCoors LLC	2,220	2,220	-	-	-	-	-		-	-	-
Mt. Jackson	339	178	161	-	-	-	161		-	-	161
Purcellville	727	460	267	-	-	-	267		134	-	133
PWCSA-HL Mooney	13,157	10,827	2,330	-	-	-	2,330		2,097	-	233
Stafford Co-Aquia	4,386	4,024	362	-	-	-	362		326	-	36
Stoney Creek	354	533	(179)	-	-	-	(179)		-	(180)	1
Strasburg	474	738	(264)	-	-	-	(264)		-	(264)	-
UOSA	4,934	3,267	1,667	-	-	-	1,667		-	-	1,667
VA Am. Water PW Sec. 1	2,522	1,439	1,083	-	-	-	1,083		650	-	433
VA Am. Water PW Sec. 8	2,522	1,439	1,083	-	-	-	1,083		650	-	433
Waynesboro	1,974	1,283	691	-	-	-	691		691	-	-
Purchase by Eastern Shore	-	-	-	-	-	-	-		-	-	-

* For this Compliance Year, 0% of all Class A Credit Purchases are expected to be satisfied using Class B Credits.

** Expected Class B Credits are estimates only. Actual Class B Credits—and the resulting Class B sales price—will vary from estimates based on actual Delivered Loads in the Compliance Year.

POTOMAC Basin: Phosphorus Credit Ledger

Compliance Year:		2021		Credit Forecasts		Preliminary Use of Credits			Credit Exchange (Pounds)			
Facility Name	Delivered WLA	Expected Load	Expected Credits	In-Bubble Exchange	Private Exchange	WQIF-Held Credits	Expected Net Credits		Class A Sales	Class A* Purchases	Class B** (expected)	
								PRICE:	\$ 0.47	\$ 5.82	\$ 0.07	
The Exchange (group)	158,608	119,990	38,618	-	(639)	(1,074)	36,905		23,422	(2,119)	15,602	
ACSA-Fishersville	1,718	592	1,126	(1,126)	-	-	-		-	-	-	
ACSA-Greenville	894	387	507	(279)	-	-	228		228	-	-	
ACSA-Harriston	358	227	131	-	-	-	131		131	-	-	
ACSA-Middle River	2,920	1,611	1,309	-	-	-	1,309		1,309	-	-	
ACSA-Mt. Sidney	537	816	(279)	279	-	-	-		-	-	-	
ACSA-Stuarts Draft	1,718	503	1,215	(46)	-	-	1,169		1,169	-	-	
ACSA-Vesper View	358	297	61	-	-	-	61		61	-	-	
ACSA-Weyers Cave	215	1,387	(1,172)	1,172	-	-	-		-	-	-	
Alexandria Renew Ent.	29,603	22,504	7,099	-	-	-	7,099		-	-	7,099	
Arlington Co.	21,925	14,801	7,124	-	(612)	-	6,512		6,512	-	-	
Berryville	301	180	121	-	-	-	121		115	-	6	
Broadway Regional	1,039	889	150	-	-	-	150		-	-	150	
Fairfax Co-Noman Cole	36,729	29,318	7,411	-	-	-	7,411		7,411	-	-	
FCWSA-Vint Hill	148	68	80	-	-	-	80		-	-	80	
Front Royal	1,718	1,958	(240)	-	-	-	(240)		-	(240)	-	
FWSA-Opequon	5,411	3,972	1,439	-	-	-	1,439		-	-	1,439	
FWSA-Parkins Mill	2,147	1,460	687	-	-	-	687		-	-	687	
HRRSA-North River	8,932	6,092	2,840	-	-	-	2,840		1,000	-	1,840	
KGCSA-Dahlgren S.D.	914	594	320	(58)	-	-	262		-	-	262	
KGCSA-Fairview Beach	183	82	101	-	-	-	101		-	-	101	
KGCSA-Purkins Corner	110	168	(58)	58	-	-	-		-	-	-	
Leesburg	4,294	2,302	1,992	-	(27)	(1,074)	891		-	-	891	
Loudoun Water- Broad Run	1,575	1,131	444	-	-	-	444		444	-	-	
Luray	687	296	391	-	-	-	391		391	-	-	
Massanutten PSC	644	326	318	-	-	-	318		318	-	-	
Merck	515	2,061	(1,546)	-	-	-	(1,546)		-	(1,546)	-	
MillerCoors LLC	1,933	1,932	1	-	-	-	1		-	-	1	
Mt. Jackson	301	157	144	-	-	-	144		-	-	144	
Purcellville	644	472	172	-	-	-	172		86	-	86	
PWCSA-HL Mooney	13,157	10,882	2,275	-	-	-	2,275		2,048	-	227	
Stafford Co-Aquia	4,386	4,024	362	-	-	-	362		326	-	36	
Stoney Creek	313	401	(88)	-	-	-	(88)		-	(88)	-	
Strasburg	421	666	(245)	-	-	-	(245)		-	(245)	-	
UOSA	5,098	3,411	1,687	-	-	-	1,687		-	-	1,687	
VA Am. Water PW Sec. 1	2,522	1,439	1,083	-	-	-	1,083		650	-	433	
VA Am. Water PW Sec. 8	2,522	1,439	1,083	-	-	-	1,083		650	-	433	
Waynesboro	1,718	1,145	573	-	-	-	573		573	-	-	
Purchase by Eastern Shore	-	-	-	-	-	-	-		-	-	-	

* For this Compliance Year, 0% of all Class A Credit Purchases are expected to be satisfied using Class B Credits.

** Expected Class B Credits are estimates only. Actual Class B Credits—and the resulting Class B sales price—will vary from estimates based on actual Delivered Loads in the Compliance Year.

Potomac-Shenandoah River Basin

Supplemental Information for Individual Facilities



Owner Bubble: Augusta County Service Authority

The facilities listed below have received an aggregated mass load limit pursuant to 9 VAC 25-820-70, Part 1.B.2., which is also referred to as an “owner bubble”. Accordingly, compliance is determined solely on an aggregate basis rather than by comparison of individual facility loads with respective individual WLAs.

The “Credit Transferred within Bubble” section of each table forecasts the use of Credits within the owner bubble during each Compliance Year, and must necessarily sum to zero. The specific Credit transfers shown in this table are provided for internal planning purposes only and, accordingly, are not binding and may change based on the actual performance of individual facilities within the bubble.

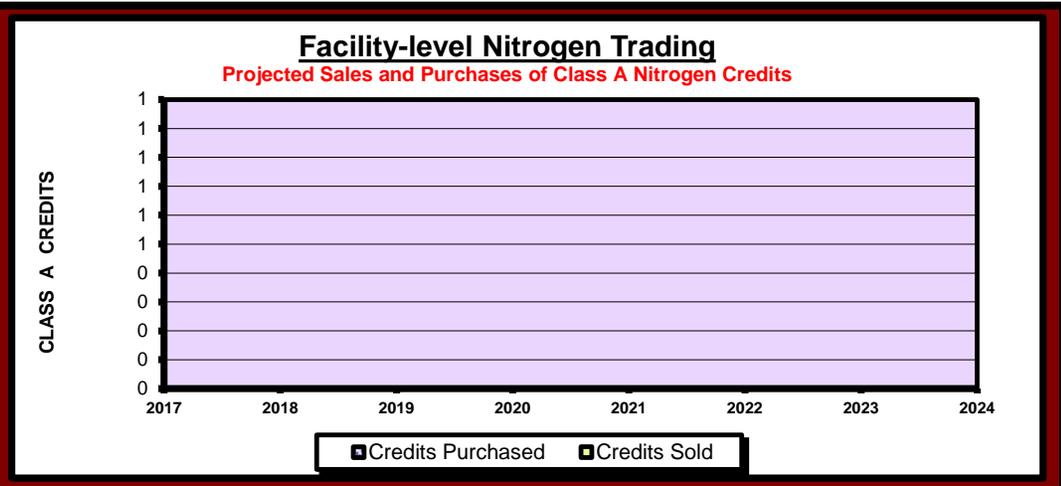
Expected Net Credits for an owner bubble may be either positive or negative. If Expected Net Credits is positive, the owner may pledge a percentage of such Credits to the Exchange. If Expected Net Credits is negative, Net Expected Credits identifies the number of Credits that must be purchased to comply with the aggregate Delivered WLA of the bubble.

NITROGEN Credits	Exchange 5-year Planning Period					Future Projections		
	2017	2018	2019	2020	2021	2022	2023	2024
Credits Transferred within Bubble								
Fishersville	(3,082)	(3,028)	(2,973)	(2,916)	(1,715)	(1,678)	(1,641)	(1,603)
Greenville	(414)	(675)	(479)	(771)	(425)	(542)	(533)	(523)
Harriston	(828)	(822)	(816)	(809)	-	(71)	(271)	(478)
Middle River	-	-	-	-	-	-	-	-
Mt. Sidney	414	453	492	532	351	377	403	431
Stuarts Draft	-	-	-	-	(1,076)	(1,065)	(1,053)	(1,041)
Vesper View	-	-	(462)	(445)	-	-	-	(2)
Weyers Cave	3,910	4,072	4,238	4,409	2,865	2,979	3,095	3,216
TOTAL (must sum to 0)	-	-	-	-	-	-	-	-
Credits Available outside Bubble								
Fishersville	-	-	-	-	-	-	-	-
Greenville	528	252	433	126	126	-	-	-
Harriston	-	-	-	-	490	415	211	-
Middle River	4,629	4,520	4,407	4,290	2,502	2,428	2,352	2,273
Mt. Sidney	-	-	-	-	-	-	-	-
Stuarts Draft	1,865	1,848	1,830	1,812	-	-	-	-
Vesper View	495	479	-	-	288	278	268	255
Weyers Cave	-	-	-	-	-	-	-	-
Expected Net Credits	7,517	7,099	6,670	6,228	3,406	3,121	2,831	2,528
Class A Sales (Purchases)	2,976	3,335	6,670	6,228	3,406	3,121	2,831	2,528
<i>Expected Class B Credits</i>	4,541	3,764	0	0	0	0	0	0
<i>WQIF-Held Credits</i>	0	0	0	0	0	0	0	0

PHOSPHORUS Credits	Exchange 5-year Planning Period					Future Projections		
	2017	2018	2019	2020	2021	2022	2023	2024
Credits Transferred within Bubble								
Fishersville	(1,148)	(1,189)	(1,232)	(1,277)	(1,126)	(1,108)	(1,090)	(1,071)
Greenville	(209)	(234)	(259)	(285)	(279)	(303)	(329)	(354)
Harriston	-	-	-	-	-	-	-	-
Middle River	-	-	-	-	-	-	-	-
Mt. Sidney	209	234	259	285	279	303	329	354
Stuarts Draft	-	-	-	-	(46)	(106)	(167)	(230)
Vesper View	-	-	-	-	-	-	-	-
Weyers Cave	1,148	1,189	1,232	1,277	1,172	1,214	1,257	1,301
TOTAL (must sum to 0)	-	-	-	-	-	-	-	-
Credits Available outside Bubble								
Fishersville	222	162	101	37	-	-	-	-
Greenville	395	357	319	279	228	193	155	117
Harriston	179	172	165	158	131	124	117	110
Middle River	1,710	1,661	1,610	1,558	1,309	1,261	1,211	1,160
Mt. Sidney	-	-	-	-	-	-	-	-
Stuarts Draft	1,460	1,445	1,429	1,412	1,169	1,093	1,017	938
Vesper View	83	73	63	53	61	52	43	33
Weyers Cave	-	-	-	-	-	-	-	-
Expected Net Credits	4,049	3,870	3,687	3,497	2,898	2,723	2,543	2,358
Class A Sales (Purchases)	1,564	1,784	3,687	3,497	2,898	2,723	2,543	2,358
<i>Expected Class B Credits</i>	2,485	2,086	0	0	0	0	0	0
<i>WQIF-Held Credits</i>	0	0	0	0	0	0	0	0

NITROGEN FACILITY SUMMARY

ACSA-Fishersville
POTOMAC Trading Basin



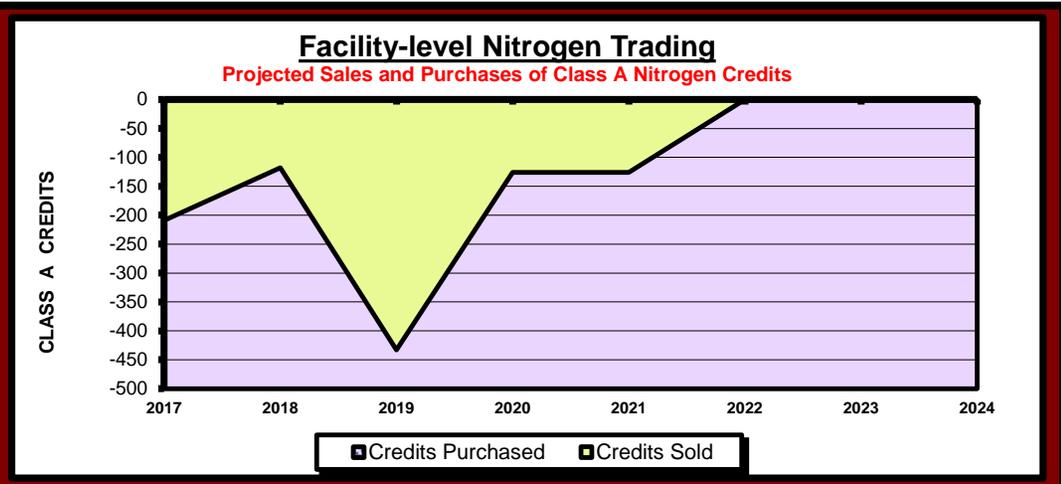
Loading & Credit Summary

Design Flow (mgd)
Projected Flow (mgd)
Projected Avg. Annual Concentration (mg/L)
Discharged Load (end of pipe)
Delivery Factor
Expected Load
Delivered WLA
Expected Credits (delivered)
Transfers In (Out) within Owner Bubble
Transfers In (Out) from Private Exchange
WQIF-Held Credits
Expected Net Credits
Class A Credit Sales (Purchases)
Expected Class B Credits

	2017	2018	2019	2020	2021	2022	2023	2024
	Planning Period					Future Estimates (non-binding)		
Design Flow (mgd)	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Projected Flow (mgd)	1.47	1.51	1.56	1.61	1.65	1.70	1.76	1.81
Projected Avg. Annual Concentration (mg/L)	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Discharged Load (end of pipe)	17,908	18,445	18,998	19,568	20,155	20,760	21,383	22,024
Delivery Factor	0.10	0.10	0.10	0.10	0.06	0.06	0.06	0.06
Expected Load	1,791	1,845	1,900	1,957	1,209	1,246	1,283	1,321
Delivered WLA	4,873	4,873	4,873	4,873	2,924	2,924	2,924	2,924
Expected Credits (delivered)	3,082	3,028	2,973	2,916	1,715	1,678	1,641	1,603
Transfers In (Out) within Owner Bubble	(3,082)	(3,028)	(2,973)	(2,916)	(1,715)	(1,678)	(1,641)	(1,603)
Transfers In (Out) from Private Exchange	0	0	0	0	0	0	0	0
WQIF-Held Credits	0	0	0	0	0	0	0	0
Expected Net Credits	0	0	0	0	0	0	0	0
Class A Credit Sales (Purchases)	0	0	0	0	0	0	0	0
Expected Class B Credits	0	0	0	0	0	0	0	0

NITROGEN FACILITY SUMMARY

ACSA-Greenville
POTOMAC Trading Basin



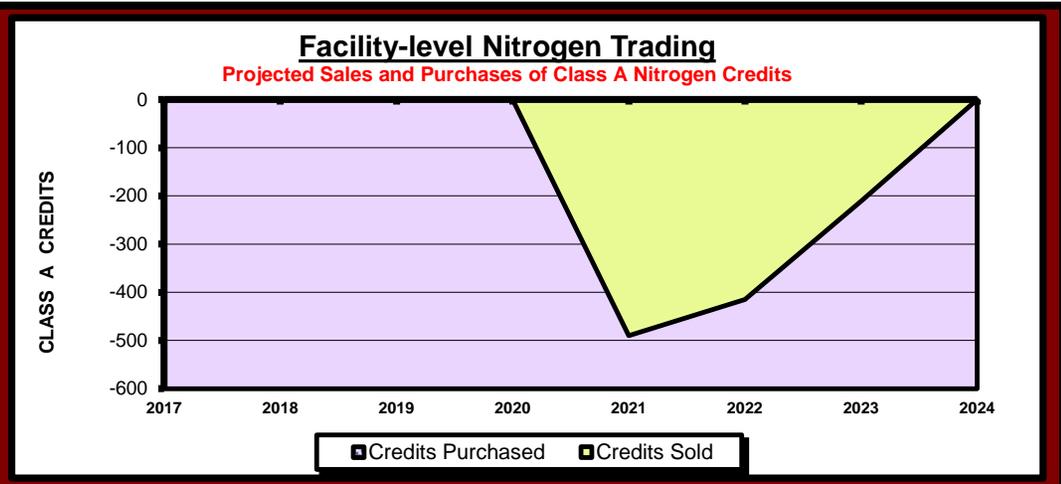
Loading & Credit Summary

Design Flow (mgd)	0.25
Projected Flow (mgd)	0.04
Projected Avg. Annual Concentration (mg/L)	36.83
Discharged Load (end of pipe)	4,823
Delivery Factor	0.10
Expected Load	482
Delivered WLA	1,424
Expected Credits (delivered)	942
Transfers In (Out) within Owner Bubble	(414)
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	528
Class A Credit Sales (Purchases)	209
Expected Class B Credits	319

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
0.04	0.04	0.05	0.05	0.05	0.05	0.05	0.05
36.83	36.83	36.83	36.83	36.83	36.83	36.83	36.83
4,823	4,968	5,117	5,270	5,050	5,201	5,357	5,518
0.10	0.10	0.10	0.10	0.06	0.06	0.06	0.06
482	497	512	527	303	312	321	331
1,424	1,424	1,424	1,424	854	854	854	854
942	927	912	897	551	542	533	523
(414)	(675)	(479)	(771)	(425)	(542)	(533)	(523)
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
528	252	433	126	126	0	0	0
209	118	433	126	126	0	0	0
319	134	0	0	0	0	0	0

NITROGEN FACILITY SUMMARY

ACSA-Harriston
<i>POTOMAC Trading Basin</i>



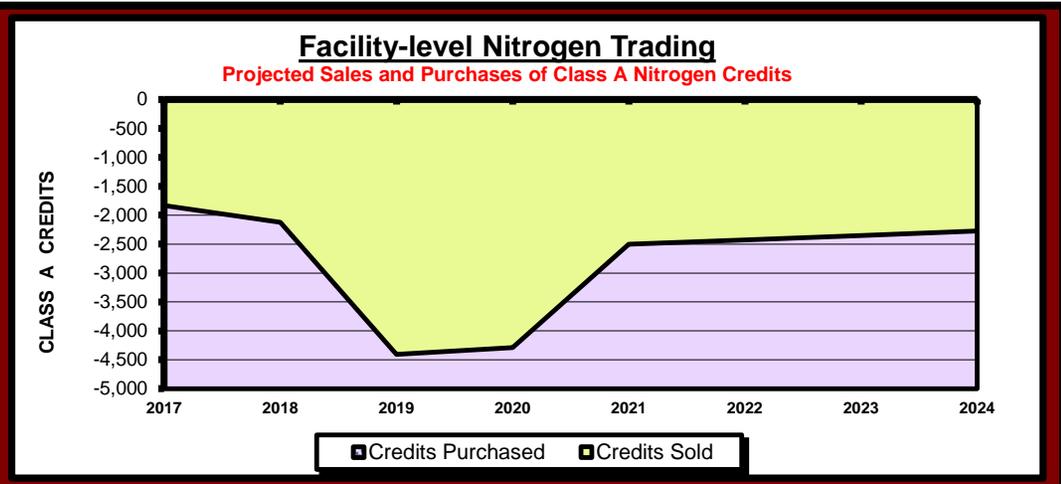
Loading & Credit Summary

Design Flow (mgd)
Projected Flow (mgd)
Projected Avg. Annual Concentration (mg/L)
Discharged Load (end of pipe)
Delivery Factor
Expected Load
Delivered WLA
Expected Credits (delivered)
Transfers In (Out) within Owner Bubble
Transfers In (Out) from Private Exchange
WQIF-Held Credits
Expected Net Credits
Class A Credit Sales (Purchases)
Expected Class B Credits

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
0.04	0.04	0.04	0.04	0.05	0.05	0.05	0.05
9.00	9.00	9.00	9.00	9.00	9.00	9.00	9.00
1,096	1,129	1,163	1,198	1,234	1,271	1,309	1,348
0.18	0.18	0.18	0.18	0.11	0.11	0.11	0.11
197	203	209	216	136	140	144	148
1,025	1,025	1,025	1,025	626	626	626	626
828	822	816	809	490	486	482	478
(828)	(822)	(816)	(809)	0	(71)	(271)	(478)
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	490	415	211	0
0	0	0	0	0	0	0	0

NITROGEN FACILITY SUMMARY

ACSA-Middle River
<i>POTOMAC Trading Basin</i>

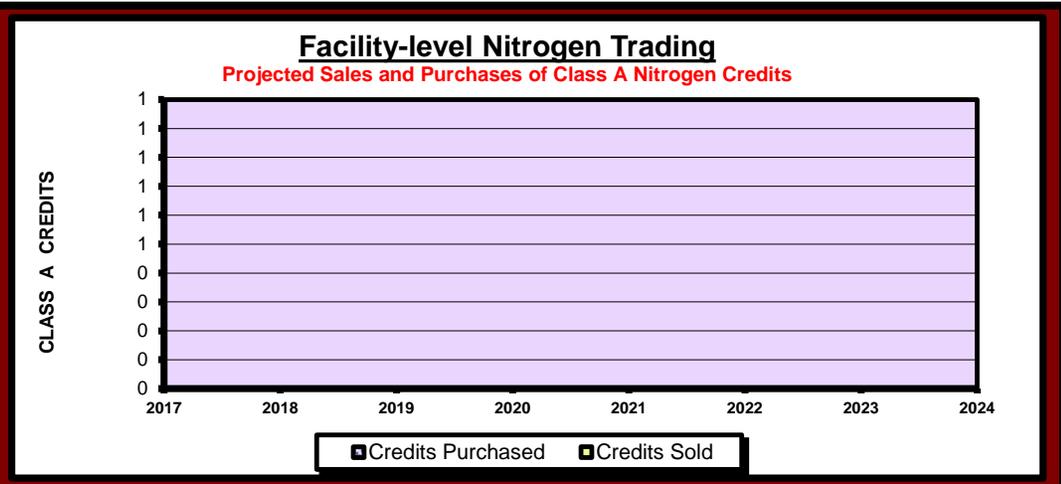


Loading & Credit Summary
Design Flow (mgd)
Projected Flow (mgd)
Projected Avg. Annual Concentration (mg/L)
Discharged Load (end of pipe)
Delivery Factor
Expected Load
Delivered WLA
Expected Credits (delivered)
Transfers In (Out) within Owner Bubble
Transfers In (Out) from Private Exchange
WQIF-Held Credits
Expected Net Credits
Class A Credit Sales (Purchases)
Expected Class B Credits

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
6.80	6.80	6.80	6.80	6.80	6.80	6.80	6.80
4.00	4.12	4.24	4.37	4.50	4.64	4.78	4.92
3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
36,547	37,643	38,772	39,936	41,134	42,368	43,639	44,948
0.10	0.10	0.10	0.10	0.06	0.06	0.06	0.06
3,655	3,764	3,877	3,994	2,468	2,542	2,618	2,697
8,284	8,284	8,284	8,284	4,970	4,970	4,970	4,970
4,629	4,520	4,407	4,290	2,502	2,428	2,352	2,273
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
4,629	4,520	4,407	4,290	2,502	2,428	2,352	2,273
1,833	2,123	4,407	4,290	2,502	2,428	2,352	2,273
2,796	2,397	0	0	0	0	0	0

NITROGEN FACILITY SUMMARY

ACSA-Mt. Sidney
POTOMAC Trading Basin



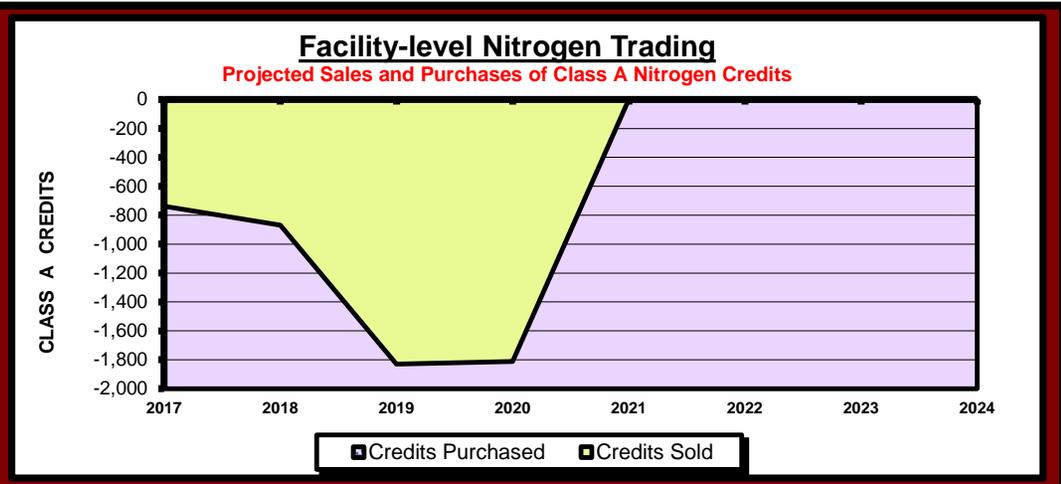
Loading & Credit Summary

Design Flow (mgd)
Projected Flow (mgd)
Projected Avg. Annual Concentration (mg/L)
Discharged Load (end of pipe)
Delivery Factor
Expected Load
Delivered WLA
Expected Credits (delivered)
Transfers In (Out) within Owner Bubble
Transfers In (Out) from Private Exchange
WQIF-Held Credits
Expected Net Credits
Class A Credit Sales (Purchases)
Expected Class B Credits

	2017	2018	2019	2020	2021	2022	2023	2024
	Planning Period					Future Estimates (non-binding)		
Design Flow (mgd)	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
Projected Flow (mgd)	0.12	0.12	0.13	0.13	0.14	0.14	0.14	0.15
Projected Avg. Annual Concentration (mg/L)	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00
Discharged Load (end of pipe)	12,685	13,065	13,457	13,861	14,397	14,829	15,274	15,732
Delivery Factor	0.10	0.10	0.10	0.10	0.06	0.06	0.06	0.06
Expected Load	1,268	1,307	1,346	1,386	864	890	916	944
Delivered WLA	854	854	854	854	513	513	513	513
Expected Credits (delivered)	(414)	(453)	(492)	(532)	(351)	(377)	(403)	(431)
Transfers In (Out) within Owner Bubble	414	453	492	532	351	377	403	431
Transfers In (Out) from Private Exchange	0	0	0	0	0	0	0	0
WQIF-Held Credits	0	0	0	0	0	0	0	0
Expected Net Credits	0	0	0	0	0	0	0	0
Class A Credit Sales (Purchases)	0	0	0	0	0	0	0	0
Expected Class B Credits	0	0	0	0	0	0	0	0

NITROGEN FACILITY SUMMARY

ACSA-Stuarts Draft
POTOMAC Trading Basin



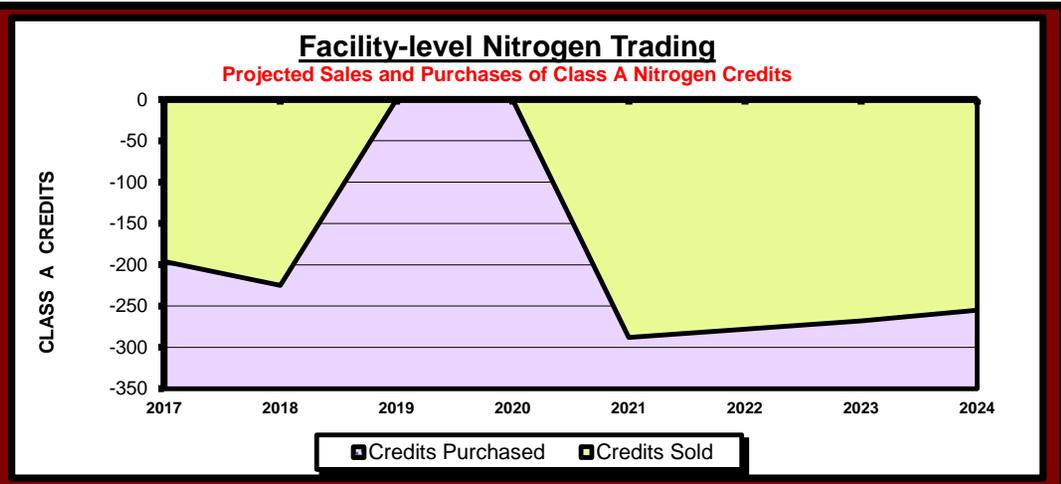
Loading & Credit Summary

Design Flow (mgd)	4.00
Projected Flow (mgd)	1.25
Projected Avg. Annual Concentration (mg/L)	3.00
Discharged Load (end of pipe)	11,421
Delivery Factor	0.05
Expected Load	571
Delivered WLA	2,436
Expected Credits (delivered)	1,865
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	1,865
Class A Credit Sales (Purchases)	738
Expected Class B Credits	1,127

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
1.25	1.29	1.33	1.37	1.41	1.45	1.49	1.54
3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
11,421	11,763	12,116	12,480	12,854	13,240	13,637	14,046
0.05	0.05	0.05	0.05	0.03	0.03	0.03	0.03
571	588	606	624	386	397	409	421
2,436	2,436	2,436	2,436	1,462	1,462	1,462	1,462
1,865	1,848	1,830	1,812	1,076	1,065	1,053	1,041
0	0	0	0	(1,076)	(1,065)	(1,053)	(1,041)
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
1,865	1,848	1,830	1,812	0	0	0	0
738	869	1,830	1,812	0	0	0	0
1,127	979	0	0	0	0	0	0

NITROGEN FACILITY SUMMARY

ACSA-Vesper View
POTOMAC Trading Basin



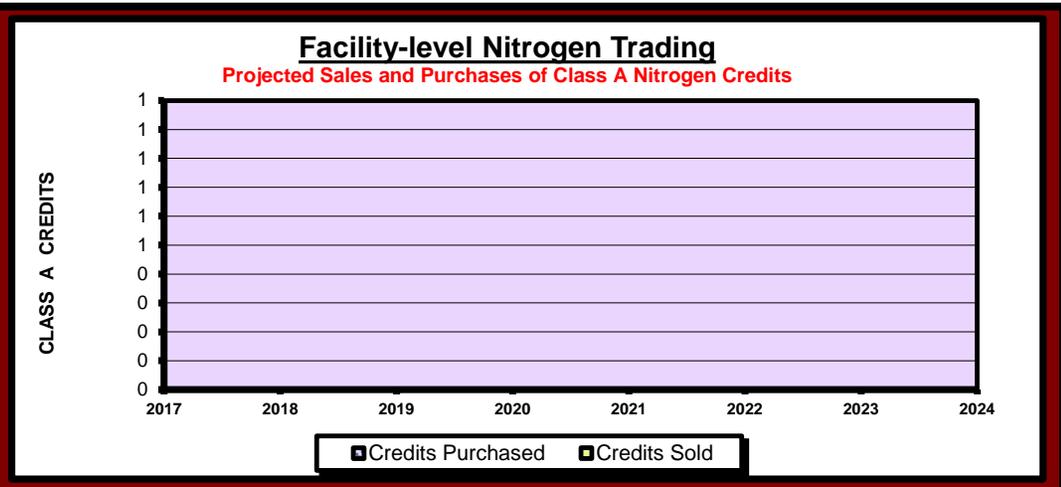
Loading & Credit Summary

Design Flow (mgd)	0.10
Projected Flow (mgd)	0.05
Projected Avg. Annual Concentration (mg/L)	17.92
Discharged Load (end of pipe)	2,947
Delivery Factor	0.18
Expected Load	530
Delivered WLA	1,025
Expected Credits (delivered)	495
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	495
Class A Credit Sales (Purchases)	196
Expected Class B Credits	299

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
0.05	0.06	0.06	0.06	0.06	0.06	0.06	0.06
17.92	17.92	17.92	17.92	17.92	17.92	17.92	17.92
2,947	3,036	3,127	3,220	3,071	3,163	3,258	3,356
0.18	0.18	0.18	0.18	0.11	0.11	0.11	0.11
530	546	563	580	338	348	358	369
1,025	1,025	1,025	1,025	626	626	626	626
495	479	462	445	288	278	268	257
0	0	(462)	(445)	0	0	0	(2)
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
495	479	0	0	288	278	268	255
196	225	0	0	288	278	268	255
299	254	0	0	0	0	0	0

NITROGEN FACILITY SUMMARY

ACSA-Weyers Cave
POTOMAC Trading Basin



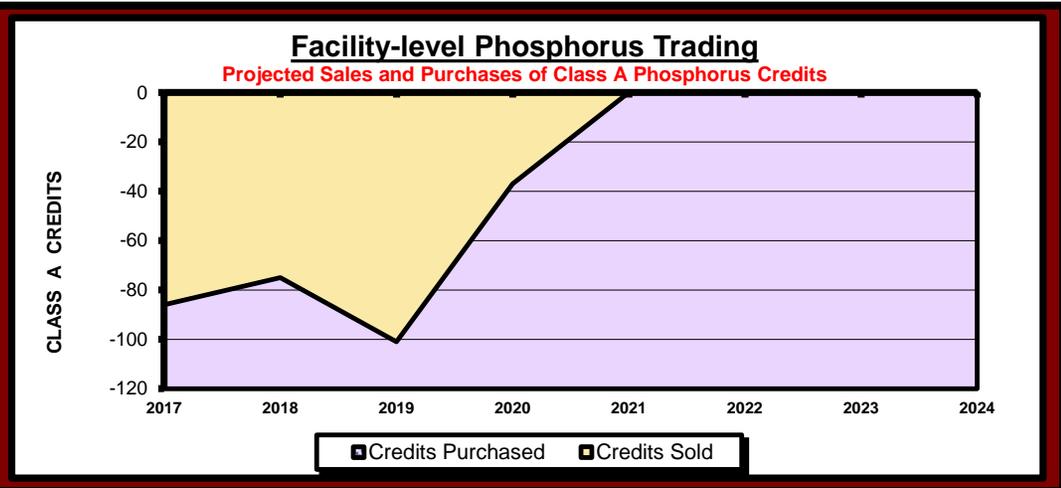
Loading & Credit Summary

Design Flow (mgd)	0.50
Projected Flow (mgd)	0.35
Projected Avg. Annual Concentration (mg/L)	21.00
Discharged Load (end of pipe)	22,385
Delivery Factor	0.24
Expected Load	5,372
Delivered WLA	1,462
Expected Credits (delivered)	(3,910)
Transfers In (Out) within Owner Bubble	3,910
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	0
Class A Credit Sales (Purchases)	0
Expected Class B Credits	0

	2017	2018	2019	2020	2021	2022	2023	2024
	Planning Period					Future Estimates (non-binding)		
Design Flow (mgd)	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
Projected Flow (mgd)	0.35	0.36	0.37	0.38	0.39	0.41	0.42	0.43
Projected Avg. Annual Concentration (mg/L)	21.00	21.00	21.00	21.00	21.00	21.00	21.00	21.00
Discharged Load (end of pipe)	22,385	23,056	23,748	24,461	25,194	25,950	26,729	27,531
Delivery Factor	0.24	0.24	0.24	0.24	0.15	0.15	0.15	0.15
Expected Load	5,372	5,534	5,700	5,871	3,779	3,893	4,009	4,130
Delivered WLA	1,462	1,462	1,462	1,462	914	914	914	914
Expected Credits (delivered)	(3,910)	(4,072)	(4,238)	(4,409)	(2,865)	(2,979)	(3,095)	(3,216)
Transfers In (Out) within Owner Bubble	3,910	4,072	4,238	4,409	2,865	2,979	3,095	3,216
Transfers In (Out) from Private Exchange	0	0	0	0	0	0	0	0
WQIF-Held Credits	0	0	0	0	0	0	0	0
Expected Net Credits	0	0	0	0	0	0	0	0
Class A Credit Sales (Purchases)	0	0	0	0	0	0	0	0
Expected Class B Credits	0	0	0	0	0	0	0	0

PHOSPHORUS FACILITY SUMMARY

ACSA-Fishersville
POTOMAC Trading Basin



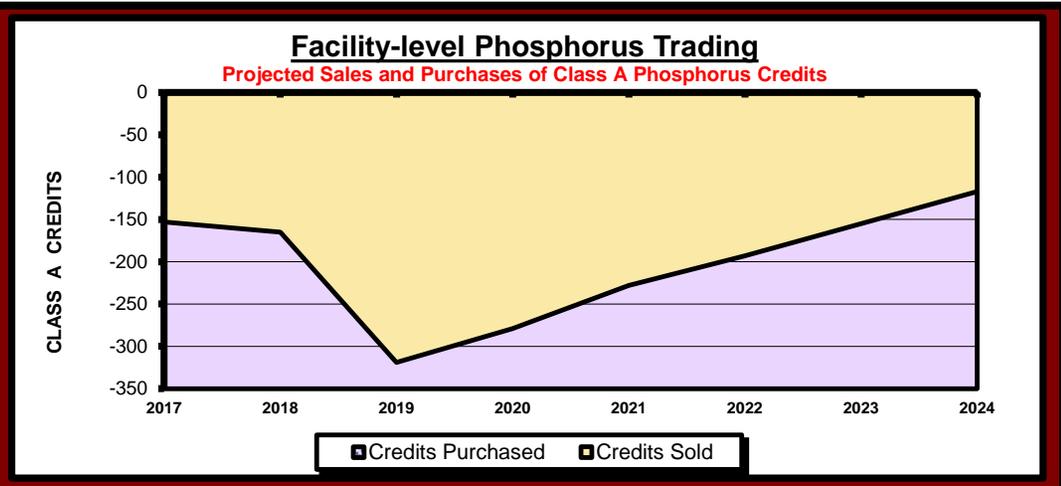
Loading & Credit Summary

Design Flow (mgd)	4.00
Projected Flow (mgd)	1.47
Projected Avg. Annual Concentration (mg/L)	0.25
Discharged Load (end of pipe)	1,119
Delivery Factor	0.54
Expected Load	604
Delivered WLA	1,974
Expected Credits (delivered)	1,370
Transfers In (Out) within Owner Bubble	(1,148)
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	222
Class A Credit Sales (Purchases)	86
Expected Class B Credits	136

	2017	2018	2019	2020	2021	2022	2023	2024
	Planning Period					Future Estimates (non-binding)		
Design Flow (mgd)	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Projected Flow (mgd)	1.47	1.51	1.56	1.61	1.65	1.70	1.76	1.81
Projected Avg. Annual Concentration (mg/L)	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Discharged Load (end of pipe)	1,119	1,153	1,187	1,223	1,260	1,298	1,336	1,377
Delivery Factor	0.54	0.54	0.54	0.54	0.47	0.47	0.47	0.47
Expected Load	604	623	641	660	592	610	628	647
Delivered WLA	1,974	1,974	1,974	1,974	1,718	1,718	1,718	1,718
Expected Credits (delivered)	1,370	1,351	1,333	1,314	1,126	1,108	1,090	1,071
Transfers In (Out) within Owner Bubble	(1,148)	(1,189)	(1,232)	(1,277)	(1,126)	(1,108)	(1,090)	(1,071)
Transfers In (Out) from Private Exchange	0	0	0	0	0	0	0	0
WQIF-Held Credits	0	0	0	0	0	0	0	0
Expected Net Credits	222	162	101	37	0	0	0	0
Class A Credit Sales (Purchases)	86	75	101	37	0	0	0	0
Expected Class B Credits	136	87	0	0	0	0	0	0

PHOSPHORUS FACILITY SUMMARY

ACSA-Greenville
<i>POTOMAC Trading Basin</i>

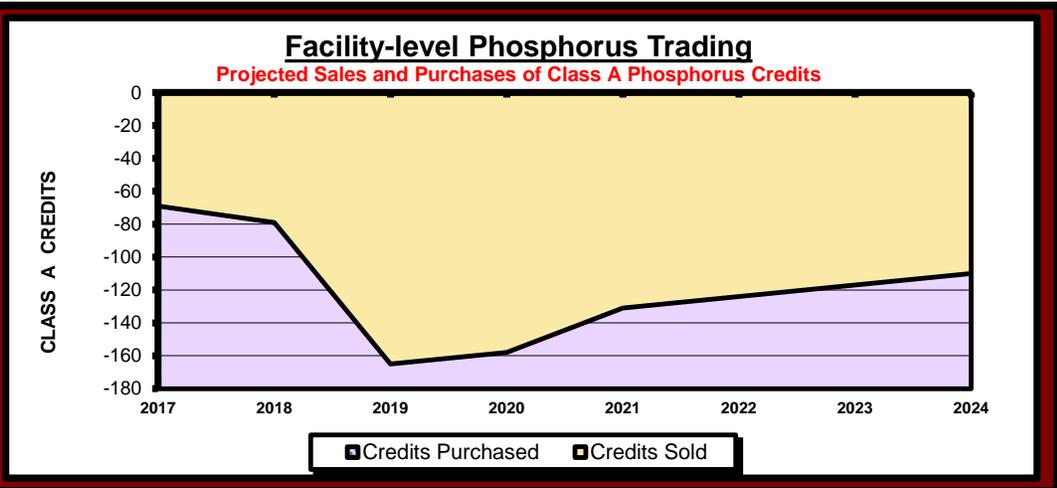


Loading & Credit Summary
Design Flow (mgd)
Projected Flow (mgd)
Projected Avg. Annual Concentration (mg/L)
Discharged Load (end of pipe)
Delivery Factor
Expected Load
Delivered WLA
Expected Credits (delivered)
Transfers In (Out) within Owner Bubble
Transfers In (Out) from Private Exchange
WQIF-Held Credits
Expected Net Credits
Class A Credit Sales (Purchases)
Expected Class B Credits

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
0.04	0.04	0.05	0.05	0.05	0.05	0.05	0.05
6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
786	809	834	859	823	847	873	899
0.54	0.54	0.54	0.54	0.47	0.47	0.47	0.47
424	437	450	464	387	398	410	423
1,028	1,028	1,028	1,028	894	894	894	894
604	591	578	564	507	496	484	471
(209)	(234)	(259)	(285)	(279)	(303)	(329)	(354)
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
395	357	319	279	228	193	155	117
153	165	319	279	228	193	155	117
242	192	0	0	0	0	0	0

PHOSPHORUS FACILITY SUMMARY

ACSA-Harriston
POTOMAC Trading Basin



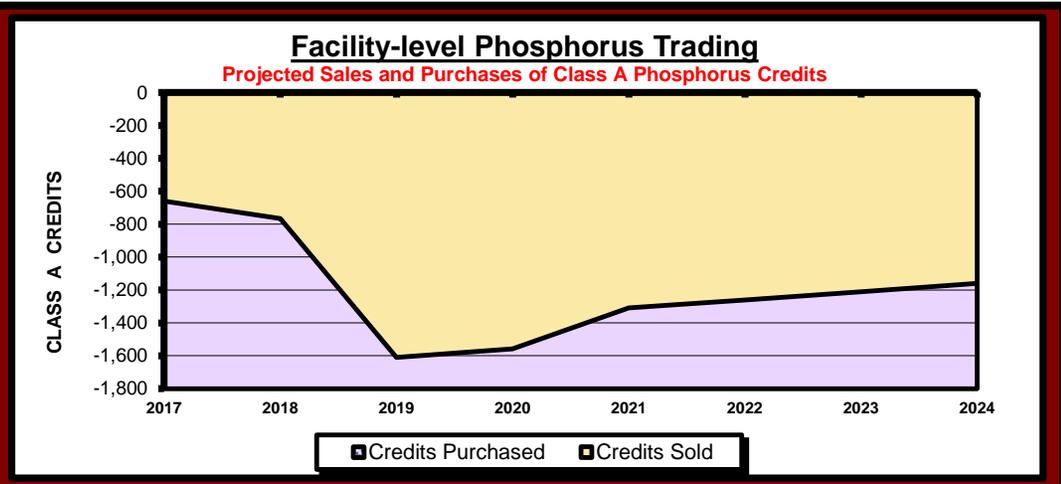
Loading & Credit Summary

Design Flow (mgd)	0.10
Projected Flow (mgd)	0.04
Projected Avg. Annual Concentration (mg/L)	3.52
Discharged Load (end of pipe)	429
Delivery Factor	0.54
Expected Load	232
Delivered WLA	411
Expected Credits (delivered)	179
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	179
Class A Credit Sales (Purchases)	69
Expected Class B Credits	110

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
0.04	0.04	0.04	0.04	0.05	0.05	0.05	0.05
3.52	3.52	3.52	3.52	3.52	3.52	3.52	3.52
429	442	455	469	483	497	512	527
0.54	0.54	0.54	0.54	0.47	0.47	0.47	0.47
232	239	246	253	227	234	241	248
411	411	411	411	358	358	358	358
179	172	165	158	131	124	117	110
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
179	172	165	158	131	124	117	110
69	79	165	158	131	124	117	110
110	93	0	0	0	0	0	0

PHOSPHORUS FACILITY SUMMARY

ACSA-Middle River
<i>POTOMAC Trading Basin</i>

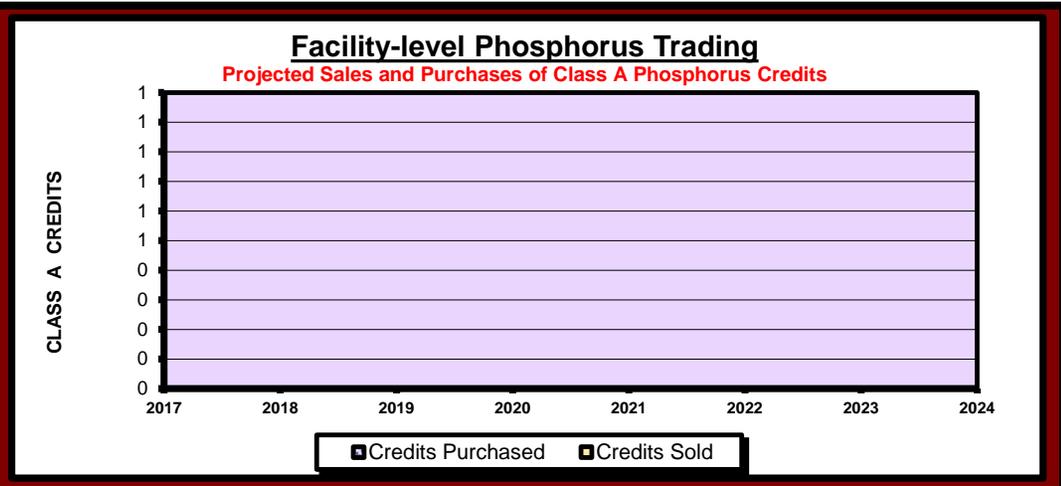


Loading & Credit Summary	
Design Flow (mgd)	6.80
Projected Flow (mgd)	4.00
Projected Avg. Annual Concentration (mg/L)	0.25
Discharged Load (end of pipe)	3,046
Delivery Factor	0.54
Expected Load	1,645
Delivered WLA	3,355
Expected Credits (delivered)	1,710
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	1,710
Class A Credit Sales (Purchases)	660
Expected Class B Credits	1,050

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
6.80	6.80	6.80	6.80	6.80	6.80	6.80	6.80
4.00	4.12	4.24	4.37	4.50	4.64	4.78	4.92
0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
3,046	3,137	3,231	3,328	3,428	3,531	3,637	3,746
0.54	0.54	0.54	0.54	0.47	0.47	0.47	0.47
1,645	1,694	1,745	1,797	1,611	1,659	1,709	1,760
3,355	3,355	3,355	3,355	2,920	2,920	2,920	2,920
1,710	1,661	1,610	1,558	1,309	1,261	1,211	1,160
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
1,710	1,661	1,610	1,558	1,309	1,261	1,211	1,160
660	766	1,610	1,558	1,309	1,261	1,211	1,160
1,050	895	0	0	0	0	0	0

PHOSPHORUS FACILITY SUMMARY

ACSA-Mt. Sidney
POTOMAC Trading Basin



Loading & Credit Summary

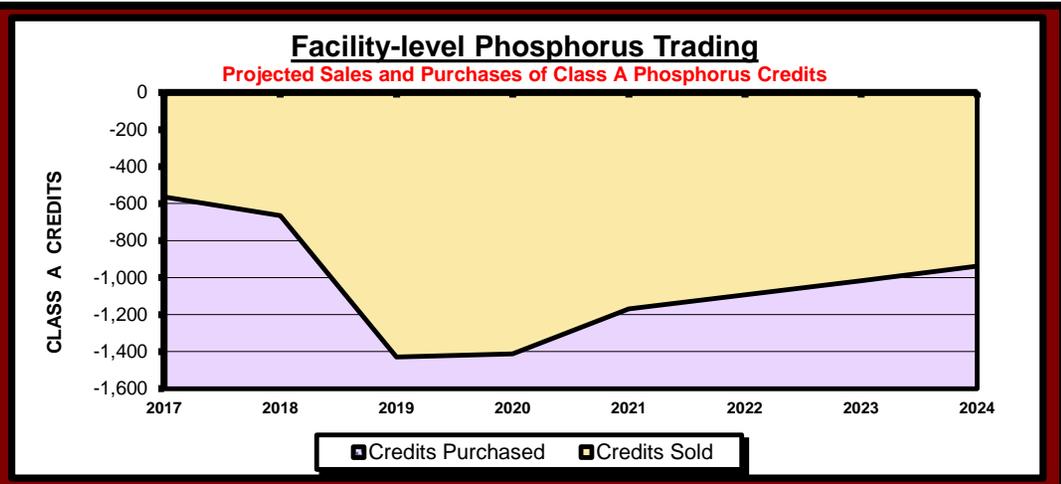
Design Flow (mgd)	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
Projected Flow (mgd)	0.12	0.12	0.13	0.13	0.14	0.14	0.14	0.15
Projected Avg. Annual Concentration (mg/L)	4.22	4.22	4.22	4.22	4.22	4.22	4.22	4.22
Discharged Load (end of pipe)	1,529	1,575	1,623	1,671	1,736	1,788	1,842	1,897
Delivery Factor	0.54	0.54	0.54	0.54	0.47	0.47	0.47	0.47
Expected Load	826	851	876	902	816	840	866	891
Delivered WLA	617	617	617	617	537	537	537	537
Expected Credits (delivered)	(209)	(234)	(259)	(285)	(279)	(303)	(329)	(354)
Transfers In (Out) within Owner Bubble	209	234	259	285	279	303	329	354
Transfers In (Out) from Private Exchange	0	0	0	0	0	0	0	0
WQIF-Held Credits	0	0	0	0	0	0	0	0
Expected Net Credits	0	0	0	0	0	0	0	0
Class A Credit Sales (Purchases)	0	0	0	0	0	0	0	0
Expected Class B Credits	0	0	0	0	0	0	0	0

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
0.12	0.12	0.13	0.13	0.14	0.14	0.14	0.15
4.22	4.22	4.22	4.22	4.22	4.22	4.22	4.22
1,529	1,575	1,623	1,671	1,736	1,788	1,842	1,897
0.54	0.54	0.54	0.54	0.47	0.47	0.47	0.47
826	851	876	902	816	840	866	891
617	617	617	617	537	537	537	537
(209)	(234)	(259)	(285)	(279)	(303)	(329)	(354)
209	234	259	285	279	303	329	354
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0

PHOSPHORUS FACILITY SUMMARY

ACSA-Stuarts Draft

POTOMAC Trading Basin



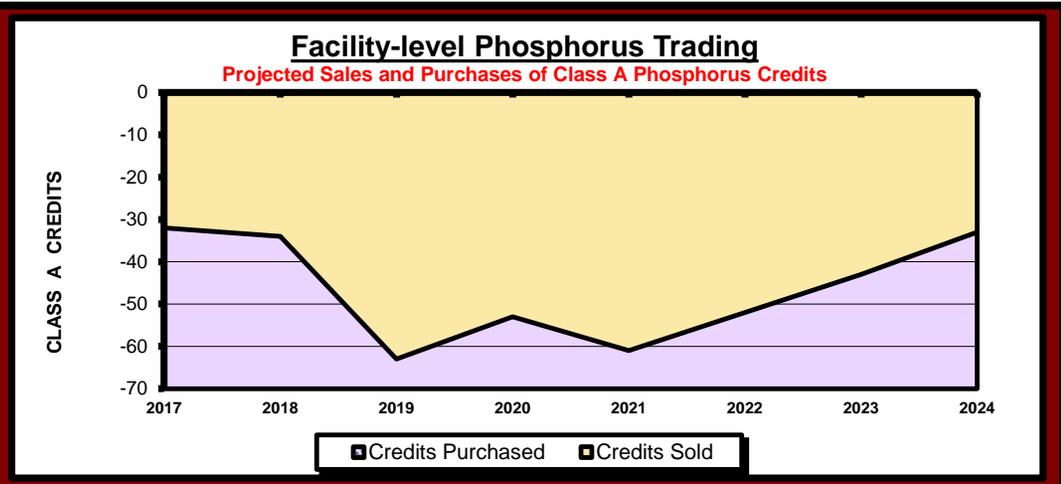
Loading & Credit Summary

Design Flow (mgd)	4.00
Projected Flow (mgd)	1.25
Projected Avg. Annual Concentration (mg/L)	0.25
Discharged Load (end of pipe)	952
Delivery Factor	0.54
Expected Load	514
Delivered WLA	1,974
Expected Credits (delivered)	1,460
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	1,460
Class A Credit Sales (Purchases)	564
Expected Class B Credits	896

	2017	2018	2019	2020	2021	2022	2023	2024
	Planning Period					Future Estimates (non-binding)		
Design Flow (mgd)	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Projected Flow (mgd)	1.25	1.29	1.33	1.37	1.41	1.45	1.49	1.54
Projected Avg. Annual Concentration (mg/L)	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Discharged Load (end of pipe)	952	980	1,010	1,040	1,071	1,103	1,136	1,171
Delivery Factor	0.54	0.54	0.54	0.54	0.47	0.47	0.47	0.47
Expected Load	514	529	545	562	503	519	534	550
Delivered WLA	1,974	1,974	1,974	1,974	1,718	1,718	1,718	1,718
Expected Credits (delivered)	1,460	1,445	1,429	1,412	1,215	1,199	1,184	1,168
Transfers In (Out) within Owner Bubble	0	0	0	0	(46)	(106)	(167)	(230)
Transfers In (Out) from Private Exchange	0	0	0	0	0	0	0	0
WQIF-Held Credits	0	0	0	0	0	0	0	0
Expected Net Credits	1,460	1,445	1,429	1,412	1,169	1,093	1,017	938
Class A Credit Sales (Purchases)	564	665	1,429	1,412	1,169	1,093	1,017	938
Expected Class B Credits	896	780	0	0	0	0	0	0

PHOSPHORUS FACILITY SUMMARY

ACSA-Vesper View
POTOMAC Trading Basin



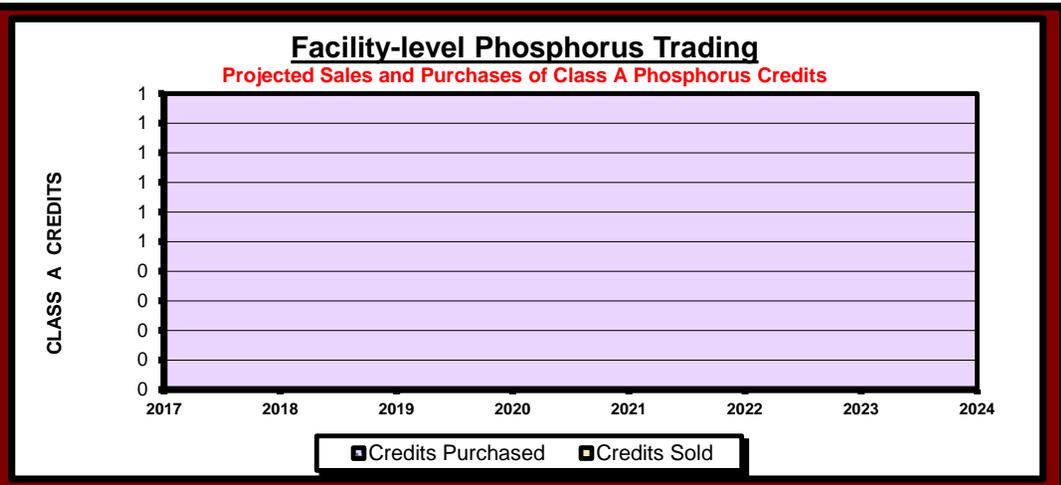
Loading & Credit Summary

Design Flow (mgd)
Projected Flow (mgd)
Projected Avg. Annual Concentration (mg/L)
Discharged Load (end of pipe)
Delivery Factor
Expected Load
Delivered WLA
Expected Credits (delivered)
Transfers In (Out) within Owner Bubble
Transfers In (Out) from Private Exchange
WQIF-Held Credits
Expected Net Credits
Class A Credit Sales (Purchases)
Expected Class B Credits

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
0.05	0.06	0.06	0.06	0.06	0.06	0.06	0.06
3.69	3.69	3.69	3.69	3.69	3.69	3.69	3.69
607	625	644	663	632	651	671	691
0.54	0.54	0.54	0.54	0.47	0.47	0.47	0.47
328	338	348	358	297	306	315	325
411	411	411	411	358	358	358	358
83	73	63	53	61	52	43	33
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
83	73	63	53	61	52	43	33
32	34	63	53	61	52	43	33
51	39	0	0	0	0	0	0

PHOSPHORUS FACILITY SUMMARY

ACSA-Weyers Cave
POTOMAC Trading Basin



Loading & Credit Summary

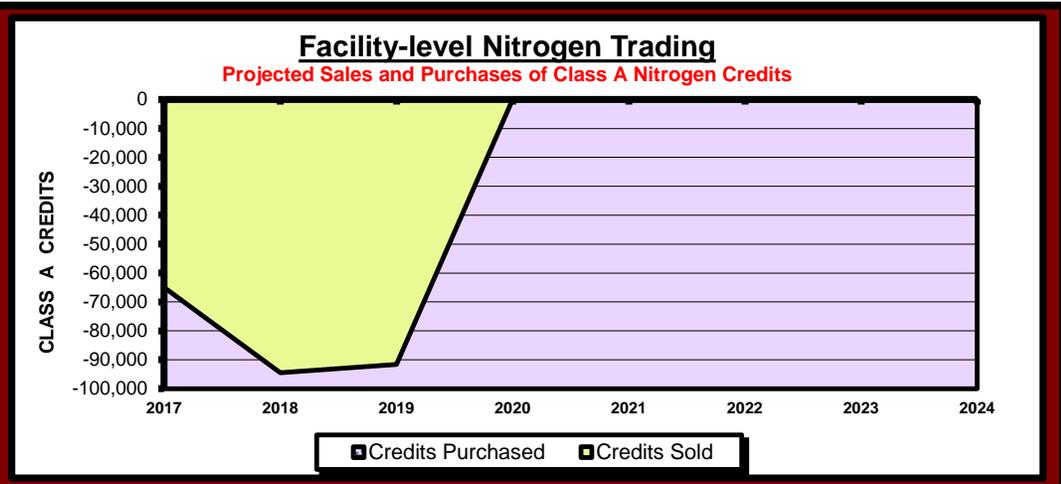
Design Flow (mgd)	0.50
Projected Flow (mgd)	0.35
Projected Avg. Annual Concentration (mg/L)	2.46
Discharged Load (end of pipe)	2,622
Delivery Factor	0.53
Expected Load	1,390
Delivered WLA	242
Expected Credits (delivered)	(1,148)
Transfers In (Out) within Owner Bubble	1,148
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	0
Class A Credit Sales (Purchases)	0
Expected Class B Credits	0

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
0.35	0.36	0.37	0.38	0.39	0.41	0.42	0.43
2.46	2.46	2.46	2.46	2.46	2.46	2.46	2.46
2,622	2,701	2,782	2,865	2,951	3,040	3,131	3,225
0.53	0.53	0.53	0.53	0.47	0.47	0.47	0.47
1,390	1,431	1,474	1,519	1,387	1,429	1,472	1,516
242	242	242	242	215	215	215	215
(1,148)	(1,189)	(1,232)	(1,277)	(1,172)	(1,214)	(1,257)	(1,301)
1,148	1,189	1,232	1,277	1,172	1,214	1,257	1,301
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0

NITROGEN FACILITY SUMMARY

Alexandria Renew Ent.

POTOMAC Trading Basin



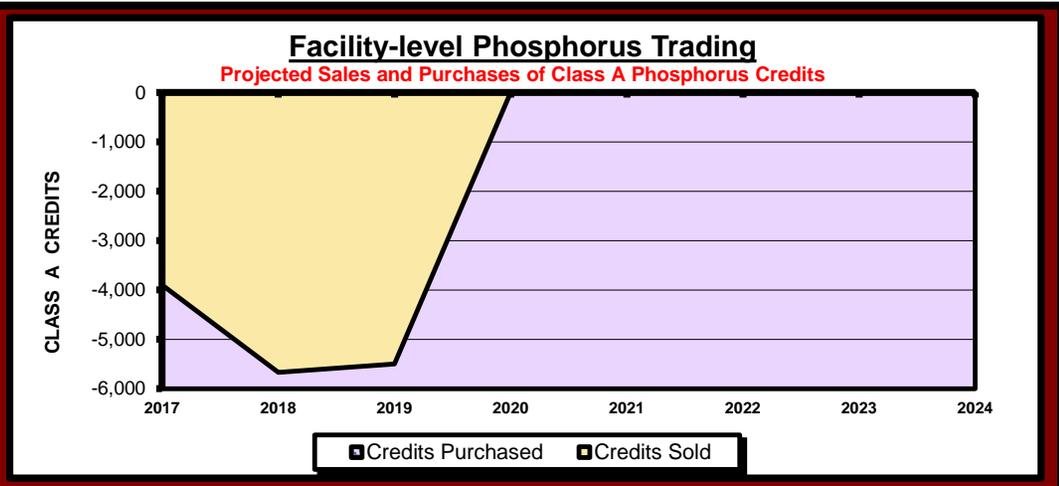
Loading & Credit Summary

Design Flow (mgd)	54.00
Projected Flow (mgd)	39.80
Projected Avg. Annual Concentration (mg/L)	3.00
Discharged Load (end of pipe)	363,640
Delivery Factor	1.00
Expected Load	363,640
Delivered WLA	493,381
Expected Credits (delivered)	129,741
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	129,741
Class A Credit Sales (Purchases)	65,000
Expected Class B Credits	64,741

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
54.00	54.00	54.00	54.00	54.00	54.00	54.00	54.00
39.80	40.21	40.63	41.05	41.05	41.05	41.05	41.05
3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
363,640	367,386	371,223	375,061	375,061	375,061	375,061	375,061
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
363,640	367,386	371,223	375,061	375,061	375,061	375,061	375,061
493,381	493,381	493,381	493,381	493,381	493,381	493,381	493,381
129,741	125,995	122,158	118,320	118,320	118,320	118,320	118,320
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
129,741	125,995	122,158	118,320	118,320	118,320	118,320	118,320
65,000	94,496	91,620	0	0	0	0	0
64,741	31,499	30,538	118,320	118,320	118,320	118,320	118,320

PHOSPHORUS FACILITY SUMMARY

Alexandria Renew Ent.
POTOMAC Trading Basin



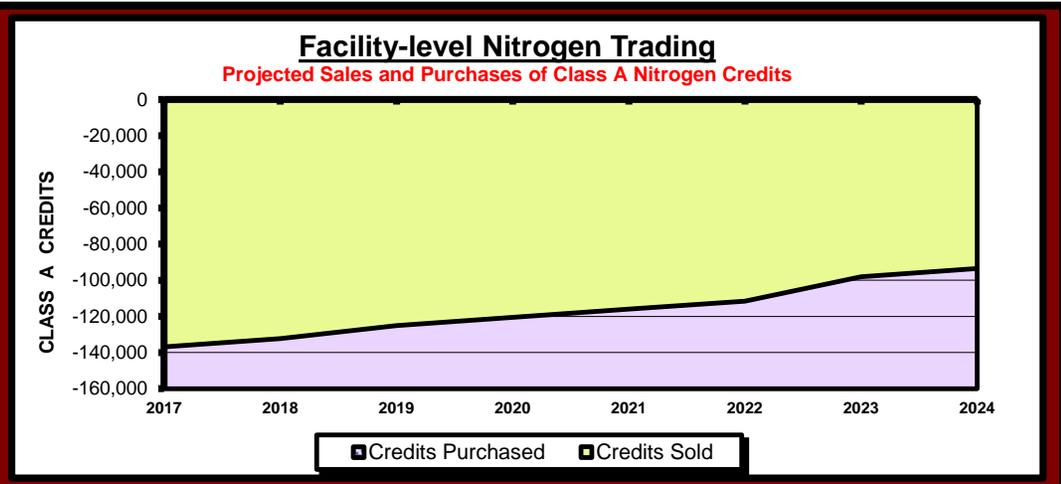
Loading & Credit Summary

Design Flow (mgd)	54.00
Projected Flow (mgd)	39.80
Projected Avg. Annual Concentration (mg/L)	0.18
Discharged Load (end of pipe)	21,818
Delivery Factor	1.00
Expected Load	21,818
Delivered WLA	29,603
Expected Credits (delivered)	7,785
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	7,785
Class A Credit Sales (Purchases)	3,900
Expected Class B Credits	3,885

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
54.00	54.00	54.00	54.00	54.00	54.00	54.00	54.00
39.80	40.21	40.63	41.05	41.05	41.05	41.05	41.05
0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
21,818	22,043	22,273	22,504	22,504	22,504	22,504	22,504
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
21,818	22,043	22,273	22,504	22,504	22,504	22,504	22,504
29,603	29,603	29,603	29,603	29,603	29,603	29,603	29,603
7,785	7,560	7,330	7,099	7,099	7,099	7,099	7,099
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
7,785	7,560	7,330	7,099	7,099	7,099	7,099	7,099
3,900	5,670	5,500	0	0	0	0	0
3,885	1,890	1,830	7,099	7,099	7,099	7,099	7,099

NITROGEN FACILITY SUMMARY

Arlington Co.
 POTOMAC Trading Basin



Loading & Credit Summary	
Design Flow (mgd)	40.00
Projected Flow (mgd)	25.00
Projected Avg. Annual Concentration (mg/L)	3.00
Discharged Load (end of pipe)	228,417
Delivery Factor	1.00
Expected Load	228,417
Delivered WLA*	365,284
Expected Credits (delivered)	136,867
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange**	0
WQIF-Held Credits	0
Expected Net Credits	136,867
Class A Credit Sales (Purchases)	136,867
Expected Class B Credits	0

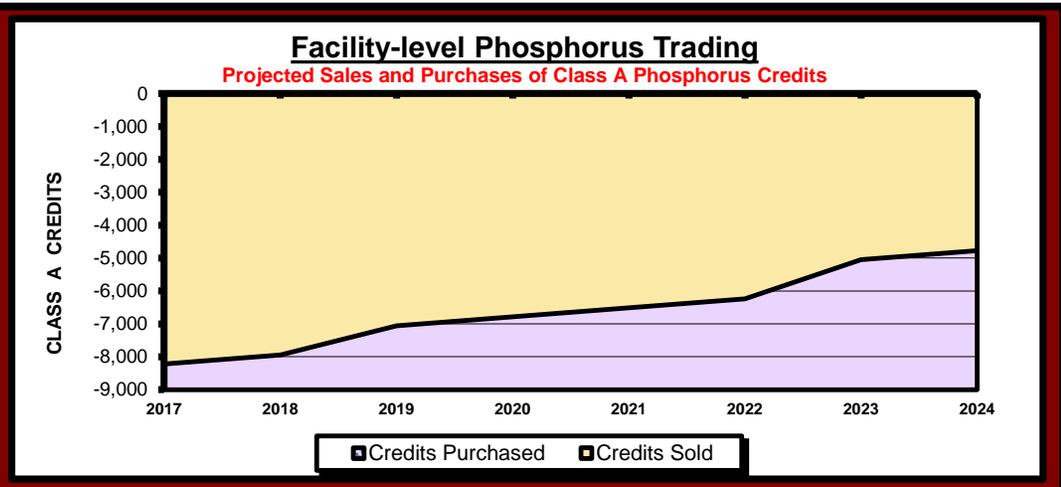
2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
25.00	25.50	26.00	26.50	27.00	27.50	28.00	28.50
3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
228,417	232,985	237,554	242,122	246,690	251,259	255,827	260,395
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
228,417	232,985	237,554	242,122	246,690	251,259	255,827	260,395
365,284	365,284	365,284	365,284	365,284	365,467	365,467	365,467
136,867	132,299	127,730	123,162	118,594	114,208	109,640	105,072
0	0	0	0	0	0	0	0
0	0	(2,625)	(2,625)	(2,625)	(2,625)	(11,565)	(11,565)
0	0	0	0	0	0	0	0
136,867	132,299	125,105	120,537	115,969	111,583	98,075	93,507
0	0	0	0	0	0	0	0

* Reflects allocation transfer to George Mason University of 183 delivered pounds of TN through Compliance Year 2021

** Reflects use of Credits for Arlington's stormwater program

PHOSPHORUS FACILITY SUMMARY

Arlington Co.
 POTOMAC Trading Basin



Loading & Credit Summary	
Design Flow (mgd)	40.00
Projected Flow (mgd)	25.00
Projected Avg. Annual Concentration (mg/L)	0.18
Discharged Load (end of pipe)	13,705
Delivery Factor	1.00
Expected Load	13,705
Delivered WLA*	21,925
Expected Credits (delivered)	8,220
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange**	0
WQIF-Held Credits	0
Expected Net Credits	8,220
Class A Credit Sales (Purchases)	8,220
Expected Class B Credits	0

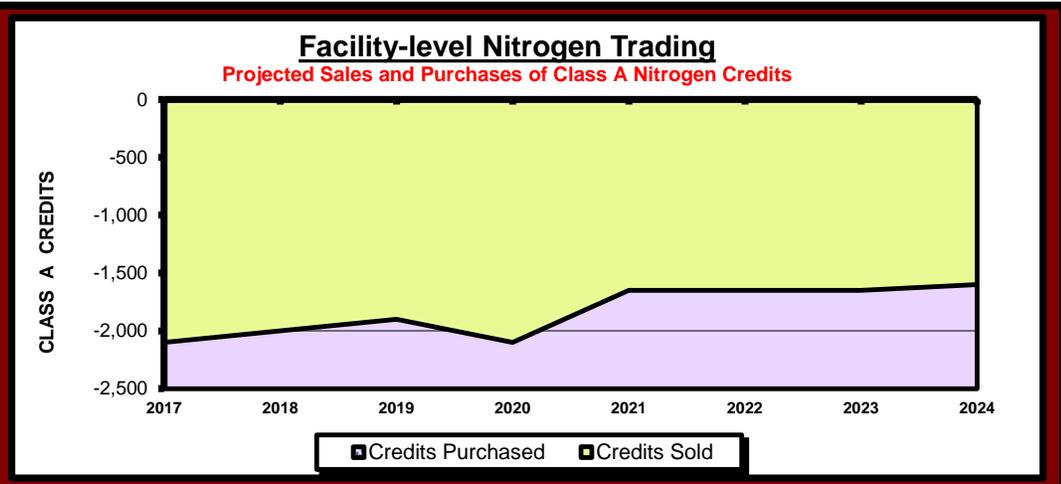
2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
25.00	25.50	26.00	26.50	27.00	27.50	28.00	28.50
0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
13,705	13,979	14,253	14,527	14,801	15,076	15,350	15,624
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
13,705	13,979	14,253	14,527	14,801	15,076	15,350	15,624
21,925	21,925	21,925	21,925	21,925	21,928	21,928	21,928
8,220	7,946	7,672	7,398	7,124	6,852	6,578	6,304
0	0	0	0	0	0	0	0
0	0	(612)	(612)	(612)	(612)	(1,529)	(1,529)
0	0	0	0	0	0	0	0
8,220	7,946	7,060	6,786	6,512	6,240	5,049	4,775
0	0	0	0	0	0	0	0

* Reflects allocation transfer to George Mason University of 3 delivered pounds of TN through Compliance Year 2021

** Reflects use of Credits for Arlington's stormwater program

NITROGEN FACILITY SUMMARY

Berryville
<i>POTOMAC Trading Basin</i>

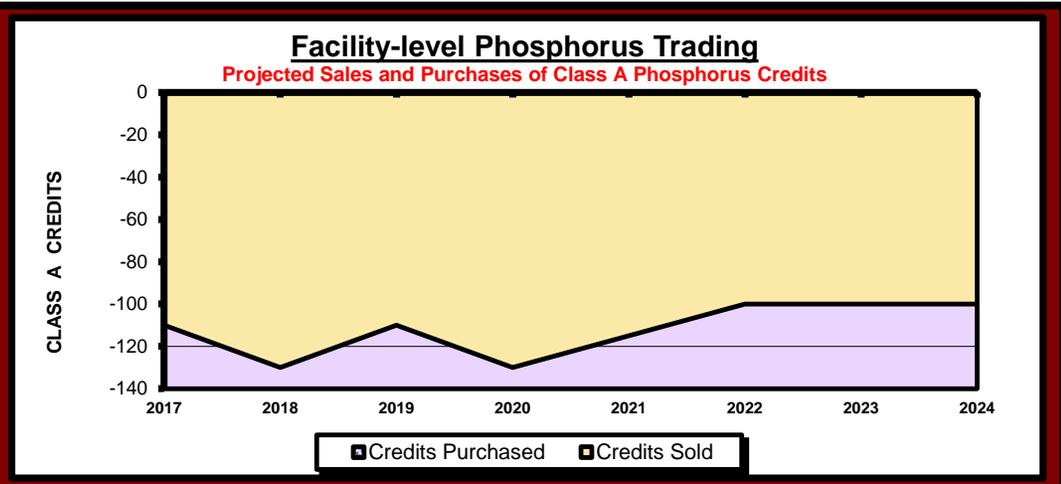


Loading & Credit Summary
Design Flow (mgd)
Projected Flow (mgd)
Projected Avg. Annual Concentration (mg/L)
Discharged Load (end of pipe)
Delivery Factor
Expected Load
Delivered WLA
Expected Credits (delivered)
Transfers In (Out) within Owner Bubble
Transfers In (Out) from Private Exchange
WQIF-Held Credits
Expected Net Credits
Class A Credit Sales (Purchases)
Expected Class B Credits

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
0.40	0.40	0.44	0.42	0.42	0.43	0.43	0.44
4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
4,873	4,873	5,360	5,117	5,117	5,238	5,238	5,360
0.63	0.63	0.63	0.63	0.52	0.52	0.52	0.52
3,070	3,070	3,377	3,223	2,661	2,724	2,724	2,787
5,373	5,373	5,373	5,373	4,435	4,435	4,435	4,435
2,303	2,303	1,996	2,150	1,774	1,711	1,711	1,648
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
2,303	2,303	1,996	2,150	1,774	1,711	1,711	1,648
2,100	2,000	1,900	2,100	1,650	1,650	1,650	1,600
203	303	96	50	124	61	61	48

PHOSPHORUS FACILITY SUMMARY

Berryville
POTOMAC Trading Basin



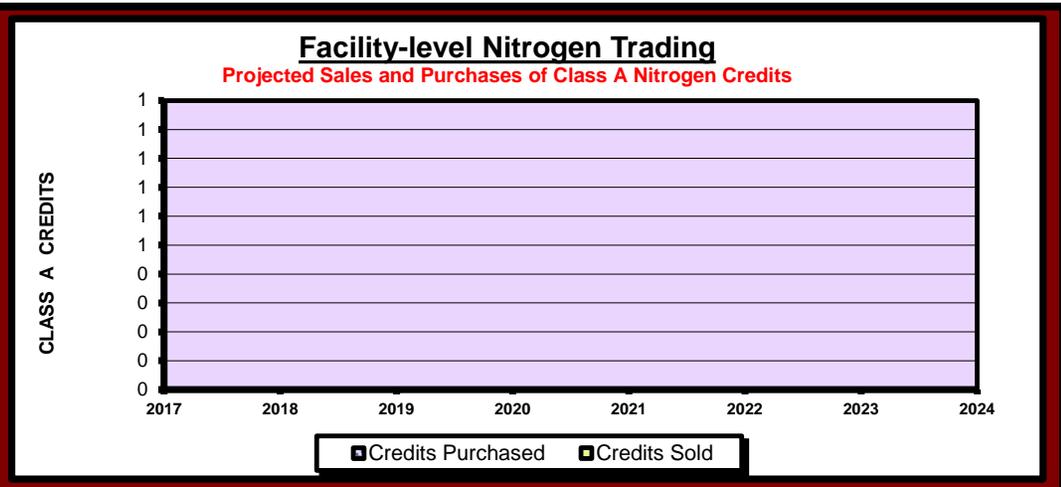
Loading & Credit Summary

Design Flow (mgd)	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Projected Flow (mgd)	0.40	0.40	0.44	0.42	0.42	0.43	0.43	0.44
Projected Avg. Annual Concentration (mg/L)	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
Discharged Load (end of pipe)	365	365	402	384	384	393	393	402
Delivery Factor	0.53	0.53	0.53	0.53	0.47	0.47	0.47	0.47
Expected Load	194	194	213	203	180	185	185	189
Delivered WLA	339	339	339	339	301	301	301	301
Expected Credits (delivered)	145	145	126	136	121	116	116	112
Transfers In (Out) within Owner Bubble	0	0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange	0	0	0	0	0	0	0	0
WQIF-Held Credits	0	0	0	0	0	0	0	0
Expected Net Credits	145	145	126	136	121	116	116	112
Class A Credit Sales (Purchases)	110	130	110	130	115	100	100	100
Expected Class B Credits	35	15	16	6	6	16	16	12

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
0.40	0.40	0.44	0.42	0.42	0.43	0.43	0.44
0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
365	365	402	384	384	393	393	402
0.53	0.53	0.53	0.53	0.47	0.47	0.47	0.47
194	194	213	203	180	185	185	189
339	339	339	339	301	301	301	301
145	145	126	136	121	116	116	112
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
145	145	126	136	121	116	116	112
110	130	110	130	115	100	100	100
35	15	16	6	6	16	16	12

NITROGEN FACILITY SUMMARY

Broadway Regional
POTOMAC Trading Basin



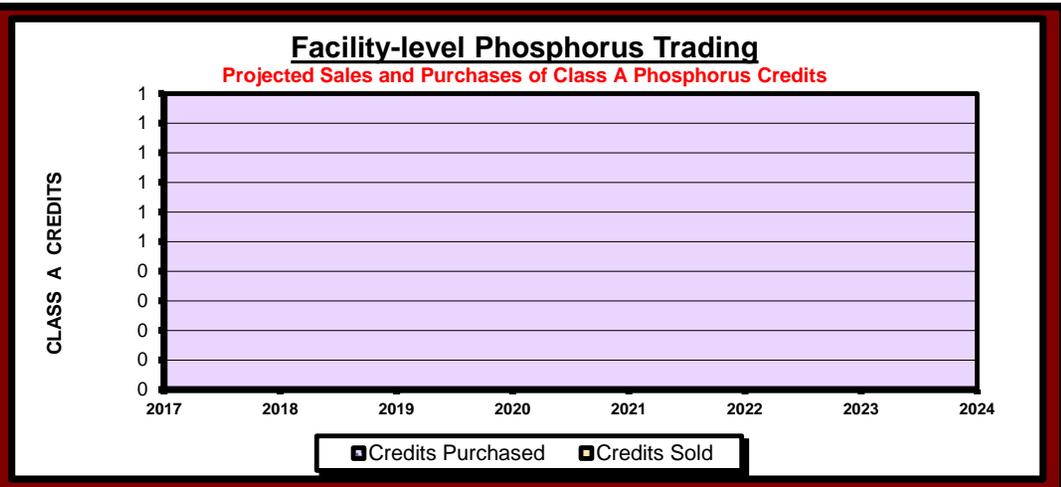
Loading & Credit Summary	
Design Flow (mgd)	
Projected Flow (mgd)	
Projected Avg. Annual Concentration (mg/L)	
Discharged Load (end of pipe)	
Delivery Factor	
Expected Load	
Delivered WLA*	
Expected Credits (delivered)	
Transfers In (Out) within Owner Bubble	
Transfers In (Out) from Private Exchange	
WQIF-Held Credits	
Expected Net Credits	
Class A Credit Sales (Purchases)	
Expected Class B Credits	

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
2.92	2.92	2.92	2.92	2.92	2.92	2.92	2.92
2.27	2.30	2.33	2.36	2.39	2.42	2.45	2.48
3.70	3.70	3.50	3.50	3.50	3.50	3.50	3.50
25,580	25,918	24,837	25,156	25,476	25,796	26,116	26,435
0.19	0.19	0.19	0.19	0.12	0.12	0.12	0.12
4,860	4,924	4,719	4,780	3,057	3,096	3,134	3,172
5,601	5,601	5,601	5,601	3,538	3,538	3,538	3,538
741	677	882	821	481	442	404	366
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
741	677	882	821	481	442	404	366
0	0	0	0	0	0	0	0
741	677	882	821	481	442	404	366

* Reflects allocation transfer from the Town of New Market of 6,091 discharged pounds of TN according to agreement dated August 5, 2008

PHOSPHORUS FACILITY SUMMARY

Broadway Regional
POTOMAC Trading Basin



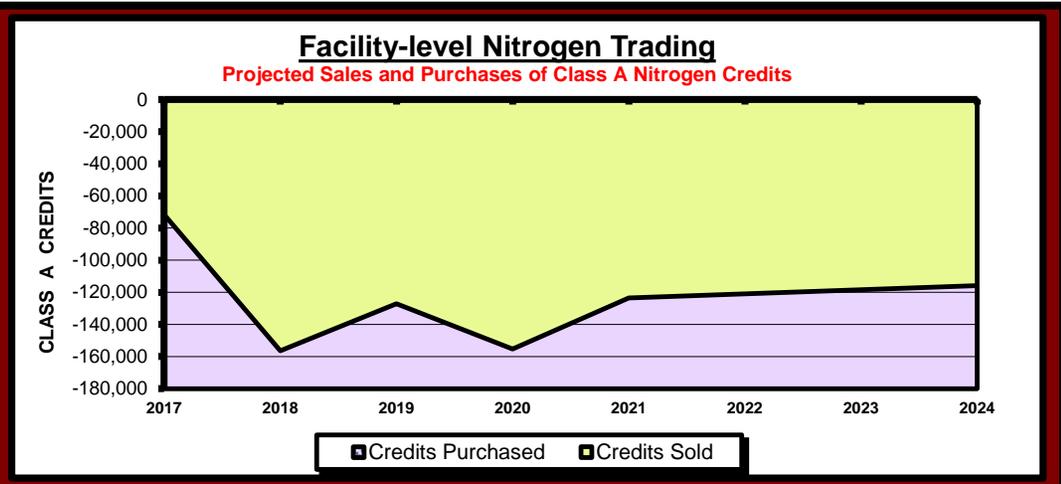
Loading & Credit Summary	
Design Flow (mgd)	
Projected Flow (mgd)	
Projected Avg. Annual Concentration (mg/L)	
Discharged Load (end of pipe)	
Delivery Factor	
Expected Load	
Delivered WLA*	
Expected Credits (delivered)	
Transfers In (Out) within Owner Bubble	
Transfers In (Out) from Private Exchange	
WQIF-Held Credits	
Expected Net Credits	
Class A Credit Sales (Purchases)	
Expected Class B Credits	

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
2.92	2.92	2.92	2.92	2.92	2.92	2.92	2.92
2.27	2.30	2.33	2.36	2.39	2.42	2.45	2.48
0.30	0.30	0.26	0.26	0.26	0.26	0.26	0.26
2,074	2,101	1,845	1,869	1,893	1,916	1,940	1,964
0.53	0.53	0.53	0.53	0.47	0.47	0.47	0.47
1,099	1,114	978	990	889	901	912	923
1,172	1,172	1,172	1,172	1,039	1,039	1,039	1,039
73	58	194	182	150	138	127	116
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
73	58	194	182	150	138	127	116
0	0	0	0	0	0	0	0
73	58	194	182	150	138	127	116

* Reflects allocation transfer from the Town of New Market of 457 discharged pounds of TP according to agreement dated August 5, 2008

NITROGEN FACILITY SUMMARY

Fairfax Co-Noman Cole
POTOMAC Trading Basin



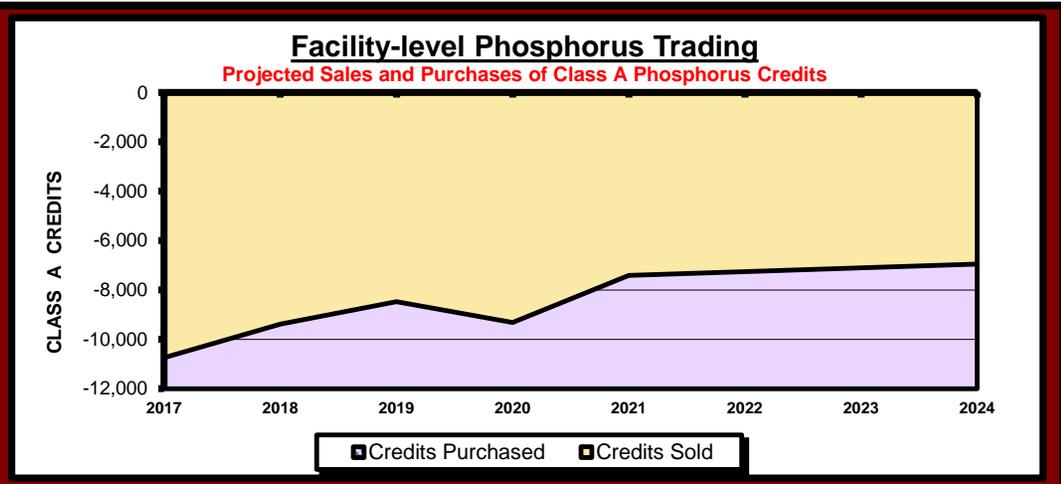
Loading & Credit Summary

Design Flow (mgd)	67.00
Projected Flow (mgd)	47.40
Projected Avg. Annual Concentration (mg/L)	3.00
Discharged Load (end of pipe)	433,079
Delivery Factor	1.00
Expected Load	433,079
Delivered WLA	612,158
Expected Credits (delivered)	179,079
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	179,079
Class A Credit Sales (Purchases)	71,632
Expected Class B Credits	107,447

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
67.00	67.00	67.00	67.00	67.00	67.00	67.00	67.00
47.40	49.88	51.54	50.00	53.48	53.76	54.04	54.32
3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
433,079	455,738	470,904	456,834	488,630	491,188	493,746	496,304
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
433,079	455,738	470,904	456,834	488,630	491,188	493,746	496,304
612,158	612,158	612,158	612,158	612,158	612,158	612,158	612,158
179,079	156,420	141,254	155,324	123,528	120,970	118,412	115,854
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
179,079	156,420	141,254	155,324	123,528	120,970	118,412	115,854
71,632	156,420	127,128	155,324	123,528	120,970	118,412	115,854
107,447	0	14,126	0	0	0	0	0

PHOSPHORUS FACILITY SUMMARY

Fairfax Co-Noman Cole
POTOMAC Trading Basin



Loading & Credit Summary

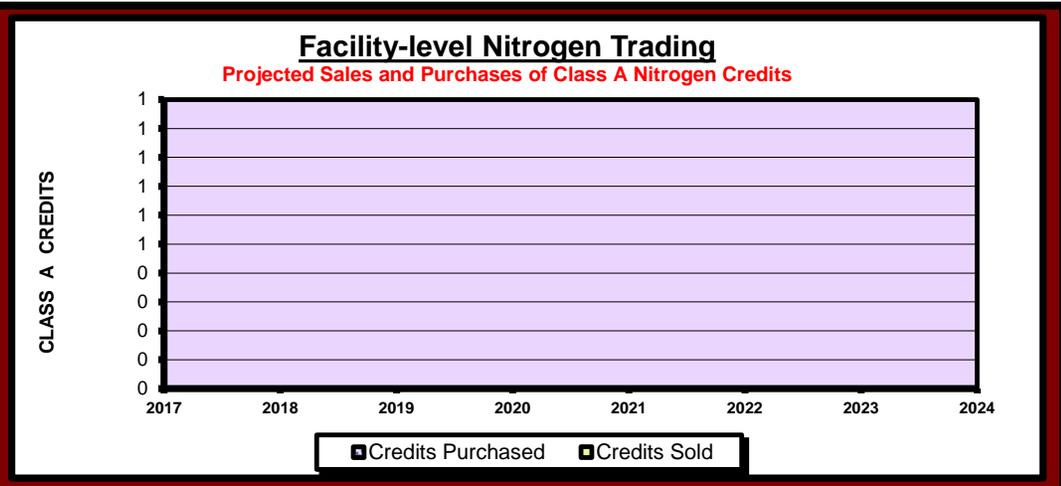
Design Flow (mgd)	67.00
Projected Flow (mgd)	47.40
Projected Avg. Annual Concentration (mg/L)	0.18
Discharged Load (end of pipe)	25,985
Delivery Factor	1.00
Expected Load	25,985
Delivered WLA	36,729
Expected Credits (delivered)	10,744
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	10,744
Class A Credit Sales (Purchases)	10,744
Expected Class B Credits	0

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
67.00	67.00	67.00	67.00	67.00	67.00	67.00	67.00
47.40	49.88	51.54	50.00	53.48	53.76	54.04	54.32
0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
25,985	27,344	28,254	27,410	29,318	29,471	29,625	29,778
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
25,985	27,344	28,254	27,410	29,318	29,471	29,625	29,778
36,729	36,729	36,729	36,729	36,729	36,729	36,729	36,729
10,744	9,385	8,475	9,319	7,411	7,258	7,104	6,951
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
10,744	9,385	8,475	9,319	7,411	7,258	7,104	6,951
10,744	9,385	8,475	9,319	7,411	7,258	7,104	6,951
0	0	0	0	0	0	0	0

NITROGEN FACILITY SUMMARY

FCWSA-Vint Hill

POTOMAC Trading Basin



Loading & Credit Summary

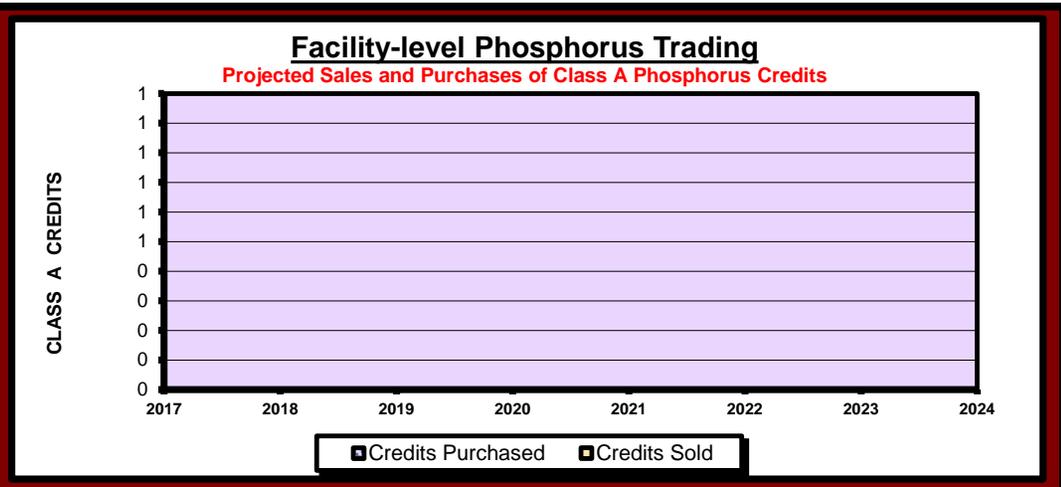
Design Flow (mgd)	0.95
Projected Flow (mgd)	0.34
Projected Avg. Annual Concentration (mg/L)	4.00
Discharged Load (end of pipe)	4,142
Delivery Factor	0.05
Expected Load	207
Delivered WLA	579
Expected Credits (delivered)	372
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	372
Class A Credit Sales (Purchases)	0
Expected Class B Credits	372

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
0.34	0.36	0.40	0.42	0.44	0.46	0.48	0.50
4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
4,142	4,386	4,873	5,117	5,360	5,604	5,847	6,091
0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
207	219	244	256	268	280	292	305
579	579	579	579	579	579	579	579
372	360	335	323	311	299	287	274
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
372	360	335	323	311	299	287	274
0	0	0	0	0	0	0	0
372	360	335	323	311	299	287	274

PHOSPHORUS FACILITY SUMMARY

FCWSA-Vint Hill

POTOMAC Trading Basin

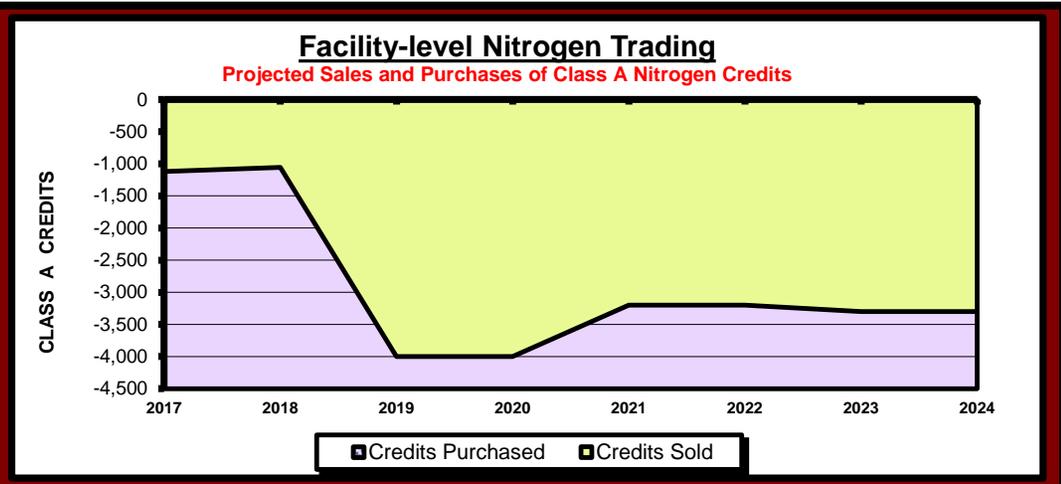


Loading & Credit Summary	
Design Flow (mgd)	
Projected Flow (mgd)	
Projected Avg. Annual Concentration (mg/L)	
Discharged Load (end of pipe)	
Delivery Factor	
Expected Load	
Delivered WLA	
Expected Credits (delivered)	
Transfers In (Out) within Owner Bubble	
Transfers In (Out) from Private Exchange	
WQIF-Held Credits	
Expected Net Credits	
Class A Credit Sales (Purchases)	
Expected Class B Credits	

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
0.34	0.36	0.40	0.42	0.44	0.46	0.48	0.50
0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
311	329	365	384	402	420	439	457
0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
53	56	62	65	68	71	75	78
148	148	148	148	148	148	148	148
95	92	86	83	80	77	73	70
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
95	92	86	83	80	77	73	70
0	0	0	0	0	0	0	0
95	92	86	83	80	77	73	70

NITROGEN FACILITY SUMMARY

Front Royal
<i>POTOMAC Trading Basin</i>



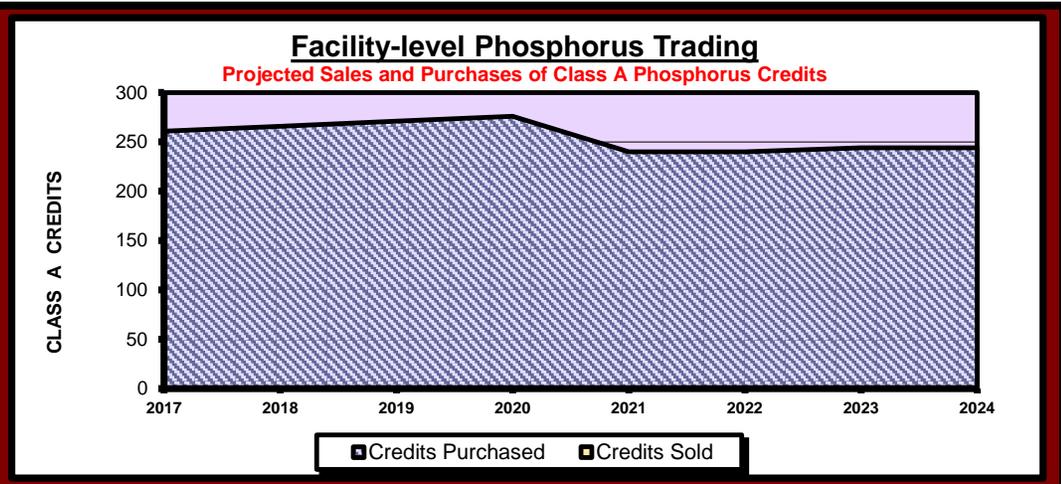
Loading & Credit Summary

Design Flow (mgd)
Projected Flow (mgd)
Projected Avg. Annual Concentration (mg/L)
Discharged Load (end of pipe)
Delivery Factor
Expected Load
Delivered WLA
Expected Credits (delivered)
Transfers In (Out) within Owner Bubble
Transfers In (Out) from Private Exchange
WQIF-Held Credits
Expected Net Credits
Class A Credit Sales (Purchases)
Expected Class B Credits

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
4.53	4.54	4.55	4.56	4.56	4.56	4.57	4.57
3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
41,389	41,481	41,572	41,663	41,663	41,663	41,755	41,755
0.61	0.61	0.61	0.61	0.50	0.50	0.50	0.50
25,247	25,303	25,359	25,415	20,832	20,832	20,877	20,877
29,725	29,725	29,725	29,725	24,365	24,365	24,365	24,365
4,478	4,422	4,366	4,310	3,533	3,533	3,488	3,488
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
4,478	4,422	4,366	4,310	3,533	3,533	3,488	3,488
1,120	1,056	4,000	4,000	3,200	3,200	3,300	3,300
3,358	3,366	366	310	333	333	188	188

PHOSPHORUS FACILITY SUMMARY

Front Royal
<i>POTOMAC Trading Basin</i>



Loading & Credit Summary	
Design Flow (mgd)	
Design Flow (mgd)	4.00
Projected Flow (mgd)	4.53
Projected Avg. Annual Concentration (mg/L)	0.30
Discharged Load (end of pipe)	
Discharged Load (end of pipe)	4,139
Delivery Factor	0.54
Expected Load	2,235
Delivered WLA	1,974
Expected Credits (delivered)	
Expected Credits (delivered)	(261)
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	
Expected Net Credits	(261)
Class A Credit Sales (Purchases)	
Class A Credit Sales (Purchases)	(261)
Expected Class B Credits	
Expected Class B Credits	0

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
4.53	4.54	4.55	4.56	4.56	4.56	4.57	4.57
0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
4,139	4,148	4,157	4,166	4,166	4,166	4,175	4,175
0.54	0.54	0.54	0.54	0.47	0.47	0.47	0.47
2,235	2,240	2,245	2,250	1,958	1,958	1,962	1,962
1,974	1,974	1,974	1,974	1,718	1,718	1,718	1,718
(261)	(266)	(271)	(276)	(240)	(240)	(244)	(244)
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
(261)	(266)	(271)	(276)	(240)	(240)	(244)	(244)
(261)	(266)	(271)	(276)	(240)	(240)	(244)	(244)
0	0	0	0	0	0	0	0

Owner Bubble: Frederick-Winchester Service Authority

The facilities listed below have received an aggregated mass load limit pursuant to 9 VAC 25-820-70, Part 1.B.2., which is also referred to as an “owner bubble”. Accordingly, compliance is determined solely on an aggregate basis rather than by comparison of individual facility loads with respective individual WLAs.

The “Credit Transferred within Bubble” section of each table forecasts the use of Credits within the owner bubble during each Compliance Year, and must necessarily sum to zero. The specific Credit transfers shown in this table are provided for internal planning purposes only and, accordingly, are not binding and may change based on the actual performance of individual facilities within the bubble.

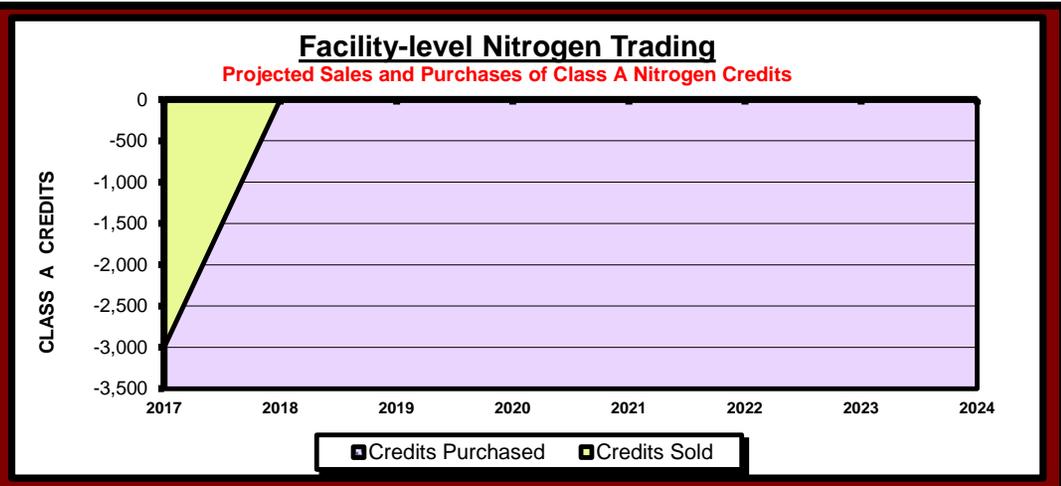
Expected Net Credits for an owner bubble may be either positive or negative. If Expected Net Credits is positive, the owner may pledge a percentage of such Credits to the Exchange. If Expected Net Credits is negative, Net Expected Credits identifies the number of Credits that must be purchased to comply with the aggregate Delivered WLA of the bubble.

NITROGEN Credits	Exchange 5-year Planning Period					Future Projections		
	2017	2018	2019	2020	2021	2022	2023	2024
Credits Transferred within Bubble								
Opequon	-	-	-	-	-	-	-	-
Parkins Mills	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
TOTAL (must sum to 0)	-	-	-	-	-	-	-	-
Credits Available outside Bubble								
Opequon	12,677	13,279	12,392	11,726	10,799	10,319	9,920	9,600
Parkins Mills	6,018	4,751	6,810	7,760	6,267	5,116	4,445	5,356
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
Expected Net Credits	18,695	18,030	19,202	19,486	17,066	15,435	14,365	14,956
Class A Sales (Purchases)	4,000	0	0	0	0	0	0	0
<i>Expected Class B Credits</i>	<i>14,695</i>	<i>18,030</i>	<i>19,202</i>	<i>19,486</i>	<i>17,066</i>	<i>15,435</i>	<i>14,365</i>	<i>14,956</i>
<i>WQIF-Held Credits</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>

PHOSPHORUS Credits	Exchange 5-year Planning Period					Future Projections		
	2017	2018	2019	2020	2021	2022	2023	2024
Credits Transferred within Bubble								
Opequon	-	-	-	-	-	-	-	-
Parkins Mills	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
TOTAL (must sum to 0)	-	-	-	-	-	-	-	-
Credits Available outside Bubble								
Opequon	2,270	2,122	1,925	1,777	1,439	1,310	1,203	1,117
Parkins Mills	938	740	592	790	687	429	279	150
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
Expected Net Credits	3,208	2,862	2,517	2,567	2,126	1,739	1,482	1,267
Class A Sales (Purchases)	0	0	0	0	0	0	0	0
<i>Expected Class B Credits</i>	<i>3,208</i>	<i>2,862</i>	<i>2,517</i>	<i>2,567</i>	<i>2,126</i>	<i>1,739</i>	<i>1,482</i>	<i>1,267</i>
<i>WQIF-Held Credits</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>

NITROGEN FACILITY SUMMARY

FWSA-Opequon
 POTOMAC Trading Basin

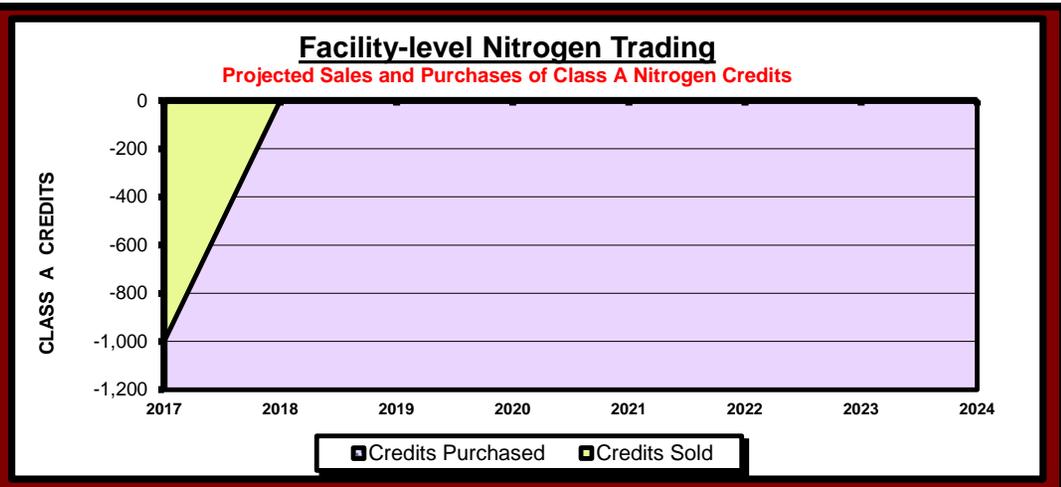


Loading & Credit Summary	
Design Flow (mgd)	12.60
Projected Flow (mgd)	8.00
Projected Avg. Annual Concentration (mg/L)	3.00
Discharged Load (end of pipe)	73,093
Delivery Factor	0.26
Expected Load	19,004
Delivered WLA	31,681
Expected Credits (delivered)	12,677
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	12,677
Class A Credit Sales (Purchases)	3,000
Expected Class B Credits	9,677

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
12.60	12.60	12.60	12.60	12.60	12.60	12.60	12.60
8.00	8.30	8.70	9.00	9.25	9.55	9.80	10.00
3.00	2.80	2.80	2.80	2.50	2.50	2.50	2.50
73,093	70,779	74,190	76,748	70,429	72,713	74,616	76,139
0.26	0.26	0.26	0.26	0.21	0.21	0.21	0.21
19,004	18,402	19,289	19,955	14,790	15,270	15,669	15,989
31,681	31,681	31,681	31,681	25,589	25,589	25,589	25,589
12,677	13,279	12,392	11,726	10,799	10,319	9,920	9,600
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
12,677	13,279	12,392	11,726	10,799	10,319	9,920	9,600
3,000	0	0	0	0	0	0	0
9,677	13,279	12,392	11,726	10,799	10,319	9,920	9,600

NITROGEN FACILITY SUMMARY

FWSA-Parkins Mill
<i>POTOMAC Trading Basin</i>

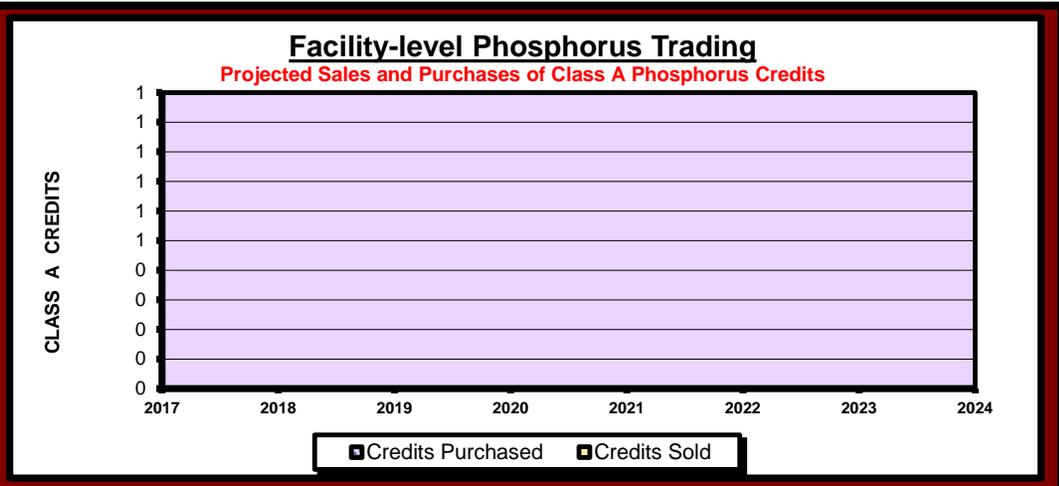


Loading & Credit Summary
Design Flow (mgd)
Projected Flow (mgd)
Projected Avg. Annual Concentration (mg/L)
Discharged Load (end of pipe)
Delivery Factor
Expected Load
Delivered WLA
Expected Credits (delivered)
Transfers In (Out) within Owner Bubble
Transfers In (Out) from Private Exchange
WQIF-Held Credits
Expected Net Credits
Class A Credit Sales (Purchases)
Expected Class B Credits

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
3.10	3.50	3.80	3.40	3.40	4.00	4.35	4.65
4.00	4.00	3.00	3.00	3.00	3.00	3.00	2.50
37,765	42,638	34,719	31,065	31,065	36,547	39,745	35,405
0.26	0.26	0.26	0.26	0.21	0.21	0.21	0.21
9,819	11,086	9,027	8,077	6,524	7,675	8,346	7,435
15,837	15,837	15,837	15,837	12,791	12,791	12,791	12,791
6,018	4,751	6,810	7,760	6,267	5,116	4,445	5,356
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
6,018	4,751	6,810	7,760	6,267	5,116	4,445	5,356
1,000	0	0	0	0	0	0	0
5,018	4,751	6,810	7,760	6,267	5,116	4,445	5,356

PHOSPHORUS FACILITY SUMMARY

FWSA-Opequon
 POTOMAC Trading Basin

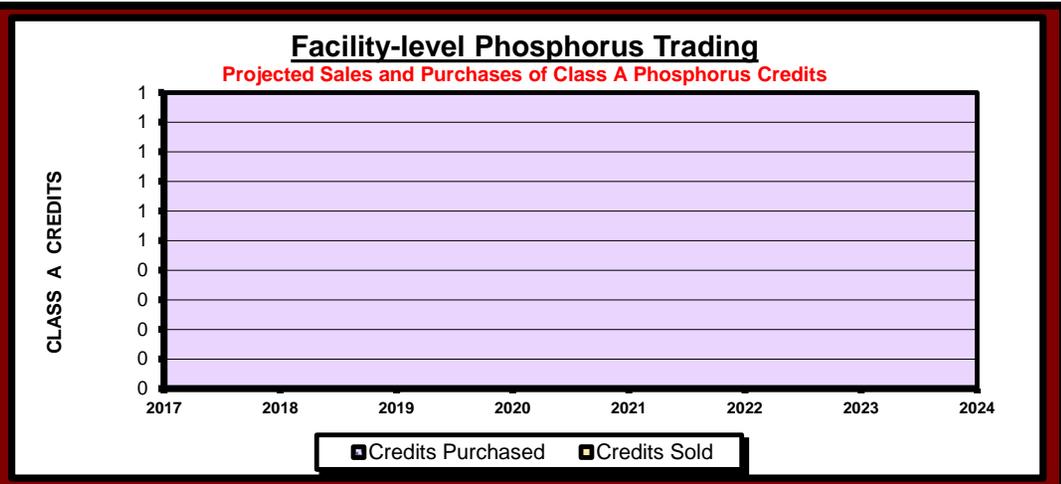


Loading & Credit Summary	
Design Flow (mgd)	
Projected Flow (mgd)	
Projected Avg. Annual Concentration (mg/L)	
Discharged Load (end of pipe)	
Delivery Factor	
Expected Load	
Delivered WLA	
Expected Credits (delivered)	
Transfers In (Out) within Owner Bubble	
Transfers In (Out) from Private Exchange	
WQIF-Held Credits	
Expected Net Credits	
Class A Credit Sales (Purchases)	
Expected Class B Credits	

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
12.60	12.60	12.60	12.60	12.60	12.60	12.60	12.60
8.00	8.30	8.70	9.00	9.25	9.55	9.80	10.00
0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
7,309	7,583	7,949	8,223	8,451	8,726	8,954	9,137
0.54	0.54	0.54	0.54	0.47	0.47	0.47	0.47
3,947	4,095	4,292	4,440	3,972	4,101	4,208	4,294
6,217	6,217	6,217	6,217	5,411	5,411	5,411	5,411
2,270	2,122	1,925	1,777	1,439	1,310	1,203	1,117
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
2,270	2,122	1,925	1,777	1,439	1,310	1,203	1,117
0	0	0	0	0	0	0	0
2,270	2,122	1,925	1,777	1,439	1,310	1,203	1,117

PHOSPHORUS FACILITY SUMMARY

FWSA-Parkins Mill
POTOMAC Trading Basin



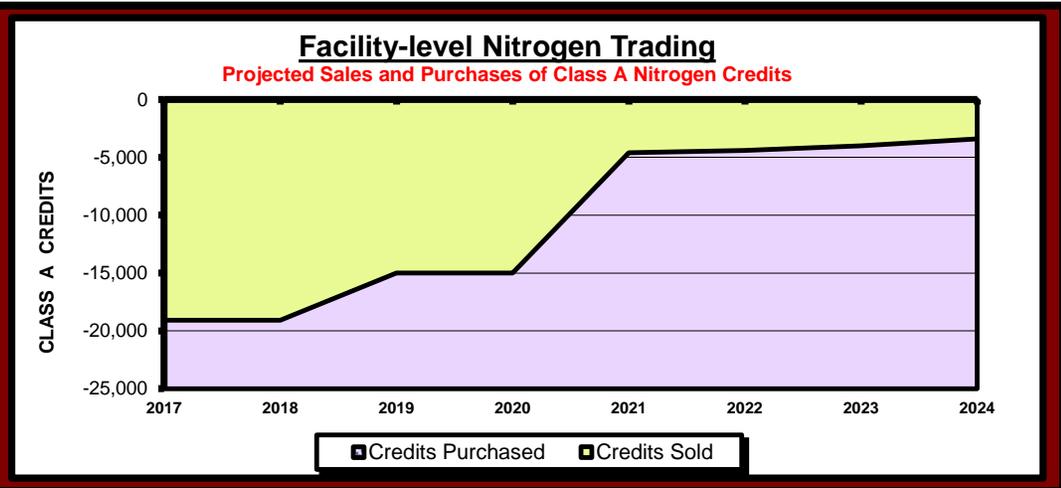
Loading & Credit Summary

Design Flow (mgd)
Projected Flow (mgd)
Projected Avg. Annual Concentration (mg/L)
Discharged Load (end of pipe)
Delivery Factor
Expected Load
Delivered WLA
Expected Credits (delivered)
Transfers In (Out) within Owner Bubble
Transfers In (Out) from Private Exchange
WQIF-Held Credits
Expected Net Credits
Class A Credit Sales (Purchases)
Expected Class B Credits

	2017	2018	2019	2020	2021	2022	2023	2024
	Planning Period					Future Estimates (non-binding)		
Design Flow (mgd)	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Projected Flow (mgd)	3.10	3.50	3.80	3.40	3.40	4.00	4.35	4.65
Projected Avg. Annual Concentration (mg/L)	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
Discharged Load (end of pipe)	2,832	3,198	3,472	3,106	3,106	3,655	3,974	4,249
Delivery Factor	0.54	0.54	0.54	0.54	0.47	0.47	0.47	0.47
Expected Load	1,529	1,727	1,875	1,677	1,460	1,718	1,868	1,997
Delivered WLA	2,467	2,467	2,467	2,467	2,147	2,147	2,147	2,147
Expected Credits (delivered)	938	740	592	790	687	429	279	150
Transfers In (Out) within Owner Bubble	0	0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange	0	0	0	0	0	0	0	0
WQIF-Held Credits	0	0	0	0	0	0	0	0
Expected Net Credits	938	740	592	790	687	429	279	150
Class A Credit Sales (Purchases)	0	0	0	0	0	0	0	0
Expected Class B Credits	938	740	592	790	687	429	279	150

NITROGEN FACILITY SUMMARY

HRRSA-North River
<i>POTOMAC Trading Basin</i>

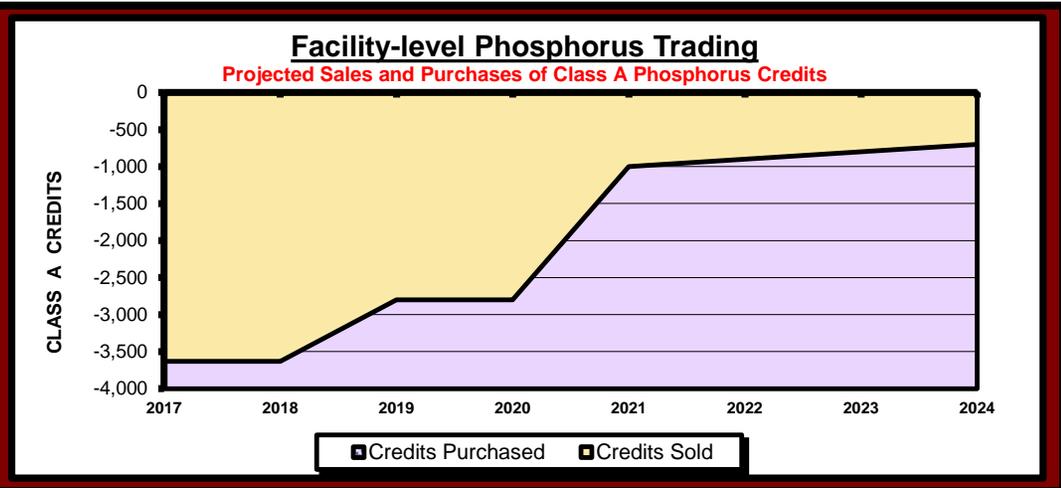


Loading & Credit Summary
Design Flow (mgd)
Projected Flow (mgd)
Projected Avg. Annual Concentration (mg/L)
Discharged Load (end of pipe)
Delivery Factor
Expected Load
Delivered WLA
Expected Credits (delivered)
Transfers In (Out) within Owner Bubble
Transfers In (Out) from Private Exchange
WQIF-Held Credits
Expected Net Credits
Class A Credit Sales (Purchases)
Expected Class B Credits

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
22.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00
14.40	14.40	15.00	15.00	15.20	15.40	15.60	16.00
3.80	3.80	3.80	3.80	3.80	3.80	3.80	3.80
166,653	166,653	173,597	173,597	175,912	178,226	180,541	185,170
0.22	0.22	0.22	0.22	0.14	0.14	0.14	0.14
36,664	36,664	38,191	38,191	24,628	24,952	25,276	25,924
55,746	55,746	55,746	55,746	35,475	35,475	35,475	35,475
19,082	19,082	17,555	17,555	10,847	10,523	10,199	9,551
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
19,082	19,082	17,555	17,555	10,847	10,523	10,199	9,551
19,082	19,082	15,000	15,000	4,600	4,400	4,000	3,400
0	0	2,555	2,555	6,247	6,123	6,199	6,151

PHOSPHORUS FACILITY SUMMARY

HRRSA-North River
<i>POTOMAC Trading Basin</i>



Loading & Credit Summary	
Design Flow (mgd)	
Projected Flow (mgd)	
Projected Avg. Annual Concentration (mg/L)	
Discharged Load (end of pipe)	
Delivery Factor	
Expected Load	
Delivered WLA	
Expected Credits (delivered)	
Transfers In (Out) within Owner Bubble	
Transfers In (Out) from Private Exchange	
WQIF-Held Credits	
Expected Net Credits	
Class A Credit Sales (Purchases)	
Expected Class B Credits	

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
22.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00
14.40	14.40	15.00	15.00	15.20	15.40	15.60	16.00
0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28
12,280	12,280	12,791	12,791	12,962	13,132	13,303	13,644
0.54	0.54	0.54	0.54	0.47	0.47	0.47	0.47
6,631	6,631	6,907	6,907	6,092	6,172	6,252	6,413
10,262	10,262	10,262	10,262	8,932	8,932	8,932	8,932
3,631	3,631	3,355	3,355	2,840	2,760	2,680	2,519
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
3,631	3,631	3,355	3,355	2,840	2,760	2,680	2,519
3,631	3,631	2,800	2,800	1,000	900	800	700
0	0	555	555	1,840	1,860	1,880	1,819

Owner Bubble: King George County Service Authority (Potomac)

The facilities listed below have received an aggregated mass load limit pursuant to 9 VAC 25-820-70, Part 1.B.2., which is also referred to as an “owner bubble”. Accordingly, compliance is determined solely on an aggregate basis rather than by comparison of individual facility loads with respective individual WLAs.

The “Credit Transferred within Bubble” section of each table forecasts the use of Credits within the owner bubble during each Compliance Year, and must necessarily sum to zero. The specific Credit transfers shown in this table are provided for internal planning purposes only and, accordingly, are not binding and may change based on the actual performance of individual facilities within the bubble.

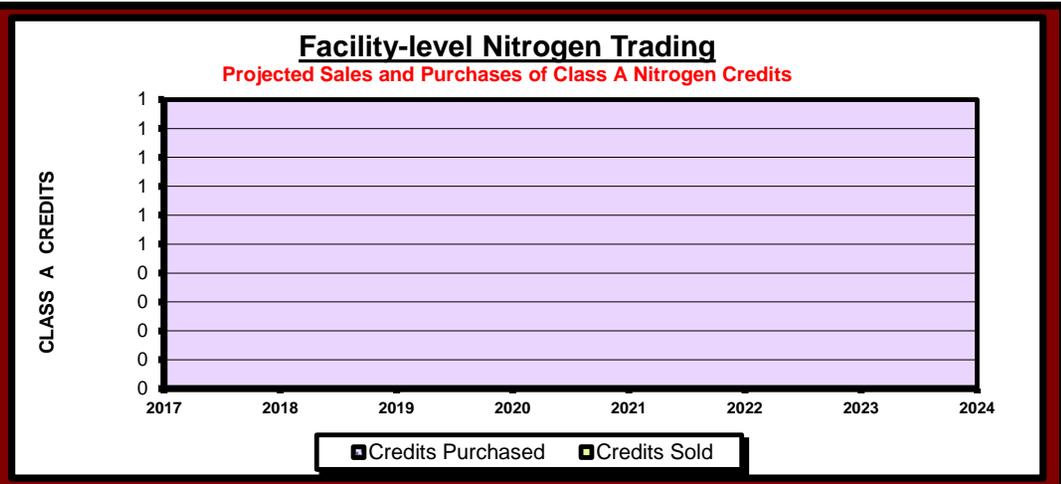
Expected Net Credits for an owner bubble may be either positive or negative. If Expected Net Credits is positive, the owner may pledge a percentage of such Credits to the Exchange. If Expected Net Credits is negative, Net Expected Credits identifies the number of Credits that must be purchased to comply with the aggregate Delivered WLA of the bubble.

NITROGEN Credits	Exchange 5-year Planning Period					Future Projections		
	2017	2018	2019	2020	2021	2022	2023	2024
Credits Transferred within Bubble								
Dahlgren	-	-	-	-	-	-	-	-
Fairview Beach	(427)	(427)	(427)	(427)	(579)	(579)	(579)	(579)
Purkins Corner	427	427	427	427	579	579	579	579
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
TOTAL (must sum to 0)	-	-	-	-	-	-	-	-
Credits Available outside Bubble								
Dahlgren	3,046	2,437	4,112	3,655	3,198	2,741	2,284	1,828
Fairview Beach	669	669	669	578	426	426	426	426
Purkins Corner	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
Expected Net Credits	3,715	3,106	4,781	4,233	3,624	3,167	2,710	2,254
Class A Sales (Purchases)	0	0	0	0	0	0	0	0
<i>Expected Class B Credits</i>	<i>3,715</i>	<i>3,106</i>	<i>4,781</i>	<i>4,233</i>	<i>3,624</i>	<i>3,167</i>	<i>2,710</i>	<i>2,254</i>
<i>WQIF-Held Credits</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>

PHOSPHORUS Credits	Exchange 5-year Planning Period					Future Projections		
	2017	2018	2019	2020	2021	2022	2023	2024
Credits Transferred within Bubble								
Dahlgren	(40)	(40)	(40)	(40)	(58)	(58)	(58)	(58)
Fairview Beach	-	-	-	-	-	-	-	-
Purkins Corner	40	40	40	40	58	58	58	58
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
TOTAL (must sum to 0)	-	-	-	-	-	-	-	-
Credits Available outside Bubble								
Dahlgren	417	371	371	326	262	216	171	125
Fairview Beach	107	107	107	98	101	101	101	101
Purkins Corner	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
Expected Net Credits	524	478	478	424	363	317	272	226
Class A Sales (Purchases)	0	0	0	0	0	0	0	0
<i>Expected Class B Credits</i>	<i>524</i>	<i>478</i>	<i>478</i>	<i>424</i>	<i>363</i>	<i>317</i>	<i>272</i>	<i>226</i>
<i>WQIF-Held Credits</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>

NITROGEN FACILITY SUMMARY

KGCSA-Dahlgren S.D.
POTOMAC Trading Basin



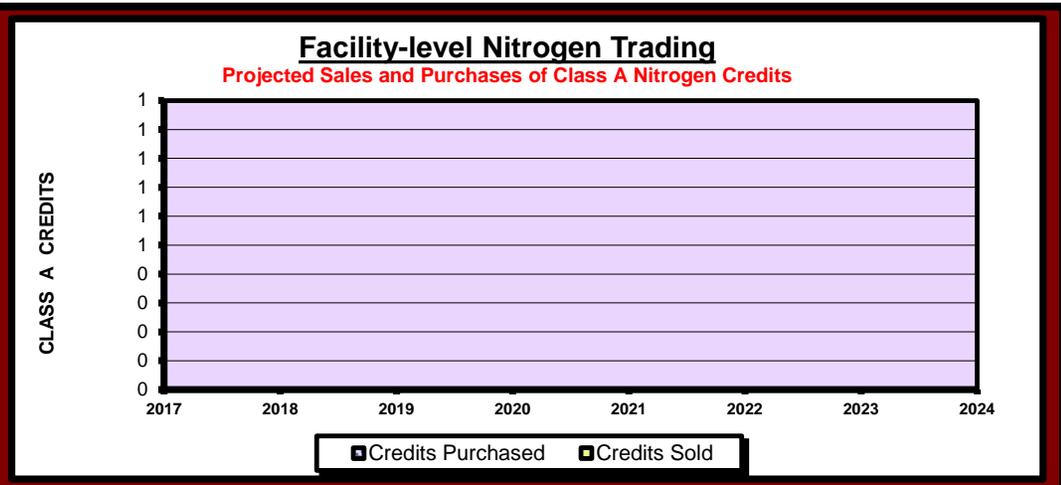
Loading & Credit Summary

Design Flow (mgd)
Projected Flow (mgd)
Projected Avg. Annual Concentration (mg/L)
Discharged Load (end of pipe)
Delivery Factor
Expected Load
Delivered WLA
Expected Credits (delivered)
Transfers In (Out) within Owner Bubble
Transfers In (Out) from Private Exchange
WQIF-Held Credits
Expected Net Credits
Class A Credit Sales (Purchases)
Expected Class B Credits

	2017	2018	2019	2020	2021	2022	2023	2024
	Planning Period					Future Estimates (non-binding)		
Design Flow (mgd)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Projected Flow (mgd)	0.50	0.55	0.55	0.60	0.65	0.70	0.75	0.80
Projected Avg. Annual Concentration (mg/L)	4.00	4.00	3.00	3.00	3.00	3.00	3.00	3.00
Discharged Load (end of pipe)	6,091	6,700	5,025	5,482	5,939	6,396	6,853	7,309
Delivery Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Expected Load	6,091	6,700	5,025	5,482	5,939	6,396	6,853	7,309
Delivered WLA	9,137	9,137	9,137	9,137	9,137	9,137	9,137	9,137
Expected Credits (delivered)	3,046	2,437	4,112	3,655	3,198	2,741	2,284	1,828
Transfers In (Out) within Owner Bubble	0	0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange	0	0	0	0	0	0	0	0
WQIF-Held Credits	0	0	0	0	0	0	0	0
Expected Net Credits	3,046	2,437	4,112	3,655	3,198	2,741	2,284	1,828
Class A Credit Sales (Purchases)	0	0	0	0	0	0	0	0
Expected Class B Credits	3,046	2,437	4,112	3,655	3,198	2,741	2,284	1,828

NITROGEN FACILITY SUMMARY

KGCSA-Fairview Beach
POTOMAC Trading Basin



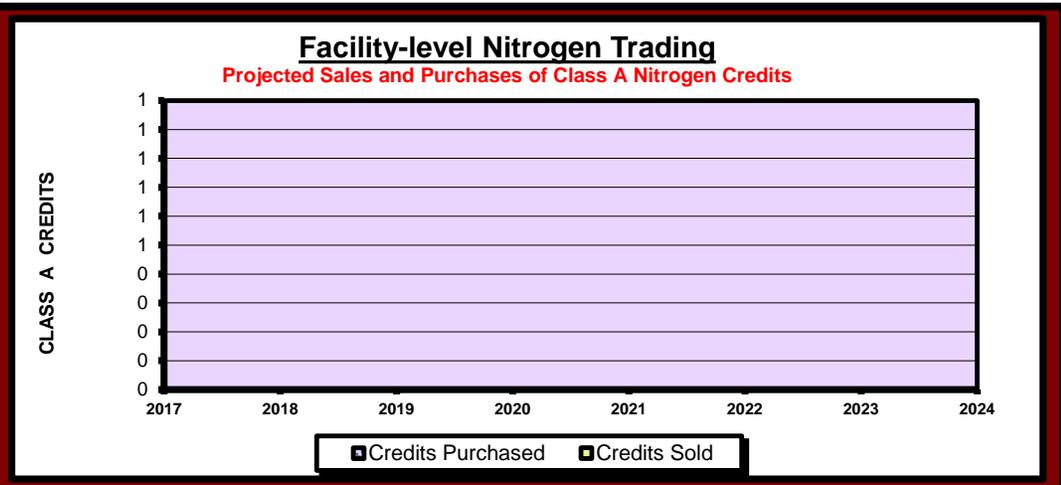
Loading & Credit Summary

Design Flow (mgd)	0.20
Projected Flow (mgd)	0.08
Projected Avg. Annual Concentration (mg/L)	3.00
Discharged Load (end of pipe)	731
Delivery Factor	1.00
Expected Load	731
Delivered WLA	1,827
Expected Credits (delivered)	1,096
Transfers In (Out) within Owner Bubble	(427)
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	669
Class A Credit Sales (Purchases)	0
Expected Class B Credits	669

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
0.08	0.08	0.08	0.09	0.09	0.09	0.09	0.09
3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
731	731	731	822	822	822	822	822
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
731	731	731	822	822	822	822	822
1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827
1,096	1,096	1,096	1,005	1,005	1,005	1,005	1,005
(427)	(427)	(427)	(427)	(579)	(579)	(579)	(579)
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
669	669	669	578	426	426	426	426
0	0	0	0	0	0	0	0
669	669	669	578	426	426	426	426

NITROGEN FACILITY SUMMARY

KGCSA-Purkins Corner
POTOMAC Trading Basin



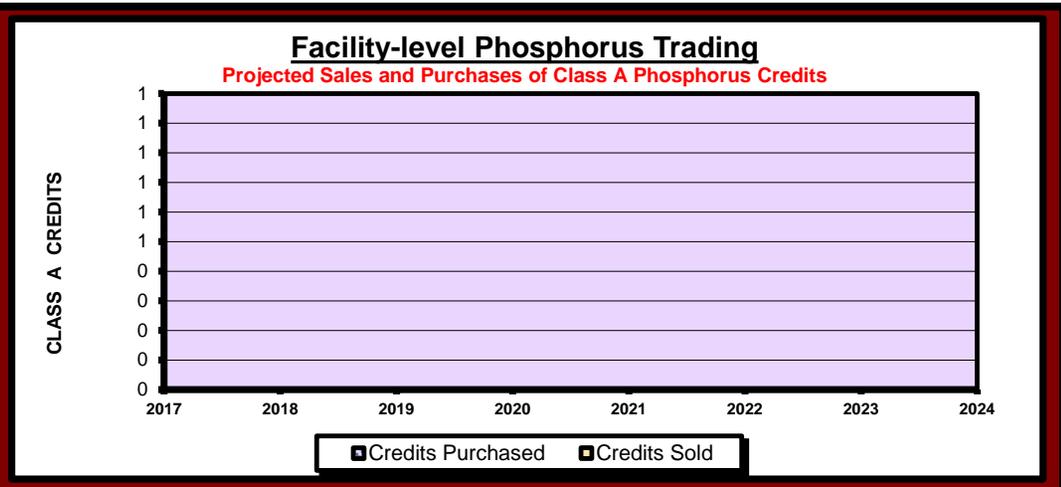
Loading & Credit Summary

Design Flow (mgd)	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
Projected Flow (mgd)	0.10	0.10	0.10	0.10	0.11	0.11	0.11	0.11
Projected Avg. Annual Concentration (mg/L)	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Discharged Load (end of pipe)	1,523	1,523	1,523	1,523	1,675	1,675	1,675	1,675
Delivery Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Expected Load	1,523	1,523	1,523	1,523	1,675	1,675	1,675	1,675
Delivered WLA	1,096	1,096	1,096	1,096	1,096	1,096	1,096	1,096
Expected Credits (delivered)	(427)	(427)	(427)	(427)	(579)	(579)	(579)	(579)
Transfers In (Out) within Owner Bubble	427	427	427	427	579	579	579	579
Transfers In (Out) from Private Exchange	0	0	0	0	0	0	0	0
WQIF-Held Credits	0	0	0	0	0	0	0	0
Expected Net Credits	0	0	0	0	0	0	0	0
Class A Credit Sales (Purchases)	0	0	0	0	0	0	0	0
Expected Class B Credits	0	0	0	0	0	0	0	0

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
0.10	0.10	0.10	0.10	0.11	0.11	0.11	0.11
5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
1,523	1,523	1,523	1,523	1,675	1,675	1,675	1,675
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
1,523	1,523	1,523	1,523	1,675	1,675	1,675	1,675
1,096	1,096	1,096	1,096	1,096	1,096	1,096	1,096
(427)	(427)	(427)	(427)	(579)	(579)	(579)	(579)
427	427	427	427	579	579	579	579
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0

PHOSPHORUS FACILITY SUMMARY

KGCSA-Dahlgren S.D.
POTOMAC Trading Basin



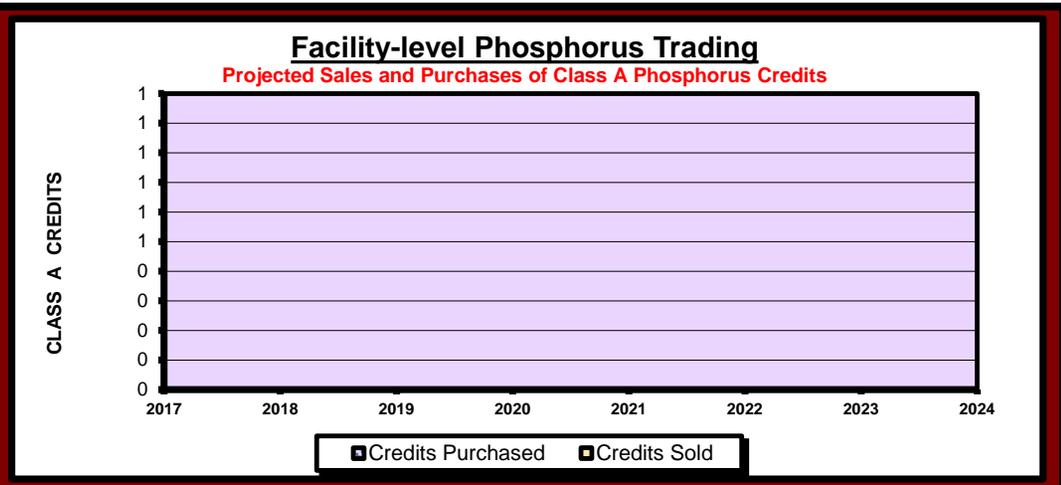
Loading & Credit Summary

Design Flow (mgd)	1.00
Projected Flow (mgd)	0.50
Projected Avg. Annual Concentration (mg/L)	0.30
Discharged Load (end of pipe)	457
Delivery Factor	1.00
Expected Load	457
Delivered WLA	914
Expected Credits (delivered)	457
Transfers In (Out) within Owner Bubble	(40)
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	417
Class A Credit Sales (Purchases)	0
Expected Class B Credits	417

	2017	2018	2019	2020	2021	2022	2023	2024
	Planning Period					Future Estimates (non-binding)		
Design Flow (mgd)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Projected Flow (mgd)	0.50	0.55	0.55	0.60	0.65	0.70	0.75	0.80
Projected Avg. Annual Concentration (mg/L)	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
Discharged Load (end of pipe)	457	503	503	548	594	640	685	731
Delivery Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Expected Load	457	503	503	548	594	640	685	731
Delivered WLA	914	914	914	914	914	914	914	914
Expected Credits (delivered)	457	411	411	366	320	274	229	183
Transfers In (Out) within Owner Bubble	(40)	(40)	(40)	(40)	(58)	(58)	(58)	(58)
Transfers In (Out) from Private Exchange	0	0	0	0	0	0	0	0
WQIF-Held Credits	0	0	0	0	0	0	0	0
Expected Net Credits	417	371	371	326	262	216	171	125
Class A Credit Sales (Purchases)	0	0	0	0	0	0	0	0
Expected Class B Credits	417	371	371	326	262	216	171	125

PHOSPHORUS FACILITY SUMMARY

KGCSA-Fairview Beach
POTOMAC Trading Basin



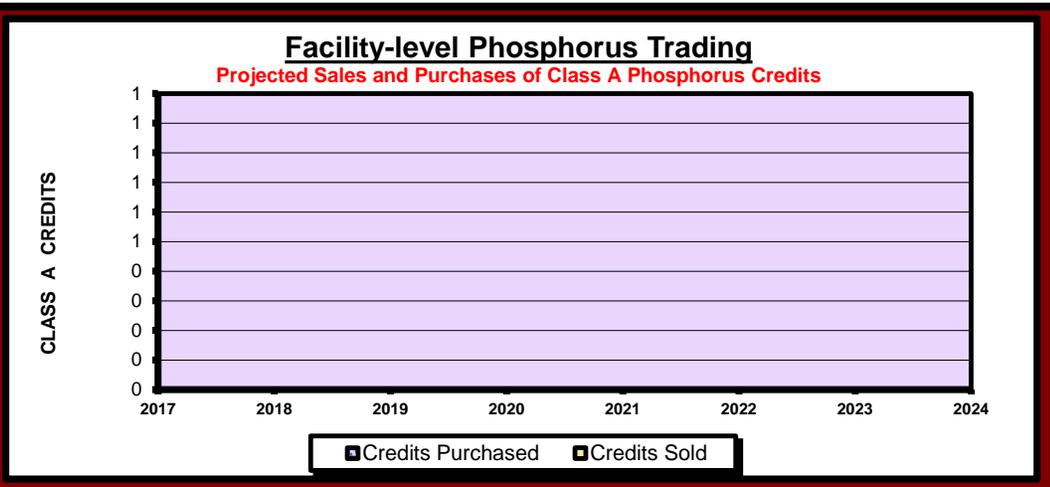
Loading & Credit Summary

Design Flow (mgd)	0.20
Projected Flow (mgd)	0.08
Projected Avg. Annual Concentration (mg/L)	0.30
Discharged Load (end of pipe)	73
Delivery Factor	0.98
Expected Load	72
Delivered WLA	179
Expected Credits (delivered)	107
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	107
Class A Credit Sales (Purchases)	0
Expected Class B Credits	107

	2017	2018	2019	2020	2021	2022	2023	2024
	Planning Period					Future Estimates (non-binding)		
Design Flow (mgd)	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Projected Flow (mgd)	0.08	0.08	0.08	0.09	0.09	0.09	0.09	0.09
Projected Avg. Annual Concentration (mg/L)	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
Discharged Load (end of pipe)	73	73	73	82	82	82	82	82
Delivery Factor	0.98	0.98	0.98	0.98	1.00	1.00	1.00	1.00
Expected Load	72	72	72	81	82	82	82	82
Delivered WLA	179	179	179	179	183	183	183	183
Expected Credits (delivered)	107	107	107	98	101	101	101	101
Transfers In (Out) within Owner Bubble	0	0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange	0	0	0	0	0	0	0	0
WQIF-Held Credits	0	0	0	0	0	0	0	0
Expected Net Credits	107	107	107	98	101	101	101	101
Class A Credit Sales (Purchases)	0	0	0	0	0	0	0	0
Expected Class B Credits	107	107	107	98	101	101	101	101

PHOSPHORUS FACILITY SUMMARY

KGCSA-Purkins Corner
POTOMAC Trading Basin



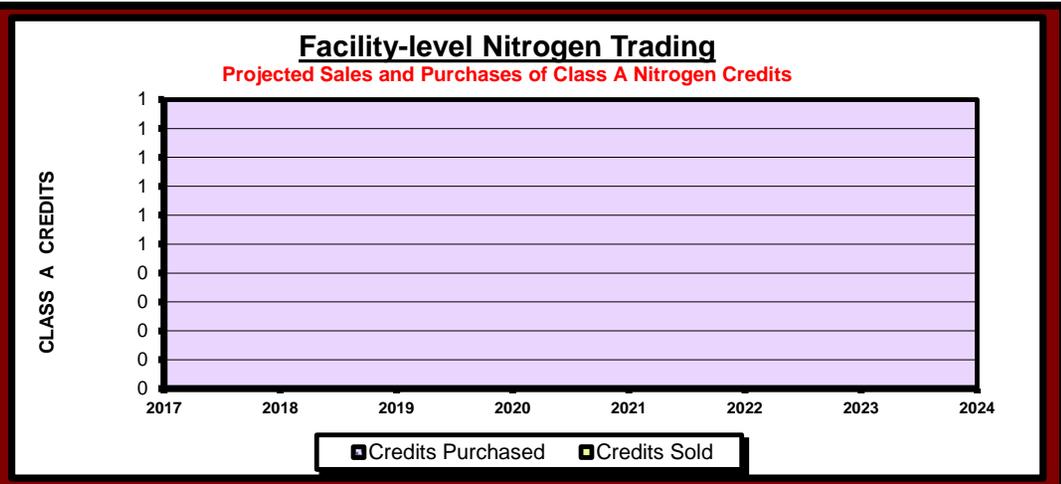
Loading & Credit Summary

Design Flow (mgd)	0.12
Projected Flow (mgd)	0.10
Projected Avg. Annual Concentration (mg/L)	0.50
Discharged Load (end of pipe)	152
Delivery Factor	0.96
Expected Load	146
Delivered WLA	106
Expected Credits (delivered)	(40)
Transfers In (Out) within Owner Bubble	40
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	0
Class A Credit Sales (Purchases)	0
Expected Class B Credits	0

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
0.10	0.10	0.10	0.10	0.11	0.11	0.11	0.11
0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
152	152	152	152	168	168	168	168
0.96	0.96	0.96	0.96	1.00	1.00	1.00	1.00
146	146	146	146	168	168	168	168
106	106	106	106	110	110	110	110
(40)	(40)	(40)	(40)	(58)	(58)	(58)	(58)
40	40	40	40	58	58	58	58
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0

NITROGEN FACILITY SUMMARY

Leesburg
 POTOMAC Trading Basin



Loading & Credit Summary

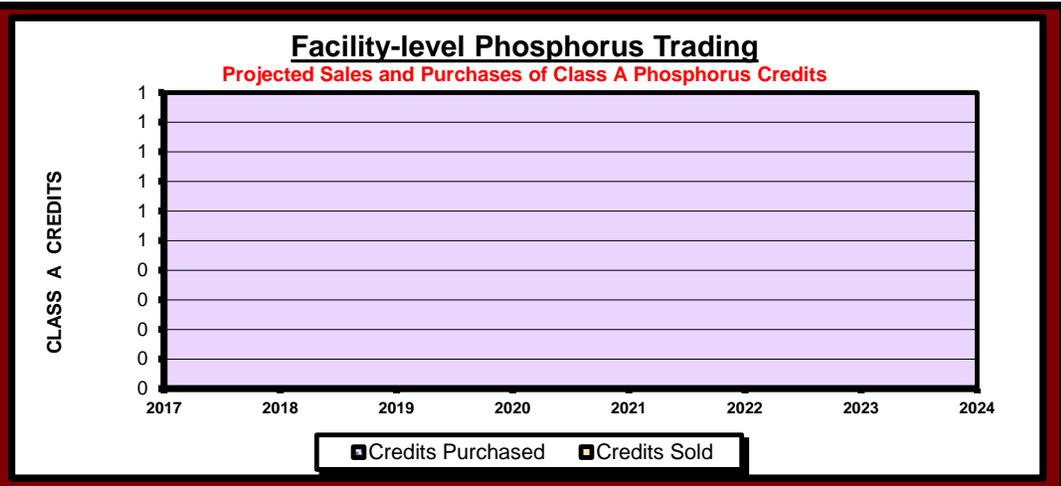
Design Flow (mgd)	Projected Flow (mgd)	Projected Avg. Annual Concentration (mg/L)	Discharged Load (end of pipe)	Delivery Factor	Expected Load	Delivered WLA	Expected Credits (delivered)	Transfers In (Out) within Owner Bubble	Transfers In (Out) from Private Exchange*	WQIF-Held Credits	Expected Net Credits	Class A Credit Sales (Purchases)	Expected Class B Credits
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2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50
2.53	2.67	2.81	2.95	3.09	3.23	3.37	3.51
4.80	4.80	4.80	4.80	4.90	4.90	5.00	5.00
37,029	39,076	41,122	43,169	46,158	48,247	51,363	53,495
0.80	0.80	0.80	0.80	0.64	0.64	0.64	0.64
29,623	31,261	32,898	34,535	29,541	30,878	32,873	34,237
97,458	97,458	97,458	97,458	77,966	77,966	77,966	77,966
67,835	66,197	64,560	62,923	48,425	47,088	45,093	43,729
0	0	0	0	0	0	0	0
(274)	(274)	(274)	(274)	(274)	0	0	0
(24,365)	(24,365)	(24,365)	(24,365)	(19,492)	(19,492)	(19,492)	(19,492)
43,196	41,558	39,921	38,284	28,659	27,596	25,601	24,237
0	0	0	0	0	0	0	0
43,196	41,558	39,921	38,284	28,659	27,596	25,601	24,237

* Represents private trade with Loudoun Milling

PHOSPHORUS FACILITY SUMMARY

Leesburg
 POTOMAC Trading Basin



Loading & Credit Summary

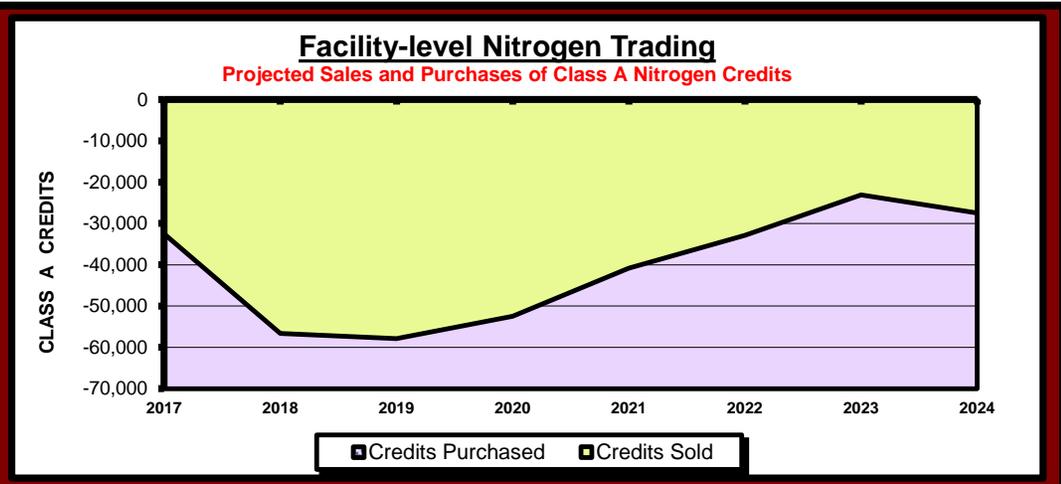
Design Flow (mgd)	7.50
Projected Flow (mgd)	2.53
Projected Avg. Annual Concentration (mg/L)	0.44
Discharged Load (end of pipe)	3,394
Delivery Factor	0.54
Expected Load	1,833
Delivered WLA	4,934
Expected Credits (delivered)	3,101
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange*	(27)
WQIF-Held Credits	(1,234)
Expected Net Credits	1,840
Class A Credit Sales (Purchases)	0
Expected Class B Credits	1,840

	2017	2018	2019	2020	2021	2022	2023	2024
	Planning Period					Future Estimates (non-binding)		
Design Flow (mgd)	7.50	7.50	7.50	7.50	7.50	7.50	7.50	7.50
Projected Flow (mgd)	2.53	2.67	2.81	2.95	3.09	3.23	3.37	3.51
Projected Avg. Annual Concentration (mg/L)	0.44	0.46	0.48	0.50	0.52	0.54	0.55	0.55
Discharged Load (end of pipe)	3,394	3,745	4,112	4,497	4,898	5,317	5,650	5,884
Delivery Factor	0.54	0.54	0.54	0.54	0.47	0.47	0.47	0.47
Expected Load	1,833	2,022	2,221	2,428	2,302	2,499	2,655	2,766
Delivered WLA	4,934	4,934	4,934	4,934	4,294	4,294	4,294	4,294
Expected Credits (delivered)	3,101	2,912	2,713	2,506	1,992	1,795	1,639	1,528
Transfers In (Out) within Owner Bubble	0	0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange*	(27)	(27)	(27)	(27)	(27)	0	0	0
WQIF-Held Credits	(1,234)	(1,234)	(1,234)	(1,234)	(1,074)	(1,074)	(1,074)	(1,074)
Expected Net Credits	1,840	1,651	1,452	1,245	891	721	565	454
Class A Credit Sales (Purchases)	0	0	0	0	0	0	0	0
Expected Class B Credits	1,840	1,651	1,452	1,245	891	721	565	454

* Represents private trade with Loudoun Milling

NITROGEN FACILITY SUMMARY

Loudoun Water- Broad Run
<i>POTOMAC Trading Basin</i>



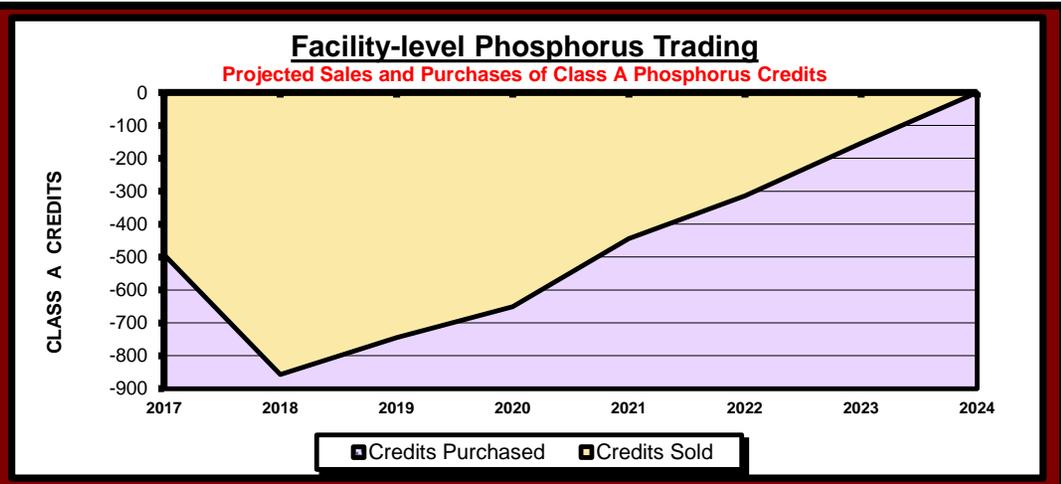
Loading & Credit Summary

Design Flow (mgd)
Projected Flow (mgd)
Projected Avg. Annual Concentration (mg/L)
Discharged Load (end of pipe)
Delivery Factor
Expected Load
Delivered WLA
Expected Credits (delivered)
Transfers In (Out) within Owner Bubble
Transfers In (Out) from Private Exchange
WQIF-Held Credits
Expected Net Credits
Class A Credit Sales (Purchases)
Expected Class B Credits

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00
4.65	5.79	6.47	7.04	7.90	8.81	9.93	11.00
3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.00
49,566	61,718	68,967	75,043	84,210	93,910	105,848	100,503
0.89	0.89	0.89	0.89	0.82	0.82	0.82	0.82
44,114	54,929	61,380	66,788	69,052	77,006	86,796	82,413
119,264	119,264	119,264	119,264	109,884	109,884	109,884	109,884
75,150	64,335	57,884	52,476	40,832	32,878	23,088	27,471
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
75,150	64,335	57,884	52,476	40,832	32,878	23,088	27,471
32,526	56,632	57,884	52,476	40,832	32,878	23,088	27,471
42,624	7,703	0	0	0	0	0	0

PHOSPHORUS FACILITY SUMMARY

Loudoun Water- Broad Run
<i>POTOMAC Trading Basin</i>

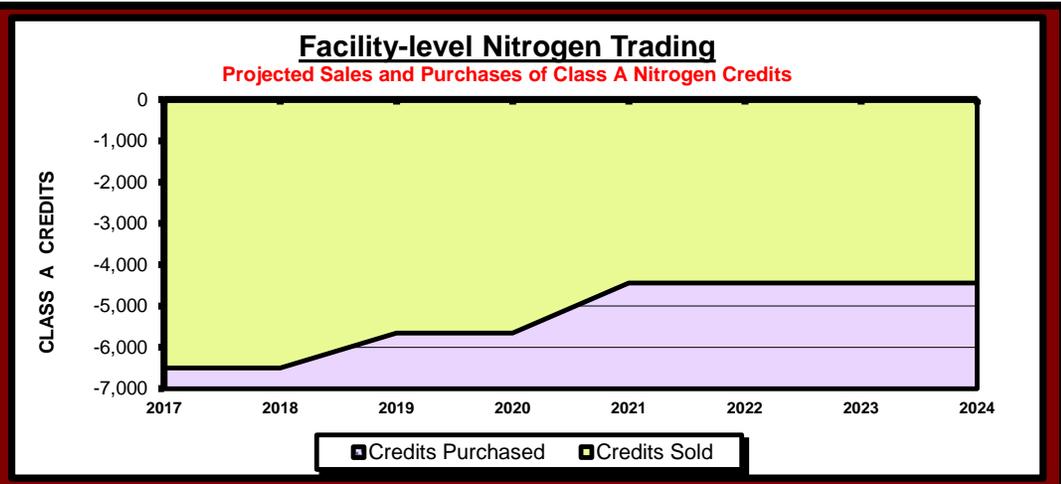


Loading & Credit Summary	
Design Flow (mgd)	
Projected Flow (mgd)	
Projected Avg. Annual Concentration (mg/L)	
Discharged Load (end of pipe)	
Delivery Factor	
Expected Load	
Delivered WLA	
Expected Credits (delivered)	
Transfers In (Out) within Owner Bubble	
Transfers In (Out) from Private Exchange	
WQIF-Held Credits	
Expected Net Credits	
Class A Credit Sales (Purchases)	
Expected Class B Credits	

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00
4.65	5.79	6.47	7.04	7.90	8.81	9.93	11.00
0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
1,416	1,763	1,970	2,144	2,406	2,683	3,024	3,350
0.54	0.54	0.54	0.54	0.47	0.47	0.47	0.47
765	952	1,064	1,158	1,131	1,261	1,421	1,575
1,809	1,809	1,809	1,809	1,575	1,575	1,575	1,575
1,044	857	745	651	444	314	154	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
1,044	857	745	651	444	314	154	0
493	857	745	651	444	314	154	0
551	0	0	0	0	0	0	0

NITROGEN FACILITY SUMMARY

Luray
<i>POTOMAC Trading Basin</i>

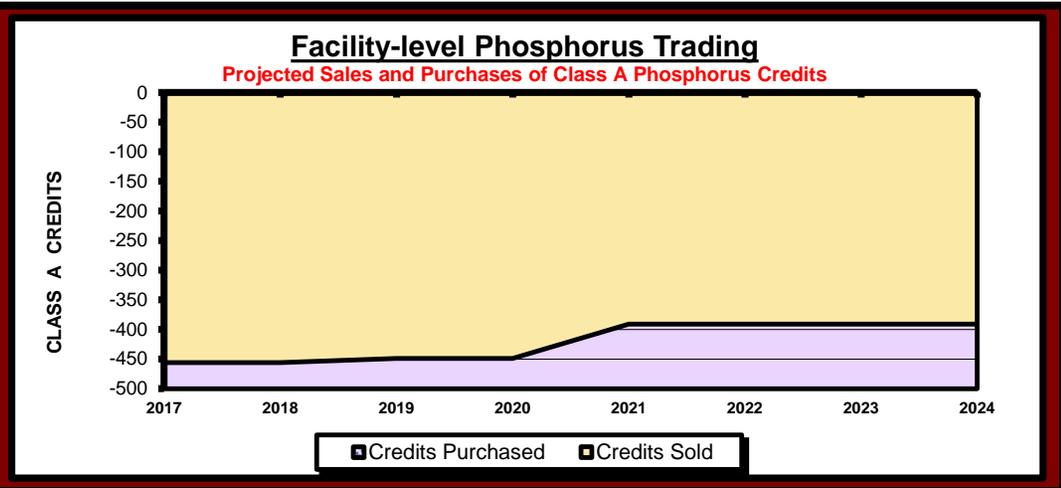


Loading & Credit Summary
Design Flow (mgd)
Projected Flow (mgd)
Projected Avg. Annual Concentration (mg/L)
Discharged Load (end of pipe)
Delivery Factor
Expected Load
Delivered WLA
Expected Credits (delivered)
Transfers In (Out) within Owner Bubble
Transfers In (Out) from Private Exchange
WQIF-Held Credits
Expected Net Credits
Class A Credit Sales (Purchases)
Expected Class B Credits

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60
0.88	0.88	0.90	0.90	0.90	0.90	0.90	0.90
1.50	1.50	2.20	2.20	2.20	2.20	2.20	2.20
4,020	4,020	6,030	6,030	6,030	6,030	6,030	6,030
0.42	0.42	0.42	0.42	0.33	0.33	0.33	0.33
1,688	1,688	2,533	2,533	1,990	1,990	1,990	1,990
8,187	8,187	8,187	8,187	6,432	6,432	6,432	6,432
6,499	6,499	5,654	5,654	4,442	4,442	4,442	4,442
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
6,499	6,499	5,654	5,654	4,442	4,442	4,442	4,442
0	0	0	0	0	0	0	0

PHOSPHORUS FACILITY SUMMARY

Luray
<i>POTOMAC Trading Basin</i>

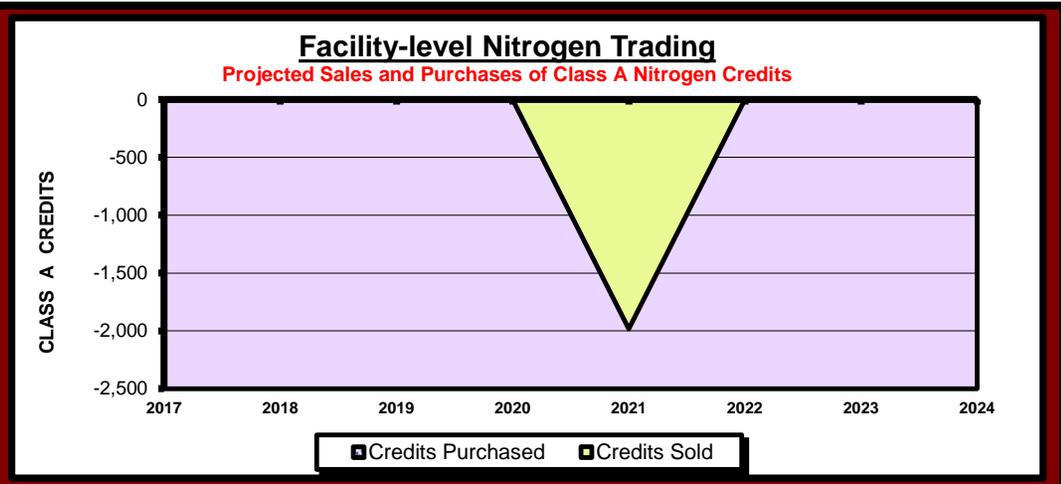


Loading & Credit Summary
Design Flow (mgd)
Projected Flow (mgd)
Projected Avg. Annual Concentration (mg/L)
Discharged Load (end of pipe)
Delivery Factor
Expected Load
Delivered WLA
Expected Credits (delivered)
Transfers In (Out) within Owner Bubble
Transfers In (Out) from Private Exchange
WQIF-Held Credits
Expected Net Credits
Class A Credit Sales (Purchases)
Expected Class B Credits

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
1.60	1.60	1.60	1.60	1.60	1.60	1.60	1.60
0.88	0.88	0.90	0.90	0.90	0.90	0.90	0.90
0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23
616	616	630	630	630	630	630	630
0.54	0.54	0.54	0.54	0.47	0.47	0.47	0.47
333	333	340	340	296	296	296	296
789	789	789	789	687	687	687	687
456	456	449	449	391	391	391	391
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
456	456	449	449	391	391	391	391
0	0	0	0	0	0	0	0

NITROGEN FACILITY SUMMARY

Massanutten PSC
<i>POTOMAC Trading Basin</i>

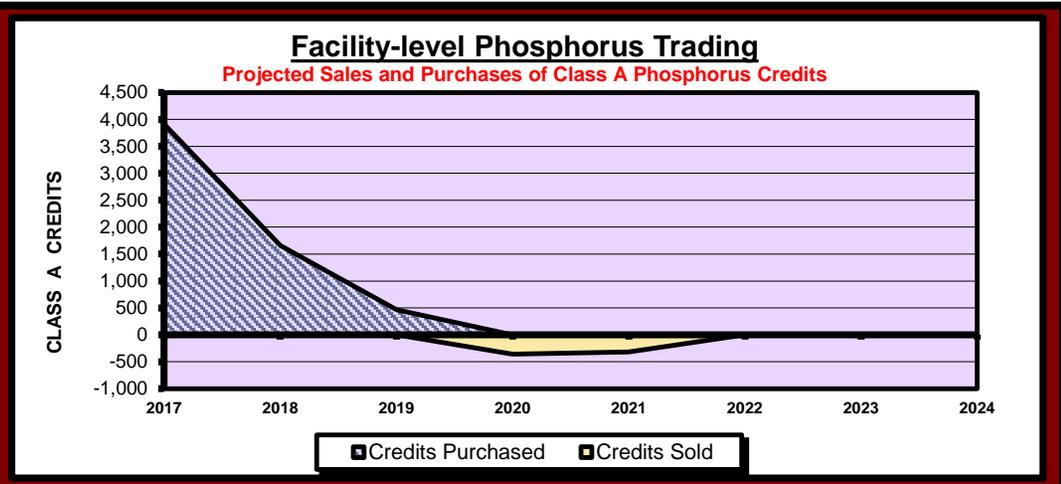


Loading & Credit Summary	
Design Flow (mgd)	1.50
Projected Flow (mgd)	0.74
Projected Avg. Annual Concentration (mg/L)	6.50
Discharged Load (end of pipe)	14,649
Delivery Factor	0.33
Expected Load	4,834
Delivered WLA	6,030
Expected Credits (delivered)	1,196
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	1,196
Class A Credit Sales (Purchases)	0
Expected Class B Credits	1,196

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
0.74	0.74	0.74	0.76	0.76	0.76	0.76	0.76
6.50	4.00	4.00	4.00	4.00	4.00	4.00	4.00
14,649	9,015	9,015	9,259	9,259	9,259	9,259	9,259
0.33	0.33	0.33	0.33	0.22	0.22	0.22	0.22
4,834	2,975	2,975	3,055	2,037	2,037	2,037	2,037
6,030	6,030	6,030	6,030	4,020	4,020	4,020	4,020
1,196	3,055	3,055	2,975	1,983	1,983	1,983	1,983
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
1,196	3,055	3,055	2,975	1,983	1,983	1,983	1,983
0	0	0	0	1,983	0	0	0
1,196	3,055	3,055	2,975	0	1,983	1,983	1,983

PHOSPHORUS FACILITY SUMMARY

Massanutten PSC
POTOMAC Trading Basin



Loading & Credit Summary

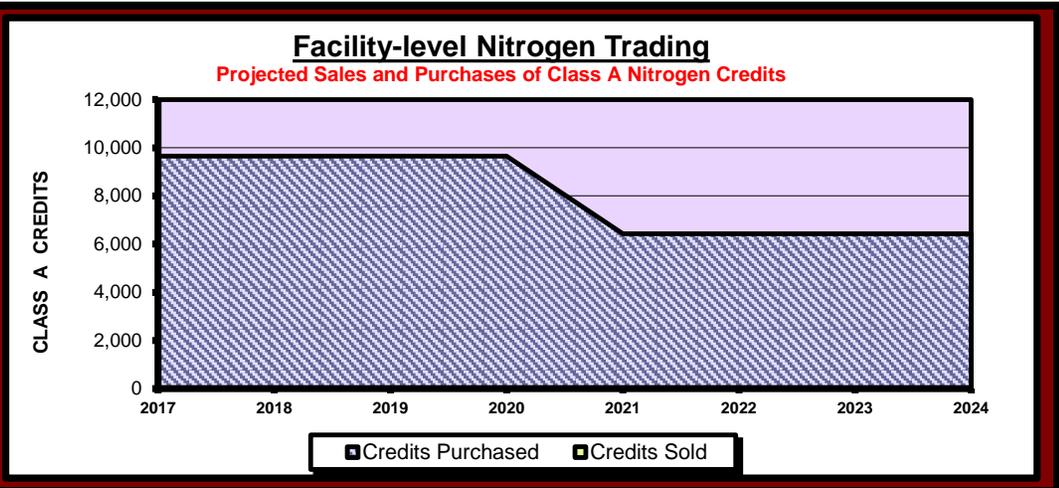
Design Flow (mgd)
Projected Flow (mgd)
Projected Avg. Annual Concentration (mg/L)
Discharged Load (end of pipe)
Delivery Factor
Expected Load
Delivered WLA
Expected Credits (delivered)
Transfers In (Out) within Owner Bubble
Transfers In (Out) from Private Exchange
WQIF-Held Credits
Expected Net Credits
Class A Credit Sales (Purchases)
Expected Class B Credits

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
0.74	0.74	0.74	0.76	0.76	0.76	0.76	0.76
3.89	2.00	1.00	0.30	0.30	0.30	0.30	0.30
8,767	4,507	2,254	694	694	694	694	694
0.53	0.53	0.53	0.53	0.47	0.47	0.47	0.47
4,646	2,389	1,194	368	326	326	326	326
727	727	727	727	644	644	644	644
(3,919)	(1,662)	(467)	359	318	318	318	318
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
(3,919)	(1,662)	(467)	359	318	318	318	318
(3,919)	(1,662)	(467)	359	318	0	0	0
0	0	0	0	0	318	318	318

NITROGEN FACILITY SUMMARY

Merck

POTOMAC Trading Basin



Loading & Credit Summary

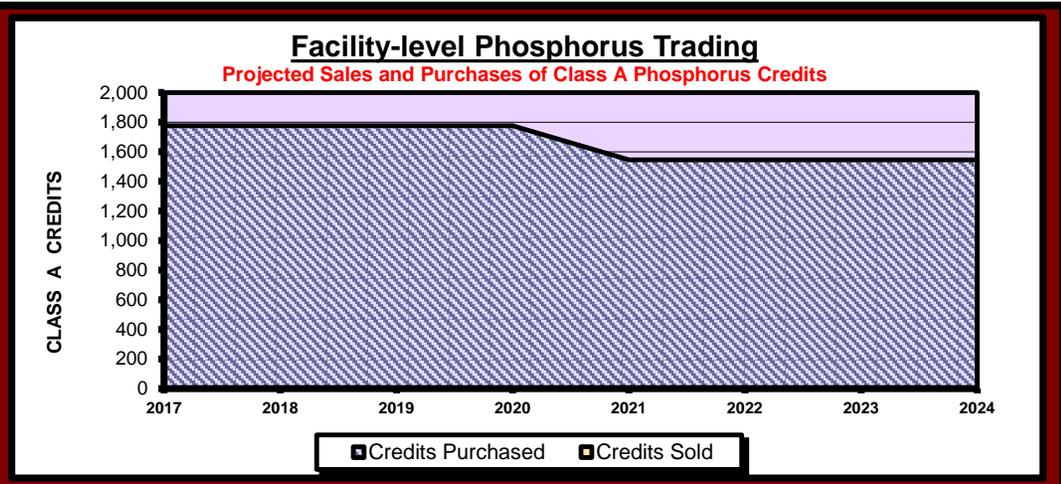
Design Flow (mgd)	1.20
Projected Flow (mgd)	1.20
Projected Avg. Annual Concentration (mg/L)	12.00
Discharged Load (end of pipe)	43,856
Delivery Factor	0.33
Expected Load	14,473
Delivered WLA	4,824
Expected Credits (delivered)	(9,649)
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	(9,649)
Class A Credit Sales (Purchases)	(9,649)
Expected Class B Credits	0

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20
1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20
12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
43,856	43,856	43,856	43,856	43,856	43,856	43,856	43,856
0.33	0.33	0.33	0.33	0.22	0.22	0.22	0.22
14,473	14,473	14,473	14,473	9,648	9,648	9,648	9,648
4,824	4,824	4,824	4,824	3,216	3,216	3,216	3,216
(9,649)	(9,649)	(9,649)	(9,649)	(6,432)	(6,432)	(6,432)	(6,432)
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
(9,649)	(9,649)	(9,649)	(9,649)	(6,432)	(6,432)	(6,432)	(6,432)
(9,649)	(9,649)	(9,649)	(9,649)	(6,432)	(6,432)	(6,432)	(6,432)
0	0	0	0	0	0	0	0

PHOSPHORUS FACILITY SUMMARY

Merck

POTOMAC Trading Basin



Loading & Credit Summary

Design Flow (mgd)	1.20
Projected Flow (mgd)	1.20
Projected Avg. Annual Concentration (mg/L)	1.20
Discharged Load (end of pipe)	4,386
Delivery Factor	0.54
Expected Load	2,368
Delivered WLA	592
Expected Credits (delivered)	(1,776)
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	(1,776)
Class A Credit Sales (Purchases)	(1,776)
Expected Class B Credits	0

	2017	2018	2019	2020	2021	2022	2023	2024
	Planning Period					Future Estimates (non-binding)		
Design Flow (mgd)	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20
Projected Flow (mgd)	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20
Projected Avg. Annual Concentration (mg/L)	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20
Discharged Load (end of pipe)	4,386	4,386	4,386	4,386	4,386	4,386	4,386	4,386
Delivery Factor	0.54	0.54	0.54	0.54	0.47	0.47	0.47	0.47
Expected Load	2,368	2,368	2,368	2,368	2,061	2,061	2,061	2,061
Delivered WLA	592	592	592	592	515	515	515	515
Expected Credits (delivered)	(1,776)	(1,776)	(1,776)	(1,776)	(1,546)	(1,546)	(1,546)	(1,546)
Transfers In (Out) within Owner Bubble	0	0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange	0	0	0	0	0	0	0	0
WQIF-Held Credits	0	0	0	0	0	0	0	0
Expected Net Credits	(1,776)	(1,776)	(1,776)	(1,776)	(1,546)	(1,546)	(1,546)	(1,546)
Class A Credit Sales (Purchases)	(1,776)	(1,776)	(1,776)	(1,776)	(1,546)	(1,546)	(1,546)	(1,546)
Expected Class B Credits	0	0	0	0	0	0	0	0

Merck – Additional Information

Description of Merck-Stonewall WQMP Regulation Note (10) as it Applies to the Exchange Compliance Plan:

Under the Water Quality Management Planning Regulation (9VAC 25-720-50.C) and Watershed General Permit Registration List for the Potomac/Shenandoah River Basin, the Merck-Stonewall facility's WLAs are as follows:

Discharged TN WLA: 43,835 lbs/yr

Discharged TP WLA: 4,384 lbs/yr

The Discharged WLAs stated above are subject to the following conditions in the Water Quality Management Planning Regulation (9VAC 25-720-50.C):

(10) Merck-Stonewall – (a) these waste load allocations will be subject to further consideration, consistent with the Chesapeake Bay TMDL, as it may be amended, and possible reduction upon "full-scale" results showing the optimal treatment capability of the 4-stage Bardenpho technology at this facility consistent with the level of effort by other dischargers in the region. The "full scale" evaluation will be completed by December 31, 2011, and the results submitted to DEQ for review and subsequent board action; (b) in any year when credits are available after all other exchanges within the Shenandoah-Potomac River Basin are completed in accordance with § 62.1-44.19:18 of the Code of Virginia, Merck shall acquire credits for total nitrogen discharged in excess of 14,619 lbs/yr and total phosphorus discharged in excess of 1,096 lbs/yr; and (c) the allocations are not transferable and compliance credits are only generated if discharged loads are less than the loads identified in clause (b).

Note that the WLAs stated in Note (10) are expressed as Discharged WLAs. Consistent with Note (10) clauses (b) and (c), the Watershed General Permit and manner in which the Exchange Trading Model is designed, this Exchange Compliance Plan is prepared and presented based on the following Delivered WLAs derived using the applicable Delivery Factors ("DF"):

Delivered TN WLA: 4,824 lbs/yr (0.33 DF for Compliance Years 2016 to 2020)

Delivered TN WLA: 3,216 lbs/yr (0.22 DF for Compliance Year 2021 and beyond)

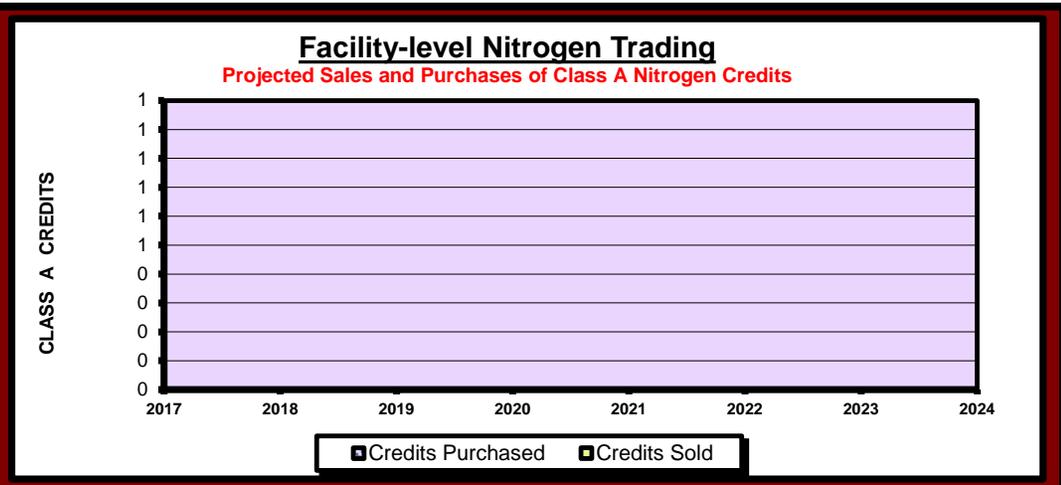
Delivered TP WLA: 592 lbs/yr (0.54 DF for Compliance Years 2016 to 2020)

Delivered TP WLA: 515 lbs/yr (0.47 DF for Compliance Year 2021 and beyond)

This description neither creates nor implies any limitation on Merck's use of its full WLAs in the manner authorized under Note (10).

NITROGEN FACILITY SUMMARY

MillerCoors LLC
POTOMAC Trading Basin



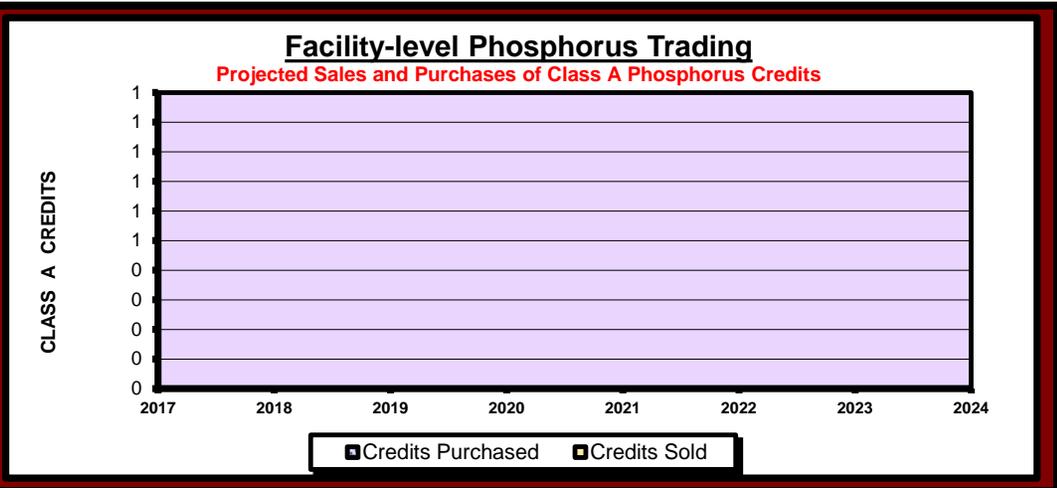
Loading & Credit Summary

Design Flow (mgd)
Projected Flow (mgd)
Projected Avg. Annual Concentration (mg/L)
Discharged Load (end of pipe)
Delivery Factor
Expected Load
Delivered WLA
Expected Credits (delivered)
Transfers In (Out) within Owner Bubble
Transfers In (Out) from Private Exchange
WQIF-Held Credits
Expected Net Credits
Class A Credit Sales (Purchases)
Expected Class B Credits

	2017	2018	2019	2020	2021	2022	2023	2024
	Planning Period					Future Estimates (non-binding)		
Design Flow (mgd)	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50
Projected Flow (mgd)	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50
Projected Avg. Annual Concentration (mg/L)	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Discharged Load (end of pipe)	54,820	54,820	54,820	54,820	54,820	54,820	54,820	54,820
Delivery Factor	0.33	0.33	0.33	0.33	0.22	0.22	0.22	0.22
Expected Load	18,091	18,091	18,091	18,091	12,060	12,060	12,060	12,060
Delivered WLA	18,091	18,091	18,091	18,091	12,060	12,060	12,060	12,060
Expected Credits (delivered)	0	0	0	0	0	0	0	0
Transfers In (Out) within Owner Bubble	0	0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange	0	0	0	0	0	0	0	0
WQIF-Held Credits	0	0	0	0	0	0	0	0
Expected Net Credits	0	0	0	0	0	0	0	0
Class A Credit Sales (Purchases)	0	0	0	0	0	0	0	0
Expected Class B Credits	0	0	0	0	0	0	0	0

PHOSPHORUS FACILITY SUMMARY

MillerCoors LLC
POTOMAC Trading Basin



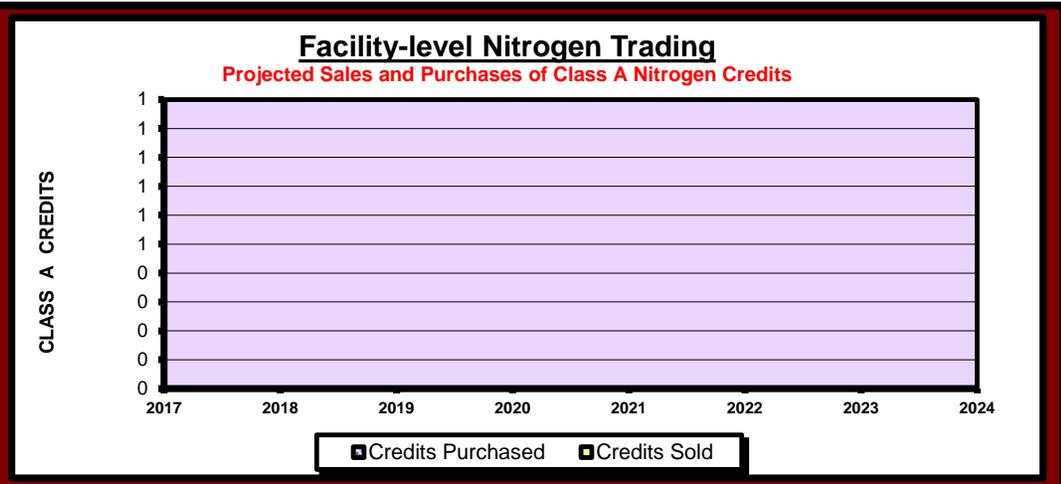
Loading & Credit Summary

Design Flow (mgd)
Projected Flow (mgd)
Projected Avg. Annual Concentration (mg/L)
Discharged Load (end of pipe)
Delivery Factor
Expected Load
Delivered WLA
Expected Credits (delivered)
Transfers In (Out) within Owner Bubble
Transfers In (Out) from Private Exchange
WQIF-Held Credits
Expected Net Credits
Class A Credit Sales (Purchases)
Expected Class B Credits

	2017	2018	2019	2020	2021	2022	2023	2024
	Planning Period					Future Estimates (non-binding)		
Design Flow (mgd)	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50
Projected Flow (mgd)	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50
Projected Avg. Annual Concentration (mg/L)	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
Discharged Load (end of pipe)	4,112	4,112	4,112	4,112	4,112	4,112	4,112	4,112
Delivery Factor	0.54	0.54	0.54	0.54	0.47	0.47	0.47	0.47
Expected Load	2,220	2,220	2,220	2,220	1,932	1,932	1,932	1,932
Delivered WLA	2,220	2,220	2,220	2,220	1,933	1,933	1,933	1,933
Expected Credits (delivered)	0	0	0	0	1	1	1	1
Transfers In (Out) within Owner Bubble	0	0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange	0	0	0	0	0	0	0	0
WQIF-Held Credits	0	0	0	0	0	0	0	0
Expected Net Credits	0	0	0	0	1	1	1	1
Class A Credit Sales (Purchases)	0	0	0	0	0	0	0	0
Expected Class B Credits	0	0	0	0	1	1	1	1

NITROGEN FACILITY SUMMARY

Mt. Jackson
POTOMAC Trading Basin



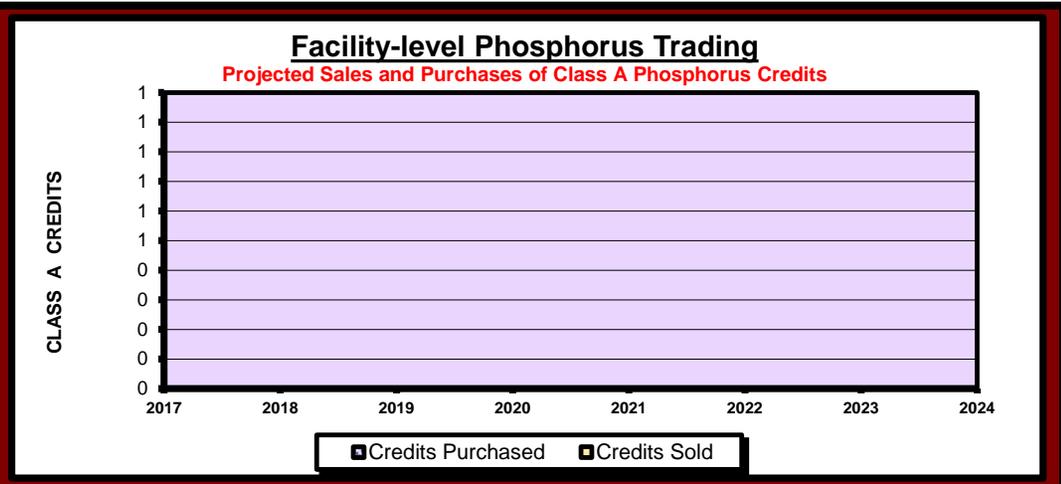
Loading & Credit Summary

Design Flow (mgd)	Projected Flow (mgd)	Projected Avg. Annual Concentration (mg/L)	Discharged Load (end of pipe)	Delivery Factor	Expected Load	Delivered WLA	Expected Credits (delivered)	Transfers In (Out) within Owner Bubble	Transfers In (Out) from Private Exchange	WQIF-Held Credits	Expected Net Credits	Class A Credit Sales (Purchases)	Expected Class B Credits
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2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
0.52	0.54	0.54	0.55	0.55	0.56	0.57	0.58
4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
6,335	6,578	6,578	6,700	6,700	6,822	6,944	7,066
0.34	0.34	0.34	0.34	0.25	0.25	0.25	0.25
2,154	2,237	2,237	2,278	1,675	1,706	1,736	1,766
2,900	2,900	2,900	2,900	2,132	2,132	2,132	2,132
746	663	663	622	457	426	396	366
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
746	663	663	622	457	426	396	366
0	0	0	0	0	0	0	0
746	663	663	622	457	426	396	366

PHOSPHORUS FACILITY SUMMARY

Mt. Jackson
POTOMAC Trading Basin



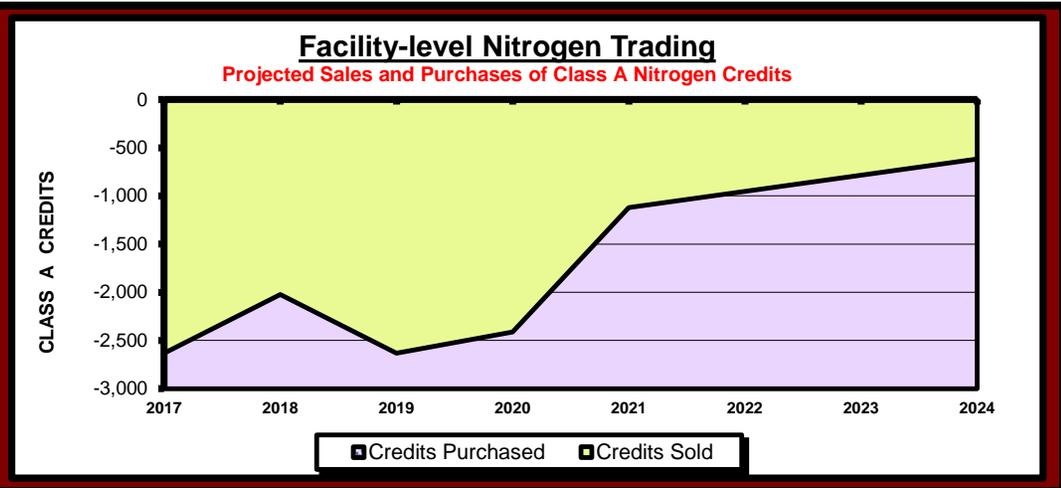
Loading & Credit Summary

Design Flow (mgd)
Projected Flow (mgd)
Projected Avg. Annual Concentration (mg/L)
Discharged Load (end of pipe)
Delivery Factor
Expected Load
Delivered WLA
Expected Credits (delivered)
Transfers In (Out) within Owner Bubble
Transfers In (Out) from Private Exchange
WQIF-Held Credits
Expected Net Credits
Class A Credit Sales (Purchases)
Expected Class B Credits

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
0.52	0.54	0.54	0.55	0.55	0.56	0.57	0.58
0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
317	329	329	335	335	341	347	353
0.53	0.53	0.53	0.53	0.47	0.47	0.47	0.47
168	174	174	178	157	160	163	166
339	339	339	339	301	301	301	301
171	165	165	161	144	141	138	135
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
171	165	165	161	144	141	138	135
0	0	0	0	0	0	0	0
171	165	165	161	144	141	138	135

NITROGEN FACILITY SUMMARY

Purcellville
<i>POTOMAC Trading Basin</i>

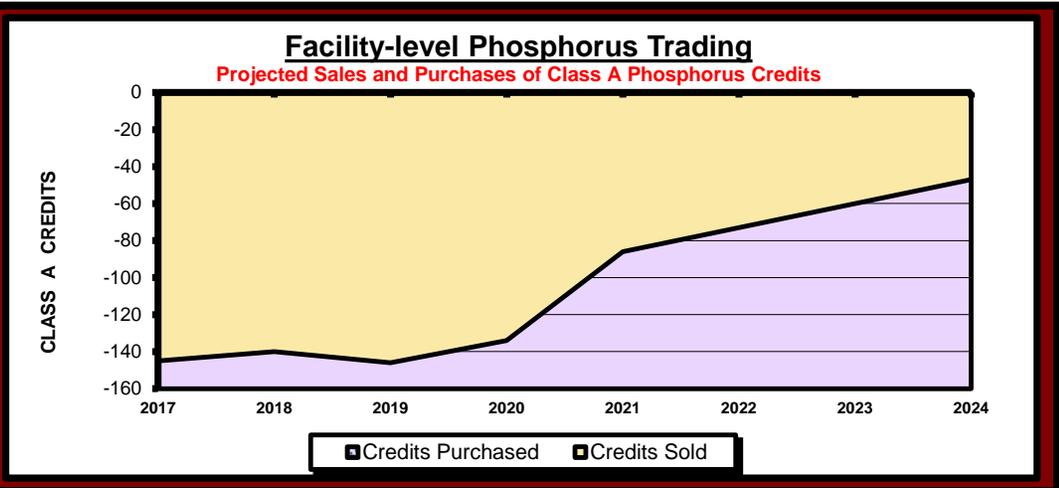


Loading & Credit Summary
Design Flow (mgd)
Projected Flow (mgd)
Projected Avg. Annual Concentration (mg/L)
Discharged Load (end of pipe)
Delivery Factor
Expected Load
Delivered WLA
Expected Credits (delivered)
Transfers In (Out) within Owner Bubble
Transfers In (Out) from Private Exchange
WQIF-Held Credits
Expected Net Credits
Class A Credit Sales (Purchases)
Expected Class B Credits

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
0.90	1.10	0.90	0.95	1.10	1.16	1.22	1.28
4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
10,964	13,400	10,964	11,573	13,400	14,131	14,862	15,593
0.72	0.72	0.72	0.72	0.46	0.46	0.46	0.46
7,894	9,648	7,894	8,333	6,164	6,500	6,837	7,173
13,157	13,157	13,157	13,157	8,406	8,406	8,406	8,406
5,263	3,509	5,263	4,824	2,242	1,906	1,569	1,233
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
5,263	3,509	5,263	4,824	2,242	1,906	1,569	1,233
2,632	2,023	2,632	2,412	1,121	953	785	617
2,631	1,486	2,631	2,412	1,121	953	784	616

PHOSPHORUS FACILITY SUMMARY

Purcellville
<i>POTOMAC Trading Basin</i>



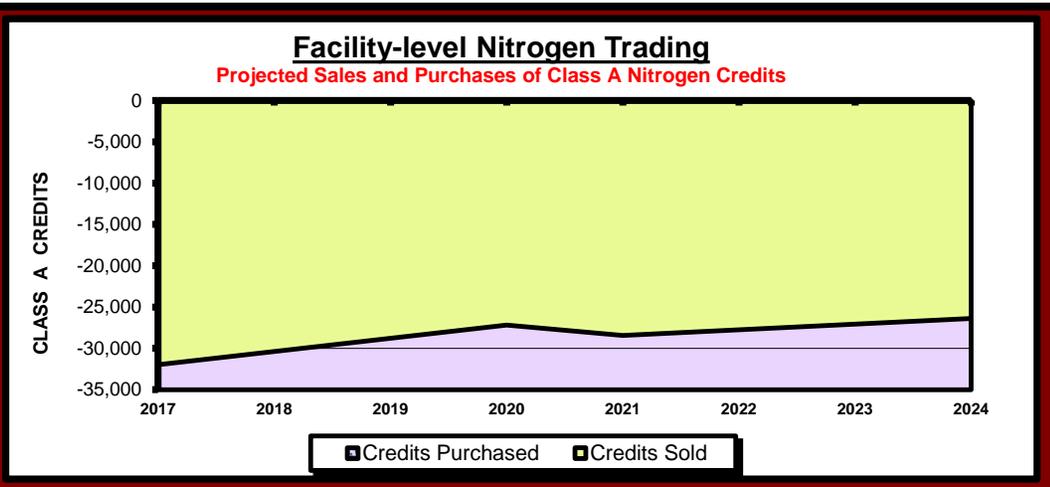
Loading & Credit Summary

Design Flow (mgd)
Projected Flow (mgd)
Projected Avg. Annual Concentration (mg/L)
Discharged Load (end of pipe)
Delivery Factor
Expected Load
Delivered WLA
Expected Credits (delivered)
Transfers In (Out) within Owner Bubble
Transfers In (Out) from Private Exchange
WQIF-Held Credits
Expected Net Credits
Class A Credit Sales (Purchases)
Expected Class B Credits

2017	2018	2019	2020	2021	2022	2023	2024	
Planning Period					Future Estimates (non-binding)			
1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	
0.90	1.10	0.90	0.95	1.10	1.16	1.22	1.28	
0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30	
822	1,005	822	868	1,005	1,060	1,115	1,169	
0.53	0.53	0.53	0.53	0.47	0.47	0.47	0.47	
436	533	436	460	472	498	524	550	
727	727	727	727	644	644	644	644	
291	194	291	267	172	146	120	94	
0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	
291	194	291	267	172	146	120	94	
145	140	146	134	86	73	60	47	
146	54	145	133	86	73	60	47	

NITROGEN FACILITY SUMMARY

PWCSA-HL Mooney
POTOMAC Trading Basin

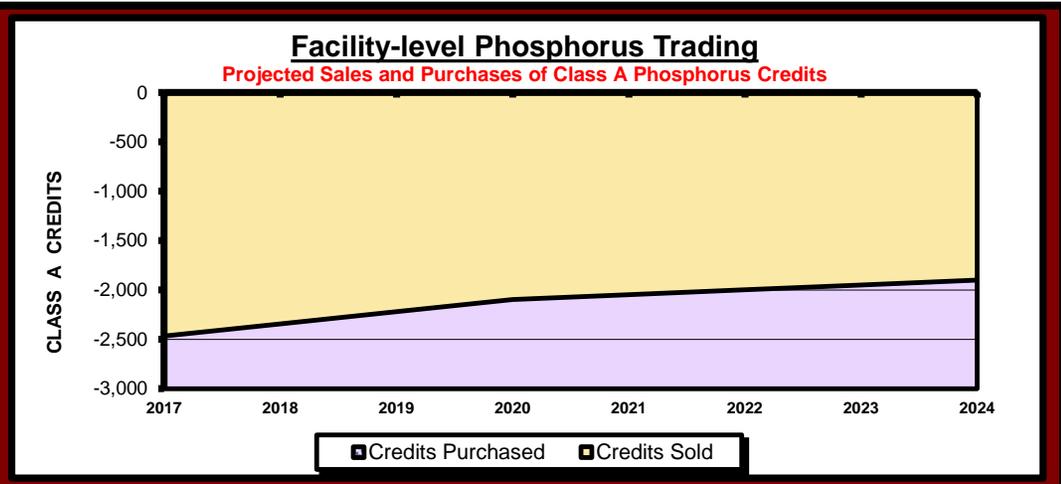


Loading & Credit Summary	
Design Flow (mgd)	24.00
Projected Flow (mgd)	19.00
Projected Avg. Annual Concentration (mg/L)	3.00
Discharged Load (end of pipe)	173,597
Delivery Factor	1.00
Expected Load	173,597
Delivered WLA	219,280
Expected Credits (delivered)	45,683
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	45,683
Class A Credit Sales (Purchases)	31,978
Expected Class B Credits	13,705

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
24.00	24.00	24.00	24.00	24.00	24.00	24.00	24.00
19.00	19.25	19.50	19.75	19.85	19.95	20.05	20.15
3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
173,597	175,881	178,165	180,449	181,363	182,277	183,190	184,104
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
173,597	175,881	178,165	180,449	181,363	182,277	183,190	184,104
219,280	219,280	219,280	219,280	219,280	219,280	219,280	219,280
45,683	43,399	41,115	38,831	37,917	37,003	36,090	35,176
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
45,683	43,399	41,115	38,831	37,917	37,003	36,090	35,176
31,978	30,379	28,781	27,182	28,438	27,752	27,068	26,382
13,705	13,020	12,334	11,649	9,479	9,251	9,022	8,794

PHOSPHORUS FACILITY SUMMARY

PWCSA-HL Mooney
POTOMAC Trading Basin



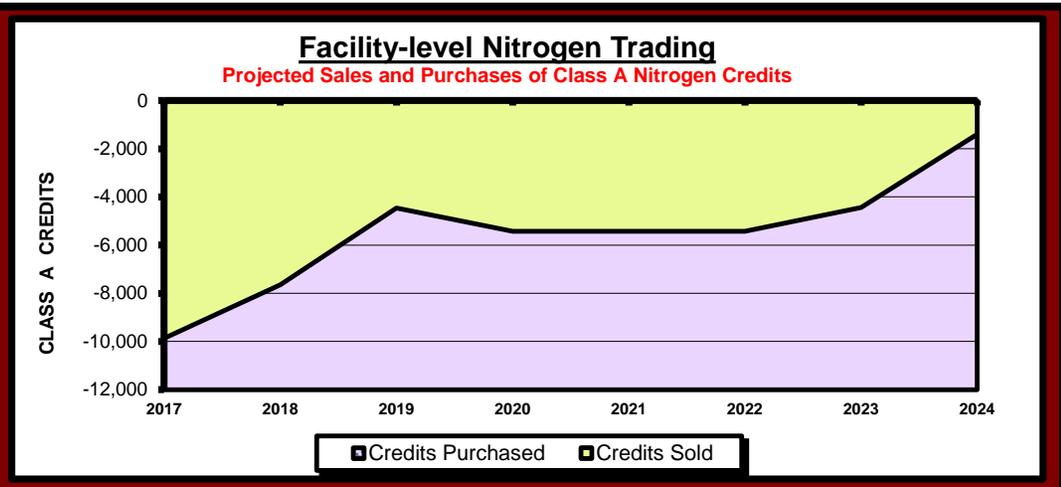
Loading & Credit Summary

Design Flow (mgd)
Projected Flow (mgd)
Projected Avg. Annual Concentration (mg/L)
Discharged Load (end of pipe)
Delivery Factor
Expected Load
Delivered WLA
Expected Credits (delivered)
Transfers In (Out) within Owner Bubble
Transfers In (Out) from Private Exchange
WQIF-Held Credits
Expected Net Credits
Class A Credit Sales (Purchases)
Expected Class B Credits

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
24.00	24.00	24.00	24.00	24.00	24.00	24.00	24.00
19.00	19.25	19.50	19.75	19.85	19.95	20.05	20.15
0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
10,416	10,553	10,690	10,827	10,882	10,937	10,991	11,046
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
10,416	10,553	10,690	10,827	10,882	10,937	10,991	11,046
13,157	13,157	13,157	13,157	13,157	13,157	13,157	13,157
2,741	2,604	2,467	2,330	2,275	2,220	2,166	2,111
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
2,741	2,604	2,467	2,330	2,275	2,220	2,166	2,111
2,467	2,344	2,220	2,097	2,048	1,998	1,950	1,900
274	260	247	233	227	222	216	211

NITROGEN FACILITY SUMMARY

Stafford Co-Aquia
<i>POTOMAC Trading Basin</i>

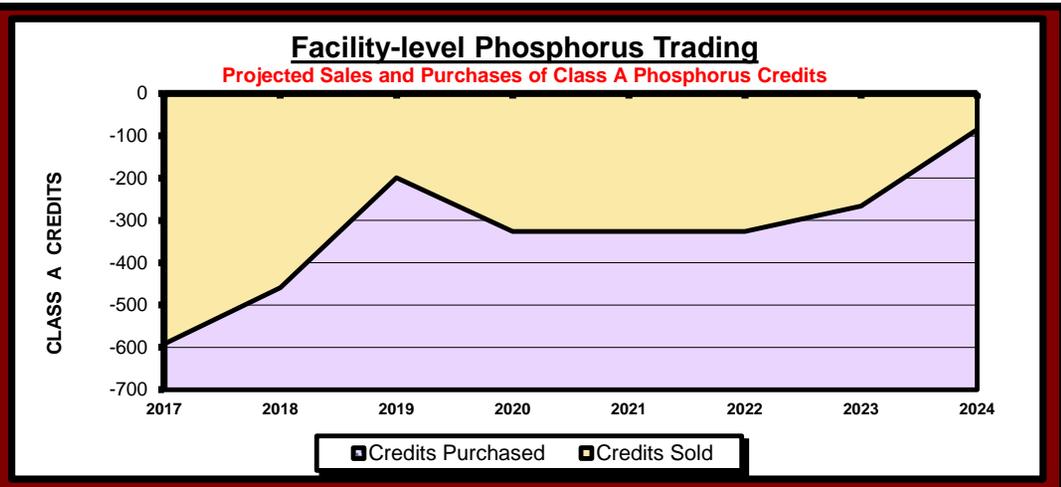


Loading & Credit Summary
Design Flow (mgd)
Projected Flow (mgd)
Projected Avg. Annual Concentration (mg/L)
Discharged Load (end of pipe)
Delivery Factor
Expected Load
Delivered WLA
Expected Credits (delivered)
Transfers In (Out) within Owner Bubble
Transfers In (Out) from Private Exchange
WQIF-Held Credits
Expected Net Credits
Class A Credit Sales (Purchases)
Expected Class B Credits

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00
6.80	7.07	7.34	7.34	7.34	7.34	7.46	7.83
3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
62,129	64,596	67,063	67,063	67,063	67,063	68,160	71,540
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
62,129	64,596	67,063	67,063	67,063	67,063	68,160	71,540
73,093	73,093	73,093	73,093	73,093	73,093	73,093	73,093
10,964	8,497	6,030	6,030	6,030	6,030	4,933	1,553
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
10,964	8,497	6,030	6,030	6,030	6,030	4,933	1,553
9,868	7,647	4,462	5,427	5,427	5,427	4,440	1,398
1,096	850	1,568	603	603	603	493	155

PHOSPHORUS FACILITY SUMMARY

Stafford Co-Aquia
<i>POTOMAC Trading Basin</i>

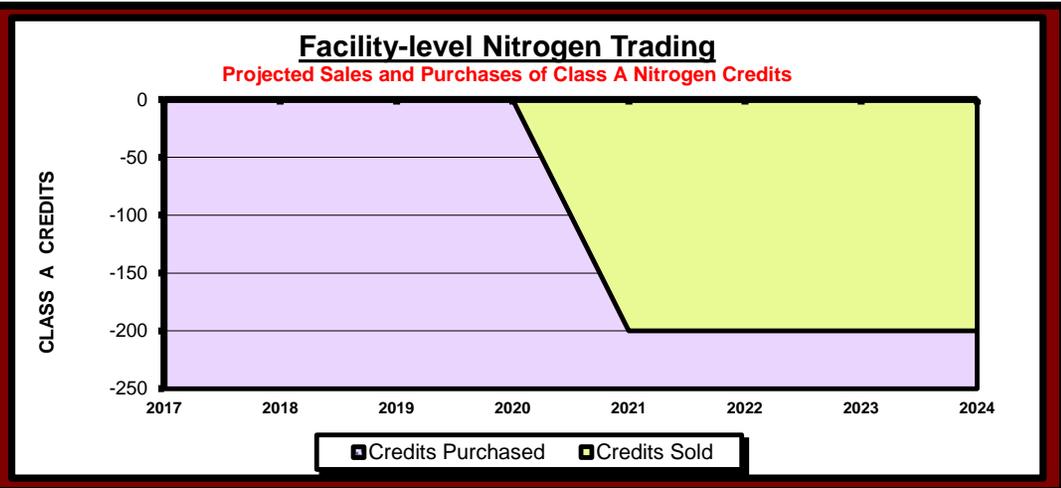


Loading & Credit Summary	
Design Flow (mgd)	
Design Flow (mgd)	8.00
Projected Flow (mgd)	6.80
Projected Avg. Annual Concentration (mg/L)	0.18
Discharged Load (end of pipe)	
Delivery Factor	1.00
Expected Load	3,728
Delivered WLA	4,386
Expected Credits (delivered)	
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	658
Class A Credit Sales (Purchases)	
Expected Class B Credits	66

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00
6.80	7.07	7.34	7.34	7.34	7.34	7.46	7.83
0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
3,728	3,876	4,024	4,024	4,024	4,024	4,090	4,292
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
3,728	3,876	4,024	4,024	4,024	4,024	4,090	4,292
4,386	4,386	4,386	4,386	4,386	4,386	4,386	4,386
658	510	362	362	362	362	296	94
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
658	510	362	362	362	362	296	94
592	459	199	326	326	326	266	85
66	51	163	36	36	36	30	9

NITROGEN FACILITY SUMMARY

Stoney Creek
<i>POTOMAC Trading Basin</i>



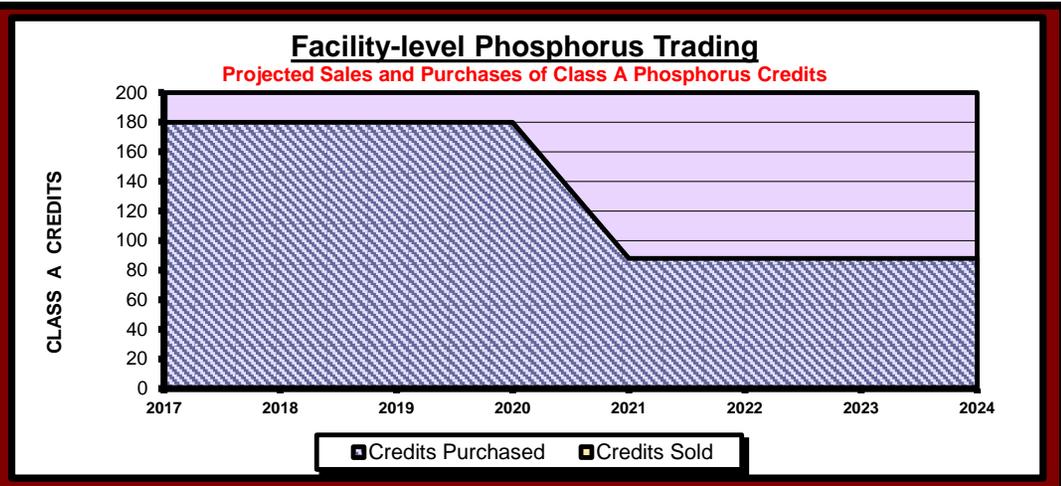
Loading & Credit Summary	
Design Flow (mgd)	
Projected Flow (mgd)	
Projected Avg. Annual Concentration (mg/L)	
Discharged Load (end of pipe)	
Delivery Factor	
Expected Load	
Delivered WLA*	
Expected Credits (delivered)	
Transfers In (Out) within Owner Bubble	
Transfers In (Out) from Private Exchange	
WQIF-Held Credits	
Expected Net Credits	
Class A Credit Sales (Purchases)	
Expected Class B Credits	

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
0.33	0.33	0.33	0.33	0.35	0.35	0.35	0.35
8.00	8.00	8.00	8.00	7.00	7.00	7.00	7.00
8,040	8,040	8,040	8,040	7,462	7,462	7,462	7,462
0.35	0.35	0.35	0.35	0.25	0.25	0.25	0.25
2,814	2,814	2,814	2,814	1,865	1,865	1,865	1,865
2,891	2,891	2,891	2,891	2,065	2,065	2,065	2,065
77	77	77	77	200	200	200	200
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
77	77	77	77	200	200	200	200
0	0	0	0	200	200	200	200
77	77	77	77	0	0	0	0

* Reflects consolidation of the Shrine Mont STP wasteload allocation

PHOSPHORUS FACILITY SUMMARY

Stoney Creek
 POTOMAC Trading Basin



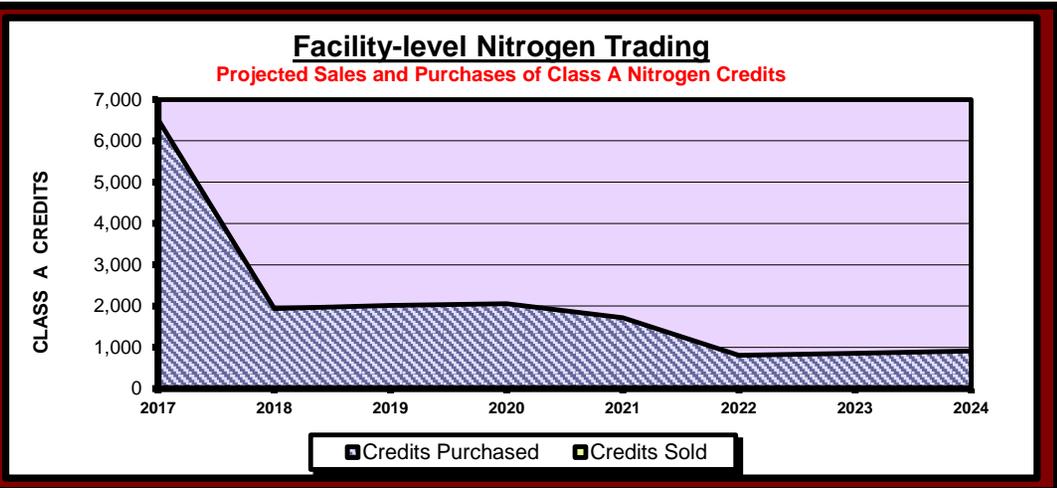
Loading & Credit Summary	
Design Flow (mgd)	
Projected Flow (mgd)	
Projected Avg. Annual Concentration (mg/L)	
Discharged Load (end of pipe)	
Delivery Factor	
Expected Load	
Delivered WLA*	
Expected Credits (delivered)	
Transfers In (Out) within Owner Bubble	
Transfers In (Out) from Private Exchange	
WQIF-Held Credits	
Expected Net Credits	
Class A Credit Sales (Purchases)	
Expected Class B Credits	

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
0.33	0.33	0.33	0.33	0.35	0.35	0.35	0.35
1.00	1.00	1.00	1.00	0.80	0.80	0.80	0.80
1,005	1,005	1,005	1,005	853	853	853	853
0.53	0.53	0.53	0.53	0.47	0.47	0.47	0.47
533	533	533	533	401	401	401	401
354	354	354	354	313	313	313	313
(179)	(179)	(179)	(179)	(88)	(88)	(88)	(88)
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
(179)	(179)	(179)	(179)	(88)	(88)	(88)	(88)
(180)	(180)	(180)	(180)	(88)	(88)	(88)	(88)
1	1	1	1	0	0	0	0

* Reflects consolidation of the Shrine Mont STP wasteload allocation

NITROGEN FACILITY SUMMARY

Strasburg
 POTOMAC Trading Basin

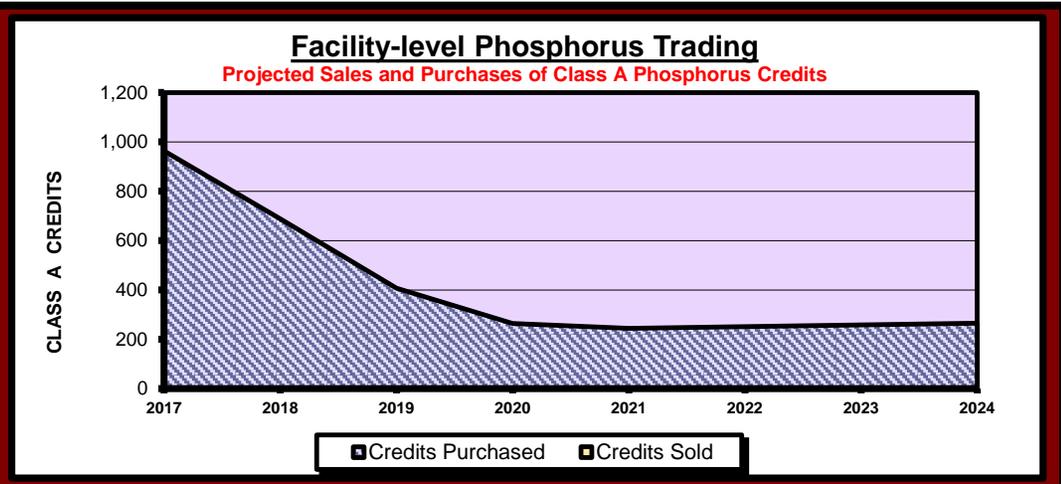


Loading & Credit Summary	
Design Flow (mgd)	2.00
Projected Flow (mgd)	0.89
Projected Avg. Annual Concentration (mg/L)	10.00
Discharged Load (end of pipe)	27,105
Delivery Factor	0.43
Expected Load	11,655
Delivered WLA	5,134
Expected Credits (delivered)	(6,521)
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	(6,521)
Class A Credit Sales (Purchases)	(6,521)
Expected Class B Credits	0

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
0.89	0.90	0.91	0.92	0.93	0.94	0.95	0.96
10.00	6.00	6.00	6.00	6.00	5.00	5.00	5.00
27,105	16,446	16,629	16,720	16,994	14,314	14,466	14,619
0.43	0.43	0.43	0.43	0.34	0.34	0.34	0.34
11,655	7,072	7,150	7,190	5,778	4,867	4,919	4,970
5,134	5,134	5,134	5,134	4,059	4,059	4,059	4,059
(6,521)	(1,938)	(2,016)	(2,056)	(1,719)	(808)	(860)	(911)
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
(6,521)	(1,938)	(2,016)	(2,056)	(1,719)	(808)	(860)	(911)
(6,521)	(1,938)	(2,016)	(2,056)	(1,719)	(808)	(860)	(911)
0	0	0	0	0	0	0	0

PHOSPHORUS FACILITY SUMMARY

Strasburg
<i>POTOMAC Trading Basin</i>



Loading & Credit Summary

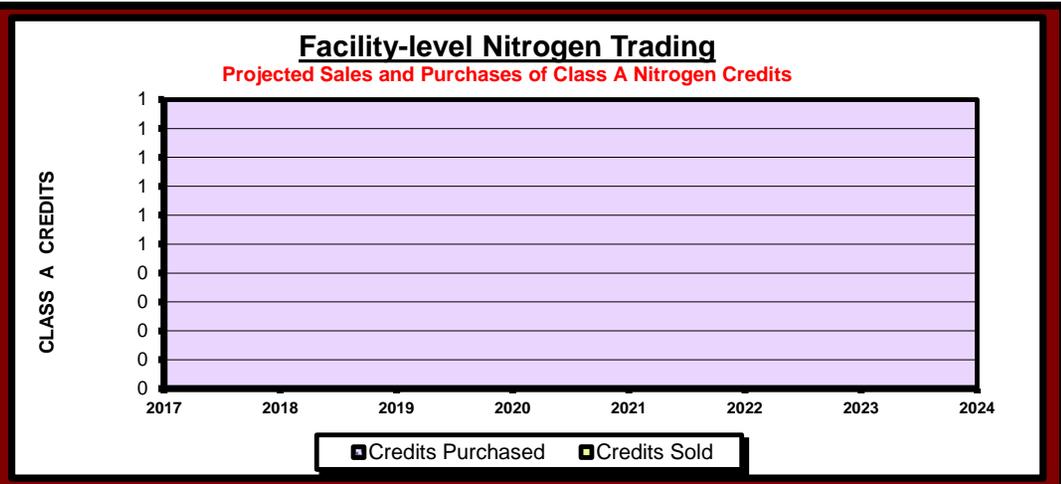
Design Flow (mgd)
Projected Flow (mgd)
Projected Avg. Annual Concentration (mg/L)
Discharged Load (end of pipe)
Delivery Factor
Expected Load
Delivered WLA
Expected Credits (delivered)
Transfers In (Out) within Owner Bubble
Transfers In (Out) from Private Exchange
WQIF-Held Credits
Expected Net Credits
Class A Credit Sales (Purchases)
Expected Class B Credits

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
0.89	0.90	0.91	0.92	0.93	0.94	0.95	0.96
1.00	0.80	0.60	0.50	0.50	0.50	0.50	0.50
2,711	2,193	1,663	1,393	1,416	1,431	1,447	1,462
0.53	0.53	0.53	0.53	0.47	0.47	0.47	0.47
1,437	1,162	881	738	666	673	680	687
474	474	474	474	421	421	421	421
(963)	(688)	(407)	(264)	(245)	(252)	(259)	(266)
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
(963)	(688)	(407)	(264)	(245)	(252)	(259)	(266)
0	0	0	0	0	0	0	0

NITROGEN FACILITY SUMMARY

UOSA

POTOMAC Trading Basin



Loading & Credit Summary

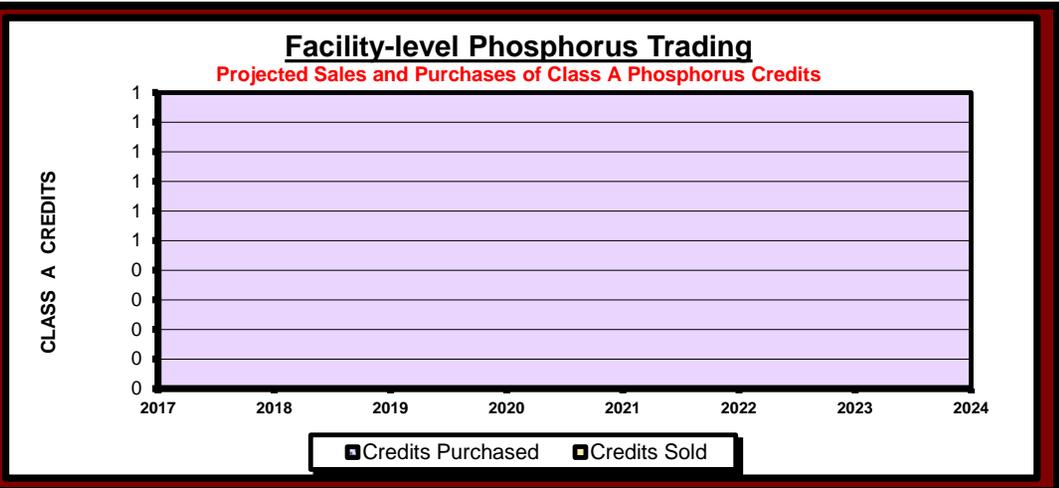
Design Flow (mgd)	Projected Flow (mgd)	Projected Avg. Annual Concentration (mg/L)
Discharged Load (end of pipe)	Delivery Factor	Expected Load
Expected Credits (delivered)	Transfers In (Out) within Owner Bubble	Transfers In (Out) from Private Exchange
Expected Net Credits	WQIF-Held Credits	
Class A Credit Sales (Purchases)	Expected Class B Credits	

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
54.00	54.00	54.00	54.00	54.00	54.00	54.00	54.00
34.86	34.54	35.25	35.76	36.13	36.62	37.11	37.60
12.10	12.10	12.15	11.94	11.95	11.78	11.63	11.48
1,284,525	1,272,843	1,304,375	1,300,376	1,314,931	1,313,805	1,314,431	1,314,610
0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23
295,441	292,754	300,006	299,087	302,434	302,175	302,319	302,360
302,607	302,607	302,607	302,607	302,607	302,607	302,607	302,607
7,166	9,853	2,601	3,520	173	432	288	247
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
7,166	9,853	2,601	3,520	173	432	288	247
0	0	0	0	0	0	0	0
7,166	9,853	2,601	3,520	173	432	288	247

PHOSPHORUS FACILITY SUMMARY

UOSA

POTOMAC Trading Basin



Loading & Credit Summary	
Design Flow (mgd)	
Projected Flow (mgd)	
Projected Avg. Annual Concentration (mg/L)	
Discharged Load (end of pipe)	
Delivery Factor	
Expected Load	
Delivered WLA	
Expected Credits (delivered)	
Transfers In (Out) within Owner Bubble	
Transfers In (Out) from Private Exchange	
WQIF-Held Credits	
Expected Net Credits	
Class A Credit Sales (Purchases)	
Expected Class B Credits	

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
54.00	54.00	54.00	54.00	54.00	54.00	54.00	54.00
34.86	34.54	35.25	35.76	36.13	36.62	37.11	37.60
0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
10,616	10,519	10,736	10,891	11,004	11,153	11,302	11,451
0.30	0.30	0.30	0.30	0.31	0.31	0.31	0.31
3,185	3,156	3,221	3,267	3,411	3,457	3,504	3,550
4,934	4,934	4,934	4,934	5,098	5,098	5,098	5,098
1,749	1,778	1,713	1,667	1,687	1,641	1,594	1,548
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
1,749	1,778	1,713	1,667	1,687	1,641	1,594	1,548
0	0	0	0	0	0	0	0
1,749	1,778	1,713	1,667	1,687	1,641	1,594	1,548

Owner Bubble: Virginia American Water, Prince William District

The facilities listed below have received an aggregated mass load limit pursuant to 9 VAC 25-820-70, Part 1.B.2., which is also referred to as an “owner bubble”. Accordingly, compliance is determined solely on an aggregate basis rather than by comparison of individual facility loads with respective individual WLAs.

The “Credit Transferred within Bubble” section of each table forecasts the use of Credits within the owner bubble during each Compliance Year, and must necessarily sum to zero. The specific Credit transfers shown in this table are provided for internal planning purposes only and, accordingly, are not binding and may change based on the actual performance of individual facilities within the bubble.

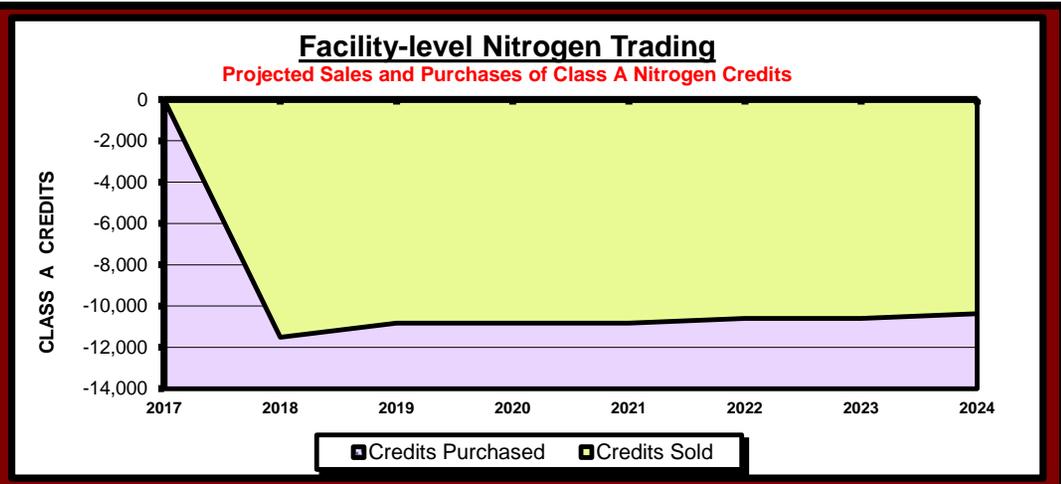
Expected Net Credits for an owner bubble may be either positive or negative. If Expected Net Credits is positive, the owner may pledge a percentage of such Credits to the Exchange. If Expected Net Credits is negative, Net Expected Credits identifies the number of Credits that must be purchased to comply with the aggregate Delivered WLA of the bubble.

NITROGEN Credits	Exchange 5-year Planning Period					Future Projections		
	2017	2018	2019	2020	2021	2022	2023	2024
Credits Transferred within Bubble								
VA Am. Water PW Sec. 1	-	-	-	-	-	-	-	-
VA Am. Water PW Sec. 8	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
TOTAL (must sum to 0)	-	-	-	-	-	-	-	-
Credits Available outside Bubble								
VA Am. Water PW Sec. 1	19,568	19,187	18,045	18,045	18,045	17,665	17,665	17,284
VA Am. Water PW Sec. 8	19,568	19,187	18,045	18,045	18,045	17,665	17,665	17,284
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
Expected Net Credits	39,136	38,374	36,090	36,090	36,090	35,330	35,330	34,568
Class A Sales (Purchases)	0	23,024	21,654	21,654	21,654	21,198	21,198	20,740
<i>Expected Class B Credits</i>	39,136	15,350	14,436	14,436	14,436	14,132	14,132	13,828
<i>WQIF-Held Credits</i>	0	0	0	0	0	0	0	0

PHOSPHORUS Credits	Exchange 5-year Planning Period					Future Projections		
	2017	2018	2019	2020	2021	2022	2023	2024
Credits Transferred within Bubble								
VA Am. Water PW Sec. 1	-	-	-	-	-	-	-	-
VA Am. Water PW Sec. 8	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
TOTAL (must sum to 0)	-	-	-	-	-	-	-	-
Credits Available outside Bubble								
VA Am. Water PW Sec. 1	1,174	1,151	1,083	1,083	1,083	1,060	1,060	1,037
VA Am. Water PW Sec. 8	1,174	1,151	1,083	1,083	1,083	1,060	1,060	1,037
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
Expected Net Credits	2,348	2,302	2,166	2,166	2,166	2,120	2,120	2,074
Class A Sales (Purchases)	0	1,382	1,300	1,300	1,300	1,272	1,272	1,244
<i>Expected Class B Credits</i>	2,348	920	866	866	866	848	848	830
<i>WQIF-Held Credits</i>	0	0	0	0	0	0	0	0

NITROGEN FACILITY SUMMARY

VA Am. Water PW Sec. 1
POTOMAC Trading Basin



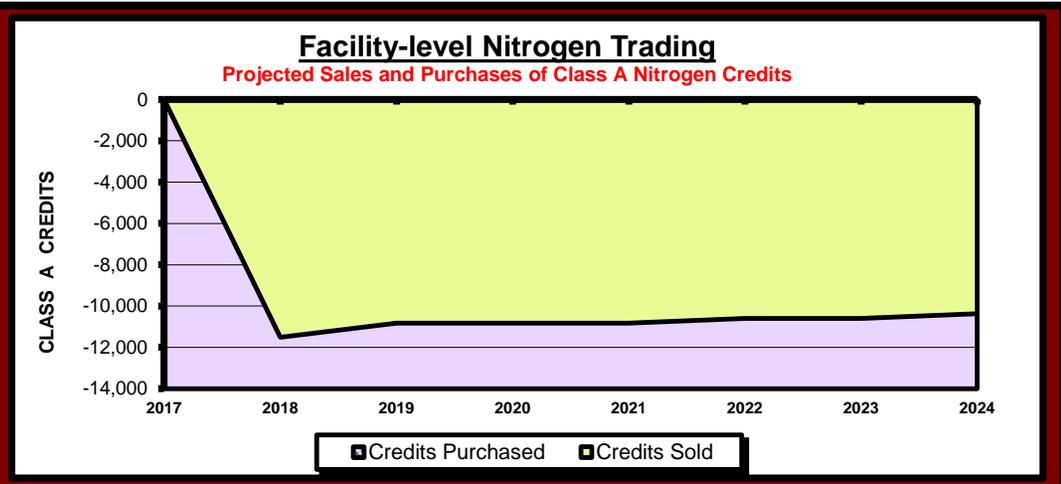
Loading & Credit Summary

Design Flow (mgd)
Projected Flow (mgd)
Projected Avg. Annual Concentration (mg/L)
Discharged Load (end of pipe)
Delivery Factor
Expected Load
Delivered WLA
Expected Credits (delivered)
Transfers In (Out) within Owner Bubble
Transfers In (Out) from Private Exchange
WQIF-Held Credits
Expected Net Credits
Class A Credit Sales (Purchases)
Expected Class B Credits

	2017	2018	2019	2020	2021	2022	2023	2024
	Planning Period					Future Estimates (non-binding)		
Design Flow (mgd)	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
Projected Flow (mgd)	2.95	3.00	3.15	3.15	3.15	3.20	3.20	3.25
Projected Avg. Annual Concentration (mg/L)	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50
Discharged Load (end of pipe)	22,461	22,842	23,984	23,984	23,984	24,364	24,364	24,745
Delivery Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Expected Load	22,461	22,842	23,984	23,984	23,984	24,364	24,364	24,745
Delivered WLA	42,029	42,029	42,029	42,029	42,029	42,029	42,029	42,029
Expected Credits (delivered)	19,568	19,187	18,045	18,045	18,045	17,665	17,665	17,284
Transfers In (Out) within Owner Bubble	0	0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange	0	0	0	0	0	0	0	0
WQIF-Held Credits	0	0	0	0	0	0	0	0
Expected Net Credits	19,568	19,187	18,045	18,045	18,045	17,665	17,665	17,284
Class A Credit Sales (Purchases)	0	11,512	10,827	10,827	10,827	10,599	10,599	10,370
Expected Class B Credits	19,568	7,675	7,218	7,218	7,218	7,066	7,066	6,914

NITROGEN FACILITY SUMMARY

VA Am. Water PW Sec. 8
POTOMAC Trading Basin



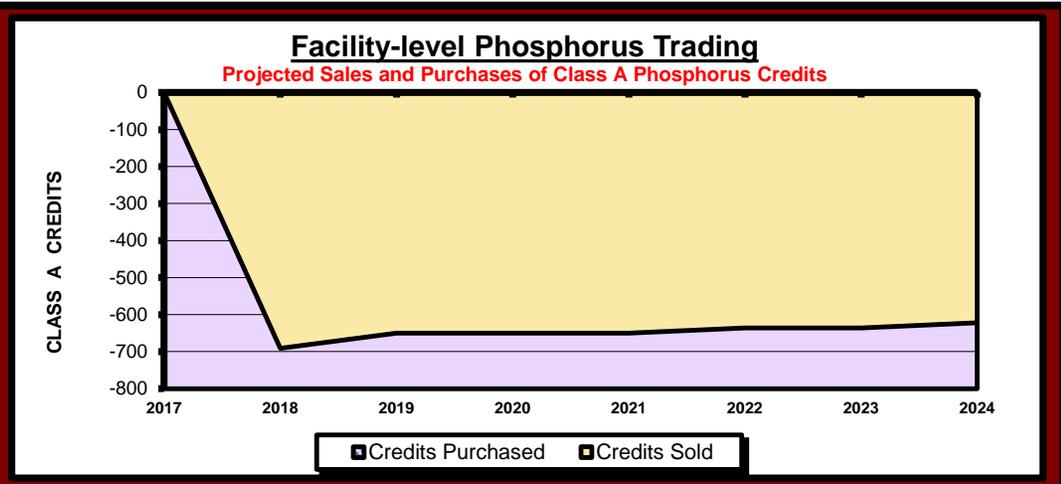
Loading & Credit Summary

Design Flow (mgd)
Projected Flow (mgd)
Projected Avg. Annual Concentration (mg/L)
Discharged Load (end of pipe)
Delivery Factor
Expected Load
Delivered WLA
Expected Credits (delivered)
Transfers In (Out) within Owner Bubble
Transfers In (Out) from Private Exchange
WQIF-Held Credits
Expected Net Credits
Class A Credit Sales (Purchases)
Expected Class B Credits

	2017	2018	2019	2020	2021	2022	2023	2024
	Planning Period					Future Estimates (non-binding)		
Design Flow (mgd)	4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
Projected Flow (mgd)	2.95	3.00	3.15	3.15	3.15	3.20	3.20	3.25
Projected Avg. Annual Concentration (mg/L)	2.50	2.50	2.50	2.50	2.50	2.50	2.50	2.50
Discharged Load (end of pipe)	22,461	22,842	23,984	23,984	23,984	24,364	24,364	24,745
Delivery Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Expected Load	22,461	22,842	23,984	23,984	23,984	24,364	24,364	24,745
Delivered WLA	42,029	42,029	42,029	42,029	42,029	42,029	42,029	42,029
Expected Credits (delivered)	19,568	19,187	18,045	18,045	18,045	17,665	17,665	17,284
Transfers In (Out) within Owner Bubble	0	0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange	0	0	0	0	0	0	0	0
WQIF-Held Credits	0	0	0	0	0	0	0	0
Expected Net Credits	19,568	19,187	18,045	18,045	18,045	17,665	17,665	17,284
Class A Credit Sales (Purchases)	0	11,512	10,827	10,827	10,827	10,599	10,599	10,370
Expected Class B Credits	19,568	7,675	7,218	7,218	7,218	7,066	7,066	6,914

PHOSPHORUS FACILITY SUMMARY

VA Am. Water PW Sec. 1
<i>POTOMAC Trading Basin</i>



Loading & Credit Summary

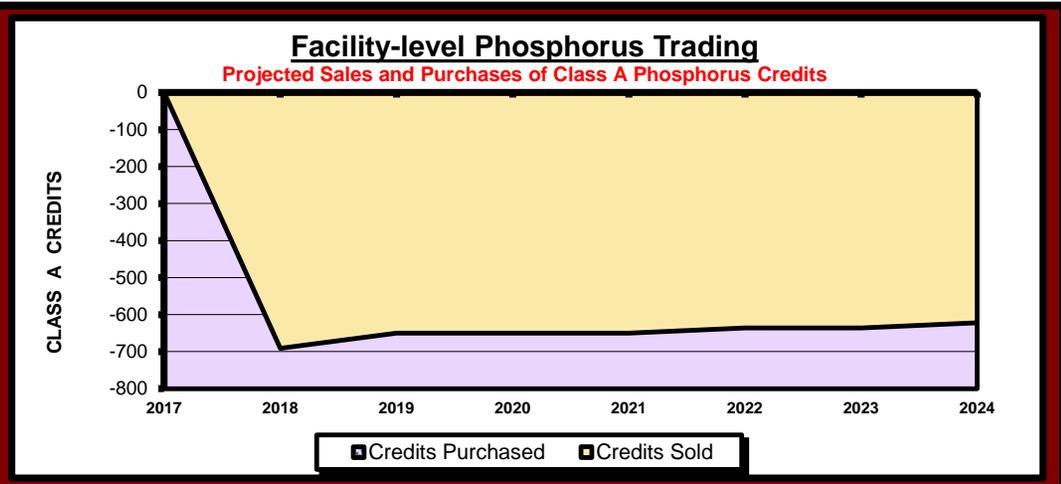
Design Flow (mgd)
Projected Flow (mgd)
Projected Avg. Annual Concentration (mg/L)
Discharged Load (end of pipe)
Delivery Factor
Expected Load
Delivered WLA
Expected Credits (delivered)
Transfers In (Out) within Owner Bubble
Transfers In (Out) from Private Exchange
WQIF-Held Credits
Expected Net Credits
Class A Credit Sales (Purchases)
Expected Class B Credits

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
2.95	3.00	3.15	3.15	3.15	3.20	3.20	3.25
0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
1,348	1,371	1,439	1,439	1,439	1,462	1,462	1,485
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
1,348	1,371	1,439	1,439	1,439	1,462	1,462	1,485
2,522	2,522	2,522	2,522	2,522	2,522	2,522	2,522
1,174	1,151	1,083	1,083	1,083	1,060	1,060	1,037
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
1,174	1,151	1,083	1,083	1,083	1,060	1,060	1,037
0	691	650	650	650	636	636	622
1,174	460	433	433	433	424	424	415

PHOSPHORUS FACILITY SUMMARY

VA Am. Water PW Sec. 8

POTOMAC Trading Basin



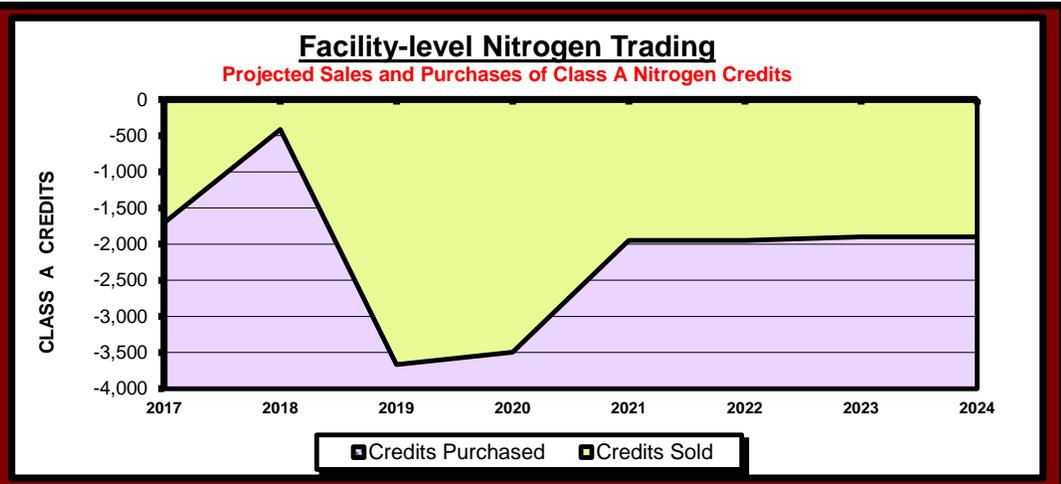
Loading & Credit Summary

Design Flow (mgd)	Projected Flow (mgd)	Projected Avg. Annual Concentration (mg/L)
Discharged Load (end of pipe)	Delivery Factor	Expected Load
Delivered WLA	Expected Credits (delivered)	Transfers In (Out) within Owner Bubble
	Transfers In (Out) from Private Exchange	WQIF-Held Credits
Expected Net Credits	Class A Credit Sales (Purchases)	Expected Class B Credits

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
4.60	4.60	4.60	4.60	4.60	4.60	4.60	4.60
2.95	3.00	3.15	3.15	3.15	3.20	3.20	3.25
0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
1,348	1,371	1,439	1,439	1,439	1,462	1,462	1,485
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
1,348	1,371	1,439	1,439	1,439	1,462	1,462	1,485
2,522	2,522	2,522	2,522	2,522	2,522	2,522	2,522
1,174	1,151	1,083	1,083	1,083	1,060	1,060	1,037
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
1,174	1,151	1,083	1,083	1,083	1,060	1,060	1,037
0	691	650	650	650	636	636	622
1,174	460	433	433	433	424	424	415

NITROGEN FACILITY SUMMARY

Waynesboro
 POTOMAC Trading Basin



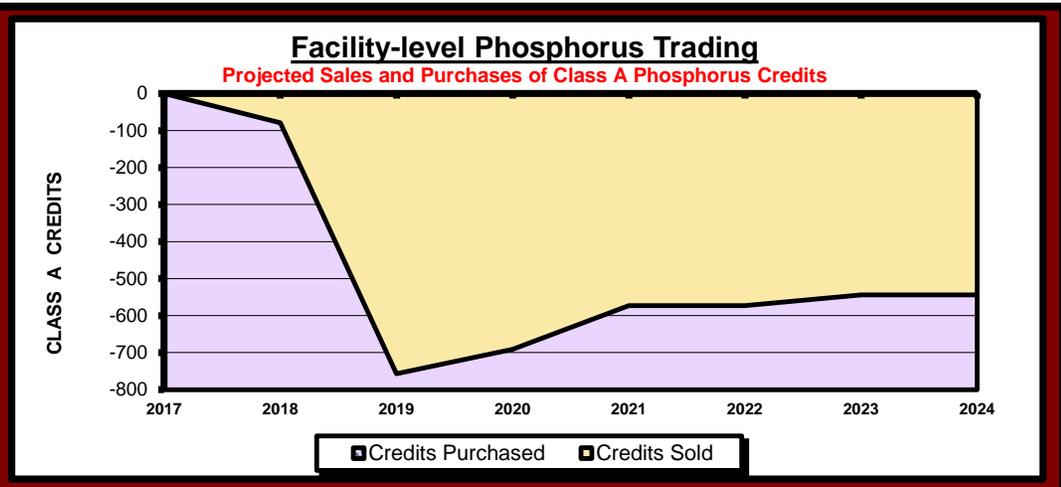
Loading & Credit Summary

Design Flow (mgd)	6.00
Projected Flow (mgd)	3.30
Projected Avg. Annual Concentration (mg/L)	2.00
Discharged Load (end of pipe)	20,101
Delivery Factor	0.14
Expected Load	2,814
Delivered WLA	6,822
Expected Credits (delivered)	4,008
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	4,008
Class A Credit Sales (Purchases)	1,705
Expected Class B Credits	2,303

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
3.30	3.50	3.70	3.90	4.00	4.00	4.10	4.10
2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
20,101	21,319	22,537	23,755	24,364	24,364	24,974	24,974
0.14	0.14	0.14	0.14	0.08	0.08	0.08	0.08
2,814	2,985	3,155	3,326	1,949	1,949	1,998	1,998
6,822	6,822	6,822	6,822	3,898	3,898	3,898	3,898
4,008	3,837	3,667	3,496	1,949	1,949	1,900	1,900
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
4,008	3,837	3,667	3,496	1,949	1,949	1,900	1,900
1,705	414	3,667	3,496	1,949	1,949	1,900	1,900
2,303	3,423	0	0	0	0	0	0

PHOSPHORUS FACILITY SUMMARY

Waynesboro
POTOMAC Trading Basin



Loading & Credit Summary

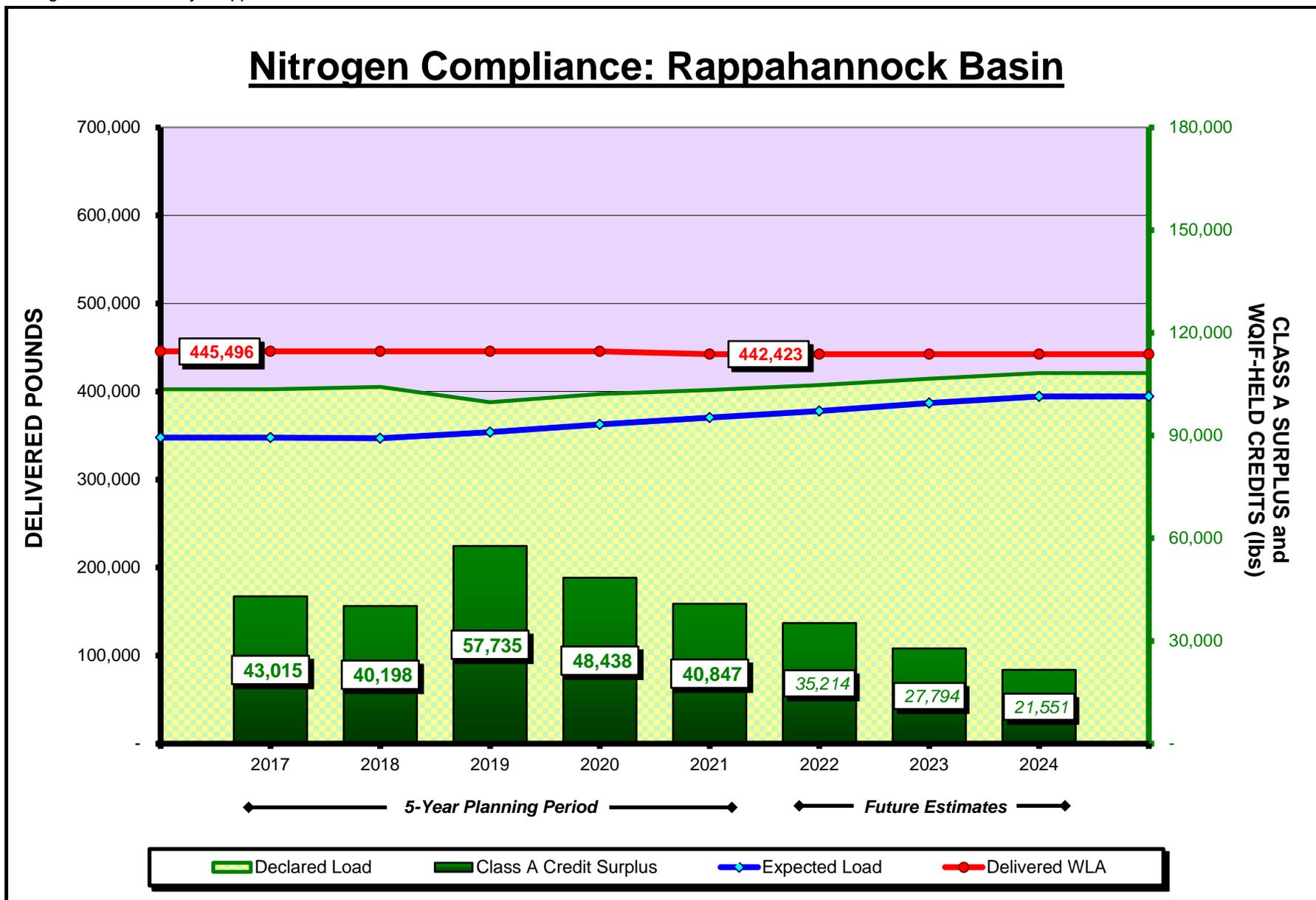
Design Flow (mgd)	6.00
Projected Flow (mgd)	3.30
Projected Avg. Annual Concentration (mg/L)	0.20
Discharged Load (end of pipe)	2,010
Delivery Factor	0.54
Expected Load	1,085
Delivered WLA	1,974
Expected Credits (delivered)	889
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	889
Class A Credit Sales (Purchases)	0
Expected Class B Credits	889

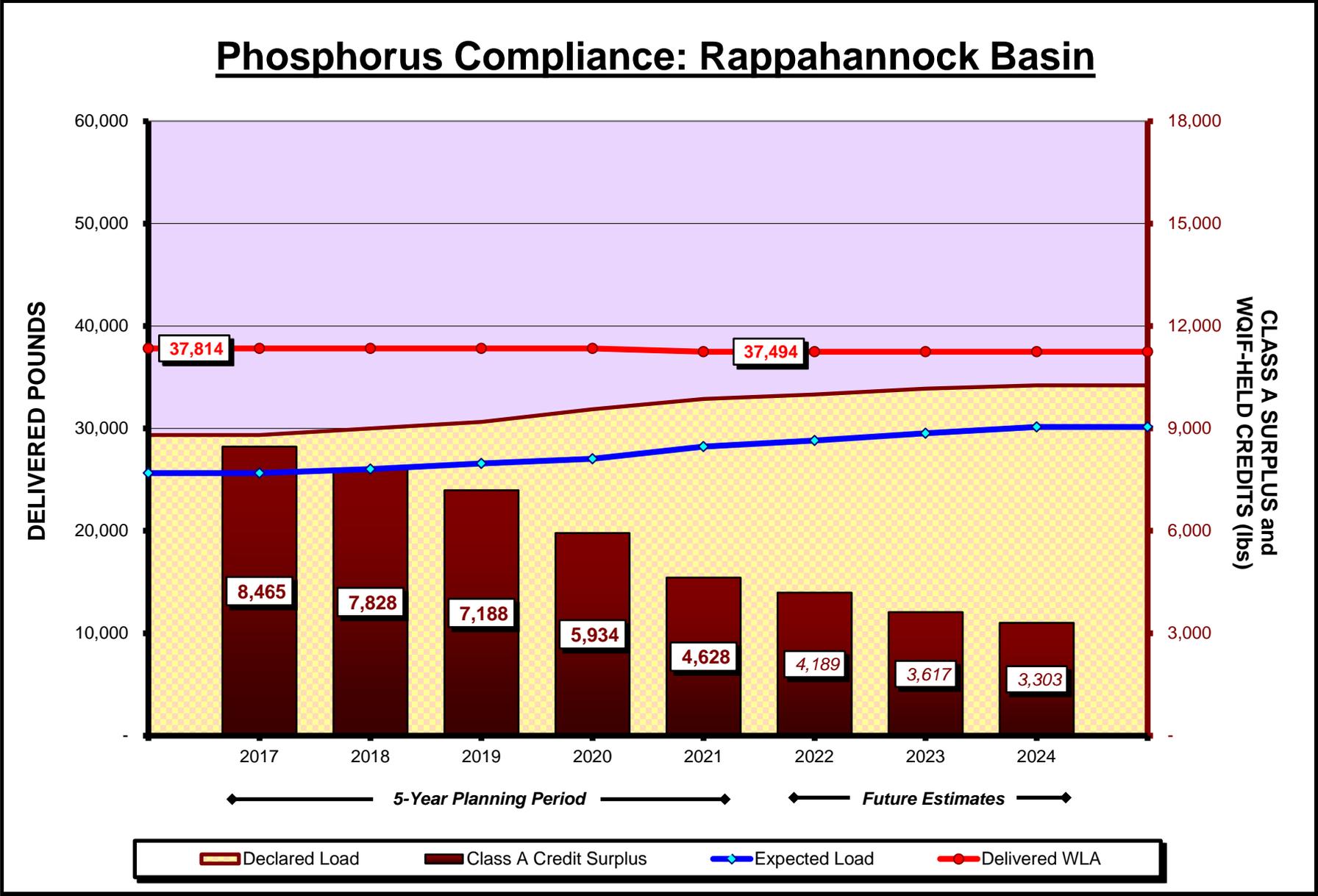
2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
3.30	3.50	3.70	3.90	4.00	4.00	4.10	4.10
0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
2,010	2,132	2,254	2,376	2,436	2,436	2,497	2,497
0.54	0.54	0.54	0.54	0.47	0.47	0.47	0.47
1,085	1,151	1,217	1,283	1,145	1,145	1,174	1,174
1,974	1,974	1,974	1,974	1,718	1,718	1,718	1,718
889	823	757	691	573	573	544	544
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
889	823	757	691	573	573	544	544
0	79	757	691	573	573	544	544
889	744	0	0	0	0	0	0

SECTION 3

Rappahannock River Basin Exchange Compliance Plan







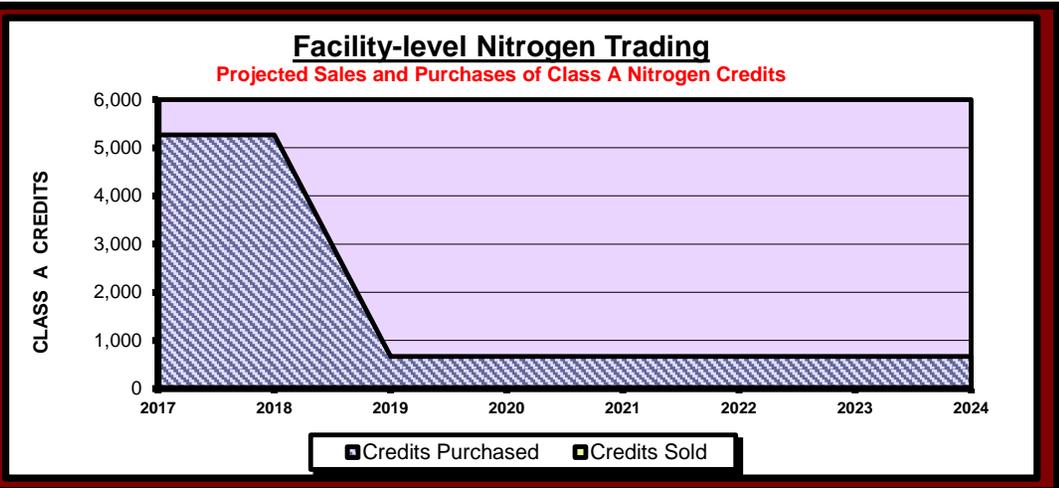
Rappahannock River Basin

Supplemental Information for Individual Facilities



NITROGEN FACILITY SUMMARY

American Water-Fort Hill
RAPPAHANNOCK Trading Basin



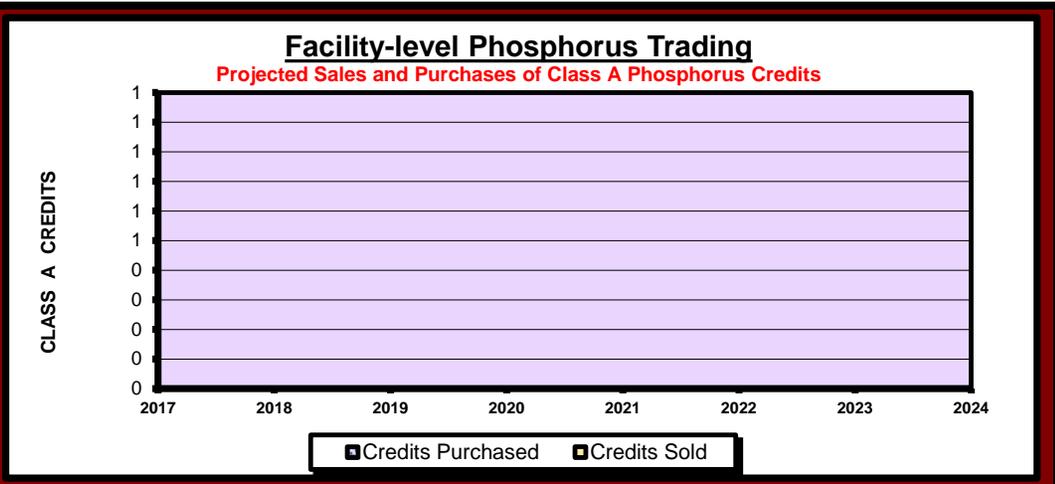
Loading & Credit Summary

Design Flow (mgd)	0.53
Projected Flow (mgd)	0.09
Projected Avg. Annual Concentration (mg/L)	26.00
Discharged Load (end of pipe)	7,127
Delivery Factor	1.00
Expected Load	7,127
Delivered WLA	6,457
Expected Credits (delivered)	(670)
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	(670)
Class A Credit Sales (Purchases)	(5,268)
Expected Class B Credits	4,598

	2017	2018	2019	2020	2021	2022	2023	2024
	Planning Period					Future Estimates (non-binding)		
Design Flow (mgd)	0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53
Projected Flow (mgd)	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
Projected Avg. Annual Concentration (mg/L)	26.00	26.00	26.00	26.00	26.00	26.00	26.00	26.00
Discharged Load (end of pipe)	7,127	7,127	7,127	7,127	7,127	7,127	7,127	7,127
Delivery Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Expected Load	7,127	7,127	7,127	7,127	7,127	7,127	7,127	7,127
Delivered WLA	6,457	6,457	6,457	6,457	6,457	6,457	6,457	6,457
Expected Credits (delivered)	(670)	(670)	(670)	(670)	(670)	(670)	(670)	(670)
Transfers In (Out) within Owner Bubble	0	0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange	0	0	0	0	0	0	0	0
WQIF-Held Credits	0	0	0	0	0	0	0	0
Expected Net Credits	(670)	(670)	(670)	(670)	(670)	(670)	(670)	(670)
Class A Credit Sales (Purchases)	(5,268)	(5,268)	(670)	(670)	(670)	(670)	(670)	(670)
Expected Class B Credits	4,598	4,598	0	0	0	0	0	0

PHOSPHORUS FACILITY SUMMARY

American Water-Fort Hill
RAPPAHANNOCK Trading Basin



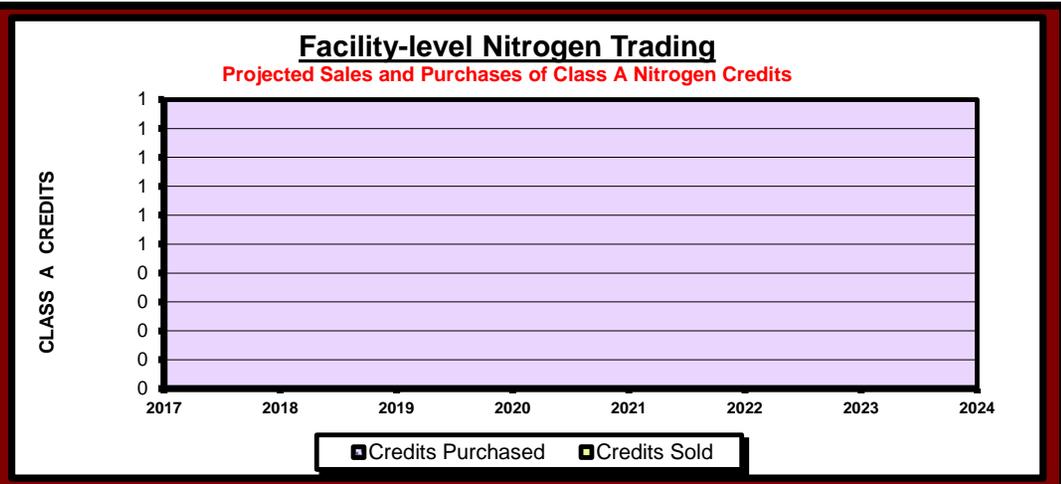
Loading & Credit Summary

Design Flow (mgd)
Projected Flow (mgd)
Projected Avg. Annual Concentration (mg/L)
Discharged Load (end of pipe)
Delivery Factor
Expected Load
Delivered WLA
Expected Credits (delivered)
Transfers In (Out) within Owner Bubble
Transfers In (Out) from Private Exchange
WQIF-Held Credits
Expected Net Credits
Class A Credit Sales (Purchases)
Expected Class B Credits

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53
0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.40
384	384	384	384	384	384	384	384
0.99	0.99	0.99	0.99	1.00	1.00	1.00	1.00
380	380	380	380	384	384	384	384
479	479	479	479	484	484	484	484
99	99	99	99	100	100	100	100
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
99	99	99	99	100	100	100	100
0	0	0	0	0	0	0	0
99	99	99	99	100	100	100	100

NITROGEN FACILITY SUMMARY

Aqua Virginia-Pres. Lakes
RAPPAHANNOCK Trading Basin



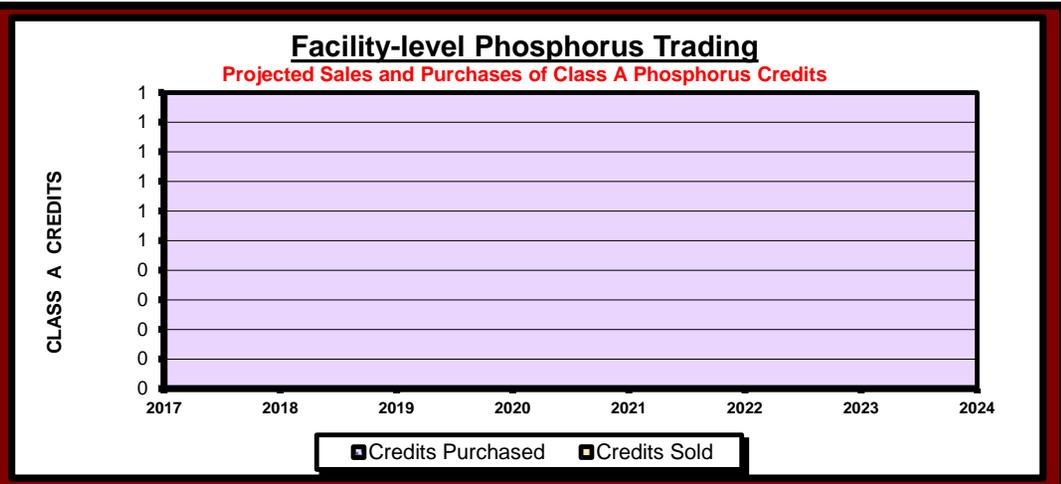
Loading & Credit Summary

Design Flow (mgd)	0.07
Projected Flow (mgd)	0.05
Projected Avg. Annual Concentration (mg/L)	8.00
Discharged Load (end of pipe)	1,267
Delivery Factor	1.00
Expected Load	1,267
Delivered WLA	1,994
Expected Credits (delivered)	727
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	727
Class A Credit Sales (Purchases)	0
Expected Class B Credits	727

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00
1,267	1,267	1,267	1,267	1,267	1,267	1,267	1,267
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
1,267	1,267	1,267	1,267	1,267	1,267	1,267	1,267
1,994	1,994	1,994	1,994	1,994	1,994	1,994	1,994
727	727	727	727	727	727	727	727
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
727	727	727	727	727	727	727	727
0	0	0	0	0	0	0	0
727	727	727	727	727	727	727	727

PHOSPHORUS FACILITY SUMMARY

Aqua Virginia-Pres. Lakes
RAPPAHANNOCK Trading Basin



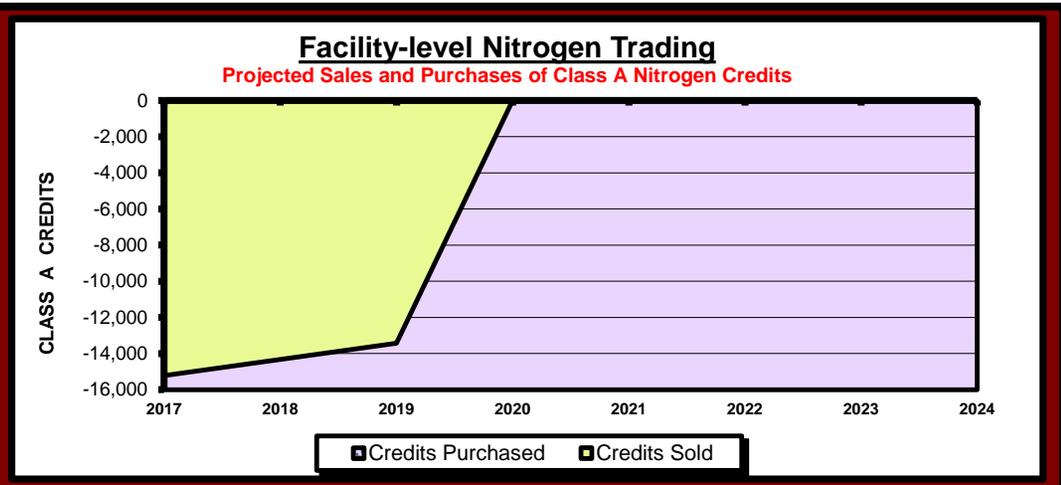
Loading & Credit Summary

Design Flow (mgd)	Projected Flow (mgd)	Projected Avg. Annual Concentration (mg/L)	Discharged Load (end of pipe)	Delivery Factor	Expected Load	Delivered WLA	Expected Credits (delivered)	Transfers In (Out) within Owner Bubble	Transfers In (Out) from Private Exchange	WQIF-Held Credits	Expected Net Credits
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2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
158	158	158	158	158	158	158	158
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
158	158	158	158	158	158	158	158
267	267	267	267	267	267	267	267
109	109	109	109	109	109	109	109
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
109	109	109	109	109	109	109	109
0	0	0	0	0	0	0	0
109	109	109	109	109	109	109	109

NITROGEN FACILITY SUMMARY

Culpeper (Town)
RAPPAHANNOCK Trading Basin



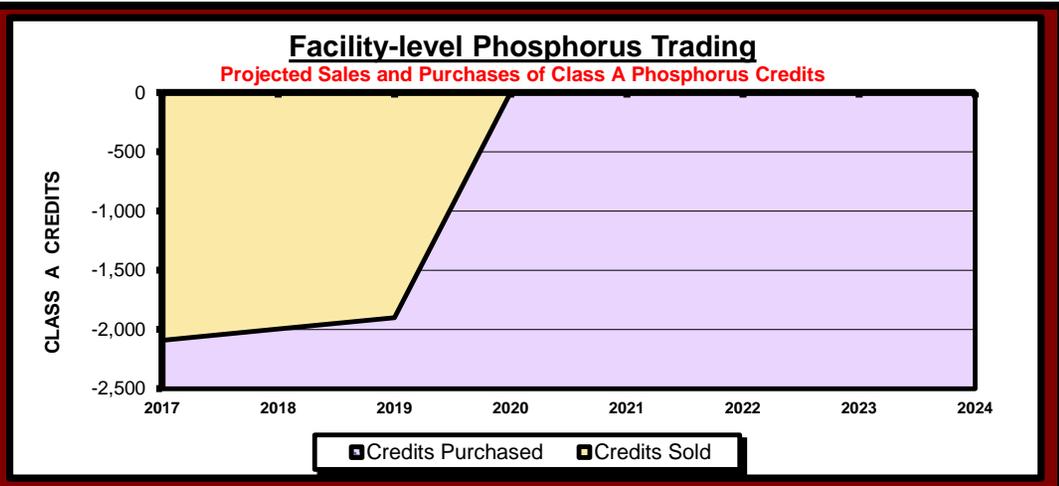
Loading & Credit Summary

Design Flow (mgd)	6.00
Projected Flow (mgd)	4.60
Projected Avg. Annual Concentration (mg/L)	3.00
Discharged Load (end of pipe)	
Delivery Factor	0.49
Expected Load	20,594
Delivered WLA	35,816
Expected Credits (delivered)	
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	15,222
Class A Credit Sales (Purchases)	15,222
Expected Class B Credits	0

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
4.60	4.80	5.00	5.20	5.40	5.60	5.80	6.00
3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
42,029	43,856	45,683	47,511	49,338	51,165	52,993	54,820
0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49
20,594	21,489	22,385	23,280	24,176	25,071	25,966	26,862
35,816	35,816	35,816	35,816	35,816	35,816	35,816	35,816
15,222	14,327	13,431	12,536	11,640	10,745	9,850	8,954
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
15,222	14,327	13,431	12,536	11,640	10,745	9,850	8,954
15,222	14,327	13,431	0	0	0	0	0
0	0	0	12,536	11,640	10,745	9,850	8,954

PHOSPHORUS FACILITY SUMMARY

Culpeper (Town)
RAPPAHANNOCK Trading Basin



Loading & Credit Summary

Design Flow (mgd)	6.00
Projected Flow (mgd)	4.60
Projected Avg. Annual Concentration (mg/L)	0.20
Discharged Load (end of pipe)	2,802
Delivery Factor	0.78
Expected Load	2,185
Delivered WLA	4,277
Expected Credits (delivered)	2,092
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	2,092
Class A Credit Sales (Purchases)	2,092
Expected Class B Credits	0

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
4.60	4.80	5.00	5.20	5.40	5.60	5.80	6.00
0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
2,802	2,924	3,046	3,167	3,289	3,411	3,533	3,655
0.78	0.78	0.78	0.78	0.75	0.75	0.75	0.75
2,185	2,281	2,376	2,471	2,467	2,558	2,650	2,741
4,277	4,277	4,277	4,277	4,112	4,112	4,112	4,112
2,092	1,996	1,901	1,806	1,645	1,554	1,462	1,371
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
2,092	1,996	1,901	1,806	1,645	1,554	1,462	1,371
0	0	0	1,806	1,645	1,554	1,462	1,371

Owner Bubble: Fauquier County Water and Sanitation Authority

The facilities listed below have received an aggregated mass load limit pursuant to 9 VAC 25-820-70, Part 1.B.2., which is also referred to as an “owner bubble”. Accordingly, compliance is determined solely on an aggregate basis rather than by comparison of individual facility loads with respective individual WLAs.

The “Credit Transferred within Bubble” section of each table forecasts the use of Credits within the owner bubble during each Compliance Year, and must necessarily sum to zero. The specific Credit transfers shown in this table are provided for internal planning purposes only and, accordingly, are not binding and may change based on the actual performance of individual facilities within the bubble.

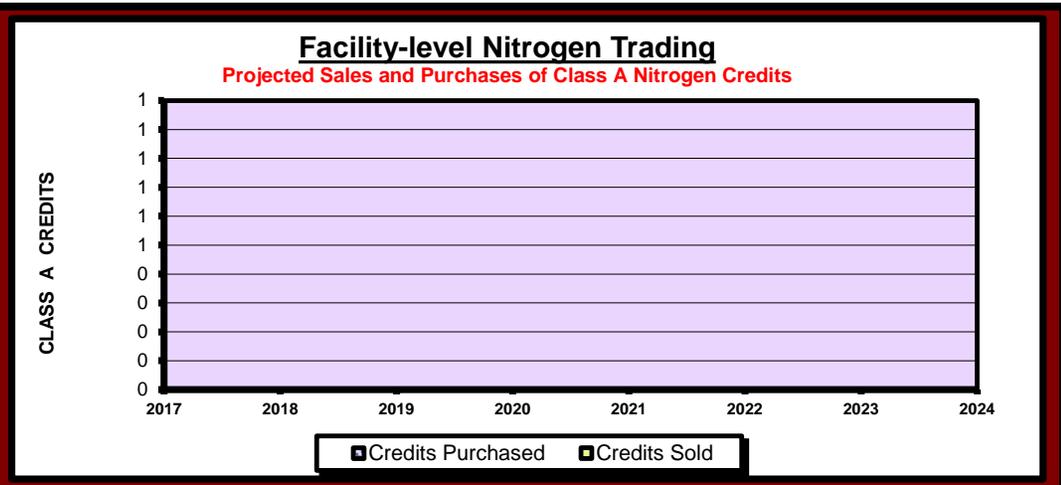
Expected Net Credits for an owner bubble may be either positive or negative. If Expected Net Credits is positive, the owner may pledge a percentage of such Credits to the Exchange. If Expected Net Credits is negative, Net Expected Credits identifies the number of Credits that must be purchased to comply with the aggregate Delivered WLA of the bubble.

NITROGEN Credits	Exchange 5-year Planning Period					Future Projections		
	2017	2018	2019	2020	2021	2022	2023	2024
Credits Transferred within Bubble								
Marshall	139	186	278	371	463	556	648	741
Remington	(139)	(186)	(278)	(371)	(463)	(556)	(648)	(741)
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
TOTAL (must sum to 0)	-	-	-	-	-	-	-	-
Credits Available outside Bubble								
Marshall	-	-	-	-	-	-	-	-
Remington	4,516	4,111	3,661	3,449	3,237	3,025	2,814	2,601
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
Expected Net Credits	4,516	4,111	3,661	3,449	3,237	3,025	2,814	2,601
Class A Sales (Purchases)	0	0	0	0	0	0	0	0
<i>Expected Class B Credits</i>	<i>4,516</i>	<i>4,111</i>	<i>3,661</i>	<i>3,449</i>	<i>3,237</i>	<i>3,025</i>	<i>2,814</i>	<i>2,601</i>
<i>WQIF-Held Credits</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>

PHOSPHORUS Credits	Exchange 5-year Planning Period					Future Projections		
	2017	2018	2019	2020	2021	2022	2023	2024
Credits Transferred within Bubble								
Marshall	-	-	-	-	-	-	-	-
Remington	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
TOTAL (must sum to 0)	-	-	-	-	-	-	-	-
Credits Available outside Bubble								
Marshall	204	197	183	169	151	137	124	110
Remington	556	513	470	456	424	411	397	383
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
Expected Net Credits	760	710	653	625	575	548	521	493
Class A Sales (Purchases)	0	0	0	0	0	0	0	0
<i>Expected Class B Credits</i>	<i>760</i>	<i>710</i>	<i>653</i>	<i>625</i>	<i>575</i>	<i>548</i>	<i>521</i>	<i>493</i>
<i>WQIF-Held Credits</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>

NITROGEN FACILITY SUMMARY

FCWSA-Marshall
RAPPAHANNOCK Trading Basin



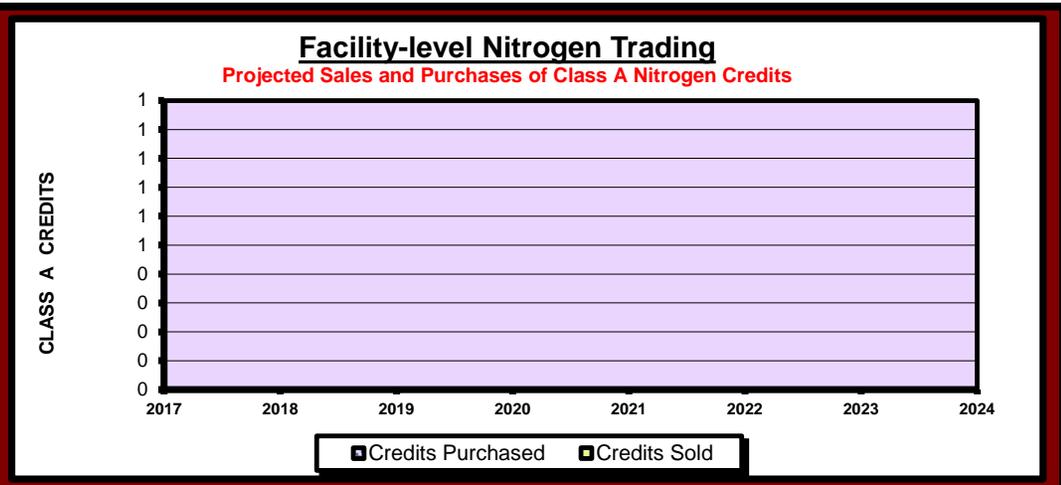
Loading & Credit Summary

Design Flow (mgd)	0.64
Projected Flow (mgd)	0.35
Projected Avg. Annual Concentration (mg/L)	8.00
Discharged Load (end of pipe)	8,528
Delivery Factor	0.19
Expected Load	1,620
Delivered WLA	1,481
Expected Credits (delivered)	(139)
Transfers In (Out) within Owner Bubble	139
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	0
Class A Credit Sales (Purchases)	0
Expected Class B Credits	0

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64
0.35	0.36	0.38	0.40	0.42	0.44	0.46	0.48
8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00
8,528	8,771	9,259	9,746	10,233	10,720	11,208	11,695
0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
1,620	1,667	1,759	1,852	1,944	2,037	2,129	2,222
1,481	1,481	1,481	1,481	1,481	1,481	1,481	1,481
(139)	(186)	(278)	(371)	(463)	(556)	(648)	(741)
139	186	278	371	463	556	648	741
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0

NITROGEN FACILITY SUMMARY

FCWSA-Remington
RAPPAHANNOCK Trading Basin

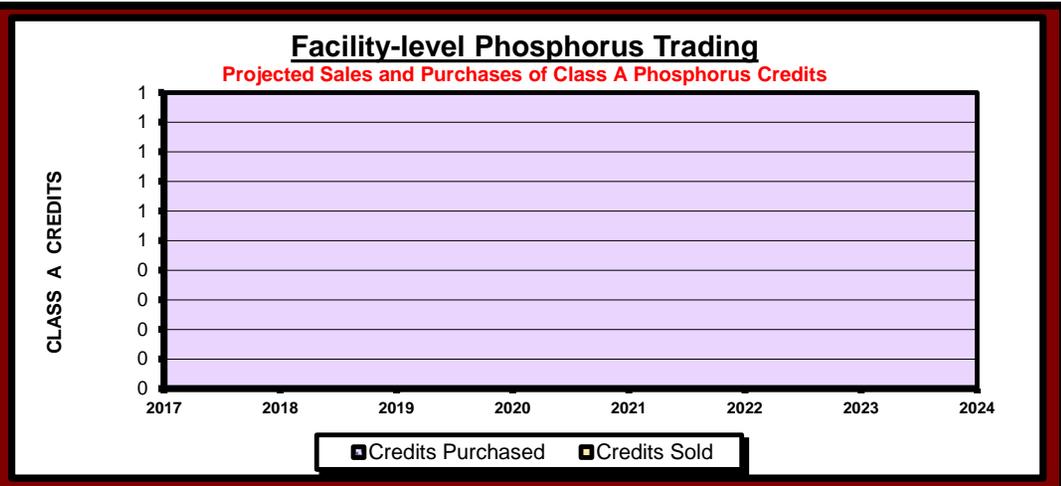


	2017	2018	2019	2020	2021	2022	2023	2024
	Planning Period					Future Estimates (non-binding)		
Design Flow (mgd)	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Projected Flow (mgd)	1.22	1.28	1.34	1.36	1.38	1.40	1.42	1.44
Projected Avg. Annual Concentration (mg/L)	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Discharged Load (end of pipe)	14,862	15,593	16,324	16,568	16,811	17,055	17,299	17,542
Delivery Factor	0.49	0.49	0.49	0.49	0.49	0.49	0.49	0.49
Expected Load	7,283	7,641	7,999	8,118	8,238	8,357	8,476	8,596
Delivered WLA	11,938	11,938	11,938	11,938	11,938	11,938	11,938	11,938
Expected Credits (delivered)	4,655	4,297	3,939	3,820	3,700	3,581	3,462	3,342
Transfers In (Out) within Owner Bubble	(139)	(186)	(278)	(371)	(463)	(556)	(648)	(741)
Transfers In (Out) from Private Exchange	0	0	0	0	0	0	0	0
WQIF-Held Credits	0	0	0	0	0	0	0	0
Expected Net Credits	4,516	4,111	3,661	3,449	3,237	3,025	2,814	2,601
Class A Credit Sales (Purchases)	0	0	0	0	0	0	0	0
Expected Class B Credits	4,516	4,111	3,661	3,449	3,237	3,025	2,814	2,601

PHOSPHORUS FACILITY SUMMARY

FCWSA-Marshall

RAPPAHANNOCK Trading Basin



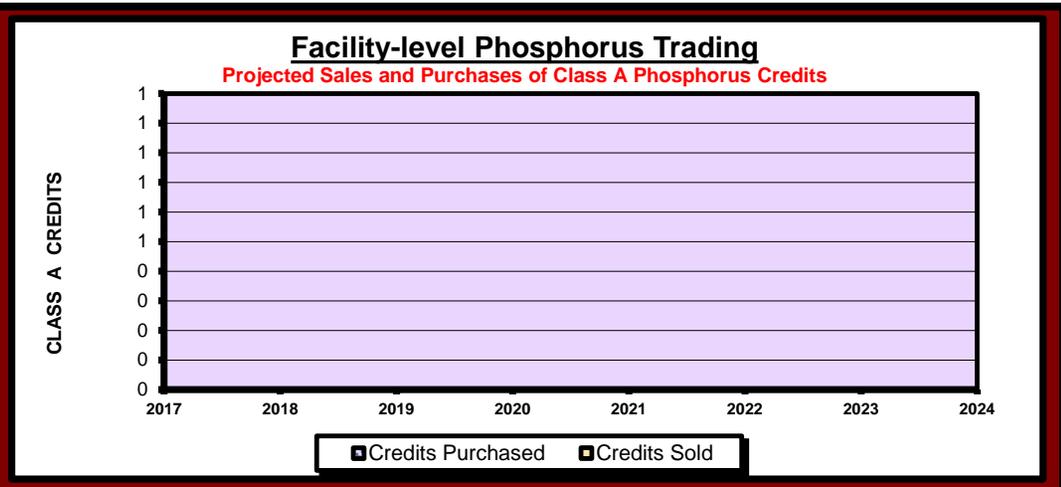
Loading & Credit Summary

Design Flow (mgd)	0.64
Projected Flow (mgd)	0.35
Projected Avg. Annual Concentration (mg/L)	0.30
Discharged Load (end of pipe)	320
Delivery Factor	0.77
Expected Load	246
Delivered WLA	450
Expected Credits (delivered)	204
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	204
Class A Credit Sales (Purchases)	0
Expected Class B Credits	204

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
0.64	0.64	0.64	0.64	0.64	0.64	0.64	0.64
0.35	0.36	0.38	0.40	0.42	0.44	0.46	0.48
0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
320	329	347	365	384	402	420	439
0.77	0.77	0.77	0.77	0.75	0.75	0.75	0.75
246	253	267	281	288	302	315	329
450	450	450	450	439	439	439	439
204	197	183	169	151	137	124	110
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
204	197	183	169	151	137	124	110
0	0	0	0	0	0	0	0
204	197	183	169	151	137	124	110

PHOSPHORUS FACILITY SUMMARY

FCWSA-Remington
RAPPAHANNOCK Trading Basin



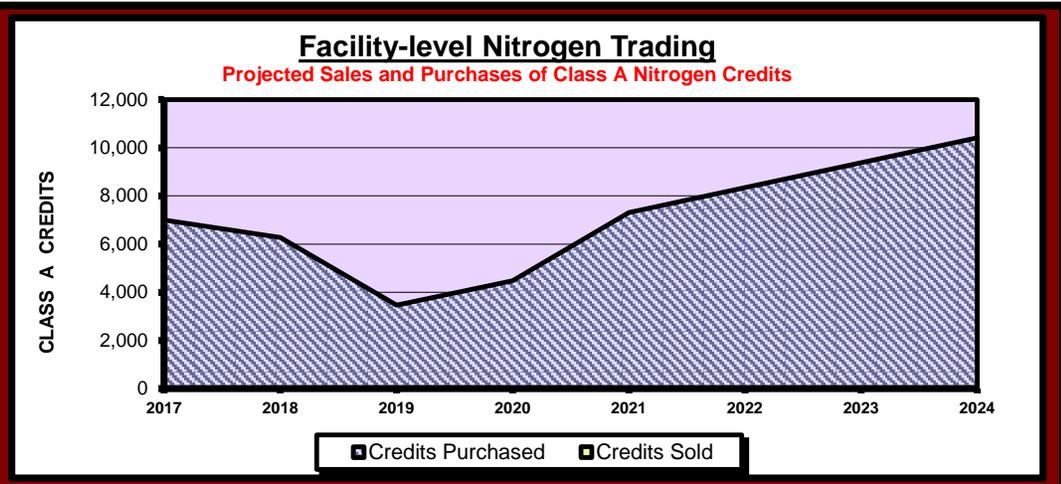
Loading & Credit Summary

Design Flow (mgd)	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Projected Flow (mgd)	1.22	1.28	1.34	1.36	1.38	1.40	1.42	1.44
Projected Avg. Annual Concentration (mg/L)	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
Discharged Load (end of pipe)	1,115	1,169	1,224	1,243	1,261	1,279	1,297	1,316
Delivery Factor	0.78	0.78	0.78	0.78	0.75	0.75	0.75	0.75
Expected Load	869	912	955	969	946	959	973	987
Delivered WLA	1,425	1,425	1,425	1,425	1,370	1,370	1,370	1,370
Expected Credits (delivered)	556	513	470	456	424	411	397	383
Transfers In (Out) within Owner Bubble	0	0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange	0	0	0	0	0	0	0	0
WQIF-Held Credits	0	0	0	0	0	0	0	0
Expected Net Credits	556	513	470	456	424	411	397	383
Class A Credit Sales (Purchases)	0							
Expected Class B Credits	556	513	470	456	424	411	397	383

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
1.22	1.28	1.34	1.36	1.38	1.40	1.42	1.44
0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
1,115	1,169	1,224	1,243	1,261	1,279	1,297	1,316
0.78	0.78	0.78	0.78	0.75	0.75	0.75	0.75
869	912	955	969	946	959	973	987
1,425	1,425	1,425	1,425	1,370	1,370	1,370	1,370
556	513	470	456	424	411	397	383
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
556	513	470	456	424	411	397	383
0	0	0	0	0	0	0	0
556	513	470	456	424	411	397	383

NITROGEN FACILITY SUMMARY

Fredericksburg
RAPPAHANNOCK Trading Basin



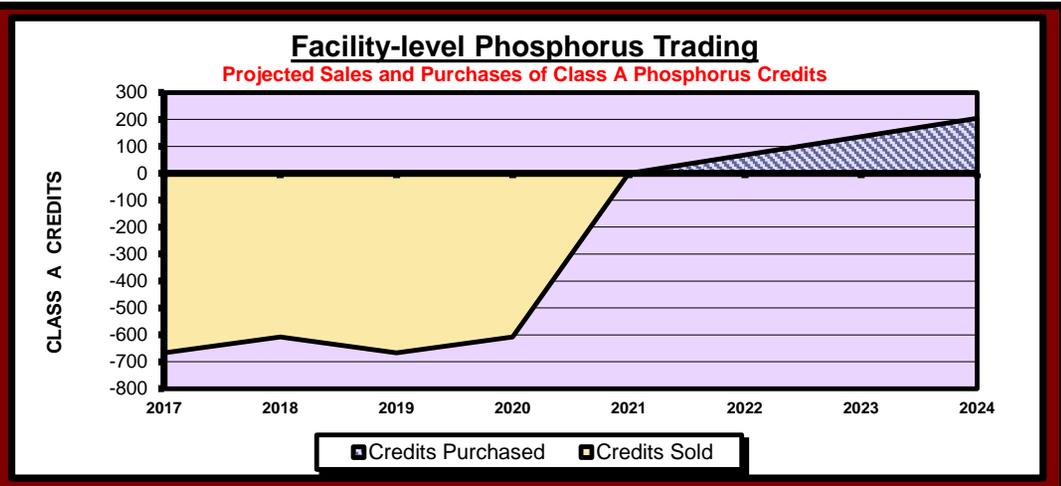
Loading & Credit Summary

Design Flow (mgd)
Projected Flow (mgd)
Projected Avg. Annual Concentration (mg/L)
Discharged Load (end of pipe)
Delivery Factor
Expected Load
Delivered WLA
Expected Credits (delivered)
Transfers In (Out) within Owner Bubble
Transfers In (Out) from Private Exchange
WQIF-Held Credits
Expected Net Credits
Class A Credit Sales (Purchases)
Expected Class B Credits

	2017	2018	2019	2020	2021	2022	2023	2024
	Planning Period					Future Estimates (non-binding)		
Design Flow (mgd)	4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50
Projected Flow (mgd)	2.90	2.95	2.90	2.95	3.00	3.05	3.10	3.15
Projected Avg. Annual Concentration (mg/L)	7.00	6.80	6.60	6.60	6.80	6.80	6.80	6.80
Discharged Load (end of pipe)	61,825	61,094	58,292	59,297	62,129	63,165	64,200	65,236
Delivery Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Expected Load	61,825	61,094	58,292	59,297	62,129	63,165	64,200	65,236
Delivered WLA	54,820	54,820	54,820	54,820	54,820	54,820	54,820	54,820
Expected Credits (delivered)	(7,005)	(6,274)	(3,472)	(4,477)	(7,309)	(8,345)	(9,380)	(10,416)
Transfers In (Out) within Owner Bubble	0	0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange	0	0	0	0	0	0	0	0
WQIF-Held Credits	0	0	0	0	0	0	0	0
Expected Net Credits	(7,005)	(6,274)	(3,472)	(4,477)	(7,309)	(8,345)	(9,380)	(10,416)
Class A Credit Sales (Purchases)	(7,005)	(6,274)	(3,472)	(4,477)	(7,309)	(8,345)	(9,380)	(10,416)
Expected Class B Credits	0	0	0	0	0	0	0	0

PHOSPHORUS FACILITY SUMMARY

Fredericksburg
RAPPAHANNOCK Trading Basin



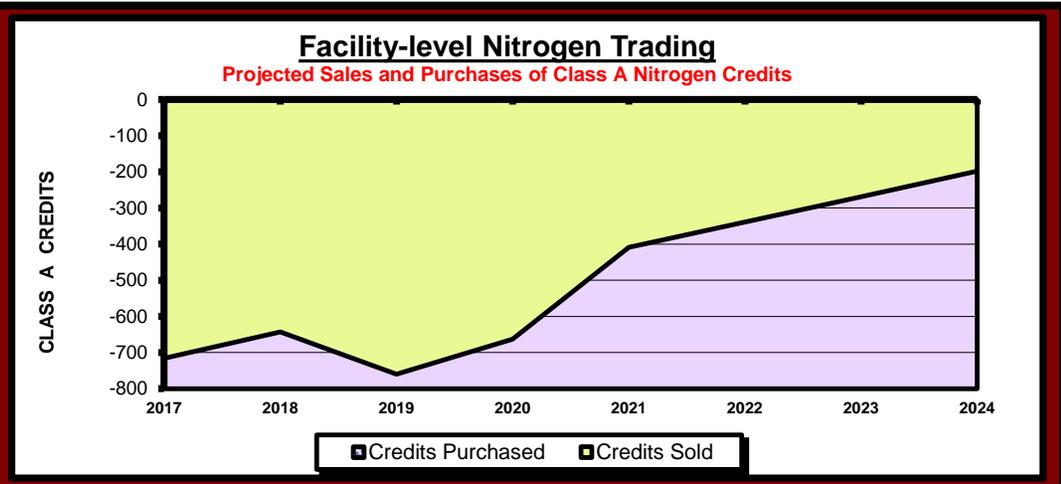
Loading & Credit Summary

Design Flow (mgd)	4.50
Projected Flow (mgd)	2.90
Projected Avg. Annual Concentration (mg/L)	0.39
Discharged Load (end of pipe)	3,445
Delivery Factor	1.00
Expected Load	3,445
Delivered WLA	4,112
Expected Credits (delivered)	667
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	667
Class A Credit Sales (Purchases)	667
Expected Class B Credits	0

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
4.50	4.50	4.50	4.50	4.50	4.50	4.50	4.50
2.90	2.95	2.90	2.95	3.00	3.05	3.10	3.15
0.39	0.39	0.39	0.39	0.45	0.45	0.45	0.45
3,445	3,504	3,445	3,504	4,112	4,180	4,249	4,317
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
3,445	3,504	3,445	3,504	4,112	4,180	4,249	4,317
4,112	4,112	4,112	4,112	4,112	4,112	4,112	4,112
667	608	667	608	0	(68)	(137)	(205)
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
667	608	667	608	0	(68)	(137)	(205)
0	0	0	0	0	0	0	0

NITROGEN FACILITY SUMMARY

Greene Co-Rapidan
RAPPAHANNOCK Trading Basin



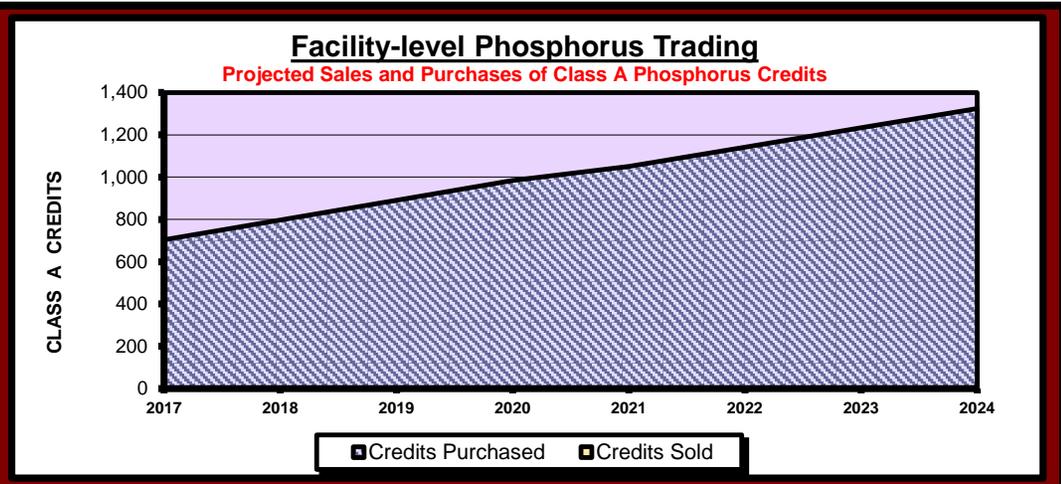
Loading & Credit Summary

Design Flow (mgd)	0.60
Projected Flow (mgd)	0.12
Projected Avg. Annual Concentration (mg/L)	11.00
Discharged Load (end of pipe)	4,020
Delivery Factor	0.29
Expected Load	1,166
Delivered WLA	2,120
Expected Credits (delivered)	954
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	954
Class A Credit Sales (Purchases)	716
Expected Class B Credits	238

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
0.12	0.13	0.14	0.15	0.16	0.17	0.18	0.19
11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00
4,020	4,355	4,690	5,025	5,360	5,695	6,030	6,365
0.29	0.29	0.29	0.29	0.21	0.21	0.21	0.21
1,166	1,263	1,360	1,457	1,126	1,196	1,266	1,337
2,120	2,120	2,120	2,120	1,535	1,535	1,535	1,535
954	857	760	663	409	339	269	198
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
954	857	760	663	409	339	269	198
716	643	760	663	409	339	269	198
238	214	0	0	0	0	0	0

PHOSPHORUS FACILITY SUMMARY

Greene Co-Rapidan
RAPPAHANNOCK Trading Basin



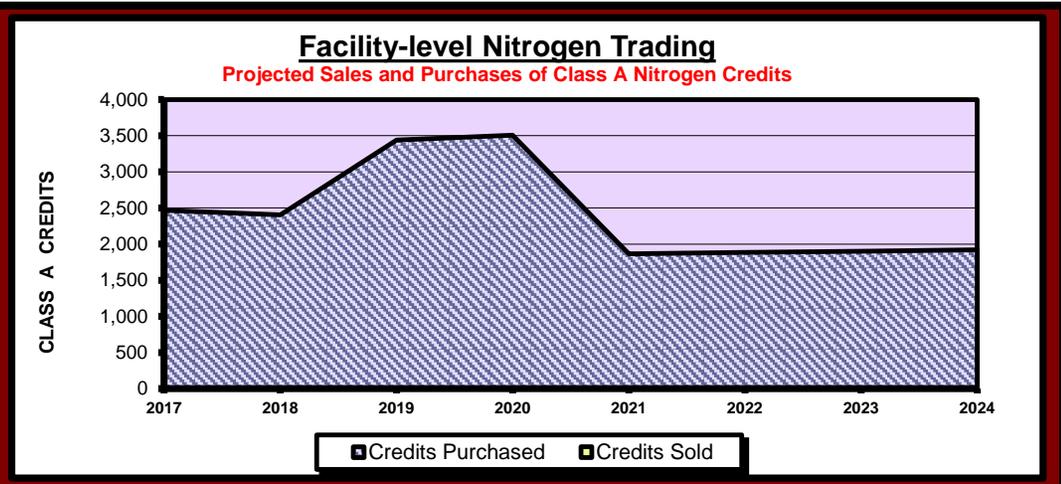
Loading & Credit Summary

Design Flow (mgd)
Projected Flow (mgd)
Projected Avg. Annual Concentration (mg/L)
Discharged Load (end of pipe)
Delivery Factor
Expected Load
Delivered WLA
Expected Credits (delivered)
Transfers In (Out) within Owner Bubble
Transfers In (Out) from Private Exchange
WQIF-Held Credits
Expected Net Credits
Class A Credit Sales (Purchases)
Expected Class B Credits

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
0.12	0.13	0.14	0.15	0.16	0.17	0.18	0.19
4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
1,462	1,584	1,706	1,827	1,949	2,071	2,193	2,315
0.77	0.77	0.77	0.77	0.75	0.75	0.75	0.75
1,126	1,219	1,313	1,407	1,462	1,553	1,645	1,736
422	422	422	422	411	411	411	411
(704)	(797)	(891)	(985)	(1,051)	(1,142)	(1,234)	(1,325)
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
(704)	(797)	(891)	(985)	(1,051)	(1,142)	(1,234)	(1,325)
0	0	0	0	0	0	0	0

NITROGEN FACILITY SUMMARY

HRSD-Urbanna
RAPPAHANNOCK Trading Basin



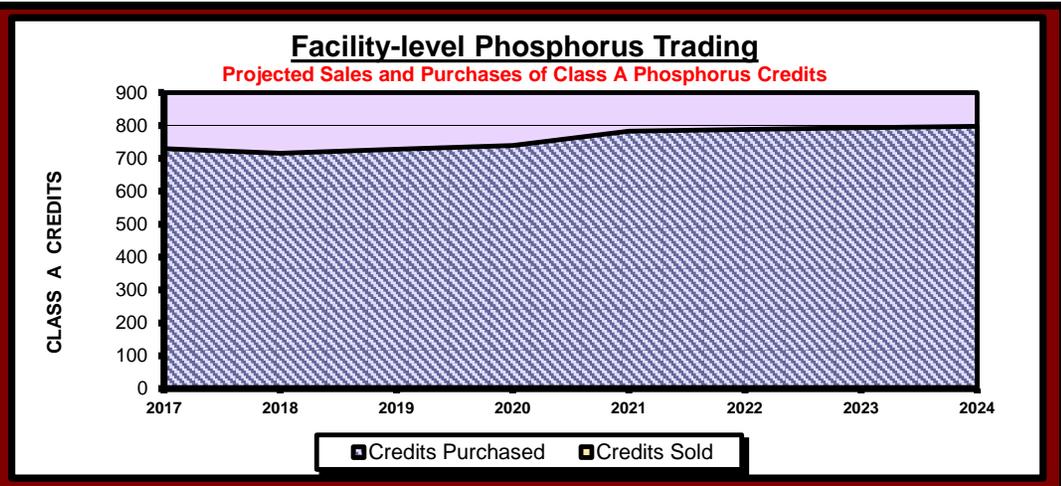
Loading & Credit Summary

Design Flow (mgd)	0.10
Projected Flow (mgd)	0.05
Projected Avg. Annual Concentration (mg/L)	22.10
Discharged Load (end of pipe)	3,688
Delivery Factor	1.00
Expected Load	3,688
Delivered WLA	1,218
Expected Credits (delivered)	(2,470)
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	(2,470)
Class A Credit Sales (Purchases)	(2,470)
Expected Class B Credits	0

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
0.05	0.05	0.05	0.06	0.06	0.06	0.06	0.06
22.10	22.10	28.00	28.00	18.00	18.00	18.00	18.00
3,688	3,625	4,659	4,724	3,083	3,102	3,120	3,139
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
3,688	3,625	4,659	4,724	3,083	3,102	3,120	3,139
1,218	1,218	1,218	1,218	1,218	1,218	1,218	1,218
(2,470)	(2,407)	(3,441)	(3,506)	(1,865)	(1,884)	(1,902)	(1,921)
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
(2,470)	(2,407)	(3,441)	(3,506)	(1,865)	(1,884)	(1,902)	(1,921)
(2,470)	(2,407)	(3,441)	(3,506)	(1,865)	(1,884)	(1,902)	(1,921)
0	0	0	0	0	0	0	0

PHOSPHORUS FACILITY SUMMARY

HRSD-Urbanna
RAPPAHANNOCK Trading Basin



Loading & Credit Summary

Design Flow (mgd)	0.10
Projected Flow (mgd)	0.05
Projected Avg. Annual Concentration (mg/L)	5.10
Discharged Load (end of pipe)	851
Delivery Factor	0.96
Expected Load	817
Delivered WLA	87
Expected Credits (delivered)	(730)
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	(730)
Class A Credit Sales (Purchases)	(730)
Expected Class B Credits	0

	2017	2018	2019	2020	2021	2022	2023	2024
	Planning Period					Future Estimates (non-binding)		
Design Flow (mgd)	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Projected Flow (mgd)	0.05	0.05	0.05	0.06	0.06	0.06	0.06	0.06
Projected Avg. Annual Concentration (mg/L)	5.10	5.10	5.10	5.10	5.10	5.10	5.10	5.10
Discharged Load (end of pipe)	851	837	849	861	874	879	884	889
Delivery Factor	0.96	0.96	0.96	0.96	1.00	1.00	1.00	1.00
Expected Load	817	803	815	826	874	879	884	889
Delivered WLA	87	87	87	87	91	91	91	91
Expected Credits (delivered)	(730)	(716)	(728)	(739)	(783)	(788)	(793)	(798)
Transfers In (Out) within Owner Bubble	0	0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange	0	0	0	0	0	0	0	0
WQIF-Held Credits	0	0	0	0	0	0	0	0
Expected Net Credits	(730)	(716)	(728)	(739)	(783)	(788)	(793)	(798)
Class A Credit Sales (Purchases)	(730)	(716)	(728)	(739)	(783)	(788)	(793)	(798)
Expected Class B Credits	0	0	0	0	0	0	0	0

Owner Bubble: King George County SA (Rappahannock)

The facilities listed below have received an aggregated mass load limit pursuant to 9 VAC 25-820-70, Part 1.B.2., which is also referred to as an “owner bubble”. Accordingly, compliance is determined solely on an aggregate basis rather than by comparison of individual facility loads with respective individual WLAs.

The “Credit Transferred within Bubble” section of each table forecasts the use of Credits within the owner bubble during each Compliance Year, and must necessarily sum to zero. The specific Credit transfers shown in this table are provided for internal planning purposes only and, accordingly, are not binding and may change based on the actual performance of individual facilities within the bubble.

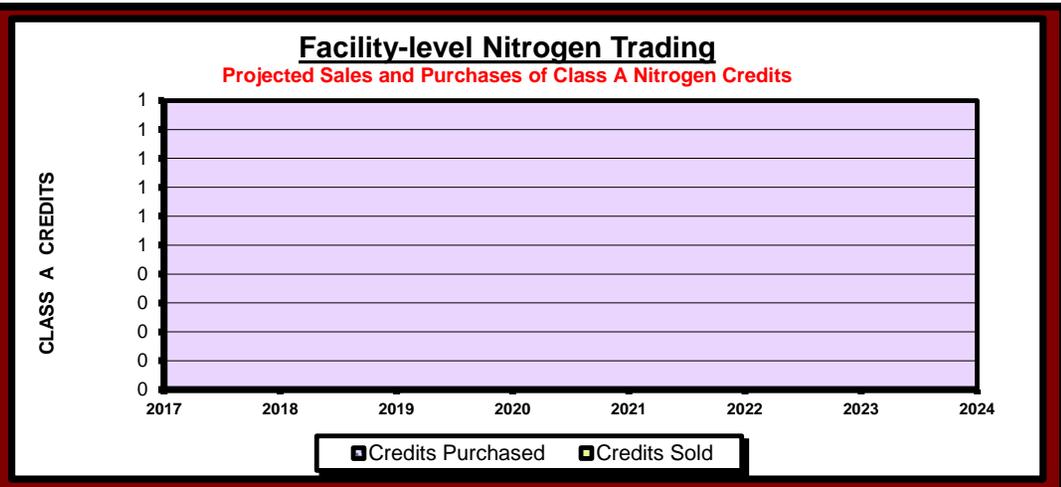
Expected Net Credits for an owner bubble may be either positive or negative. If Expected Net Credits is positive, the owner may pledge a percentage of such Credits to the Exchange. If Expected Net Credits is negative, Net Expected Credits identifies the number of Credits that must be purchased to comply with the aggregate Delivered WLA of the bubble.

NITROGEN Credits	Exchange 5-year Planning Period					Future Projections		
	2017	2018	2019	2020	2021	2022	2023	2024
Credits Transferred within Bubble								
Hopyard Farms	-	-	-	-	-	-	-	-
Oakland Park	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
TOTAL (must sum to 0)	-	-	-	-	-	-	-	-
Credits Available outside Bubble								
Hopyard Farms	3,106	3,015	3,015	2,741	2,741	2,558	2,558	2,558
Oakland Park	335	335	335	183	183	183	31	31
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
Expected Net Credits	3,441	3,350	3,350	2,924	2,924	2,741	2,589	2,589
Class A Sales (Purchases)	0	0	0	0	0	0	0	0
<i>Expected Class B Credits</i>	<i>3,441</i>	<i>3,350</i>	<i>3,350</i>	<i>2,924</i>	<i>2,924</i>	<i>2,741</i>	<i>2,589</i>	<i>2,589</i>
<i>WQIF-Held Credits</i>	<i>1,523</i>	<i>1,523</i>	<i>1,523</i>	<i>1,523</i>	<i>1,523</i>	<i>1,523</i>	<i>1,523</i>	<i>1,523</i>

PHOSPHORUS Credits	Exchange 5-year Planning Period					Future Projections		
	2017	2018	2019	2020	2021	2022	2023	2024
Credits Transferred within Bubble								
Hopyard Farms	(9)	(9)	(9)	(24)	(24)	(24)	(40)	(40)
Oakland Park	9	9	9	24	24	24	40	40
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
TOTAL (must sum to 0)	-	-	-	-	-	-	-	-
Credits Available outside Bubble								
Hopyard Farms	209	202	202	164	167	151	135	135
Oakland Park	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
Expected Net Credits	209	202	202	164	167	151	135	135
Class A Sales (Purchases)	0	0	0	0	0	0	0	0
<i>Expected Class B Credits</i>	<i>209</i>	<i>202</i>	<i>202</i>	<i>164</i>	<i>167</i>	<i>151</i>	<i>135</i>	<i>135</i>
<i>WQIF-Held Credits</i>	<i>113</i>	<i>113</i>	<i>113</i>	<i>113</i>	<i>114</i>	<i>114</i>	<i>114</i>	<i>114</i>

NITROGEN FACILITY SUMMARY

KGCSA-Hopyard Farms
RAPPAHANNOCK Trading Basin

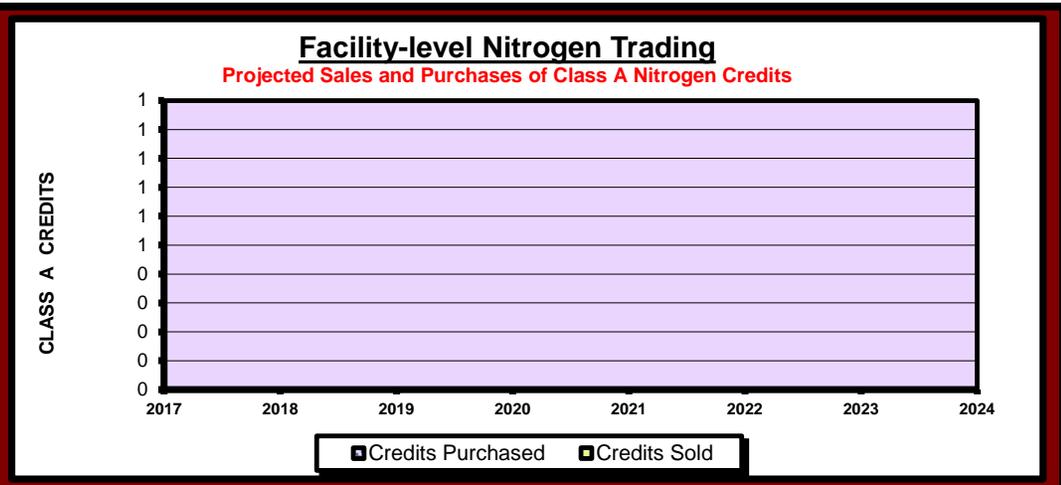


Loading & Credit Summary	
Design Flow (mgd)	0.38
Projected Flow (mgd)	0.08
Projected Avg. Annual Concentration (mg/L)	6.00
Discharged Load (end of pipe)	1,462
Delivery Factor	1.00
Expected Load	1,462
Delivered WLA	6,091
Expected Credits (delivered)	4,629
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	(1,523)
Expected Net Credits	3,106
Class A Credit Sales (Purchases)	0
Expected Class B Credits	3,106

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38
0.08	0.09	0.09	0.10	0.10	0.11	0.11	0.11
6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
1,462	1,553	1,553	1,827	1,827	2,010	2,010	2,010
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
1,462	1,553	1,553	1,827	1,827	2,010	2,010	2,010
6,091	6,091	6,091	6,091	6,091	6,091	6,091	6,091
4,629	4,538	4,538	4,264	4,264	4,081	4,081	4,081
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
(1,523)	(1,523)	(1,523)	(1,523)	(1,523)	(1,523)	(1,523)	(1,523)
3,106	3,015	3,015	2,741	2,741	2,558	2,558	2,558
0	0	0	0	0	0	0	0
3,106	3,015	3,015	2,741	2,741	2,558	2,558	2,558

NITROGEN FACILITY SUMMARY

KGCSA-Oakland Park
RAPPAHANNOCK Trading Basin



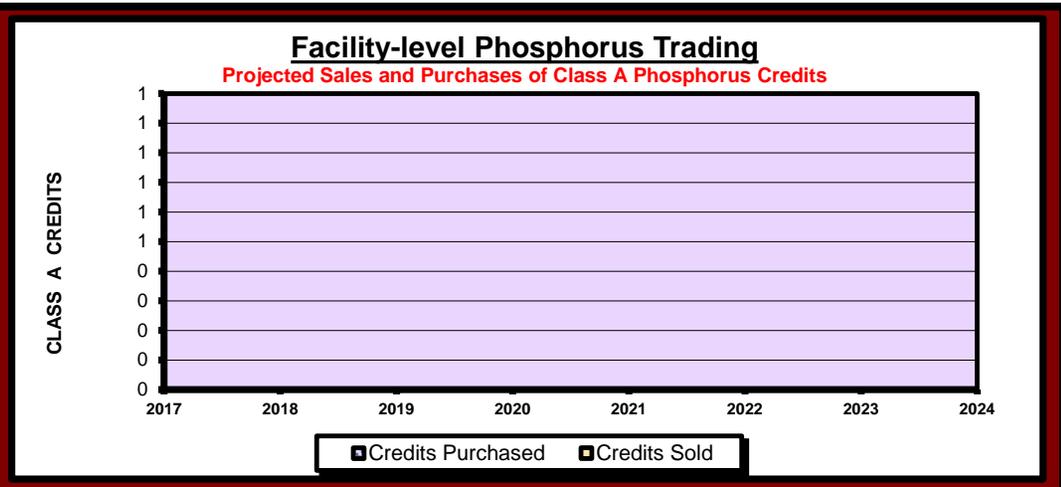
Loading & Credit Summary

Design Flow (mgd)	0.14
Projected Flow (mgd)	0.09
Projected Avg. Annual Concentration (mg/L)	5.00
Discharged Load (end of pipe)	1,371
Delivery Factor	1.00
Expected Load	1,371
Delivered WLA	1,706
Expected Credits (delivered)	335
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	335
Class A Credit Sales (Purchases)	0
Expected Class B Credits	335

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
0.09	0.09	0.09	0.10	0.10	0.10	0.11	0.11
5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
1,371	1,371	1,371	1,523	1,523	1,523	1,675	1,675
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
1,371	1,371	1,371	1,523	1,523	1,523	1,675	1,675
1,706	1,706	1,706	1,706	1,706	1,706	1,706	1,706
335	335	335	183	183	183	31	31
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
335	335	335	183	183	183	31	31
0	0	0	0	0	0	0	0
335	335	335	183	183	183	31	31

PHOSPHORUS FACILITY SUMMARY

KGCSA-Hopyard Farms
RAPPAHANNOCK Trading Basin

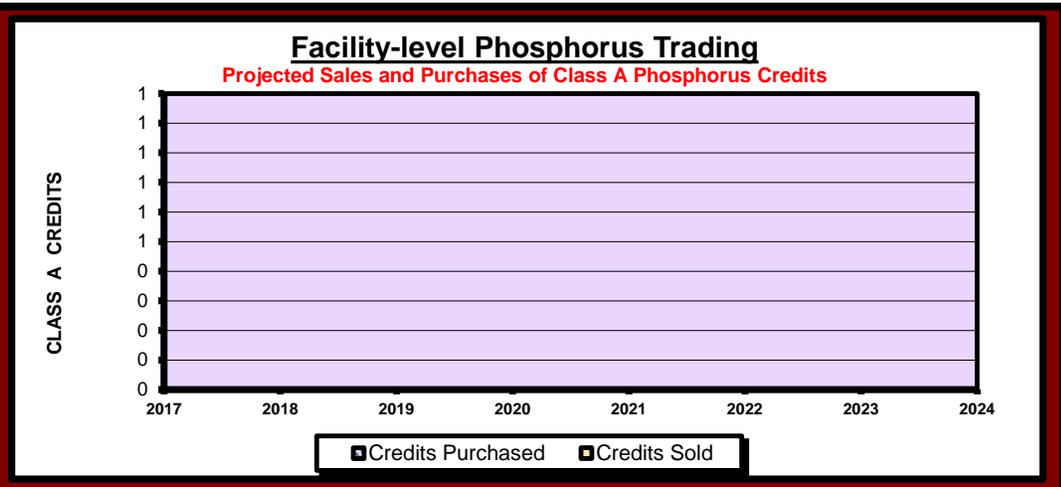


Loading & Credit Summary	
Design Flow (mgd)	
Projected Flow (mgd)	
Projected Avg. Annual Concentration (mg/L)	
Discharged Load (end of pipe)	
Delivery Factor	
Expected Load	
Delivered WLA	
Expected Credits (delivered)	
Transfers In (Out) within Owner Bubble	
Transfers In (Out) from Private Exchange	
WQIF-Held Credits	
Expected Net Credits	
Class A Credit Sales (Purchases)	
Expected Class B Credits	

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38
0.08	0.09	0.09	0.10	0.10	0.11	0.11	0.11
0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
122	129	129	152	152	168	168	168
0.99	0.99	0.99	0.99	1.00	1.00	1.00	1.00
121	128	128	151	152	168	168	168
452	452	452	452	457	457	457	457
331	324	324	301	305	289	289	289
(9)	(9)	(9)	(24)	(24)	(24)	(40)	(40)
0	0	0	0	0	0	0	0
(113)	(113)	(113)	(113)	(114)	(114)	(114)	(114)
209	202	202	164	167	151	135	135
0	0	0	0	0	0	0	0
209	202	202	164	167	151	135	135

PHOSPHORUS FACILITY SUMMARY

KGCSA-Oakland Park
RAPPAHANNOCK Trading Basin



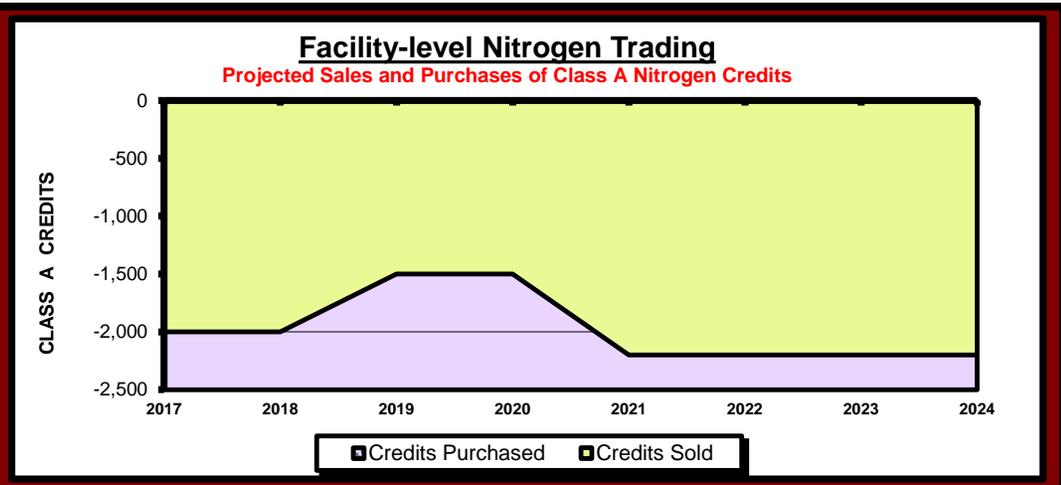
Loading & Credit Summary

Design Flow (mgd)	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
Projected Flow (mgd)	0.09	0.09	0.09	0.10	0.10	0.10	0.11	0.11
Projected Avg. Annual Concentration (mg/L)	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
Discharged Load (end of pipe)	137	137	137	152	152	152	168	168
Delivery Factor	0.97	0.97	0.97	0.97	1.00	1.00	1.00	1.00
Expected Load	133	133	133	148	152	152	168	168
Delivered WLA	124	124	124	124	128	128	128	128
Expected Credits (delivered)	(9)	(9)	(9)	(24)	(24)	(24)	(40)	(40)
Transfers In (Out) within Owner Bubble	9	9	9	24	24	24	40	40
Transfers In (Out) from Private Exchange	0	0	0	0	0	0	0	0
WQIF-Held Credits	0	0	0	0	0	0	0	0
Expected Net Credits	0	0	0	0	0	0	0	0
Class A Credit Sales (Purchases)	0	0	0	0	0	0	0	0
Expected Class B Credits	0	0	0	0	0	0	0	0

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.14
0.09	0.09	0.09	0.10	0.10	0.10	0.11	0.11
0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
137	137	137	152	152	152	168	168
0.97	0.97	0.97	0.97	1.00	1.00	1.00	1.00
133	133	133	148	152	152	168	168
124	124	124	124	128	128	128	128
(9)	(9)	(9)	(24)	(24)	(24)	(40)	(40)
9	9	9	24	24	24	40	40
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0

NITROGEN FACILITY SUMMARY

Kilmarnock
RAPPAHANNOCK Trading Basin

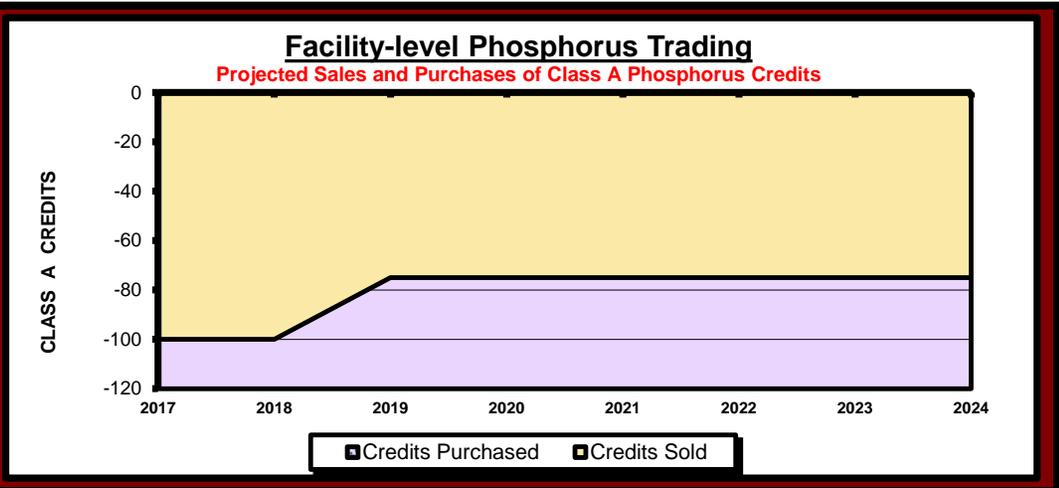


Loading & Credit Summary	
Design Flow (mgd)	0.50
Projected Flow (mgd)	0.35
Projected Avg. Annual Concentration (mg/L)	3.00
Discharged Load (end of pipe)	3,198
Delivery Factor	1.00
Expected Load	3,198
Delivered WLA	6,091
Expected Credits (delivered)	2,893
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	2,893
Class A Credit Sales (Purchases)	2,000
Expected Class B Credits	893

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35
3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
3,198	3,198	3,198	3,198	3,198	3,198	3,198	3,198
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
3,198	3,198	3,198	3,198	3,198	3,198	3,198	3,198
6,091	6,091	6,091	6,091	6,091	6,091	6,091	6,091
2,893	2,893	2,893	2,893	2,893	2,893	2,893	2,893
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
2,893	2,893	2,893	2,893	2,893	2,893	2,893	2,893
2,000	2,000	1,500	1,500	2,200	2,200	2,200	2,200
893	893	1,393	1,393	693	693	693	693

PHOSPHORUS FACILITY SUMMARY

Kilmarnock
RAPPAHANNOCK Trading Basin



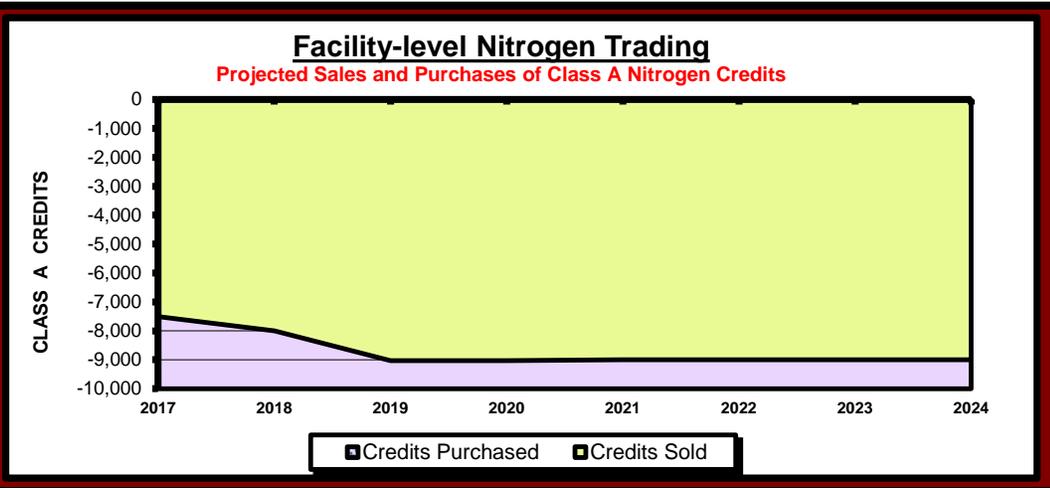
Loading & Credit Summary

Design Flow (mgd)	0.50
Projected Flow (mgd)	0.35
Projected Avg. Annual Concentration (mg/L)	0.30
Discharged Load (end of pipe)	320
Delivery Factor	0.99
Expected Load	317
Delivered WLA	452
Expected Credits (delivered)	135
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	135
Class A Credit Sales (Purchases)	100
Expected Class B Credits	35

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35
0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
320	320	320	320	320	320	320	320
0.99	0.99	0.99	0.99	1.00	1.00	1.00	1.00
317	317	317	317	320	320	320	320
452	452	452	452	457	457	457	457
135	135	135	135	137	137	137	137
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
135	135	135	135	137	137	137	137
100	100	75	75	75	75	75	75
35	35	60	60	62	62	62	62

NITROGEN FACILITY SUMMARY

Omega Protein
RAPPAHANNOCK Trading Basin



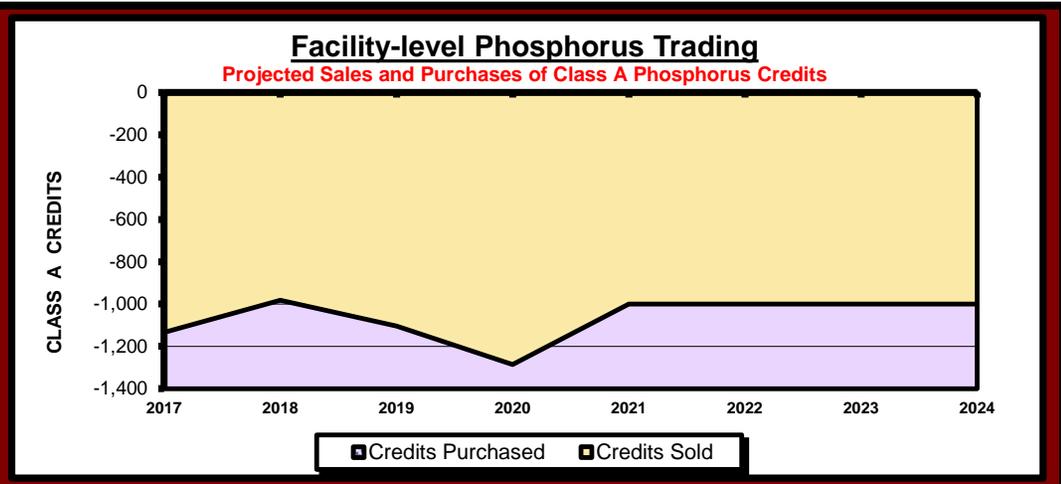
Loading & Credit Summary

Design Flow (mgd)	3.21
Projected Flow (mgd)	0.15
Projected Avg. Annual Concentration (mg/L)	30.00
Discharged Load (end of pipe)	13,705
Delivery Factor	1.00
Expected Load	13,705
Delivered WLA	21,213
Expected Credits (delivered)	7,508
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	7,508
Class A Credit Sales (Purchases)	7,508
Expected Class B Credits	0

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
3.21	3.21	3.21	3.21	3.21	3.21	3.21	3.21
0.15	0.20	0.20	0.20	0.20	0.20	0.20	0.20
30.00	20.00	20.00	20.00	20.00	20.00	20.00	20.00
13,705	12,182	12,182	12,182	12,182	12,182	12,182	12,182
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
13,705	12,182	12,182	12,182	12,182	12,182	12,182	12,182
21,213	21,213	21,213	21,213	21,213	21,213	21,213	21,213
7,508	9,031	9,031	9,031	9,031	9,031	9,031	9,031
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
7,508	9,031	9,031	9,031	9,031	9,031	9,031	9,031
7,508	8,000	9,031	9,031	9,000	9,000	9,000	9,000
0	1,031	0	0	31	31	31	31

PHOSPHORUS FACILITY SUMMARY

Omega Protein
RAPPAHANNOCK Trading Basin



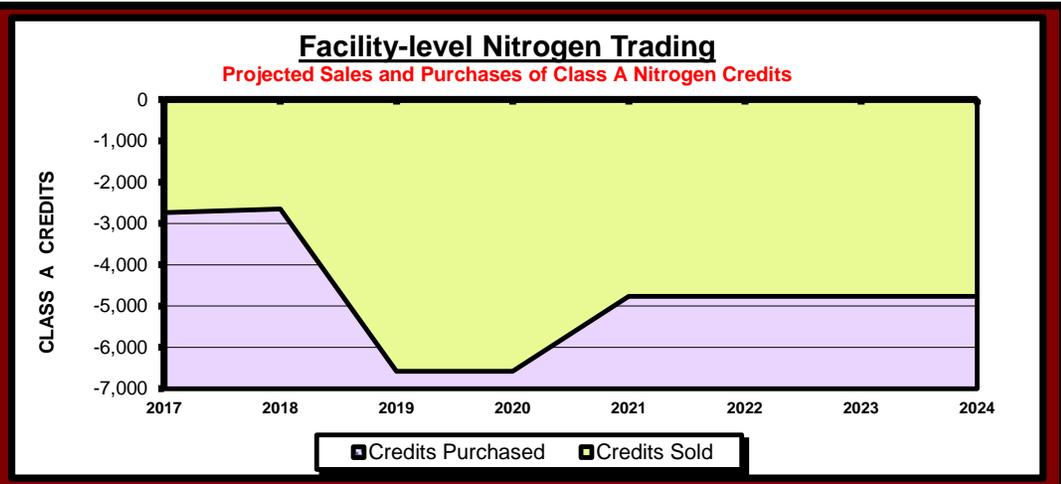
Loading & Credit Summary

Design Flow (mgd)
Projected Flow (mgd)
Projected Avg. Annual Concentration (mg/L)
Discharged Load (end of pipe)
Delivery Factor
Expected Load
Delivered WLA
Expected Credits (delivered)
Transfers In (Out) within Owner Bubble
Transfers In (Out) from Private Exchange
WQIF-Held Credits
Expected Net Credits
Class A Credit Sales (Purchases)
Expected Class B Credits

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
3.21	3.21	3.21	3.21	3.21	3.21	3.21	3.21
0.15	0.20	0.20	0.20	0.20	0.20	0.20	0.20
1.00	1.00	0.80	0.50	0.80	0.80	0.80	0.80
457	609	487	305	487	487	487	487
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
457	609	487	305	487	487	487	487
1,591	1,591	1,591	1,591	1,591	1,591	1,591	1,591
1,134	982	1,104	1,286	1,104	1,104	1,104	1,104
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
1,134	982	1,104	1,286	1,104	1,104	1,104	1,104
1,134	982	1,104	1,286	1,000	1,000	1,000	1,000
0	0	0	0	104	104	104	104

NITROGEN FACILITY SUMMARY

Orange (Town)
<i>RAPPAHANNOCK Trading Basin</i>

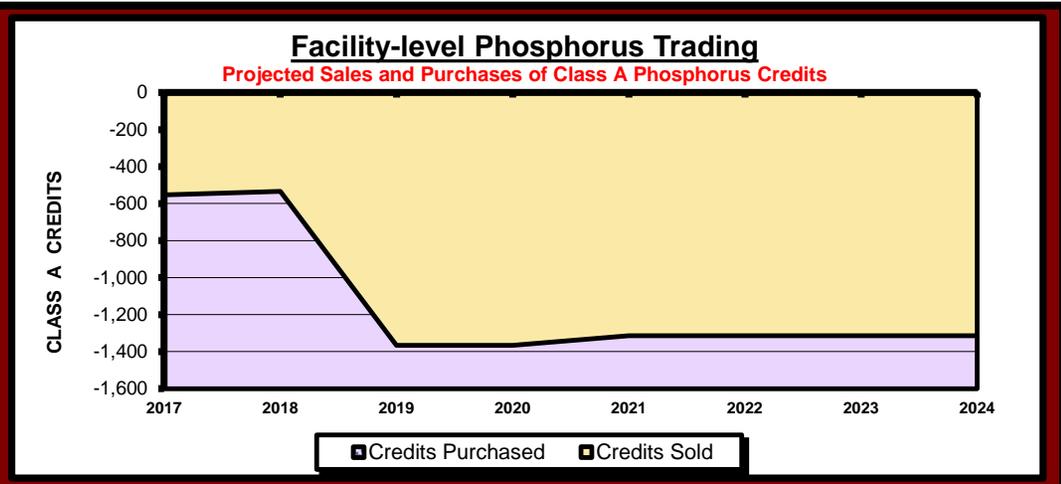


Loading & Credit Summary	
Design Flow (mgd)	
Projected Flow (mgd)	
Projected Avg. Annual Concentration (mg/L)	
Discharged Load (end of pipe)	
Delivery Factor	
Expected Load	
Delivered WLA	
Expected Credits (delivered)	
Transfers In (Out) within Owner Bubble	
Transfers In (Out) from Private Exchange	
WQIF-Held Credits	
Expected Net Credits	
Class A Credit Sales (Purchases)	
Expected Class B Credits	

2017	2018	2019	2020	2021	2022	2023	2024
<i>Planning Period</i>					<i>Future Estimates (non-binding)</i>		
3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30
3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50
13,857	13,857	13,857	13,857	13,857	13,857	13,857	13,857
0.29	0.29	0.29	0.29	0.21	0.21	0.21	0.21
4,019	4,019	4,019	4,019	2,910	2,910	2,910	2,910
10,599	10,599	10,599	10,599	7,675	7,675	7,675	7,675
6,580	6,580	6,580	6,580	4,765	4,765	4,765	4,765
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
6,580	6,580	6,580	6,580	4,765	4,765	4,765	4,765
2,738	2,650	6,580	6,580	4,765	4,765	4,765	4,765
3,842	3,930	0	0	0	0	0	0

PHOSPHORUS FACILITY SUMMARY

Orange (Town)
RAPPAHANNOCK Trading Basin



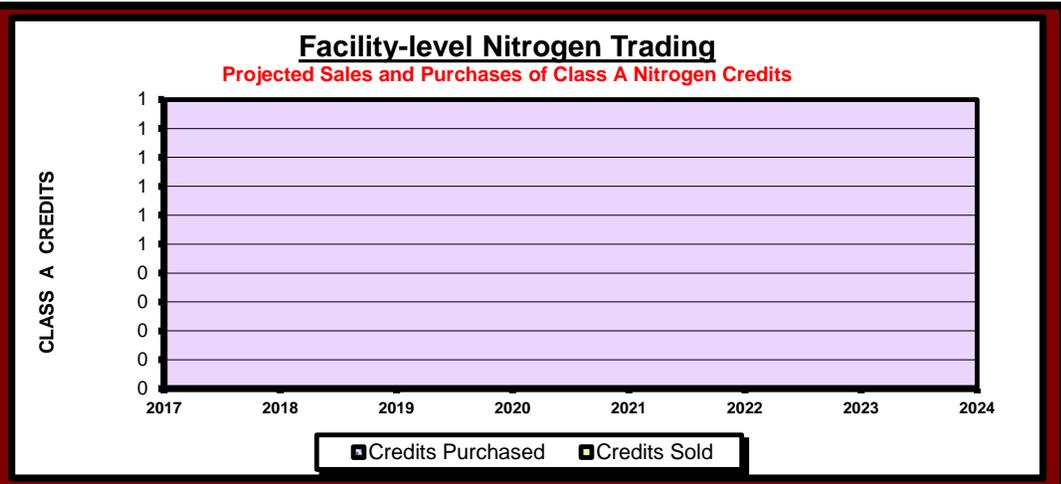
Loading & Credit Summary

Design Flow (mgd)	3.00
Projected Flow (mgd)	1.30
Projected Avg. Annual Concentration (mg/L)	0.25
Discharged Load (end of pipe)	990
Delivery Factor	0.78
Expected Load	772
Delivered WLA	2,138
Expected Credits (delivered)	1,366
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	1,366
Class A Credit Sales (Purchases)	553
Expected Class B Credits	813

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
1.30	1.30	1.30	1.30	1.30	1.30	1.30	1.30
0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
990	990	990	990	990	990	990	990
0.78	0.78	0.78	0.78	0.75	0.75	0.75	0.75
772	772	772	772	742	742	742	742
2,138	2,138	2,138	2,138	2,056	2,056	2,056	2,056
1,366	1,366	1,366	1,366	1,314	1,314	1,314	1,314
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
1,366	1,366	1,366	1,366	1,314	1,314	1,314	1,314
553	534	1,366	1,366	1,314	1,314	1,314	1,314
813	832	0	0	0	0	0	0

NITROGEN FACILITY SUMMARY

Reedville S.D.
RAPPAHANNOCK Trading Basin



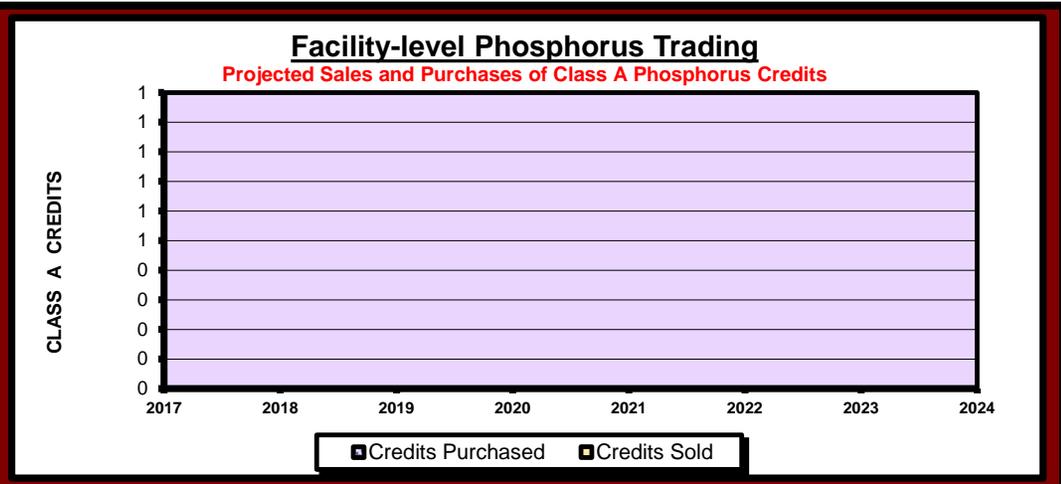
Loading & Credit Summary

Design Flow (mgd)
Projected Flow (mgd)
Projected Avg. Annual Concentration (mg/L)
Discharged Load (end of pipe)
Delivery Factor
Expected Load
Delivered WLA
Expected Credits (delivered)
Transfers In (Out) within Owner Bubble
Transfers In (Out) from Private Exchange
WQIF-Held Credits
Expected Net Credits
Class A Credit Sales (Purchases)
Expected Class B Credits

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
0.07	0.07	0.07	0.13	0.13	0.13	0.13	0.13
4.00	4.00	4.00	6.10	6.10	6.10	6.10	6.10
853	853	853	2,415	2,415	2,415	2,415	2,415
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
853	853	853	2,415	2,415	2,415	2,415	2,415
2,436	2,436	2,436	2,436	2,436	2,436	2,436	2,436
1,583	1,583	1,583	21	21	21	21	21
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
1,583	1,583	1,583	21	21	21	21	21
0	0	0	0	0	0	0	0
1,583	1,583	1,583	21	21	21	21	21

PHOSPHORUS FACILITY SUMMARY

Reedville S.D.
RAPPAHANNOCK Trading Basin



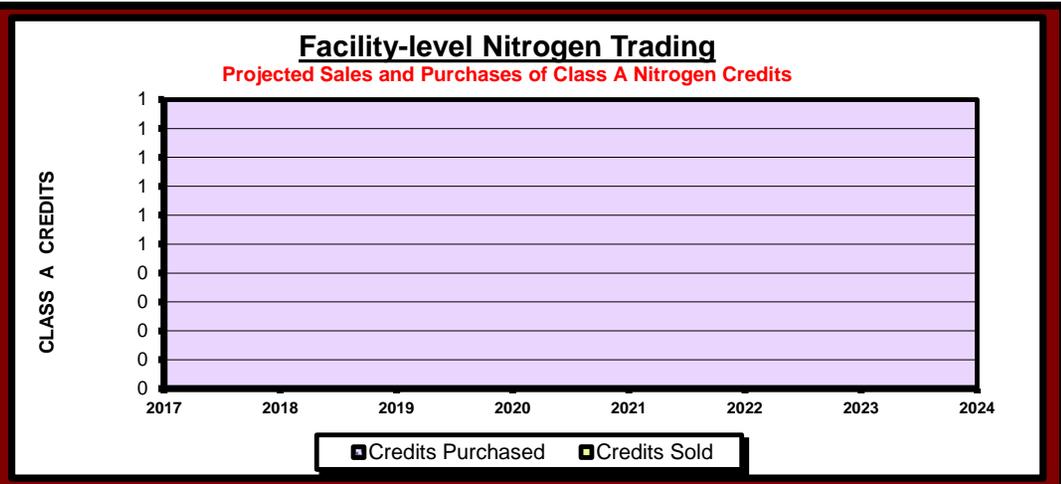
Loading & Credit Summary

Design Flow (mgd)
Projected Flow (mgd)
Projected Avg. Annual Concentration (mg/L)
Discharged Load (end of pipe)
Delivery Factor
Expected Load
Delivered WLA
Expected Credits (delivered)
Transfers In (Out) within Owner Bubble
Transfers In (Out) from Private Exchange
WQIF-Held Credits
Expected Net Credits
Class A Credit Sales (Purchases)
Expected Class B Credits

	2017	2018	2019	2020	2021	2022	2023	2024
	Planning Period					Future Estimates (non-binding)		
Design Flow (mgd)	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Projected Flow (mgd)	0.07	0.07	0.07	0.13	0.13	0.13	0.13	0.13
Projected Avg. Annual Concentration (mg/L)	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
Discharged Load (end of pipe)	64	64	64	119	119	119	119	119
Delivery Factor	0.98	0.98	0.98	0.98	1.00	1.00	1.00	1.00
Expected Load	63	63	63	116	119	119	119	119
Delivered WLA	179	179	179	179	183	183	183	183
Expected Credits (delivered)	116	116	116	63	64	64	64	64
Transfers In (Out) within Owner Bubble	0	0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange	0	0	0	0	0	0	0	0
WQIF-Held Credits	0	0	0	0	0	0	0	0
Expected Net Credits	116	116	116	63	64	64	64	64
Class A Credit Sales (Purchases)	0	0	0	0	0	0	0	0
Expected Class B Credits	116	116	116	63	64	64	64	64

NITROGEN FACILITY SUMMARY

RSA-Wilderness Shores
RAPPAHANNOCK Trading Basin



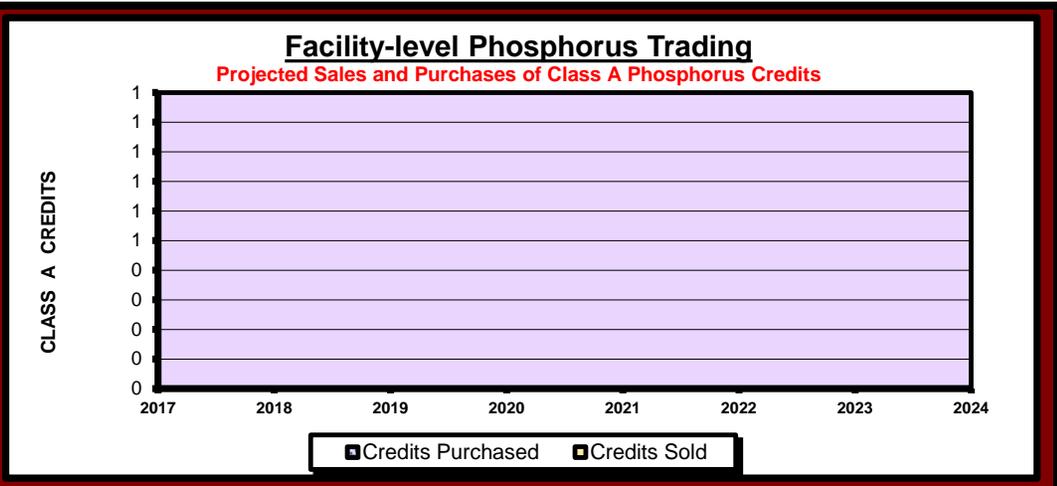
Loading & Credit Summary

Design Flow (mgd)
Projected Flow (mgd)
Projected Avg. Annual Concentration (mg/L)
Discharged Load (end of pipe)
Delivery Factor
Expected Load
Delivered WLA
Expected Credits (delivered)
Transfers In (Out) within Owner Bubble
Transfers In (Out) from Private Exchange
WQIF-Held Credits
Expected Net Credits
Class A Credit Sales (Purchases)
Expected Class B Credits

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
0.90	0.92	0.92	0.92	0.94	0.94	0.94	0.96
3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
8,223	8,406	8,406	8,406	8,588	8,588	8,588	8,771
0.41	0.41	0.41	0.41	0.45	0.45	0.45	0.45
3,371	3,446	3,446	3,446	3,865	3,865	3,865	3,947
6,243	6,243	6,243	6,243	6,853	6,853	6,853	6,853
2,872	2,797	2,797	2,797	2,988	2,988	2,988	2,906
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
2,872	2,797	2,797	2,797	2,988	2,988	2,988	2,906
0	0	0	0	0	0	0	0
2,872	2,797	2,797	2,797	2,988	2,988	2,988	2,906

PHOSPHORUS FACILITY SUMMARY

RSA-Wilderness Shores
RAPPAHANNOCK Trading Basin



Loading & Credit Summary	
Design Flow (mgd)	
Projected Flow (mgd)	
Projected Avg. Annual Concentration (mg/L)	
Discharged Load (end of pipe)	
Delivery Factor	
Expected Load	
Delivered WLA	
Expected Credits (delivered)	
Transfers In (Out) within Owner Bubble	
Transfers In (Out) from Private Exchange	
WQIF-Held Credits	
Expected Net Credits	
Class A Credit Sales (Purchases)	
Expected Class B Credits	

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
0.90	0.92	0.92	0.92	0.94	0.94	0.94	0.96
0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
822	841	841	841	859	859	859	877
0.77	0.77	0.77	0.77	0.75	0.75	0.75	0.75
633	647	647	647	644	644	644	658
879	879	879	879	857	857	857	857
246	232	232	232	213	213	213	199
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
246	232	232	232	213	213	213	199
0	0	0	0	0	0	0	0
246	232	232	232	213	213	213	199

Owner Bubble: Spotsylvania County

The facilities listed below have received an aggregated mass load limit pursuant to 9 VAC 25-820-70, Part 1.B.2., which is also referred to as an “owner bubble”. Accordingly, compliance is determined solely on an aggregate basis rather than by comparison of individual facility loads with respective individual WLAs.

The “Credit Transferred within Bubble” section of each table forecasts the use of Credits within the owner bubble during each Compliance Year, and must necessarily sum to zero. The specific Credit transfers shown in this table are provided for internal planning purposes only and, accordingly, are not binding and may change based on the actual performance of individual facilities within the bubble.

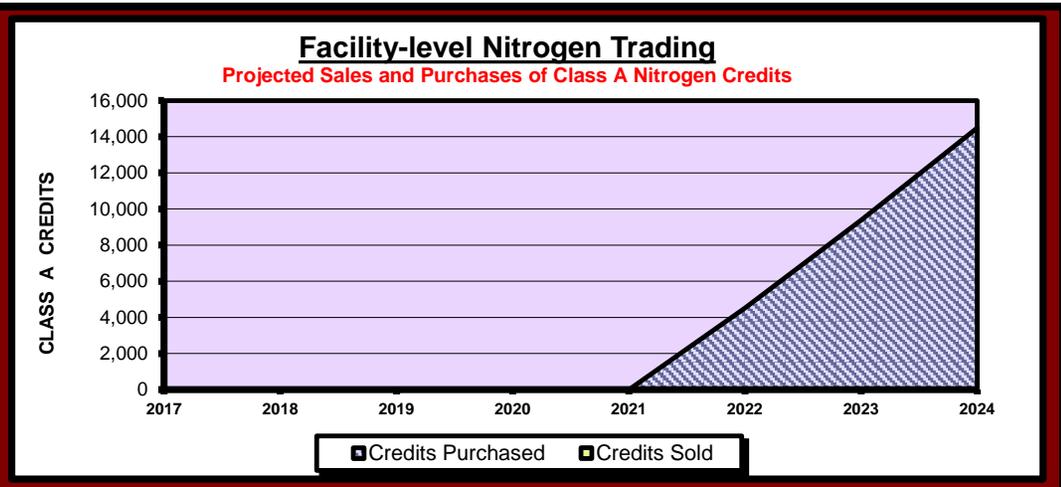
Expected Net Credits for an owner bubble may be either positive or negative. If Expected Net Credits is positive, the owner may pledge a percentage of such Credits to the Exchange. If Expected Net Credits is negative, Net Expected Credits identifies the number of Credits that must be purchased to comply with the aggregate Delivered WLA of the bubble.

NITROGEN Credits	Exchange 5-year Planning Period					Future Projections		
	2017	2018	2019	2020	2021	2022	2023	2024
Credits Transferred within Bubble								
FMC	11,931	13,636	15,585	17,534	21,433	19,118	16,438	13,514
Massaponax	(11,931)	(13,636)	(15,585)	(17,534)	(21,433)	(19,118)	(16,438)	(13,514)
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
TOTAL (must sum to 0)	-	-	-	-	-	-	-	-
Credits Available outside Bubble								
FMC	-	-	-	-	-	(4,508)	(9,380)	(14,497)
Massaponax	13,278	16,081	11,695	7,066	487	-	-	-
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
Expected Net Credits	13,278	16,081	11,695	7,066	487	(4,508)	(9,380)	(14,497)
Class A Sales (Purchases)	0	0	5,800	5,000	0	(4,508)	(9,380)	(14,497)
<i>Expected Class B Credits</i>	13,278	16,081	5,895	2,066	487	0	0	0
<i>WQIF-Held Credits</i>	0	0	0	0	0	0	0	0

PHOSPHORUS Credits	Exchange 5-year Planning Period					Future Projections		
	2017	2018	2019	2020	2021	2022	2023	2024
Credits Transferred within Bubble								
FMC	-	-	-	-	-	-	-	-
Massaponax	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
TOTAL (must sum to 0)	-	-	-	-	-	-	-	-
Credits Available outside Bubble								
FMC	1,380	1,316	1,243	1,170	1,024	941	859	777
Massaponax	1,708	2,046	1,863	1,662	1,461	1,251	1,050	831
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
Expected Net Credits	3,088	3,362	3,106	2,832	2,485	2,192	1,909	1,608
Class A Sales (Purchases)	2,092	2,061	1,550	1,750	1,500	1,225	925	775
<i>Expected Class B Credits</i>	996	1,301	1,556	1,082	985	967	984	833
<i>WQIF-Held Credits</i>	0	0	0	0	0	0	0	0

NITROGEN FACILITY SUMMARY

Spotsy Co-FMC
RAPPAHANNOCK Trading Basin



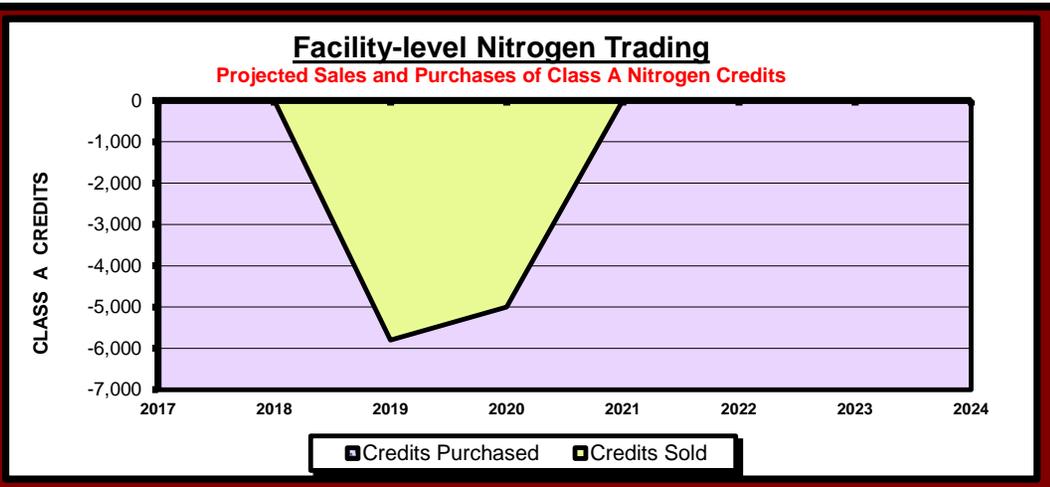
Loading & Credit Summary

Design Flow (mgd)	4.00
Projected Flow (mgd)	2.49
Projected Avg. Annual Concentration (mg/L)	8.00
Discharged Load (end of pipe)	60,668
Delivery Factor	1.00
Expected Load	60,668
Delivered WLA	48,737
Expected Credits (delivered)	(11,931)
Transfers In (Out) within Owner Bubble	11,931
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	0
Class A Credit Sales (Purchases)	0
Expected Class B Credits	0

	2017	2018	2019	2020	2021	2022	2023	2024
	Planning Period					Future Estimates (non-binding)		
Design Flow (mgd)	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Projected Flow (mgd)	2.49	2.56	2.64	2.72	2.88	2.97	3.06	3.15
Projected Avg. Annual Concentration (mg/L)	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00
Discharged Load (end of pipe)	60,668	62,373	64,322	66,271	70,170	72,363	74,555	76,748
Delivery Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Expected Load	60,668	62,373	64,322	66,271	70,170	72,363	74,555	76,748
Delivered WLA	48,737	48,737	48,737	48,737	48,737	48,737	48,737	48,737
Expected Credits (delivered)	(11,931)	(13,636)	(15,585)	(17,534)	(21,433)	(23,626)	(25,818)	(28,011)
Transfers In (Out) within Owner Bubble	11,931	13,636	15,585	17,534	21,433	19,118	16,438	13,514
Transfers In (Out) from Private Exchange	0	0	0	0	0	0	0	0
WQIF-Held Credits	0	0	0	0	0	0	0	0
Expected Net Credits	0	0	0	0	0	(4,508)	(9,380)	(14,497)
Class A Credit Sales (Purchases)	0	0	0	0	0	(4,508)	(9,380)	(14,497)
Expected Class B Credits	0	0	0	0	0	0	0	0

NITROGEN FACILITY SUMMARY

Spotsy Co-Massaponax
RAPPAHANNOCK Trading Basin

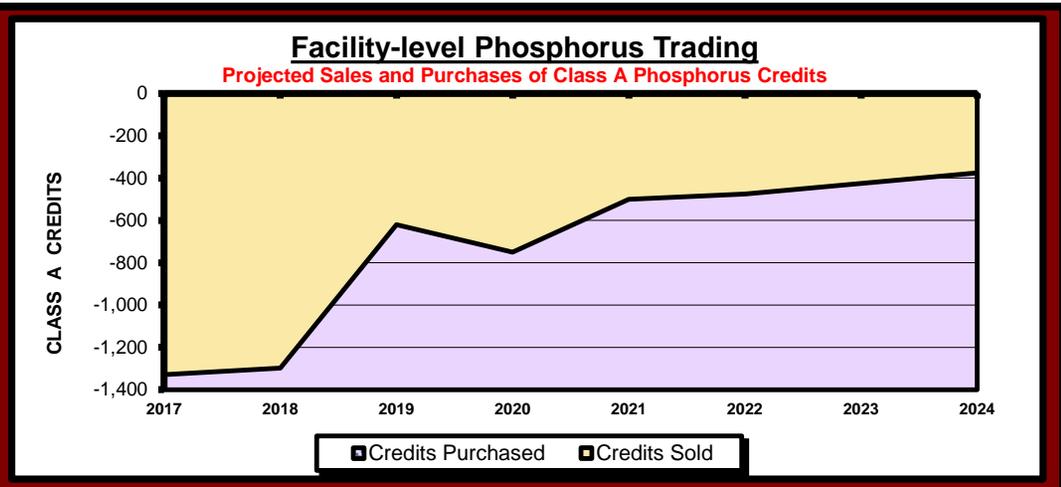


Loading & Credit Summary	
Design Flow (mgd)	8.00
Projected Flow (mgd)	7.33
Projected Avg. Annual Concentration (mg/L)	4.00
Discharged Load (end of pipe)	89,296
Delivery Factor	1.00
Expected Load	89,296
Delivered WLA	114,505
Expected Credits (delivered)	25,209
Transfers In (Out) within Owner Bubble	(11,931)
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	13,278
Class A Credit Sales (Purchases)	0
Expected Class B Credits	13,278

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00
7.33	6.96	7.16	7.38	7.60	7.83	8.05	8.29
4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
89,296	84,788	87,225	89,905	92,585	95,387	98,067	100,991
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
89,296	84,788	87,225	89,905	92,585	95,387	98,067	100,991
114,505	114,505	114,505	114,505	114,505	114,505	114,505	114,505
25,209	29,717	27,280	24,600	21,920	19,118	16,438	13,514
(11,931)	(13,636)	(15,585)	(17,534)	(21,433)	(19,118)	(16,438)	(13,514)
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
13,278	16,081	11,695	7,066	487	0	0	0
0	0	5,800	5,000	0	0	0	0
13,278	16,081	5,895	2,066	487	0	0	0

PHOSPHORUS FACILITY SUMMARY

Spotsy Co-FMC
RAPPAHANNOCK Trading Basin

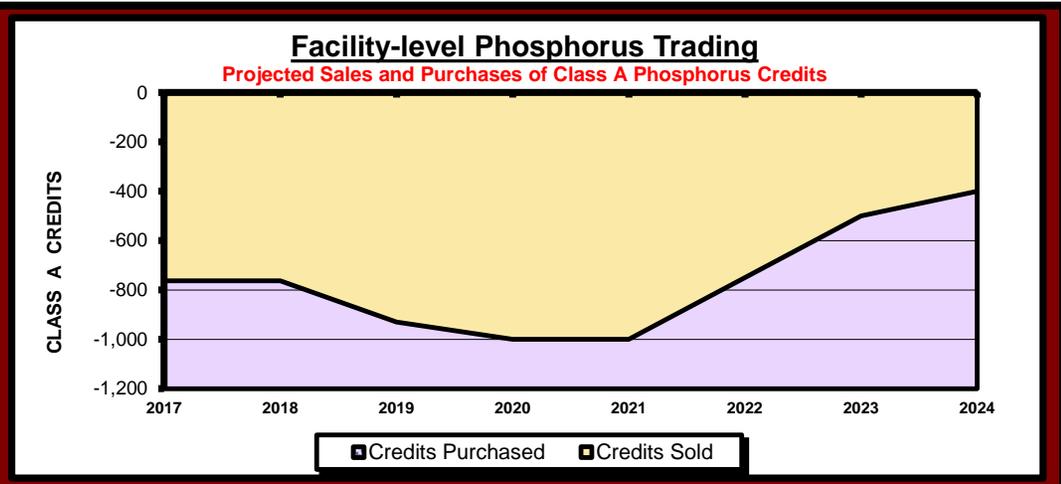


Loading & Credit Summary	
Design Flow (mgd)	4.00
Projected Flow (mgd)	2.49
Projected Avg. Annual Concentration (mg/L)	0.30
Discharged Load (end of pipe)	2,275
Delivery Factor	1.00
Expected Load	2,275
Delivered WLA	3,655
Expected Credits (delivered)	1,380
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	1,380
Class A Credit Sales (Purchases)	1,329
Expected Class B Credits	51

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
2.49	2.56	2.64	2.72	2.88	2.97	3.06	3.15
0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
2,275	2,339	2,412	2,485	2,631	2,714	2,796	2,878
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
2,275	2,339	2,412	2,485	2,631	2,714	2,796	2,878
3,655	3,655	3,655	3,655	3,655	3,655	3,655	3,655
1,380	1,316	1,243	1,170	1,024	941	859	777
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
1,380	1,316	1,243	1,170	1,024	941	859	777
1,329	1,298	620	750	500	475	425	375
51	18	623	420	524	466	434	402

PHOSPHORUS FACILITY SUMMARY

Spotsy Co-Massaponax
RAPPAHANNOCK Trading Basin



Loading & Credit Summary

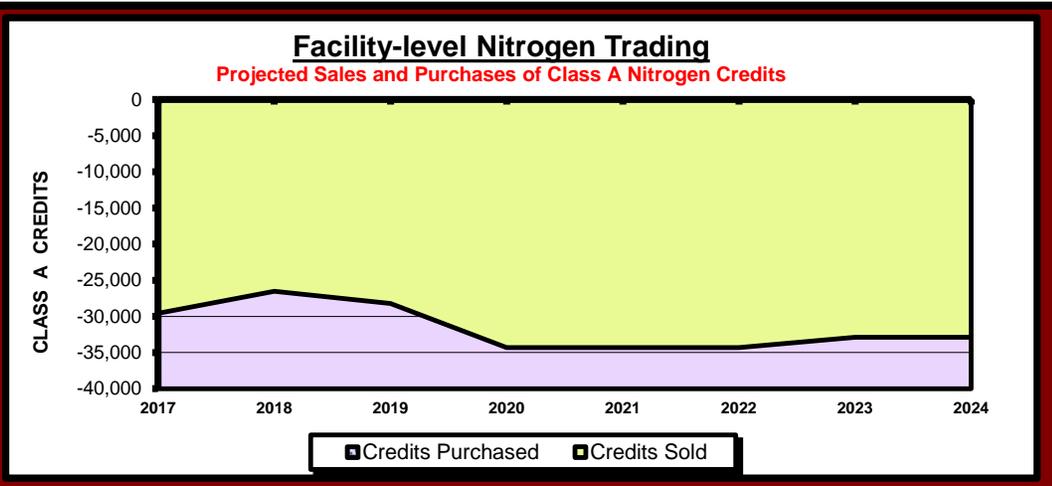
Design Flow (mgd)
Projected Flow (mgd)
Projected Avg. Annual Concentration (mg/L)
Discharged Load (end of pipe)
Delivery Factor
Expected Load
Delivered WLA
Expected Credits (delivered)
Transfers In (Out) within Owner Bubble
Transfers In (Out) from Private Exchange
WQIF-Held Credits
Expected Net Credits
Class A Credit Sales (Purchases)
Expected Class B Credits

	2017	2018	2019	2020	2021	2022	2023	2024
	Planning Period					Future Estimates (non-binding)		
Design Flow (mgd)	8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00
Projected Flow (mgd)	7.33	6.96	7.16	7.38	7.60	7.83	8.05	8.29
Projected Avg. Annual Concentration (mg/L)	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
Discharged Load (end of pipe)	6,697	6,359	6,542	6,743	6,944	7,154	7,355	7,574
Delivery Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Expected Load	6,697	6,359	6,542	6,743	6,944	7,154	7,355	7,574
Delivered WLA	8,405	8,405	8,405	8,405	8,405	8,405	8,405	8,405
Expected Credits (delivered)	1,708	2,046	1,863	1,662	1,461	1,251	1,050	831
Transfers In (Out) within Owner Bubble	0	0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange	0	0	0	0	0	0	0	0
WQIF-Held Credits	0	0	0	0	0	0	0	0
Expected Net Credits	1,708	2,046	1,863	1,662	1,461	1,251	1,050	831
Class A Credit Sales (Purchases)	763	763	930	1,000	1,000	750	500	400
Expected Class B Credits	945	1,283	933	662	461	501	550	431

* Reflects allocation transfer to Rush River WWTP of 183 discharged pounds of TP (this forecast assumes extension of transfer agreement beyond 2016)

NITROGEN FACILITY SUMMARY

Stafford Co-L. Falls Run
RAPPAHANNOCK Trading Basin



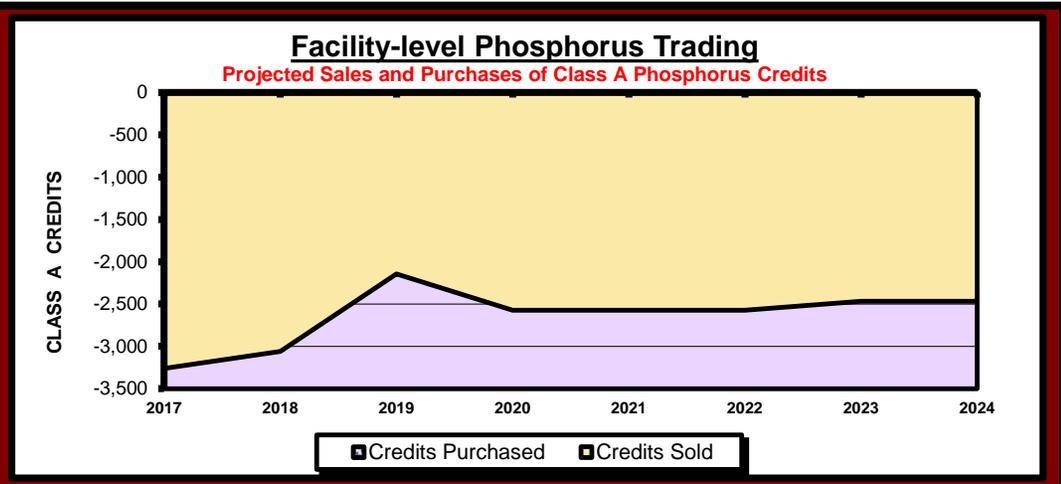
Loading & Credit Summary

Design Flow (mgd)	8.00
Projected Flow (mgd)	4.43
Projected Avg. Annual Concentration (mg/L)	4.00
Discharged Load (end of pipe)	53,967
Delivery Factor	1.00
Expected Load	53,967
Delivered WLA	97,458
Expected Credits (delivered)	43,491
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	43,491
Class A Credit Sales (Purchases)	29,574
Expected Class B Credits	13,917

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00
4.43	4.65	4.87	4.87	4.87	4.87	5.00	5.00
4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
53,967	56,647	59,328	59,328	59,328	59,328	60,911	60,911
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
53,967	56,647	59,328	59,328	59,328	59,328	60,911	60,911
97,458	97,458	97,458	97,458	97,458	97,458	97,458	97,458
43,491	40,811	38,130	38,130	38,130	38,130	36,547	36,547
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
43,491	40,811	38,130	38,130	38,130	38,130	36,547	36,547
29,574	26,527	28,216	34,317	34,317	34,317	32,892	32,892
13,917	14,284	9,914	3,813	3,813	3,813	3,655	3,655

PHOSPHORUS FACILITY SUMMARY

Stafford Co-L. Falls Run
RAPPAHANNOCK Trading Basin



Loading & Credit Summary

Design Flow (mgd)	8.00
Projected Flow (mgd)	4.43
Projected Avg. Annual Concentration (mg/L)	0.30
Discharged Load (end of pipe)	4,048
Delivery Factor	1.00
Expected Load	4,048
Delivered WLA	7,309
Expected Credits (delivered)	3,261
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	3,261
Class A Credit Sales (Purchases)	3,261
Expected Class B Credits	0

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00
4.43	4.65	4.87	4.87	4.87	4.87	5.00	5.00
0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
4,048	4,249	4,450	4,450	4,450	4,450	4,568	4,568
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
4,048	4,249	4,450	4,450	4,450	4,450	4,568	4,568
7,309	7,309	7,309	7,309	7,309	7,309	7,309	7,309
3,261	3,060	2,859	2,859	2,859	2,859	2,741	2,741
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
3,261	3,060	2,859	2,859	2,859	2,859	2,741	2,741
3,261	3,060	2,144	2,573	2,573	2,573	2,467	2,467
0	0	715	286	286	286	274	274

NITROGEN FACILITY SUMMARY

Tappahannock
RAPPAHANNOCK Trading Basin



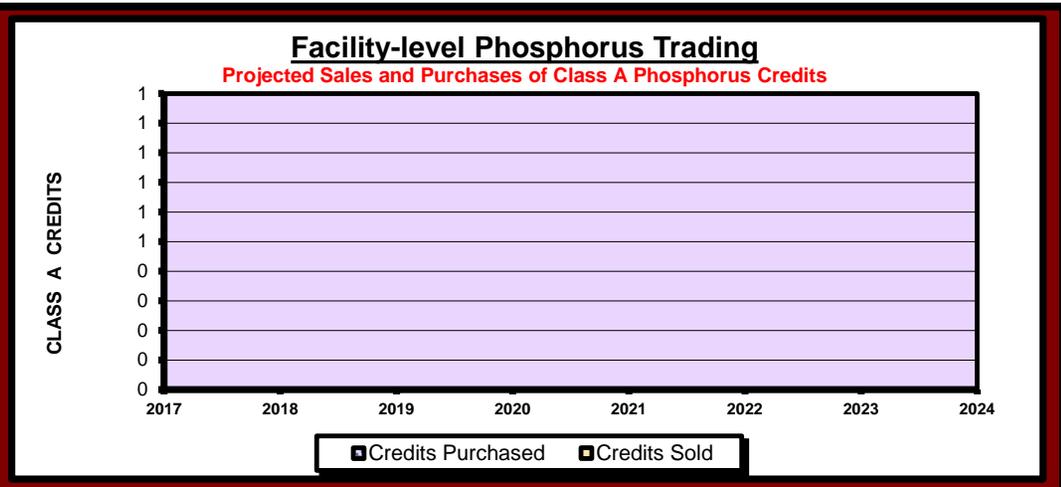
Loading & Credit Summary

Design Flow (mgd)
Projected Flow (mgd)
Projected Avg. Annual Concentration (mg/L)
Discharged Load (end of pipe)
Delivery Factor
Expected Load
Delivered WLA
Expected Credits (delivered)
Transfers In (Out) within Owner Bubble
Transfers In (Out) from Private Exchange
WQIF-Held Credits
Expected Net Credits
Class A Credit Sales (Purchases)
Expected Class B Credits

	2017	2018	2019	2020	2021	2022	2023	2024
	Planning Period					Future Estimates (non-binding)		
Design Flow (mgd)	0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
Projected Flow (mgd)	0.63	0.64	0.65	0.64	0.64	0.65	0.66	0.66
Projected Avg. Annual Concentration (mg/L)	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Discharged Load (end of pipe)	7,675	7,797	7,918	7,797	7,797	7,918	8,040	8,040
Delivery Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Expected Load	7,675	7,797	7,918	7,797	7,797	7,918	8,040	8,040
Delivered WLA	9,746	9,746	9,746	9,746	9,746	9,746	9,746	9,746
Expected Credits (delivered)	2,071	1,949	1,828	1,949	1,949	1,828	1,706	1,706
Transfers In (Out) within Owner Bubble	0	0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange	0	0	0	0	0	0	0	0
WQIF-Held Credits	0	0	0	0	0	0	0	0
Expected Net Credits	2,071	1,949	1,828	1,949	1,949	1,828	1,706	1,706
Class A Credit Sales (Purchases)	0	0	0	0	0	0	0	0
Expected Class B Credits	2,071	1,949	1,828	1,949	1,949	1,828	1,706	1,706

PHOSPHORUS FACILITY SUMMARY

Tappahannock
RAPPAHANNOCK Trading Basin



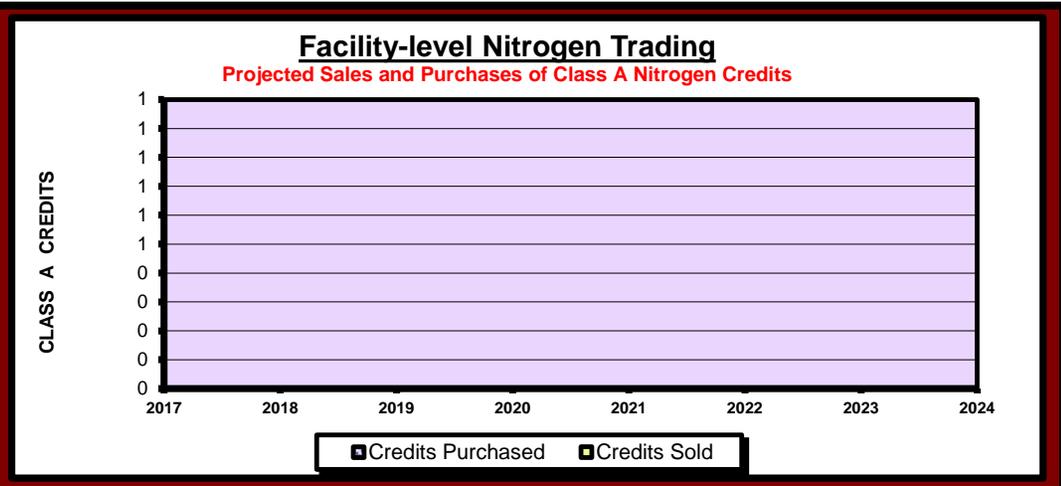
Loading & Credit Summary	
Design Flow (mgd)	
Projected Flow (mgd)	
Projected Avg. Annual Concentration (mg/L)	
Discharged Load (end of pipe)	
Delivery Factor	
Expected Load	
Delivered WLA	
Expected Credits (delivered)	
Transfers In (Out) within Owner Bubble	
Transfers In (Out) from Private Exchange	
WQIF-Held Credits	
Expected Net Credits	
Class A Credit Sales (Purchases)	
Expected Class B Credits	

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
0.63	0.64	0.65	0.64	0.64	0.65	0.66	0.66
0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
576	585	594	585	585	594	603	603
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
576	585	594	585	585	594	603	603
731	731	731	731	731	731	731	731
155	146	137	146	146	137	128	128
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
155	146	137	146	146	137	128	128
0	0	0	0	0	0	0	0
155	146	137	146	146	137	128	128

NITROGEN FACILITY SUMMARY

Warsaw

RAPPAHANNOCK Trading Basin



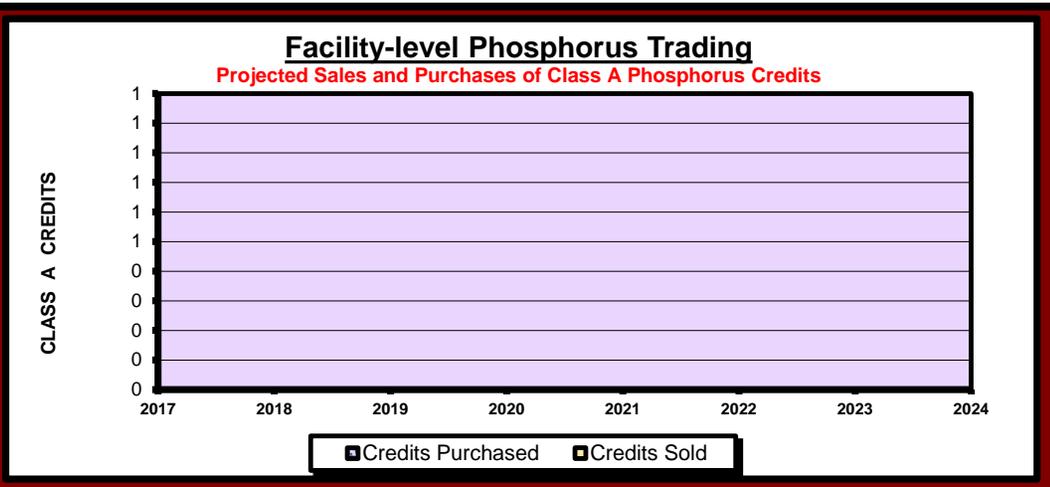
Loading & Credit Summary	
Design Flow (mgd)	0.30
Projected Flow (mgd)	0.25
Projected Avg. Annual Concentration (mg/L)	4.00
Discharged Load (end of pipe)	3,046
Delivery Factor	1.00
Expected Load	3,046
Delivered WLA	3,655
Expected Credits (delivered)	609
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	609
Class A Credit Sales (Purchases)	0
Expected Class B Credits	609

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
3,046	3,046	3,046	3,046	3,046	3,046	3,046	3,046
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
3,046	3,046	3,046	3,046	3,046	3,046	3,046	3,046
3,655	3,655	3,655	3,655	3,655	3,655	3,655	3,655
609	609	609	609	609	609	609	609
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
609	609	609	609	609	609	609	609
0	0	0	0	0	0	0	0
609	609	609	609	609	609	609	609

PHOSPHORUS FACILITY SUMMARY

Warsaw

RAPPAHANNOCK Trading Basin



Loading & Credit Summary	
Design Flow (mgd)	0.30
Projected Flow (mgd)	0.25
Projected Avg. Annual Concentration (mg/L)	0.30
Discharged Load (end of pipe)	228
Delivery Factor	0.99
Expected Load	226
Delivered WLA	271
Expected Credits (delivered)	45
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	45
Class A Credit Sales (Purchases)	0
Expected Class B Credits	45

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
228	228	228	228	228	228	228	228
0.99	0.99	0.99	0.99	1.00	1.00	1.00	1.00
226	226	226	226	228	228	228	228
271	271	271	271	274	274	274	274
45	45	45	45	46	46	46	46
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
45	45	45	45	46	46	46	46
0	0	0	0	0	0	0	0
45	45	45	45	46	46	46	46

NITROGEN FACILITY SUMMARY

Westmoreland Co-Montross
RAPPAHANNOCK Trading Basin



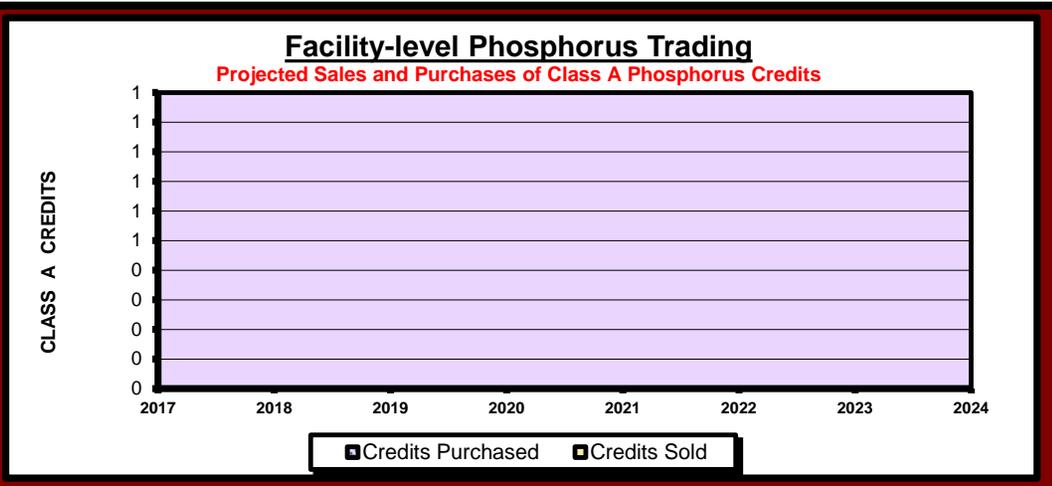
Loading & Credit Summary

Design Flow (mgd)	0.13
Projected Flow (mgd)	0.06
Projected Avg. Annual Concentration (mg/L)	4.00
Discharged Load (end of pipe)	731
Delivery Factor	0.74
Expected Load	541
Delivered WLA	1,172
Expected Credits (delivered)	631
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	631
Class A Credit Sales (Purchases)	0
Expected Class B Credits	631

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
731	731	731	731	731	731	731	731
0.74	0.74	0.74	0.74	0.63	0.63	0.63	0.63
541	541	541	541	460	460	460	460
1,172	1,172	1,172	1,172	998	998	998	998
631	631	631	631	538	538	538	538
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
631	631	631	631	538	538	538	538
0	0	0	0	0	0	0	0
631	631	631	631	538	538	538	538

PHOSPHORUS FACILITY SUMMARY

Westmoreland Co-Montross
RAPPAHANNOCK Trading Basin



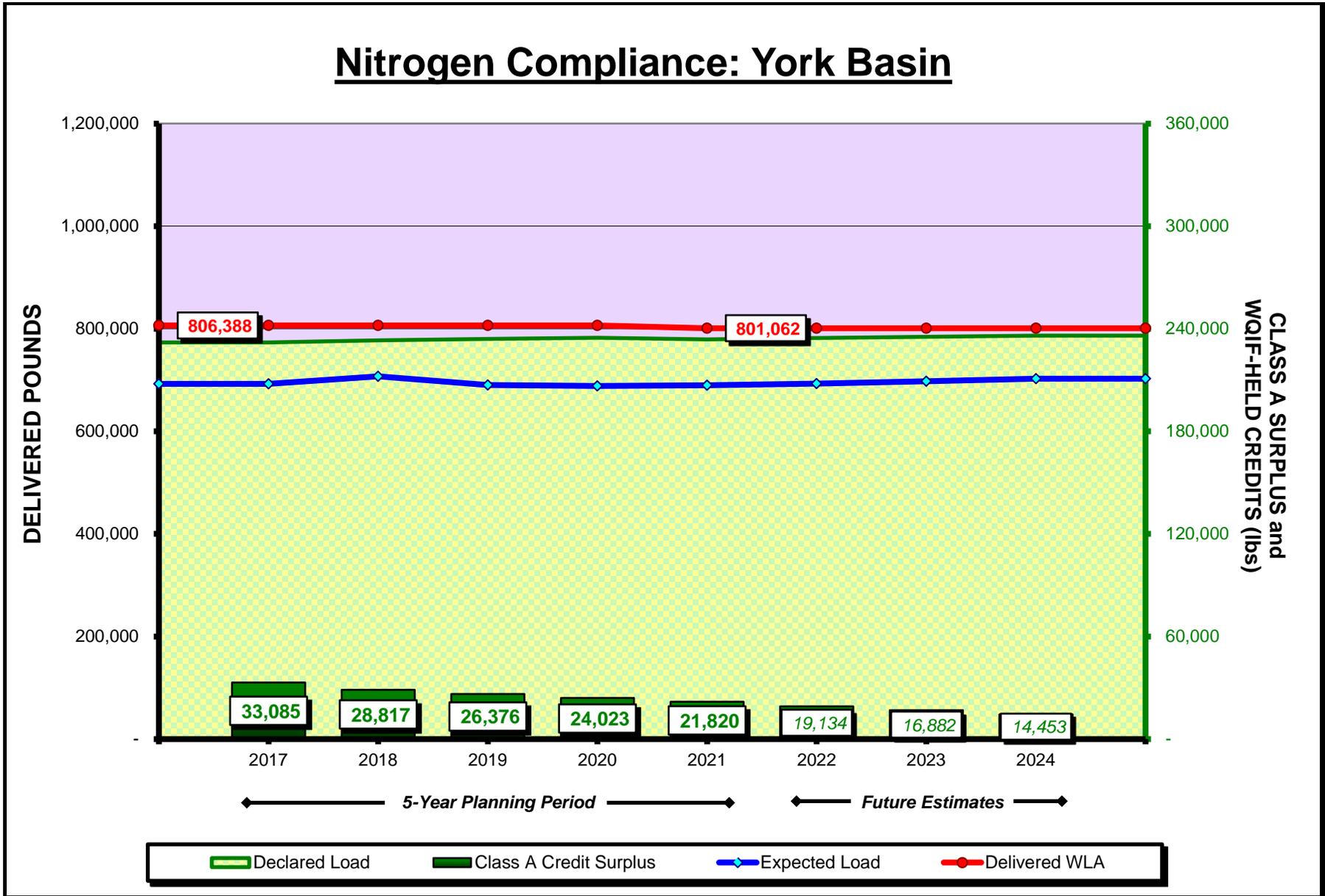
Loading & Credit Summary	
Design Flow (mgd)	
Projected Flow (mgd)	
Projected Avg. Annual Concentration (mg/L)	
Discharged Load (end of pipe)	
Delivery Factor	
Expected Load	
Delivered WLA	
Expected Credits (delivered)	
Transfers In (Out) within Owner Bubble	
Transfers In (Out) from Private Exchange	
WQIF-Held Credits	
Expected Net Credits	
Class A Credit Sales (Purchases)	
Expected Class B Credits	

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
91	91	91	91	91	91	91	91
0.92	0.92	0.92	0.92	0.88	0.88	0.88	0.88
84	84	84	84	80	80	80	80
109	109	109	109	105	105	105	105
25	25	25	25	25	25	25	25
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
25	25	25	25	25	25	25	25
0	0	0	0	0	0	0	0
25	25	25	25	25	25	25	25

SECTION 4

York River Basin Exchange Compliance Plan





YORK Basin: Nitrogen Credit Ledger

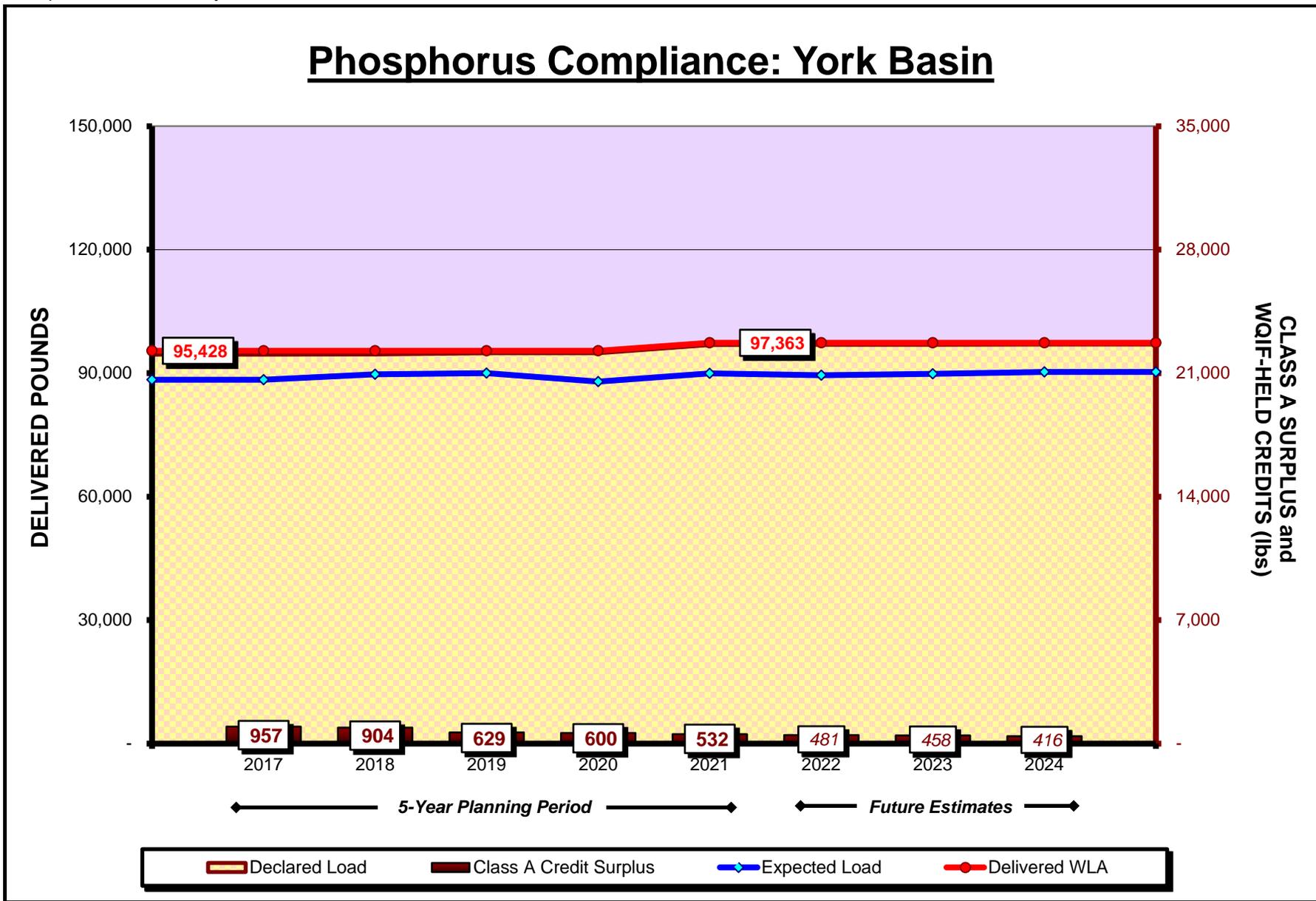
Compliance Year:											
	2017	Credit Forecasts		Preliminary Use of Credits				Credit Exchange (Pounds)			
Facility Name	Delivered WLA	Expected Load	Expected Credits	In-Bubble Exchange	Private Exchange	WQIF-Held Credits	Expected Net Credits		Class A Sales	Class A* Purchases	Class B** (expected)
								PRICE:	No Sale	No Sale	No Sale
The Exchange (group)	806,388	692,544	113,844	-	-	(47,941)	65,903		33,085	-	32,818
Bear Island Paper WB LLC	24,137	24,137	-	-	-	-	-		-	-	-
Caroline Co.	5,299	3,524	1,775	-	-	-	1,775		1,420	-	355
Hanover Co-Ashland	22,659	37,061	(14,402)	14,402	-	-	-		-	-	-
Hanover Co-Doswell	10,416	15,303	(4,887)	4,887	-	-	-		-	-	-
Hanover Co-Totopotomoy	158,979	70,798	88,181	(19,289)	-	(47,694)	21,198		20,000	-	1,198
HRSD-King William	1,424	397	1,027	(1,027)	-	-	-		-	-	-
HRSD-West Point	10,964	24,612	(13,648)	13,648	-	-	-		-	-	-
HRSD-York	275,927	253,938	21,989	(12,621)	-	-	9,368		-	-	9,368
New Kent Co-Parham	36,547	13,218	23,329	-	-	-	23,329		11,665	-	11,664
RSA-Gordonsville	859	429	430	-	-	(247)	183		-	-	183
WestRock-West Point Mill	259,177	249,127	10,050	-	-	-	10,050		-	-	10,050
-	-	-	-	-	-	-	-		-	-	-
-	-	-	-	-	-	-	-		-	-	-
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YORK Basin: Nitrogen Credit Ledger

Compliance Year:											
	2019	Credit Forecasts		Preliminary Use of Credits			Credit Exchange (Pounds)				
Facility Name	Delivered WLA	Expected Load	Expected Credits	In-Bubble Exchange	Private Exchange	WQIF-Held Credits	Expected Net Credits		Class A Sales	Class A* Purchases	Class B** (expected)
								PRICE:	No Sale	No Sale	No Sale
The Exchange (group)	806,388	690,430	115,958	-	-	(47,941)	68,017		26,376	-	41,641
Bear Island Paper WB LLC	24,137	24,137	-	-	-	-	-		-	-	-
Caroline Co.	5,299	3,498	1,801	-	-	-	1,801		1,219	-	582
Hanover Co-Ashland	22,659	39,404	(16,745)	16,745	-	-	-		-	-	-
Hanover Co-Doswell	10,416	16,370	(5,954)	5,954	-	-	-		-	-	-
Hanover Co-Totopotomoy	158,979	75,038	83,941	(22,699)	-	(47,694)	13,548		12,000	-	1,548
HRSD-King William	1,424	616	808	(808)	-	-	-		-	-	-
HRSD-West Point	10,964	24,786	(13,822)	13,822	-	-	-		-	-	-
HRSD-York	275,927	239,239	36,688	(13,014)	-	-	23,674		-	-	23,674
New Kent Co-Parham	36,547	10,233	26,314	-	-	-	26,314		13,157	-	13,157
RSA-Gordonsville	859	429	430	-	-	(247)	183		-	-	183
WestRock-West Point Mill	259,177	256,680	2,497	-	-	-	2,497		-	-	2,497
-	-	-	-	-	-	-	-		-	-	-
-	-	-	-	-	-	-	-		-	-	-
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YORK Basin: Nitrogen Credit Ledger

Compliance Year:											
	2021	Credit Forecasts		Preliminary Use of Credits				Credit Exchange (Pounds)			
Facility Name	Delivered WLA	Expected Load	Expected Credits	In-Bubble Exchange	Private Exchange	WQIF-Held Credits	Expected Net Credits		Class A Sales	Class A* Purchases	Class B** (expected)
								PRICE:	No Sale	No Sale	No Sale
The Exchange (group)	801,062	689,880	111,182	-	-	(47,441)	63,741		21,820	-	41,921
Bear Island Paper WB LLC	23,664	23,664	-	-	-	-	-		-	-	-
Caroline Co.	5,939	4,573	1,366	-	-	-	1,366		663	-	703
Hanover Co-Ashland	20,101	34,955	(14,854)	14,854	-	-	-		-	-	-
Hanover Co-Doswell	9,137	18,730	(9,593)	9,593	-	-	-		-	-	-
Hanover Co-Totopotomoy	157,151	76,271	80,880	(24,447)	-	(47,145)	9,288		8,000	-	1,288
HRSD-King William	1,424	599	825	(825)	-	-	-		-	-	-
HRSD-West Point	10,964	23,655	(12,691)	12,691	-	-	-		-	-	-
HRSD-York	275,927	240,459	35,468	(11,866)	-	-	23,602		-	-	23,602
New Kent Co-Parham	36,547	8,771	27,776	-	-	-	27,776		13,157	-	14,619
RSA-Gordonsville	1,031	515	516	-	-	(296)	220		-	-	220
WestRock-West Point Mill	259,177	257,688	1,489	-	-	-	1,489		-	-	1,489
-	-	-	-	-	-	-	-		-	-	-
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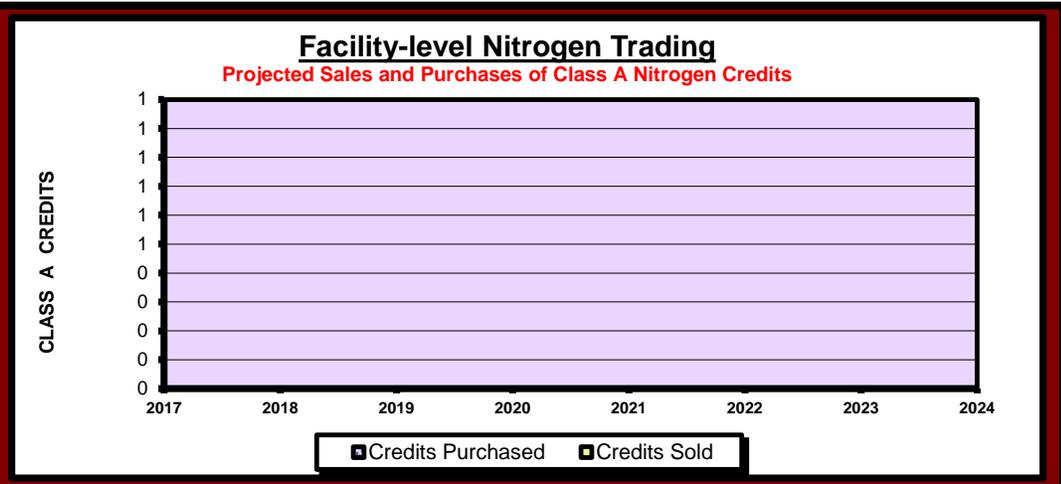
York River Basin

Supplemental Information for Individual Facilities



NITROGEN FACILITY SUMMARY

Bear Island Paper WB LLC
 YORK Trading Basin



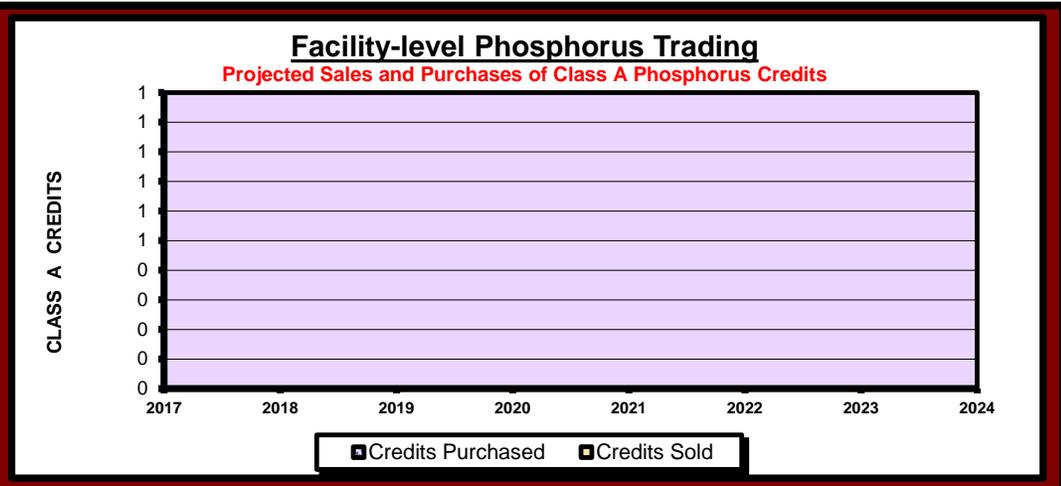
Loading & Credit Summary

Design Flow (mgd)
Projected Flow (mgd)
Projected Avg. Annual Concentration (mg/L)
Discharged Load (end of pipe)
Delivery Factor
Expected Load
Delivered WLA
Expected Credits (delivered)
Transfers In (Out) within Owner Bubble
Transfers In (Out) from Private Exchange
WQIF-Held Credits
Expected Net Credits
Class A Credit Sales (Purchases)
Expected Class B Credits

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
4.20	4.20	4.20	4.20	4.20	4.20	4.20	4.20
4.20	4.20	4.20	4.20	4.20	4.20	4.20	4.20
3.70	3.70	3.70	2.50	3.70	3.70	3.70	3.70
47,328	47,328	47,328	31,978	47,328	47,328	47,328	47,328
0.51	0.51	0.51	0.51	0.50	0.50	0.50	0.50
24,137	24,137	24,137	16,309	23,664	23,664	23,664	23,664
24,137	24,137	24,137	24,137	23,664	23,664	23,664	23,664
0	0	0	7,828	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	7,828	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	7,828	0	0	0	0

PHOSPHORUS FACILITY SUMMARY

Bear Island Paper WB LLC
 YORK Trading Basin

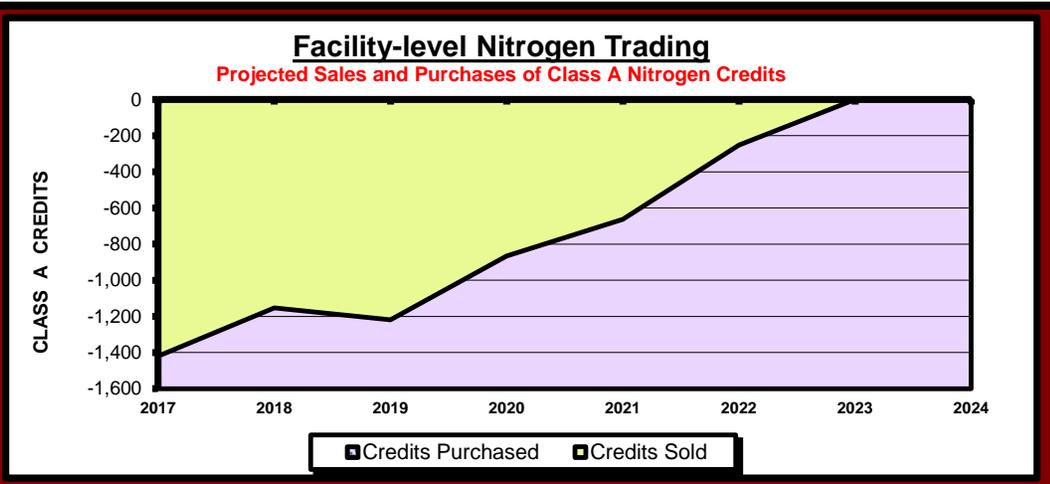


Loading & Credit Summary	
Design Flow (mgd)	4.20
Projected Flow (mgd)	4.20
Projected Avg. Annual Concentration (mg/L)	0.80
Discharged Load (end of pipe)	10,233
Delivery Factor	0.55
Expected Load	5,628
Delivered WLA	5,628
Expected Credits (delivered)	0
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	0
Class A Credit Sales (Purchases)	0
Expected Class B Credits	0

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
4.20	4.20	4.20	4.20	4.20	4.20	4.20	4.20
4.20	4.20	4.20	4.20	4.20	4.20	4.20	4.20
0.80	0.80	0.80	0.40	0.80	0.80	0.80	0.80
10,233	10,233	10,233	5,117	10,232	10,232	10,232	10,232
0.55	0.55	0.55	0.55	0.65	0.65	0.65	0.65
5,628	5,628	5,628	2,814	6,651	6,651	6,651	6,651
5,628	5,628	5,628	5,628	6,651	6,651	6,651	6,651
0	0	0	2,814	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	2,814	0	0	0	0
0	0	0	2,814	0	0	0	0

NITROGEN FACILITY SUMMARY

Caroline Co.
 YORK Trading Basin



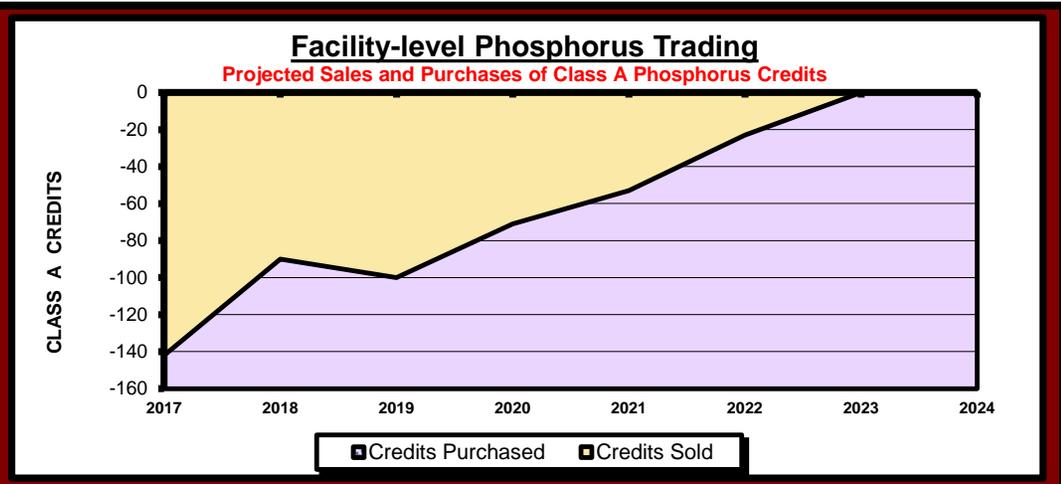
Loading & Credit Summary

Design Flow (mgd)
Projected Flow (mgd)
Projected Avg. Annual Concentration (mg/L)
Discharged Load (end of pipe)
Delivery Factor
Expected Load
Delivered WLA
Expected Credits (delivered)
Transfers In (Out) within Owner Bubble
Transfers In (Out) from Private Exchange
WQIF-Held Credits
Expected Net Credits
Class A Credit Sales (Purchases)
Expected Class B Credits

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
0.57	0.71	0.66	0.72	0.77	0.83	0.89	0.95
3.50	3.00	3.00	3.00	3.00	3.00	3.00	3.00
6,076	6,487	6,030	6,578	7,035	7,583	8,132	8,680
0.58	0.58	0.58	0.58	0.65	0.65	0.65	0.65
3,524	3,762	3,498	3,815	4,573	4,929	5,286	5,642
5,299	5,299	5,299	5,299	5,939	5,939	5,939	5,939
1,775	1,537	1,801	1,484	1,366	1,010	653	297
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
1,775	1,537	1,801	1,484	1,366	1,010	653	297
1,420	1,153	1,219	866	663	252	0	0
355	384	582	618	703	758	653	297

PHOSPHORUS FACILITY SUMMARY

Caroline Co.
 YORK Trading Basin



Loading & Credit Summary

Design Flow (mgd)	1.50
Projected Flow (mgd)	0.57
Projected Avg. Annual Concentration (mg/L)	0.20
Discharged Load (end of pipe)	347
Delivery Factor	0.68
Expected Load	236
Delivered WLA	414
Expected Credits (delivered)	178
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	178
Class A Credit Sales (Purchases)	142
Expected Class B Credits	36

2017	2018	2019	2020	2021	2022	2023	2024	
Planning Period					Future Estimates (non-binding)			
1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	
0.57	0.71	0.66	0.72	0.77	0.83	0.89	0.95	
0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	
347	432	402	439	469	506	542	579	
0.68	0.68	0.68	0.68	0.72	0.72	0.72	0.72	
236	294	273	298	338	364	390	417	
414	414	414	414	438	438	438	438	
178	120	141	116	100	74	48	21	
0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	
178	120	141	116	100	74	48	21	
142	90	100	71	53	23	0	0	
36	30	41	45	47	51	48	21	

Owner Bubble: Hanover County

The facilities listed below have received an aggregated mass load limit pursuant to 9 VAC 25-820-70, Part 1.B.2., which is also referred to as an “owner bubble”. Accordingly, compliance is determined solely on an aggregate basis rather than by comparison of individual facility loads with respective individual WLAs.

The “Credit Transferred within Bubble” section of each table forecasts the use of Credits within the owner bubble during each Compliance Year, and must necessarily sum to zero. The specific Credit transfers shown in this table are provided for internal planning purposes only and, accordingly, are not binding and may change based on the actual performance of individual facilities within the bubble.

Expected Net Credits for an owner bubble may be either positive or negative. If Expected Net Credits is positive, the owner may pledge a percentage of such Credits to the Exchange. If Expected Net Credits is negative, Net Expected Credits identifies the number of Credits that must be purchased to comply with the aggregate Delivered WLA of the bubble.

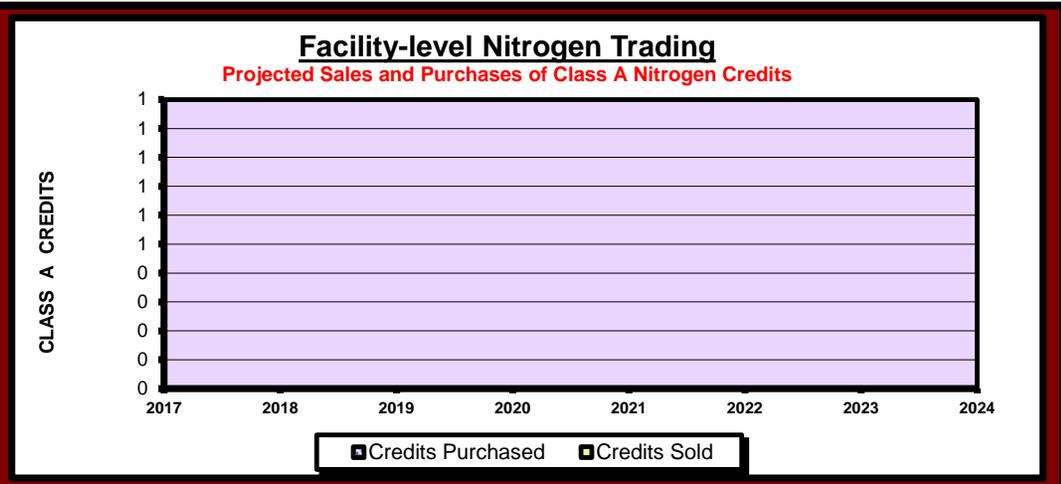
NITROGEN Credits	Exchange 5-year Planning Period					Future Projections		
	2017	2018	2019	2020	2021	2022	2023	2024
Credits Transferred within Bubble								
Ashland	14,402	15,467	16,745	16,745	14,854	7,296	7,844	8,403
Doswell	4,887	5,598	5,954	6,310	9,593	10,218	10,842	11,466
Totopotomoy	(19,289)	(21,065)	(22,699)	(23,055)	(24,447)	(17,514)	(18,686)	(19,869)
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
TOTAL (must sum to 0)	-	-	-	-	-	-	-	-
Credits Available outside Bubble								
Ashland	-	-	-	-	-	-	-	-
Doswell	-	-	-	-	-	-	-	-
Totopotomoy	21,198	17,302	13,548	11,073	9,288	7,840	4,975	2,065
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
Expected Net Credits	21,198	17,302	13,548	11,073	9,288	7,840	4,975	2,065
Class A Sales (Purchases)	20,000	16,000	12,000	10,000	8,000	6,000	4,000	2,000
<i>Expected Class B Credits</i>	1,198	1,302	1,548	1,073	1,288	1,840	975	65
<i>WQIF-Held Credits</i>	47,694	47,694	47,694	47,694	47,145	47,145	47,145	47,145

PHOSPHORUS Credits	Exchange 5-year Planning Period					Future Projections		
	2017	2018	2019	2020	2021	2022	2023	2024
Credits Transferred within Bubble								
Ashland	3,615	3,757	3,928	3,928	3,910	2,723	2,809	2,897
Doswell	554	611	640	668	1,227	1,295	1,362	1,429
Totopotomoy	(4,169)	(4,368)	(4,568)	(4,596)	(5,137)	(4,018)	(4,171)	(4,326)
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
TOTAL (must sum to 0)	-	-	-	-	-	-	-	-
Credits Available outside Bubble								
Ashland	-	-	-	-	-	-	-	-
Doswell	-	-	-	-	-	-	-	-
Totopotomoy	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
Expected Net Credits	-	-	-	-	-	-	-	-
Class A Sales (Purchases)	0	0	0	0	0	0	0	0
<i>Expected Class B Credits</i>	0	0	0	0	0	0	0	0
<i>WQIF-Held Credits</i>	903	575	246	89	42	685	436	184

NITROGEN FACILITY SUMMARY

Hanover Co-Ashland

YORK Trading Basin



Loading & Credit Summary

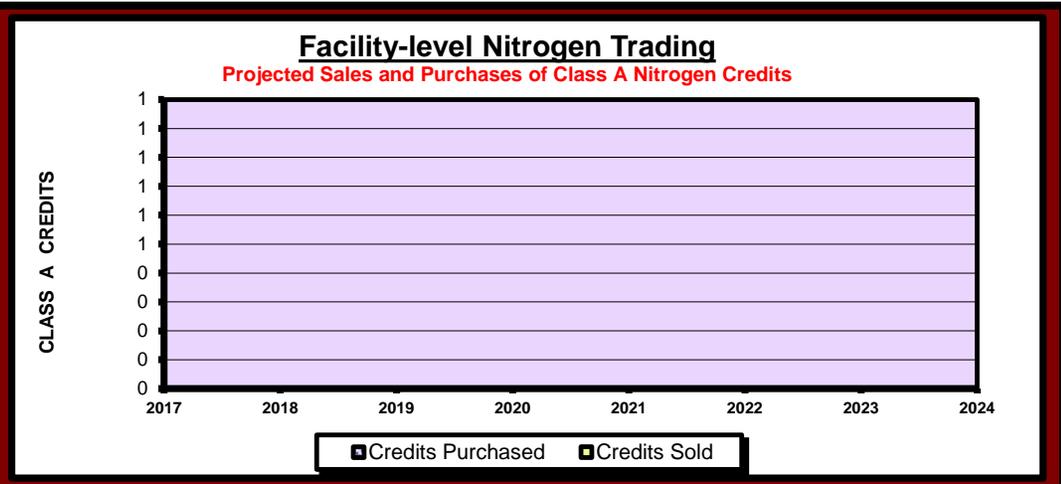
Design Flow (mgd)	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Projected Flow (mgd)	1.74	1.79	1.85	1.85	1.85	1.45	1.48	1.51
Projected Avg. Annual Concentration (mg/L)	11.28	11.28	11.28	11.28	11.28	11.28	11.28	11.28
Discharged Load (end of pipe)	59,776	61,494	63,555	63,555	63,555	49,813	50,809	51,826
Delivery Factor	0.62	0.62	0.62	0.62	0.55	0.55	0.55	0.55
Expected Load	37,061	38,126	39,404	39,404	34,955	27,397	27,945	28,504
Delivered WLA	22,659	22,659	22,659	22,659	20,101	20,101	20,101	20,101
Expected Credits (delivered)	(14,402)	(15,467)	(16,745)	(16,745)	(14,854)	(7,296)	(7,844)	(8,403)
Transfers In (Out) within Owner Bubble	14,402	15,467	16,745	16,745	14,854	7,296	7,844	8,403
Transfers In (Out) from Private Exchange	0	0	0	0	0	0	0	0
WQIF-Held Credits	0	0	0	0	0	0	0	0
Expected Net Credits	0	0	0	0	0	0	0	0
Class A Credit Sales (Purchases)	0	0	0	0	0	0	0	0
Expected Class B Credits	0	0	0	0	0	0	0	0

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
1.74	1.79	1.85	1.85	1.85	1.45	1.48	1.51
11.28	11.28	11.28	11.28	11.28	11.28	11.28	11.28
59,776	61,494	63,555	63,555	63,555	49,813	50,809	51,826
0.62	0.62	0.62	0.62	0.55	0.55	0.55	0.55
37,061	38,126	39,404	39,404	34,955	27,397	27,945	28,504
22,659	22,659	22,659	22,659	20,101	20,101	20,101	20,101
(14,402)	(15,467)	(16,745)	(16,745)	(14,854)	(7,296)	(7,844)	(8,403)
14,402	15,467	16,745	16,745	14,854	7,296	7,844	8,403
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0

NITROGEN FACILITY SUMMARY

Hanover Co-Doswell

YORK Trading Basin



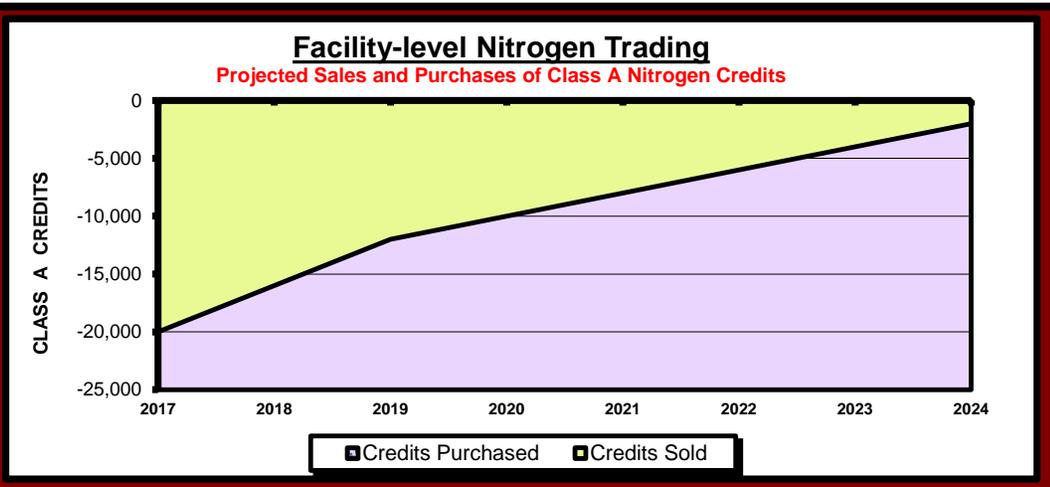
Loading & Credit Summary

Design Flow (mgd)	1.00
Projected Flow (mgd)	0.43
Projected Avg. Annual Concentration (mg/L)	20.50
Discharged Load (end of pipe)	26,847
Delivery Factor	0.57
Expected Load	15,303
Delivered WLA	10,416
Expected Credits (delivered)	(4,887)
Transfers In (Out) within Owner Bubble	4,887
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	0
Class A Credit Sales (Purchases)	0
Expected Class B Credits	0

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
0.43	0.45	0.46	0.47	0.60	0.62	0.64	0.66
20.50	20.50	20.50	20.50	20.50	20.50	20.50	20.50
26,847	28,095	28,720	29,344	37,460	38,709	39,958	41,206
0.57	0.57	0.57	0.57	0.50	0.50	0.50	0.50
15,303	16,014	16,370	16,726	18,730	19,355	19,979	20,603
10,416	10,416	10,416	10,416	9,137	9,137	9,137	9,137
(4,887)	(5,598)	(5,954)	(6,310)	(9,593)	(10,218)	(10,842)	(11,466)
4,887	5,598	5,954	6,310	9,593	10,218	10,842	11,466
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0

NITROGEN FACILITY SUMMARY

Hanover Co-Totopotomoy
 YORK Trading Basin

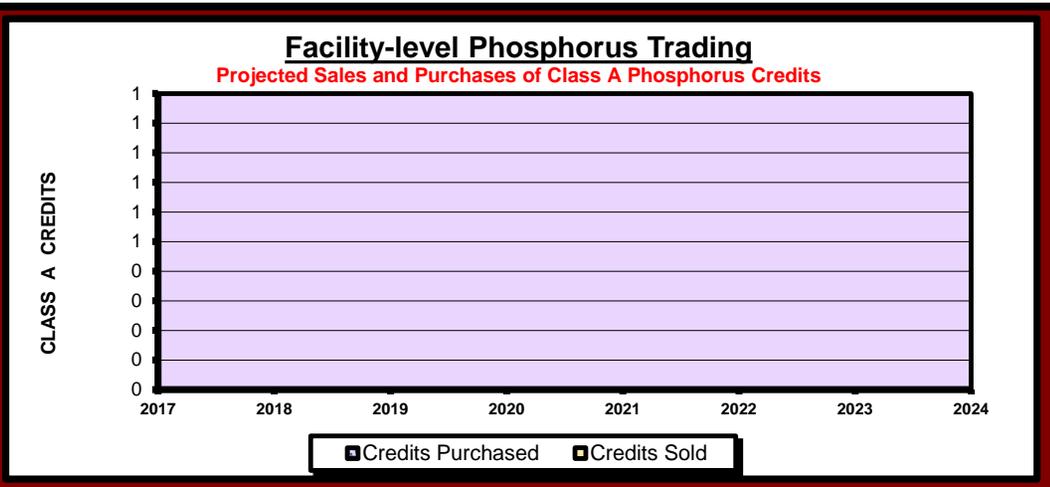


Loading & Credit Summary	
Design Flow (mgd)	7.00
Projected Flow (mgd)	3.34
Projected Avg. Annual Concentration (mg/L)	8.00
Discharged Load (end of pipe)	
Delivery Factor	0.87
Expected Load	70,798
Delivered WLA	158,979
Expected Credits (delivered)	
Transfers In (Out) within Owner Bubble	(19,289)
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	(47,694)
Expected Net Credits	21,198
Class A Credit Sales (Purchases)	20,000
Expected Class B Credits	1,198

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
3.34	3.44	3.54	3.64	3.64	4.04	4.12	4.20
8.00	8.00	8.00	8.00	8.00	8.00	8.00	8.00
81,377	83,814	86,250	88,687	88,687	98,432	100,401	102,409
0.87	0.87	0.87	0.87	0.86	0.86	0.86	0.86
70,798	72,918	75,038	77,157	76,271	84,652	86,345	88,072
158,979	158,979	158,979	158,979	157,151	157,151	157,151	157,151
88,181	86,061	83,941	81,822	80,880	72,499	70,806	69,079
(19,289)	(21,065)	(22,699)	(23,055)	(24,447)	(17,514)	(18,686)	(19,869)
0	0	0	0	0	0	0	0
(47,694)	(47,694)	(47,694)	(47,694)	(47,145)	(47,145)	(47,145)	(47,145)
21,198	17,302	13,548	11,073	9,288	7,840	4,975	2,065
20,000	16,000	12,000	10,000	8,000	6,000	4,000	2,000
1,198	1,302	1,548	1,073	1,288	1,840	975	65

PHOSPHORUS FACILITY SUMMARY

Hanover Co-Ashland
 YORK Trading Basin



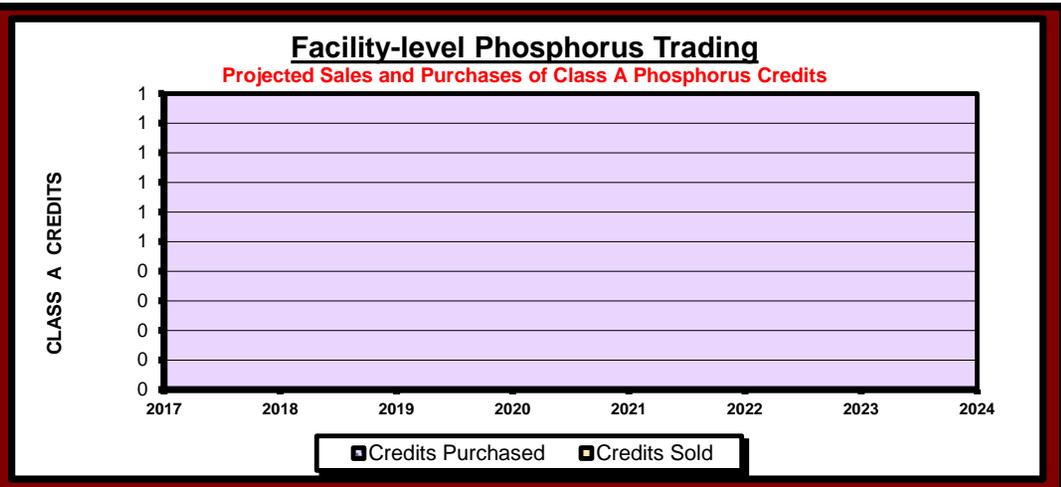
Loading & Credit Summary

Design Flow (mgd)	2.00
Projected Flow (mgd)	1.74
Projected Avg. Annual Concentration (mg/L)	1.70
Discharged Load (end of pipe)	9,009
Delivery Factor	0.55
Expected Load	4,955
Delivered WLA	1,340
Expected Credits (delivered)	(3,615)
Transfers In (Out) within Owner Bubble	3,615
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	0
Class A Credit Sales (Purchases)	0
Expected Class B Credits	0

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
1.74	1.79	1.85	1.85	1.85	1.45	1.48	1.51
1.70	1.70	1.70	1.70	1.50	1.50	1.50	1.50
9,009	9,268	9,578	9,578	8,451	6,624	6,757	6,892
0.55	0.55	0.55	0.55	0.65	0.65	0.65	0.65
4,955	5,097	5,268	5,268	5,493	4,306	4,392	4,480
1,340	1,340	1,340	1,340	1,583	1,583	1,583	1,583
(3,615)	(3,757)	(3,928)	(3,928)	(3,910)	(2,723)	(2,809)	(2,897)
3,615	3,757	3,928	3,928	3,910	2,723	2,809	2,897
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0

PHOSPHORUS FACILITY SUMMARY

Hanover Co-Doswell
 YORK Trading Basin



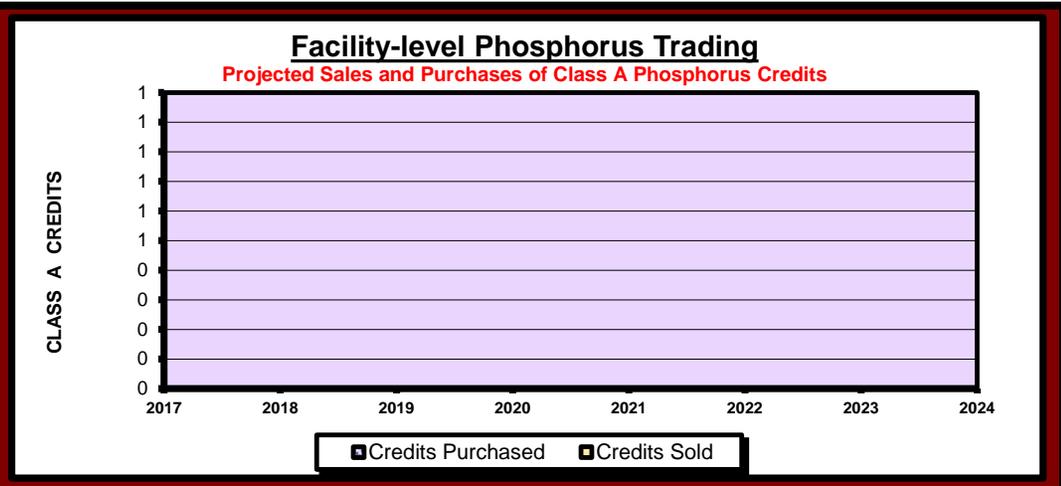
Loading & Credit Summary

Design Flow (mgd)	1.00
Projected Flow (mgd)	0.43
Projected Avg. Annual Concentration (mg/L)	1.70
Discharged Load (end of pipe)	2,226
Delivery Factor	0.55
Expected Load	1,224
Delivered WLA	670
Expected Credits (delivered)	(554)
Transfers In (Out) within Owner Bubble	554
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	0
Class A Credit Sales (Purchases)	0
Expected Class B Credits	0

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
0.43	0.45	0.46	0.47	0.60	0.62	0.64	0.66
1.70	1.70	1.70	1.70	1.70	1.70	1.70	1.70
2,226	2,330	2,382	2,433	3,106	3,210	3,314	3,417
0.55	0.55	0.55	0.55	0.65	0.65	0.65	0.65
1,224	1,281	1,310	1,338	2,019	2,087	2,154	2,221
670	670	670	670	792	792	792	792
(554)	(611)	(640)	(668)	(1,227)	(1,295)	(1,362)	(1,429)
554	611	640	668	1,227	1,295	1,362	1,429
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0

PHOSPHORUS FACILITY SUMMARY

Hanover Co-Totopotomoy
 YORK Trading Basin



Loading & Credit Summary

Design Flow (mgd)	Projected Flow (mgd)	Projected Avg. Annual Concentration (mg/L)	Discharged Load (end of pipe)	Delivery Factor	Expected Load	Delivered WLA	Expected Credits (delivered)	Transfers In (Out) within Owner Bubble	Transfers In (Out) from Private Exchange	WQIF-Held Credits	Expected Net Credits
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2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
3.34	3.44	3.54	3.64	3.64	4.04	4.12	4.20
0.55	0.55	0.55	0.55	0.50	0.50	0.50	0.50
5,595	5,762	5,930	6,097	5,543	6,152	6,275	6,401
0.77	0.77	0.77	0.77	0.78	0.78	0.78	0.78
4,308	4,437	4,566	4,695	4,323	4,799	4,895	4,992
9,380	9,380	9,380	9,380	9,502	9,502	9,502	9,502
5,072	4,943	4,814	4,685	5,179	4,703	4,607	4,510
(4,169)	(4,368)	(4,568)	(4,596)	(5,137)	(4,018)	(4,171)	(4,326)
0	0	0	0	0	0	0	0
(903)	(575)	(246)	(89)	(42)	(685)	(436)	(184)
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0

Owner Bubble: Hampton Roads Sanitation District (York)

The facilities listed below have received an aggregated mass load limit pursuant to 9 VAC 25-820-70, Part 1.B.2., which is also referred to as an “owner bubble”. Accordingly, compliance is determined solely on an aggregate basis rather than by comparison of individual facility loads with respective individual WLAs.

The “Credit Transferred within Bubble” section of each table forecasts the use of Credits within the owner bubble during each Compliance Year, and must necessarily sum to zero. The specific Credit transfers shown in this table are provided for internal planning purposes only and, accordingly, are not binding and may change based on the actual performance of individual facilities within the bubble.

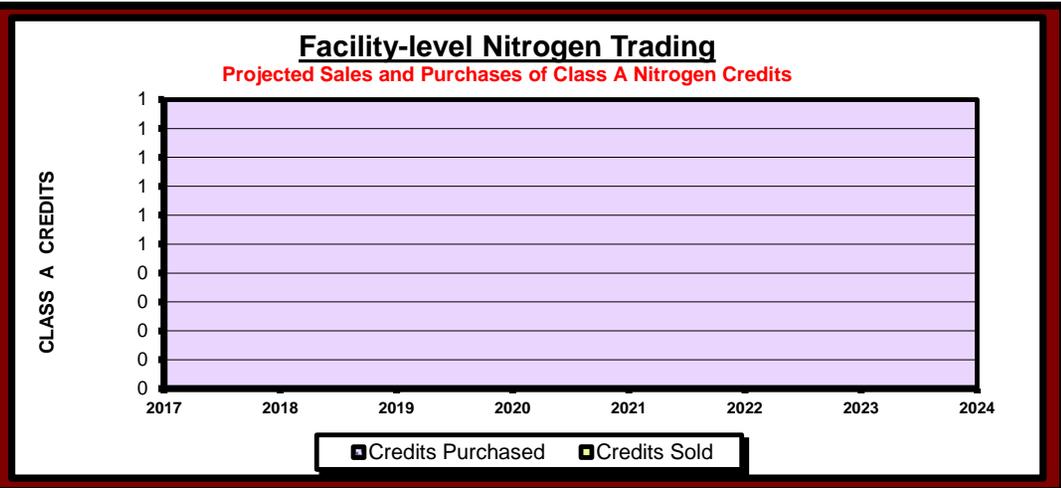
Expected Net Credits for an owner bubble may be either positive or negative. If Expected Net Credits is positive, the owner may pledge a percentage of such Credits to the Exchange. If Expected Net Credits is negative, Net Expected Credits identifies the number of Credits that must be purchased to comply with the aggregate Delivered WLA of the bubble.

NITROGEN Credits	Exchange 5-year Planning Period					Future Projections		
	2017	2018	2019	2020	2021	2022	2023	2024
Credits Transferred within Bubble								
King William	(1,027)	(1,032)	(808)	(798)	(825)	(799)	(774)	(748)
West Point	13,648	11,225	13,822	12,539	12,691	12,843	12,997	13,151
York	(12,621)	(10,193)	(13,014)	(11,741)	(11,866)	(12,044)	(12,223)	(12,403)
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
TOTAL (must sum to 0)	-	-	-	-	-	-	-	-
Credits Available outside Bubble								
King William	-	-	-	-	-	-	-	-
West Point	-	-	-	-	-	-	-	-
York	9,368	2,752	23,674	19,211	23,602	22,509	21,411	20,309
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
Expected Net Credits	9,368	2,752	23,674	19,211	23,602	22,509	21,411	20,309
Class A Sales (Purchases)	0	0	0	0	0	0	0	0
<i>Expected Class B Credits</i>	<i>9,368</i>	<i>2,752</i>	<i>23,674</i>	<i>19,211</i>	<i>23,602</i>	<i>22,509</i>	<i>21,411</i>	<i>20,309</i>
<i>WQIF-Held Credits</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>

PHOSPHORUS Credits	Exchange 5-year Planning Period					Future Projections		
	2017	2018	2019	2020	2021	2022	2023	2024
Credits Transferred within Bubble								
King William	(160)	(161)	(144)	(143)	(145)	(143)	(141)	(139)
West Point	3,488	3,073	3,518	3,298	3,324	3,350	3,377	3,403
York	(3,328)	(2,912)	(3,374)	(3,155)	(3,179)	(3,207)	(3,236)	(3,264)
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
TOTAL (must sum to 0)	-	-	-	-	-	-	-	-
Credits Available outside Bubble								
King William	-	-	-	-	-	-	-	-
West Point	-	-	-	-	-	-	-	-
York	556	455	1,065	950	1,189	1,108	1,025	943
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
Expected Net Credits	556	455	1,065	950	1,189	1,108	1,025	943
Class A Sales (Purchases)	0	0	0	0	0	0	0	0
<i>Expected Class B Credits</i>	<i>556</i>	<i>455</i>	<i>1,065</i>	<i>950</i>	<i>1,189</i>	<i>1,108</i>	<i>1,025</i>	<i>943</i>
<i>WQIF-Held Credits</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>

NITROGEN FACILITY SUMMARY

HRSD-King William
 YORK Trading Basin



Loading & Credit Summary

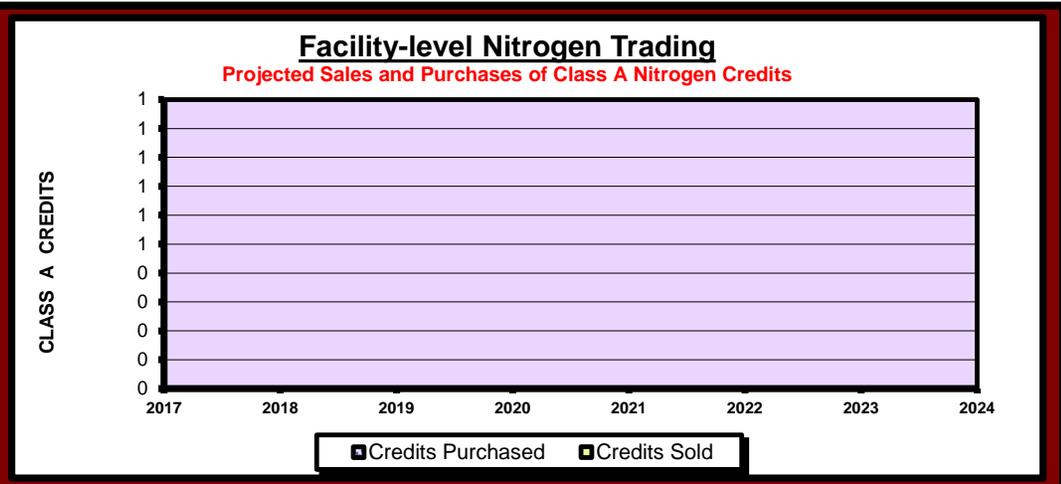
Design Flow (mgd)	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Projected Flow (mgd)	0.03	0.03	0.05	0.05	0.05	0.05	0.05	0.06
Projected Avg. Annual Concentration (mg/L)	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Discharged Load (end of pipe)	397	392	616	626	599	625	650	676
Delivery Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Expected Load	397	392	616	626	599	625	650	676
Delivered WLA	1,424	1,424	1,424	1,424	1,424	1,424	1,424	1,424
Expected Credits (delivered)	1,027	1,032	808	798	825	799	774	748
Transfers In (Out) within Owner Bubble	(1,027)	(1,032)	(808)	(798)	(825)	(799)	(774)	(748)
Transfers In (Out) from Private Exchange	0	0	0	0	0	0	0	0
WQIF-Held Credits	0	0	0	0	0	0	0	0
Expected Net Credits	0	0	0	0	0	0	0	0
Class A Credit Sales (Purchases)	0	0	0	0	0	0	0	0
Expected Class B Credits	0	0	0	0	0	0	0	0

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
0.03	0.03	0.05	0.05	0.05	0.05	0.05	0.06
4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
397	392	616	626	599	625	650	676
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
397	392	616	626	599	625	650	676
1,424	1,424	1,424	1,424	1,424	1,424	1,424	1,424
1,027	1,032	808	798	825	799	774	748
(1,027)	(1,032)	(808)	(798)	(825)	(799)	(774)	(748)
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0

NITROGEN FACILITY SUMMARY

HRSD-West Point

YORK Trading Basin



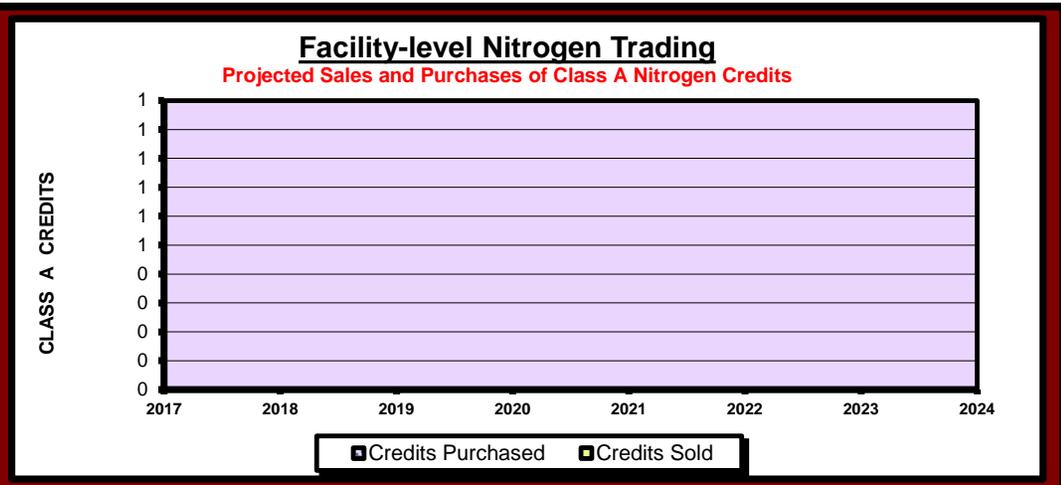
Loading & Credit Summary

Design Flow (mgd)	0.60
Projected Flow (mgd)	0.46
Projected Avg. Annual Concentration (mg/L)	17.50
Discharged Load (end of pipe)	24,612
Delivery Factor	1.00
Expected Load	24,612
Delivered WLA	10,964
Expected Credits (delivered)	(13,648)
Transfers In (Out) within Owner Bubble	13,648
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	0
Class A Credit Sales (Purchases)	0
Expected Class B Credits	0

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
0.46	0.42	0.47	0.44	0.44	0.45	0.45	0.45
17.50	17.50	17.50	17.50	17.50	17.50	17.50	17.50
24,612	22,189	24,786	23,503	23,655	23,807	23,961	24,115
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
24,612	22,189	24,786	23,503	23,655	23,807	23,961	24,115
10,964	10,964	10,964	10,964	10,964	10,964	10,964	10,964
(13,648)	(11,225)	(13,822)	(12,539)	(12,691)	(12,843)	(12,997)	(13,151)
13,648	11,225	13,822	12,539	12,691	12,843	12,997	13,151
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0

NITROGEN FACILITY SUMMARY

HRSD-York
 YORK Trading Basin



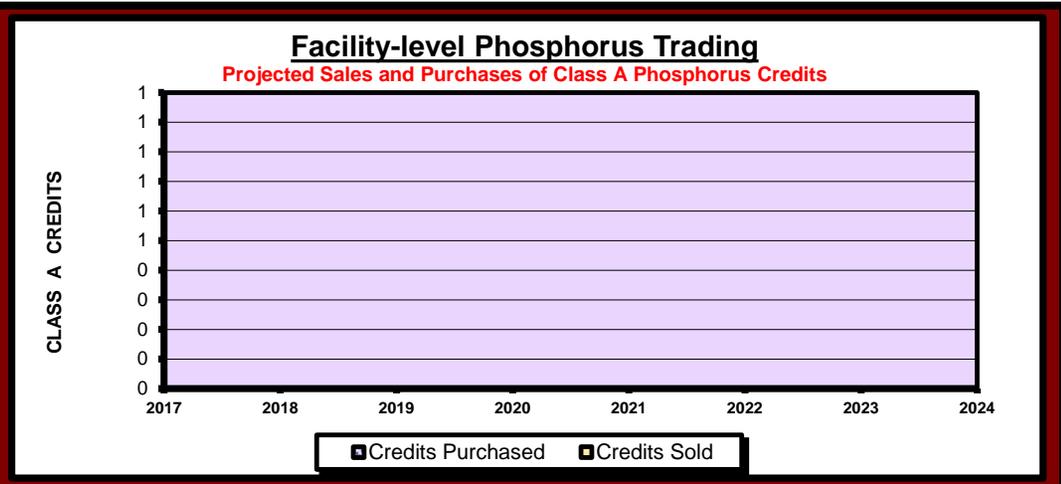
Loading & Credit Summary	
Design Flow (mgd)	15.00
Projected Flow (mgd)	11.91
Projected Avg. Annual Concentration (mg/L)	7.00
Discharged Load (end of pipe)	253,938
Delivery Factor	1.00
Expected Load	253,938
Delivered WLA*	275,927
Expected Credits (delivered)	21,989
Transfers In (Out) within Owner Bubble	(12,621)
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	9,368
Class A Credit Sales (Purchases)	0
Expected Class B Credits	9,368

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00
11.91	12.34	13.09	13.41	13.16	13.21	13.26	13.31
7.00	7.00	6.00	6.00	6.00	6.00	6.00	6.00
253,938	262,982	239,239	244,975	240,459	241,374	242,293	243,215
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
253,938	262,982	239,239	244,975	240,459	241,374	242,293	243,215
275,927	275,927	275,927	275,927	275,927	275,927	275,927	275,927
21,989	12,945	36,688	30,952	35,468	34,553	33,634	32,712
(12,621)	(10,193)	(13,014)	(11,741)	(11,866)	(12,044)	(12,223)	(12,403)
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
9,368	2,752	23,674	19,211	23,602	22,509	21,411	20,309
0	0	0	0	0	0	0	0
9,368	2,752	23,674	19,211	23,602	22,509	21,411	20,309

* Reflects consolidation of the HRSD-Mathews WLA

PHOSPHORUS FACILITY SUMMARY

HRSD-King William
 YORK Trading Basin



Loading & Credit Summary

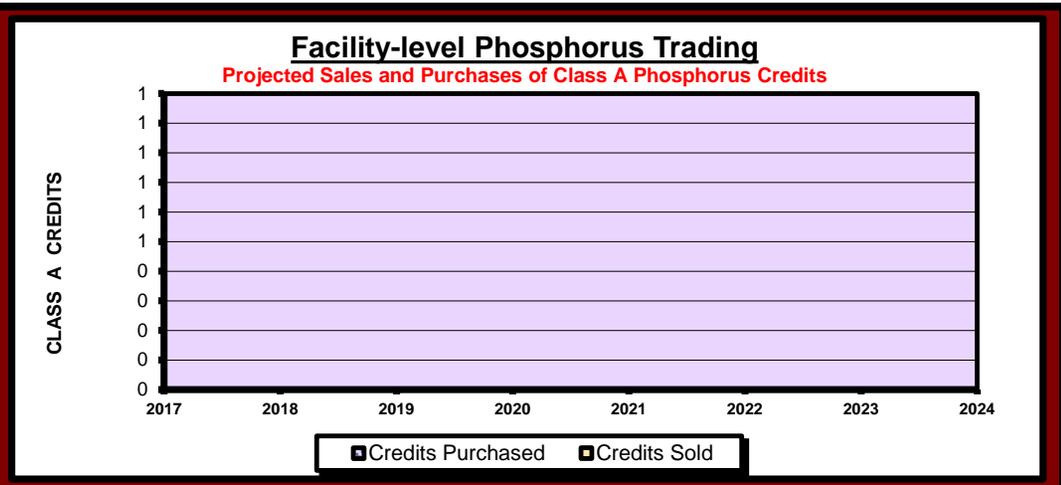
Design Flow (mgd)
Projected Flow (mgd)
Projected Avg. Annual Concentration (mg/L)
Discharged Load (end of pipe)
Delivery Factor
Expected Load
Delivered WLA
Expected Credits (delivered)
Transfers In (Out) within Owner Bubble
Transfers In (Out) from Private Exchange
WQIF-Held Credits
Expected Net Credits
Class A Credit Sales (Purchases)
Expected Class B Credits

	2017	2018	2019	2020	2021	2022	2023	2024
	Planning Period					Future Estimates (non-binding)		
Design Flow (mgd)	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Projected Flow (mgd)	0.03	0.03	0.05	0.05	0.05	0.05	0.05	0.06
Projected Avg. Annual Concentration (mg/L)	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
Discharged Load (end of pipe)	30	29	46	47	45	47	49	51
Delivery Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Expected Load	30	29	46	47	45	47	49	51
Delivered WLA	190	190	190	190	190	190	190	190
Expected Credits (delivered)	160	161	144	143	145	143	141	139
Transfers In (Out) within Owner Bubble	(160)	(161)	(144)	(143)	(145)	(143)	(141)	(139)
Transfers In (Out) from Private Exchange	0	0	0	0	0	0	0	0
WQIF-Held Credits	0	0	0	0	0	0	0	0
Expected Net Credits	0	0	0	0	0	0	0	0
Class A Credit Sales (Purchases)	0	0	0	0	0	0	0	0
Expected Class B Credits	0	0	0	0	0	0	0	0

PHOSPHORUS FACILITY SUMMARY

HRSD-West Point

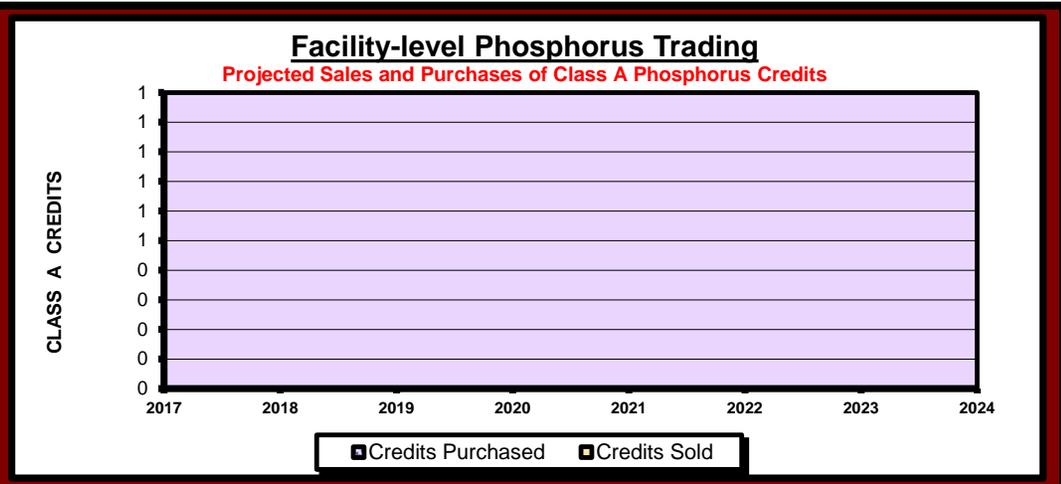
YORK Trading Basin



	2017	2018	2019	2020	2021	2022	2023	2024
	Planning Period					Future Estimates (non-binding)		
Design Flow (mgd)	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
Projected Flow (mgd)	0.46	0.42	0.47	0.44	0.44	0.45	0.45	0.45
Projected Avg. Annual Concentration (mg/L)	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Discharged Load (end of pipe)	4,219	3,804	4,249	4,029	4,055	4,081	4,108	4,134
Delivery Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Expected Load	4,219	3,804	4,249	4,029	4,055	4,081	4,108	4,134
Delivered WLA	731	731	731	731	731	731	731	731
Expected Credits (delivered)	(3,488)	(3,073)	(3,518)	(3,298)	(3,324)	(3,350)	(3,377)	(3,403)
Transfers In (Out) within Owner Bubble	3,488	3,073	3,518	3,298	3,324	3,350	3,377	3,403
Transfers In (Out) from Private Exchange	0	0	0	0	0	0	0	0
WQIF-Held Credits	0	0	0	0	0	0	0	0
Expected Net Credits	0	0	0	0	0	0	0	0
Class A Credit Sales (Purchases)	0	0	0	0	0	0	0	0
Expected Class B Credits	0	0	0	0	0	0	0	0

PHOSPHORUS FACILITY SUMMARY

HRSD-York
 YORK Trading Basin



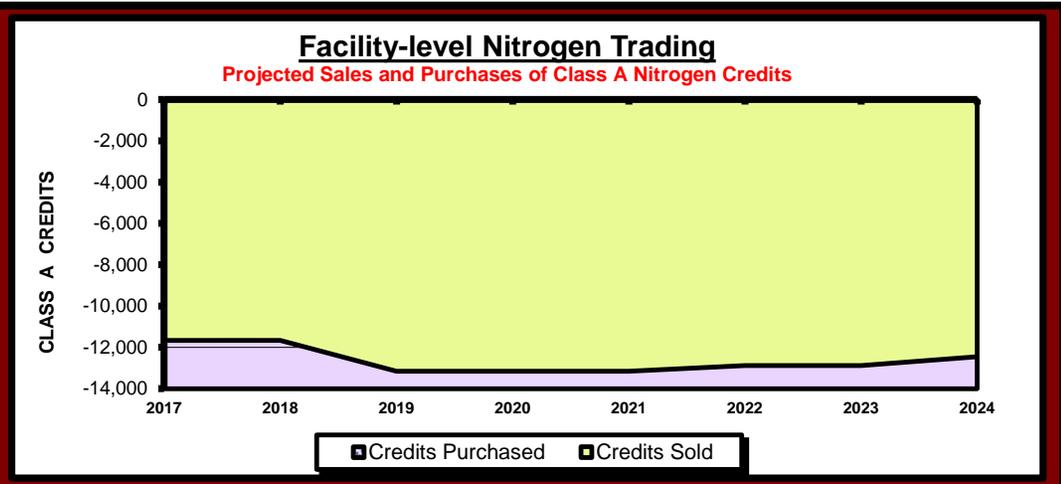
Loading & Credit Summary	
Design Flow (mgd)	15.00
Projected Flow (mgd)	11.91
Projected Avg. Annual Concentration (mg/L)	0.40
Discharged Load (end of pipe)	14,511
Delivery Factor	1.00
Expected Load	14,511
Delivered WLA*	18,395
Expected Credits (delivered)	3,884
Transfers In (Out) within Owner Bubble	(3,328)
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	556
Class A Credit Sales (Purchases)	0
Expected Class B Credits	556

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00
11.91	12.34	13.09	13.41	13.16	13.21	13.26	13.31
0.40	0.40	0.35	0.35	0.35	0.35	0.35	0.35
14,511	15,028	13,956	14,290	14,027	14,080	14,134	14,188
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
14,511	15,028	13,956	14,290	14,027	14,080	14,134	14,188
18,395	18,395	18,395	18,395	18,395	18,395	18,395	18,395
3,884	3,367	4,439	4,105	4,368	4,315	4,261	4,207
(3,328)	(2,912)	(3,374)	(3,155)	(3,179)	(3,207)	(3,236)	(3,264)
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
556	455	1,065	950	1,189	1,108	1,025	943
0	0	0	0	0	0	0	0
556	455	1,065	950	1,189	1,108	1,025	943

* Reflects consolidation of the HRSD-Mathews WLA

NITROGEN FACILITY SUMMARY

New Kent Co-Parham
 YORK Trading Basin



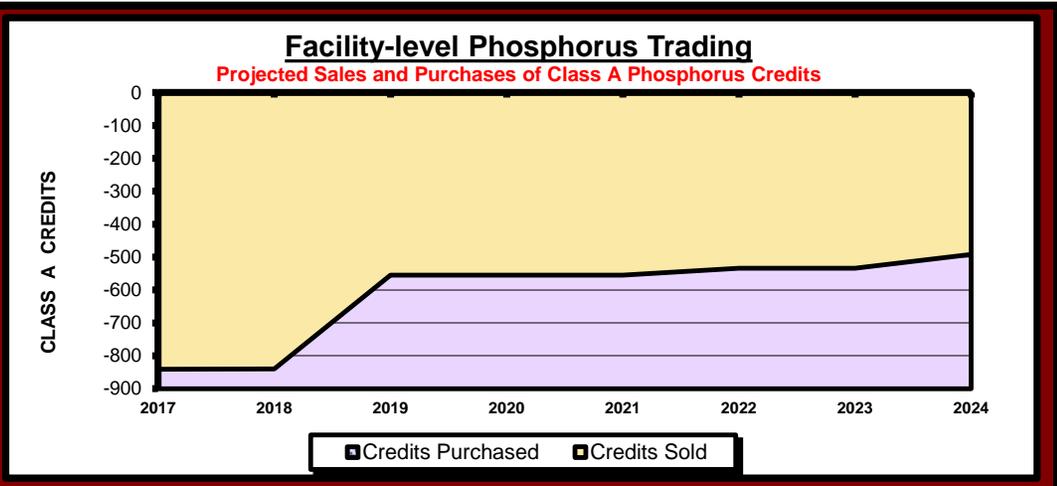
Loading & Credit Summary

Design Flow (mgd)	2.00
Projected Flow (mgd)	0.62
Projected Avg. Annual Concentration (mg/L)	7.00
Discharged Load (end of pipe)	13,218
Delivery Factor	1.00
Expected Load	13,218
Delivered WLA	36,547
Expected Credits (delivered)	23,329
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	23,329
Class A Credit Sales (Purchases)	11,665
Expected Class B Credits	11,664

	2017	2018	2019	2020	2021	2022	2023	2024
	Planning Period					Future Estimates (non-binding)		
Design Flow (mgd)	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Projected Flow (mgd)	0.62	0.62	0.48	0.48	0.48	0.50	0.50	0.55
Projected Avg. Annual Concentration (mg/L)	7.00	7.00	7.00	6.00	6.00	6.00	6.00	6.00
Discharged Load (end of pipe)	13,218	13,218	10,233	8,771	8,771	9,137	9,137	10,050
Delivery Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Expected Load	13,218	13,218	10,233	8,771	8,771	9,137	9,137	10,050
Delivered WLA	36,547	36,547	36,547	36,547	36,547	36,547	36,547	36,547
Expected Credits (delivered)	23,329	23,329	26,314	27,776	27,776	27,410	27,410	26,497
Transfers In (Out) within Owner Bubble	0	0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange	0	0	0	0	0	0	0	0
WQIF-Held Credits	0	0	0	0	0	0	0	0
Expected Net Credits	23,329	23,329	26,314	27,776	27,776	27,410	27,410	26,497
Class A Credit Sales (Purchases)	11,665	11,664	13,157	13,157	13,157	12,882	12,882	12,453
Expected Class B Credits	11,664	11,665	13,157	14,619	14,619	14,528	14,528	14,044

PHOSPHORUS FACILITY SUMMARY

New Kent Co-Parham
YORK Trading Basin



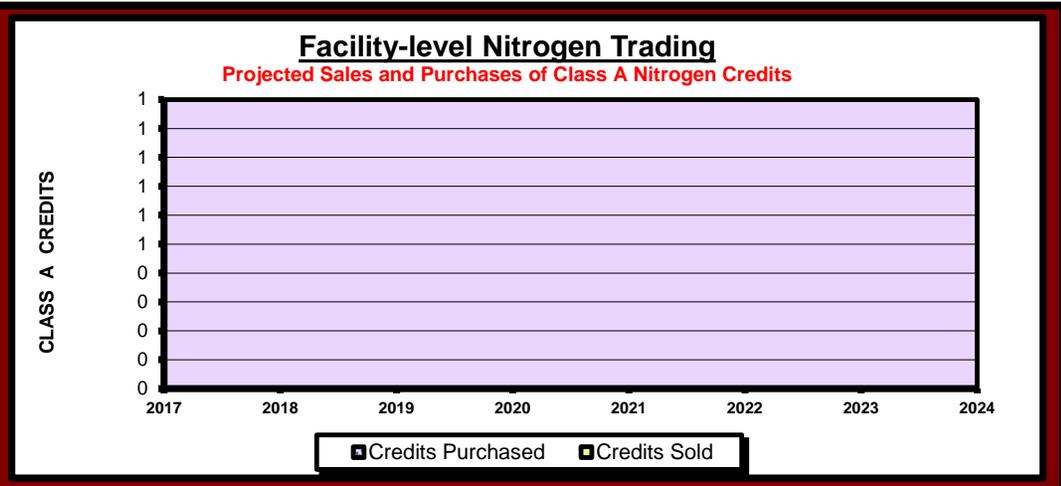
Loading & Credit Summary

Design Flow (mgd)	2.00
Projected Flow (mgd)	0.62
Projected Avg. Annual Concentration (mg/L)	0.40
Discharged Load (end of pipe)	755
Delivery Factor	1.00
Expected Load	755
Delivered WLA	2,436
Expected Credits (delivered)	1,681
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	1,681
Class A Credit Sales (Purchases)	841
Expected Class B Credits	840

2017	2018	2019	2020	2021	2022	2023	2024	
Planning Period					Future Estimates (non-binding)			
2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	
0.62	0.62	0.48	0.48	0.48	0.50	0.50	0.55	
0.40	0.40	0.40	0.70	0.70	0.70	0.70	0.70	
755	755	585	1,023	1,023	1,066	1,066	1,173	
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
755	755	585	1,023	1,023	1,066	1,066	1,173	
2,436	2,436	2,436	2,436	2,436	2,436	2,436	2,436	
1,681	1,681	1,851	1,413	1,413	1,370	1,370	1,263	
0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	
0	0	0	0	0	0	0	0	
1,681	1,681	1,851	1,413	1,413	1,370	1,370	1,263	
841	840	555	555	555	534	534	492	
840	841	1,296	858	858	836	836	771	

NITROGEN FACILITY SUMMARY

RSA-Gordonville
 YORK Trading Basin



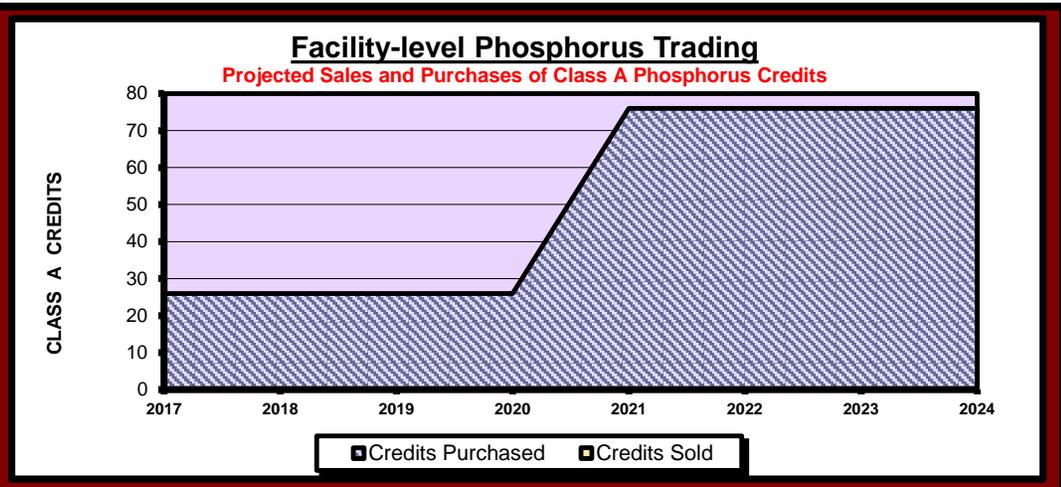
Loading & Credit Summary

Design Flow (mgd)	Projected Flow (mgd)	Projected Avg. Annual Concentration (mg/L)	Discharged Load (end of pipe)	Delivery Factor	Expected Load	Delivered WLA	Expected Credits (delivered)	Transfers In (Out) within Owner Bubble	Transfers In (Out) from Private Exchange	WQIF-Held Credits	Expected Net Credits
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2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67
0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47
6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
8,588	8,588	8,588	8,588	8,588	8,588	8,588	8,588
0.05	0.05	0.05	0.05	0.06	0.06	0.06	0.06
429	429	429	429	515	515	515	515
859	859	859	859	1,031	1,031	1,031	1,031
430	430	430	430	516	516	516	516
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
(247)	(247)	(247)	(247)	(296)	(296)	(296)	(296)
183	183	183	183	220	220	220	220
0	0	0	0	0	0	0	0
183	183	183	183	220	220	220	220

PHOSPHORUS FACILITY SUMMARY

RSA-Gordonville
 YORK Trading Basin



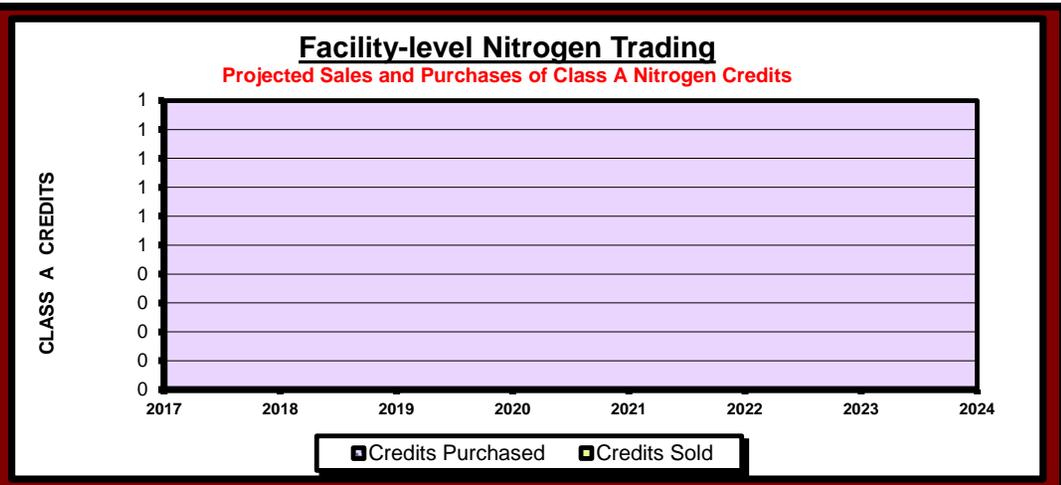
Loading & Credit Summary

Design Flow (mgd)	0.67
Projected Flow (mgd)	0.47
Projected Avg. Annual Concentration (mg/L)	0.90
Discharged Load (end of pipe)	1,288
Delivery Factor	0.18
Expected Load	232
Delivered WLA	206
Expected Credits (delivered)	(26)
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	(26)
Class A Credit Sales (Purchases)	(26)
Expected Class B Credits	0

	2017	2018	2019	2020	2021	2022	2023	2024
	Planning Period					Future Estimates (non-binding)		
Design Flow (mgd)	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67
Projected Flow (mgd)	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47
Projected Avg. Annual Concentration (mg/L)	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Discharged Load (end of pipe)	1,288	1,288	1,288	1,288	1,288	1,288	1,288	1,288
Delivery Factor	0.18	0.18	0.18	0.18	0.53	0.53	0.53	0.53
Expected Load	232	232	232	232	683	683	683	683
Delivered WLA	206	206	206	206	607	607	607	607
Expected Credits (delivered)	(26)	(26)	(26)	(26)	(76)	(76)	(76)	(76)
Transfers In (Out) within Owner Bubble	0	0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange	0	0	0	0	0	0	0	0
WQIF-Held Credits	0	0	0	0	0	0	0	0
Expected Net Credits	(26)	(26)	(26)	(26)	(76)	(76)	(76)	(76)
Class A Credit Sales (Purchases)	(26)	(26)	(26)	(26)	(76)	(76)	(76)	(76)
Expected Class B Credits	0	0	0	0	0	0	0	0

NITROGEN FACILITY SUMMARY

WestRock-West Point Mill
 YORK Trading Basin

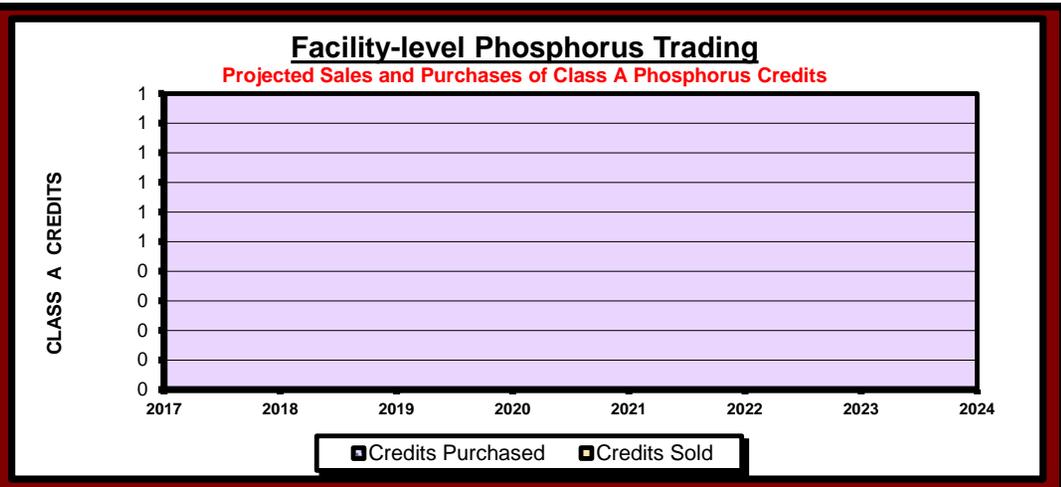


Loading & Credit Summary	
Design Flow (mgd)	23.00
Projected Flow (mgd)	20.45
Projected Avg. Annual Concentration (mg/L)	4.00
Discharged Load (end of pipe)	249,127
Delivery Factor	1.00
Expected Load	249,127
Delivered WLA	259,177
Expected Credits (delivered)	10,050
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	10,050
Class A Credit Sales (Purchases)	0
Expected Class B Credits	10,050

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
23.00	23.00	23.00	23.00	23.00	23.00	23.00	23.00
20.45	20.76	21.07	21.07	20.05	20.05	20.05	20.05
4.00	4.00	4.00	4.00	4.22	4.22	4.22	4.22
249,127	252,903	256,680	256,680	257,688	257,688	257,688	257,688
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
249,127	252,903	256,680	256,680	257,688	257,688	257,688	257,688
259,177	259,177	259,177	259,177	259,177	259,177	259,177	259,177
10,050	6,274	2,497	2,497	1,489	1,489	1,489	1,489
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
10,050	6,274	2,497	2,497	1,489	1,489	1,489	1,489
0	0	0	0	0	0	0	0
10,050	6,274	2,497	2,497	1,489	1,489	1,489	1,489

PHOSPHORUS FACILITY SUMMARY

WestRock-West Point Mill
 YORK Trading Basin



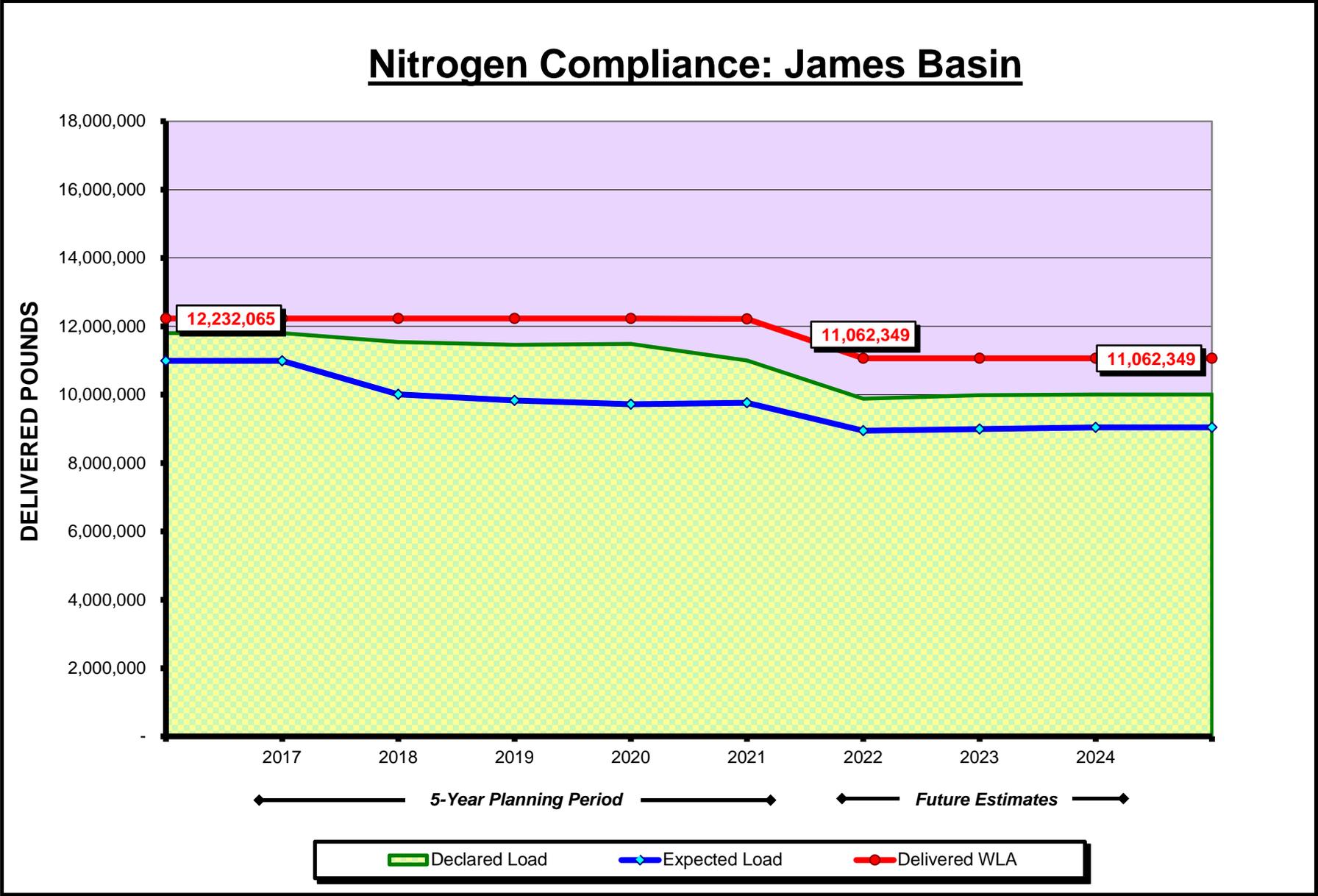
Loading & Credit Summary	
Design Flow (mgd)	
Projected Flow (mgd)	
Projected Avg. Annual Concentration (mg/L)	
Discharged Load (end of pipe)	
Delivery Factor	
Expected Load	
Delivered WLA	
Expected Credits (delivered)	
Transfers In (Out) within Owner Bubble	
Transfers In (Out) from Private Exchange	
WQIF-Held Credits	
Expected Net Credits	
Class A Credit Sales (Purchases)	
Expected Class B Credits	

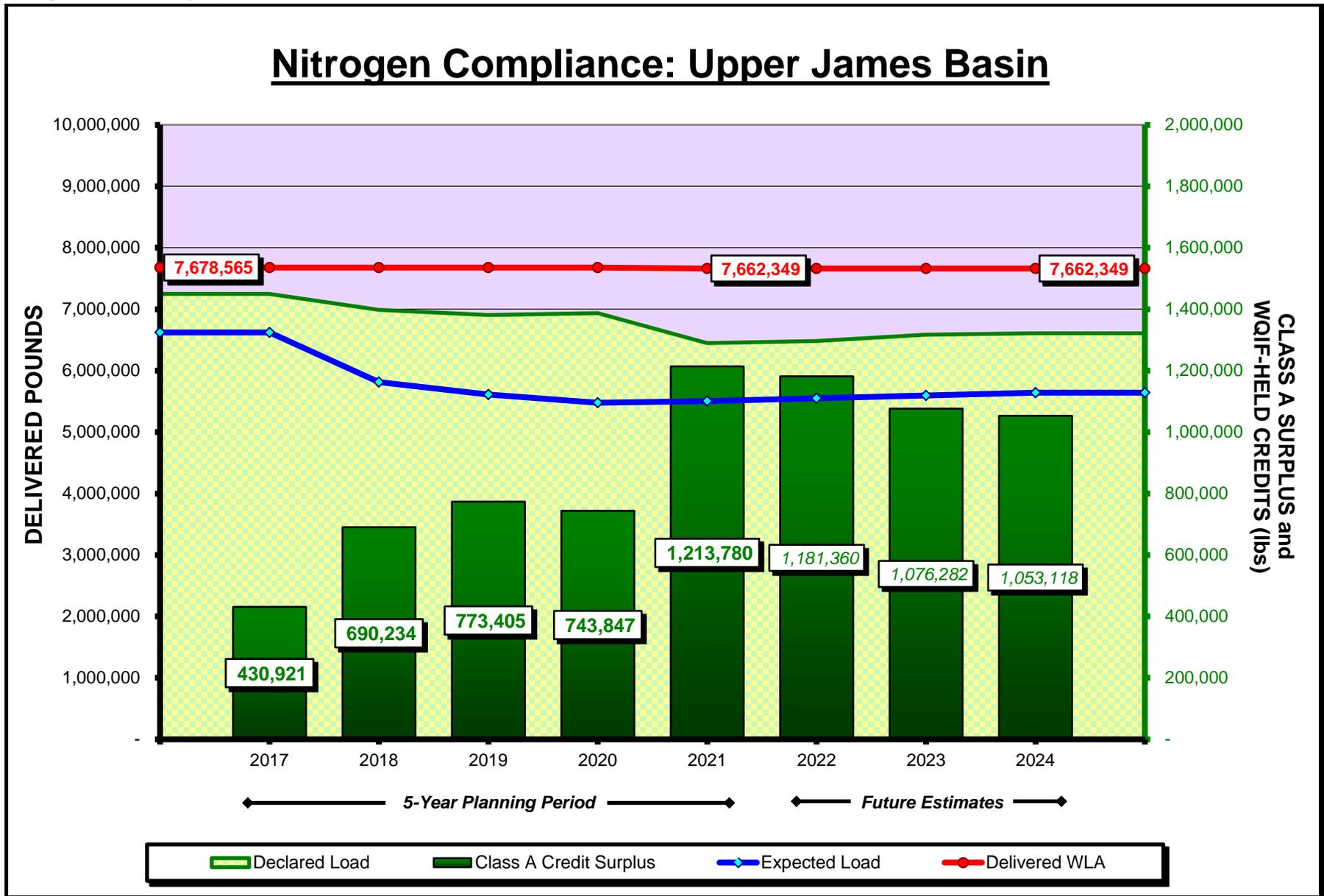
2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
23.00	23.00	23.00	23.00	23.00	23.00	23.00	23.00
20.45	20.76	21.07	21.07	20.05	20.05	20.05	20.05
0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
52,317	53,110	53,903	53,903	51,293	51,293	51,293	51,293
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
52,317	53,110	53,903	53,903	51,293	51,293	51,293	51,293
56,038	56,038	56,038	56,038	56,038	56,038	56,038	56,038
3,721	2,928	2,135	2,135	4,745	4,745	4,745	4,745
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
3,721	2,928	2,135	2,135	4,745	4,745	4,745	4,745
0	0	0	0	0	0	0	0
3,721	2,928	2,135	2,135	4,745	4,745	4,745	4,745

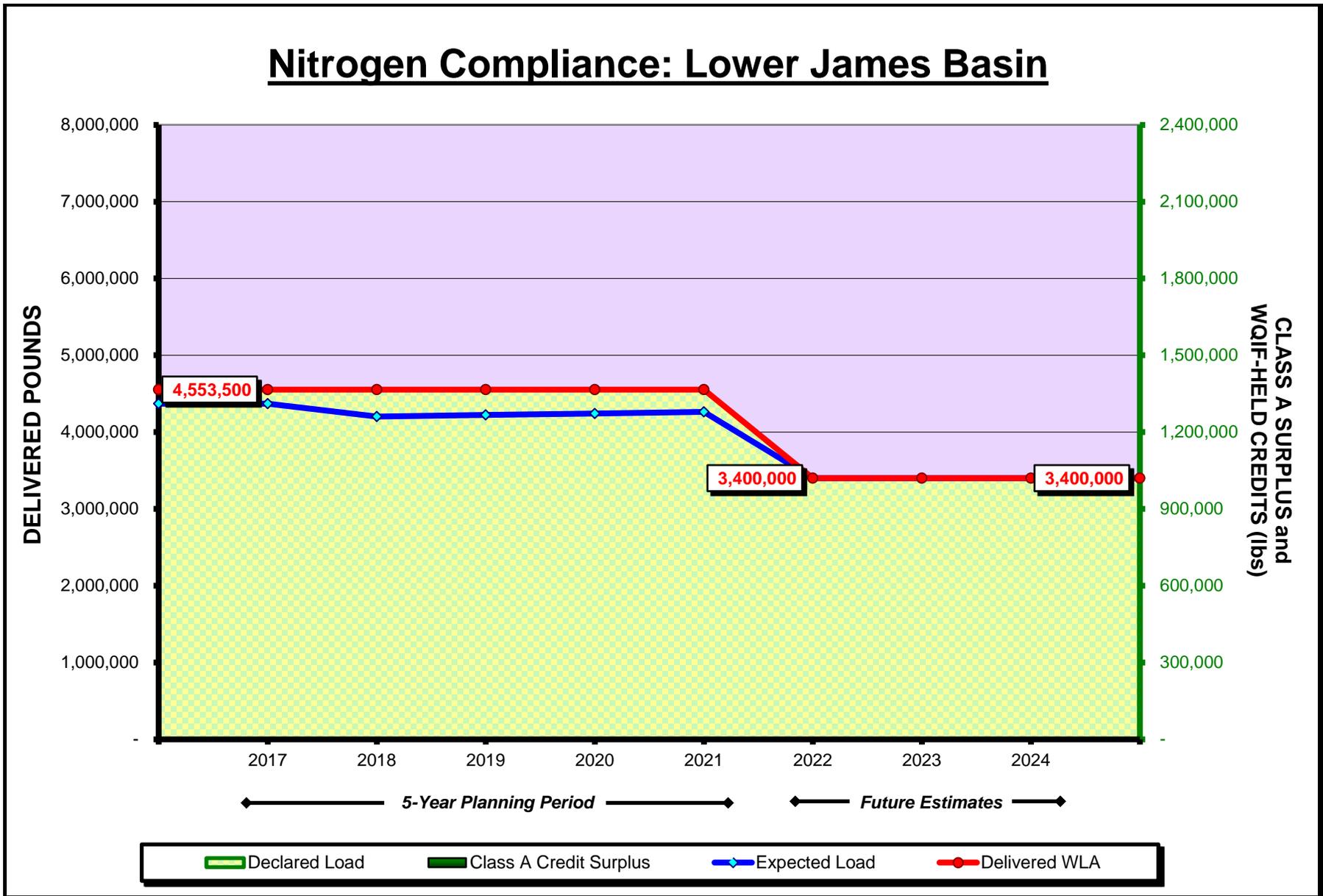
SECTION 5

James River Basin Exchange Compliance Plan









JAMES Basin: Nitrogen Credit Ledger

Compliance Year:	2017	Credit Forecasts		Preliminary Use of Credits			Expected Net Credits	Credit Exchange (Pounds)			
		Delivered WLA	Expected Load	Expected Credits	In-Bubble Exchange	Private Exchange		WQIF-Held Credits	Class A Sales	Class A* Purchases	Class B** (expected)
								PRICE:	\$ 0.64	\$ 3.75	\$ 0.06
UPPER JAMES BASIN	7,678,565	6,619,146	1,059,419	-	-	(4,276)	1,055,143		532,483	(101,562)	624,222
AdvanSix-Hopewell	1,090,798	875,599	215,199	-	(205,154)	-	10,045	-	-	-	10,045
Alleghany Co-L. Jackson	16,629	6,271	10,358	-	-	(4,276)	6,082	-	-	-	6,082
Alleghany Co-Low Moor	2,376	2,178	198	-	-	-	198	-	-	-	198
Amherst (Town)	3,728	2,042	1,686	-	-	-	1,686	843	-	-	843
Aqua Virginia-L. Monticello	12,182	48,237	(36,055)	-	-	-	(36,055)	-	(36,058)	-	3
Buena Vista	23,024	31,726	(8,702)	-	-	-	(8,702)	-	(8,702)	-	-
BWX Technologies, Inc	121,550	106,543	15,007	-	-	-	15,007	15,007	-	-	-
Chesterfield-Falling Cr.	153,801	154,151	(350)	350	-	-	-	-	-	-	-
Chesterfield-Proctors Cr.	411,151	245,350	165,801	(350)	(165,451)	-	-	-	-	-	-
Covington	11,512	16,757	(5,245)	-	-	-	(5,245)	-	(5,245)	-	-
Crewe	2,650	772	1,878	-	-	-	1,878	1,878	-	-	-
Dominion-Chesterfield	352,036	344,955	7,081	-	-	-	7,081	-	-	-	7,081
DuPont-Spruance	201,080	252,637	(51,557)	-	-	-	(51,557)	-	(51,557)	-	-
Georgia-Pacific	73,493	63,957	9,536	-	-	-	9,536	5,000	-	-	4,536
Greif Packaging	47,610	47,610	-	-	-	-	-	-	-	-	-
Henrico Co	1,142,085	875,994	266,091	-	-	-	266,091	239,482	-	-	26,609
Hopewell RWTF	1,827,336	2,026,485	(199,149)	-	205,154	-	6,005	-	-	-	6,005
Lynchburg	348,412	217,520	130,892	-	-	-	130,892	84,000	-	-	46,892
MSA-Lexington	17,542	4,873	12,669	-	-	-	12,669	1,000	-	-	11,669
Philip Morris	139,724	54,820	84,904	-	-	-	84,904	57,592	-	-	27,312
Richmond	1,093,652	616,726	476,926	-	-	-	476,926	-	-	-	476,926
RWSA-Moores Creek	189,443	69,215	120,228	-	-	-	120,228	120,227	-	-	1
South Central WWA	350,239	515,670	(165,431)	-	165,451	-	20	-	-	-	20
Tyson Foods-Glen Allen	3,128	3,128	-	-	-	-	-	-	-	-	-
WestRock of Virginia	43,384	35,930	7,454	-	-	-	7,454	7,454	-	-	-
								PRICE:	No Sale	No Sale	No Sale
LOWER JAMES BASIN	4,553,500	4,369,117	184,383	-	-	-	184,383		-	-	184,383
HRSD (Bubble)	4,553,500	4,369,117	184,383				184,383		-	-	184,383

* For this Compliance Year, 0% of all Class A Credit Purchases are expected to be satisfied using Class B Credits.

** Expected Class B Credits are estimates only. Actual Class B Credits—and the resulting Class B sales price—will vary from estimates based on actual Delivered Loads in the Compliance Year.

JAMES Basin: Nitrogen Credit Ledger

Compliance Year:	2018	Credit Forecasts		Preliminary Use of Credits			Expected Net Credits	Credit Exchange (Pounds)			
		Delivered WLA	Expected Load	Expected Credits	In-Bubble Exchange	Private Exchange		WQIF-Held Credits	Class A Sales	Class A* Purchases	Class B** (expected)
								PRICE:	\$ 0.44	\$ 3.78	\$ 0.03
UPPER JAMES BASIN	7,678,565	5,811,227	1,867,338	-	(71,620)	(4,276)	1,791,442		793,793	(103,559)	1,101,208
AdvanSix-Hopewell	1,090,798	875,599	215,199	-	(2,522)	-	212,677		-	-	212,677
Alleghany Co-L. Jackson	16,629	6,271	10,358	-	-	(4,276)	6,082		4,500	-	1,582
Alleghany Co-Low Moor	2,376	2,178	198	-	-	-	198		-	-	198
Amherst (Town)	3,728	2,042	1,686	-	-	-	1,686		843	-	843
Aqua Virginia-L. Monticello	12,182	48,237	(36,055)	-	-	-	(36,055)		-	(36,058)	3
Buena Vista	23,024	29,045	(6,021)	-	-	-	(6,021)		-	(6,021)	-
BWX Technologies, Inc	121,550	106,543	15,007	-	-	-	15,007		15,007	-	-
Chesterfield-Falling Cr.	153,801	154,014	(213)	213	-	-	-		-	-	-
Chesterfield-Proctors Cr.	411,151	243,493	167,658	(213)	(156,620)	-	10,825		-	-	10,825
Covington	11,512	16,757	(5,245)	-	-	-	(5,245)		-	(5,245)	-
Crewe	2,650	772	1,878	-	-	-	1,878		1,878	-	-
Dominion-Chesterfield	352,036	344,955	7,081	-	-	-	7,081		-	-	7,081
DuPont-Spruance	201,080	257,315	(56,235)	-	-	-	(56,235)		-	(56,235)	-
Georgia-Pacific	73,493	55,962	17,531	-	-	-	17,531		9,000	-	8,531
Greif Packaging	47,610	47,610	-	-	-	-	-		-	-	-
Henrico Co	1,142,085	902,259	239,826	-	-	-	239,826		215,843	-	23,983
Hopewell RWTF	1,827,336	1,279,988	547,348	-	2,522	-	549,870		271,152	-	278,718
Lynchburg	348,412	217,845	130,567	-	-	-	130,567		90,000	-	40,567
MSA-Lexington	17,542	4,873	12,669	-	-	-	12,669		950	-	11,719
Philip Morris	139,724	54,820	84,904	-	-	-	84,904		57,592	-	27,312
Richmond	1,093,652	616,726	476,926	-	-	-	476,926		-	-	476,926
RWSA-Moores Creek	189,443	69,868	119,575	-	-	-	119,575		119,574	-	1
South Central WWA	350,239	434,997	(84,758)	-	85,000	-	242		-	-	242
Tyson Foods-Glen Allen	3,128	3,128	-	-	-	-	-		-	-	-
WestRock of Virginia	43,384	35,930	7,454	-	-	-	7,454		7,454	-	-
								PRICE:	No Sale	No Sale	No Sale
LOWER JAMES BASIN	4,553,500	4,201,943	351,557	-	-	-	351,557		-	-	351,557
HRSD (Bubble)	4,553,500	4,201,943	351,557				351,557		-	-	351,557

* For this Compliance Year, 0% of all Class A Credit Purchases are expected to be satisfied using Class B Credits.

** Expected Class B Credits are estimates only. Actual Class B Credits—and the resulting Class B sales price—will vary from estimates based on actual Delivered Loads in the Compliance Year.

JAMES Basin: Nitrogen Credit Ledger

Compliance Year:	2019	Credit Forecasts		Preliminary Use of Credits			Expected Net Credits	Credit Exchange (Pounds)			
		Delivered WLA	Expected Load	Expected Credits	In-Bubble Exchange	Private Exchange		WQIF-Held Credits	Class A Sales	Class A* Purchases	Class B** (expected)
								PRICE:	\$ 0.41	\$ 3.82	\$ 0.03
UPPER JAMES BASIN	7,678,565	5,610,019	2,068,546	-	(71,651)	(4,276)	1,992,619		880,770	(107,365)	1,219,214
AdvanSix-Hopewell	1,090,798	852,757	238,041	-	-	-	238,041	-	-	-	238,041
Allegheny Co-L. Jackson	16,629	6,271	10,358	-	-	(4,276)	6,082	4,500	-	-	1,582
Allegheny Co-Low Moor	2,376	2,178	198	-	-	-	198	-	-	-	198
Amherst (Town)	3,728	2,042	1,686	-	-	-	1,686	843	-	-	843
Aqua Virginia-L. Monticello	12,182	48,237	(36,055)	-	-	-	(36,055)	-	(36,055)	-	-
Buena Vista	23,024	29,045	(6,021)	-	-	-	(6,021)	-	(6,021)	-	-
BWX Technologies, Inc	121,550	104,524	17,026	-	-	-	17,026	15,000	-	-	2,026
Chesterfield-Falling Cr.	153,801	153,770	31	-	(31)	-	-	-	-	-	-
Chesterfield-Proctors Cr.	411,151	241,528	169,623	-	(156,620)	-	13,003	-	-	-	13,003
Covington	11,512	16,757	(5,245)	-	-	-	(5,245)	-	(5,245)	-	-
Crewe	2,650	772	1,878	-	-	-	1,878	1,878	-	-	-
Dominion-Chesterfield	352,036	344,955	7,081	-	-	-	7,081	-	-	-	7,081
DuPont-Spruance	201,080	261,124	(60,044)	-	-	-	(60,044)	-	(60,044)	-	-
Georgia-Pacific	73,493	55,962	17,531	-	-	-	17,531	9,000	-	-	8,531
Greif Packaging	47,610	47,610	-	-	-	-	-	-	-	-	-
Henrico Co	1,142,085	839,582	302,503	-	-	-	302,503	272,252	-	-	30,251
Hopewell RWTF	1,827,336	1,232,477	594,859	-	-	-	594,859	297,430	-	-	297,429
Lynchburg	348,412	218,169	130,243	-	-	-	130,243	95,000	-	-	35,243
MSA-Lexington	17,542	4,873	12,669	-	-	-	12,669	900	-	-	11,769
Philip Morris	139,724	54,820	84,904	-	-	-	84,904	57,592	-	-	27,312
Richmond	1,093,652	548,201	545,451	-	-	-	545,451	-	-	-	545,451
RWSA-Moores Creek	189,443	70,521	118,922	-	-	-	118,922	118,921	-	-	1
South Central WWA	350,239	434,786	(84,547)	-	85,000	-	453	-	-	-	453
Tyson Foods-Glen Allen	3,128	3,128	-	-	-	-	-	-	-	-	-
WestRock of Virginia	43,384	35,930	7,454	-	-	-	7,454	7,454	-	-	-
								PRICE:	No Sale	No Sale	No Sale
LOWER JAMES BASIN	4,553,500	4,221,955	331,545	-	-	-	331,545		-	-	331,545
HRSD (Bubble)	4,553,500	4,221,955	331,545				331,545		-	-	331,545

* For this Compliance Year, 0% of all Class A Credit Purchases are expected to be satisfied using Class B Credits.

** Expected Class B Credits are estimates only. Actual Class B Credits—and the resulting Class B sales price—will vary from estimates based on actual Delivered Loads in the Compliance Year.

JAMES Basin: Nitrogen Credit Ledger

Compliance Year:	2020	Credit Forecasts		Preliminary Use of Credits			Expected Net Credits	Credit Exchange (Pounds)			
		Delivered WLA	Expected Load	Expected Credits	In-Bubble Exchange	Private Exchange		WQIF-Held Credits	Class A Sales	Class A* Purchases	Class B** (expected)
								PRICE:	\$ 0.44	\$ 3.86	\$ 0.03
UPPER JAMES BASIN	7,678,565	5,479,068	2,199,497	-	(175,730)	(4,276)	2,019,491		852,904	(109,057)	1,275,644
AdvanSix-Hopewell	1,090,798	774,790	316,008	-	-	-	316,008	-	-	-	316,008
Allegheny Co-L. Jackson	16,629	6,271	10,358	-	-	(4,276)	6,082	4,500	-	-	1,582
Allegheny Co-Low Moor	2,376	2,178	198	-	-	-	198	-	-	-	198
Amherst (Town)	3,728	2,593	1,135	-	-	-	1,135	568	-	-	567
Aqua Virginia-L. Monticello	12,182	48,237	(36,055)	-	-	-	(36,055)	-	(36,055)	-	-
Buena Vista	23,024	29,045	(6,021)	-	-	-	(6,021)	-	(6,021)	-	-
BWX Technologies, Inc	121,550	104,524	17,026	-	-	-	17,026	15,000	-	-	2,026
Chesterfield-Falling Cr.	153,801	151,973	1,828	-	(1,828)	-	-	-	-	-	-
Chesterfield-Proctors Cr.	411,151	237,249	173,902	-	(173,902)	-	-	-	-	-	-
Covington	11,512	16,757	(5,245)	-	-	-	(5,245)	-	(5,245)	-	-
Crewe	2,650	772	1,878	-	-	-	1,878	1,878	-	-	-
Dominion-Chesterfield	352,036	344,955	7,081	-	-	-	7,081	-	-	-	7,081
DuPont-Spruance	201,080	262,816	(61,736)	-	-	-	(61,736)	-	(61,736)	-	-
Georgia-Pacific	73,493	55,962	17,531	-	-	-	17,531	9,000	-	-	8,531
Greif Packaging	47,610	47,610	-	-	-	-	-	-	-	-	-
Henrico Co	1,142,085	864,802	277,283	-	-	-	277,283	249,555	-	-	27,728
Hopewell RWTF	1,827,336	1,241,675	585,661	-	-	-	585,661	292,831	-	-	292,830
Lynchburg	348,412	218,494	129,918	-	-	-	129,918	95,000	-	-	34,918
MSA-Lexington	17,542	4,873	12,669	-	-	-	12,669	850	-	-	11,819
Philip Morris	139,724	54,820	84,904	-	-	-	84,904	58,000	-	-	26,904
Richmond	1,093,652	548,201	545,451	-	-	-	545,451	-	-	-	545,451
RWSA-Moores Creek	189,443	71,174	118,269	-	-	-	118,269	118,268	-	-	1
South Central WWA	350,239	350,239	-	-	-	-	-	-	-	-	-
Tyson Foods-Glen Allen	3,128	3,128	-	-	-	-	-	-	-	-	-
WestRock of Virginia	43,384	35,930	7,454	-	-	-	7,454	7,454	-	-	-
								PRICE:	No Sale	No Sale	No Sale
LOWER JAMES BASIN	4,553,500	4,242,200	311,300	-	-	-	311,300		-	-	311,300
HRSD (Bubble)	4,553,500	4,242,200	311,300				311,300		-	-	311,300

* For this Compliance Year, 0% of all Class A Credit Purchases are expected to be satisfied using Class B Credits.

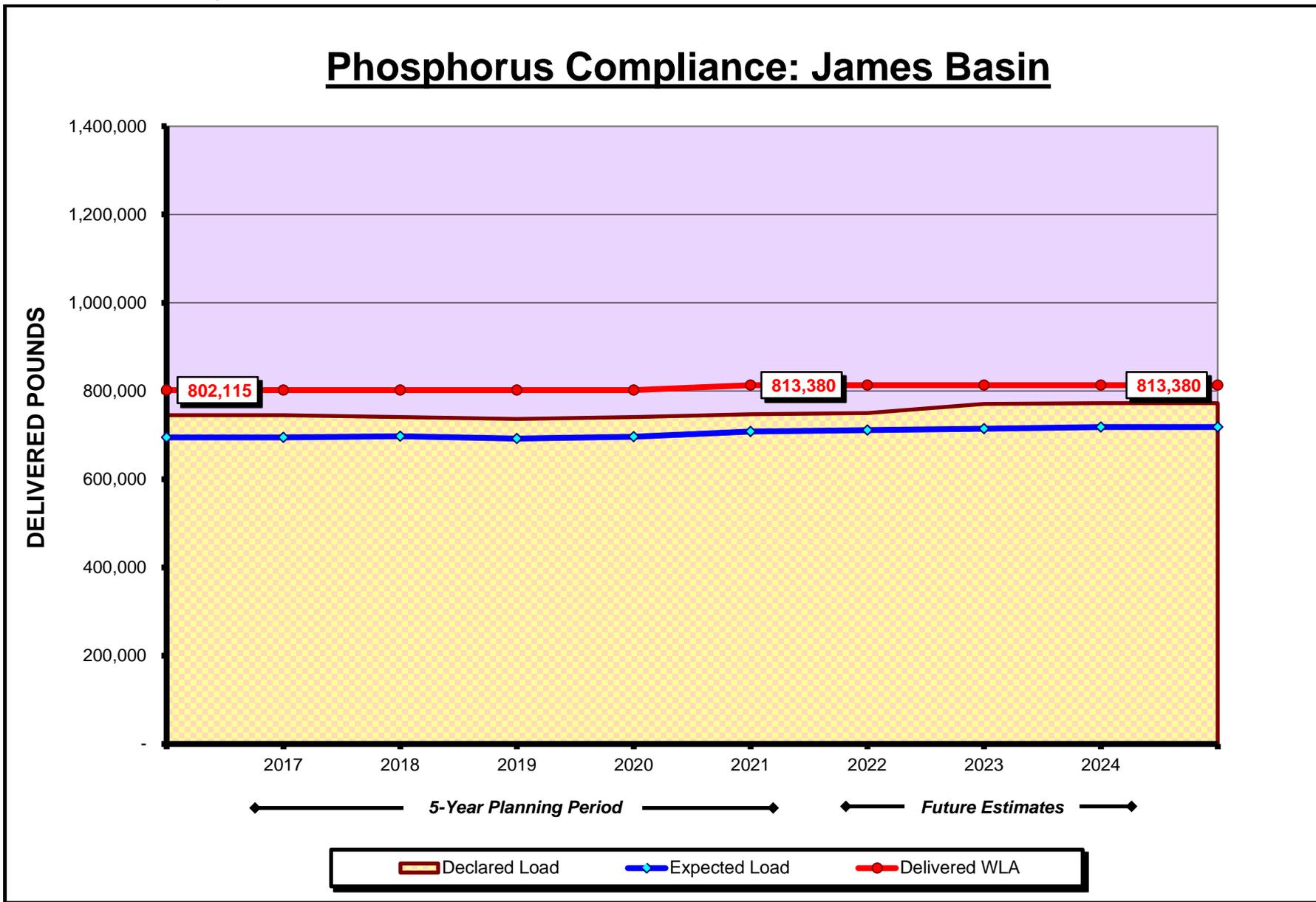
** Expected Class B Credits are estimates only. Actual Class B Credits—and the resulting Class B sales price—will vary from estimates based on actual Delivered Loads in the Compliance Year.

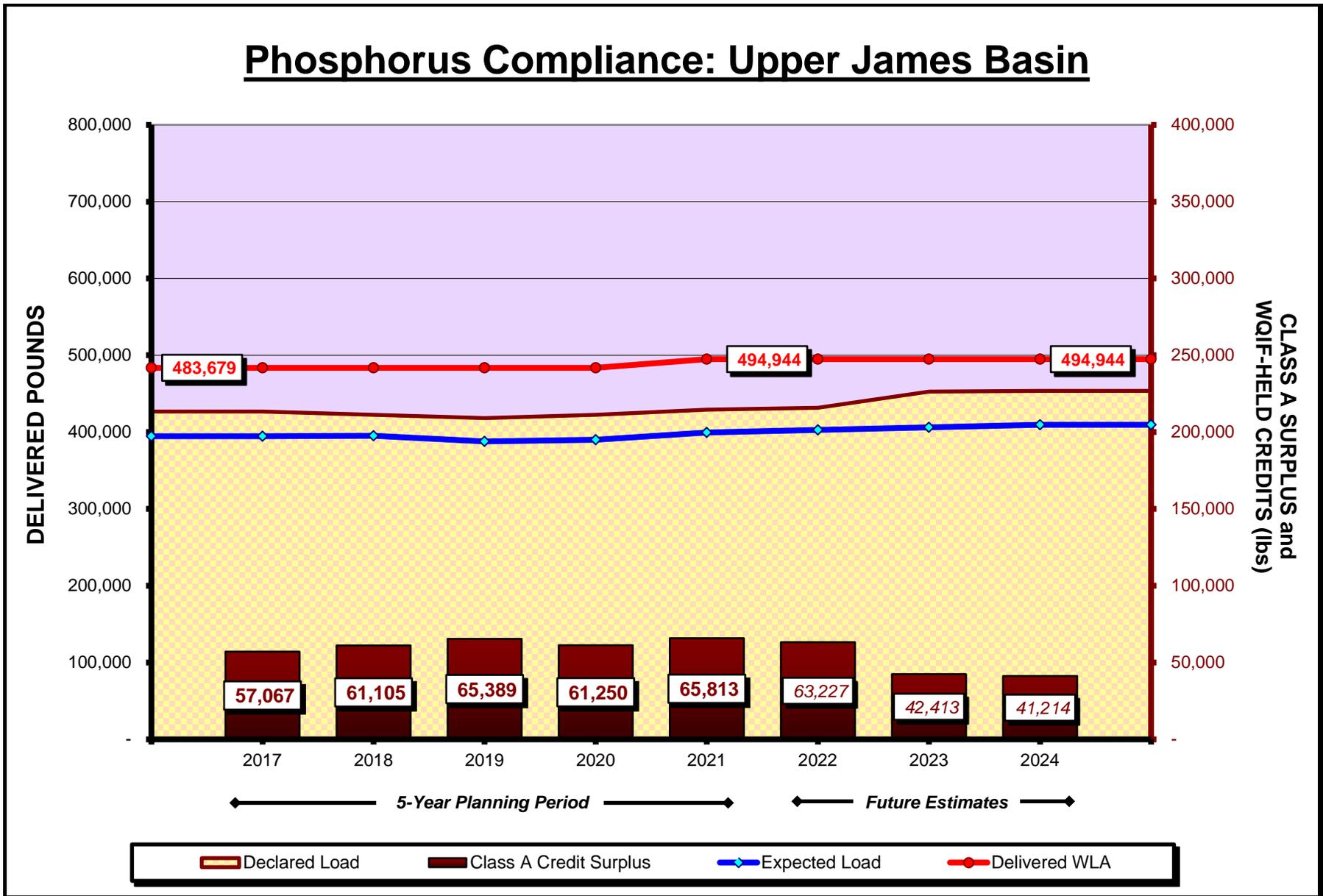
JAMES Basin: Nitrogen Credit Ledger

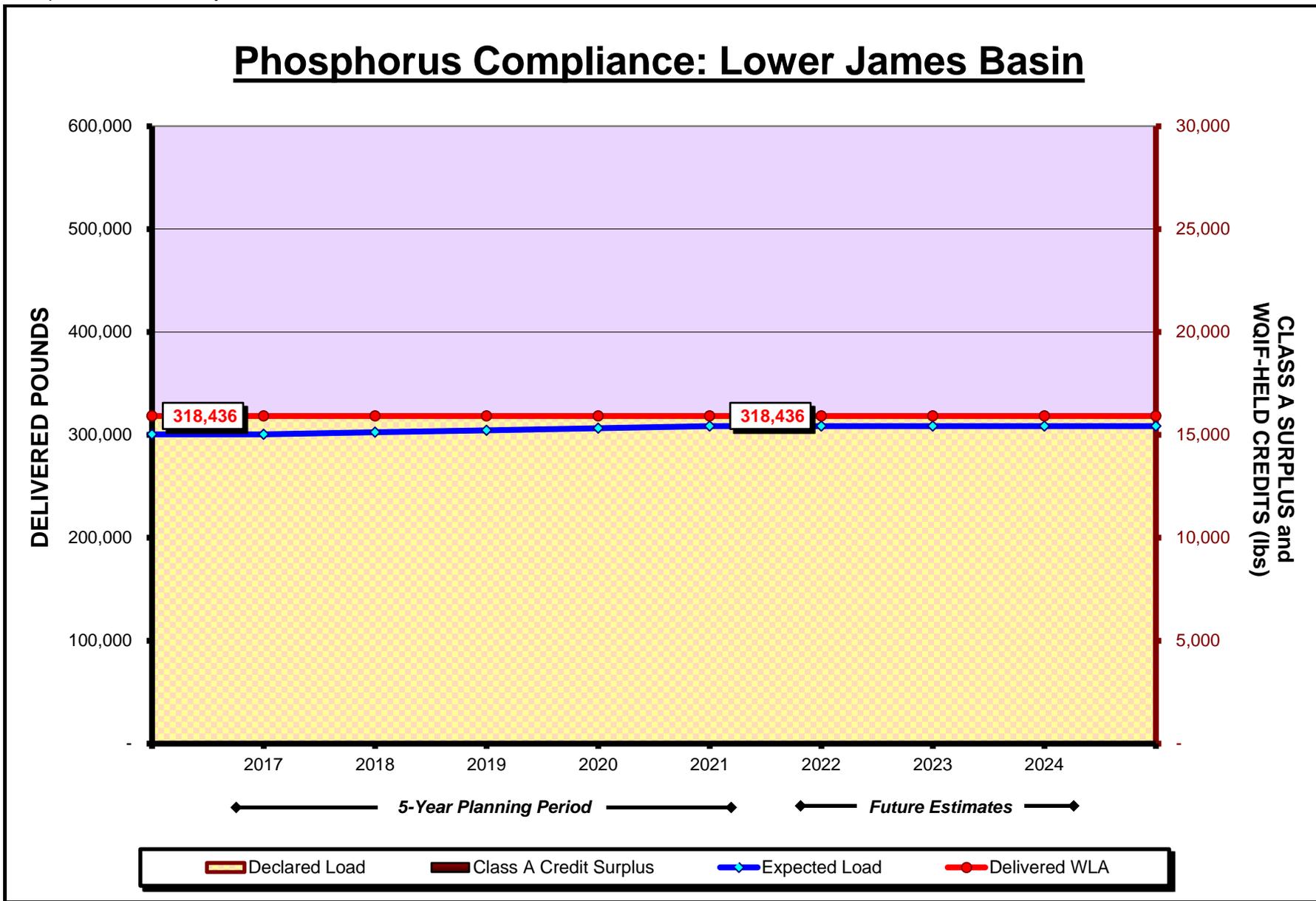
Compliance Year:		2021		Credit Forecasts		Preliminary Use of Credits			Credit Exchange (Pounds)			
Facility Name	Delivered WLA	Expected Load	Expected Credits	In-Bubble Exchange	Private Exchange	WQIF-Held Credits	Expected Net Credits		Class A Sales	Class A* Purchases	Class B** (expected)	
								PRICE:	\$ 0.28	\$ 3.87	\$ 0.05	
UPPER JAMES BASIN	7,662,349	5,503,762	2,158,587	-	(170,400)	(4,440)	1,983,747		1,322,992	(109,212)	769,967	
AdvanSix-Hopewell	1,090,798	774,790	316,008	-	-	-	316,008		-	-	316,008	
Allegheny Co-L. Jackson	17,268	6,513	10,755	-	-	(4,440)	6,315		4,500	-	1,815	
Allegheny Co-Low Moor	2,467	2,352	115	-	-	-	115		-	-	115	
Amherst (Town)	4,715	3,279	1,436	-	-	-	1,436		718	-	718	
Aqua Virginia-L. Monticello	11,636	46,077	(34,441)	-	-	-	(34,441)		-	(34,441)	-	
Buena Vista	22,613	28,526	(5,913)	-	-	-	(5,913)		-	(5,913)	-	
BWX Technologies, Inc	119,680	102,916	16,764	-	-	-	16,764		15,000	-	1,764	
Chesterfield-Falling Cr.	153,801	154,638	(837)	837	-	-	-		-	-	-	
Chesterfield-Proctors Cr.	411,151	239,914	171,237	(837)	(170,400)	-	-		-	-	-	
Covington	11,512	16,757	(5,245)	-	-	-	(5,245)		-	(5,245)	-	
Crewe	2,284	665	1,619	-	-	-	1,619		1,619	-	-	
Dominion-Chesterfield	352,036	344,955	7,081	-	-	-	7,081		-	-	7,081	
DuPont-Spruance	201,080	264,693	(63,613)	-	-	-	(63,613)		-	(63,613)	-	
Georgia-Pacific	73,493	55,962	17,531	-	-	-	17,531		9,000	-	8,531	
Greif Packaging	46,877	46,877	-	-	-	-	-		-	-	-	
Henrico Co	1,142,085	890,768	251,317	-	-	-	251,317		226,185	-	25,132	
Hopewell RWTF	1,827,336	1,242,588	584,748	-	-	-	584,748		292,374	-	292,374	
Lynchburg	343,052	215,452	127,600	-	-	-	127,600		95,000	-	32,600	
MSA-Lexington	16,994	4,721	12,273	-	-	-	12,273		800	-	11,473	
Philip Morris	139,724	54,820	84,904	-	-	-	84,904		58,000	-	26,904	
Richmond	1,093,652	548,201	545,451	-	-	-	545,451		500,000	-	45,451	
RWSA-Moores Creek	180,953	68,610	112,343	-	-	-	112,343		112,342	-	1	
South Central WWA	350,239	350,239	-	-	-	-	-		-	-	-	
Tyson Foods-Glen Allen	3,519	3,519	-	-	-	-	-		-	-	-	
WestRock of Virginia	43,384	35,930	7,454	-	-	-	7,454		7,454	-	-	
								PRICE:	No Sale	No Sale	No Sale	
LOWER JAMES BASIN	4,553,500	4,262,688	290,812	-	-	-	290,812		-	-	290,812	
HRSD (Bubble)	4,553,500	4,262,688	290,812				290,812		-	-	290,812	

* For this Compliance Year, 0% of all Class A Credit Purchases are expected to be satisfied using Class B Credits.

** Expected Class B Credits are estimates only. Actual Class B Credits—and the resulting Class B sales price—will vary from estimates based on actual Delivered Loads in the Compliance Year.







JAMES Basin: Phosphorus Credit Ledger

Compliance Year:	2017	Credit Forecasts		Preliminary Use of Credits			Expected Net Credits	Credit Exchange (Pounds)			
		Delivered WLA	Expected Load	Expected Credits	In-Bubble Exchange	Private Exchange		WQIF-Held Credits	Class A Sales	Class A* Purchases	Class B** (expected)
								PRICE:	\$ 1.09	\$ 5.65	\$ 0.28
UPPER JAMES BASIN	483,679	394,610	89,069	-	-	(734)	88,335		72,744	(15,677)	31,268
AdvanSix-Hopewell	41,841	38,070	3,771	-	-	-	3,771	-	-	-	3,771
Alleghany Co-L. Jackson	2,853	796	2,057	(849)	-	(734)	474	-	-	-	474
Alleghany Co-Low Moor	407	1,256	(849)	849	-	-	-	-	-	-	-
Amherst (Town)	489	949	(460)	-	-	-	(460)	-	(460)	-	-
Aqua Virginia-L. Monticello	811	3,967	(3,156)	-	-	-	(3,156)	-	(3,156)	-	-
Buena Vista	1,833	6,978	(5,145)	-	-	-	(5,145)	-	(5,145)	-	-
BWX Technologies, Inc	815	397	418	-	-	-	418	100	-	-	318
Chesterfield-Falling Cr.	12,473	15,997	(3,524)	3,524	-	-	-	-	-	-	-
Chesterfield-Proctors Cr.	33,344	25,461	7,883	(3,524)	(40)	-	4,319	-	-	-	4,319
Covington	2,445	1,608	837	-	-	-	837	-	-	-	837
Crewe	284	32	252	-	-	-	252	252	-	-	-
Dominion-Chesterfield	170	210	(40)	-	40	-	-	-	-	-	-
DuPont-Spruance	6,339	12,333	(5,994)	-	-	-	(5,994)	-	(5,994)	-	-
Georgia-Pacific	26,580	14,070	12,510	-	-	-	12,510	5,000	-	-	7,510
Greif Packaging	15,894	10,452	5,442	-	-	-	5,442	5,000	-	-	442
Henrico Co	92,623	62,571	30,052	-	-	-	30,052	27,047	-	-	3,005
Hopewell RWTF	61,749	56,069	5,680	-	-	-	5,680	3,976	-	-	1,704
Lynchburg	17,932	18,854	(922)	-	-	-	(922)	-	(922)	-	-
MSA-Lexington	2,445	603	1,842	-	-	-	1,842	921	-	-	921
Philip Morris	2,149	1,827	322	-	-	-	322	-	-	-	322
Richmond	55,574	47,968	7,606	-	-	-	7,606	-	-	-	7,606
RWSA-Moores Creek	12,168	6,392	5,776	-	-	-	5,776	5,775	-	-	1
South Central WWA	28,404	28,404	-	-	-	-	-	-	-	-	-
Tyson Foods-Glen Allen	188	150	38	-	-	-	38	-	-	-	38
WestRock of Virginia	63,869	39,196	24,673	-	-	-	24,673	24,673	-	-	-
								PRICE:	No Sale	No Sale	No Sale
LOWER JAMES BASIN	318,436	300,503	17,933	-	-	-	17,933		-	-	17,933
HRSD (Bubble)	318,436	300,503	17,933				17,933		-	-	17,933

* For this Compliance Year, 0% of all Class A Credit Purchases are expected to be satisfied using Class B Credits.

** Expected Class B Credits are estimates only. Actual Class B Credits—and the resulting Class B sales price—will vary from estimates based on actual Delivered Loads in the Compliance Year.

JAMES Basin: Phosphorus Credit Ledger

Compliance Year:	2018	Credit Forecasts		Preliminary Use of Credits			Expected Net Credits	Credit Exchange (Pounds)			
		Delivered WLA	Expected Load	Expected Credits	In-Bubble Exchange	Private Exchange		WQIF-Held Credits	Class A Sales	Class A* Purchases	Class B** (expected)
								PRICE:	\$ 0.99	\$ 5.70	\$ 0.31
UPPER JAMES BASIN	483,679	395,079	88,600	-	-	(734)	87,866		75,848	(14,743)	26,761
AdvanSix-Hopewell	41,841	38,070	3,771	-	-	-	3,771	-	-	-	3,771
Alleghany Co-L. Jackson	2,853	796	2,057	(849)	-	(734)	474	300	-	-	174
Alleghany Co-Low Moor	407	1,256	(849)	849	-	-	-	-	-	-	-
Amherst (Town)	489	949	(460)	-	-	-	(460)	-	(460)	-	-
Aqua Virginia-L. Monticello	811	3,967	(3,156)	-	-	-	(3,156)	-	(3,156)	-	-
Buena Vista	1,833	5,925	(4,092)	-	-	-	(4,092)	-	(4,092)	-	-
BWX Technologies, Inc	815	397	418	-	-	-	418	100	-	-	318
Chesterfield-Falling Cr.	12,473	16,290	(3,817)	3,817	-	-	-	-	-	-	-
Chesterfield-Proctors Cr.	33,344	25,754	7,590	(3,817)	(40)	-	3,733	-	-	-	3,733
Covington	2,445	1,608	837	-	-	-	837	-	-	-	837
Crewe	284	32	252	-	-	-	252	252	-	-	-
Dominion-Chesterfield	170	210	(40)	-	40	-	-	-	-	-	-
DuPont-Spruance	6,339	12,423	(6,084)	-	-	-	(6,084)	-	(6,084)	-	-
Georgia-Pacific	26,580	12,312	14,268	-	-	-	14,268	10,000	-	-	4,268
Greif Packaging	15,894	10,452	5,442	-	-	-	5,442	5,000	-	-	442
Henrico Co	92,623	64,447	28,176	-	-	-	28,176	25,358	-	-	2,818
Hopewell RWTF	61,749	56,708	5,041	-	-	-	5,041	3,529	-	-	1,512
Lynchburg	17,932	18,883	(951)	-	-	-	(951)	-	(951)	-	-
MSA-Lexington	2,445	603	1,842	-	-	-	1,842	921	-	-	921
Philip Morris	2,149	1,827	322	-	-	-	322	-	-	-	322
Richmond	55,574	47,968	7,606	-	-	-	7,606	-	-	-	7,606
RWSA-Moores Creek	12,168	6,452	5,716	-	-	-	5,716	5,715	-	-	1
South Central WWA	28,404	28,404	-	-	-	-	-	-	-	-	-
Tyson Foods-Glen Allen	188	150	38	-	-	-	38	-	-	-	38
WestRock of Virginia	63,869	39,196	24,673	-	-	-	24,673	24,673	-	-	-
								PRICE:	No Sale	No Sale	No Sale
LOWER JAMES BASIN	318,436	302,475	15,961	-	-	-	15,961		-	-	15,961
HRSD (Bubble)	318,436	302,475	15,961				15,961		-	-	15,961

*** For this Compliance Year, 0% of all Class A Credit Purchases are expected to be satisfied using Class B Credits.**

** Expected Class B Credits are estimates only. Actual Class B Credits—and the resulting Class B sales price—will vary from estimates based on actual Delivered Loads in the Compliance Year.

JAMES Basin: Phosphorus Credit Ledger

Compliance Year:		2019		Credit Forecasts		Preliminary Use of Credits			Credit Exchange (Pounds)			
Facility Name	Delivered WLA	Expected Load	Expected Credits	In-Bubble Exchange	Private Exchange	WQIF-Held Credits	Expected Net Credits		Class A Sales	Class A* Purchases	Class B** (expected)	
								PRICE:	\$ 0.96	\$ 5.76	\$ 0.29	
UPPER JAMES BASIN	483,679	387,960	95,719	-	-	(734)	94,985		80,348	(14,959)	29,596	
AdvanSix-Hopewell	41,841	34,110	7,731	-	-	-	7,731		-	-	7,731	
Alleghany Co-L. Jackson	2,853	796	2,057	(849)	-	(734)	474		300	-	174	
Alleghany Co-Low Moor	407	1,256	(849)	849	-	-	-		-	-	-	
Amherst (Town)	489	949	(460)	-	-	-	(460)		-	(460)	-	
Aqua Virginia-L. Monticello	811	3,967	(3,156)	-	-	-	(3,156)		-	(3,156)	-	
Buena Vista	1,833	5,925	(4,092)	-	-	-	(4,092)		-	(4,092)	-	
BWX Technologies, Inc	815	425	390	-	-	-	390		100	-	290	
Chesterfield-Falling Cr.	12,473	16,583	(4,110)	4,110	-	-	-		-	-	-	
Chesterfield-Proctors Cr.	33,344	26,047	7,297	(4,110)	(40)	-	3,147		-	-	3,147	
Covington	2,445	1,608	837	-	-	-	837		830	-	7	
Crewe	284	32	252	-	-	-	252		252	-	-	
Dominion-Chesterfield	170	210	(40)	-	40	-	-		-	-	-	
DuPont-Spruance	6,339	12,611	(6,272)	-	-	-	(6,272)		-	(6,272)	-	
Georgia-Pacific	26,580	12,312	14,268	-	-	-	14,268		10,000	-	4,268	
Greif Packaging	15,894	10,452	5,442	-	-	-	5,442		5,000	-	442	
Henrico Co	92,623	59,970	32,653	-	-	-	32,653		29,388	-	3,265	
Hopewell RWTF	61,749	57,135	4,614	-	-	-	4,614		3,230	-	1,384	
Lynchburg	17,932	18,911	(979)	-	-	-	(979)		-	(979)	-	
MSA-Lexington	2,445	603	1,842	-	-	-	1,842		921	-	921	
Philip Morris	2,149	1,827	322	-	-	-	322		-	-	322	
Richmond	55,574	47,968	7,606	-	-	-	7,606		-	-	7,606	
RWSA-Moores Creek	12,168	6,513	5,655	-	-	-	5,655		5,654	-	1	
South Central WWA	28,404	28,404	-	-	-	-	-		-	-	-	
Tyson Foods-Glen Allen	188	150	38	-	-	-	38		-	-	38	
WestRock of Virginia	63,869	39,196	24,673	-	-	-	24,673		24,673	-	-	
								PRICE:	No Sale	No Sale	No Sale	
LOWER JAMES BASIN	318,436	304,477	13,959	-	-	-	13,959		-	-	13,959	
HRSD (Bubble)	318,436	304,477	13,959				13,959		-	-	13,959	

* For this Compliance Year, 0% of all Class A Credit Purchases are expected to be satisfied using Class B Credits.

** Expected Class B Credits are estimates only. Actual Class B Credits—and the resulting Class B sales price—will vary from estimates based on actual Delivered Loads in the Compliance Year.

JAMES Basin: Phosphorus Credit Ledger

Compliance Year:	2020	Credit Forecasts		Preliminary Use of Credits			Expected Net Credits	Credit Exchange (Pounds)			
		Delivered WLA	Expected Load	Expected Credits	In-Bubble Exchange	Private Exchange		WQIF-Held Credits	Class A Sales	Class A* Purchases	Class B** (expected)
								PRICE:	\$ 1.09	\$ 5.81	\$ 0.29
UPPER JAMES BASIN	483,679	389,926	93,753	-	-	(734)	93,019		77,530	(16,280)	31,769
AdvanSix-Hopewell	41,841	32,283	9,558	-	-	-	9,558	-	-	-	9,558
Alleghany Co-L. Jackson	2,853	796	2,057	(849)	-	(734)	474	300	-	-	174
Alleghany Co-Low Moor	407	1,256	(849)	849	-	-	-	-	-	-	-
Amherst (Town)	489	1,110	(621)	-	-	-	(621)	-	(621)	-	-
Aqua Virginia-L. Monticello	811	3,967	(3,156)	-	-	-	(3,156)	-	(3,156)	-	-
Buena Vista	1,833	5,925	(4,092)	-	-	-	(4,092)	-	(4,092)	-	-
BWX Technologies, Inc	815	425	390	-	-	-	390	100	-	-	290
Chesterfield-Falling Cr.	12,473	16,717	(4,244)	4,244	-	-	-	-	-	-	-
Chesterfield-Proctors Cr.	33,344	26,097	7,247	(4,244)	(40)	-	2,963	-	-	-	2,963
Covington	2,445	1,608	837	-	-	-	837	830	-	-	7
Crewe	284	32	252	-	-	-	252	252	-	-	-
Dominion-Chesterfield	170	210	(40)	-	40	-	-	-	-	-	-
DuPont-Spruance	6,339	13,743	(7,404)	-	-	-	(7,404)	-	(7,404)	-	-
Georgia-Pacific	26,580	12,312	14,268	-	-	-	14,268	10,000	-	-	4,268
Greif Packaging	15,894	10,452	5,442	-	-	-	5,442	5,000	-	-	442
Henrico Co	92,623	61,772	30,851	-	-	-	30,851	27,766	-	-	3,085
Hopewell RWTF	61,749	57,561	4,188	-	-	-	4,188	2,094	-	-	2,094
Lynchburg	17,932	18,939	(1,007)	-	-	-	(1,007)	-	(1,007)	-	-
MSA-Lexington	2,445	603	1,842	-	-	-	1,842	921	-	-	921
Philip Morris	2,149	1,827	322	-	-	-	322	-	-	-	322
Richmond	55,574	47,968	7,606	-	-	-	7,606	-	-	-	7,606
RWSA-Moores Creek	12,168	6,573	5,595	-	-	-	5,595	5,594	-	-	1
South Central WWA	28,404	28,404	-	-	-	-	-	-	-	-	-
Tyson Foods-Glen Allen	188	150	38	-	-	-	38	-	-	-	38
WestRock of Virginia	63,869	39,196	24,673	-	-	-	24,673	24,673	-	-	-
								PRICE:	No Sale	No Sale	No Sale
LOWER JAMES BASIN	318,436	306,509	11,927	-	-	-	11,927		-	-	11,927
HRSD (Bubble)	318,436	306,509	11,927				11,927		-	-	11,927

* For this Compliance Year, 0% of all Class A Credit Purchases are expected to be satisfied using Class B Credits.

** Expected Class B Credits are estimates only. Actual Class B Credits—and the resulting Class B sales price—will vary from estimates based on actual Delivered Loads in the Compliance Year.

JAMES Basin: Phosphorus Credit Ledger

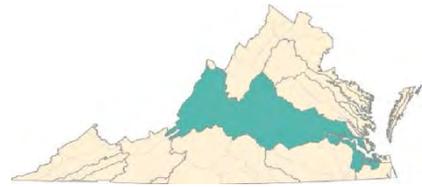
Compliance Year:	2021	Credit Forecasts		Preliminary Use of Credits			Expected Net Credits	Credit Exchange (Pounds)			
		Delivered WLA	Expected Load	Expected Credits	In-Bubble Exchange	Private Exchange		WQIF-Held Credits	Class A Sales	Class A* Purchases	Class B** (expected)
								PRICE:	\$ 1.08	\$ 5.82	\$ 0.34
UPPER JAMES BASIN	494,944	399,442	95,502	-	-	(789)	94,713		82,987	(17,174)	28,900
AdvanSix-Hopewell	41,841	32,283	9,558	-	-	-	9,558	-	-	-	9,558
Alleghany Co-L. Jackson	3,069	856	2,213	(968)	-	(789)	456	300	-	-	156
Alleghany Co-Low Moor	438	1,406	(968)	968	-	-	-	-	-	-	-
Amherst (Town)	526	1,194	(668)	-	-	-	(668)	-	(668)	-	-
Aqua Virginia-L. Monticello	877	4,267	(3,390)	-	-	-	(3,390)	-	(3,390)	-	-
Buena Vista	1,972	6,374	(4,402)	-	-	-	(4,402)	-	(4,402)	-	-
BWX Technologies, Inc	877	519	358	-	-	-	358	100	-	-	258
Chesterfield-Falling Cr.	12,473	15,464	(2,991)	2,991	-	-	-	-	-	-	-
Chesterfield-Proctors Cr.	33,344	26,391	6,953	(2,991)	(40)	-	3,922	-	-	-	3,922
Covington	2,631	1,730	901	-	-	-	901	900	-	-	1
Crewe	327	37	290	-	-	-	290	290	-	-	-
Dominion-Chesterfield	170	210	(40)	-	40	-	-	-	-	-	-
DuPont-Spruance	6,339	13,939	(7,600)	-	-	-	(7,600)	-	(7,600)	-	-
Georgia-Pacific	28,594	13,244	15,350	-	-	-	15,350	10,000	-	-	5,350
Greif Packaging	17,098	11,244	5,854	-	-	-	5,854	5,000	-	-	854
Henrico Co	92,623	63,626	28,997	-	-	-	28,997	26,097	-	-	2,900
Hopewell RWTF	61,749	57,987	3,762	-	-	-	3,762	1,881	-	-	1,881
Lynchburg	19,290	20,404	(1,114)	-	-	-	(1,114)	-	(1,114)	-	-
MSA-Lexington	2,631	649	1,982	-	-	-	1,982	921	-	-	1,061
Philip Morris	2,149	1,827	322	-	-	-	322	-	-	-	322
Richmond	55,574	47,968	7,606	-	-	-	7,606	5,000	-	-	2,606
RWSA-Moores Creek	13,094	7,136	5,958	-	-	-	5,958	5,957	-	-	1
South Central WWA	28,404	28,404	-	-	-	-	-	-	-	-	-
Tyson Foods-Glen Allen	147	117	30	-	-	-	30	-	-	-	30
WestRock of Virginia	68,707	42,166	26,541	-	-	-	26,541	26,541	-	-	-
								PRICE:	No Sale	No Sale	No Sale
LOWER JAMES BASIN	318,436	308,570	9,866	-	-	-	9,866		-	-	9,866
HRSD (Bubble)	318,436	308,570	9,866				9,866		-	-	9,866

* For this Compliance Year, 0% of all Class A Credit Purchases are expected to be satisfied using Class B Credits.

** Expected Class B Credits are estimates only. Actual Class B Credits—and the resulting Class B sales price—will vary from estimates based on actual Delivered Loads in the Compliance Year.

James River Basin

Supplemental Information for Individual Facilities



NITROGEN FACILITY SUMMARY

AdvanSix-Hopewell
 UPPER JAMES Trading Basin

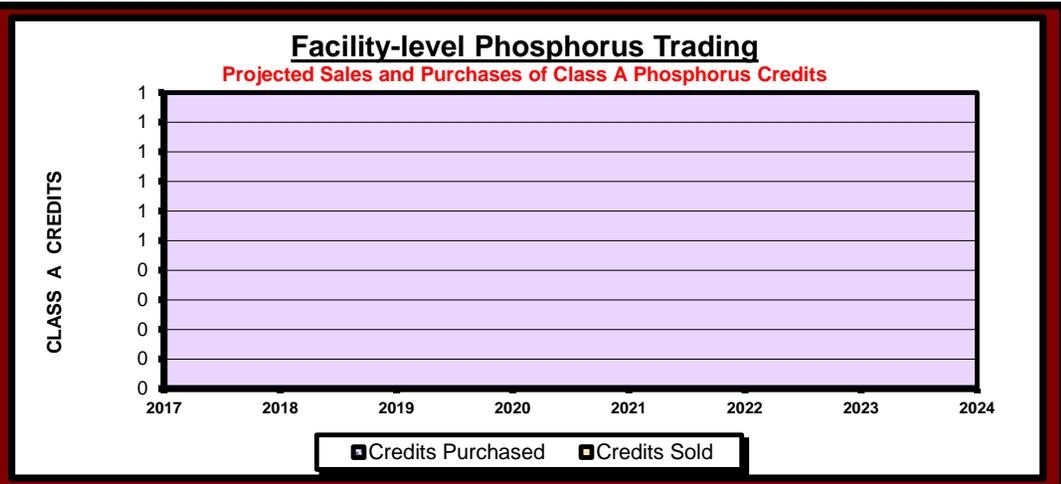


Loading & Credit Summary	
Design Flow (mgd)	
Projected Flow (mgd)	
Projected Avg. Annual Concentration (mg/L)	
Discharged Load (end of pipe)	
Delivery Factor	
Expected Load	
Delivered WLA	
Expected Credits (delivered)	
Transfers In (Out) within Owner Bubble	
Transfers In (Out) from Private Exchange	
WQIF-Held Credits	
Expected Net Credits	
Class A Credit Sales (Purchases)	
Expected Class B Credits	

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
121.00	121.00	121.00	121.00	121.00	121.00	121.00	121.00
125.00	125.00	112.00	106.00	106.00	106.00	106.00	106.00
2.30	2.30	2.50	2.40	2.40	2.40	2.40	2.40
875,599	875,599	852,757	774,790	774,790	774,790	774,790	774,790
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
875,599	875,599	852,757	774,790	774,790	774,790	774,790	774,790
1,090,798	1,090,798	1,090,798	1,090,798	1,090,798	1,090,798	1,090,798	1,090,798
215,199	215,199	238,041	316,008	316,008	316,008	316,008	316,008
0	0	0	0	0	0	0	0
(205,154)	(2,522)	0	0	0	0	0	0
0	0	0	0	0	0	0	0
10,045	212,677	238,041	316,008	316,008	316,008	316,008	316,008
0	0	0	0	0	0	0	0
10,045	212,677	238,041	316,008	316,008	316,008	316,008	316,008

PHOSPHORUS FACILITY SUMMARY

AdvanSix-Hopewell
 UPPER JAMES Trading Basin



Loading & Credit Summary

Design Flow (mgd)
Projected Flow (mgd)
Projected Avg. Annual Concentration (mg/L)
Discharged Load (end of pipe)
Delivery Factor
Expected Load
Delivered WLA
Expected Credits (delivered)
Transfers In (Out) within Owner Bubble
Transfers In (Out) from Private Exchange
WQIF-Held Credits
Expected Net Credits
Class A Credit Sales (Purchases)
Expected Class B Credits

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
121.00	121.00	121.00	121.00	121.00	121.00	121.00	121.00
125.00	125.00	112.00	106.00	106.00	106.00	106.00	106.00
0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
38,070	38,070	34,110	32,283	32,283	32,283	32,283	32,283
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
38,070	38,070	34,110	32,283	32,283	32,283	32,283	32,283
41,841	41,841	41,841	41,841	41,841	41,841	41,841	41,841
3,771	3,771	7,731	9,558	9,558	9,558	9,558	9,558
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
3,771	3,771	7,731	9,558	9,558	9,558	9,558	9,558
0	0	0	0	0	0	0	0
3,771	3,771	7,731	9,558	9,558	9,558	9,558	9,558

Owner Bubble: Alleghany County

The facilities listed below have received an aggregated mass load limit pursuant to 9 VAC 25-820-70, Part 1.B.2., which is also referred to as an “owner bubble”. Accordingly, compliance is determined solely on an aggregate basis rather than by comparison of individual facility loads with respective individual WLAs.

The “Credit Transferred within Bubble” section of each table forecasts the use of Credits within the owner bubble during each Compliance Year, and must necessarily sum to zero. The specific Credit transfers shown in this table are provided for internal planning purposes only and, accordingly, are not binding and may change based on the actual performance of individual facilities within the bubble.

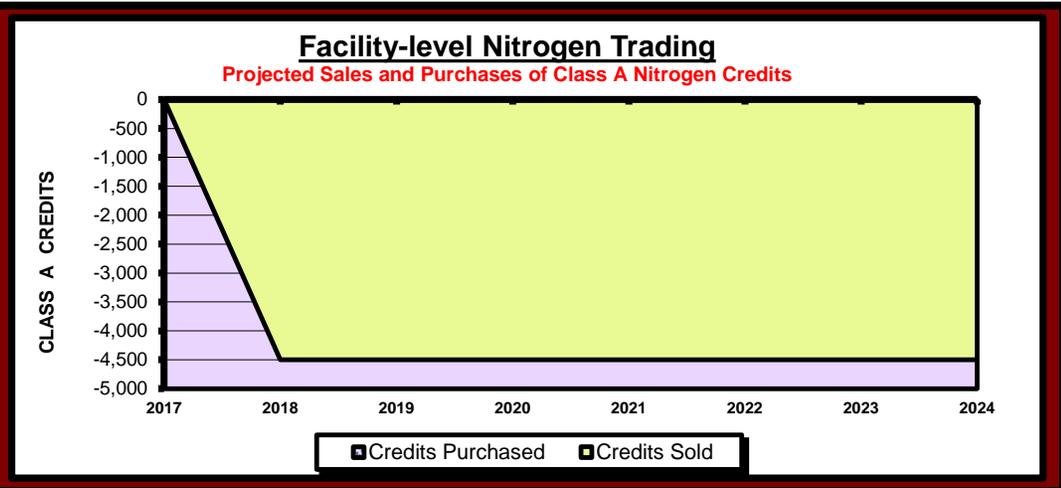
Expected Net Credits for an owner bubble may be either positive or negative. If Expected Net Credits is positive, the owner may pledge a percentage of such Credits to the Exchange. If Expected Net Credits is negative, Net Expected Credits identifies the number of Credits that must be purchased to comply with the aggregate Delivered WLA of the bubble.

NITROGEN Credits	Exchange 5-year Planning Period					Future Projections		
	2017	2018	2019	2020	2021	2022	2023	2024
Credits Transferred within Bubble								
Lower Jackson	-	-	-	-	-	-	(66)	(66)
Low Moor	-	-	-	-	-	-	66	66
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
TOTAL (must sum to 0)	-	-	-	-	-	-	-	-
Credits Available outside Bubble								
Lower Jackson	6,082	6,082	6,082	6,082	6,315	6,315	6,249	6,249
Low Moor	198	198	198	198	115	25	-	-
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
Expected Net Credits	6,280	6,280	6,280	6,280	6,430	6,340	6,249	6,249
Class A Sales (Purchases)	-	4,500	4,500	4,500	4,500	4,500	4,500	4,500
<i>Expected Class B Credits</i>	6,280	1,780	1,780	1,780	1,930	1,840	1,749	1,749
<i>WQIF-Held Credits</i>	4,276	4,276	4,276	4,276	4,440	4,440	4,440	4,440

PHOSPHORUS Credits	Exchange 5-year Planning Period					Future Projections		
	2017	2018	2019	2020	2021	2022	2023	2024
Credits Transferred within Bubble								
Lower Jackson	(849)	(849)	(849)	(849)	(968)	(1,022)	(1,076)	(1,076)
Low Moor	849	849	849	849	968	1,022	1,076	1,076
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
TOTAL (must sum to 0)	-	-	-	-	-	-	-	-
Credits Available outside Bubble								
Lower Jackson	474	474	474	474	456	402	348	348
Low Moor	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
Expected Net Credits	474	474	474	474	456	402	348	348
Class A Sales (Purchases)	0	300	300	300	300	0	0	0
<i>Expected Class B Credits</i>	474	174	174	174	156	402	348	348
<i>WQIF-Held Credits</i>	734	734	734	734	789	789	789	789

NITROGEN FACILITY SUMMARY

Allegheny Co-L. Jackson
 UPPER JAMES Trading Basin



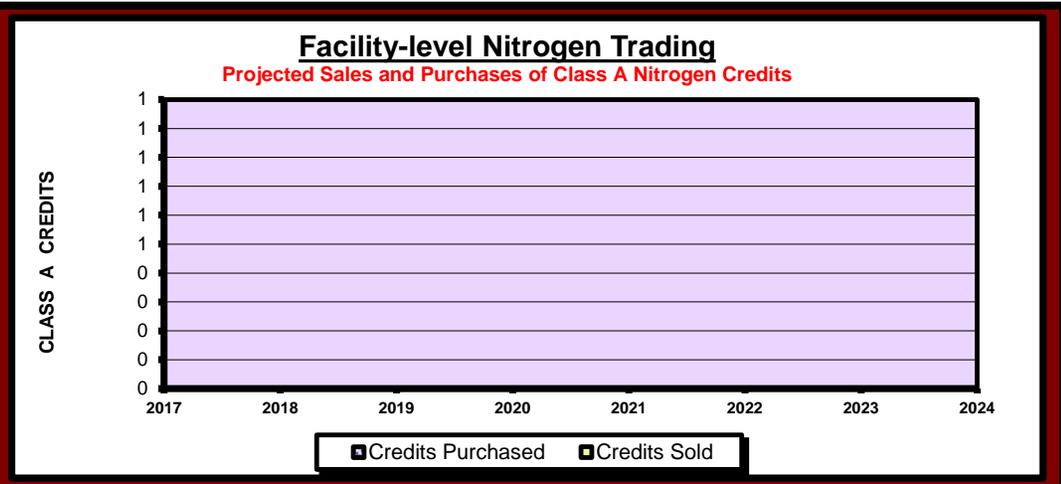
Loading & Credit Summary

Design Flow (mgd)	2.60
Projected Flow (mgd)	1.32
Projected Avg. Annual Concentration (mg/L)	6.00
Discharged Load (end of pipe)	24,121
Delivery Factor	0.26
Expected Load	6,271
Delivered WLA	16,629
Expected Credits (delivered)	10,358
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	(4,276)
Expected Net Credits	6,082
Class A Credit Sales (Purchases)	0
Expected Class B Credits	6,082

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
1.32	1.32	1.32	1.32	1.32	1.32	1.32	1.32
6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
24,121	24,121	24,121	24,121	24,121	24,121	24,121	24,121
0.26	0.26	0.26	0.26	0.27	0.27	0.27	0.27
6,271	6,271	6,271	6,271	6,513	6,513	6,513	6,513
16,629	16,629	16,629	16,629	17,268	17,268	17,268	17,268
10,358	10,358	10,358	10,358	10,755	10,755	10,755	10,755
0	0	0	0	0	0	(66)	(66)
0	0	0	0	0	0	0	0
(4,276)	(4,276)	(4,276)	(4,276)	(4,440)	(4,440)	(4,440)	(4,440)
6,082	6,082	6,082	6,082	6,315	6,315	6,249	6,249
0	4,500	4,500	4,500	4,500	4,500	4,500	4,500
6,082	1,582	1,582	1,582	1,815	1,815	1,749	1,749

NITROGEN FACILITY SUMMARY

Allegheny Co-Low Moor
 UPPER JAMES Trading Basin



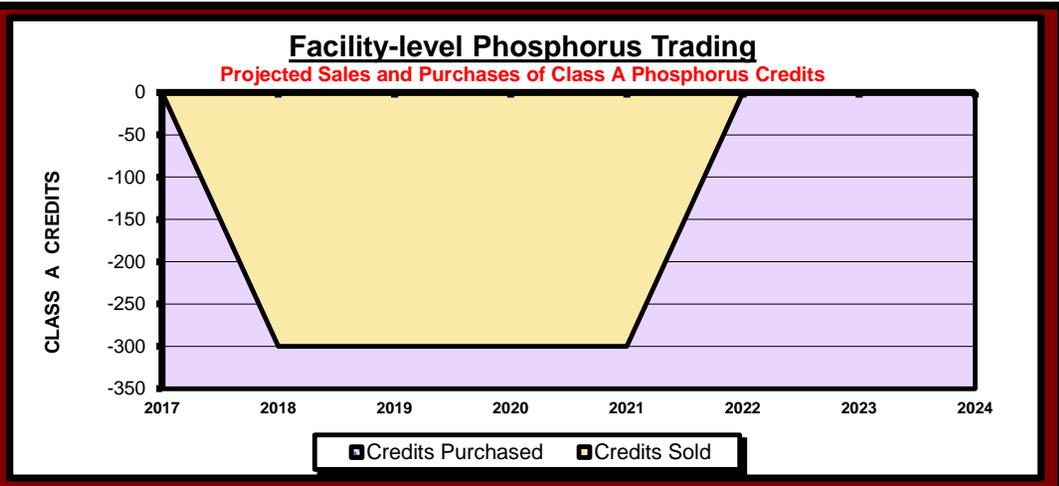
Loading & Credit Summary

Design Flow (mgd)
Projected Flow (mgd)
Projected Avg. Annual Concentration (mg/L)
Discharged Load (end of pipe)
Delivery Factor
Expected Load
Delivered WLA
Expected Credits (delivered)
Transfers In (Out) within Owner Bubble
Transfers In (Out) from Private Exchange
WQIF-Held Credits
Expected Net Credits
Class A Credit Sales (Purchases)
Expected Class B Credits

	2017	2018	2019	2020	2021	2022	2023	2024
	Planning Period					Future Estimates (non-binding)		
Design Flow (mgd)	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
Projected Flow (mgd)	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Projected Avg. Annual Concentration (mg/L)	11.00	11.00	11.00	11.00	11.00	11.00	11.00	11.00
Discharged Load (end of pipe)	6,700	6,700	6,700	6,700	6,700	6,700	6,700	6,700
Delivery Factor	0.26	0.26	0.26	0.26	0.27	0.27	0.27	0.27
Expected Load	1,742	1,742	1,742	1,742	1,809	1,809	1,809	1,809
Delivered WLA	2,376	2,376	2,376	2,376	2,467	2,467	2,467	2,467
Expected Credits (delivered)	634	634	634	634	658	658	658	658
Transfers In (Out) within Owner Bubble	0	0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange	0	0	0	0	0	0	0	0
WQIF-Held Credits	0	0	0	0	0	0	0	0
Expected Net Credits	634	634	634	634	658	658	658	658
Class A Credit Sales (Purchases)	0	0	0	0	0	0	0	0
Expected Class B Credits	634	634	634	634	658	658	658	658

PHOSPHORUS FACILITY SUMMARY

Allegheny Co-L. Jackson
 UPPER JAMES Trading Basin



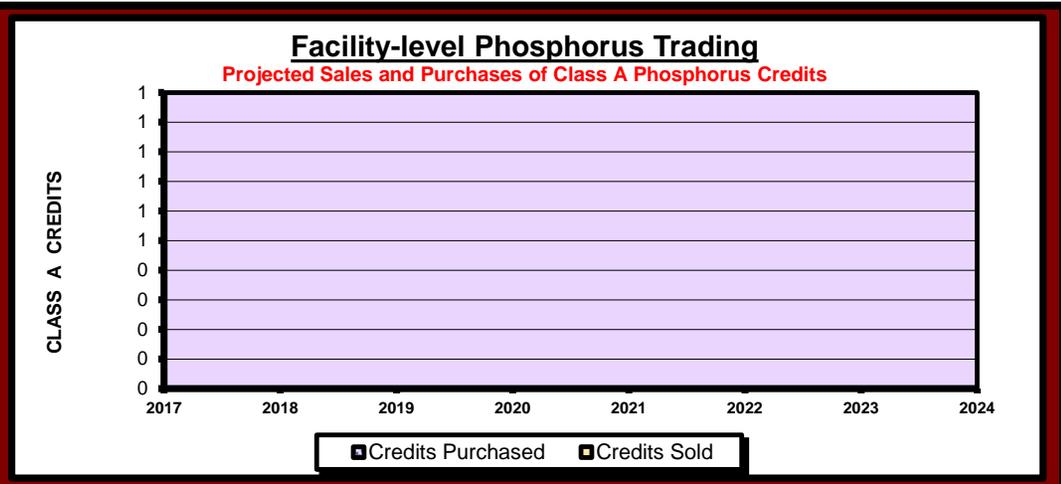
Loading & Credit Summary

Design Flow (mgd)	2.60
Projected Flow (mgd)	1.32
Projected Avg. Annual Concentration (mg/L)	0.30
Discharged Load (end of pipe)	1,206
Delivery Factor	0.66
Expected Load	796
Delivered WLA	2,853
Expected Credits (delivered)	2,057
Transfers In (Out) within Owner Bubble	(849)
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	(734)
Expected Net Credits	474
Class A Credit Sales (Purchases)	0
Expected Class B Credits	474

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.60
1.32	1.32	1.32	1.32	1.32	1.32	1.32	1.32
0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
1,206	1,206	1,206	1,206	1,206	1,206	1,206	1,206
0.66	0.66	0.66	0.66	0.71	0.71	0.71	0.71
796	796	796	796	856	856	856	856
2,853	2,853	2,853	2,853	3,069	3,069	3,069	3,069
2,057	2,057	2,057	2,057	2,213	2,213	2,213	2,213
(849)	(849)	(849)	(849)	(968)	(1,022)	(1,076)	(1,076)
0	0	0	0	0	0	0	0
(734)	(734)	(734)	(734)	(789)	(789)	(789)	(789)
474	474	474	474	456	402	348	348
0	300	300	300	300	0	0	0
474	174	174	174	156	402	348	348

PHOSPHORUS FACILITY SUMMARY

Allegheny Co-Low Moor
 UPPER JAMES Trading Basin



Loading & Credit Summary

Design Flow (mgd)
Projected Flow (mgd)
Projected Avg. Annual Concentration (mg/L)
Discharged Load (end of pipe)
Delivery Factor
Expected Load
Delivered WLA
Expected Credits (delivered)
Transfers In (Out) within Owner Bubble
Transfers In (Out) from Private Exchange
WQIF-Held Credits
Expected Net Credits
Class A Credit Sales (Purchases)
Expected Class B Credits

	2017	2018	2019	2020	2021	2022	2023	2024
	Planning Period					Future Estimates (non-binding)		
Design Flow (mgd)	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
Projected Flow (mgd)	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Projected Avg. Annual Concentration (mg/L)	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Discharged Load (end of pipe)	1,218	1,218	1,218	1,218	1,218	1,218	1,218	1,218
Delivery Factor	0.66	0.66	0.66	0.66	0.71	0.71	0.71	0.71
Expected Load	804	804	804	804	865	865	865	865
Delivered WLA	407	407	407	407	438	438	438	438
Expected Credits (delivered)	(397)	(397)	(397)	(397)	(427)	(427)	(427)	(427)
Transfers In (Out) within Owner Bubble	397	397	397	397	427	427	427	427
Transfers In (Out) from Private Exchange	0	0	0	0	0	0	0	0
WQIF-Held Credits	0	0	0	0	0	0	0	0
Expected Net Credits	0	0	0	0	0	0	0	0
Class A Credit Sales (Purchases)	0	0	0	0	0	0	0	0
Expected Class B Credits	0	0	0	0	0	0	0	0

Alleghany County - Additional Information

Under an Agreement dated September 18, 2007, the Town of Clifton Forge's Plant was converted to a regional pump station and wastewater from that facility is pumped to the new regional Lower Jackson Plant owned and operated by Alleghany County. Flows from the Town of Clifton Forge's Plant ceased on October 8, 2011, the same day that the new regional Lower Jackson Plant began to discharge.

The County applied to DEQ for aggregated mass load limits in accordance with Part I B 3 (Facility Consolidation) of the Watershed General Permit. On February 13, 2012, DEQ notified the County that the request to consolidate load limits was accepted, effective January 1, 2012. This Annual Update and the preceding nitrogen and phosphorus facility summaries for the regional Lower Jackson Plant reflect the following combined wasteload allocations, consistent with the most recent registration list for the James Basin:

- TN: 27,410 (Lower Jackson Plant) + 36,547 (Clifton Forge) = 63,957 discharged pounds
- TP: 1,852 (Lower Jackson Plant) + 2,471 (Clifton Forge) = 4,323 discharged pounds

These consolidated wasteload allocations are based on a combined design flow of 3.5 mgd. The regional Lower Jackson Plant has been constructed and received a CTO for a design flow of 2.6 mgd. Accordingly, the following nitrogen and phosphorus Credits generated from 0.9 mgd of the facility's capacity (or 25.714%) will be designated as WQIF-Held Credits in accordance with the Watershed General Permit.

Compliance Years 2017 through 2020

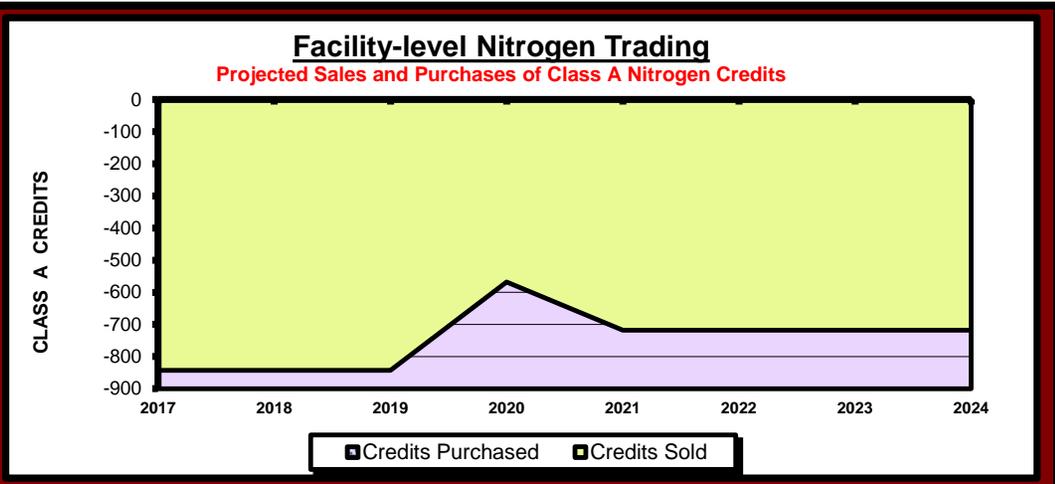
- TN: 0.26 delivery factor * 63,957 discharged pounds * 25.714% = 4,276 delivered pounds
- TP: 0.66 delivery factor * 4,323 discharged pounds * 25.714% = 734 delivered pounds

Compliance Year 2021 and Beyond

- TN: 0.27 delivery factor * 63,957 discharged pounds * 25.714% = 4,440 delivered pounds
- TP: 0.71 delivery factor * 4,323 discharged pounds * 25.714% = 789 delivered pounds

NITROGEN FACILITY SUMMARY

Amherst (Town)
 UPPER JAMES Trading Basin



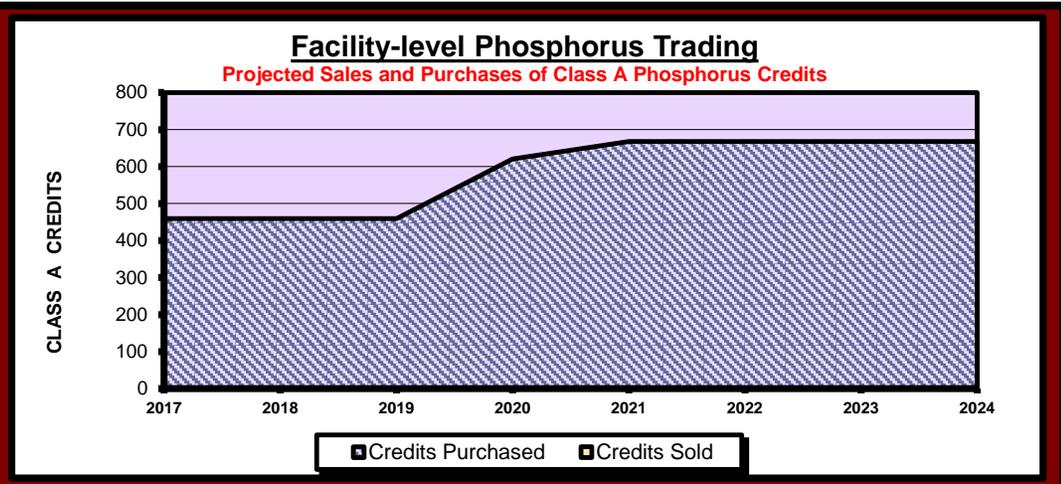
Loading & Credit Summary

Design Flow (mgd)	0.60
Projected Flow (mgd)	0.40
Projected Avg. Annual Concentration (mg/L)	4.93
Discharged Load (end of pipe)	6,006
Delivery Factor	0.34
Expected Load	2,042
Delivered WLA	3,728
Expected Credits (delivered)	1,686
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	1,686
Class A Credit Sales (Purchases)	843
Expected Class B Credits	843

	2017	2018	2019	2020	2021	2022	2023	2024
	Planning Period					Future Estimates (non-binding)		
Design Flow (mgd)	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
Projected Flow (mgd)	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
Projected Avg. Annual Concentration (mg/L)	4.93	4.93	4.93	6.26	6.26	6.26	6.26	6.26
Discharged Load (end of pipe)	6,006	6,006	6,006	7,626	7,626	7,626	7,626	7,626
Delivery Factor	0.34	0.34	0.34	0.34	0.43	0.43	0.43	0.43
Expected Load	2,042	2,042	2,042	2,593	3,279	3,279	3,279	3,279
Delivered WLA	3,728	3,728	3,728	3,728	4,715	4,715	4,715	4,715
Expected Credits (delivered)	1,686	1,686	1,686	1,135	1,436	1,436	1,436	1,436
Transfers In (Out) within Owner Bubble	0	0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange	0	0	0	0	0	0	0	0
WQIF-Held Credits	0	0	0	0	0	0	0	0
Expected Net Credits	1,686	1,686	1,686	1,135	1,436	1,436	1,436	1,436
Class A Credit Sales (Purchases)	843	843	843	568	718	718	718	718
Expected Class B Credits	843	843	843	567	718	718	718	718

PHOSPHORUS FACILITY SUMMARY

Amherst (Town)
 UPPER JAMES Trading Basin



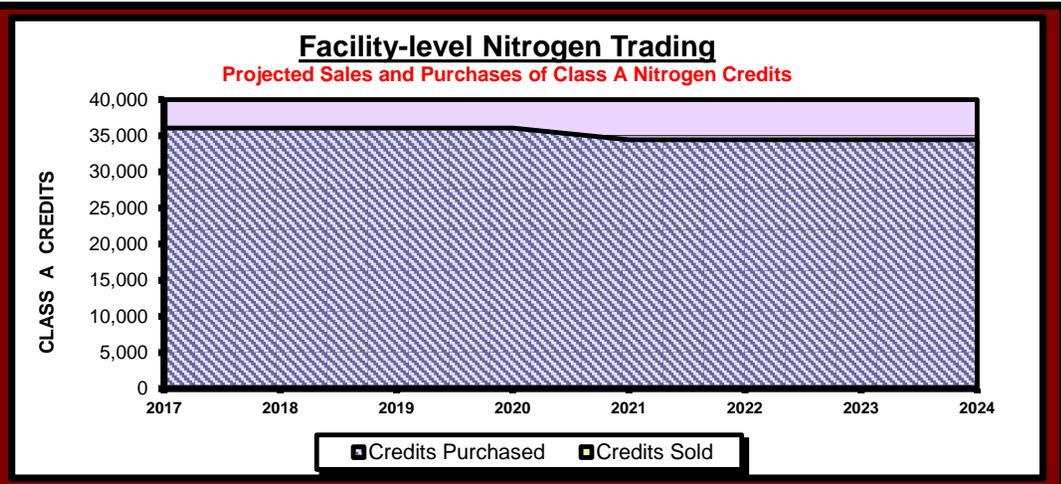
Loading & Credit Summary

Design Flow (mgd)
Projected Flow (mgd)
Projected Avg. Annual Concentration (mg/L)
Discharged Load (end of pipe)
Delivery Factor
Expected Load
Delivered WLA
Expected Credits (delivered)
Transfers In (Out) within Owner Bubble
Transfers In (Out) from Private Exchange
WQIF-Held Credits
Expected Net Credits
Class A Credit Sales (Purchases)
Expected Class B Credits

	2017	2018	2019	2020	2021	2022	2023	2024
	Planning Period					Future Estimates (non-binding)		
Design Flow (mgd)	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
Projected Flow (mgd)	0.40	0.40	0.40	0.40	0.40	0.40	0.40	0.40
Projected Avg. Annual Concentration (mg/L)	1.18	1.18	1.18	1.38	1.38	1.38	1.38	1.38
Discharged Load (end of pipe)	1,438	1,438	1,438	1,681	1,681	1,681	1,681	1,681
Delivery Factor	0.66	0.66	0.66	0.66	0.71	0.71	0.71	0.71
Expected Load	949	949	949	1,110	1,194	1,194	1,194	1,194
Delivered WLA	489	489	489	489	526	526	526	526
Expected Credits (delivered)	(460)	(460)	(460)	(621)	(668)	(668)	(668)	(668)
Transfers In (Out) within Owner Bubble	0	0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange	0	0	0	0	0	0	0	0
WQIF-Held Credits	0	0	0	0	0	0	0	0
Expected Net Credits	(460)	(460)	(460)	(621)	(668)	(668)	(668)	(668)
Class A Credit Sales (Purchases)	(460)	(460)	(460)	(621)	(668)	(668)	(668)	(668)
Expected Class B Credits	0	0	0	0	0	0	0	0

NITROGEN FACILITY SUMMARY

Aqua Virginia-L. Monticello
 UPPER JAMES Trading Basin



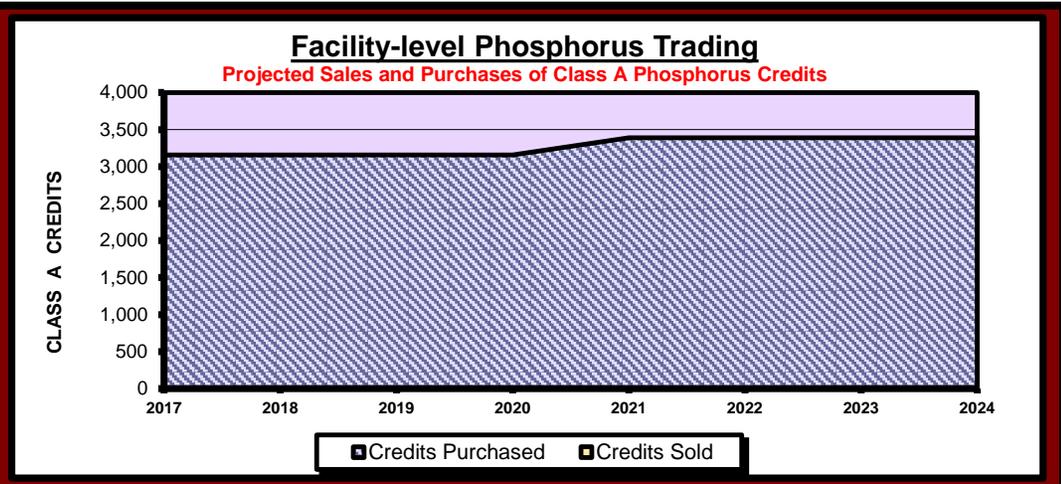
Loading & Credit Summary

Design Flow (mgd)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Projected Flow (mgd)	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69
Projected Avg. Annual Concentration (mg/L)	34.26	34.26	34.26	34.26	34.26	34.26	34.26	34.26
Discharged Load (end of pipe)	71,995							
Delivery Factor	0.67	0.67	0.67	0.67	0.64	0.64	0.64	0.64
Expected Load	48,237	48,237	48,237	48,237	46,077	46,077	46,077	46,077
Delivered WLA	12,182	12,182	12,182	12,182	11,636	11,636	11,636	11,636
Expected Credits (delivered)	(36,055)	(36,055)	(36,055)	(36,055)	(34,441)	(34,441)	(34,441)	(34,441)
Transfers In (Out) within Owner Bubble	0	0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange	0	0	0	0	0	0	0	0
WQIF-Held Credits	0	0	0	0	0	0	0	0
Expected Net Credits	(36,055)	(36,055)	(36,055)	(36,055)	(34,441)	(34,441)	(34,441)	(34,441)
Class A Credit Sales (Purchases)	(36,058)	(36,058)	(36,055)	(36,055)	(34,441)	(34,441)	(34,441)	(34,441)
Expected Class B Credits	3	3	0	0	0	0	0	0

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69
34.26	34.26	34.26	34.26	34.26	34.26	34.26	34.26
71,995	71,995	71,995	71,995	71,995	71,995	71,995	71,995
0.67	0.67	0.67	0.67	0.64	0.64	0.64	0.64
48,237	48,237	48,237	48,237	46,077	46,077	46,077	46,077
12,182	12,182	12,182	12,182	11,636	11,636	11,636	11,636
(36,055)	(36,055)	(36,055)	(36,055)	(34,441)	(34,441)	(34,441)	(34,441)
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
(36,055)	(36,055)	(36,055)	(36,055)	(34,441)	(34,441)	(34,441)	(34,441)
(36,058)	(36,058)	(36,055)	(36,055)	(34,441)	(34,441)	(34,441)	(34,441)
3	3	0	0	0	0	0	0

PHOSPHORUS FACILITY SUMMARY

Aqua Virginia-L. Monticello
 UPPER JAMES Trading Basin



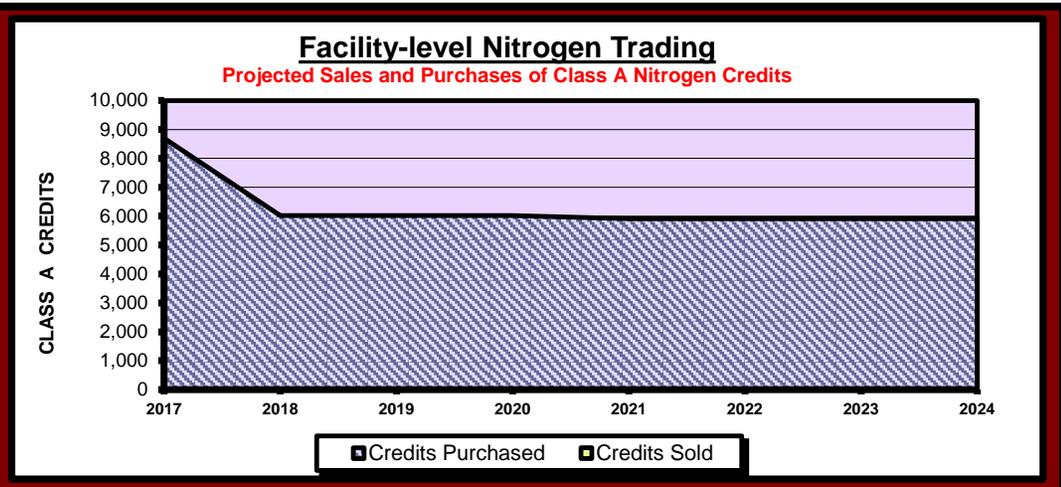
Loading & Credit Summary

Design Flow (mgd)	1.00
Projected Flow (mgd)	0.69
Projected Avg. Annual Concentration (mg/L)	2.86
Discharged Load (end of pipe)	6,010
Delivery Factor	0.66
Expected Load	3,967
Delivered WLA	811
Expected Credits (delivered)	(3,156)
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	(3,156)
Class A Credit Sales (Purchases)	(3,156)
Expected Class B Credits	0

	2017	2018	2019	2020	2021	2022	2023	2024
	Planning Period					Future Estimates (non-binding)		
Design Flow (mgd)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Projected Flow (mgd)	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69
Projected Avg. Annual Concentration (mg/L)	2.86	2.86	2.86	2.86	2.86	2.86	2.86	2.86
Discharged Load (end of pipe)	6,010	6,010	6,010	6,010	6,010	6,010	6,010	6,010
Delivery Factor	0.66	0.66	0.66	0.66	0.71	0.71	0.71	0.71
Expected Load	3,967	3,967	3,967	3,967	4,267	4,267	4,267	4,267
Delivered WLA	811	811	811	811	877	877	877	877
Expected Credits (delivered)	(3,156)	(3,156)	(3,156)	(3,156)	(3,390)	(3,390)	(3,390)	(3,390)
Transfers In (Out) within Owner Bubble	0	0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange	0	0	0	0	0	0	0	0
WQIF-Held Credits	0	0	0	0	0	0	0	0
Expected Net Credits	(3,156)	(3,156)	(3,156)	(3,156)	(3,390)	(3,390)	(3,390)	(3,390)
Class A Credit Sales (Purchases)	(3,156)	(3,156)	(3,156)	(3,156)	(3,390)	(3,390)	(3,390)	(3,390)
Expected Class B Credits	0	0	0	0	0	0	0	0

NITROGEN FACILITY SUMMARY

Buena Vista
<i>UPPER JAMES Trading Basin</i>

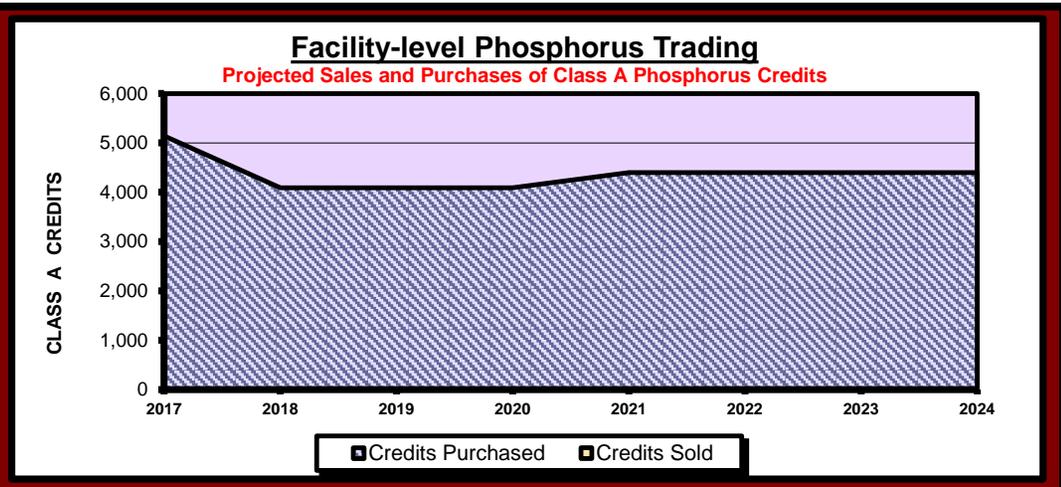


Loading & Credit Summary	
Design Flow (mgd)	
Projected Flow (mgd)	
Projected Avg. Annual Concentration (mg/L)	
Discharged Load (end of pipe)	
Delivery Factor	
Expected Load	
Delivered WLA	
Expected Credits (delivered)	
Transfers In (Out) within Owner Bubble	
Transfers In (Out) from Private Exchange	
WQIF-Held Credits	
Expected Net Credits	
Class A Credit Sales (Purchases)	
Expected Class B Credits	

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25
1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31
14.20	13.00	13.00	13.00	13.00	13.00	13.00	13.00
56,654	51,866	51,866	51,866	51,866	51,866	51,866	51,866
0.56	0.56	0.56	0.56	0.55	0.55	0.55	0.55
31,726	29,045	29,045	29,045	28,526	28,526	28,526	28,526
23,024	23,024	23,024	23,024	22,613	22,613	22,613	22,613
(8,702)	(6,021)	(6,021)	(6,021)	(5,913)	(5,913)	(5,913)	(5,913)
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
(8,702)	(6,021)	(6,021)	(6,021)	(5,913)	(5,913)	(5,913)	(5,913)
(8,702)	(6,021)	(6,021)	(6,021)	(5,913)	(5,913)	(5,913)	(5,913)
0	0	0	0	0	0	0	0

PHOSPHORUS FACILITY SUMMARY

Buena Vista
<i>UPPER JAMES Trading Basin</i>

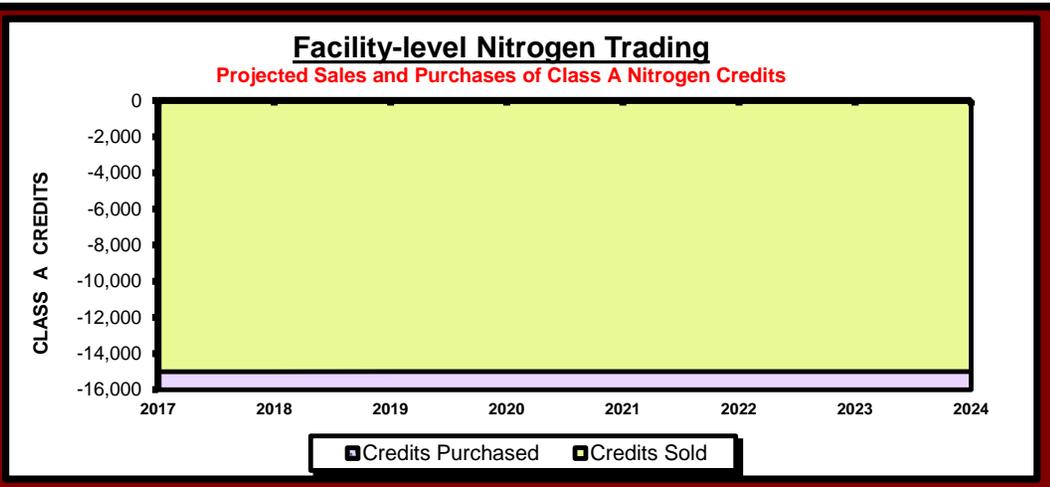


Loading & Credit Summary	
Design Flow (mgd)	
Projected Flow (mgd)	
Projected Avg. Annual Concentration (mg/L)	
Discharged Load (end of pipe)	
Delivery Factor	
Expected Load	
Delivered WLA	
Expected Credits (delivered)	
Transfers In (Out) within Owner Bubble	
Transfers In (Out) from Private Exchange	
WQIF-Held Credits	
Expected Net Credits	
Class A Credit Sales (Purchases)	
Expected Class B Credits	

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
2.25	2.25	2.25	2.25	2.25	2.25	2.25	2.25
1.31	1.31	1.31	1.31	1.31	1.31	1.31	1.31
2.65	2.25	2.25	2.25	2.25	2.25	2.25	2.25
10,573	8,977	8,977	8,977	8,977	8,977	8,977	8,977
0.66	0.66	0.66	0.66	0.71	0.71	0.71	0.71
6,978	5,925	5,925	5,925	6,374	6,374	6,374	6,374
1,833	1,833	1,833	1,833	1,972	1,972	1,972	1,972
(5,145)	(4,092)	(4,092)	(4,092)	(4,402)	(4,402)	(4,402)	(4,402)
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
(5,145)	(4,092)	(4,092)	(4,092)	(4,402)	(4,402)	(4,402)	(4,402)
(5,145)	(4,092)	(4,092)	(4,092)	(4,402)	(4,402)	(4,402)	(4,402)
0	0	0	0	0	0	0	0

NITROGEN FACILITY SUMMARY

BWX Technologies, Inc
 UPPER JAMES Trading Basin



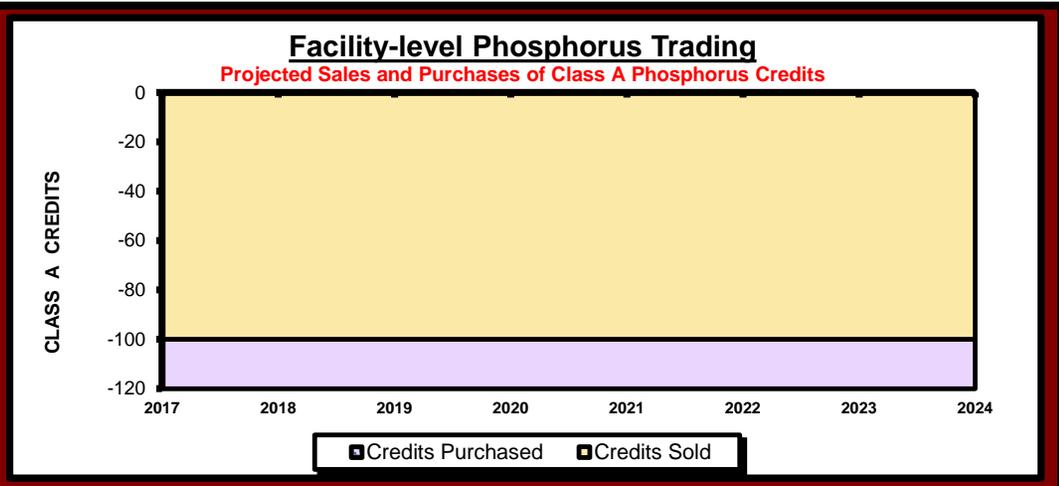
Loading & Credit Summary

Design Flow (mgd)	1.00
Projected Flow (mgd)	0.45
Projected Avg. Annual Concentration (mg/L)	120.00
Discharged Load (end of pipe)	163,912
Delivery Factor	0.65
Expected Load	106,543
Delivered WLA	121,550
Expected Credits (delivered)	15,007
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	15,007
Class A Credit Sales (Purchases)	15,007
Expected Class B Credits	0

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
0.45	0.45	0.48	0.48	0.48	0.48	0.48	0.48
120.00	120.00	110.00	110.00	110.00	110.00	110.00	110.00
163,912	163,912	160,806	160,806	160,806	160,806	160,806	160,806
0.65	0.65	0.65	0.65	0.64	0.64	0.64	0.64
106,543	106,543	104,524	104,524	102,916	102,916	102,916	102,916
121,550	121,550	121,550	121,550	119,680	119,680	119,680	119,680
15,007	15,007	17,026	17,026	16,764	16,764	16,764	16,764
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
15,007	15,007	17,026	17,026	16,764	16,764	16,764	16,764
15,007	15,007	15,000	15,000	15,000	15,000	15,000	15,000
0	0	2,026	2,026	1,764	1,764	1,764	1,764

PHOSPHORUS FACILITY SUMMARY

BWX Technologies, Inc
 UPPER JAMES Trading Basin



Loading & Credit Summary	
Design Flow (mgd)	1.00
Projected Flow (mgd)	0.45
Projected Avg. Annual Concentration (mg/L)	0.44
Discharged Load (end of pipe)	601
Delivery Factor	0.66
Expected Load	397
Delivered WLA	815
Expected Credits (delivered)	418
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	418
Class A Credit Sales (Purchases)	100
Expected Class B Credits	318

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
0.45	0.45	0.48	0.48	0.48	0.48	0.48	0.48
0.44	0.44	0.44	0.44	0.50	0.50	0.50	0.50
601	601	643	643	731	731	731	731
0.66	0.66	0.66	0.66	0.71	0.71	0.71	0.71
397	397	425	425	519	519	519	519
815	815	815	815	877	877	877	877
418	418	390	390	358	358	358	358
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
418	418	390	390	358	358	358	358
100	100	100	100	100	100	100	100
318	318	290	290	258	258	258	258

Owner Bubble: Chesterfield County

The facilities listed below have received an aggregated mass load limit pursuant to 9 VAC 25-820-70, Part 1.B.2., which is also referred to as an “owner bubble”. Accordingly, compliance is determined solely on an aggregate basis rather than by comparison of individual facility loads with respective individual WLAs.

The “Credit Transferred within Bubble” section of each table forecasts the use of Credits within the owner bubble during each Compliance Year, and must necessarily sum to zero. The specific Credit transfers shown in this table are provided for internal planning purposes only and, accordingly, are not binding and may change based on the actual performance of individual facilities within the bubble.

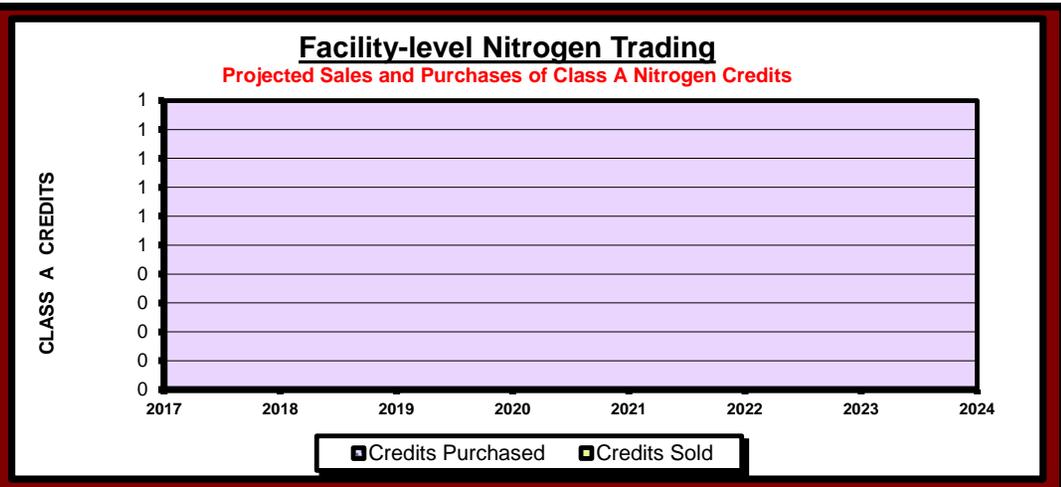
Expected Net Credits for an owner bubble may be either positive or negative. If Expected Net Credits is positive, the owner may pledge a percentage of such Credits to the Exchange. If Expected Net Credits is negative, Net Expected Credits identifies the number of Credits that must be purchased to comply with the aggregate Delivered WLA of the bubble.

NITROGEN Credits	Exchange 5-year Planning Period					Future Projections		
	2017	2018	2019	2020	2021	2022	2023	2024
Credits Transferred within Bubble								
Falling Creek	350	213	-	-	837	3,502	6,167	8,832
Proctors Creek	(350)	(213)	-	-	(837)	(3,502)	(6,167)	(8,832)
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
TOTAL (must sum to 0)	-	-	-	-	-	-	-	-
Credits Available outside Bubble								
Falling Creek	-	-	31	1,828	-	-	-	-
Proctors Creek	165,451	167,445	169,623	173,902	170,400	165,070	159,740	154,410
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
Expected Credits	165,451	167,445	169,654	175,730	170,400	165,070	159,740	154,410
Private Exchanges	(165,451)	(156,620)	(156,651)	(175,730)	(170,400)	(165,070)	(159,740)	(154,410)
Expected Net Credits	-	10,825	13,003	-	-	-	-	-
Class A Sales (Purchases)	0	0	0	0	0	0	0	0
Expected Class B Credits	0	10,825	13,003	0	0	0	0	0
WQIF-Held Credits	0	0	0	0	0	0	0	0

PHOSPHORUS Credits	Exchange 5-year Planning Period					Future Projections		
	2017	2018	2019	2020	2021	2022	2023	2024
Credits Transferred within Bubble								
Falling Creek	3,524	3,817	4,110	4,244	2,991	3,257	3,524	3,790
Proctors Creek	(3,524)	(3,817)	(4,110)	(4,244)	(2,991)	(3,257)	(3,524)	(3,790)
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
TOTAL (must sum to 0)	-	-	-	-	-	-	-	-
Credits Available outside Bubble								
Falling Creek	-	-	-	-	-	-	-	-
Proctors Creek	4,359	3,773	3,187	3,003	3,962	3,403	2,843	2,284
	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-
Expected Credits	4,359	3,773	3,187	3,003	3,962	3,403	2,843	2,284
Private Exchanges	(40)	(40)	(40)	(40)	(40)	(40)	(40)	(40)
Expected Net Credits	4,319	3,733	3,147	2,963	3,922	3,363	2,803	2,244
Class A Sales (Purchases)	0	0	0	0	0	0	0	0
Expected Class B Credits	4,319	3,733	3,147	2,963	3,922	3,363	2,803	2,244
WQIF-Held Credits	0	0	0	0	0	0	0	0

NITROGEN FACILITY SUMMARY

Chesterfield-Falling Cr.
 UPPER JAMES Trading Basin



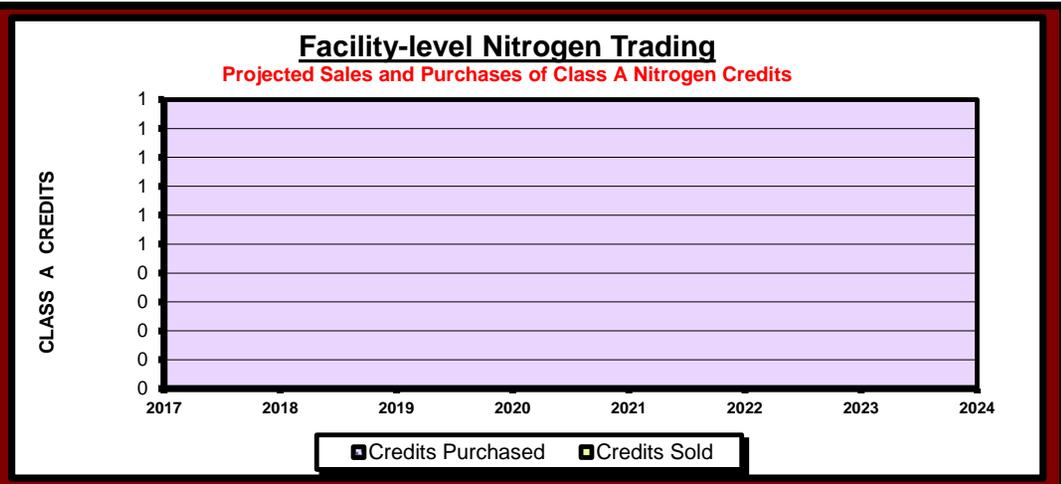
Loading & Credit Summary	
Design Flow (mgd)	
Projected Flow (mgd)	
Projected Avg. Annual Concentration (mg/L)	
Discharged Load (end of pipe)	
Delivery Factor	
Expected Load	
Delivered WLA	
Expected Credits (delivered)	
Transfers In (Out) within Owner Bubble	
Transfers In (Out) from Private Exchange*	
WQIF-Held Credits	
Expected Net Credits	
Class A Credit Sales (Purchases)	
Expected Class B Credits	

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
9.55	9.73	9.90	9.98	10.16	10.33	10.51	10.68
5.30	5.20	5.10	5.00	5.00	5.00	5.00	5.00
154,151	154,014	153,770	151,973	154,638	157,303	159,968	162,633
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
154,151	154,014	153,770	151,973	154,638	157,303	159,968	162,633
153,801	153,801	153,801	153,801	153,801	153,801	153,801	153,801
(350)	(213)	31	1,828	(837)	(3,502)	(6,167)	(8,832)
350	213	0	0	837	3,502	6,167	8,832
0	0	(31)	(1,828)	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0

* Represents a Private Exchange of Credits with the Tranlin Paper Company (Non-Participant)

NITROGEN FACILITY SUMMARY

Chesterfield-Proctors Cr.
 UPPER JAMES Trading Basin



Loading & Credit Summary

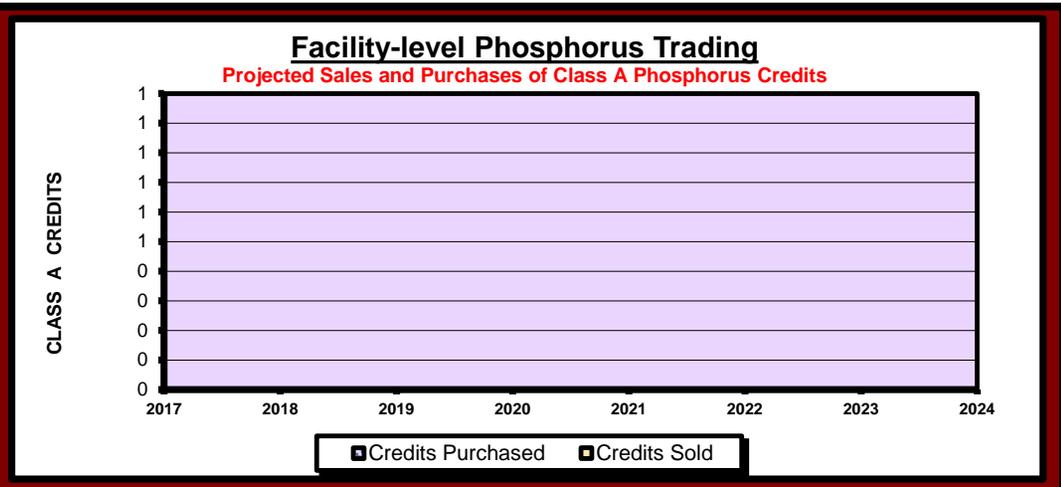
Design Flow (mgd)	27.00	27.00	27.00	27.00	27.00	27.00	27.00	27.00
Projected Flow (mgd)	15.20	15.38	15.55	15.58	15.76	15.93	16.11	16.28
Projected Avg. Annual Concentration (mg/L)	5.30	5.20	5.10	5.00	5.00	5.00	5.00	5.00
Discharged Load (end of pipe)	245,350	243,493	241,528	237,249	239,914	242,579	245,244	247,909
Delivery Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Expected Load	245,350	243,493	241,528	237,249	239,914	242,579	245,244	247,909
Delivered WLA	411,151	411,151	411,151	411,151	411,151	411,151	411,151	411,151
Expected Credits (delivered)	165,801	167,658	169,623	173,902	171,237	168,572	165,907	163,242
Transfers In (Out) within Owner Bubble	(350)	(213)	0	0	(837)	(3,502)	(6,167)	(8,832)
Transfers In (Out) from Private Exchange*	(165,451)	(156,620)	(156,620)	(173,902)	(170,400)	(165,070)	(159,740)	(154,410)
WQIF-Held Credits	0	0	0	0	0	0	0	0
Expected Net Credits	0	10,825	13,003	0	0	0	0	0
Class A Credit Sales (Purchases)	0							
Expected Class B Credits	0	10,825	13,003	0	0	0	0	0

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
27.00	27.00	27.00	27.00	27.00	27.00	27.00	27.00
15.20	15.38	15.55	15.58	15.76	15.93	16.11	16.28
5.30	5.20	5.10	5.00	5.00	5.00	5.00	5.00
245,350	243,493	241,528	237,249	239,914	242,579	245,244	247,909
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
245,350	243,493	241,528	237,249	239,914	242,579	245,244	247,909
411,151	411,151	411,151	411,151	411,151	411,151	411,151	411,151
165,801	167,658	169,623	173,902	171,237	168,572	165,907	163,242
(350)	(213)	0	0	(837)	(3,502)	(6,167)	(8,832)
(165,451)	(156,620)	(156,620)	(173,902)	(170,400)	(165,070)	(159,740)	(154,410)
0	0	0	0	0	0	0	0
0	10,825	13,003	0	0	0	0	0
0	0	0	0	0	0	0	0
0	10,825	13,003	0	0	0	0	0

* Represents a Private Exchange of Credits with two organizations: South Central Wastewater Authority from 2016 through 2019 (Exchange Participant) and Tranlin Paper Company from 2018 through 2024 (Non-Participant)

PHOSPHORUS FACILITY SUMMARY

Chesterfield-Falling Cr.
 UPPER JAMES Trading Basin

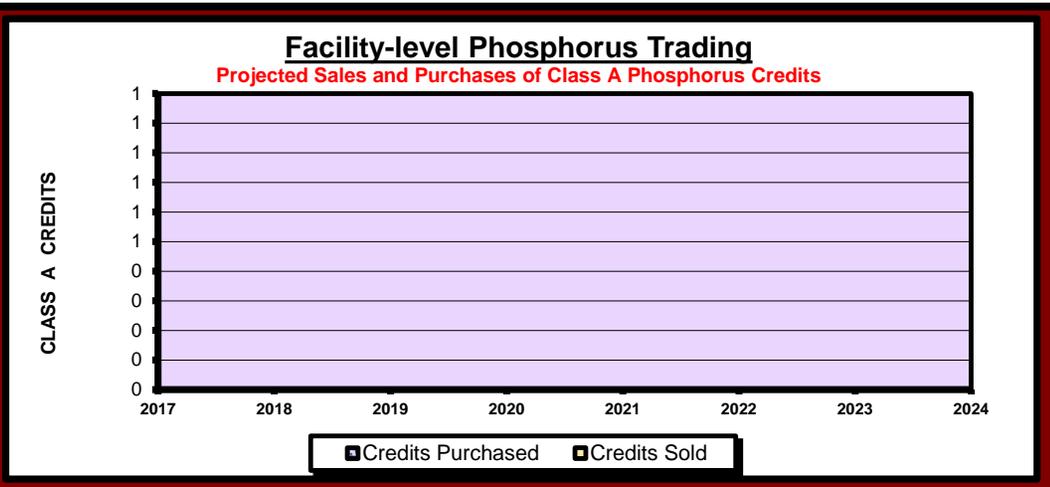


Loading & Credit Summary	
Design Flow (mgd)	12.00
Projected Flow (mgd)	9.55
Projected Avg. Annual Concentration (mg/L)	0.55
Discharged Load (end of pipe)	15,997
Delivery Factor	1.00
Expected Load	15,997
Delivered WLA	12,473
Expected Credits (delivered)	(3,524)
Transfers In (Out) within Owner Bubble	3,524
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	0
Class A Credit Sales (Purchases)	0
Expected Class B Credits	0

2017	2018	2019	2020	2021	2022	2023	2024
<i>Planning Period</i>					<i>Future Estimates (non-binding)</i>		
12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
9.55	9.73	9.90	9.98	10.16	10.33	10.51	10.68
0.55	0.55	0.55	0.55	0.50	0.50	0.50	0.50
15,997	16,290	16,583	16,717	15,464	15,730	15,997	16,263
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
15,997	16,290	16,583	16,717	15,464	15,730	15,997	16,263
12,473	12,473	12,473	12,473	12,473	12,473	12,473	12,473
(3,524)	(3,817)	(4,110)	(4,244)	(2,991)	(3,257)	(3,524)	(3,790)
3,524	3,817	4,110	4,244	2,991	3,257	3,524	3,790
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0

PHOSPHORUS FACILITY SUMMARY

Chesterfield-Proctors Cr.
 UPPER JAMES Trading Basin



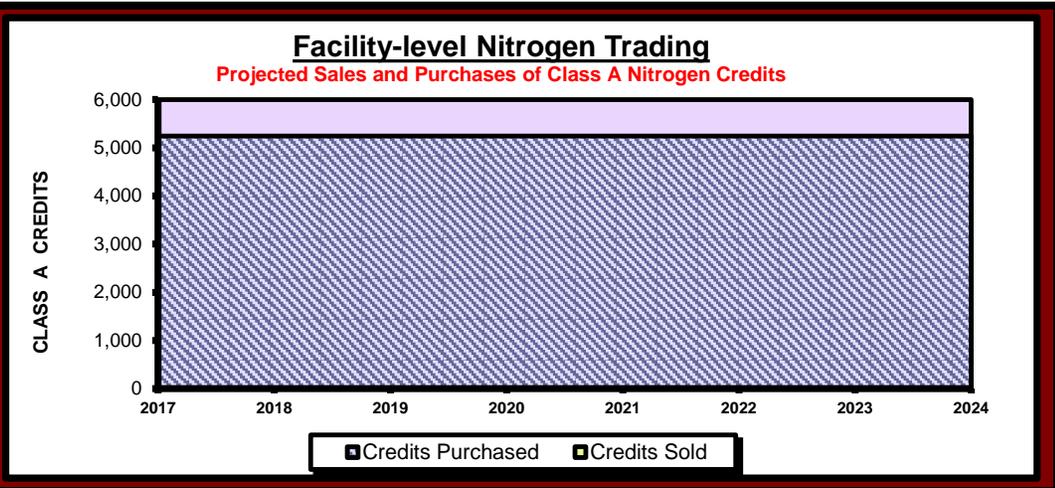
Loading & Credit Summary	
Design Flow (mgd)	27.00
Projected Flow (mgd)	15.20
Projected Avg. Annual Concentration (mg/L)	0.55
Discharged Load (end of pipe)	25,461
Delivery Factor	1.00
Expected Load	25,461
Delivered WLA	33,344
Expected Credits (delivered)	7,883
Transfers In (Out) within Owner Bubble	(3,524)
Transfers In (Out) from Private Exchange*	(40)
WQIF-Held Credits	0
Expected Net Credits	4,319
Class A Credit Sales (Purchases)	0
Expected Class B Credits	4,319

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
27.00	27.00	27.00	27.00	27.00	27.00	27.00	27.00
15.20	15.38	15.55	15.58	15.76	15.93	16.11	16.28
0.55	0.55	0.55	0.55	0.55	0.55	0.55	0.55
25,461	25,754	26,047	26,097	26,391	26,684	26,977	27,270
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
25,461	25,754	26,047	26,097	26,391	26,684	26,977	27,270
33,344	33,344	33,344	33,344	33,344	33,344	33,344	33,344
7,883	7,590	7,297	7,247	6,953	6,660	6,367	6,074
(3,524)	(3,817)	(4,110)	(4,244)	(2,991)	(3,257)	(3,524)	(3,790)
(40)	(40)	(40)	(40)	(40)	(40)	(40)	(40)
0	0	0	0	0	0	0	0
4,319	3,733	3,147	2,963	3,922	3,363	2,803	2,244
0	0	0	0	0	0	0	0
4,319	3,733	3,147	2,963	3,922	3,363	2,803	2,244

* Represents a Private Exchange of Credits with Dominion-Chesterfield

NITROGEN FACILITY SUMMARY

Covington
 UPPER JAMES Trading Basin



Loading & Credit Summary

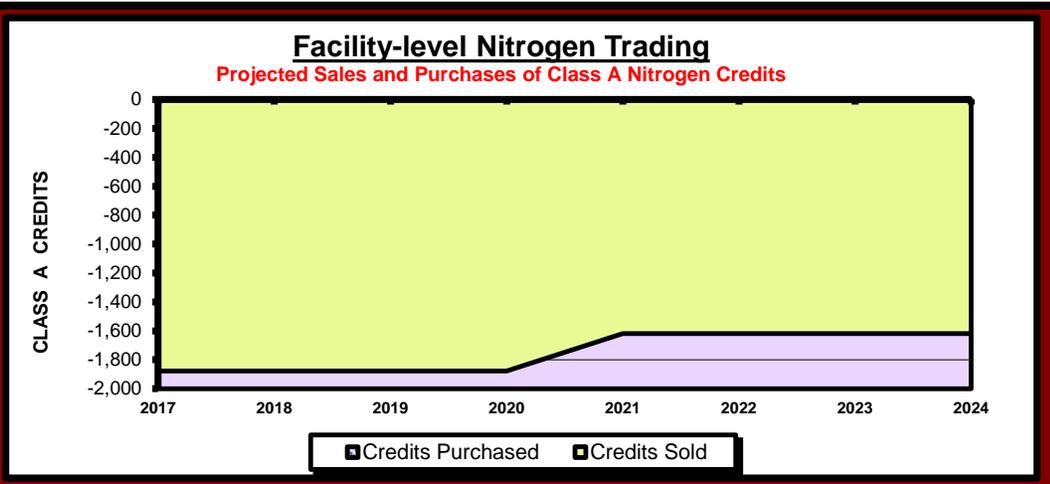
Design Flow (mgd)	3.00
Projected Flow (mgd)	2.00
Projected Avg. Annual Concentration (mg/L)	13.10
Discharged Load (end of pipe)	79,794
Delivery Factor	0.21
Expected Load	16,757
Delivered WLA	11,512
Expected Credits (delivered)	(5,245)
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	(5,245)
Class A Credit Sales (Purchases)	(5,245)
Expected Class B Credits	0

	2017	2018	2019	2020	2021	2022	2023	2024
	Planning Period					Future Estimates (non-binding)		
Design Flow (mgd)	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Projected Flow (mgd)	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Projected Avg. Annual Concentration (mg/L)	13.10	13.10	13.10	13.10	13.10	13.10	13.10	13.10
Discharged Load (end of pipe)	79,794	79,794	79,794	79,794	79,794	79,794	79,794	79,794
Delivery Factor	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21
Expected Load	16,757	16,757	16,757	16,757	16,757	16,757	16,757	16,757
Delivered WLA	11,512	11,512	11,512	11,512	11,512	11,512	11,512	11,512
Expected Credits (delivered)	(5,245)	(5,245)	(5,245)	(5,245)	(5,245)	(5,245)	(5,245)	(5,245)
Transfers In (Out) within Owner Bubble	0	0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange	0	0	0	0	0	0	0	0
WQIF-Held Credits	0	0	0	0	0	0	0	0
Expected Net Credits	(5,245)	(5,245)	(5,245)	(5,245)	(5,245)	(5,245)	(5,245)	(5,245)
Class A Credit Sales (Purchases)	(5,245)	(5,245)	(5,245)	(5,245)	(5,245)	(5,245)	(5,245)	(5,245)
Expected Class B Credits	0	0	0	0	0	0	0	0

NITROGEN FACILITY SUMMARY

Crewe

UPPER JAMES Trading Basin



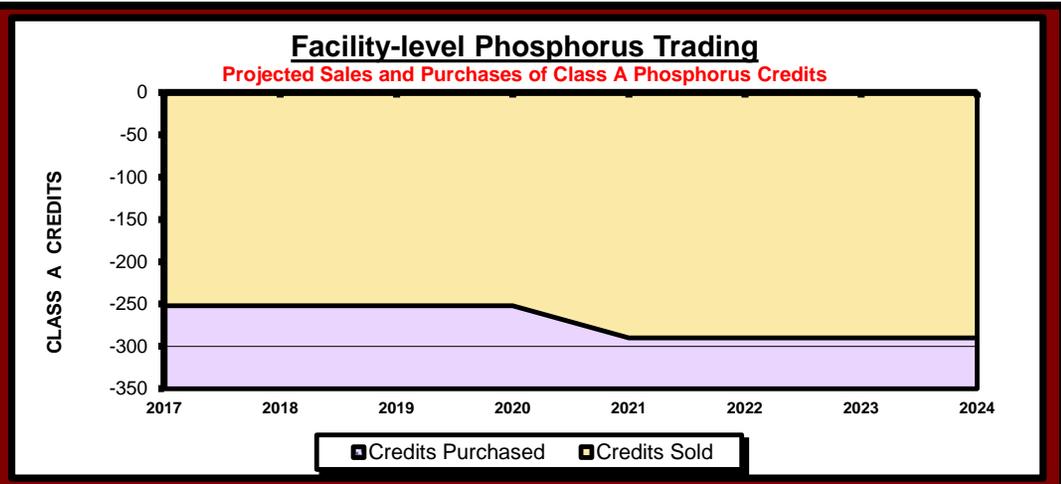
Loading & Credit Summary

Design Flow (mgd)	0.50
Projected Flow (mgd)	0.23
Projected Avg. Annual Concentration (mg/L)	3.80
Discharged Load (end of pipe)	2,662
Delivery Factor	0.29
Expected Load	772
Delivered WLA	2,650
Expected Credits (delivered)	1,878
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	1,878
Class A Credit Sales (Purchases)	1,878
Expected Class B Credits	0

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23
3.80	3.80	3.80	3.80	3.80	3.80	3.80	3.80
2,662	2,662	2,662	2,662	2,662	2,662	2,662	2,662
0.29	0.29	0.29	0.29	0.25	0.25	0.25	0.25
772	772	772	772	665	665	665	665
2,650	2,650	2,650	2,650	2,284	2,284	2,284	2,284
1,878	1,878	1,878	1,878	1,619	1,619	1,619	1,619
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
1,878	1,878	1,878	1,878	1,619	1,619	1,619	1,619
0	0	0	0	0	0	0	0

PHOSPHORUS FACILITY SUMMARY

Crewe
UPPER JAMES Trading Basin



Loading & Credit Summary
Design Flow (mgd)
Projected Flow (mgd)
Projected Avg. Annual Concentration (mg/L)
Discharged Load (end of pipe)
Delivery Factor
Expected Load
Delivered WLA
Expected Credits (delivered)
Transfers In (Out) within Owner Bubble
Transfers In (Out) from Private Exchange
WQIF-Held Credits
Expected Net Credits
Class A Credit Sales (Purchases)
Expected Class B Credits

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23
0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
70	70	70	70	70	70	70	70
0.46	0.46	0.46	0.46	0.53	0.53	0.53	0.53
32	32	32	32	37	37	37	37
284	284	284	284	327	327	327	327
252	252	252	252	290	290	290	290
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
252	252	252	252	290	290	290	290
0	0	0	0	0	0	0	0

NITROGEN FACILITY SUMMARY

Dominion-Chesterfield

UPPER JAMES Trading Basin



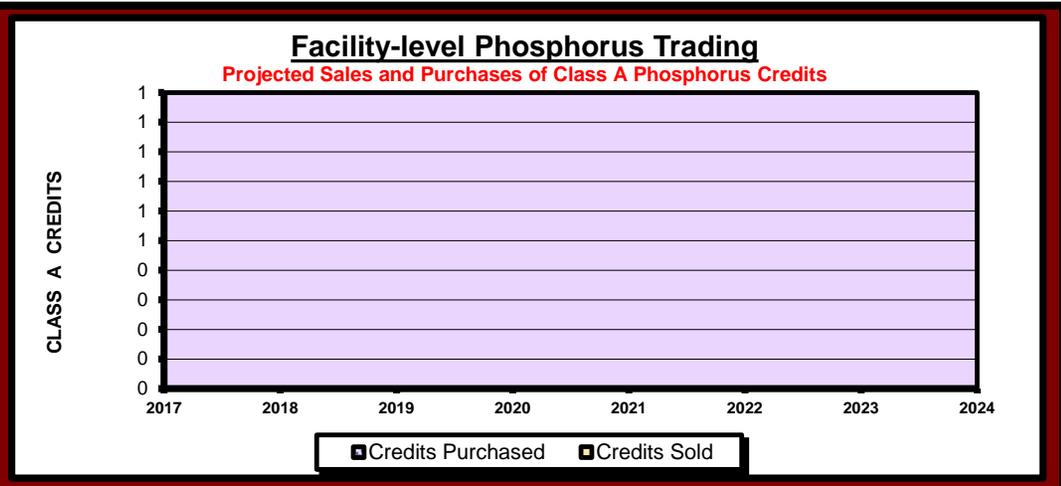
Loading & Credit Summary	
Design Flow (mgd)	13.50
Projected Flow (mgd)	13.50
Projected Avg. Annual Concentration (mg/L)	8.39
Discharged Load (end of pipe)	344,955
Delivery Factor	1.00
Expected Load	344,955
Delivered WLA	352,036
Expected Credits (delivered)	7,081
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	7,081
Class A Credit Sales (Purchases)	0
Expected Class B Credits	7,081

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50
13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50
8.39	8.39	8.39	8.39	8.39	8.39	8.39	8.39
344,955	344,955	344,955	344,955	344,955	344,955	344,955	344,955
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
344,955	344,955	344,955	344,955	344,955	344,955	344,955	344,955
352,036	352,036	352,036	352,036	352,036	352,036	352,036	352,036
7,081	7,081	7,081	7,081	7,081	7,081	7,081	7,081
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
7,081	7,081	7,081	7,081	7,081	7,081	7,081	7,081
0	0	0	0	0	0	0	0
7,081	7,081	7,081	7,081	7,081	7,081	7,081	7,081

PHOSPHORUS FACILITY SUMMARY

Dominion-Chesterfield

UPPER JAMES Trading Basin



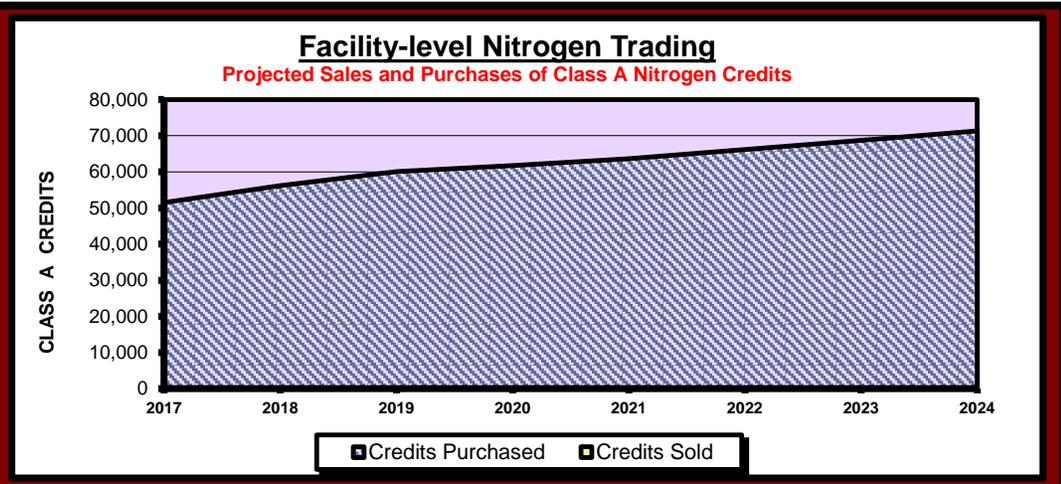
Loading & Credit Summary

Design Flow (mgd)	13.50
Projected Flow (mgd)	13.50
Projected Avg. Annual Concentration (mg/L)	0.01
Discharged Load (end of pipe)	210
Delivery Factor	1.00
Expected Load	210
Delivered WLA	170
Expected Credits (delivered)	(40)
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	40
WQIF-Held Credits	0
Expected Net Credits	0
Class A Credit Sales (Purchases)	0
Expected Class B Credits	0

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50
13.50	13.50	13.50	13.50	13.50	13.50	13.50	13.50
0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
210	210	210	210	210	210	210	210
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
210	210	210	210	210	210	210	210
170	170	170	170	170	170	170	170
(40)	(40)	(40)	(40)	(40)	(40)	(40)	(40)
0	0	0	0	0	0	0	0
40	40	40	40	40	40	40	40
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0

NITROGEN FACILITY SUMMARY

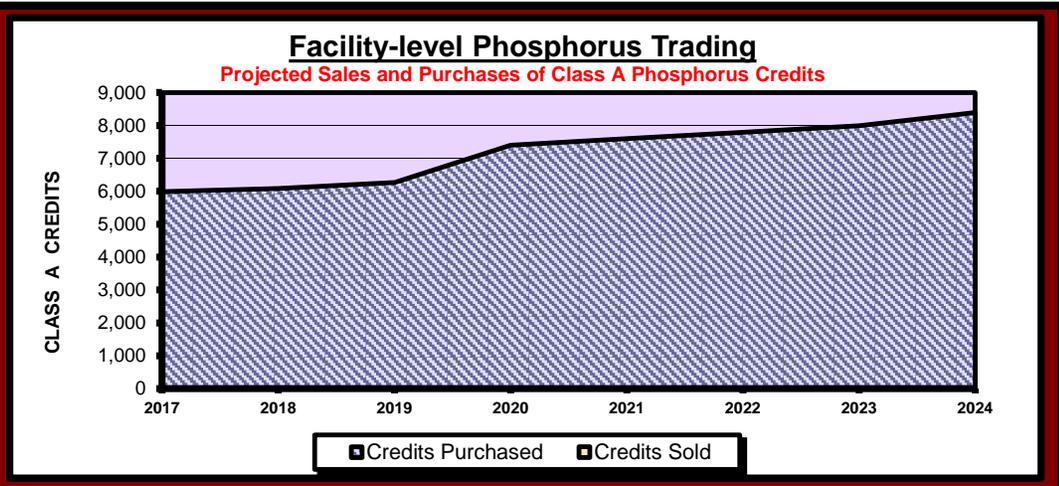
DuPont-Spruance
 UPPER JAMES Trading Basin



	2017	2018	2019	2020	2021	2022	2023	2024
	Planning Period					Future Estimates (non-binding)		
Design Flow (mgd)	23.33	23.33	23.33	23.33	23.33	23.33	23.33	23.33
Projected Flow (mgd)	31.15	31.62	32.10	32.58	33.07	33.56	34.01	34.47
Projected Avg. Annual Concentration (mg/L)	2.66	2.67	2.67	2.65	2.63	2.61	2.60	2.59
Discharged Load (end of pipe)	252,637	257,315	261,124	262,816	264,693	267,256	269,794	272,403
Delivery Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Expected Load	252,637	257,315	261,124	262,816	264,693	267,256	269,794	272,403
Delivered WLA	201,080	201,080	201,080	201,080	201,080	201,080	201,080	201,080
Expected Credits (delivered)	(51,557)	(56,235)	(60,044)	(61,736)	(63,613)	(66,176)	(68,714)	(71,323)
Transfers In (Out) within Owner Bubble	0	0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange	0	0	0	0	0	0	0	0
WQIF-Held Credits	0	0	0	0	0	0	0	0
Expected Net Credits	(51,557)	(56,235)	(60,044)	(61,736)	(63,613)	(66,176)	(68,714)	(71,323)
Class A Credit Sales (Purchases)	(51,557)	(56,235)	(60,044)	(61,736)	(63,613)	(66,176)	(68,714)	(71,323)
Expected Class B Credits	0	0	0	0	0	0	0	0

PHOSPHORUS FACILITY SUMMARY

DuPont-Spruance
 UPPER JAMES Trading Basin

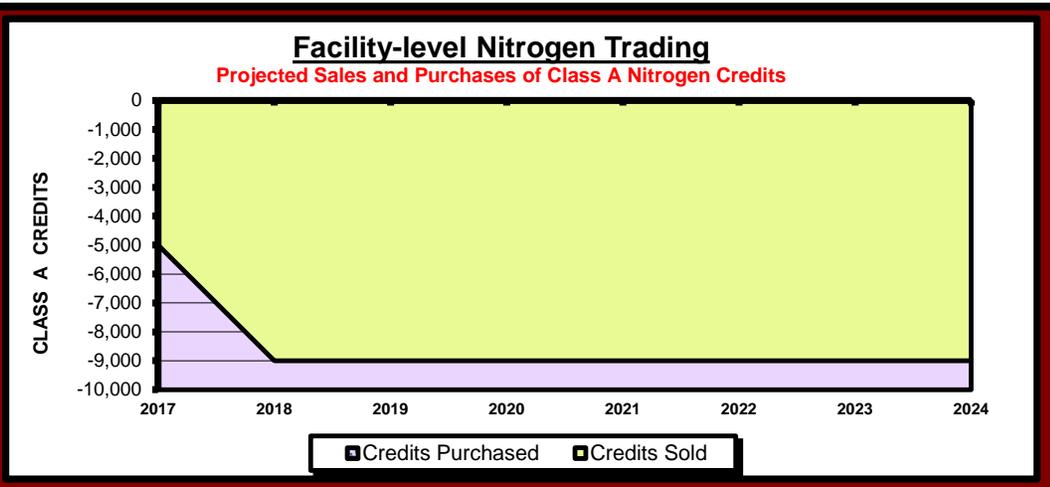


Loading & Credit Summary	
Design Flow (mgd)	23.33
Projected Flow (mgd)	31.15
Projected Avg. Annual Concentration (mg/L)	0.13
Discharged Load (end of pipe)	12,333
Delivery Factor	1.00
Expected Load	12,333
Delivered WLA	6,339
Expected Credits (delivered)	(5,994)
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	(5,994)
Class A Credit Sales (Purchases)	(5,994)
Expected Class B Credits	0

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
23.33	23.33	23.33	23.33	23.33	23.33	23.33	23.33
31.15	31.62	32.10	32.58	33.07	33.56	34.01	34.47
0.13	0.13	0.13	0.14	0.14	0.14	0.14	0.14
12,333	12,423	12,611	13,743	13,939	14,136	14,335	14,729
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
12,333	12,423	12,611	13,743	13,939	14,136	14,335	14,729
6,339	6,339	6,339	6,339	6,339	6,339	6,339	6,339
(5,994)	(6,084)	(6,272)	(7,404)	(7,600)	(7,797)	(7,996)	(8,390)
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
(5,994)	(6,084)	(6,272)	(7,404)	(7,600)	(7,797)	(7,996)	(8,390)
0	0	0	0	0	0	0	0

NITROGEN FACILITY SUMMARY

Georgia-Pacific
UPPER JAMES Trading Basin



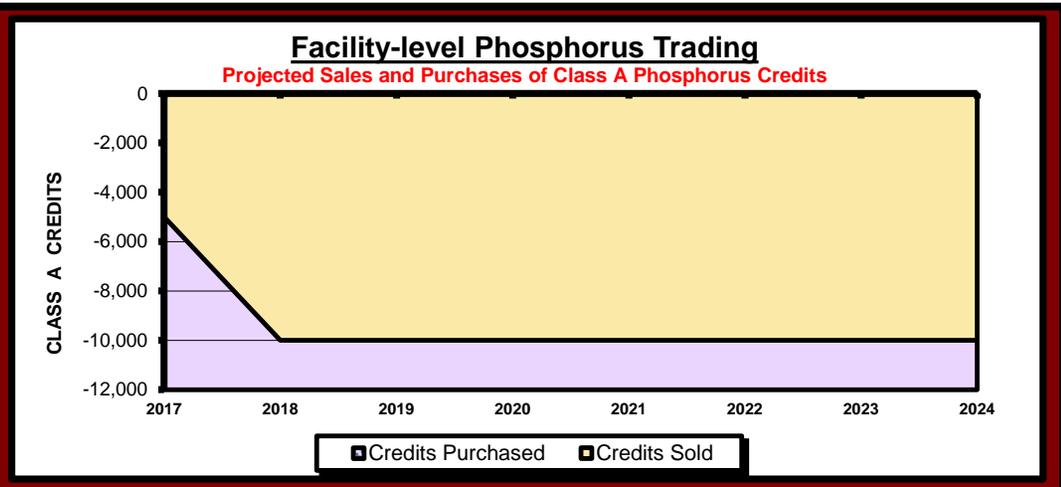
Loading & Credit Summary

Design Flow (mgd)	10.87
Projected Flow (mgd)	8.75
Projected Avg. Annual Concentration (mg/L)	4.00
Discharged Load (end of pipe)	106,595
Delivery Factor	0.60
Expected Load	63,957
Delivered WLA	73,493
Expected Credits (delivered)	9,536
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	9,536
Class A Credit Sales (Purchases)	5,000
Expected Class B Credits	4,536

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
10.87	10.87	10.87	10.87	10.87	10.87	10.87	10.87
8.75	8.75	8.75	8.75	8.75	8.75	8.75	8.75
4.00	3.50	3.50	3.50	3.50	3.50	3.50	3.50
106,595	93,270	93,270	93,270	93,270	93,270	93,270	93,270
0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
63,957	55,962	55,962	55,962	55,962	55,962	55,962	55,962
73,493	73,493	73,493	73,493	73,493	73,493	73,493	73,493
9,536	17,531	17,531	17,531	17,531	17,531	17,531	17,531
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
9,536	17,531	17,531	17,531	17,531	17,531	17,531	17,531
5,000	9,000	9,000	9,000	9,000	9,000	9,000	9,000
4,536	8,531	8,531	8,531	8,531	8,531	8,531	8,531

PHOSPHORUS FACILITY SUMMARY

Georgia-Pacific
 UPPER JAMES Trading Basin



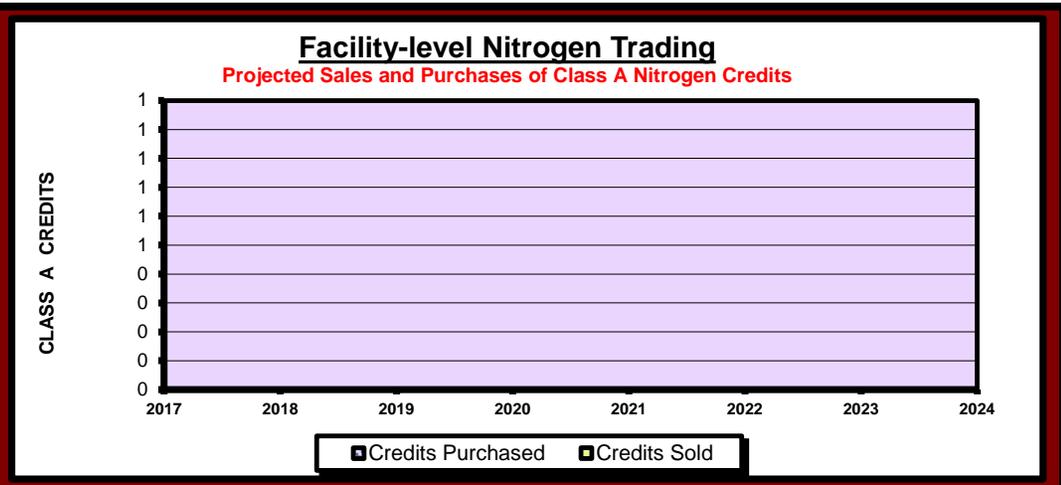
Loading & Credit Summary

Design Flow (mgd)	10.87
Projected Flow (mgd)	8.75
Projected Avg. Annual Concentration (mg/L)	0.80
Discharged Load (end of pipe)	21,319
Delivery Factor	0.66
Expected Load	14,070
Delivered WLA	26,580
Expected Credits (delivered)	12,510
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	12,510
Class A Credit Sales (Purchases)	5,000
Expected Class B Credits	7,510

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
10.87	10.87	10.87	10.87	10.87	10.87	10.87	10.87
8.75	8.75	8.75	8.75	8.75	8.75	8.75	8.75
0.80	0.70	0.70	0.70	0.70	0.70	0.70	0.70
21,319	18,654	18,654	18,654	18,654	18,654	18,654	18,654
0.66	0.66	0.66	0.66	0.71	0.71	0.71	0.71
14,070	12,312	12,312	12,312	13,244	13,244	13,244	13,244
26,580	26,580	26,580	26,580	28,594	28,594	28,594	28,594
12,510	14,268	14,268	14,268	15,350	15,350	15,350	15,350
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
12,510	14,268	14,268	14,268	15,350	15,350	15,350	15,350
5,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
7,510	4,268	4,268	4,268	5,350	5,350	5,350	5,350

NITROGEN FACILITY SUMMARY

Greif Packaging
 UPPER JAMES Trading Basin



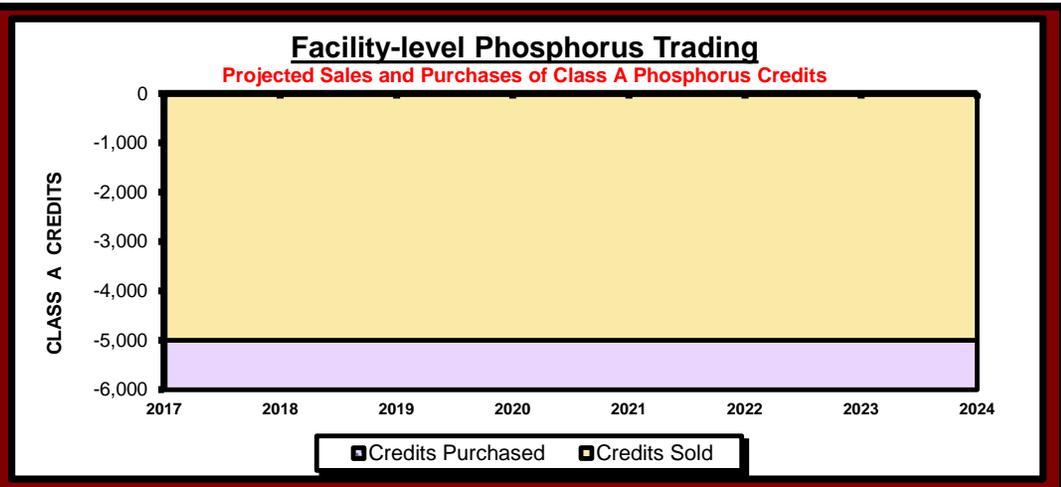
Loading & Credit Summary

Design Flow (mgd)	6.50
Projected Flow (mgd)	6.50
Projected Avg. Annual Concentration (mg/L)	3.70
Discharged Load (end of pipe)	73,246
Delivery Factor	0.65
Expected Load	47,610
Delivered WLA	47,610
Expected Credits (delivered)	0
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	0
Class A Credit Sales (Purchases)	0
Expected Class B Credits	0

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50
6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50
3.70	3.70	3.70	3.70	3.70	3.70	3.70	3.70
73,246	73,246	73,246	73,246	73,246	73,246	73,246	73,246
0.65	0.65	0.65	0.65	0.64	0.64	0.64	0.64
47,610	47,610	47,610	47,610	46,877	46,877	46,877	46,877
47,610	47,610	47,610	47,610	46,877	46,877	46,877	46,877
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0

PHOSPHORUS FACILITY SUMMARY

Greif Packaging
 UPPER JAMES Trading Basin



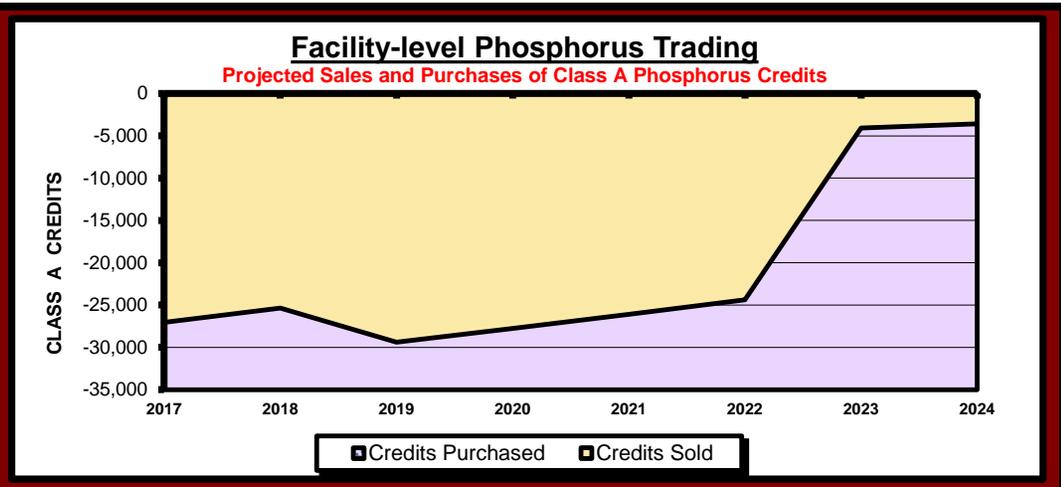
Loading & Credit Summary

Design Flow (mgd)	6.50
Projected Flow (mgd)	6.50
Projected Avg. Annual Concentration (mg/L)	0.80
Discharged Load (end of pipe)	15,837
Delivery Factor	0.66
Expected Load	10,452
Delivered WLA	15,894
Expected Credits (delivered)	5,442
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	5,442
Class A Credit Sales (Purchases)	5,000
Expected Class B Credits	442

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50
6.50	6.50	6.50	6.50	6.50	6.50	6.50	6.50
0.80	0.80	0.80	0.80	0.80	0.80	0.80	0.80
15,837	15,837	15,837	15,837	15,837	15,837	15,837	15,837
0.66	0.66	0.66	0.66	0.71	0.71	0.71	0.71
10,452	10,452	10,452	10,452	11,244	11,244	11,244	11,244
15,894	15,894	15,894	15,894	17,098	17,098	17,098	17,098
5,442	5,442	5,442	5,442	5,854	5,854	5,854	5,854
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
5,442	5,442	5,442	5,442	5,854	5,854	5,854	5,854
5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
442	442	442	442	854	854	854	854

PHOSPHORUS FACILITY SUMMARY

Henrico Co
<i>UPPER JAMES Trading Basin</i>

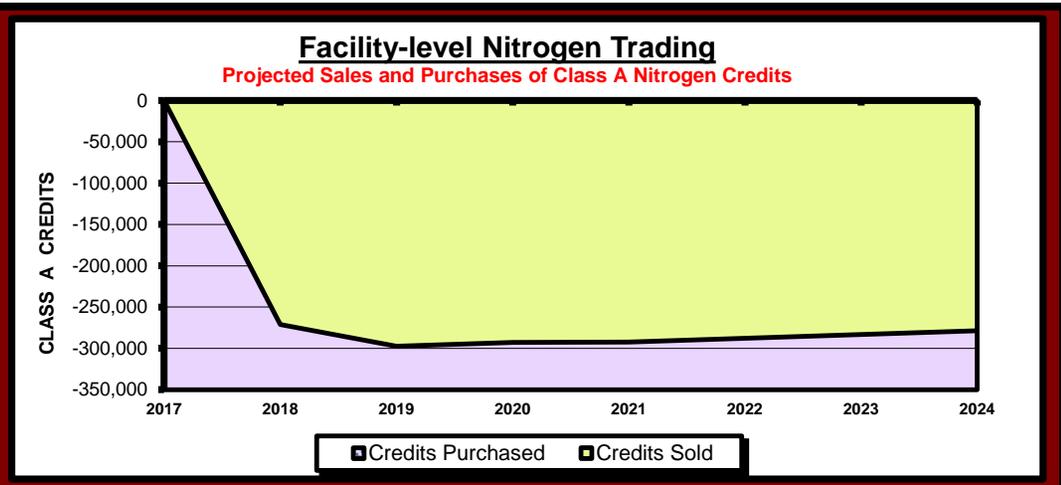


Loading & Credit Summary	
Design Flow (mgd)	75.00
Projected Flow (mgd)	58.70
Projected Avg. Annual Concentration (mg/L)	0.35
Discharged Load (end of pipe)	62,571
Delivery Factor	1.00
Expected Load	62,571
Delivered WLA	92,623
Expected Credits (delivered)	30,052
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	30,052
Class A Credit Sales (Purchases)	27,047
Expected Class B Credits	3,005

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
75.00	75.00	75.00	75.00	75.00	75.00	75.00	75.00
58.70	60.46	56.26	57.95	59.69	61.48	63.32	65.22
0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35
62,571	64,447	59,970	61,772	63,626	65,534	67,496	69,521
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
62,571	64,447	59,970	61,772	63,626	65,534	67,496	69,521
92,623	92,623	92,623	92,623	92,623	92,623	92,623	92,623
30,052	28,176	32,653	30,851	28,997	27,089	25,127	23,102
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
30,052	28,176	32,653	30,851	28,997	27,089	25,127	23,102
27,047	25,358	29,388	27,766	26,097	24,380	4,073	3,578
3,005	2,818	3,265	3,085	2,900	2,709	21,054	19,524

NITROGEN FACILITY SUMMARY

Hopewell RWTF
 UPPER JAMES Trading Basin



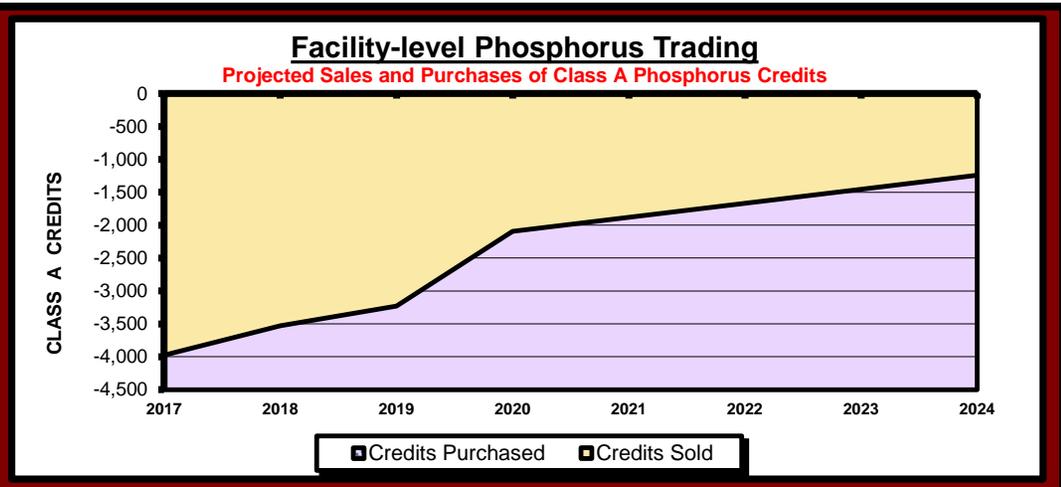
Loading & Credit Summary

Design Flow (mgd)	50.00
Projected Flow (mgd)	26.30
Projected Avg. Annual Concentration (mg/L)	25.30
Discharged Load (end of pipe)	2,026,485
Delivery Factor	1.00
Expected Load	2,026,485
Delivered WLA	1,827,336
Expected Credits (delivered)	(199,149)
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	205,154
WQIF-Held Credits	0
Expected Net Credits	6,005
Class A Credit Sales (Purchases)	0
Expected Class B Credits	6,005

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00
26.30	26.60	26.80	27.00	27.20	27.40	27.60	27.80
25.30	15.80	15.10	15.10	15.00	15.00	15.00	15.00
2,026,485	1,279,988	1,232,477	1,241,675	1,242,588	1,251,725	1,260,862	1,269,999
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
2,026,485	1,279,988	1,232,477	1,241,675	1,242,588	1,251,725	1,260,862	1,269,999
1,827,336	1,827,336	1,827,336	1,827,336	1,827,336	1,827,336	1,827,336	1,827,336
(199,149)	547,348	594,859	585,661	584,748	575,611	566,474	557,337
0	0	0	0	0	0	0	0
205,154	2,522	0	0	0	0	0	0
0	0	0	0	0	0	0	0
6,005	549,870	594,859	585,661	584,748	575,611	566,474	557,337
0	271,152	297,430	292,831	292,374	287,806	283,237	278,669
6,005	278,718	297,429	292,830	292,374	287,805	283,237	278,668

PHOSPHORUS FACILITY SUMMARY

Hopewell RWTF
 UPPER JAMES Trading Basin



Loading & Credit Summary

Design Flow (mgd)	50.00
Projected Flow (mgd)	26.30
Projected Avg. Annual Concentration (mg/L)	0.70
Discharged Load (end of pipe)	56,069
Delivery Factor	1.00
Expected Load	56,069
Delivered WLA	61,749
Expected Credits (delivered)	5,680
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	5,680
Class A Credit Sales (Purchases)	3,976
Expected Class B Credits	1,704

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00
26.30	26.60	26.80	27.00	27.20	27.40	27.60	27.80
0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
56,069	56,708	57,135	57,561	57,987	58,414	58,840	59,267
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
56,069	56,708	57,135	57,561	57,987	58,414	58,840	59,267
61,749	61,749	61,749	61,749	61,749	61,749	61,749	61,749
5,680	5,041	4,614	4,188	3,762	3,335	2,909	2,482
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
5,680	5,041	4,614	4,188	3,762	3,335	2,909	2,482
3,976	3,529	3,230	2,094	1,881	1,668	1,455	1,241
1,704	1,512	1,384	2,094	1,881	1,667	1,454	1,241

Hampton Roads Sanitation District: James River Aggregate

The HRSD James River Aggregate is an aggregate regional water quality-based allocation that is neither derived from nor limiting upon individual facilities on a facility-specific basis (or their associated design flows and specific removal efficiencies) for the regional system. The HRSD James River Aggregate TN WLA of 4,553,500 lbs/yr and TP WLA of 318,436 lbs/yr are binding upon HRSD's regional system as a whole. (Note: The aggregate WLAs reflect: (1) the original aggregate allocations established by DEQ in 2005; (2) the EPA Chesapeake Bay TMDL Appendix X Stage 1 reductions (including Phases 1 and 2 as defined in the WGP Fact Sheet); (3) the subsequent allocation transfer to G. Robert House, Jr. WTP (9,011 lbs/yr TP); and (4) acquisition of allocation by consolidation of the J.H. Miles facility (153,500 lbs/yr TN and 17,437 lbs/yr TP).

Expected Net Credits for an owner bubble may be either positive or negative. If Expected Net Credits is positive, the owner may pledge a percentage of such Credits to the Exchange. If Expected Net Credits is negative, Net Expected Credits identifies the number of Credits that must be purchased to comply with the aggregate Delivered WLA of the bubble.

NITROGEN Credits	Exchange 5-year Planning Period				
	2017	2018	2019	2020	2021
Aggregate WLA					
Delivered WLA (Bubble)	4,553,500	4,553,500	4,553,500	4,553,500	4,553,500
Projected Delivered Loads	2017	2018	2019	2020	2021
ArmyBase	142,378	142,515	142,652	142,789	142,927
Boat Harbor	1,166,860	1,166,998	1,167,137	1,167,275	1,167,414
Ches/Eliz	1,434,558	1,441,632	1,448,740	1,455,884	1,463,063
James River	358,493	359,014	359,535	360,057	360,580
Lawnes Point	-	-	-	-	-
Nansemond	389,764	397,486	405,362	413,393	421,584
VIP	607,602	421,533	422,420	423,308	424,199
Williamsburg	269,462	272,765	276,109	279,494	282,921
TOTAL Delivered Loads	4,369,117	4,201,943	4,221,955	4,242,200	4,262,688
Net Credits Available	2017	2018	2019	2020	2021
Expected Net Credits	184,383	351,557	331,545	311,300	290,812
Class A Sales (Purchases)	0	0	0	0	0
<i>Expected Class B Credits</i>	<i>184,383</i>	<i>351,557</i>	<i>331,545</i>	<i>311,300</i>	<i>290,812</i>
<i>WQIF-Held Credits</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>

PHOSPHORUS Credits	Exchange 5-year Planning Period				
	2017	2018	2019	2020	2021
Aggregate WLA					
Delivered WLA (Bubble)	318,436	318,436	318,436	318,436	318,436
Projected Delivered Loads	2017	2018	2019	2020	2021
ArmyBase	25,312	25,336	25,360	25,385	25,409
Boat Harbor	35,903	35,908	35,912	35,916	35,920
Ches/Eliz	48,721	48,961	49,202	49,445	49,689
James River	31,866	31,912	31,959	32,005	32,052
Lawnes Point	-	-	-	-	-
Nansemond	62,362	63,598	64,858	66,143	67,453
VIP	74,782	74,939	75,097	75,255	75,413
Williamsburg	21,557	21,821	22,089	22,360	22,634
TOTAL Delivered Loads	300,503	302,475	304,477	306,509	308,570
Net Credits Available	2017	2018	2019	2020	2021
Expected Net Credits	17,933	15,961	13,959	11,927	9,866
Class A Sales (Purchases)	0	0	0	0	0
<i>Expected Class B Credits</i>	<i>17,933</i>	<i>15,961</i>	<i>13,959</i>	<i>11,927</i>	<i>9,866</i>
<i>WQIF-Held Credits</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>0</i>

FACILITY (OR OWNER BUBBLE) NAME: VAN040090 HRSD James River Aggregate

COMPLIANCE STATEMENT FOR FACILITIES SUBJECT TO REDUCED WASTELOAD ALLOCATIONS IN CHESAPEAKE BAY TMDL

Basin/Nutrient(s): James / Nitrogen

Compliance Information Required by 9 VAC 25-820-40 A 2 (Check Option 1 or Option 2)

 Option 1 (9 VAC 25-820-40 A 2 b): Permittee hereby requests WLA to be effective as of January 1, 2012.

 X Option 2 (9 VAC 25-820-40 A 2 a): Additional capital project(s) is needed to ensure continued compliance with the WLA through the applicable compliance schedule deadline for the tributary. (Note: Checking Option 2 does not preclude use of credit purchase as means of compliance below.)

If Option 2 is checked, briefly describe need for additional projects:

The HRSD James River Aggregate has been subject to staged reductions established in the EPA Chesapeake Bay TMDL and Virginia Phase I Watershed Implementation Plan Stage 1. Completion of the Army Base STP and Virginia Initiative STP projects are needed to reliably meet the 2017 aggregate wasteload allocation (with which HRSD must comply during Compliance Year 2017) and further actions will be needed to meet the 2022 aggregate wasteload load allocation.

Implementation Schedule

1. Does permittee anticipate using credit purchase to comply?

 X NO YES

2. Is permittee implementing a capital project to comply?

 NO X YES

(If YES, compliance is required as soon as possible but no later than the applicable tributary compliance schedule deadline.)

3. Capital Project Milestone Schedule (Specify estimated date for each milestone. For bubbles, specify facility name(s) and list multiple facility schedules if applicable.)

Virginia Initiative STP

Engineer selection	<u>7/1/2011</u>
PER/CER to DEQ	<u>6/1/2012</u>
Plans & Specifications to DEQ	<u>10/1/2013</u>
Commence construction	<u>5/1/2014</u>
Complete construction	<u>7/1/2018</u>
CTO Request to DEQ (POTWs only)	<u>8/1/2018</u>

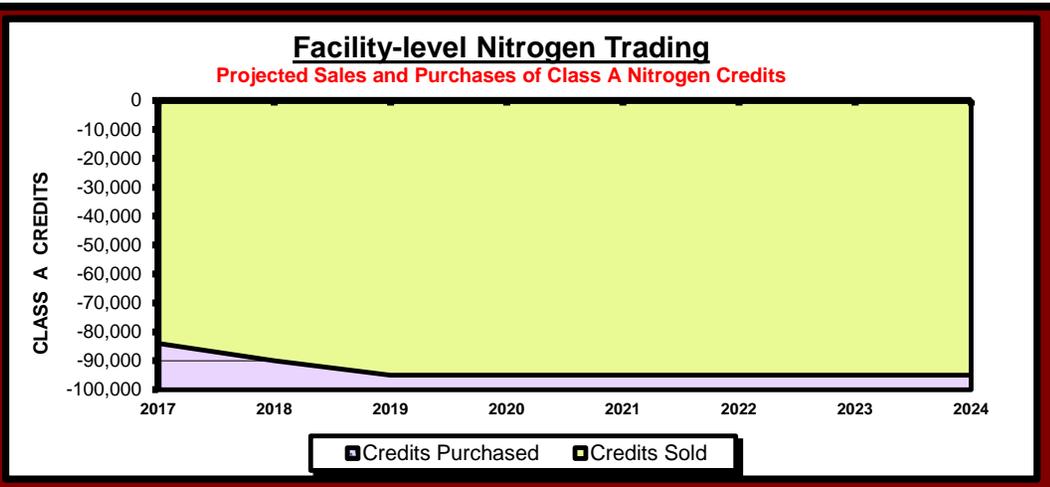
Although the VIP construction extends past 2017, HRSD anticipates compliance with the 2017 allocation without having to purchase credits. As with all upgrade projects, treatment facilities will be placed in service as they become available in order to test their construction and compatibility with current facilities. The partial implementation of the VIP upgrade coupled with the full optimization of the Army Base STP upgrade should result in compliance with the nutrient allocation for 2017.

Completion of the above plan is designed to meet HRSD's James River TN Aggregate WLA through and including the January 1, 2017 (effective date) reduction of 1,600,000 lbs/yr from the original TN Aggregate WLA of 6,000,000 lbs/yr to 4,400,000 lbs/yr established by the Watershed General Permit and related James River Registration List (1/8/2013) in compliance with applicable water quality standards and consistent with Chesapeake Bay TMDL Appendix X (Staged Implementation Approach for Wastewater Treatment Facilities in the Virginia James River Basin) (December 2010). The foregoing figures are exclusive of the consolidation of J.H. Miles facility allocation into HRSD approved in 2016. Factoring in the allocation from the J.H. Miles consolidation, the HRSD James River TN Aggregate is 4,553,500 lbs/yr.

By 2022 a further reduction is contemplated under the staged implementation approach. Due to lead times associated with completing large complex projects within the HRSD system in order to meet the anticipated 2022 TN Aggregate WLA (representing a reduction of an additional 1,000,000 lbs/yr TN to 3,553,500 lbs/yr TN inclusive of the J.H. Miles consolidation). HRSD currently intends to leverage the planned consolidation of the Chesapeake-Elizabeth STP within the regional system to support compliance with the 2022 TN Aggregate WLA. This consolidation is expected to require fewer WQIF funds than a facility upgrade alternative. This plan is preliminary and subject to future revision by HRSD.

NITROGEN FACILITY SUMMARY

Lynchburg
UPPER JAMES Trading Basin

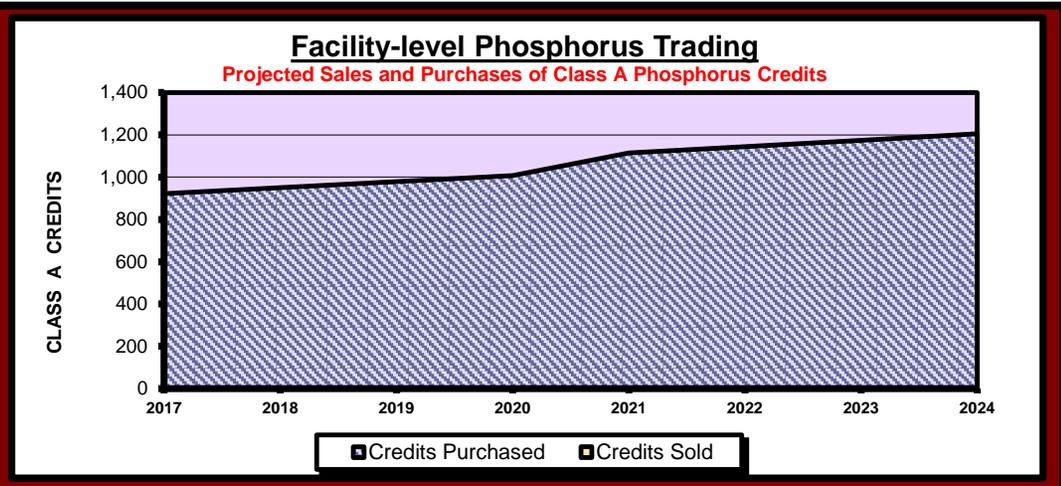


Loading & Credit Summary	
Discharged Load (end of pipe)	
Design Flow (mgd)	22.00
Projected Flow (mgd)	13.40
Projected Avg. Annual Concentration (mg/L)	8.20
Delivery Factor	0.65
Expected Load	217,520
Delivered WLA	348,412
Expected Credits (delivered)	
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	130,892
Class A Credit Sales (Purchases)	84,000
Expected Class B Credits	46,892

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
22.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00
13.40	13.42	13.44	13.46	13.48	13.50	13.52	13.54
8.20	8.20	8.20	8.20	8.20	8.20	8.20	8.20
334,646	335,146	335,645	336,145	336,644	337,143	337,643	338,142
0.65	0.65	0.65	0.65	0.64	0.64	0.64	0.64
217,520	217,845	218,169	218,494	215,452	215,772	216,091	216,411
348,412	348,412	348,412	348,412	343,052	343,052	343,052	343,052
130,892	130,567	130,243	129,918	127,600	127,280	126,961	126,641
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
130,892	130,567	130,243	129,918	127,600	127,280	126,961	126,641
84,000	90,000	95,000	95,000	95,000	95,000	95,000	95,000
46,892	40,567	35,243	34,918	32,600	32,280	31,961	31,641

PHOSPHORUS FACILITY SUMMARY

Lynchburg
 UPPER JAMES Trading Basin



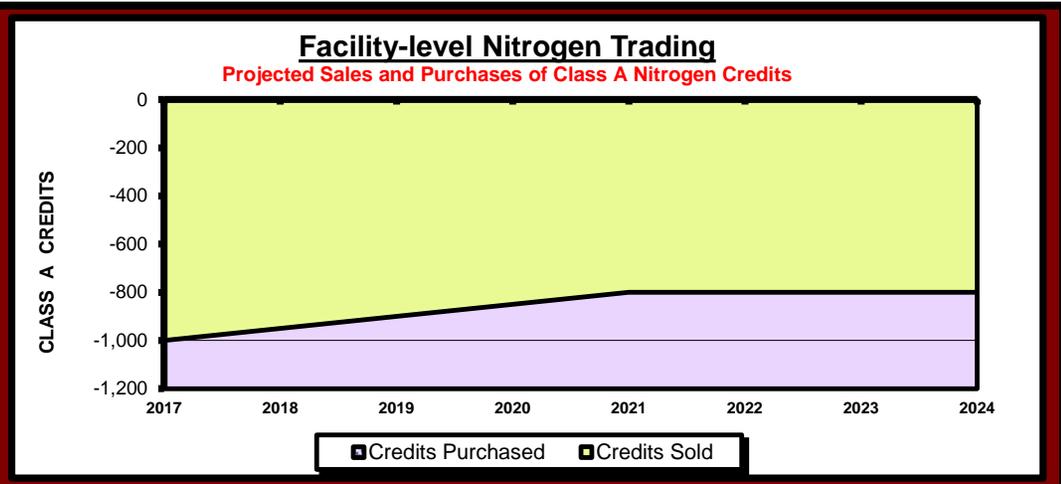
Loading & Credit Summary

Design Flow (mgd)	22.00
Projected Flow (mgd)	13.40
Projected Avg. Annual Concentration (mg/L)	0.70
Discharged Load (end of pipe)	28,567
Delivery Factor	0.66
Expected Load	18,854
Delivered WLA	17,932
Expected Credits (delivered)	(922)
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	(922)
Class A Credit Sales (Purchases)	(922)
Expected Class B Credits	0

	2017	2018	2019	2020	2021	2022	2023	2024
	Planning Period					Future Estimates (non-binding)		
Design Flow (mgd)	22.00	22.00	22.00	22.00	22.00	22.00	22.00	22.00
Projected Flow (mgd)	13.40	13.42	13.44	13.46	13.48	13.50	13.52	13.54
Projected Avg. Annual Concentration (mg/L)	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Discharged Load (end of pipe)	28,567	28,610	28,653	28,695	28,738	28,781	28,823	28,866
Delivery Factor	0.66	0.66	0.66	0.66	0.71	0.71	0.71	0.71
Expected Load	18,854	18,883	18,911	18,939	20,404	20,434	20,464	20,495
Delivered WLA	17,932	17,932	17,932	17,932	19,290	19,290	19,290	19,290
Expected Credits (delivered)	(922)	(951)	(979)	(1,007)	(1,114)	(1,144)	(1,174)	(1,205)
Transfers In (Out) within Owner Bubble	0	0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange	0	0	0	0	0	0	0	0
WQIF-Held Credits	0	0	0	0	0	0	0	0
Expected Net Credits	(922)	(951)	(979)	(1,007)	(1,114)	(1,144)	(1,174)	(1,205)
Class A Credit Sales (Purchases)	(922)	(951)	(979)	(1,007)	(1,114)	(1,144)	(1,174)	(1,205)
Expected Class B Credits	0	0	0	0	0	0	0	0

NITROGEN FACILITY SUMMARY

MSA-Lexington
 UPPER JAMES Trading Basin



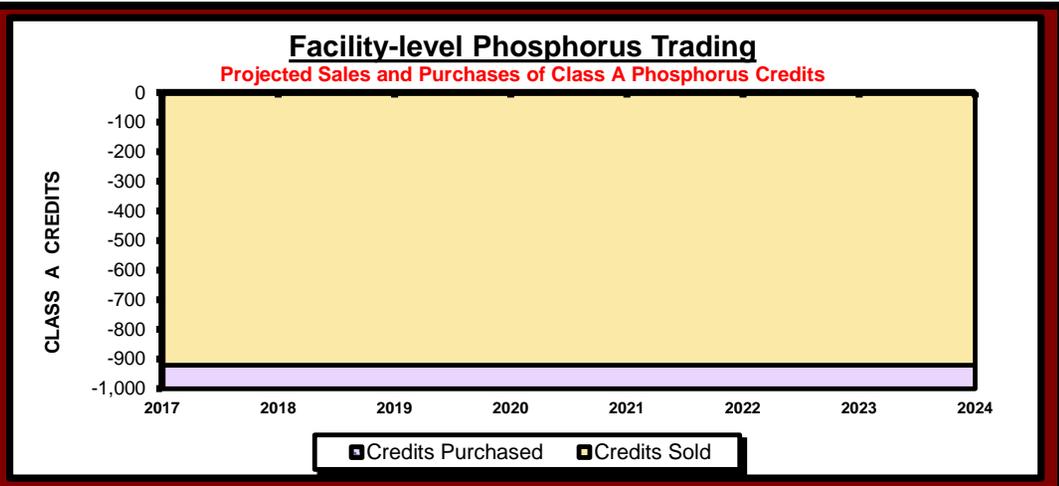
Loading & Credit Summary

Design Flow (mgd)	3.00
Projected Flow (mgd)	1.00
Projected Avg. Annual Concentration (mg/L)	5.00
Discharged Load (end of pipe)	15,228
Delivery Factor	0.32
Expected Load	4,873
Delivered WLA	17,542
Expected Credits (delivered)	12,669
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	12,669
Class A Credit Sales (Purchases)	1,000
Expected Class B Credits	11,669

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
15,228	15,228	15,228	15,228	15,228	15,228	15,228	15,228
0.32	0.32	0.32	0.32	0.31	0.31	0.31	0.31
4,873	4,873	4,873	4,873	4,721	4,721	4,721	4,721
17,542	17,542	17,542	17,542	16,994	16,994	16,994	16,994
12,669	12,669	12,669	12,669	12,273	12,273	12,273	12,273
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
12,669	12,669	12,669	12,669	12,273	12,273	12,273	12,273
1,000	950	900	850	800	800	800	800
11,669	11,719	11,769	11,819	11,473	11,473	11,473	11,473

PHOSPHORUS FACILITY SUMMARY

MSA-Lexington
 UPPER JAMES Trading Basin

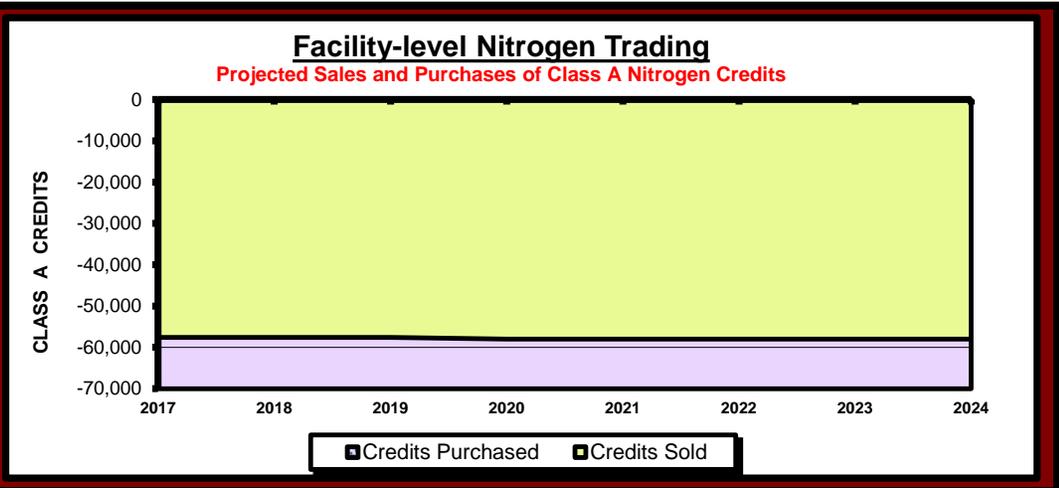


Loading & Credit Summary	
Design Flow (mgd)	3.00
Projected Flow (mgd)	1.00
Projected Avg. Annual Concentration (mg/L)	0.30
Discharged Load (end of pipe)	914
Delivery Factor	0.66
Expected Load	603
Delivered WLA	2,445
Expected Credits (delivered)	1,842
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	1,842
Class A Credit Sales (Purchases)	921
Expected Class B Credits	921

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
914	914	914	914	914	914	914	914
0.66	0.66	0.66	0.66	0.71	0.71	0.71	0.71
603	603	603	603	649	649	649	649
2,445	2,445	2,445	2,445	2,631	2,631	2,631	2,631
1,842	1,842	1,842	1,842	1,982	1,982	1,982	1,982
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
1,842	1,842	1,842	1,842	1,982	1,982	1,982	1,982
921	921	921	921	921	921	921	921
921	921	921	921	1,061	1,061	1,061	1,061

NITROGEN FACILITY SUMMARY

Philip Morris
 UPPER JAMES Trading Basin



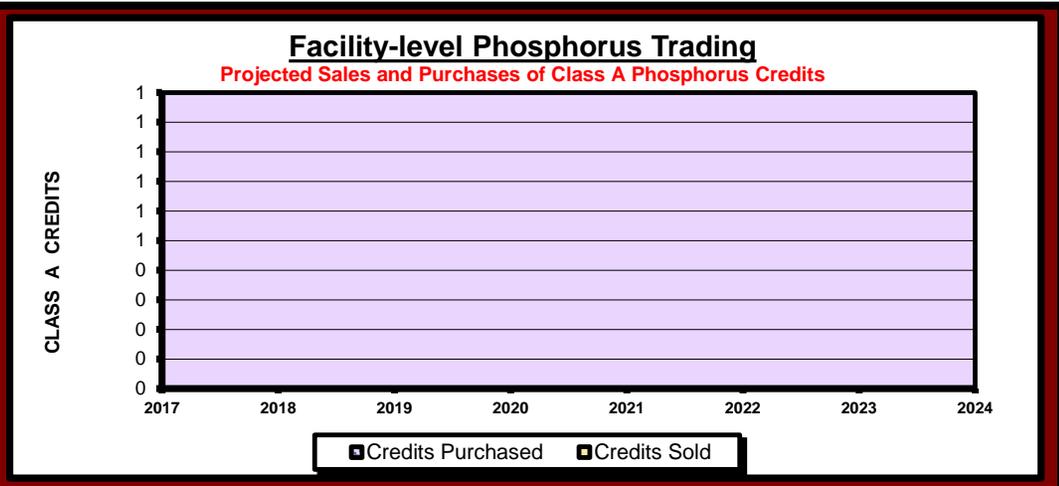
Loading & Credit Summary

Design Flow (mgd)	2.90
Projected Flow (mgd)	1.20
Projected Avg. Annual Concentration (mg/L)	15.00
Discharged Load (end of pipe)	54,820
Delivery Factor	1.00
Expected Load	54,820
Delivered WLA	139,724
Expected Credits (delivered)	84,904
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	84,904
Class A Credit Sales (Purchases)	57,592
Expected Class B Credits	27,312

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
2.90	2.90	2.90	2.90	2.90	2.90	2.90	2.90
1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20
15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00
54,820	54,820	54,820	54,820	54,820	54,820	54,820	54,820
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
54,820	54,820	54,820	54,820	54,820	54,820	54,820	54,820
139,724	139,724	139,724	139,724	139,724	139,724	139,724	139,724
84,904	84,904	84,904	84,904	84,904	84,904	84,904	84,904
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
84,904	84,904	84,904	84,904	84,904	84,904	84,904	84,904
57,592	57,592	57,592	58,000	58,000	58,000	58,000	58,000
27,312	27,312	27,312	26,904	26,904	26,904	26,904	26,904

PHOSPHORUS FACILITY SUMMARY

Philip Morris
 UPPER JAMES Trading Basin



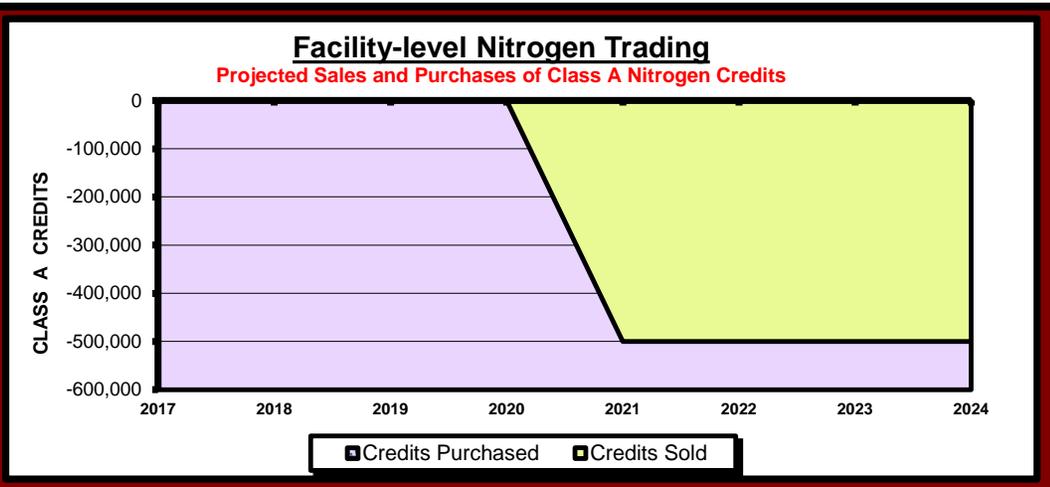
Loading & Credit Summary	
Design Flow (mgd)	
Projected Flow (mgd)	
Projected Avg. Annual Concentration (mg/L)	
Discharged Load (end of pipe)	
Delivery Factor	
Expected Load	
Delivered WLA	
Expected Credits (delivered)	
Transfers In (Out) within Owner Bubble	
Transfers In (Out) from Private Exchange	
WQIF-Held Credits	
Expected Net Credits	
Class A Credit Sales (Purchases)	
Expected Class B Credits	

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
2.90	2.90	2.90	2.90	2.90	2.90	2.90	2.90
1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20
0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
1,827	1,827	1,827	1,827	1,827	1,827	1,827	1,827
2,149	2,149	2,149	2,149	2,149	2,149	2,149	2,149
322	322	322	322	322	322	322	322
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
322	322	322	322	322	322	322	322
0	0	0	0	0	0	0	0
322	322	322	322	322	322	322	322

NITROGEN FACILITY SUMMARY

Richmond

UPPER JAMES Trading Basin



Loading & Credit Summary	
Design Flow (mgd)	45.00
Projected Flow (mgd)	45.00
Projected Avg. Annual Concentration (mg/L)	4.50
Discharged Load (end of pipe)	616,726
Delivery Factor	1.00
Expected Load	616,726
Delivered WLA*	1,093,652
Expected Credits (delivered)	476,926
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	476,926
Class A Credit Sales (Purchases)	0
Expected Class B Credits	476,926

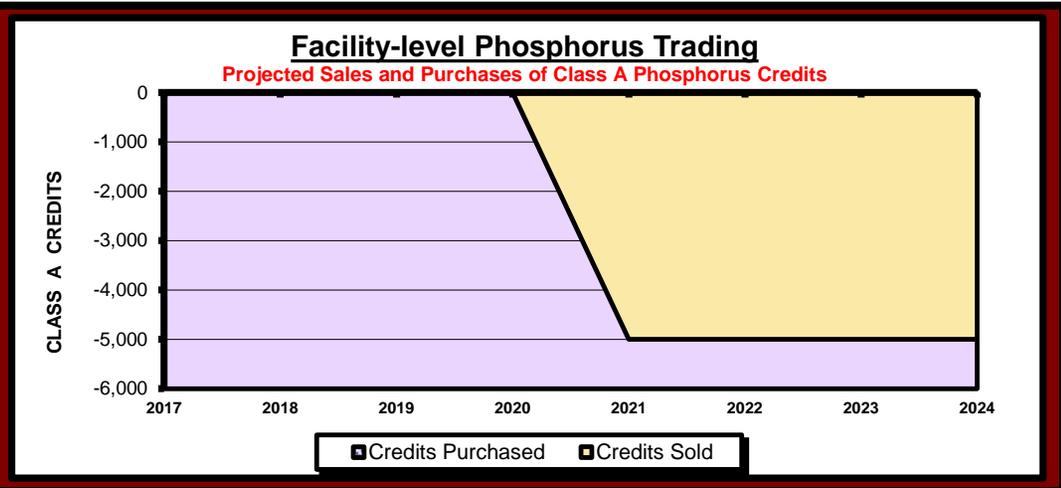
2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
4.50	4.50	4.00	4.00	4.00	4.00	4.00	4.00
616,726	616,726	548,201	548,201	548,201	548,201	548,201	548,201
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
616,726	616,726	548,201	548,201	548,201	548,201	548,201	548,201
1,093,652	1,093,652	1,093,652	1,093,652	1,093,652	1,093,652	1,093,652	1,093,652
476,926	476,926	545,451	545,451	545,451	545,451	545,451	545,451
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
476,926	476,926	545,451	545,451	545,451	545,451	545,451	545,451
0	0	0	0	500,000	500,000	500,000	500,000
476,926	476,926	545,451	545,451	45,451	45,451	45,451	45,451

* Reflects allocation transfer to the Oilville WWTP of 2,750 delivered pounds of TN based on agreement with Goochland County

PHOSPHORUS FACILITY SUMMARY

Richmond

UPPER JAMES Trading Basin



Loading & Credit Summary

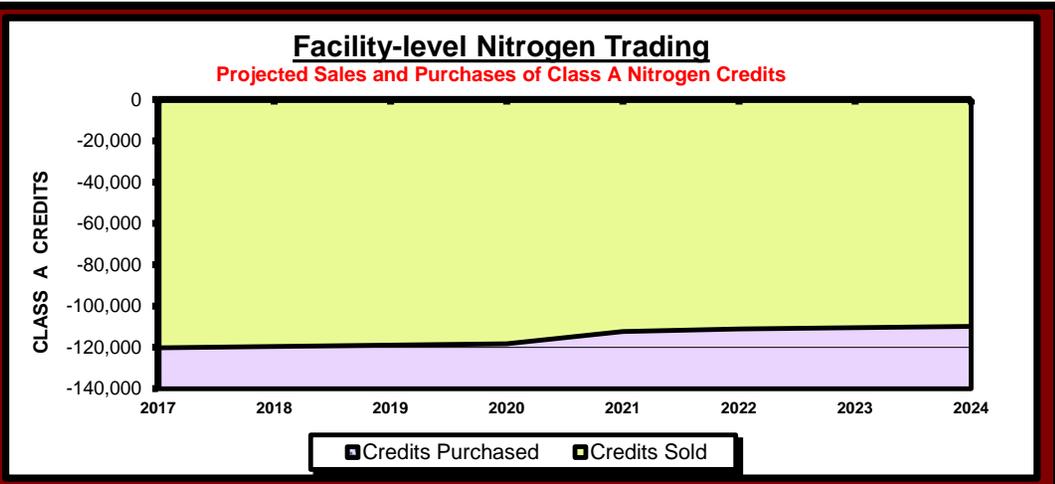
Design Flow (mgd)	45.00
Projected Flow (mgd)	45.00
Projected Avg. Annual Concentration (mg/L)	0.35
Discharged Load (end of pipe)	47,968
Delivery Factor	1.00
Expected Load	47,968
Delivered WLA*	55,574
Expected Credits (delivered)	7,606
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	7,606
Class A Credit Sales (Purchases)	0
Expected Class B Credits	7,606

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
45.00	45.00	45.00	45.00	45.00	45.00	45.00	45.00
0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35
47,968	47,968	47,968	47,968	47,968	47,968	47,968	47,968
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
47,968	47,968	47,968	47,968	47,968	47,968	47,968	47,968
55,574	55,574	55,574	55,574	55,574	55,574	55,574	55,574
7,606	7,606	7,606	7,606	7,606	7,606	7,606	7,606
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
7,606	7,606	7,606	7,606	7,606	7,606	7,606	7,606
0	0	0	0	5,000	5,000	5,000	5,000
7,606	7,606	7,606	7,606	2,606	2,606	2,606	2,606

* Reflects allocation transfer to the Oilville WWTP of 275 delivered pounds of TP based on agreement with Goochland County

NITROGEN FACILITY SUMMARY

RWSA-Moores Creek
 UPPER JAMES Trading Basin



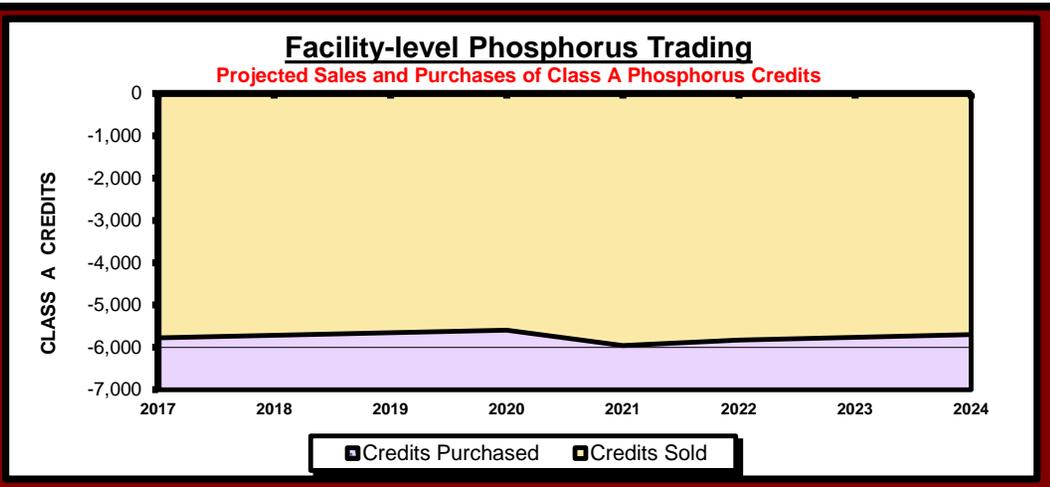
Loading & Credit Summary	
Design Flow (mgd)	15.00
Projected Flow (mgd)	10.60
Projected Avg. Annual Concentration (mg/L)	3.20
Discharged Load (end of pipe)	103,305
Delivery Factor	0.67
Expected Load	69,215
Delivered WLA*	189,443
Expected Credits (delivered)	120,228
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	120,228
Class A Credit Sales (Purchases)	120,227
Expected Class B Credits	1

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00
10.60	10.70	10.80	10.90	11.00	11.20	11.30	11.40
3.20	3.20	3.20	3.20	3.20	3.20	3.20	3.20
103,305	104,280	105,255	106,229	107,204	109,153	110,127	111,102
0.67	0.67	0.67	0.67	0.64	0.64	0.64	0.64
69,215	69,868	70,521	71,174	68,610	69,858	70,482	71,105
189,443	189,443	189,443	189,443	180,953	180,953	180,953	180,953
120,228	119,575	118,922	118,269	112,343	111,095	110,471	109,848
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
120,228	119,575	118,922	118,269	112,343	111,095	110,471	109,848
120,227	119,574	118,921	118,268	112,342	111,094	110,470	109,847
1	1	1	1	1	1	1	1

* Reflects allocation transfer to Ryder Enterprises of 163 delivered pounds of TN beginning in Compliance Year 2015

PHOSPHORUS FACILITY SUMMARY

RWSA-Moores Creek
 UPPER JAMES Trading Basin



Loading & Credit Summary	
Design Flow (mgd)	15.00
Projected Flow (mgd)	10.60
Projected Avg. Annual Concentration (mg/L)	0.30
Discharged Load (end of pipe)	9,685
Delivery Factor	0.66
Expected Load	6,392
Delivered WLA*	12,168
Expected Credits (delivered)	5,776
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	5,776
Class A Credit Sales (Purchases)	5,775
Expected Class B Credits	1

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00
10.60	10.70	10.80	10.90	11.00	11.20	11.30	11.40
0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
9,685	9,776	9,868	9,959	10,050	10,233	10,324	10,416
0.66	0.66	0.66	0.66	0.71	0.71	0.71	0.71
6,392	6,452	6,513	6,573	7,136	7,265	7,330	7,395
12,168	12,168	12,168	12,168	13,094	13,094	13,094	13,094
5,776	5,716	5,655	5,595	5,958	5,829	5,764	5,699
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
5,776	5,716	5,655	5,595	5,958	5,829	5,764	5,699
5,775	5,715	5,654	5,594	5,957	5,828	5,763	5,698
1	1	1	1	1	1	1	1

* Reflects allocation transfer to Ryder Enterprises of 59 delivered pounds of TP beginning in Compliance Year 2015

NITROGEN FACILITY SUMMARY

South Central WWA
 UPPER JAMES Trading Basin



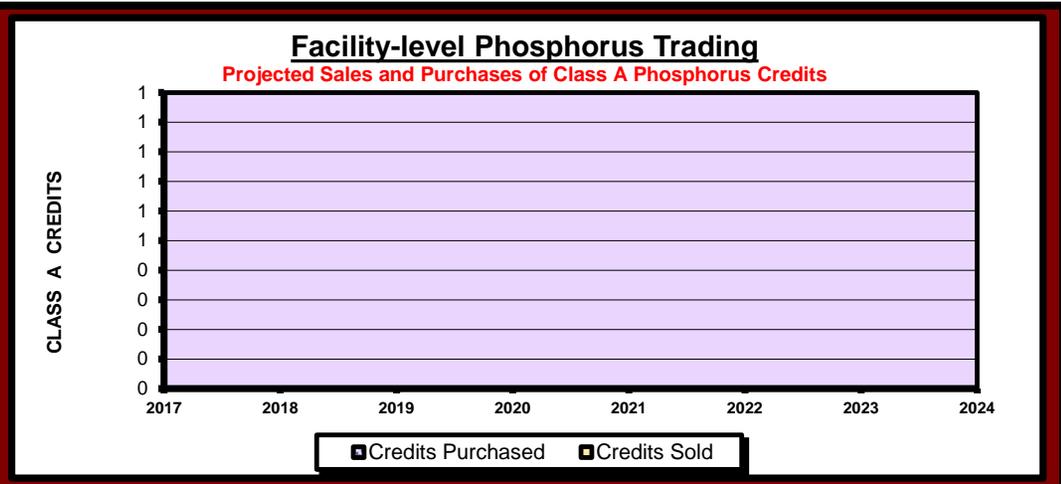
Loading & Credit Summary	
Design Flow (mgd)	23.00
Projected Flow (mgd)	12.35
Projected Avg. Annual Concentration (mg/L)	13.71
Discharged Load (end of pipe)	515,670
Delivery Factor	1.00
Expected Load	515,670
Delivered WLA	350,239
Expected Credits (delivered)	(165,431)
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange*	165,451
WQIF-Held Credits	0
Expected Net Credits	20
Class A Credit Sales (Purchases)	0
Expected Class B Credits	20

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
23.00	23.00	23.00	23.00	23.00	23.00	23.00	23.00
12.35	12.42	12.49	12.56	12.61	12.66	12.70	12.75
13.71	11.50	11.43	9.16	9.12	9.09	9.05	9.02
515,670	434,997	434,786	350,239	350,239	350,239	350,239	350,239
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
515,670	434,997	434,786	350,239	350,239	350,239	350,239	350,239
350,239	350,239	350,239	350,239	350,239	350,239	350,239	350,239
(165,431)	(84,758)	(84,547)	0	0	0	0	0
0	0	0	0	0	0	0	0
165,451	85,000	85,000	0	0	0	0	0
0	0	0	0	0	0	0	0
20	242	453	0	0	0	0	0
0	0	0	0	0	0	0	0
20	242	453	0	0	0	0	0

* Represents Credits provided by Chesterfield County's Proctors Creek facility via Private Exchange

PHOSPHORUS FACILITY SUMMARY

South Central WWA
 UPPER JAMES Trading Basin



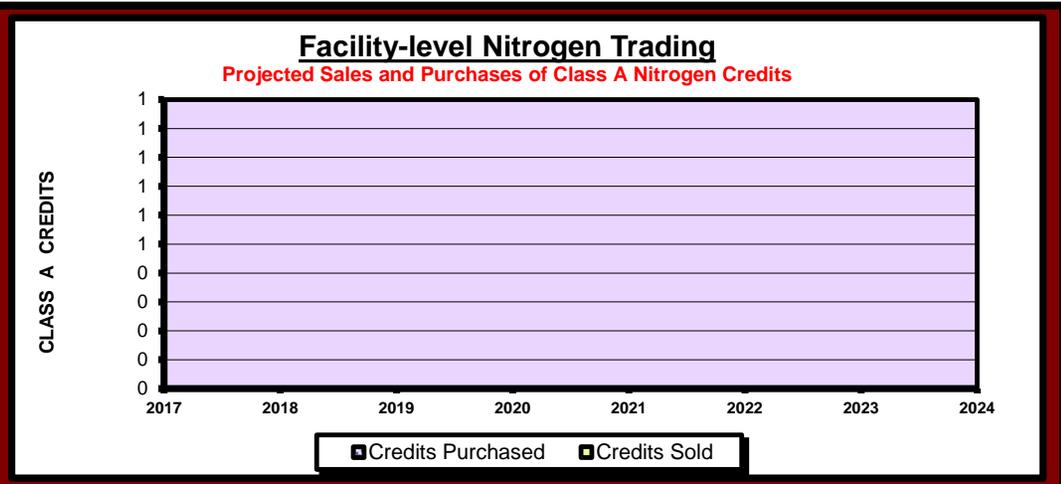
Loading & Credit Summary

Design Flow (mgd)
Projected Flow (mgd)
Projected Avg. Annual Concentration (mg/L)
Discharged Load (end of pipe)
Delivery Factor
Expected Load
Delivered WLA
Expected Credits (delivered)
Transfers In (Out) within Owner Bubble
Transfers In (Out) from Private Exchange
WQIF-Held Credits
Expected Net Credits
Class A Credit Sales (Purchases)
Expected Class B Credits

	2017	2018	2019	2020	2021	2022	2023	2024
	Planning Period					Future Estimates (non-binding)		
Design Flow (mgd)	23.00	23.00	23.00	23.00	23.00	23.00	23.00	23.00
Projected Flow (mgd)	12.35	12.42	12.49	12.56	12.61	12.66	12.70	12.75
Projected Avg. Annual Concentration (mg/L)	0.76	0.75	0.75	0.74	0.74	0.74	0.73	0.73
Discharged Load (end of pipe)	28,404	28,404	28,404	28,404	28,404	28,404	28,404	28,404
Delivery Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Expected Load	28,404	28,404	28,404	28,404	28,404	28,404	28,404	28,404
Delivered WLA	28,404	28,404	28,404	28,404	28,404	28,404	28,404	28,404
Expected Credits (delivered)	0	0	0	0	0	0	0	0
Transfers In (Out) within Owner Bubble	0	0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange	0	0	0	0	0	0	0	0
WQIF-Held Credits	0	0	0	0	0	0	0	0
Expected Net Credits	0	0	0	0	0	0	0	0
Class A Credit Sales (Purchases)	0	0	0	0	0	0	0	0
Expected Class B Credits	0	0	0	0	0	0	0	0

NITROGEN FACILITY SUMMARY

Tyson Foods-Glen Allen
 UPPER JAMES Trading Basin



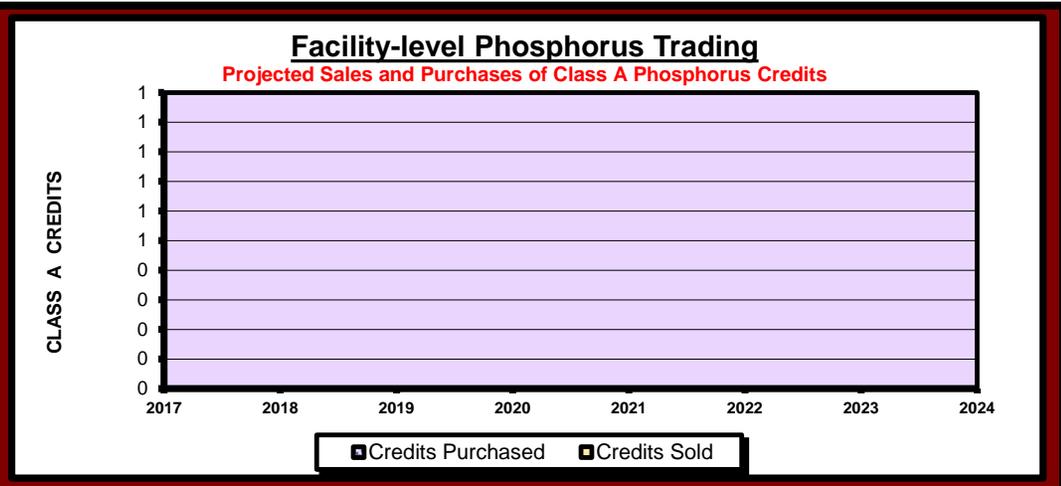
Loading & Credit Summary

Design Flow (mgd)	1.07
Projected Flow (mgd)	1.07
Projected Avg. Annual Concentration (mg/L)	6.00
Discharged Load (end of pipe)	19,552
Delivery Factor	0.16
Expected Load	3,128
Delivered WLA	3,128
Expected Credits (delivered)	0
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	0
Class A Credit Sales (Purchases)	0
Expected Class B Credits	0

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
19,552	19,552	19,552	19,552	19,552	19,552	19,552	19,552
0.16	0.16	0.16	0.16	0.18	0.18	0.18	0.18
3,128	3,128	3,128	3,128	3,519	3,519	3,519	3,519
3,128	3,128	3,128	3,128	3,519	3,519	3,519	3,519
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0

PHOSPHORUS FACILITY SUMMARY

Tyson Foods-Glen Allen
 UPPER JAMES Trading Basin



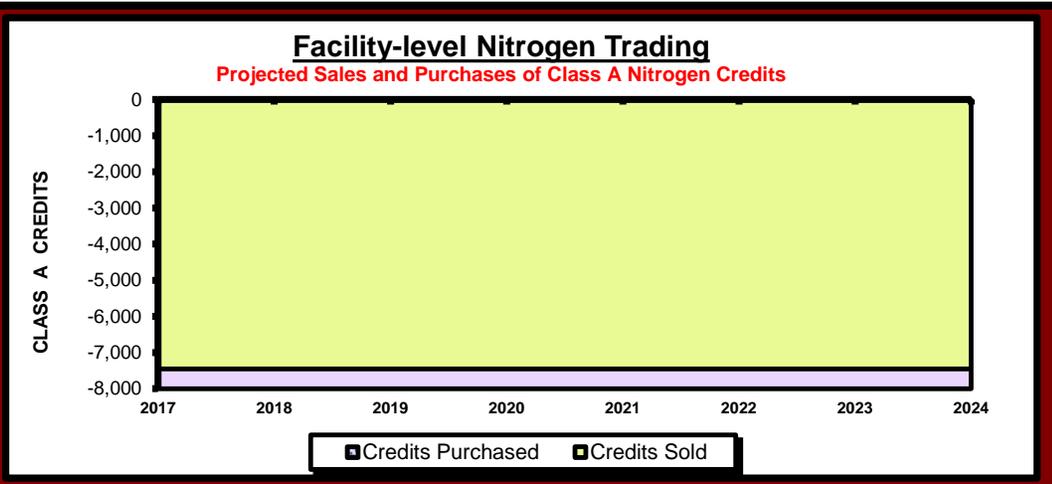
Loading & Credit Summary

Design Flow (mgd)
Projected Flow (mgd)
Projected Avg. Annual Concentration (mg/L)
Discharged Load (end of pipe)
Delivery Factor
Expected Load
Delivered WLA
Expected Credits (delivered)
Transfers In (Out) within Owner Bubble
Transfers In (Out) from Private Exchange
WQIF-Held Credits
Expected Net Credits
Class A Credit Sales (Purchases)
Expected Class B Credits

	2017	2018	2019	2020	2021	2022	2023	2024
	Planning Period					Future Estimates (non-binding)		
Design Flow (mgd)	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Projected Flow (mgd)	1.07	1.07	1.07	1.07	1.07	1.07	1.07	1.07
Projected Avg. Annual Concentration (mg/L)	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Discharged Load (end of pipe)	326	326	326	326	326	326	326	326
Delivery Factor	0.46	0.46	0.46	0.46	0.36	0.36	0.36	0.36
Expected Load	150	150	150	150	117	117	117	117
Delivered WLA	188	188	188	188	147	147	147	147
Expected Credits (delivered)	38	38	38	38	30	30	30	30
Transfers In (Out) within Owner Bubble	0	0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange	0	0	0	0	0	0	0	0
WQIF-Held Credits	0	0	0	0	0	0	0	0
Expected Net Credits	38	38	38	38	30	30	30	30
Class A Credit Sales (Purchases)	0	0	0	0	0	0	0	0
Expected Class B Credits	38	38	38	38	30	30	30	30

NITROGEN FACILITY SUMMARY

WestRock of Virginia
 UPPER JAMES Trading Basin



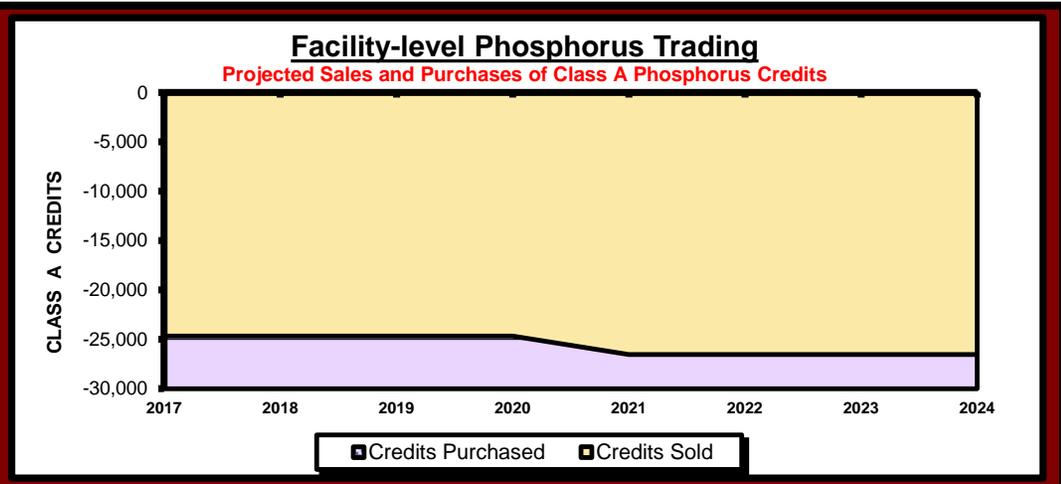
Loading & Credit Summary

Design Flow (mgd)
Projected Flow (mgd)
Projected Avg. Annual Concentration (mg/L)
Discharged Load (end of pipe)
Delivery Factor
Expected Load
Delivered WLA
Expected Credits (delivered)
Transfers In (Out) within Owner Bubble
Transfers In (Out) from Private Exchange
WQIF-Held Credits
Expected Net Credits
Class A Credit Sales (Purchases)
Expected Class B Credits

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00
32.50	32.50	32.50	32.50	32.50	32.50	32.50	32.50
3.30	3.30	3.30	3.30	3.30	3.30	3.30	3.30
326,636	326,636	326,636	326,636	326,636	326,636	326,636	326,636
0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
35,930	35,930	35,930	35,930	35,930	35,930	35,930	35,930
43,384	43,384	43,384	43,384	43,384	43,384	43,384	43,384
7,454	7,454	7,454	7,454	7,454	7,454	7,454	7,454
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
7,454	7,454	7,454	7,454	7,454	7,454	7,454	7,454
0	0	0	0	0	0	0	0

PHOSPHORUS FACILITY SUMMARY

WestRock of Virginia
 UPPER JAMES Trading Basin



Loading & Credit Summary

Design Flow (mgd)	35.00
Projected Flow (mgd)	32.50
Projected Avg. Annual Concentration (mg/L)	0.60
Discharged Load (end of pipe)	59,388
Delivery Factor	0.66
Expected Load	39,196
Delivered WLA	63,869
Expected Credits (delivered)	24,673
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	24,673
Class A Credit Sales (Purchases)	24,673
Expected Class B Credits	0

	2017	2018	2019	2020	2021	2022	2023	2024
	Planning Period					Future Estimates (non-binding)		
Design Flow (mgd)	35.00	35.00	35.00	35.00	35.00	35.00	35.00	35.00
Projected Flow (mgd)	32.50	32.50	32.50	32.50	32.50	32.50	32.50	32.50
Projected Avg. Annual Concentration (mg/L)	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60
Discharged Load (end of pipe)	59,388	59,388	59,388	59,388	59,388	59,388	59,388	59,388
Delivery Factor	0.66	0.66	0.66	0.66	0.71	0.71	0.71	0.71
Expected Load	39,196	39,196	39,196	39,196	42,166	42,166	42,166	42,166
Delivered WLA	63,869	63,869	63,869	63,869	68,707	68,707	68,707	68,707
Expected Credits (delivered)	24,673	24,673	24,673	24,673	26,541	26,541	26,541	26,541
Transfers In (Out) within Owner Bubble	0	0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange	0	0	0	0	0	0	0	0
WQIF-Held Credits	0	0	0	0	0	0	0	0
Expected Net Credits	24,673	24,673	24,673	24,673	26,541	26,541	26,541	26,541
Class A Credit Sales (Purchases)	24,673	24,673	24,673	24,673	26,541	26,541	26,541	26,541
Expected Class B Credits	0	0	0	0	0	0	0	0

SECTION 6

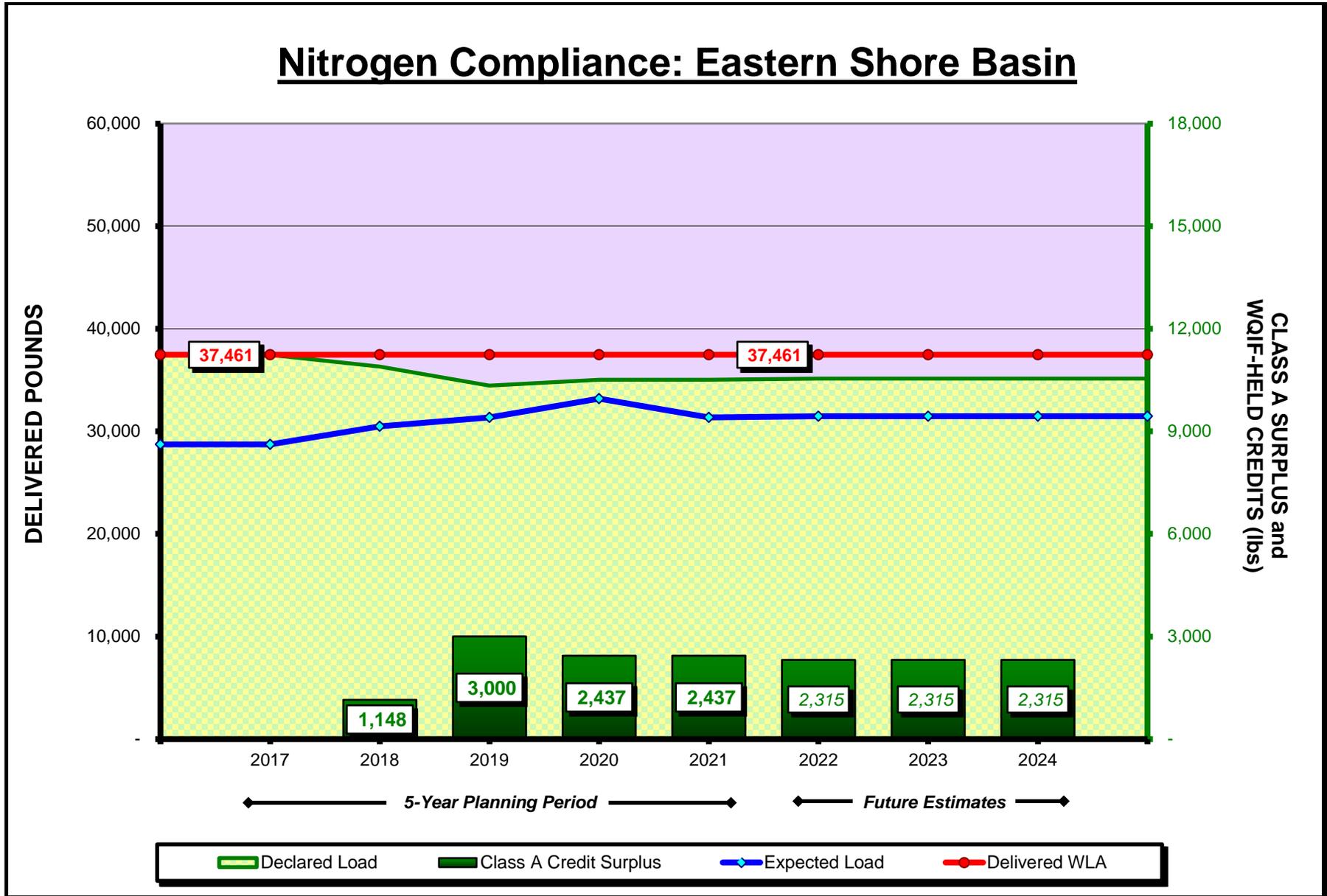
Eastern Shore Basin Exchange Compliance Plan



Consistent with similar disclosures made in conjunction with the original Exchange Compliance Plan dated July 31, 2007, and each annual update thereafter, Credit forecasts for the Eastern Shore basin may indicate a potential lack of Credit availability from facilities located within the Eastern Shore basin at various times during the 5-year Planning Period. This situation derives in part from the relatively small number of facilities and total allocations of the Eastern Shore basin.

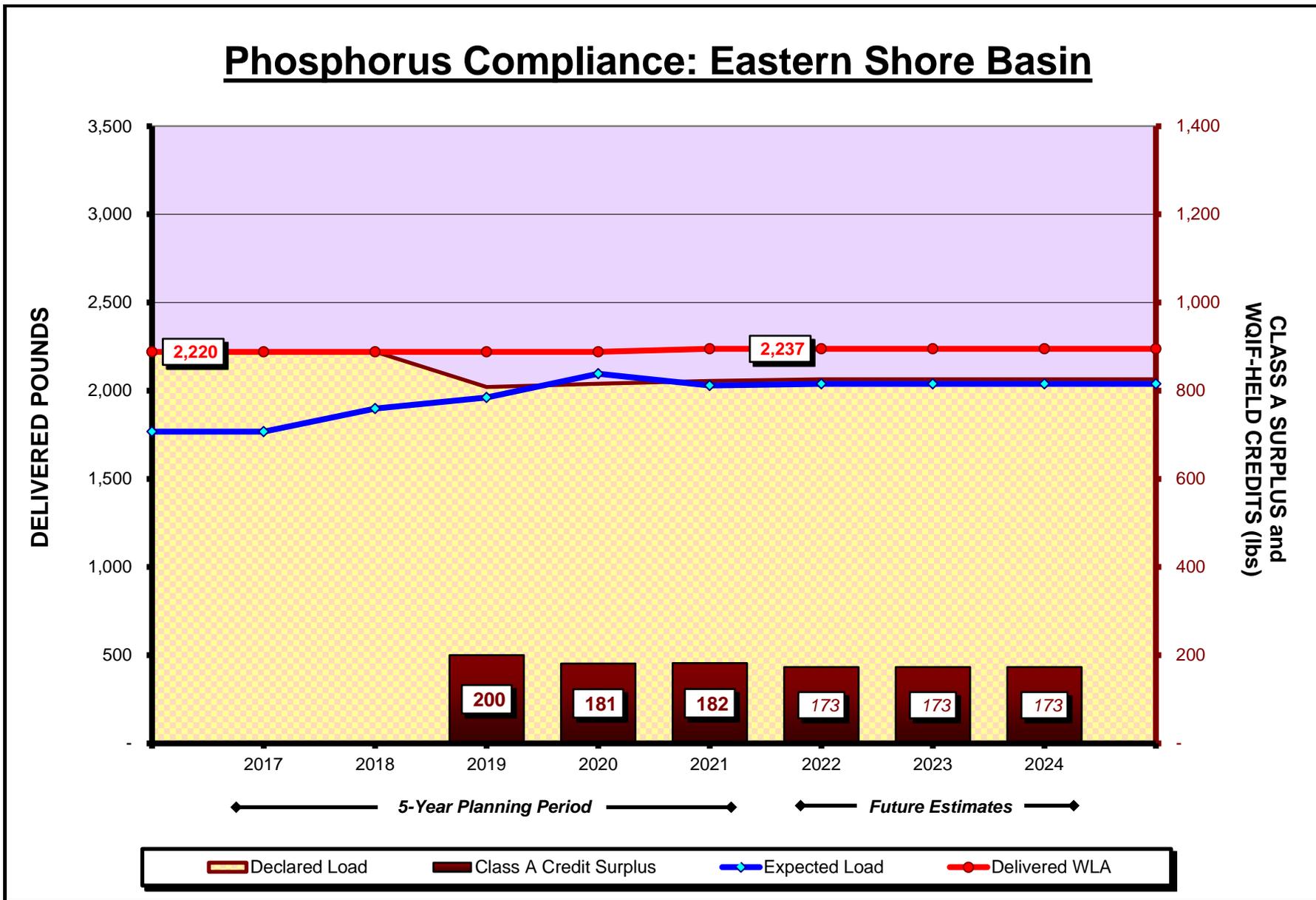
In 2010, Virginia law governing nutrient allocation compliance and reporting was amended by House Bill 1290 (2010 Acts of Assembly Chapter 11) to amend the general limitation of trading to the tributary level by allowing that “permitted facilities in the Eastern Shore basin may also acquire credits from permitted facilities in the Potomac and Rappahannock tributaries.” Va. Code § 62.1-44.19:18.A.1.

Accordingly, this Annual Update incorporates use of Class A Credits from the Potomac basin – **when necessary** – to meet Eastern Shore Class A Credit purchase requests that cannot be satisfied from Class A Credit sales commitments by facilities in the Eastern Shore basin. This limited cross-basin trading is noted, as applicable, on the Credit ledgers in both this section and the Potomac section. The Nitrogen and Phosphorus compliance charts of the Eastern Shore basin illustrate the impact of Class A Credits provided by the Potomac basin (Declared Load forecast), while the Expected Load line represents the net Expected Credits of Eastern Shore facilities only.



EASTERN SHORE Basin: Nitrogen Credit Ledger

Compliance Year:											
	2021	Credit Forecasts		Preliminary Use of Credits				Credit Exchange (Pounds)			
Facility Name	Delivered WLA	Expected Load	Expected Credits	In-Bubble Exchange	Private Exchange	WQIF-Held Credits	Expected Net Credits		Class A Sales	Class A* Purchases	Class B** (expected)
								PRICE:	No Sale	No Sale	No Sale
The Exchange (group)	37,461	31,347	6,114	-	975	-	7,089		2,437	-	4,652
Cape Charles	3,046	3,046	-	-	-	-	-		-	-	-
Onancock	9,137	6,700	2,437	-	-	-	2,437		2,437	-	-
Shore Health Services	1,218	1,135	83	-	-	-	83		-	-	83
Tangier Island	1,218	2,193	(975)	-	975	-	-		-	-	-
Tyson Foods-Temperanceville	22,842	18,273	4,569	-	-	-	4,569		-	-	4,569
Sale from Potomac Basin	-	-	-	-	-	-	-		-	-	-
	-	-	-	-	-	-	-		-	-	-
	-	-	-	-	-	-	-		-	-	-
	-	-	-	-	-	-	-		-	-	-
	-	-	-	-	-	-	-		-	-	-
	-	-	-	-	-	-	-		-	-	-
	-	-	-	-	-	-	-		-	-	-
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	-	-	-	-	-	-	-		-	-	-
	-	-	-	-	-	-	-		-	-	-
	-	-	-	-	-	-	-		-	-	-
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EASTERN SHORE Basin: Phosphorus Credit Ledger

Compliance Year:											
	2017	Credit Forecasts		Preliminary Use of Credits			Credit Exchange (Pounds)				
Facility Name	Delivered WLA	Expected Load	Expected Credits	In-Bubble Exchange	Private Exchange	WQIF-Held Credits	Expected Net Credits		Class A Sales	Class A* Purchases	Class B** (expected)
								PRICE:	No Sale	No Sale	No Sale
The Exchange (group)	2,220	1,767	453	-	229	-	682		-	-	682
Cape Charles	226	190	36	-	-	-	36		-	-	36
Onancock	678	204	474	-	-	-	474		-	-	474
Shore Health Services	87	52	35	-	-	-	35		-	-	35
Tangier Island	87	316	(229)	-	229	-	-		-	-	-
Tyson Foods-Temperanceville	1,142	1,005	137	-	-	-	137		-	-	137
Sale from Potomac Basin	-	-	-	-	-	-	-		-	-	-
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EASTERN SHORE Basin: Phosphorus Credit Ledger

Compliance Year:											
	2018	Credit Forecasts		Preliminary Use of Credits			Credit Exchange (Pounds)				
Facility Name	Delivered WLA	Expected Load	Expected Credits	In-Bubble Exchange	Private Exchange	WQIF-Held Credits	Expected Net Credits		Class A Sales	Class A* Purchases	Class B** (expected)
								PRICE:	\$ 5.13	\$ 5.70	\$ 0.20
The Exchange (group)	2,220	1,898	322	-	229	-	551		200	(200)	551
Cape Charles	226	208	18	-	-	-	18		-	-	18
Onancock	678	317	361	-	-	-	361		200	-	161
Shore Health Services	87	52	35	-	-	-	35		-	-	35
Tangier Island	87	316	(229)	-	229	-	-		-	(200)	200
Tyson Foods-Temperanceville	1,142	1,005	137	-	-	-	137		-	-	137
Sale from Potomac Basin	-	-	-	-	-	-	-		-	-	-
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EASTERN SHORE Basin: Phosphorus Credit Ledger

Compliance Year:											
	2019	Credit Forecasts		Preliminary Use of Credits				Credit Exchange (Pounds)			
Facility Name	Delivered WLA	Expected Load	Expected Credits	In-Bubble Exchange	Private Exchange	WQIF-Held Credits	Expected Net Credits		Class A Sales	Class A* Purchases	Class B** (expected)
								PRICE:	No Sale	No Sale	No Sale
The Exchange (group)	2,220	1,961	259	-	229	-	488		200	-	288
Cape Charles	226	226	-	-	-	-	-		-	-	-
Onancock	678	362	316	-	-	-	316		200	-	116
Shore Health Services	87	52	35	-	-	-	35		-	-	35
Tangier Island	87	316	(229)	-	229	-	-		-	-	-
Tyson Foods-Temperanceville	1,142	1,005	137	-	-	-	137		-	-	137
Sale from Potomac Basin	-	-	-	-	-	-	-		-	-	-
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EASTERN SHORE Basin: Phosphorus Credit Ledger

Compliance Year:											
	2020	Credit Forecasts		Preliminary Use of Credits				Credit Exchange (Pounds)			
Facility Name	Delivered WLA	Expected Load	Expected Credits	In-Bubble Exchange	Private Exchange	WQIF-Held Credits	Expected Net Credits		Class A Sales	Class A* Purchases	Class B** (expected)
								PRICE:	No Sale	No Sale	No Sale
The Exchange (group)	2,220	2,096	124	-	229	-	353		181	-	172
Cape Charles	226	226	-	-	-	-	-		-	-	-
Onancock	678	497	181	-	-	-	181		181	-	-
Shore Health Services	87	52	35	-	-	-	35		-	-	35
Tangier Island	87	316	(229)	-	229	-	-		-	-	-
Tyson Foods-Temperanceville	1,142	1,005	137	-	-	-	137		-	-	137
Sale from Potomac Basin	-	-	-	-	-	-	-		-	-	-
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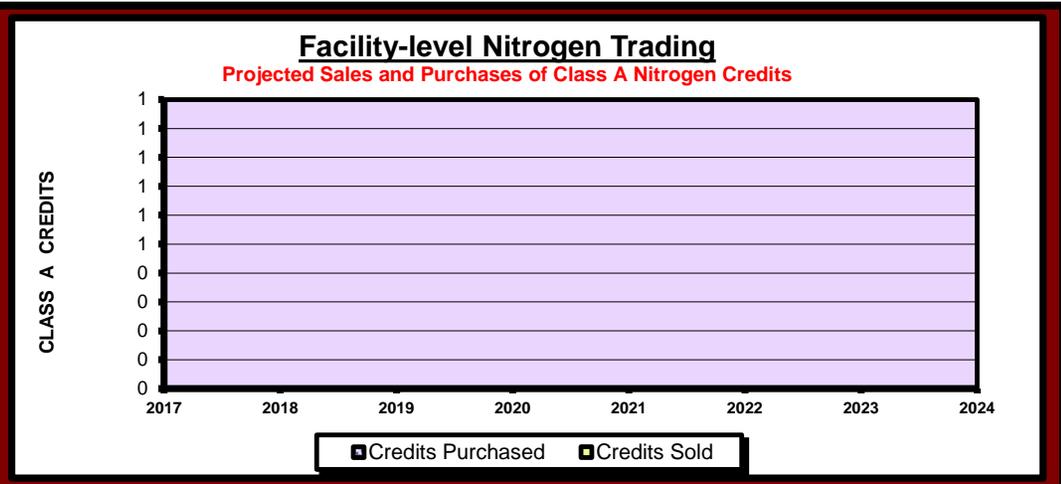
Eastern Shore Basin

Supplemental Information for Individual Facilities



NITROGEN FACILITY SUMMARY

Cape Charles
EASTERN SHORE Trading Basin



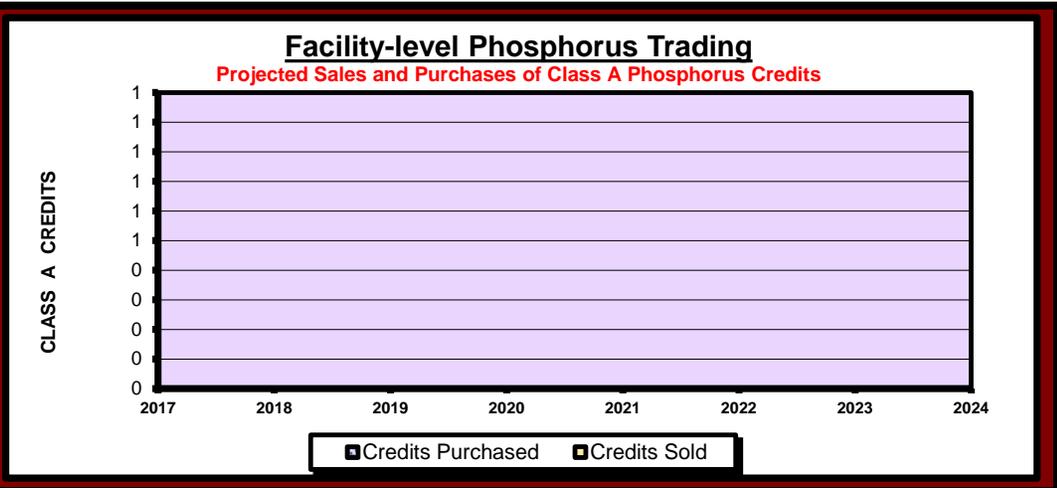
Loading & Credit Summary

Design Flow (mgd)	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
Projected Flow (mgd)	0.21	0.23	0.25	0.25	0.25	0.25	0.25	0.25
Projected Avg. Annual Concentration (mg/L)	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Discharged Load (end of pipe)	2,558	2,802	3,046	3,046	3,046	3,046	3,046	3,046
Delivery Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Expected Load	2,558	2,802	3,046	3,046	3,046	3,046	3,046	3,046
Delivered WLA	3,046	3,046	3,046	3,046	3,046	3,046	3,046	3,046
Expected Credits (delivered)	488	244	0	0	0	0	0	0
Transfers In (Out) within Owner Bubble	0	0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange	0	0	0	0	0	0	0	0
WQIF-Held Credits	0	0	0	0	0	0	0	0
Expected Net Credits	488	244	0	0	0	0	0	0
Class A Credit Sales (Purchases)	0							
Expected Class B Credits	488	244	0	0	0	0	0	0

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
0.21	0.23	0.25	0.25	0.25	0.25	0.25	0.25
4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
2,558	2,802	3,046	3,046	3,046	3,046	3,046	3,046
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
2,558	2,802	3,046	3,046	3,046	3,046	3,046	3,046
3,046	3,046	3,046	3,046	3,046	3,046	3,046	3,046
488	244	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
488	244	0	0	0	0	0	0
0	0	0	0	0	0	0	0
488	244	0	0	0	0	0	0

PHOSPHORUS FACILITY SUMMARY

Cape Charles
EASTERN SHORE Trading Basin



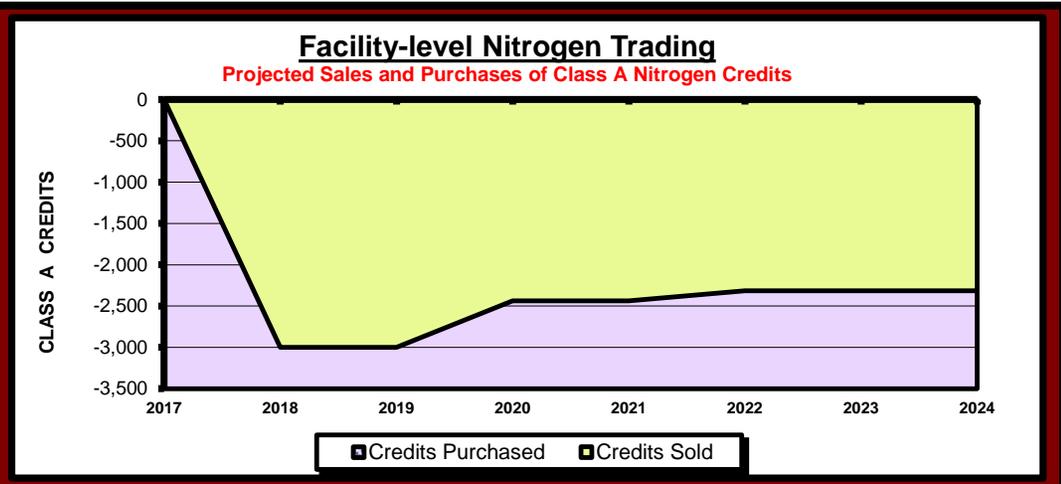
Loading & Credit Summary

Design Flow (mgd)
Projected Flow (mgd)
Projected Avg. Annual Concentration (mg/L)
Discharged Load (end of pipe)
Delivery Factor
Expected Load
Delivered WLA
Expected Credits (delivered)
Transfers In (Out) within Owner Bubble
Transfers In (Out) from Private Exchange
WQIF-Held Credits
Expected Net Credits
Class A Credit Sales (Purchases)
Expected Class B Credits

	2017	2018	2019	2020	2021	2022	2023	2024
	Planning Period					Future Estimates (non-binding)		
Design Flow (mgd)	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
Projected Flow (mgd)	0.21	0.23	0.25	0.25	0.25	0.25	0.25	0.25
Projected Avg. Annual Concentration (mg/L)	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
Discharged Load (end of pipe)	192	210	228	228	228	228	228	228
Delivery Factor	0.99	0.99	0.99	0.99	1.00	1.00	1.00	1.00
Expected Load	190	208	226	226	228	228	228	228
Delivered WLA	226	226	226	226	228	228	228	228
Expected Credits (delivered)	36	18	0	0	0	0	0	0
Transfers In (Out) within Owner Bubble	0	0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange	0	0	0	0	0	0	0	0
WQIF-Held Credits	0	0	0	0	0	0	0	0
Expected Net Credits	36	18	0	0	0	0	0	0
Class A Credit Sales (Purchases)	0	0	0	0	0	0	0	0
Expected Class B Credits	36	18	0	0	0	0	0	0

NITROGEN FACILITY SUMMARY

Onancock
 EASTERN SHORE Trading Basin



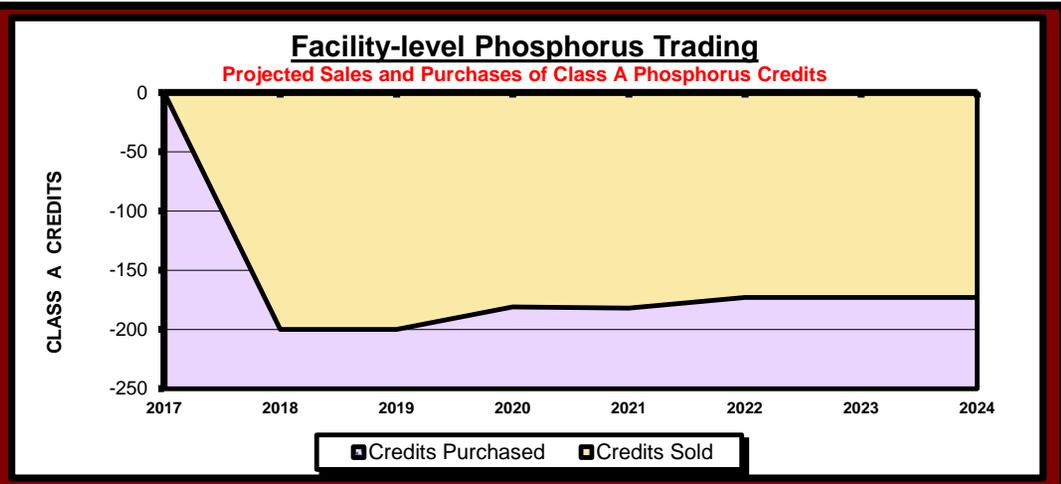
Loading & Credit Summary

Design Flow (mgd)	0.75
Projected Flow (mgd)	0.23
Projected Avg. Annual Concentration (mg/L)	4.00
Discharged Load (end of pipe)	2,741
Delivery Factor	1.00
Expected Load	2,741
Delivered WLA	9,137
Expected Credits (delivered)	6,396
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange	0
WQIF-Held Credits	0
Expected Net Credits	6,396
Class A Credit Sales (Purchases)	0
Expected Class B Credits	6,396

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
0.23	0.35	0.40	0.55	0.55	0.56	0.56	0.56
4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
2,741	4,264	4,873	6,700	6,700	6,822	6,822	6,822
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
2,741	4,264	4,873	6,700	6,700	6,822	6,822	6,822
9,137	9,137	9,137	9,137	9,137	9,137	9,137	9,137
6,396	4,873	4,264	2,437	2,437	2,315	2,315	2,315
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
6,396	4,873	4,264	2,437	2,437	2,315	2,315	2,315
0	3,000	3,000	2,437	2,437	2,315	2,315	2,315
6,396	1,873	1,264	0	0	0	0	0

PHOSPHORUS FACILITY SUMMARY

Onancock
 EASTERN SHORE Trading Basin



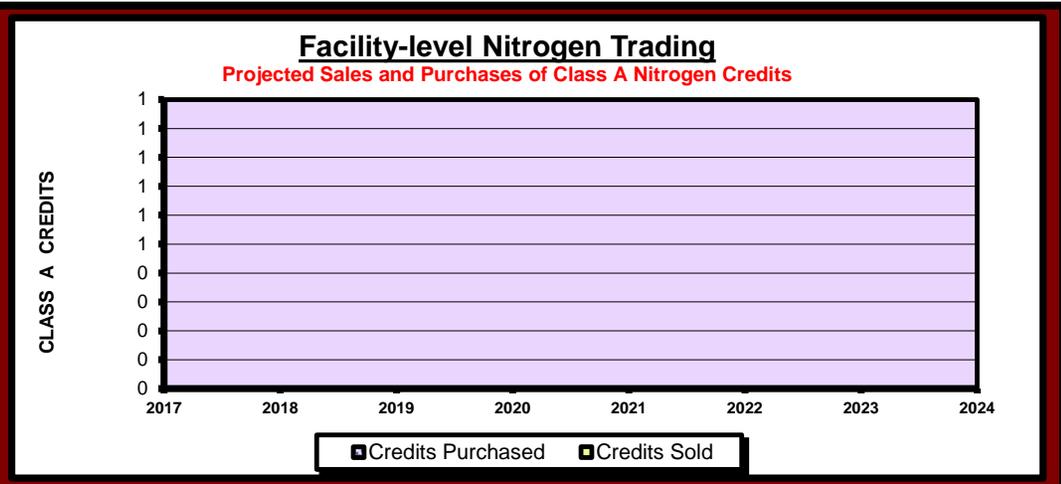
Loading & Credit Summary

Design Flow (mgd)
Projected Flow (mgd)
Projected Avg. Annual Concentration (mg/L)
Discharged Load (end of pipe)
Delivery Factor
Expected Load
Delivered WLA
Expected Credits (delivered)
Transfers In (Out) within Owner Bubble
Transfers In (Out) from Private Exchange
WQIF-Held Credits
Expected Net Credits
Class A Credit Sales (Purchases)
Expected Class B Credits

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
0.23	0.35	0.40	0.55	0.55	0.56	0.56	0.56
0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
206	320	365	503	503	512	512	512
0.99	0.99	0.99	0.99	1.00	1.00	1.00	1.00
204	317	362	497	503	512	512	512
678	678	678	678	685	685	685	685
474	361	316	181	182	173	173	173
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
474	361	316	181	182	173	173	173
0	200	200	181	182	173	173	173
474	161	116	0	0	0	0	0

NITROGEN FACILITY SUMMARY

Shore Health Services
EASTERN SHORE Trading Basin



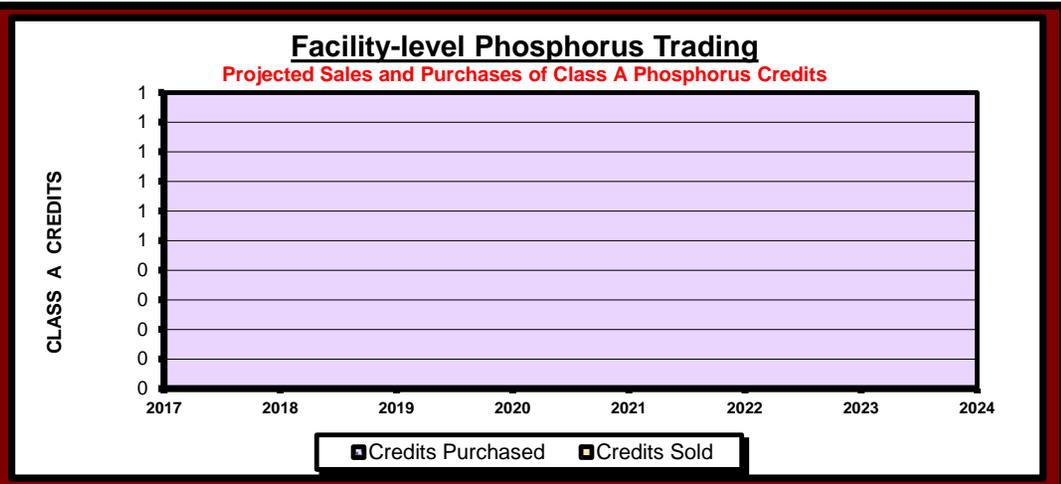
Loading & Credit Summary

Design Flow (mgd)	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Projected Flow (mgd)	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Projected Avg. Annual Concentration (mg/L)	16.20	16.20	16.20	16.20	16.20	16.20	16.20	16.20
Discharged Load (end of pipe)	1,135							
Delivery Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Expected Load	1,135	1,135	1,135	1,135	1,135	1,135	1,135	1,135
Delivered WLA	1,218	1,218	1,218	1,218	1,218	1,218	1,218	1,218
Expected Credits (delivered)	83							
Transfers In (Out) within Owner Bubble	0	0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange	0	0	0	0	0	0	0	0
WQIF-Held Credits	0	0	0	0	0	0	0	0
Expected Net Credits	83							
Class A Credit Sales (Purchases)	0							
Expected Class B Credits	83							

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
16.20	16.20	16.20	16.20	16.20	16.20	16.20	16.20
1,135	1,135	1,135	1,135	1,135	1,135	1,135	1,135
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
1,135	1,135	1,135	1,135	1,135	1,135	1,135	1,135
1,218	1,218	1,218	1,218	1,218	1,218	1,218	1,218
83	83	83	83	83	83	83	83
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
83	83	83	83	83	83	83	83
0	0	0	0	0	0	0	0
83	83	83	83	83	83	83	83

PHOSPHORUS FACILITY SUMMARY

Shore Health Services
EASTERN SHORE Trading Basin



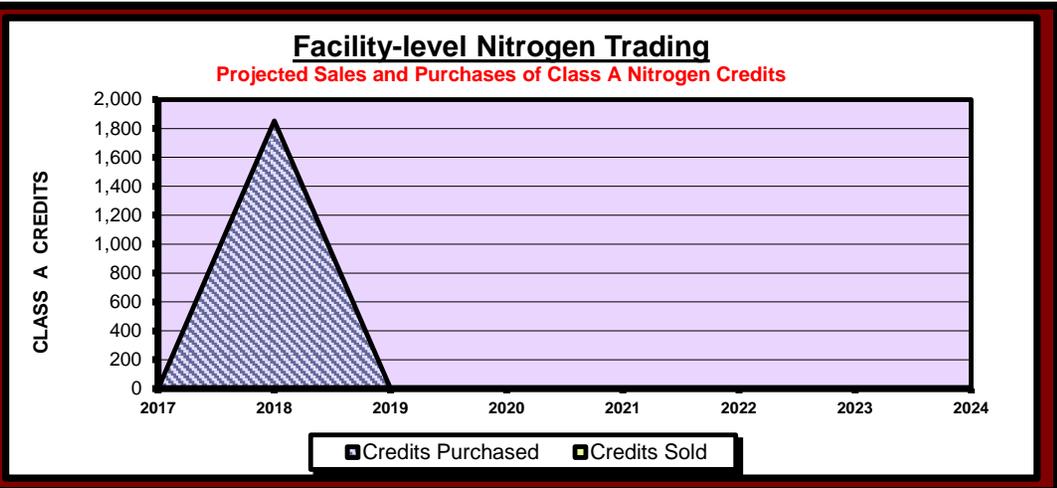
Loading & Credit Summary

Design Flow (mgd)
Projected Flow (mgd)
Projected Avg. Annual Concentration (mg/L)
Discharged Load (end of pipe)
Delivery Factor
Expected Load
Delivered WLA
Expected Credits (delivered)
Transfers In (Out) within Owner Bubble
Transfers In (Out) from Private Exchange
WQIF-Held Credits
Expected Net Credits
Class A Credit Sales (Purchases)
Expected Class B Credits

	2017	2018	2019	2020	2021	2022	2023	2024
	Planning Period					Future Estimates (non-binding)		
Design Flow (mgd)	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Projected Flow (mgd)	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Projected Avg. Annual Concentration (mg/L)	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Discharged Load (end of pipe)	55	55	55	55	55	55	55	55
Delivery Factor	0.96	0.96	0.96	0.96	1.00	1.00	1.00	1.00
Expected Load	52	52	52	52	55	55	55	55
Delivered WLA	87	87	87	87	91	91	91	91
Expected Credits (delivered)	35	35	35	35	36	36	36	36
Transfers In (Out) within Owner Bubble	0	0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange	0	0	0	0	0	0	0	0
WQIF-Held Credits	0	0	0	0	0	0	0	0
Expected Net Credits	35	35	35	35	36	36	36	36
Class A Credit Sales (Purchases)	0	0	0	0	0	0	0	0
Expected Class B Credits	35	35	35	35	36	36	36	36

NITROGEN FACILITY SUMMARY

Tangier Island
EASTERN SHORE Trading Basin



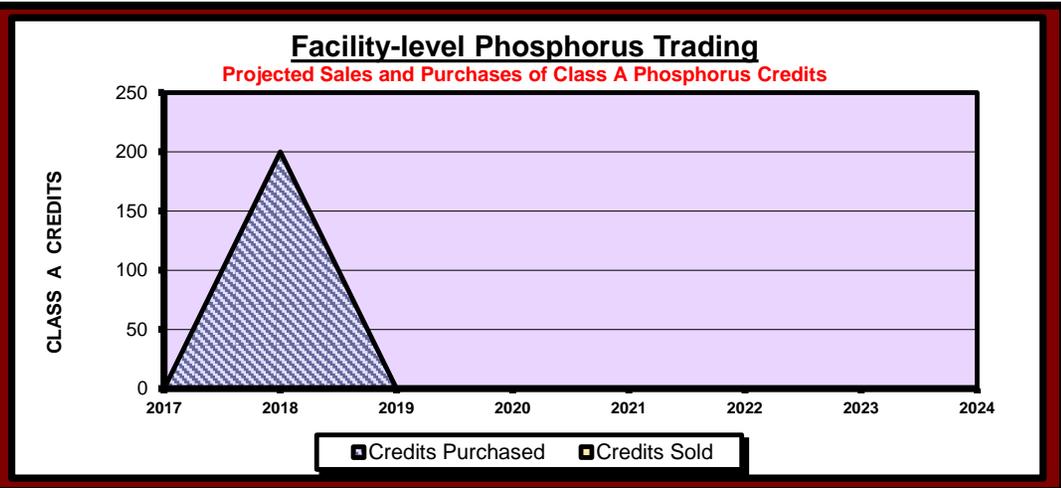
Loading & Credit Summary	
Design Flow (mgd)	0.10
Projected Flow (mgd)	0.06
Projected Avg. Annual Concentration (mg/L)	12.00
Discharged Load (end of pipe)	2,193
Delivery Factor	1.00
Expected Load	2,193
Delivered WLA	1,218
Expected Credits (delivered)	(975)
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange*	975
WQIF-Held Credits	0
Expected Net Credits	0
Class A Credit Sales (Purchases)	0
Expected Class B Credits	0

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
2,193	2,193	2,193	2,193	2,193	2,193	2,193	2,193
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
2,193	2,193	2,193	2,193	2,193	2,193	2,193	2,193
1,218	1,218	1,218	1,218	1,218	1,218	1,218	1,218
(975)	(975)	(975)	(975)	(975)	(975)	(975)	(975)
0	0	0	0	0	0	0	0
975	975	975	975	975	975	975	975
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	(1,852)	0	0	0	0	0	0
0	1,852	0	0	0	0	0	0

* Anticipated private trade with another Eastern Shore Participant

PHOSPHORUS FACILITY SUMMARY

Tangier Island
 EASTERN SHORE Trading Basin



Loading & Credit Summary

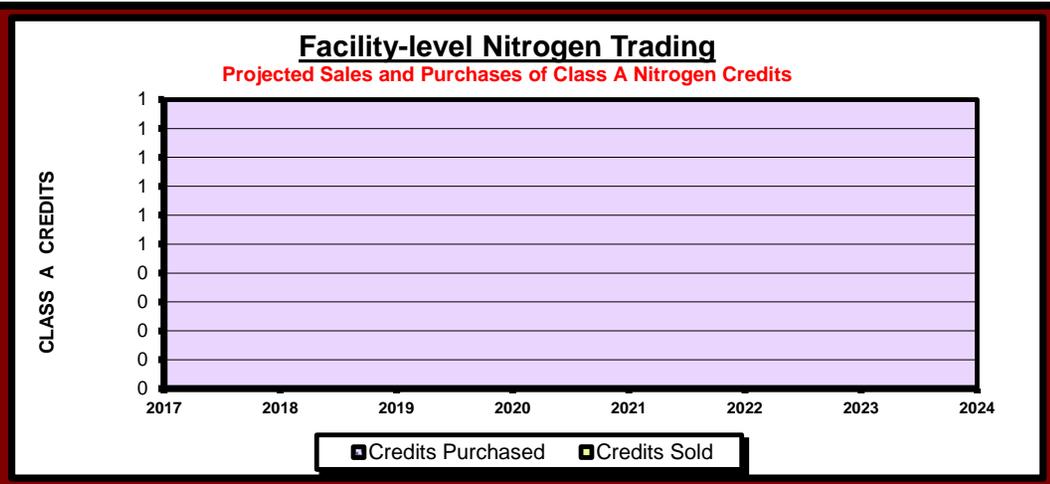
Design Flow (mgd)	0.10
Projected Flow (mgd)	0.06
Projected Avg. Annual Concentration (mg/L)	1.80
Discharged Load (end of pipe)	329
Delivery Factor	0.96
Expected Load	316
Delivered WLA	87
Expected Credits (delivered)	(229)
Transfers In (Out) within Owner Bubble	0
Transfers In (Out) from Private Exchange*	229
WQIF-Held Credits	0
Expected Net Credits	0
Class A Credit Sales (Purchases)	0
Expected Class B Credits	0

	2017	2018	2019	2020	2021	2022	2023	2024
	Planning Period					Future Estimates (non-binding)		
Design Flow (mgd)	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Projected Flow (mgd)	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Projected Avg. Annual Concentration (mg/L)	1.80	1.80	1.80	1.80	1.80	1.80	1.80	1.80
Discharged Load (end of pipe)	329	329	329	329	329	329	329	329
Delivery Factor	0.96	0.96	0.96	0.96	1.00	1.00	1.00	1.00
Expected Load	316	316	316	316	329	329	329	329
Delivered WLA	87	87	87	87	91	91	91	91
Expected Credits (delivered)	(229)	(229)	(229)	(229)	(238)	(238)	(238)	(238)
Transfers In (Out) within Owner Bubble	0	0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange*	229	229	229	229	238	238	238	238
WQIF-Held Credits	0	0	0	0	0	0	0	0
Expected Net Credits	0	0	0	0	0	0	0	0
Class A Credit Sales (Purchases)	0	(200)	0	0	0	0	0	0
Expected Class B Credits	0	200	0	0	0	0	0	0

* Anticipated private trade with another Eastern Shore Participant

NITROGEN FACILITY SUMMARY

Tyson Foods-Temperanceville
EASTERN SHORE Trading Basin



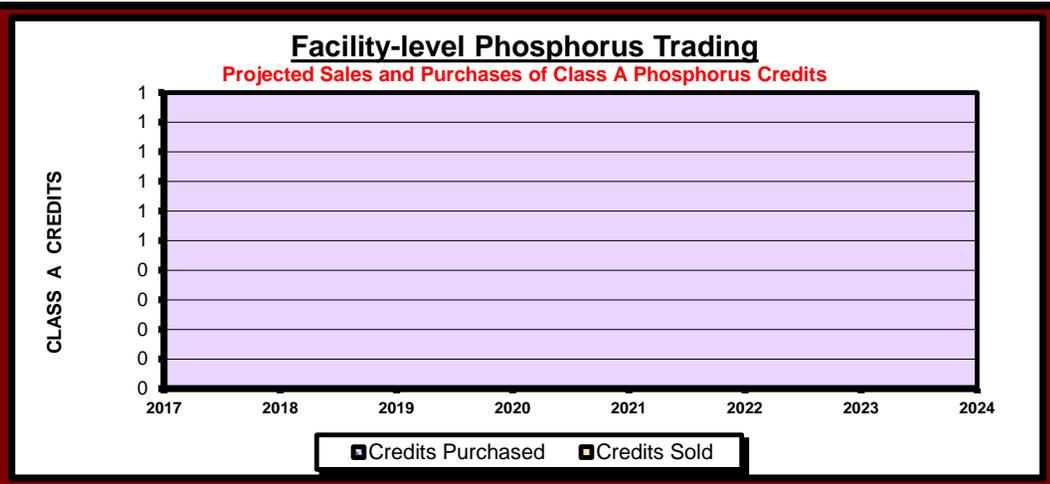
Loading & Credit Summary

Design Flow (mgd)	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
Projected Flow (mgd)	1.10	1.10	1.10	1.10	1.00	1.00	1.00	1.00
Projected Avg. Annual Concentration (mg/L)	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
Discharged Load (end of pipe)	20,101	20,101	20,101	20,101	18,273	18,273	18,273	18,273
Delivery Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Expected Load	20,101	20,101	20,101	20,101	18,273	18,273	18,273	18,273
Delivered WLA	22,842	22,842	22,842	22,842	22,842	22,842	22,842	22,842
Expected Credits (delivered)	2,741	2,741	2,741	2,741	4,569	4,569	4,569	4,569
Transfers In (Out) within Owner Bubble	0	0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange	0	0	0	0	0	0	0	0
WQIF-Held Credits	0	0	0	0	0	0	0	0
Expected Net Credits	2,741	2,741	2,741	2,741	4,569	4,569	4,569	4,569
Class A Credit Sales (Purchases)	0							
Expected Class B Credits	2,741	2,741	2,741	2,741	4,569	4,569	4,569	4,569

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
1.10	1.10	1.10	1.10	1.00	1.00	1.00	1.00
6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00
20,101	20,101	20,101	20,101	18,273	18,273	18,273	18,273
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
20,101	20,101	20,101	20,101	18,273	18,273	18,273	18,273
22,842	22,842	22,842	22,842	22,842	22,842	22,842	22,842
2,741	2,741	2,741	2,741	4,569	4,569	4,569	4,569
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
2,741	2,741	2,741	2,741	4,569	4,569	4,569	4,569
0	0	0	0	0	0	0	0
2,741	2,741	2,741	2,741	4,569	4,569	4,569	4,569

PHOSPHORUS FACILITY SUMMARY

Tyson Foods-Temperanceville
 EASTERN SHORE Trading Basin



Loading & Credit Summary

Design Flow (mgd)	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
Projected Flow (mgd)	1.10	1.10	1.10	1.10	1.00	1.00	1.00	1.00
Projected Avg. Annual Concentration (mg/L)	0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
Discharged Load (end of pipe)	1,005	1,005	1,005	1,005	914	914	914	914
Delivery Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Expected Load	1,005	1,005	1,005	1,005	914	914	914	914
Delivered WLA	1,142	1,142	1,142	1,142	1,142	1,142	1,142	1,142
Expected Credits (delivered)	137	137	137	137	228	228	228	228
Transfers In (Out) within Owner Bubble	0	0	0	0	0	0	0	0
Transfers In (Out) from Private Exchange	0	0	0	0	0	0	0	0
WQIF-Held Credits	0	0	0	0	0	0	0	0
Expected Net Credits	137	137	137	137	228	228	228	228
Class A Credit Sales (Purchases)	0	0	0	0	0	0	0	0
Expected Class B Credits	137	137	137	137	228	228	228	228

2017	2018	2019	2020	2021	2022	2023	2024
Planning Period					Future Estimates (non-binding)		
1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
1.10	1.10	1.10	1.10	1.00	1.00	1.00	1.00
0.30	0.30	0.30	0.30	0.30	0.30	0.30	0.30
1,005	1,005	1,005	1,005	914	914	914	914
1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
1,005	1,005	1,005	1,005	914	914	914	914
1,142	1,142	1,142	1,142	1,142	1,142	1,142	1,142
137	137	137	137	228	228	228	228
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0
137	137	137	137	228	228	228	228
0	0	0	0	0	0	0	0
137	137	137	137	228	228	228	228

SECTION 7

Credit Exchange Special Conditions

For the Nutrient Credit Exchange Program to be successful in delivering compliance and cost savings, both for Virginia as a whole and for local ratepayers, Virginia business owners, and state taxpayers (WQIF) funding the Chesapeake Bay cleanup, the Exchange Program must attract Participants and give those Participants comfort sufficient for them to engage in a robust level of trading. During the Exchange Compliance Plan development process, a common theme from potential Participants has been the need for specific assurances that good faith participation in the Exchange Program will not result in VPDES non-compliance or contractual liability to third parties, whether due to regulatory deadlines that Participants cannot meet due to construction challenges (as in the case of potential Class A Sellers) or due to acts of third parties (as in the case of potential Class A Buyers relying on timely Credit availability). This section specifies Credit Exchange Special Conditions designed to help provide the necessary conditions for success. This section is unchanged substantively from the Exchange Compliance Plan 2016 Annual Update.

7.1 Schedule of Compliance

This Section 7.1 is based on DEQ's approval letter dated September 7, 2007 from E. Gilinsky, Ph.D., Director, Division of Water Quality, DEQ, to M. Haley, President of The Exchange (the "2007 DEQ Approval Letter") (attached as Appendix A). While the following procedure was originally developed for purposes of meeting the initial January 1, 2011 compliance schedule, it is retained here for its potential relevance going forward. From time to time, the Watershed General Permit includes compliance schedules, so the same procedure will apply in the event of other future compliance schedules as well.

July 31, 2007 Recommendation and Procedure (Information Only)

The July 31, 2007 plan recommended and was premised upon an aggressive tributary-parameter schedule (January 1, 2011 effective date of final effluent limits for Nitrogen and Phosphorus in all tributaries, except the Potomac-Shenandoah where the date would be January 1, 2013) and an implementation approach compliant with the general "as soon as possible" standard to be administered by DEQ, as follows: "Effective date for any tributary-parameter shall be extended by the DEQ Director up to but no later than December 31, 2013 based on justification provided in accordance with scheduling factors established by Virginia Code section 62.1-44.19:14 C 2 or other good cause shown."

This implementation approach was recommended in lieu of the alternative of an *across-the-board* period (12 to 24 months) previously recommended under the statutory scheduling factors. The overall benefit of this approach was that it was intended to provide for both the shortest feasible schedule for facility construction and successful startup of the Nutrient Credit Exchange Program. The specific individual benefits of this approach included: (1) this schedule adjustment may only be exercised for good cause shown, (2) the finding of good cause as well as the specific length of any adjustment are both decisions made by the DEQ Director (not by

The Exchange or any of its Participants or other permittees), and (3) it establishes a mechanism by which DEQ has the ability to make timely schedule adjustments where good cause exists.

Compliance Schedule Procedure under 2007 DEQ Approval Letter

In the 2007 DEQ Approval Letter, DEQ explained its finding that the 2011 compliance deadline should be retained at that time for both parameters in all five basins and, thus, DEQ disapproved the detailed implementation approach summarized above in this Section 7.1. In reaching this conclusion, however, DEQ acknowledged The Exchange's main concern when DEQ stated: "We share your concern with the completion of so many projects on such a tight timeline. However, at this early date it is not possible to determine how quickly individual construction projects will proceed and what the actual capabilities of the upgraded facilities will be."

Similarly, a September 12, 2007 letter from D. Paylor, Director, DEQ, to M. Haley, President of The Exchange (attached as Appendix D), also indicates that "it will be a challenge to complete so many projects on such a tight timeline, and we remain committed to working with you to shepherd these projects to completion."

The 2007 DEQ Approval Letter sets forth the following two-step implementation approach in lieu of that previously recommended by The Exchange:

1. **Monitor & Evaluate** - Future annual compliance plan updates and DEQ's semi-annual WQIF progress reports will be used along with the scheduling factors in the Virginia Code and the "as soon as possible" criterion to evaluate the need for basin schedule extensions.
2. **Adjust as Needed** - Should it prove necessary, DEQ will initiate amendment to the permit under the Administrative Process Act to make appropriate revisions to the schedule.

This procedure is also generally set forth in the Chesapeake Bay and Virginia Waters Clean-Up Plan Progress Report submitted by the Secretary of Natural Resources of the Commonwealth of Virginia to House Committee on Agriculture, Chesapeake and Natural Resources, House Appropriations Committee, Senate Committee on Agriculture, Conservation and Natural Resources, and the Senate Finance Committee (October 2007) at page 3.

Accordingly, the above two-step implementation approach shall be the operative procedure for evaluating and adjusting the compliance schedule.

7.2 Initial Upgrade Delays Despite Participant's Best Efforts

The focus of the Exchange Compliance Plan was on achieving initial compliance. A large number of concurrent nutrient removal upgrades were required, and similar activities were underway throughout the Chesapeake Bay region in other states. Construction projects were occurring at a period where the general construction market (not only wastewater treatment) was in a period of very high demand for professional engineers, skilled and unskilled labor, and critical materials. Prices were increasing sharply. State government was also experiencing this in key sectors such as highway and school construction.

During Exchange Compliance Plan development, owners of larger facilities such as those that either must upgrade for the basin to achieve compliance (because the facility is a large source) or which are expected to have lower unit cost upgrades (dollars per pound removed), voiced reluctance to commit to sell Class A Credits because compliance with the initial compliance schedule deadlines was partially or significantly beyond their reasonable control, especially as compared to the January 1, 2011 initial compliance deadlines in the General Permit. Accordingly, to promote and secure the participation of these facilities, The Exchange did not intend to impose its otherwise generally applicable credit shortfall policy under these circumstances. This meant that in a shortfall situation in the startup years, there was a risk that Buyers waiting on Credit availability may not have Credits available through The Exchange, if one or more linchpin projects were delayed in completing construction. A condition of this Exchange Compliance Plan is that neither the delayed Seller nor the waiting Buyer will be deemed to be in non-compliance or subject to enforcement action.

7.3 Timely Regulatory Approvals

One factor that impacts basin-level compliance is timely review and approval of permits, WQIF grant agreements, and engineering documents by DEQ. This Exchange Compliance Plan is premised on timely action by DEQ, including the standard turnaround times for engineering documents as specified in 9 VAC 25-790-80 C (generally 30 day turnaround deadline for technical evaluations of engineering documents).

7.4 Requested Changes Resulting From Regulatory Review

The Participants have elected to participate in this multi-party Exchange Compliance Plan on the assumption that the Exchange Compliance Plan would be accepted and approved by DEQ (and any other relevant state and federal authority) in the form presented or in a substantially similar form with no material adverse changes. In the event of any material adverse change, The Exchange reserves the right to revise this Exchange Compliance Plan and each Participant reserves the right to modify its position in it, or withdraw from it, upon notice to DEQ and The Exchange within 60 days of notice of any material adverse change in the content of the approved Exchange Compliance Plan.

7.5 WQIF Grant Denial

Numerous facility upgrades covered in Sections 2 through 6 are premised upon execution of a WQIF Grant Agreement between DEQ and the Participant for the partial funding of nutrient removal technology to be installed. Since 2005, the WQIF statute has provided at Virginia Code section 10.1-2131 B that DEQ “shall enter into grant agreements with all facilities designated as significant dischargers or eligible nonsignificant dischargers that apply for grants.” This Section 7.5 is necessary to address the amendment at Virginia Code section 10.1-1186.01 G to establish a limited exception, as follows:

Notwithstanding the provisions of subsection B of § [10.1-2131](#), the Director of the Department of Environmental Quality shall not be required to enter into a grant agreement with a facility designated as a significant discharger or eligible nonsignificant discharger if the Director determines that the use of nutrient credits in accordance with the Chesapeake Bay Watershed Nutrient Credit

Exchange Program (§ [62.1-44.19:12](#) et seq.) would be significantly more cost-effective than the installation of nutrient controls for the facility in question.

This Exchange Compliance Plan is conditioned on the execution of WQIF Grant Agreement for each WQIF eligible project set forth herein. The Exchange and the Participants reserve the right to amend this plan in the event that, pursuant to section 10.1-1186.01, DEQ declines to enter into a WQIF Grant Agreement for such a project.

7.6 WQIF Credit Availability

Access to WQIF Credits in the event of a Credit shortfall situation is an essential element for providing the certainty and comfort level required for trading-based compliance plans. Accordingly, The Exchange Compliance Plan is conditioned on the SWCB and DEQ ensuring the continued availability of Credits through the WQIF at or below the prices currently specified in the General Permit.

7.7 Annual Updates

The Exchange and the Participants reserve the right to update and amend this Exchange Compliance Plan on an annual basis consistent with applicable laws and regulations.

7.8 Effluent Nutrient Concentrations

Concentrations contained herein are estimates for information purposes only and are not to be used as a basis for any regulatory decisions.

SECTION 8

Credit Exchange Policy



CREDIT EXCHANGE POLICY FOR THE PURCHASE AND SALE OF CHESAPEAKE BAY NUTRIENT CREDITS

ARTICLE I PURPOSE

This Credit Exchange Policy (this “Policy”) of the Virginia Nutrient Credit Exchange Association, Inc. (the “Nutrient Exchange”) is adopted pursuant to Article VII of the Bylaws for the purpose of coordinating and facilitating the participation of its Members in Virginia’s Chesapeake Bay Nutrient Credit Exchange Program established by Virginia Code section 62.1-44.19:12 *et seq.* Accordingly, this Policy is intended to provide a framework for the Exchange of Credits by and among the Members and, in addition to other benefits, to satisfy the standard requirement of Virginia Water Quality Improvement Fund Grant Agreements made pursuant to Virginia Code section 10.1-2117 *et seq.* that the grantee make available for Exchange any Credits remaining after complying with its Watershed General Permit limits.

ARTICLE II DEFINITIONS

Unless otherwise defined below or a different meaning is intended by the usage herein, all terms shall have the same definition as provided in section 9 VAC 25-820-10 of the Watershed General Permit.

Actual Class B Credits – In the Reconciliation Year, the quantity of Credits remaining for the Permitted Facility after adjusting Actual Net Credits for Class A Credit purchases and sales for the immediately preceding Compliance Year. This quantity equals Actual Net Credits plus any Class A Credit purchases and minus any Class A Credit sales for the Compliance Year.

Actual Credits – Credits actually generated during the Compliance Year prior to adjusting for Preliminary Uses of Credits. Actual Credits equal Delivered WLA minus Actual Load.

Actual Load – The Delivered Load actually discharged during the Compliance Year for one or more Permitted Facilities.

Actual Net Credits – Actual Credits minus the quantity of Credits not available due to Preliminary Uses of Credits.

Board of Governors (or Board) – The board of directors of the Nutrient Exchange.

Buyer – A Participant that purchases Credits for a given Compliance Year.

Class A Buyer – A Participant that requests the availability of, and agrees in advance to purchase, a specific quantity of Credits in accordance with this Policy. Except as otherwise

provided herein, a Class A Buyer is committed to purchasing its requested and agreed amount of Class A Credits, even if the Class A Buyer actually needs a lesser amount based on actual performance of its Permit Facility in a Compliance Year.

Class A Credits – Credits for which an agreement for sale and purchase in a specific quantity is made in advance in accordance with this Policy.

Class A Pledge – The quantity of Class A Credits that the Seller specifies and agrees to sell to the Nutrient Exchange as Class A Credits in accordance with this Policy.

Class A Seller – A Participant that agrees in advance to sell Class A Credits to the Nutrient Exchange in accordance with this Policy. Except as otherwise provided herein, a Class A Seller is responsible for making up any shortfall in its agreed amount of Class A Credits for a given Compliance Year and completing such sale.

Class B Credits – Credits for which no agreement for sale and purchase in a specific quantity is made in advance but which are pledged to the Nutrient Exchange in accordance with this Policy.

Clearing Account – An account of the Nutrient Exchange used for segregating funds from Credit Exchanges from other funds of the Nutrient Exchange.

Compliance Year – Any specific calendar year for which Exchanges are planned or executed.

Credit – Each pound of TN or TP by which the Expected Load (projections) or Delivered Load (actual) is less than the Delivered WLA for a Permitted Facility (or Permitted Facility Bubble). Note that while Credits can exist only in positive quantities, for planning and implementation purposes certain Credit-related values may be stated as negative quantities. For example, when a Permitted Facility's Expected Load is projected to exceed its Delivered WLA, the Plan will show a negative quantity of Expected Credits. Additional examples may include Expected Net Credits, Actual Credits, Actual Net Credits, and Actual Class B Credits.

Delivered WLA – The TN or TP WLA assigned to a Permitted Facility, either under the Water Quality Management Planning ("WQMP") Regulation (9 VAC 25-720) or otherwise, and adjusted by the applicable delivery factor under the Watershed General Permit and expressed as pounds per year.

Delivered Load – The TN or TP load discharged by a Permitted Facility during a Compliance Year, adjusted by the applicable delivery factor under the Watershed General Permit and expressed as pounds per year.

DEQ – The Virginia Department of Environmental Quality or, where appropriate, the State Water Control Board to which the Department serves as staff.

Designated Representative – A person who is a fulltime employee of, and is designated in writing by, the Participant to act on its behalf.

Exchange – The purchase and sale of a Credit of any class.

Exchange Compliance Plan (or Plan) – The plan submitted by the Nutrient Exchange to DEQ pursuant to 9 VAC 25-820-40 A as updated periodically pursuant to 9 VAC 25-820-40 B and 9 VAC 25-820-70 Part I D of the Watershed General Permit.

Exchange Compliance Plan Update (or Plan Update) – The update of the Exchange Compliance Plan required pursuant to 9 VAC 25-820-40 B and 9 VAC 25-820-70 Part I D of the Watershed General Permit.

Expected Class B Credits – The quantity of Credits projected to be remaining for a Permitted Facility after adjusting Expected Net Credits for Class A Credit sales for the current or any future Compliance Year. This quantity equals Expected Net Credits minus any Class A Credits committed by a Class A Seller for a Compliance Year.

Expected Load – The projected Delivered Load for a given Compliance Year for one or more Permitted Facilities.

Expected Credits – The amount of Credits projected for a given Compliance Year as determined by subtracting the Expected Load from the Delivered WLA.

Expected Net Credits – Expected Credits minus the quantity of Credits projected to not be available due to Preliminary Uses of Credits.

In-Bubble Exchange – A Preliminary Use of Credits consisting of Credit use by and among the Permitted Facilities within a Permitted Facility Bubble included in the Exchange Compliance Plan. In accordance with 9 VAC 25-820-70 Part I B 2 e of the Watershed General Permit, In-Bubble Exchanges are not Exchanges or credit acquisitions as described in 9 VAC 25-820-70 Part I J 2 of the Watershed General Permit.

Neutral Participant – A Participant which projects a positive quantity of Expected Net Credits for its Permitted Facility in a given Compliance Year, but which has not elected to be a Class A Seller for that Compliance Year.

Non-Participant – An owner or operator of a Permitted Facility that is not a Participant.

Participant – A Member owner or operator of a Permitted Facility included in the Exchange Compliance Plan which has executed the Nutrient Credit Services Agreement.

Permitted Facility – A facility authorized to discharge under the Watershed General Permit. The singular refers to the plural (Permitted Facilities) where appropriate. This term also refers to a Permitted Facility Bubble where appropriate.

Permitted Facility Bubble – Multiple Permitted Facilities under common ownership or operation that are subject to aggregated WLAs pursuant to 9 VAC 25-820-70 Part I B 2 of the Watershed General Permit.

Planning Period – The rolling five-year period covered by the Exchange Compliance Plan (or Plan Update) beginning with the year in which the Plan is due to be submitted to DEQ. For example, for the Exchange Compliance Plan 2008 Annual Update due and submitted to DEQ on February 1, 2008, the Planning Period is January 1, 2008 through and including December 31, 2012.

Preliminary Use of Credits – Any of the following three planned or actual uses of Credits: In-Bubble Exchange, Private Exchange, or WQIF-Held.

Private Exchange – A Preliminary Use of Credits consisting of an Exchange planned or executed directly between or among Participants or Non-Participants rather than through the Nutrient Exchange.

Reconciliation – The process for executing Exchanges for a Compliance Year.

Reconciliation Year – For each Compliance Year, the year immediately following during which time Exchanges for the Compliance Year are executed. For example, for Compliance Year 2011, the associated Reconciliation Year is 2012.

Seller – A Participant that supplies Credits for a given Compliance Year.

TN – Total nitrogen, a pollutant the discharge of which is authorized and limited under the Watershed General Permit.

TP – Total phosphorus, a pollutant the discharge of which is authorized and limited under the Watershed General Permit.

Watershed General Permit – The General Virginia Pollutant Discharge Elimination System Watershed Permit Regulation for Total Nitrogen and Total Phosphorus Discharges and Nutrient Trading in the Chesapeake Bay Watershed in Virginia (9 VAC 25-820) issued by the State Water Control Board effective for a five-year permit term beginning January 1, 2007 or as hereafter modified or reissued from time to time. Among other requirements, the Watershed General Permit imposes limitations on the discharge of TN and TP from Permitted Facilities (9 VAC 25-820-70 Part I B), and requires each permittee to submit to DEQ by August 1, 2007 and annually thereafter (currently by each February 1) a compliance plan (9 VAC 25-820-40), either individually or through the Nutrient Exchange, indicating how its facility(ies) will comply with such limitations.

WLA – A Wasteload Allocation for TN or TP as established under the Water Quality Management Planning Regulation, 9 VAC 25-720, and implemented through the Watershed General Permit. A WLA may be expressed in pounds per year as either a discharged WLA (*i.e.* end-of-pipe gross pounds) or as a Delivered WLA (*i.e.*, the discharged WLA multiplied by the

delivery factor applicable to the Permitted Facility as specified in the Watershed General Permit).

WQIF-Held – Pursuant to 9 VAC 25-820-70 Part I J 2 e of the Watershed General Permit, a Preliminary Use of Credits which consists of setting aside and not using within the Plan certain Credits associated with Permitted Facilities (or a portion thereof) not yet constructed and in operation. Such Credits are held in the Water Quality Improvement Fund administered by DEQ.

ARTICLE III GUIDING PRINCIPLES & GENERAL APPROACH

3.1 Guiding Principles. This Policy has been developed and is to be implemented in accordance with the following guiding principles adopted by the Nutrient Exchange:

(a) Guiding Principle No. 1: Environment First. The Nutrient Exchange, including its Exchange Compliance Plan and this Policy, is designed to ensure environmental protection first and foremost. Environmental protection is fostered by means of full compliance with the Watershed General Permit issued by DEQ.

(b) Guiding Principle No. 2: Voluntary Participation. Under governing laws and regulations, there is generally no requirement for a Permitted Facility to trade, *i.e.*, Exchange, Credits with any other person. Accordingly, the Nutrient Exchange, including its Exchange Compliance Plan and this Policy, is premised on the voluntary participation of Participants and their Permitted Facilities subject to applicable laws and regulations and the policies and procedures established by the Nutrient Exchange.

(c) Guiding Principle No. 3: Benefits for All. Consistent with the concept of voluntary participation, the Nutrient Exchange, including its Exchange Compliance Plan and this Policy, is designed with the intent of benefitting all Participants whether as a Buyer, Seller or Neutral.

(d) Guiding Principle No. 4: Remember the “Base Case.” This principle is a reminder that the Nutrient Exchange is a first-of-its-kind undertaking with the potential to provide significant benefits including water quality improvement, regulatory flexibility, and economic efficiency compared to the traditional regulatory approach lacking a trading option, and that the Nutrient Exchange intends to operate with this potential for broad benefit in mind.

3.2 General Approach. This Policy is designed to meet the following goals and objectives for the establishment of a successful Exchange Program: (a) a highly-structured, well-planned program, (b) a convenient and reliable Credit Exchange mechanism, (c) a practical legal structure that promotes participation by maintaining a high degree of flexibility for Participants, and (d) a fair and effective pricing methodology.

ARTICLE IV COMPLIANCE AND CREDIT EXCHANGE PLANNING

4.1 Participant-Driven Exchange Compliance Plan. The Nutrient Exchange has developed the Exchange Compliance Plan on behalf of the Participants for each of Virginia's five major river basins in accordance with the Watershed General Permit and intends to update the Plan annually by submittal of Plan Updates to DEQ. The Nutrient Exchange Compliance Plan is now and will continue to be based on the individual data provided by, and individual decisions made by, Participants with respect to their own Permitted Facilities, including revisions to relevant facility-specific information related to Class A Credit and Class B Credit Exchanges or other information, in accordance with the schedule at Attachment A and subject to acceptance by the Nutrient Exchange in accordance with this Policy and further subject to approval by DEQ.

4.2 Five-Year Planning Period. The Plan including any Plan Updates shall cover a rolling five-year Planning Period. For each Planning Period each of the following Plan elements shall be on a firm basis and may not be modified by a Participant except as provided in Section 4.8 (Modifications Within Planning Period): (a) Class A Credit sales and purchases once elected by a Participant, (b) the Class A Credit purchase price paid by a Class A Buyer (Attachment B), and (c) the Participant's commitment pursuant to Section 4.7 (Class B Credit Pledge) to provide to the Nutrient Exchange its Actual Class B Credits. With each Plan Update, Year 1 of the preceding Planning Period shall be dropped (except for purposes of Reconciliation), Year 2 through Year 5 of the preceding Planning Period (Year 1 through Year 4 of the Plan Update) shall remain unchanged with respect to the Plan elements stated in this Section as firm, and a new Year 5 shall be added based on data and information determined by each Participant with respect to its Permitted Facility. For example, in 2012, the Nutrient Exchange, in coordination with the Participants, will conduct the Reconciliation process for Compliance Year 2011 and update the five-year Plan to cover a Planning Period of 2012 through and including 2016, with the new fifth year (2016) based on data and information determined and submitted by each Participant with respect to its Permitted Facility. Without limiting the foregoing, it is nevertheless the intent of the Nutrient Exchange to accommodate through each Plan Update certain modifications related to firm elements of the Plan for the remaining four years of the Planning Period, whenever some or all of such modifications are determined by the Board in its discretion to be feasible and in the best interests of the Nutrient Exchange, as provided below in Section 4.8. Notwithstanding the foregoing provisions of this Section, if DEQ were to extend the schedule of compliance in Part I C 1 of the Watershed General Permit for any tributary (river basin) and parameter combination, the obligation of Participants to execute Exchanges of Credits for Permitted Facilities in such tributary (river basin) and for such parameter (TN or TP) as provided in the Exchange Compliance Plan shall be waived for each year prior to the first year for which compliance is required.

4.3 Annual Participant Data Update. The Nutrient Exchange may request and each Participant shall provide in a timely manner information necessary or useful for updating or otherwise administering the Plan. For purposes of Plan Updates, the Nutrient Exchange anticipates continuing to utilize a Facility Data Checklist. The most recent form of the Facility Data Checklist is attached as Attachment C and may be revised by the Nutrient Exchange from time to time. The Nutrient Exchange anticipates continuing to utilize a Compliance Deadline

Statement prior to the expiration of the schedule of compliance in Part I C 1 of the Watershed General Permit. The most recent form of the Compliance Deadline Statement is attached as Attachment D and may be revised by the Nutrient Exchange from time to time. With respect to the new fifth year of the Planning Period covered by each Plan Update, the Plan shall be based on data and information determined by the Participant during the Plan Update process. To meet applicable regulatory deadlines, Participants shall submit the requested data pursuant to the schedule at Attachment A, which may be revised by the Nutrient Exchange from time to time. Failure to meet submittal deadlines may result in omission of a Participant and its Permitted Facilities from the Plan at the discretion of the Nutrient Exchange.

4.4 Expected Net Credits. For each of its Permitted Facilities included in the Plan, the Participant will be responsible for specifying the Delivered WLA (established by regulation), Expected Load (derived from projected flow and concentration data provided by the Participant), Expected Credits, Preliminary Uses of Credits, and Expected Net Credits. Expected Net Credits is a planning figure only, and no Participant is obligated solely by its specification thereof to generate Credits in a quantity equal to or greater than the Expected Net Credits for the Planning Period.

4.5 Class A Credit Sale Obligations. Participants with Permitted Facilities projecting to generate a positive quantity of Expected Net Credits shall have the option to sell Class A Credits for a Compliance Year in the Planning Period at the premium Class A Credit price. Each such Participant shall specify its Class A Pledge as a quantity of Credits ranging from zero (0) up to the quantity of its Expected Net Credits for each year of the Planning Period, such quantity to be determined in the discretion of the Participant. Such specification shall be made for the full initial Planning Period and thereafter annually for the new fifth year of the five-year Planning Period. The Participant shall be obligated to provide to the Nutrient Exchange such quantity of Class A Credits. The specified quantity of Class A Credits shall be set forth in the Plan. Unless waived pursuant to section 5.10 (Waiver of Class A Credit Sales Obligation), the Participant agrees to sell such quantity of Credits to the Nutrient Exchange regardless of its Actual Net Credits (*i.e.*, a Class A Seller is responsible for making up any shortfall in its agreed amount of Class A Credits for a given Compliance Year and completing such sale). A Participant projecting to generate a positive quantity of Expected Net Credits but electing to make no firm Class A Credit sales obligation (*i.e.*, a Neutral Participant) shall specify a Class A Pledge of zero.

4.6 Class A Credit Purchase Obligations. For Permitted Facilities projecting Expected Net Credits in a negative quantity, to demonstrate a plan for compliance the Participant shall be obligated to purchase Credits in such quantity at the Class A Credit purchase price shown on Attachment B. For example, a Permitted Facility projecting in the 2008 Plan Update to have Expected Net Credits of TN of negative 500 for Compliance Year 2011 shall be obligated to purchase 500 TN Credits at the Class A Credit price in effect for 2011 (\$2.00 per Credit). This transaction shall be executed during the Reconciliation Year at which time the Credits shall be transferred and the price shall be paid. The Exchange Compliance Plan shall plan to meet this projected demand addressed in this Section through Class A Credit sales obligations under Section 4.5 to the extent available; however, to the extent that sufficient Class A Credits are not available, the Plan may address this demand by means of Class B Credits pledged by Participants. The Credit prices paid by a Buyer as shown on Attachment B are firm

for the Planning Period and shall be updated annually to include such price for the new fifth year of the Plan Update.

4.7 Class B Credit Pledge. By participating in the Exchange Compliance Plan, each Participant pledges one hundred percent of its Expected Class B Credits and agrees to transfer one hundred percent of its Actual Class B Credits from its Permitted Facilities to the Nutrient Exchange. The quantity of Expected Class B Credits is a projection only and it accommodates Preliminary Uses of Credits, including Private Exchanges planned and disclosed by the Participant in accordance with Section 4.9. Without limiting this pledge requirement, it is acknowledged and understood that Actual Class B Credits are anticipated to vary from the projection of Expected Class B Credits and that the Participant has no obligation to provide Actual Class B Credits in the same quantity as Expected Class B Credits, so long as the Participant transfers all of its Actual Class B Credits to the Nutrient Exchange. Among other purposes, it is the intent of this Section to enable Participants, which have entered into or will enter into a Virginia Water Quality Improvement Fund Grant Agreement with DEQ (*i.e.*, the owners of eligible municipal wastewater treatment plants) to satisfy the following standard provision of the typical grant agreement: “To aid in implementing the Nutrient Credit Exchange Program, the Grantee shall make all Point Source Nitrogen and Phosphorus Credits generated in a calendar year available for nutrient allocation compliance.” It is also the intent of this Section to include as Actual Class B Credits those Credits not identified as Expected Class B Credits due to any Preliminary Use of Credits but which are in fact available for Exchange through the Nutrient Exchange during the Reconciliation.

4.8 Modifications Within Planning Period. Notwithstanding the firm commitments for Class A Credits and Class B Credits provided in this Article IV, it is the intent of the Nutrient Exchange to accommodate through each Plan Update requests for modifications affecting the firm elements of the previous Planning Period, provided that the Board determines, in its discretion, that such modification is not reasonably expected to have a material adverse effect on the Nutrient Exchange or its Participants. Consistent with the guiding principles described above, the fact that a modification would result in a decrease in funds from Credit sales shall not preclude the Board from determining that a modification would not have a material adverse effect. In the event of multiple competing modification requests, (i) requests of existing Participants shall have priority over requests of potential new Participants, and (ii) to the extent that it is not feasible to honor all modification requests of existing Participants, the Nutrient Exchange generally intends to address the requests of existing Participants on a pro rata basis with respect to Credits. In order to manage requests for modifications within the Planning Period efficiently and fairly, the Nutrient Exchange shall establish annually a date by which Participants shall submit such requests. The modifications requested by any Participant, if accommodated in the Plan Update in whole or in part, shall be binding on such Participant.

(a) Class A Credit Sale Obligations. Notwithstanding the firm basis of Class A Credit sale obligations, a Class A Seller may decrease its Class A Credit sale obligations through the Plan Update to the extent the Board determines that a sufficient supply of Class A Credits is projected to remain to meet the existing Class A Credit demand of the existing Class A Buyers, and the Board, in its discretion, may accommodate further decreases taking into consideration Expected Class B Credit projections. Any Participant may increase its Class A

Credit sale obligation so long as the resulting Class A Credit supply does not exceed Class A Credit demand.

(b) Class A Credit Purchase Obligations. Notwithstanding the firm basis of Class A Credit purchase obligations, a Class A Buyer may decrease its Class A Credit purchase obligations to the extent the Board determines that Class A Credit demand exceeds Class A Credit supply. Any Participant may increase its Class A Credit purchase obligation to the extent of Class A Credit supply, and the Board, in its discretion, may accommodate further increases taking into consideration Expected Class B Credit projections.

(c) Class B Credits. As provided above in Section 4.7, Expected Class B Credits is a projection only and the Participant's obligation with respect to Class B Credits is limited to providing its Actual Class B Credits to the Nutrient Exchange. Accordingly, through each Plan Update, the Participant at its discretion may modify its projection of Expected Class B Credits for each and every year of the five-year Planning Period covered by the Plan Update.

(d) New Participants. The Nutrient Exchange intends to consider the admission of new Participants depending on whether the Nutrient Exchange anticipates a surplus of Credits or projects a need for or desires additional Credits during the Planning Period. Admission of new Participants shall be at the discretion of the Board and generally subject to the following conditions. When the Plan indicates a surplus of Class A Credits, a new Participant may be included subject to the condition that it may not sell Class B Credits until Year 3 and Class A Credits until Year 5 of the Plan Update that first includes the new Participant. When the Plan indicates a need for additional Class A Credits, a new Participant may be included subject to the condition that it may not purchase Credits until Year 5 of the Plan Update that first includes the new participant. These conditions may be waived or modified in whole or in part by the Board in its discretion.

4.9. Private Exchanges. Sections 4.4 (Expected Net Credits) and 4.7 (Class B Credit Pledge) notwithstanding, to facilitate adequate planning each Participant shall provide reasonable advance notice to the Nutrient Exchange of all Private Exchanges to which it is or will be a party. Such notice shall be made by the deadline in Attachment A for submitting the Facility Data Checklist during the Plan Update process and shall be effective for any Private Exchange for the Compliance Year beginning the next January 1 following such notice (or for any subsequent Compliance Year). The notice shall be on a form to be provided by the Nutrient Exchange and shall identify all parties and the quantity of Credits subject to the Private Exchange. For example, if a Participant desires to enter into a new Private Exchange for Compliance Year 2011, under the current schedule at Attachment A notice would be required by November 1, 2010 and such Private Exchange would be included in the Plan Update covering the Planning Period of Compliance Years 2011 through 2015. Nothing in this Section 4.9 shall affect the firm commitment as to Class A Credit purchases and sales once made by a Participant.

4.10 DEQ Approval. The Nutrient Exchange's goal is to maintain the Exchange Compliance Plan in a manner and form that best serves its Participants and complies with the terms and conditions of the Watershed General Permit. In the event that DEQ were to disapprove a Plan Update in whole or in part, the Nutrient Exchange shall be responsible only for

continuing to endeavor, in consultation with the Participants, to obtain DEQ approval pursuant to 9 VAC 25-820-40 B.

ARTICLE V CREDIT EXCHANGE RECONCILIATION

5.1 Administration of and Participation in Reconciliation. Beginning in 2012 for Compliance Year 2011, the Nutrient Exchange will administer and the Participants will participate in an annual Reconciliation pursuant to the Plan and this Policy for the preceding Compliance Year.

5.2 Annual Permitted Facility Reports. In accordance with the schedule at Attachment A, each Participant shall annually submit to the Nutrient Exchange a copy of the Participant's Annual Report to DEQ required by Part I F of the Watershed General Permit and such other information as may be reasonably requested by the Nutrient Exchange in administering the Reconciliation.

5.3 Initial Reconciliation Report. In accordance with the schedule at Attachment A, the Nutrient Exchange will prepare and distribute to the Participants the Initial Reconciliation Report for the immediately preceding Compliance Year. On a Permitted Facility and river basin-level basis for all Participants, the report shall present in ledger format an accounting of the generation and transfer of Credits within the Nutrient Exchange and among its Participants. The report shall specify for each Permitted Facility its Delivered WLA, Actual Load, Actual Credits, Preliminary Uses of Credits, Actual Net Credits, Class A Credit sales and purchases, and Actual Class B Credits, Credit prices, charges to Buyers, and revenues to Sellers. As applicable, the report will reflect application of the policies and procedures in Sections 5.9 (Initial Upgrades), 5.10 (Waiver of Class A Credit Sales Obligation), 5.11 (Option to Purchase Additional Credits During Reconciliation), and 5.12 (Credit Shortfall Management Procedures).

5.4 Credit Exchanges and Confirmations. The transfer of Credits from Sellers to the Nutrient Exchange, and from the Nutrient Exchange to Buyers, shall be implemented as follows.

(a) Credit Transfers from Sellers. Each year beginning 2012 (or one year later for each year by which DEQ extends the schedule of compliance for any tributary (river basin) and parameter (TN or TP) combination beyond January 1, 2011), Participants shall transfer to the Nutrient Exchange in accordance with the Initial Reconciliation Report and the schedule at Attachment A (i) the quantity of Class A Credits to which they have committed as Sellers and (ii) the quantity of their Actual Class B Credits, if any. Such transfer shall be effective without further action by the Participant and shall be confirmed by the Participant through execution by its Designated Representative of, and submittal to the Nutrient Exchange of, the Seller's Credit Exchange Confirmation Form (Attachment E).

(b) Credit Transfers to Buyers. Each year beginning 2012 (or one year later for each year by which DEQ extends the schedule of compliance for any tributary (river basin) and parameter (TN or TP) combination beyond January 1, 2011), the Nutrient Exchange shall

transfer to Buyers in accordance with the Initial Reconciliation Report and the schedule at Attachment A the quantity of Credits committed to and requested by such Buyers subject to the terms and limitations of this Policy. Such transfer shall be accomplished and confirmed by the Nutrient Exchange through execution and submittal to Buyers of the Buyer's Credit Exchange Confirmation Form (Attachment F). In addition, the Nutrient Exchange shall invoice each Buyer for Credit purchases in accordance with the schedule at Attachment A, and each Buyer shall pay such invoice within forty-five (45) days of the invoice date. Failure to pay such invoice within such time shall require payment by the Participant of an administrative charge of one hundred dollars (\$100.00) plus ten percent (10%) of the amount of the invoice.

5.5 Sales of Surplus Credits to Non-Participants. For any Compliance Year and associated Reconciliation Year, for any river basin and parameter (TN or TP) combination, if the Nutrient Exchange has satisfied all of the needs for Credits for Participants as specified in the Exchange Compliance Plan or as otherwise requested by Participants for Watershed General Permit compliance purposes, and has remaining Credits, the Nutrient Exchange may sell such remaining Credits, in the discretion of the Board, to any Non-Participants requesting and committing to the purchase of such Credits subject to terms established by the Board in accordance with this Policy. The revenue from any Credit sales to Non-Participants or others shall be distributed to the Participants in the manner provided in Section 5.8.

5.6 Final Reconciliation Report. In accordance with the schedule at Attachment A, the Nutrient Exchange will prepare and distribute to the Participants the Final Reconciliation Report for the immediately preceding Compliance Year to reflect any adjustments subsequent to the Initial Reconciliation Report for sales of surplus Credits to Non-Participants or as otherwise may be appropriate.

5.7 Sources of Funds. The sources of funds for the Nutrient Exchange's purchase of Credits from Sellers shall be the funds paid by Buyers, the funds paid by any Non-Participants or others purchasing Credits through the Nutrient Exchange, and any other revenues accruing to the Nutrient Exchange that the Board designates for this purpose.

(a) Clearing Account. All such funds shall be segregated for accounting purposes from any other funds of the Nutrient Exchange in a Clearing Account for the purposes of holding prior to distribution and of distributing such funds to Sellers in the manner provided in this Policy.

(b) Prices Paid by Buyers and Non-Participants. The prices for Credits shall be (i) for Buyers of Credits in the quantities scheduled in the Plan as Class A Credit purchases the Class A Credit price on Attachment B, (ii) for Participants making additional Credit purchases beyond those scheduled in the Plan as Class A Credit purchases, the Class A Credit Price from Attachment A multiplied by a premium of 1.5, and (iii) for any Non-Participant or others for purchases as provided in Section 5.5, the Class A Credit Price from Attachment A multiplied by a premium which shall be established by the Board but which shall not be less than 2.0, unless the Board in its discretion determines that a lesser premium is in the best interests of the Nutrient Exchange and its Participants.

5.8 Disbursement of Funds to Sellers. The Nutrient Exchange shall disburse funds to Sellers from the Clearing Account as follows.

(a) Timing. Funds shall be disbursed to Sellers each Reconciliation Year in accordance with the schedule at Attachment A, or as soon thereafter as may be practical.

(b) Amounts Paid to Sellers. Ninety (90) percent of the amount in the Clearing Account and due to the Nutrient Exchange from Buyers for each Compliance Year in the Reconciliation Year shall be paid to the Class A Sellers, pro rata in proportion to the quantity of such Class A Credits transferred by each. The remaining ten (10) percent shall be paid to those Participants transferring Class B Credits to the Nutrient Exchange, pro rata as to the quantity of such Class B Credits transferred by each. However, if under the preceding calculation the amount paid by the Nutrient Exchange for each Class B Credit would exceed the amount paid by the Nutrient Exchange for each Class A Credit, the amount paid for Class A and Class B Credits shall be equal and shall be paid to Sellers pro rata in proportion to the quantity of Credits transferred by each.

(c) Clearing Account Shortfalls Due to Non-Payment of Buyers. To the extent that any Buyer or other purchaser of Credits from the Nutrient Exchange fails to remit to the Nutrient Exchange any amounts for Credits when due, and such shortfall interferes with the distribution of funds as provided herein, in addition to the administrative charge provided in Paragraph 5.4(b) the Board may in its discretion (i) invalidate the Credit transfer to the non-paying person(s) and redistribute such Credits as provided in this Policy, (ii) extend additional time for payment on such terms as the Board may determine, or (iii) take other actions in the best interests of the Nutrient Exchange and the Participants. In any such event, the Board may further in its discretion either delay payments otherwise provided for in this Section 5.8, or make partial payments, pro rata as provided herein, pending resolution of such matters.

5.9 Initial Upgrades. The Nutrient Exchange and the Participants acknowledge that for the initial Permitted Facility wastewater treatment upgrades necessary to implement the Exchange Compliance Plan for any river basin beginning January 1, 2011 (or such later initial year for compliance as DEQ may approve), the availability of engineering design services, the availability of construction services, availability of Water Quality Improvement Fund grant funds, extreme weather and other factors may make a Participant's provision and transfer to the Nutrient Exchange of Class A Credits impracticable and beyond the reasonable control of such Participant. In any case in which such transfer to the Nutrient Exchange of Class A Credits is determined by the Board in its discretion to be impracticable and beyond the reasonable control of such Participant, such not-at-fault Participant shall be relieved of its obligations for the transfer to the Nutrient Exchange of Class A Credits, but only the extent that such Credits are actually not available to such Participant and only for the period of time of the initial unavailability. Any resulting Credit shortfalls impacting the ability to supply Credits to Class A Buyers shall be managed in accordance with Section 5.12 (Credit Shortfall Management Procedures). In addition, the Nutrient Exchange shall request DEQ's concurrence that neither the not-at-fault Class A Seller(s) as defined in this Section 5.9 nor the not-at-fault waiting Buyer(s) will be deemed to be in noncompliance or subject to enforcement solely because of such circumstances and related Credit supply impacts.

5.10 Waiver of Class A Credit Sales Obligation. If during the Reconciliation Year sufficient Credits exist to meet the demands of all Participants for the Compliance Year, a Class A Seller's Class A Credit sales obligation shall be waived to the extent of its Class A Credit shortfall.

5.11 Option to Purchase Additional Credits During Reconciliation. If during the Reconciliation Year sufficient Credits exist to meet the demands of all Participants for the Compliance Year, after waivers of Class A Credit sale obligations pursuant to Section 5.10 any Participant desiring to purchase additional Credits for unanticipated needs (*i.e.*, Credits required beyond the Participant's Class A Credit purchases scheduled in the Exchange Compliance Plan) may purchase such Credits from the Nutrient Exchange at the premium price applicable to Participants as specified in Paragraph 5.7(b)(ii) to meet its Watershed General Permit compliance obligations.

5.12 Credit Shortfall Management Procedures.

(a) If insufficient Credits exist to meet the demands of all Participants, Class A Buyers shall have priority access to available Credits to the extent provided in this Paragraph 5.12(a). To the extent of the available Credits, Credits shall first be transferred to Class A Buyers in a quantity sufficient to satisfy either the amount of Credits scheduled as a Class A Credit purchase in the Exchange Compliance Plan for each Class A Buyer or the amount of Credits actually needed by the Class A Buyer to comply with its Delivered WLA, whichever is less for each Class A Buyer (its "Class A Shortfall Distribution Quantity"). Such distribution to Class A Buyers and any subsequent distribution to Participants shall be implemented in accordance with either Paragraph 5.12(b) or Paragraph 5.12(c), as appropriate.

(b) If the distribution of available Credits pursuant to Subparagraph 5.12(a) is insufficient to satisfy all Class A Buyers in the manner and to the extent provided in Subparagraph 5.12(a), the following procedure shall apply: (i) all available Credits will be distributed among the Class A Buyers pro rata in proportion to the Class A Shortfall Distribution Quantity of each, and (ii) all Class A Sellers that failed to generate and transfer all of the Class A Credits that such Sellers had agreed to provide pursuant to Section 4.5 of this Policy and scheduled in the Plan shall make up their allocable share of any remaining shortfall of Class A Credits to the extent required to meet the total Class A Shortfall Distribution Quantity of all Class A Buyers, pro rata in proportion to each such Class A Seller's Class A Credit sales shortfall, by acquiring Credits from outside of the Nutrient Exchange, from the Water Quality Improvement Fund administered by DEQ, or as otherwise allowed under applicable law.

(c) If the distribution of available Credits pursuant to Subparagraph 5.12(a) is sufficient to satisfy all Class A Buyers in the manner and to the extent provided in Subparagraph 5.12(a), any remaining Credits shall be transferred in equal shares to all Participants who desire such Credits; provided, however, that no Participant may purchase more Credits than required for compliance of its Permitted Facility under the Watershed General Permit. Each Participant with a remaining need for Credits thereafter shall be solely responsible for acquiring sufficient

additional Credits from outside of the Nutrient Exchange, from the Water Quality Improvement Fund administered by DEQ, or as otherwise allowed under applicable law.

(d) In the discretion of the Board, the Nutrient Exchange may assist the Participants in acquiring sufficient additional Credits from outside of the Nutrient Exchange, from the Water Quality Improvement Fund administered by DEQ, or as otherwise allowed under applicable law; however, the Nutrient Exchange shall have no liability whatsoever for or related to a Credit shortfall regardless of the cause thereof.

ARTICLE VI MISCELLANEOUS PROVISIONS

6.1 Amendments. This Policy may be amended from time to time in accordance with Article VII of the Bylaws.

6.2 Administrative Obligations. As a condition of continuing participation and without limiting any other provision of this Policy, each Participant shall (a) execute and comply with terms of the Nutrient Credit Services Agreement; (b) pay any applicable fees in a timely manner, and (c) pay its Credit purchase costs as provided herein in a timely manner.

6.3 Compliance with Watershed General Permit; Exchange Not Liable. Each Participant shall remain responsible for ensuring its own compliance with the Watershed General Permit. Neither the Nutrient Exchange, nor its officers, governors (directors), technical consultants or other advisors shall be responsible for assuring an adequate supply of Credits or for any other costs or damages of any kind related in any way to the operation of the Nutrient Exchange, including consequential damages.

6.4 No Waiver. No failure to exercise, and no delay in exercising, any right, power or privilege under this Policy by the Nutrient Exchange shall operate as a waiver, nor shall any single or partial exercise of any right, power or privilege hereunder preclude the exercise of any other right, power or privilege. No waiver by the Nutrient Exchange of any breach of any provision shall be deemed to be a waiver of any preceding or succeeding breach of the same or any other provision, nor shall any waiver be implied from any course of dealing.

ATTACHMENTS

- A Annual Schedule for Plan Update and Reconciliation Processes
- B Credit Price Schedule
- C Facility Data Checklist
- D Compliance Deadline Statement
- E Seller's Credit Exchange Confirmation Form
- F Buyer's Credit Exchange Confirmation Form

ATTACHMENT A

ANNUAL SCHEDULE

<u>Action</u>	<u>Deadline</u>	<u>Party Responsible</u>	<u>Policy Section(s)</u>
Submit Class A Credit Sale/Purchase Obligation Change Requests (OPTIONAL) (only for changes proposed to current Planning Period, not for new Year 5)	Sept. 1	Participant	4.8
Submit Facility Data Checklist (Attachment C) for Plan Update Development	Sept. 1	Participant	4.3
Submit Annual Report to Nutrient Exchange (and DEQ per 9 VAC 25-820-70 Part I F)	Feb. 1	Participant	5.2
Submit Exchange Compliance Plan Update to DEQ	Feb. 1	Exchange	4.1, 4.10
Prepare Initial Reconciliation Report	Mar. 7	Exchange	5.3
Distribute Credit Exchange Confirmation Forms to Sellers	Mar. 15	Exchange	5.4(a)
Distribute Invoices to Buyers	Mar. 15	Exchange	5.4(b)
Submit Credit Exchange Confirmation Forms to Nutrient Exchange	April 15	Sellers	5.4(a)
Invoice Payments Due from Buyers	May 1	Buyers	5.4(b), 5.7
Distribute Signed Credit Exchange Confirmation Forms to Buyers	May 20	Exchange	5.5(b)
Certify Credit Purchases to DEQ (9 VAC 25-820-70 Part J 2 f)	June 1	Buyers	N/A
Prepare Final Reconciliation Report	June 15	Exchange	5.4
Disbursement of Funds to Participants for Credit Sales	Aug. 1	Exchange	5.8

ATTACHMENT B

CREDIT PRICE SCHEDULE

Compliance Year	Reconciliation Year	Class A Credit Purchase Price (\$/Credit)		Price Status (Firm or Estimate)
		<i>Nitrogen</i>	<i>Phosphorus</i>	
2011	2012	\$2.00	\$4.00	Firm
2012	2013	\$2.00	\$4.00	Firm
2013	2014	\$2.15	\$4.30	Firm
2014	2015	\$2.65	\$4.60	Firm
2015	2016	\$3.05	\$4.93	Firm
2016	2017	\$3.50	\$5.27	Firm
2017	2018	\$3.75	\$5.65	Firm
2018	2019	\$3.78	\$5.70	Firm
2019	2020	\$3.82	\$5.76	Firm
2020	2021	\$3.86	\$5.81	Firm
2021	2022	\$3.87	\$5.82	Firm

ATTACHMENT C

FACILITY DATA CHECKLIST FOR 2017 COMPLIANCE PLAN ANNUAL UPDATE

Participant (Owner) Name: _____

Facility Name: _____

Designated Representative (or Alternate) Name: _____

Contact Phone: _____

Contact Email: _____

(please enter information only in cells with blue text)

NITROGEN Data Checklist	New 5th Year	Estimates Beyond 5-year Planning Period			
	2021	2022	2023	2024	
Projected Flow (mgd)	0.00	0.00	0.00	0.00	
Projected mg/L (avg. annual)	0.00	0.00	0.00	0.00	
End-of-Pipe Pounds	0	0	0	0	
Delivery Factor¹	0.00	0.00	0.00	0.00	
Delivered Pounds	0	0	0	0	
Delivered WLA¹	0	0	0	0	
Expected Credits	0	0	0	0	
Adjustments In (Out) ²	0	0	0	0	
Net Expected Credits	0	0	0	0	
Class A Sales (Purchases)³	0	0	0	0	
<i>Expected Class B Credits</i>	0	0	0	0	
Class A Purchase Price (\$/lb)	\$ 3.87				
Facility Class A Purchase Cost⁵	\$ -				

PHOSPHORUS Data Checklist	New 5th Year	Estimates Beyond 5-year Planning Period			
	2021	2022	2023	2024	
Projected Flow (mgd) ⁴	0.00	0.00	0.00	0.00	
Projected mg/L (avg. annual)	0.00	0.00	0.00	0.00	
End-of-Pipe Pounds	0	0	0	0	
Delivery Factor¹	0.00	0.00	0.00	0.00	
Delivered Pounds	0	0	0	0	
Delivered WLA¹	0	0	0	0	
Expected Credits	0	0	0	0	
Adjustments In (Out)	0	0	0	0	
Net Expected Credits	0	0	0	0	
Class A Sales (Purchases)	0	0	0	0	
<i>Expected Class B Credits</i>	0	0	0	0	
Class A Purchase Price (\$/lb)	\$ 5.82				
Facility Class A Purchase Cost⁵	\$ -				

1 - Facility-specific Delivery Factors and Delivered WLAs as shown on DEQ's Draft Registration List for calendar year 2021

2 - Adjustments include Private Exchanges, Bubble Exchanges, or WQIF-held Credits; enter a positive number for receipt of Credits, enter a negative number for Credits given to other facilities (or WQIF-held credit)

3 - If showing positive value for Net Expected Credits, enter the number of Class A Credits committed for sale (enter 0 if no Class A Credits are committed for sale).

3 - If showing negative value for Net Expected Credits, enter the same value in this row to indicate Class A Credit purchase commitment (consistent with Credit Exchange Policy)

4 - Projected flows for the Phosphorus Credit forecast are set equal to those used to generate the Nitrogen Credit forecast

5 - Represents the total purchase cost to the facility (regardless of actual Credit need) based on the Credit purchase forecast and corresponding Class A purchase price

ATTACHMENT D

**COMPLIANCE STATEMENT FOR FACILITIES SUBJECT TO REDUCED
WASTELOAD ALLOCATIONS IN CHESAPEAKE BAY TMDL**

Facility (Or Owner Bubble) Name: _____

Basin/Nutrient(s): _____

Compliance Information Required by 9 VAC 25-820-40 A 2 (Check Option 1 or Option 2)

_____ Option 1 (9 VAC 25-820-40 A 2 b): Permittee hereby requests WLA to be effective as of January 1, 2012.

_____ Option 2 (9 VAC 25-820-40 A 2 a): Additional capital project(s) is needed to ensure continued compliance with the WLA through the applicable compliance schedule deadline for the tributary. (Note: Checking Option 2 does not preclude use of credit purchase as means of compliance below.)

If Option 2 is checked, briefly describe need for additional projects:

Implementation Schedule

1. Does permittee anticipate using credit purchase to comply?

_____ NO _____ YES

2. Is permittee implementing a capital project to comply?

_____ NO _____ YES

(If YES, compliance is required as soon as possible but no later than the applicable tributary compliance schedule deadline.)

3. Capital Project Milestone Schedule (Specify estimated date for each milestone. For bubbles, specify facility name(s) and list multiple facility schedules if applicable.)

Engineer selection	_____
PER/CER to DEQ	_____
Plans & Specifications to DEQ	_____
Commence construction	_____
Complete construction	_____
CTO Request to DEQ (POTWs only)	_____

ATTACHMENT E

**SELLER'S CREDIT EXCHANGE CONFIRMATION FORM
COMPLIANCE YEAR 20__**

The execution of this Credit Exchange Confirmation Form confirms a Credit Transfer from the Participant to the Nutrient Exchange pursuant to the Section 5.4(a) of the Credit Exchange Policy of the Nutrient Exchange. Capitalized terms have the meanings provided in the Credit Exchange Policy.

In accordance with the provisions of and subject to the terms and limitations of the Credit Exchange Policy and the Nutrient Credit Services Agreement, the undersigned Participant hereby:

1. Acknowledges receipt of the Initial Reconciliation Report dated _____.
2. Confirms and represents that the Initial Reconciliation Report correctly states for its Permitted Facility(ies) in the Exchange Compliance Plan the amounts of Class A Credits of TN and TP and Class B Credits of TN and TP transferred to the Nutrient Exchange.
3. Acknowledges and confirms the transfer of such Credits in such amounts to the Nutrient Exchange.

To be completed by Participant:

Participant Name (Organization): _____

Designated Representative (Print): _____

Designated Representative Signature: _____

Date: _____

No later than April 15 submit the signed original form to:

Virginia Nutrient Credit Exchange Association, Inc.

ATTN: Secretary

P.O. Box 51

Richmond, VA 23218-0051

ATTACHMENT F

BUYER'S CREDIT EXCHANGE CONFIRMATION FORM

The execution of this Credit Exchange Confirmation Form confirms a Credit Transfer to the Participant from the Nutrient Exchange pursuant to the Section 5.4(b) of the Credit Exchange Policy of the Nutrient Exchange. Capitalized terms have the meanings provided in the Credit Exchange Policy.

In accordance with the provisions of and subject to the terms and limitations of the Credit Exchange Policy and the Nutrient Credit Services Agreement, the Nutrient Exchange hereby transfers to the Participant identified herein the following amounts of Credits of TN and TP:

Participant Name (Organization): _____

River Basin (One Per Form): _____

Compliance Year: _____

TN Credits (Pounds): _____

TP Credits (Pounds): _____

VIRGINIA NUTRIENT CREDIT EXCHANGE ASSOCIATION, INC.

By: _____

Title: _____

Date: _____

For convenience, the next page of this form made be used, subject to DEQ's approval, by the Participant to make its required certification of credit acquisition to DEQ.

**BUYER'S CREDIT EXCHANGE NOTIFICATION TO DEQ
PURSUANT TO PART I J 2 f OF THE GENERAL PERMIT
FOR TOTAL NITROGEN AND TOTAL PHOSPHORUS DISCHARGES AND
NUTRIENT TRADING IN THE CHESAPEAKE BAY WATERSHED IN VIRGINIA
9 VAC 25-820-70**

General Permit Registration No.: _____

Permittee Name: _____

Pursuant to Part I J 2 f of the Watershed General Permit, the above-named Permittee, a Participant in the Virginia Nutrient Credit Exchange Association, Inc., hereby certifies that it has acquired sufficient Credits to satisfy its compliance obligations. The Credit Exchange Confirmation Form on the reverse side of this notification form documents the quantity of Credits of TN and TP transferred from the Nutrient Exchange to the Participant for the Compliance Year.

I certify under penalty of law that this notification and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Principal Executive Officer
or Authorized Agent: _____

Typed or Printed Name: _____

Signature: _____

Area Code/Phone Number: _____

Date: _____

APPENDIX A

DEQ Approval Letters





COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

Street address: 629 East Main Street, Richmond, Virginia 23219

Mailing address: P.O. Box 1105, Richmond, Virginia 23218

Fax (804) 698-4500 TDD (804) 698-4021

www.deq.virginia.gov

L. Preston Bryant, Jr.
Secretary of Natural Resources

David K. Paylor
Director

(804) 698-4000
1-800-592-5482

September 7, 2007

Mr. Mark Haley
President, Board of Governors
Virginia Nutrient Credit Exchange Association, Inc.
P.O. Box 51
Richmond, VA 23218-0051

RE: Exchange Compliance Plan, July 31, 2007

Dear Mr. Haley:

We have reviewed the Exchange's July 31, 2007 Compliance Plan and your letter of July 30, 2007 and are very pleased by the progress being made by the Exchange members. Especially encouraging are the projections that expected TN and TP loads will be below the aggregate wasteload allocations in all five basins by 2011.

After a careful review of all of the individual compliance plans and the Exchange's compliance plan, DEQ staff recommends that the existing 2011 compliance deadline be retained at this time for both parameters in all five basins. The Class A/Class B trading system adopted by the Exchange has served as an excellent tool for managing trades among its members. However, using only Class A pledges as the basis for determining a river basin compliance date appears inconsistent with the permit condition of achieving compliance "as soon as possible". In establishing "as soon as possible" compliance dates, DEQ must rely on the completion of projects that allow limits to be met and not delay the regulatory deadline due to a reluctance to sign Class A pledges.

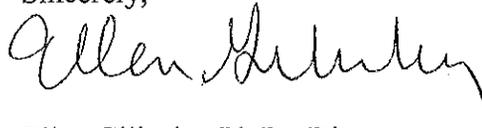
We share your concern with the completion of so many projects on such a tight timeline. However, at this early date it is not possible to determine how quickly individual construction projects will proceed and what the actual capabilities of the upgraded facilities will be. For instance, after a year of progress, the performance of Exchange members was significantly better than what was projected for these facilities in the April 2006 draft report. Future annual compliance plan updates and DEQ's semi-annual WQIF progress reports will add further clarity to these projections and will be used along with the scheduling factors in the Virginia Code and the "as soon as possible" criteria to evaluate the need for basin schedule extensions. Accordingly, we believe that The Exchange's proposed footnote for the watershed general permit compliance table is neither necessary nor does it provide the public or EPA with an

opportunity to participate in regulatory changes to the permit schedules. Should it prove necessary, DEQ will initiate amendment to the permit under the Administrative Process Act to make appropriate revisions to the schedule.

We also share your desire for DEQ to provide a safe regulatory environment for participating owners to commit to buy or sell credits. The very existence of the trading program represents a significant reduction in risk for the permittees. This risk is further reduced by the ability to purchase compliance credits from the WQIF. DEQ has proposed to incorporate into the WQIF cost-control guidelines a provision that credits generated via WQIF-funded upgrades would be made available to other permittees by the facility generating the credits. As suggested in your July 30th letter, we are also pursuing a means of sustaining a pool of WQIF-funded BMP projects that will serve as a source of WQIF credits in each basin.

We greatly appreciate the Exchange's efforts in encouraging and facilitating the cooperation of over 100 facilities to reduce nutrient loads to the Chesapeake Bay, and look forward to our continued working relationship with your organization.

Sincerely,

A handwritten signature in cursive script, appearing to read "Ellen Gilinsky".

Ellen Gilinsky, Ph.D., Director
Division of Water Quality



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
Street address: 629 East Main Street, Richmond, Virginia 23219
Mailing address: P.O. Box 1105, Richmond, Virginia 23218
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www.deq.virginia.gov

L. Preston Bryant, Jr.
Secretary of Natural Resources

David K. Paylor
Director

(804) 698-4000
1-800-592-5482

April 25, 2008

Mr. Mark A. Haley, President
Virginia Nutrient Credit Exchange Association, Inc.
P.O. Box 51
Richmond, VA 23218-0051

Re: Exchange Compliance Plan 2008 Annual Update

Dear Mr. Haley: *Mark*

We have reviewed the Exchange's February 1, 2008 Compliance Plan Update and DEQ gives its approval for implementation of the plan under the watershed general permit. We are very pleased by the progress being made by the organization and its members. The growth in membership has been impressive and we expect that participation will continue to grow as the January 1, 2011 deadline approaches and more facilities recognize the benefits of membership.

Equally impressive is the reduction in load made in some basins as more and more facilities optimize their operations. The Exchange members managed to operate below their combined TN wasteload allocations in the Potomac and Rappahannock Basins and below their combined TP wasteload allocations in the York and (Lower) James Basins; however we must recognize 2007 was a dry year.

We will continue to monitor and evaluate progress in each basin as noted in my September 7, 2007 letter and Section 7.1 of the annual update. Between the annual compliance plan updates, the WQIF annual reports and the annual load reports we are confident that we will stay on top of this issue and be able to make any schedule adjustments necessary. Also as noted in my September 7, 2007 letter, the conditions in Section 7.2 on the compliance plan do not dictate the terms of DEQ's enforcement policy. However, please rest assured that DEQ too has much invested in the watershed general permit and intends to work cooperatively with all stakeholders to ensure a fair and successful program.

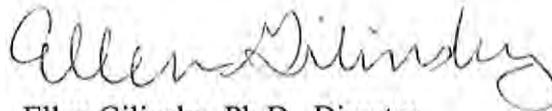
With respect to the Eastern Shore Basin, we share your concern that the basin is not large enough to provide ample trading partners. As you know a legislative change would be required to open up the Eastern Shore market to include purchases from the Potomac and Rappahannock Basins.

Mr. Mark A. Haley
April 25, 2007
Page 2 of 2

We have noted in recent weeks that as WQIF agreements and VPDES permits are negotiated, a few facilities have backed off of the upgrade plans provided to the Exchange. So far none of these changes appear to affect the basin compliance goals. We intend to track these discrepancies to ensure that they do not have an adverse impact on basin compliance as a whole and will continue to instruct such facilities to keep the Exchange informed of any changes in their plans.

In closing, we continue to be encouraged by the progress in the trading program and by the cooperation and efforts of the Exchange and its members in particular. We look forward to another year of this partnership and progress towards a restored Chesapeake Bay.

Sincerely,

A handwritten signature in cursive script that reads "Ellen Gilinsky".

Ellen Gilinsky, Ph.D., Director
Division of Water Quality

Cc: Mr. Chris Pomeroy, Esq. - AquaLaw



COMMONWEALTH of VIRGINIA

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Secretary of Natural Resources

David K. Paylor
Director

(804) 698-4000
1-800-592-5482

September 24, 2009

Mr. Mark A. Haley, President
Virginia Nutrient Credit Exchange Association, Inc.
P.O. Box 51
Richmond, VA 23218-0051

Re: Exchange Compliance Plan 2009 Annual Update

Dear Mr. Haley:

We have reviewed the Exchange's February 1, 2009 Compliance Plan Update and DEQ gives its approval for implementation of the plan under the watershed general permit. We remain very pleased by the progress being made by the organization and its members. Point source Total Nitrogen and Total Phosphorus delivered loads decreased in each of the five permitted watersheds in 2008.

We share your concern with the lack of trading partners on the Eastern Shore and look forward to working with the Exchange in the next year to address this issue. Finally, our staff has had some discussions with you concerning a few survey responses that appear to be out of date by the time they are compiled and submitted. A few such situations may be inevitable as many facilities have struggled with upgrade decisions in the middle of the economic downturn. We are currently reviewing WQIF records to provide you with a list of apparent discrepancies for use in reviewing the next round of survey responses.

We look forward to another year of partnering with the Exchange and its members in pursuit of a restored Chesapeake Bay.

Sincerely,

A handwritten signature in cursive script, reading "Frederick K. Cunningham".

Frederick K. Cunningham
Water Permit Manager

Office of Water Permits and Compliance Assistance

Cc: Mr. Chris Pomeroy, Esq. - AquaLaw



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
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Douglas W. Domenech
Secretary of Natural Resources

David K. Paylor
Director

(804) 698-4020
1-800-592-5482

November 2, 2010

Mr. Mark A. Haley, President
Virginia Nutrient Credit Exchange Association, Inc.
P.O. Box 51
Richmond, VA 23218-0051

Re: Exchange Compliance Plan 2010 Annual Update

Dear Mr. Haley:

We have reviewed the Exchange's February 1, 2010 Compliance Plan Update and DEQ gives its approval for implementation of the plan under the watershed general permit. With numerous upgrades now close to completion, we look forward to compliance with the Total Nitrogen and Total Phosphorus wasteload allocations in 2011. DEQ will be distributing final Discharge Monitoring Reports to all registered facilities early next year. The Exchange and its members are to be congratulated for all the hard work that has made meeting this aggressive deadline possible.

We look forward to another year of partnering with the Exchange and its members in pursuit of a restored Chesapeake Bay.

Sincerely,

A handwritten signature in cursive script, appearing to read 'Frederick K. Cunningham'.

Frederick K. Cunningham
Water Permit Manager
Office of Water Permits and Compliance Assistance

cc: Mr. Chris Pomeroy, Esq. - AquaLaw



COMMONWEALTH of VIRGINIA

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Douglas W. Domenech
Secretary of Natural Resources

David K. Paylor
Director

(804) 698-4020
1-800-592-5482

January 26, 2012

Mr. Mark A. Haley, President
Virginia Nutrient Credit Exchange Association, Inc.
P.O. Box 51
Richmond, VA 23218-0051

Re: Exchange Compliance Plan 2011 Annual Update

Dear Mr. Haley:

We have reviewed the Exchange's February 1, 2011 Compliance Plan Update. The Plan is approved with the condition that the items included on the attached summary be addressed as appropriate in either the 2012 Compliance Plan Update due on February 2, 2012 or the Reconciliation for Compliance Year 2011 report due by June 1, 2012.

A preliminary review of the 2011 DMR data indicates that there are excess credits in all basins except the Eastern Shore and that the Eastern Shore shortfall can be covered by surplus credits in the Potomac and Rappahannock basins. The Exchange and its members are to be congratulated for all the hard work that has made meeting the January 1, 2011 compliance deadline possible.

We look forward to another year of partnering with the Exchange and its members in pursuit of a restored Chesapeake Bay.

Sincerely,

A handwritten signature in cursive script, appearing to read "Frederick K. Cunningham".

Frederick K. Cunningham

Water Permit Manager

Office of Water Permits and Compliance Assistance

cc: Mr. Chris Pomeroy, Esq. – AquaLaw

**EXCHANGE COMPLIANCE PLAN 2011 ANNUAL UPDATE:
ITEMS TO BE ADDRESSED PER DEQ CONDITIONAL APPROVAL**

1. Town of Onancock WWTP

For 2011, the Plan indicates that the Town of Onancock WWTP is using its 0.75 MGD WLAs; however, a CTO has not yet been issued for this design flow. Accordingly, the Plan should apply the 0.25 MGD allocation for 2011. This item should be addressed during Reconciliation for Compliance Year 2011. For later years, the 0.75 MGD WLAs may be applied beginning with the first full Compliance Year following issuance of the CTO.

2. Hanover County Bubble

The Plan indicates that a portion of the Totopotomoy WWTP's 10 MGD WLAs is used for trading outside the Hanover County bubble. DEQ expects any credits generated at other County facilities within the bubble (i.e. Doswell) to be used within the bubble before credits associated with Totopotomoy's pending 3 MGD expansion from 7 MGD to 10 MGD are used (i.e.. until the CTO for 10 MGD issued). This equates to 54,820 lbs/yr of TN and 6,396 lbs/yr of TP. This means that the first 54,820 lbs/yr of TN credits and 6,396 lbs/yr of TP credits that are not used within the Hanover bubble are treated as "WQIF-held." Based on the actual 2011 loads, the Reconciliation for Compliance Year 2011 should include:

	Total Aggregate Delivered WLA	2011 Actual Delivered Load	Gross 2011 Credits	Credits Associated with 3 MGD	WQIF Held Credits	Net Hanover Credits
Total N	210,692	67,251	143,441	54,820	54,820	88,621
Total P	25,156	5,508	19,648	6,396	6,396	13,252

3. Alleghany County

The Lower Jackson WWTP is shown as having a delivered TN WLA of 19,187 lbs/yr when the actual allocation is 8,223 lbs/yr. Likewise the TP delivered WLA is shown as 5,330 lbs/yr rather than 2,284 lbs/yr. Presumably the difference reflects the transfer of the entire Clifton Forge WLA to Lower Jackson WWTP. However the transfer of the Clifton Forge WLA will not occur until completion of the public notice period in February 2012. Therefore, it would be more appropriate to address this item as a Private Exchange in the Reconciliation for Compliance Year 2011.

Additionally, while the WLAs for Lower Jackson WWTP and Clifton Forge WWTP are based on a total capacity of 3.5 MGD, at this time only 2.6 MGD has been constructed. This equates to WQIF held credits of 4,934 delivered lbs/yr TN and 1,371 delivered lbs/yr TP. The WQIF held credits are properly indicated on the TN ledger however they are not included on the TP ledger. WQIF held credits should be accounted for in the Reconciliation for Compliance Year 2011 in a similar manner as with the Hanover County Bubble discussed above.

4. **Town of Culpeper WWTP**

The Plan should be updated to reflect consolidation of the Culpeper County Mountain Run 1.5 MGD WLAs with the WLAs of the expanded 6.0 MGD Town of Culpeper WWTP.

5. **Spotsylvania County Bubble**

While the bubble WLAs are correct, individual WLAs should be updated to reflect the transfer of 1.4 MGD of WLAs from FMC WWTP to Massaponax WWTP.



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

Street address: 629 East Main Street, Richmond, Virginia 23219

Mailing address: P.O. Box 1105, Richmond, Virginia 23218

TDD (804) 698-4021

www.deq.virginia.gov

Douglas W. Domenech
Secretary of Natural Resources

David K. Paylor
Director

(804) 698-4020
1-800-592-5482

January 22, 2013

Mr. Frank W. Harksen, President
Virginia Nutrient Credit Exchange Association, Inc.
P.O. Box 51
Richmond, VA 23218-0051

Re: Exchange Compliance Plan 2012 Annual Update

Dear Mr. Harksen:

We have reviewed the Exchange's February 1, 2012 Compliance Plan Update and DEQ gives its approval for implementation of the plan under the watershed general permit. Again in 2012, we expect there to be excess credits available in all basins except the Eastern Shore and that the Eastern Shore shortfall can be covered by surplus credits in the Potomac and Rappahannock basins. The Exchange and its members are to be congratulated for all the hard work that has made meeting and maintaining the Chesapeake Bay TMDL point source nutrient load caps possible.

We look forward to another year of partnering with the Exchange and its members in pursuit of a restored Chesapeake Bay.

Sincerely,

A handwritten signature in black ink that reads 'Frederick K. Cunningham'.

Frederick K. Cunningham
Water Permit Manager
Office of VPDES Permits

cc: Mr. Chris Pomeroy, Esq. – AquaLaw



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY
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Douglas W. Domenech
Secretary of Natural Resources

David K. Paylor
Director

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1-800-592-5482

December 18, 2013

Mr. Frank W. Harksen, President
Virginia Nutrient Credit Exchange Association, Inc.
P.O. Box 51
Richmond, VA 23218-0051

Re: Exchange Compliance Plan 2013 Annual Update

Dear Mr. Harksen:

We have reviewed the Exchange's February 1, 2013 Compliance Plan Update and the document is approved for implementation under the watershed general permit. We note that members of The Exchange continue to follow and participate in DEQ's reevaluation of the James River Chlorophyll-a criteria. Upon completion of the study DEQ will be establishing final individual wasteload allocations (WLAs) for the significant James River dischargers. As part of that process we will be performing an engineering costs analysis to help establish cost effective and equitable WLAs. We look forward to collaborating with the James River dischargers on the analysis as the final nutrient reduction goals for the James River Basin are developed.

The Exchange and its members are to be congratulated for all the hard work that has made meeting and maintaining the Chesapeake Bay TMDL point source nutrient load caps possible. We look forward to another year of partnering with the Exchange and its members in pursuit of a restored Chesapeake Bay.

Sincerely,

A handwritten signature in black ink that reads "Frederick K. Cunningham".

Frederick K. Cunningham, Manager
Office of Water Permitting

cc: Mr. Chris Pomeroy, Esq. – AquaLaw



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

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Douglas W. Domenech
Secretary of Natural Resources

David K. Paylor
Director

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1-800-592-5482

December 17, 2014

Mr. Frank W. Harksen, President
Virginia Nutrient Credit Exchange Association, Inc.
P.O. Box 51
Richmond, VA 23218-0051

Re: Exchange Compliance Plan 2014 Annual Update

Dear Mr. Harksen:

We have reviewed the Exchange's January 30, 2014 Compliance Plan Update and the document is approved for implementation under the watershed general permit. The Exchange and its members are to be congratulated for all the hard work that has made meeting and maintaining the Chesapeake Bay TMDL point source nutrient load caps possible. Please note that we will be publishing a Notice of Intended Regulatory Action for the reissuance of the Watershed General Permit in the coming month and will be soliciting participants in that process. We look forward to another year of partnering with the Exchange and its members in pursuit of a restored Chesapeake Bay.

Sincerely,


Frederick K. Cunningham, Manager
Office of Water Permitting

cc: Mr. Chris Pomeroy, Esq. – AquaLaw



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

Street address: 629 East Main Street, Richmond, Virginia 23219

Mailing address: P.O. Box 1105, Richmond, Virginia 23218

www.deq.virginia.gov

Molly Joseph Ward
Secretary of Natural Resources

David K. Paylor
Director

(804) 698-4000
1-800-592-5482

January 26, 2016

Mr. Frank W. Harksen, President
Virginia Nutrient Credit Exchange Association, Inc.
P.O. Box 51
Richmond, VA 23218-0051

Re: Exchange Compliance Plan 2015 Annual Update

Dear Mr. Harksen:

We have reviewed the Exchange's February 1, 2015 Compliance Plan Update and the document is approved for implementation under the watershed general permit. The Exchange and its members are to be congratulated for all the hard work that has made meeting and maintaining the Chesapeake Bay TMDL point source nutrient load caps possible.

We look forward to another year of partnering with the Exchange and its members in pursuit of a restored Chesapeake Bay.

Sincerely,

A handwritten signature in black ink, appearing to read 'Allan Brockenbrough, II'.

Allan Brockenbrough, II, Manager
Office of Water Permitting

cc: Mr. Chris Pomeroy, Esq. – AquaLaw



COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

Street address: 629 East Main Street, Richmond, Virginia 23219

Mailing address: P.O. Box 1105, Richmond, Virginia 23218

www.deq.virginia.gov

Molly Joseph Ward
Secretary of Natural Resources

David K. Paylor
Director

(804) 698-4000
1-800-592-5482

January 6, 2017

Mr. Frank W. Harksen, President
Virginia Nutrient Credit Exchange Association, Inc.
P.O. Box 51
Richmond, VA 23218-0051

Re: Exchange Compliance Plan 2016 Annual Update

Dear Mr. Harksen:

We have reviewed the Exchange's 2016 Compliance Plan Update and the document is approved for implementation under the watershed general permit. The Exchange and its members are to be congratulated for all the hard work that has made meeting and maintaining the Chesapeake Bay TMDL point source nutrient load caps possible.

We look forward to another year of partnering with the Exchange and its members in pursuit of a restored Chesapeake Bay.

Sincerely,

A handwritten signature in black ink, appearing to read "Allan Brockenbrough, II".

Allan Brockenbrough, II, Manager
Office of Water Permitting

cc: Mr. Chris Pomeroy, Esq. – AquaLaw

APPENDIX B

Form of Nutrient Credit Services Agreement



NUTRIENT CREDIT SERVICES AGREEMENT

THIS NUTRIENT CREDIT SERVICES AGREEMENT (this “Agreement”) made by and between the Virginia Nutrient Credit Exchange Association, Inc., (the “Nutrient Exchange”) and the undersigned owner or operator of a Permitted Facility included in the Exchange Compliance Plan (the “Participant”).

BACKGROUND

A. The Participant owns or operates a certain facility or facilities regulated under the General Virginia Pollutant Discharge Elimination System Watershed Permit Regulation for Total Nitrogen and Total Phosphorus Discharges and Nutrient Trading in the Chesapeake Bay Watershed in Virginia, 9 VAC 25-820, issued by the State Water Control Board and Department of Environmental Quality (collectively “DEQ”) for a five-year permit term beginning January 1, 2007 or as hereafter modified or reissued from time to time (the “Watershed General Permit”).

B. The Nutrient Exchange is a Virginia non-stock corporation comprised of permittees subject to the Watershed General Permit and is authorized by section 62.1-44.19:17 of the Code of Virginia to assist permittees with Watershed General Permit compliance and to facilitate voluntary nutrient credit trading.

C. Among other requirements, the Watershed General Permit (9 VAC 25-820-70, Part I B) imposes limitations on the discharge of two nutrients, total nitrogen and total phosphorus, from the Participant’s Permitted Facility(ies), and requires the Participant to submit to DEQ by August 1, 2007 and each February 1 thereafter, either individually or through the Nutrient Exchange, a compliance plan (9 VAC 25-820-40 and -70 Part I D) identifying how its Permitted Facility(ies) will comply with such limitations.

D. On behalf of the Participants and based on the data provided and decisions made by the individual Participants, the Nutrient Exchange has developed, and intends to maintain by means of the Watershed General Permit-required annual Plan Updates, a compliance plan for each of Virginia’s five major river basins (collectively the “Exchange Compliance Plan”) to assist the Participants in complying with the Watershed General Permit compliance plan requirement.

E. In addition, Participants in the Exchange Compliance Plan have the option of exchanging nutrient Credits. The Exchange Compliance Plan identifies firm commitments for the purchase and sale of Class A Credits at the request of numerous individual Participants who have elected to participate as Class A Buyers or Class A Sellers, and further establishes a market for and provides all Participants with the option of later purchasing available Class B Credits on more flexible terms to assist in maintaining compliance during unanticipated circumstances.

F. The Nutrient Exchange serves as the central trading exchange to facilitate the execution and reporting of these voluntary nutrient Credit Exchanges by and among its Participants in accordance with its Credit Exchange Policy, the Watershed General Permit and,

when applicable, Water Quality Improvement Fund Grant Agreements entered into by and between a Participant and DEQ.

AGREEMENT

NOW, THEREFORE, in consideration of the mutual covenants and conditions herein, the parties hereto agree as follows:

1. Annual Compliance Plan Updates. The Nutrient Exchange agrees to update the Exchange Compliance Plan annually and submit such Plan Update to DEQ for approval on or before the deadline (currently February 1 of each year) specified in Part I D of the Watershed General Permit. The Plan Update shall include updated information as provided by the Participant in accordance with the Credit Exchange Policy for its Permitted Facility(ies), including revisions to relevant facility-specific information. The Participant shall assist the Nutrient Exchange in the development of the Plan Update by providing information reasonably requested by the Nutrient Exchange in accordance with an annual Plan Update schedule to be established by the Nutrient Exchange.

2. Annual Reports. The Participant agrees to submit to the Nutrient Exchange a copy of the Participant's annual report to DEQ required by Part I F of the Watershed General Permit (9 VAC 25-820-70), and such other information as may be reasonably requested by the Nutrient Exchange to assist in the annual Reconciliation of Credit Exchanges for each Compliance Year.

3. Annual Credit Exchange Reconciliation. The Nutrient Exchange agrees to conduct an annual Reconciliation process for the timely execution of the Credit Exchanges elected by the Participants as specified in the Exchange Compliance Plan. The Participant agrees to implement any previously elected Class A Credit or Class B Credit Exchanges in accordance with the Credit Exchange Policy.

4. Incorporation of Credit Exchange Policy. The provisions of the Credit Exchange Policy are hereby incorporated as if such provisions were fully set out herein. For convenient reference, a copy of the current version of the Policy is attached hereto.

GENERAL PROVISIONS

5. Definitions. Terms not specifically defined herein shall have the definitions provided in the Credit Exchange Policy.

6. Term. The Agreement shall be in effect once signed by both parties and shall have an initial term through and including June 30, 2013. This term is coincident with the five year Planning Period covered by the current Exchange Compliance Plan (January 1, 2008 through December 31, 2012) plus a six month period (January 1, 2013 through June 30, 2013) for the Reconciliation process for the fifth Compliance Year (2012). Such term shall automatically extend by one year, without notice, upon submittal to DEQ of each annual update of the Exchange Compliance Plan beginning with the 2009 Annual Update due February 1, 2009,

unless (a) the Participant withdraws as provided herein or (b) the Nutrient Exchange provides notice to the Participant prior to completion of the Plan Update that it will not extend the term of this Agreement.

7. Amendments to Credit Exchange Policy and Exchange Compliance Plan. The Nutrient Exchange and the Participant acknowledge that the Credit Exchange Policy and the Exchange Compliance Plan may be amended from time to time as a result of changes desired by the Participants, the Exchange Board of Governors or DEQ, possible changes to law, and other factors. It is agreed that changes thereto shall become effective upon notice to the Participants or upon a later effective date as may be specified in such notice.

8. Withdrawal. The Participant shall have the following rights to withdraw from the Nutrient Exchange and the Exchange Compliance Plan.

(a) Withdrawal Upon End of Current Term. This Agreement shall not automatically extend for an additional year upon the Plan Update as provided in Paragraph 6 if the Participant elects to withdraw by providing notice of such election to the Nutrient Exchange at least four years and nine months (57 months) prior to the expiration of the term of this Agreement or before any later date as the Nutrient Exchange may specify during the Plan Update process. In the event of such withdrawal, the Nutrient Exchange shall omit the Participant and its Permitted Facilities from the additional Compliance Year (the new Year 5) added to the Plan during the Plan Update process for that year. For example, if a Participant in the Exchange Compliance Plan for the five year Planning Period covering January 1, 2008 through December 31, 2012 desires to withdraw and not extend this Agreement for an additional year (*i.e.*, through December 31, 2013), the Participant shall provide its withdrawal notice on or before October 1, 2008.

(b) Withdrawal During Term in Response to Policy or Plan Amendment. Notwithstanding any other provision of this Agreement, if any change to the Credit Exchange Policy or the Exchange Compliance Plan pursuant to Paragraph 7 would result in a material adverse effect on the Participant within the five year Planning Period covered by the Exchange Compliance Plan then in effect, the Participant may withdraw from the Agreement by written notice delivered to the Nutrient Exchange within sixty (60) days of such Participant's notice of the change, unless the Nutrient Exchange in its discretion further amends the Credit Exchange Policy or Exchange Compliance Plan within ninety (90) days of receiving such notice in a manner that eliminates the material adverse effect. Such withdrawal shall be effective January 1 of the Compliance Year for which the material adverse effect would first otherwise occur. The Participant shall participate in the Reconciliation and execute all Credit Exchanges planned for each Compliance Year prior to the effective date of withdrawal and pay all Credit costs or receive Credit revenue through and including such Compliance Year. In addition, the Participant shall continue to pay all applicable fees or dues in the ordinary course through the effective date of such withdrawal.

(c) Withdrawal During Term for Other Reasons. In addition to the right to withdraw during the term of this Agreement as provided in Subparagraph 8(b), the Participant shall have the right to withdraw during the term of this Agreement through the Plan Update

process if the following conditions are satisfied: (i) the Board determines that the Participant's withdrawal, alone or in combination with other modification requests, would not have a material adverse effect during the Planning Period on the Nutrient Exchange or any non-withdrawing Participants, (ii) the Participant is and agrees to remain current on all fees and Credit purchase costs as are due or may come due through and including the time of completion of the Reconciliation process for the last Compliance Year for which its Permitted Facilities are covered by the Plan, and (iii) the Participant agrees to cooperate fully in the Reconciliation for the last Compliance Year for which its Permitted Facilities are covered by the Plan. Such withdrawal shall be effective subject to the foregoing conditions upon submittal of the Plan Update by the Nutrient Exchange to DEQ as provided in Paragraph 1 above.

9. Annual Fee. The Nutrient Exchange's obligations under this Agreement shall be contingent on the continued adequate funding of the Nutrient Exchange through fees applicable to and paid by the Participants. Following execution of this Agreement by both parties and by approximately November 2008, the Nutrient Exchange shall issue an invoice to the Participant in the amount shown on Attachment A under the column labeled "Nov. 2008." Such invoice shall also include the amount, if any, invoiced by the Nutrient Exchange to the Participant in approximately March 2008 (as shown under the column labeled "Mar. 2008") but not yet paid by the Participant. The Participant agrees to pay such invoice within forty-five (45) days of the invoice date. Beginning with the 2009 Plan Update, following submittal of each annual Plan Update to DEQ the Nutrient Exchange shall issue an invoice to the Participant for the annual fee. The Participant shall pay such invoice within forty-five (45) days of the invoice date or by July 31 of the calendar year in which the invoice is issued, whichever is later. The Nutrient Exchange agrees to periodically update such schedule to add the fee amount for future years and in so doing intends to keep the annual fees specified therein to the lowest level sufficient for proper operation in the discretion of the Board. The Board anticipates establishing annual fees associated with and payable after the 2009, 2010, 2011 and 2012 Plan Updates, respectively, at less than a maximum of twice the annual fee currently scheduled on Attachment A for Nov. 2008. If an annual fee associated with any Plan Update through and including the 2012 Plan Update were to exceed this maximum anticipated fee, in that event the Participant may withdraw in accordance with the same procedures provided in Paragraph 8(b) of this Agreement. For the 2009 Plan Update, the Board's current estimate is that the annual fee will be the same amount as the Nov. 2008 fee shown on Attachment A. Upon receipt of a written request from the Participant, the Nutrient Exchange agrees to provide the Participant with an accounting of its receipts and disbursements for the two fiscal years immediately preceding the fiscal year in which the written request is received. The Participant agrees to pay applicable fees when due. Failure to pay any annual fee invoice within forty-five (45) days shall result in an administrative charge of one hundred dollars (\$100). In the event the Participant fails to pay any annual fee invoice within ninety (90) days of the invoice date, without limiting any other remedies, the Board in its discretion may terminate this Agreement and eliminate the Participant's Permitted Facilities from the Plan. Such termination shall not relieve the Participant of its obligation to pay any amounts due prior to the date of termination.

10. Waiver of Liability of the Nutrient Exchange. In recognition of the benefits derived by Participants and the nature of the Nutrient Exchange, to the extent permitted by law the Participant waives any causes of action and rights of recovery for liability of the Nutrient

Exchange and its Board of Governors, officers, employees, consultants and other advisors, for any losses or damage to the Participant, other than due to the gross negligence or intentional misconduct thereof.

11. Authorization of Signature. The Participant and the Nutrient Exchange each represent and warrant that its execution of this Agreement by the undersigned is fully authorized and validly performed.

12. No Partnership. Nothing contained in this Agreement shall create any partnership, trust, or joint venture with regard to the Nutrient Exchange and any or all Participants.

13. Third Party Beneficiaries. This Agreement is solely for the benefit of the Nutrient Exchange and its Participants and their permitted successors and assignees and shall not confer any rights or benefits on any other person.

14. Notices. Notices pursuant to Paragraphs 6 and 8 shall be delivered at the following address by U.S. Mail, certified with return receipt, and shall be deemed given when received (or delivery is refused) by the party to whom such notice or communication is directed. A party may change its address for such notice in writing as provided herein.

If to the Nutrient Exchange: Virginia Nutrient Credit Exchange Association, Inc.
ATTN: Secretary
P.O. Box 51
Richmond, Virginia 23218-0051

If to the Participant: _____

with a copy to the Participant's Designated Representative.

Any other notices and communications pursuant to this Agreement shall be made by or to the Participant's Designated Representative, or alternate when appropriate, each as designated the Participant from time to time in accordance with the Bylaws of the Nutrient Exchange.

15. Netting of Payments. The Nutrient Exchange may, but shall not be obligated to, net any payments to the Participant for such Participant's sales of Credits or otherwise with any fees past due, other authorized charges past due, or charges for Credits purchased past due to the Nutrient Exchange.

16. Integration. This Agreement (including the Credit Exchange Policy incorporated herein by reference) contains the entire agreement between the Nutrient Exchange and the Participant as to the subject matter hereof and supercedes all previous written and oral negotiations, commitments, proposals and writings, including those of counsel. Except as

otherwise provided herein or in the Credit Exchange Policy, no amendments may be made except by a writing signed by the parties.

17. Change in Law. Other than as specifically provided in the Credit Exchange Policy, in the event of any material change in applicable laws or regulations the parties shall work together to amend the Agreement to conform to such change in law, while maintaining as closely as practical the provisions and intent of this Agreement.

18. Governing Law; Severability. This Agreement shall be construed in accordance with and governed for all purposes by the laws of the Commonwealth of Virginia. If any term or provision of this Agreement, the deletion of which would not adversely affect the receipt of a material benefit by either party hereunder, shall be held by a court of competent jurisdiction to be invalid or unenforceable, the remainder of this Agreement shall not be affected thereby and each other term and provision of this Agreement shall remain valid and enforceable to the fullest extent permitted by law. It is the intent of the parties to this Agreement, and the parties agree, that in lieu of any term or provision of this Agreement that is illegal, invalid or unenforceable, the parties in good faith shall supply as part of this Agreement a legal, valid and enforceable term or provision as similar to such illegal, invalid or unenforceable term or provision as may be possible.

IN WITNESS WHEREOF, the parties have caused the execution of this Agreement as of the date first written above.

VIRGINIA NUTRIENT CREDIT EXCHANGE ASSOCIATION, INC.

By: _____

Name: _____

Title: _____

Date: _____

PARTICIPANT NAME

By: _____

Name: _____

Title: _____

Date: _____

ATTACHMENT A

ANNUAL FEE SCHEDULE

<u>Class</u>	<u>Participant's Total TN WLA (lbs/yr)</u>	<u>Mar. 2008</u>	<u>Nov. 2008</u>
Very Large	>400,000	\$1,750	\$3,500
Large	400,000- 75,001	\$1,250	\$2,500
Standard	75,000- 15,001	\$750	\$1,500
Small	≤15,000	\$250	\$500

**ANNUAL FEE SCHEDULE UPDATE
(ISSUED: MAY 26, 2010)**

<u>Class</u>	<u>Participant's Total TN WLA (discharge lbs/yr)</u>	<u>Annual Fee</u>
Very Large	>400,000	\$4,250
Large	400,000-75,001	\$3,125
Standard	75,000-15,001	\$1,875
Small	≤15,000	\$625

APPENDIX C

Water Quality Improvement Fund



This appendix provides an update on funding from the Water Quality Improvement Fund (“WQIF”) for eligible point source nutrient removal technology upgrades. The 2016-2018 Budget appropriates \$59 million in Point Source WQIF funding to fully meet WQIF funding needs through June 30, 2018, as estimated by DEQ. For current or future projects beyond June 30, 2018, additional WQIF funding will be needed. The WQIF needs forecast should be updated during 2017 and any necessary additional appropriations planned for FY 2019.

APPENDIX D

DEQ Director Letter





COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

Street address: 629 East Main Street, Richmond, Virginia 23219

Mailing address: P.O. Box 1105, Richmond, Virginia 23218

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L. Preston Bryant, Jr.
Secretary of Natural Resources

David K. Paylor
Director

(804) 698-4000
1-800-592-5482

September 12, 2007

Mr. Mark Haley
President, Board of Governors
Virginia Nutrient Credit Exchange Association, Inc.
P.O. Box 51
Richmond, VA 23218-0051

RE: Exchange Compliance Plan

Dear Mr. Haley:

I understand that the Exchange's July 31, 2007, Compliance Plan projects that expected Total Nitrogen and Total Phosphorus loads will be below the aggregate wasteload allocations in all five basins by 2011. You and the entire association are to be congratulated for your diligence in evaluating the best opportunities for upgrades and trading in each of the Chesapeake Bay basins so that we can retain the existing January 1, 2011, compliance date in the watershed general permit for both nitrogen and phosphorus. This is a significant step for the Exchange, the watershed general permit and trading program, and for the Commonwealth in our continued efforts to clean up the Bay and illustrates your commitment to being a strong partner in the solution.

We know it will be a challenge to complete so many projects on such a tight timeline, and we remain committed to working with you to shepherd these projects to completion. In the meantime, we appreciate the Exchange's efforts to encourage and facilitate the cooperation of over 100 facilities to reduce nutrient loads to the Chesapeake Bay.

Thank you for your commitment to maintaining healthy waters within Virginia.

Sincerely,

A handwritten signature in black ink, appearing to read "David K. Paylor", written over a horizontal line.

David K. Paylor

DKP:d1m