Connecticut Department of Energy and Environmental Protection

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Rocky Hill WPCF

Report of the Nitrogen Credit Advisory Board for Calendar Year 2017 To the Joint Standing Environment Committee of the General Assembly

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REPORT OF THE NITROGEN CREDIT ADVISORY BOARD FOR CALENDAR YEAR 2017

TO THE JOINT STANDING ENVIRONMENT COMMITTEE OF THE GENERAL ASSEMBLY

Concerning the

NITROGEN CREDIT EXCHANGE PROGRAM

As required by Section 22a-523(c) of the Connecticut General Statutes

This report has been prepared by the Nitrogen Credit Advisory Board and is respectfully submitted to the Joint Standing Environment Committee of the General Assembly pursuant to the requirement of Connecticut General Statutes Section 22a-523(c). Such section requires that the Nitrogen Credit Advisory Board submit to the Joint Standing Environment Committee of the General Assembly a report that addresses issues associated with the implementation of the Nitrogen Credit Exchange Program. This report covers the period from January 1, 2017 to December 31, 2017.

This report provides a summary of the technical progress and financial requirements that the Nitrogen Credit Advisory Board deems necessary to achieve progress in this important program in reducing nitrogen loads to Long Island Sound. The continued success of this program is dependent upon the development and application of innovative approaches and management techniques to meet nutrient reduction goals for Long Island Sound.

Executive Summary

In accordance with the Connecticut General Statutes (CGS) Sec. 22a-523(c), the Nitrogen Credit Advisory Board (NCAB) submits this Report for calendar year 2017 on the progress of the Nitrogen Credit Exchange Program.

Major accomplishments and activities relative to the 2017 program operations include:

- One of the Department of Energy and Environmental Protection's (DEEP) management strategies to reduce nitrogen loading was to implement an innovative nitrogen-trading program among the Water Pollution Control Facilities (WPCFs) located throughout the State which are covered under the 2017 General Permit for Nitrogen Discharges (NGP). The goal was to cost-effectively reduce the nitrogen load from those sources by about 63.5% by the end of 2014 through:

    - Encouraging denitrification at WPCFs with increased Clean Water Fund (CWF) grants,
    - Spreading nitrogen removal upgrades over thirteen years, thereby reducing the financial impact on the CWF,
    - Providing a fiscal alternative to the immediate expenditure of capital funds.

- The Total Maximum Daily Load (TMDL) allocation for the State of Connecticut is 9,148 equalized pounds of nitrogen per day (eq. lbs. N/day). In 2017, the state as a whole complied with the TMDL and discharged only 7,620 eq. lbs. N/day to the Long Island Sound (LIS). The dry warm weather during the year, especially in the summer, enhanced nitrogen removal. During 2017, no WPCFs became "project facilities" by completing nitrogen removal upgrades to their treatment plants, however, Rocky Hill and Farmington were under construction.

- The NCAB formally submitted recommendations to the DEEP Commissioner to establish the value of an equalized nitrogen credit for buyers at $6.61 per equalized pound and sellers at $2.5893 pound for trading in 2017.

- In 2017, thirty-three facilities were required to purchase credits equivalent to 978.74 eq. lbs in order to remain in compliance with the NGP. Those payments totaled $2,361,356 and were shared amongst the forty-six facilities selling credits equivalent to 2498.54 eq. lbs.

The Nitrogen Credit Advisory Board highlights:

- The Clean Water Fund Priority List provided $67M in general obligation bonds and $180M in revenue bonds (RB) in Fiscal Year (FY) 2017 and $158M in RB in FY 2018. A portion of those funds were expended for nitrogen removal projects in Farmington and Rocky Hill. In calendar year 2018, Torrington started construction of their nitrogen removal project.

- Fifty-six (56) WPCFs have become project facilities by completing construction for nitrogen removal through 2017 with an expected total of fifty-eight (58) project facilities completing construction by 2019. The cost to the Clean Water Fund for project facilities to remove 16,381 eq. lbs of N/day is $452M to date with an expected cost of $97M for projects in process through 2022. It is estimated that between $300M to $400M has been saved by not requiring all WPCFs to upgrade their treatment plants for nitrogen removal to the lowest levels.

I. Introduction

Background

Long Island Sound's (LIS) most pressing water quality problem is caused by the over enrichment of nutrients, specifically nitrogen, which leads to greatly reduced levels of dissolved oxygen (DO) in the bottom waters of western LIS. The overload of nitrogen fuels excessive growth of algae, which eventually dies, sinks to the bottom, and decays. During decay, the oxygen is consumed by bacteria and the DO in the water falls to levels well below those allowable in State Water Quality Regulations. Low oxygen levels, or "hypoxia" typically occurs during the months of July through September. These conditions are inadequate to support healthy populations of aquatic life because they create an imbalance in the ecosystem by disrupting the feeding, growth, and reproduction of nearly all forms of aquatic life. Primary sources of nitrogen include municipal WPCF discharges, atmospheric deposition, and storm water runoff from urban, suburban, and agricultural areas.

The Federal Clean Water Act requires that the State establish Total Maximum Daily Loads (TMDLs) for all water bodies that do not meet the minimum State Water Quality Regulations, such as LIS. Once the State has established a TMDL, federal law requires that it be reviewed and approved by the Federal Environmental Protection Agency (EPA). In April 2001, EPA approved Connecticut and New York's jointly submitted TMDL to address the impairment of LIS water quality that results from excessive nitrogen loading. The TMDL established the maximum loading amount of nitrogen that the LIS can assimilate without causing impaired water quality. It also apportioned the maximum loading amount among various sources, and created a plan to achieve the loading reductions necessary to meet State Water Quality Regulations for each state.

In the TMDL, the primary sources of nitrogen enrichment in the LIS are targeted for control, which include discharges from WPCFs, storm water runoff, and atmospheric deposition. By 2014, the TMDL required both Connecticut and New York to achieve a 58.5% collective reduction of nitrogen loading from point discharges and urban and agricultural runoff sources to the LIS from an established baseline. In Connecticut, a 64% reduction goal was set for WPCFs through a waste load allocation (WLA) process.

"Nitrogen trading" was identified as a mechanism for cost-effectively attaining the aggregate goal for Connecticut WPCFs. Public Act 01-180, codified in the Connecticut General Statutes in Sections 22a-521 through 527, established a Nitrogen Credit Exchange (NCE) overseen by a Nitrogen Credit Advisory Board (NCAB – Attachment A), and authorized the issuance of the 2016 General Permit for Nitrogen Discharges. Collectively, the 2017 General Permit for Nitrogen Discharges, NCE, and NCAB form the foundation for the nitrogen trading program instituted by Connecticut in 2002, which has successfully completed 16 years of operation.

Condition of Long Island Sound

Nitrogen trading has led to measurable reductions in Connecticut's nitrogen load to LIS. Signs of improvement in hypoxia are evident, but more reductions are still needed to meet management goals to attain a healthy LIS. Added attention must be directed towards point and non-point sources from outside of Connecticut, atmospheric sources, and storm water and nonpoint source runoff.

The areas affected by hypoxia in LIS are monitored each summer by DEEP staff with funding from the EPA Long Island Sound Study (LISS), which provides a good indicator of the overall condition and long term trend (Figure 1). Although annual variation can be large, subject to changing weather conditions that affect the severity of hypoxia each year, the underlying trend in hypoxic area is downward. That change is illustrated by the direction of the Hypoxic Area trend (Figure 1). Since 1987, the affected area

has averaged about 167 square miles and during the last 10 years, only 2003 and 2012 were significantly higher than the long term average. Taking into consideration that several of the warmest years on record, which exacerbate hypoxia, have occurred in the last 10 years, the areal indicator still appears to be benefitting from nitrogen management.

According to the Northeast Regional Climate Center, weather during the summer of 2017 (June-August) was variable. The season started out slightly warmer than normal with above average rainfall. August wrapped up the season on the dry side with below average temperatures. September brought cooler than normal temperatures and shifted into October with some record setting warm days at multiple climate sites. June and July were 0.2°F above normal, August was 1.3ºF below normal, and September was 3.0ºF above normal. Consequently the summer of 2017 was 0.3°F above average.

The Northeast received 107% of its normal precipitation for the months of June through August. At the beginning of June (week of June 6, 2017), the U.S. Drought Monitor indicated that 100% (cumulative percent area) of the Northeast was not in any drought category with the region receiving over 100% of its precipitation and up to 122% of its precipitation in July. There were multiple record setting rainfall events which occurred in the region. By Mid-August ~10% of the region was abnormally dry. Transitioning into fall, ~8% of the Northeast moved into moderate drought.

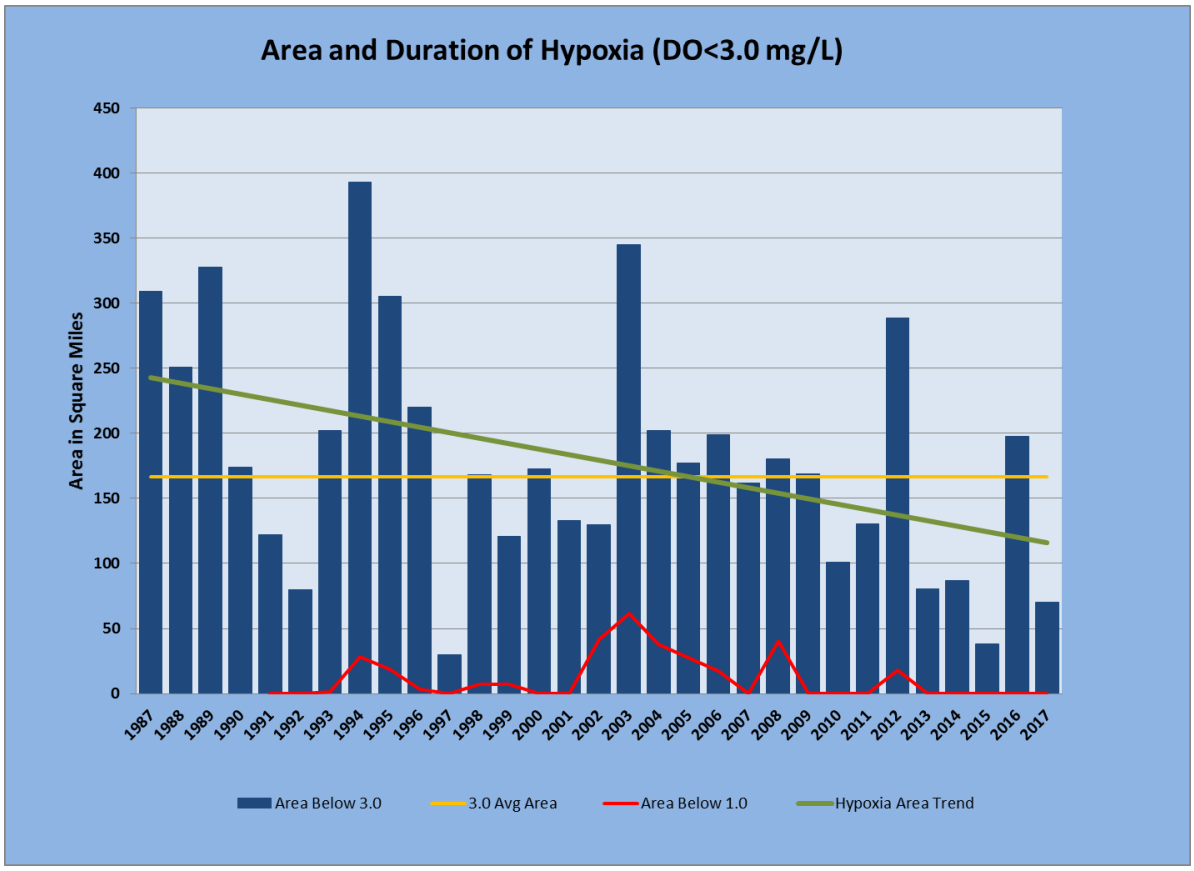


Figure 1. Area and Trend of Hypoxia in Long Island Sound, 1987-2017

CT DEEP conducted seven water quality surveys during the summer of 2017 between June 6th and September 1st. Over the course of the season, fifteen (15) stations exhibited hypoxia. Of the 275 site visits completed in 2017, hypoxic conditions were found during three of the surveys. The maximum area was 69.9 square miles and the estimated duration was 26 days. In the beginning of August 2017, there was a

period where concentrations rose above the 3.0 mg/L threshold and remained there for several days before falling below the threshold again. Compared to the average area, 2017 was well below in both area and duration.

2017 Performance of the Nitrogen Credit Exchange

In 2017, the State complied with the 2017 TMDL permit limit. The nitrogen loading from WPCFs to LIS averaged 7,620 eq. lbs N/day, which is 1,529 eq. lbs N/day lower than the 2017 TMDL permit limit of 9,148 eq. lbs N/day (Attachment B). The dry warm weather during the year especially in the summer helped enhance nitrogen removal. As expected, March and April of 2017 had the highest aggregate nitrogen load with 11,082 eq. lbs N/day, due to the combination of generally wet and cold weather (Figure 2).

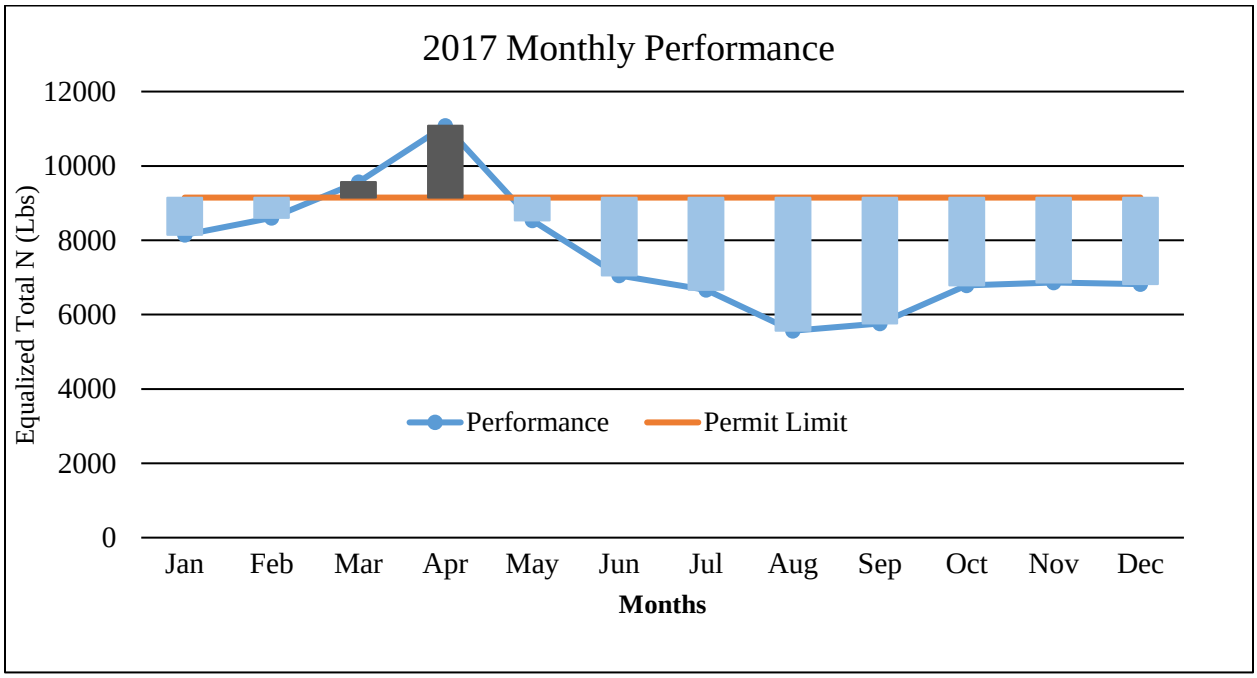


Figure 2. Monthly Aggregate Performance of 79 Facilities during 2017.

II. 2017 Nitrogen Credit Exchange

Credit Price

Annually the NCAB proposes a value for equalized nitrogen credits to the Commissioner of the Department of Energy and Environmental Protection. The NCAB derives this value by dividing the total annual project cost by the reduction of equalized lbs. of nitrogen. The state statute identifies the total annual project cost as: 1) capital expenditures for construction of nitrogen removal facilities and 2) ongoing operation and maintenance costs for nitrogen removal treatment.

The cost of an equalized credit is derived by the following formula:

The value of an equalized credit = (Capital Costs + Operational Costs) / Total amount of equalized nitrogen reduction from WPCFs.

- *Capital Costs are from Nitrogen Removal Projects as defined below.*

- *Operational Costs and Total amount of equalized nitrogen reduction from WPCFs are from Project Facilities as defined below.*

"Nitrogen Removal Project" is defined as any alteration of the physical structure of a wastewater treatment facility specifically constructed to remove nitrogen and financed by Connecticut's Clean Water Fund (CWF) program.

"Project Facility" is defined as any facility with a fully operational nitrogen removal system of any scale as of January 1st of the trading year. No WPCFs became project facilities by completing nitrogen removal upgrades to their treatment plants in 2017.

"Capital Costs" were established by the NCAB using the annual CWF repayment amount associated with the construction of nitrogen treatment facilities as set forth in the loan agreement between the municipalities and DEEP. Financing derived from grants to municipalities is not considered to be part of the capital cost for the purpose of setting credit prices. Using this procedure, the NCAB established the annual capital cost for nitrogen removal in 2017 as $17,711,771 (Attachment F). This value represents the annual interest and repayment of principal cost on the 2% low-interest loans for nitrogen removal processes. In 2017, the annual capital cost for nitrogen removal was the same as 2016 since no WPCFs became project facilities.

"Operation and maintenance costs" were estimated by means of a survey sent to all project facilities. The Department staff reviewed all survey data for consistency and reasonableness and an estimate of $22,449,651 was adopted by the NCAB as the annual operation and maintenance cost for nitrogen removal in 2017. Combining capital cost and operation and maintenance costs yielded a total cost of $40,161,422 (Attachment F). In 2017, the total annual operation and maintenance cost didn't increase because the warm weather helped electricity usage stay consistent.

The reduction in equalized pounds of nitrogen was calculated by subtracting the actual pounds of nitrogen discharged by each of the project facilities from the "baseline" loading established for that facility in the TMDL for LIS. The baseline loading represents the loading of nitrogen each facility would have discharged if no nitrogen removal was provided. Load reductions for each facility were multiplied by the equalization factor for the facility (converting the pounds reduced to equalized pounds reduced) and the statewide reduction was calculated by summing the equalized pounds reduced for all project facilities. Using this procedure, the cost of a credit in 2017 was determined by dividing the total project cost of $40,161,422 by 16,646.84 pounds per day of equalized pounds of nitrogen removed during the year multiplied by 365 days in a year equaling $6.61 for the price of a credit (Attachment E).

The NCAB formally submitted recommendations to the DEEP Commissioner that he establish the value of an equalized nitrogen credit for buyers at $6.61 and for sellers at $2.5893 for the trading of 2017 credits. The Deputy Commissioner, on behalf of the Commissioner, accepted these recommendations and issued draft rulings pursuant to CGS Section 22a-527. No municipalities petitioned for a review of the Commissioner's draft ruling during the statutory 15-day review period, therefore, the draft rulings became final establishing the value of an equalized nitrogen credit at $6.61 for buyers and $2.5893 for sellers (Attachment H).

Numbers of Credits Traded and Final Balances

In 2017, thirty-three (33) facilities were required to purchase credits in the amount of $2,361,656 (978.74 eq. lbs) in order to remain in compliance with the 2017 General Permit for Nitrogen Discharges. Those payments were shared amongst forty-six (46) facilities selling credits equating to 2498.54 eq. lbs at a rate of $2.5893 (Attachment D). As a whole, facilities were in compliance with their permit limit in 2017,

therefore, more credits were available for sale than were needed by buyers to meet the TMDL (Attachment D).

III. Compliance with TMDL goal

Nitrogen Loading Trend

Looking at the linear trend line (dotted line) as well as the 12 month moving average (yellow line) in Figure 3, the total equalized nitrogen loading to LIS has been consistently decreasing due to the number of WPCFs completing upgrades for nitrogen removal facilities. In 2017, the equalized average of 7,620 equalized lbs. was just slightly higher than 2016's number of 7,583 eq. lbs N/day. The warm weather aided the majority of plants to operate more efficiently by allowing the biology to perform better in those conditions.

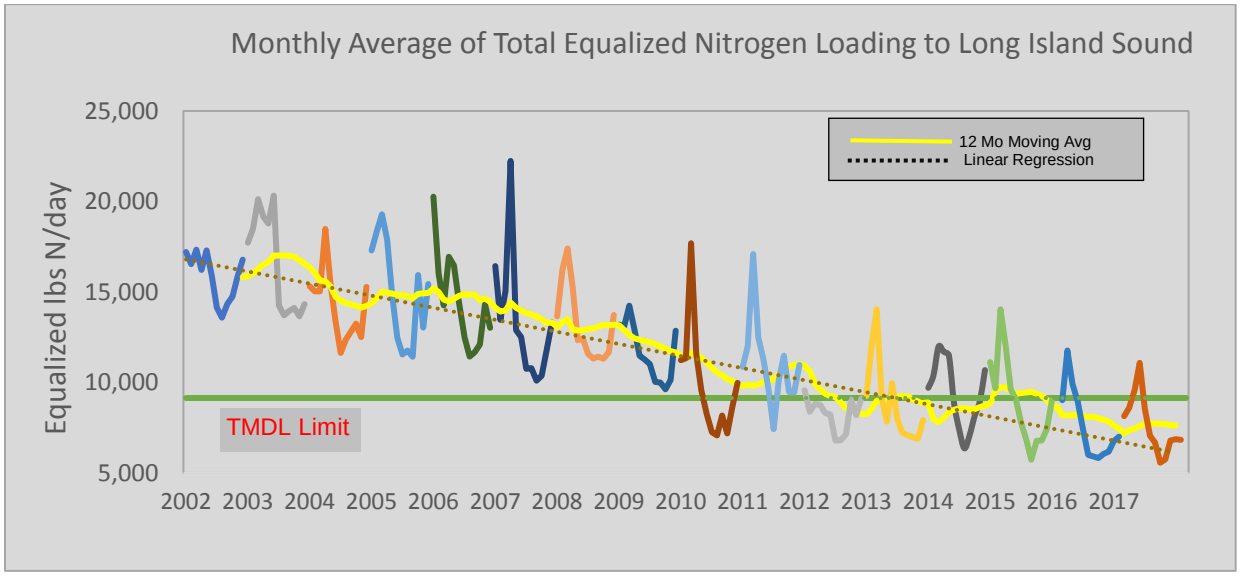


Figure 3. Monthly Average of Total Nitrogen Loading to Long Island Sound 2017

Meeting the Waste load Allocation and Permit Limits.

The nitrogen trading program has been an innovative approach to cost effectively meet the TMDL goal of reducing nitrogen loading to LIS by 63.5% through:

- Encouraging denitrification at WPCFs by providing enhanced Clean Water Fund grants,
- Spreading nitrogen removal upgrades over fifteen years, allowing WPCFs to purchase credits rather than immediately upgrade to meet 63.5% removal requirements,
- Providing a fiscal alternative to the immediate expenditure of capital funds.

The DEEP expects that the State will continue to comply with the TMDL in the future. An additional 216 eq. lbs N/day is projected to be reduced as a result of projects reaching completion in Rocky Hill, Farmington, and the abandonment of Middletown WPCF by 2019. This will be aided by the continuation of operators optimizing nitrogen removal at their respective WPCFs. A total of 58 project facilities are anticipated to be on-line by the 2019 trading year (Figure 4).

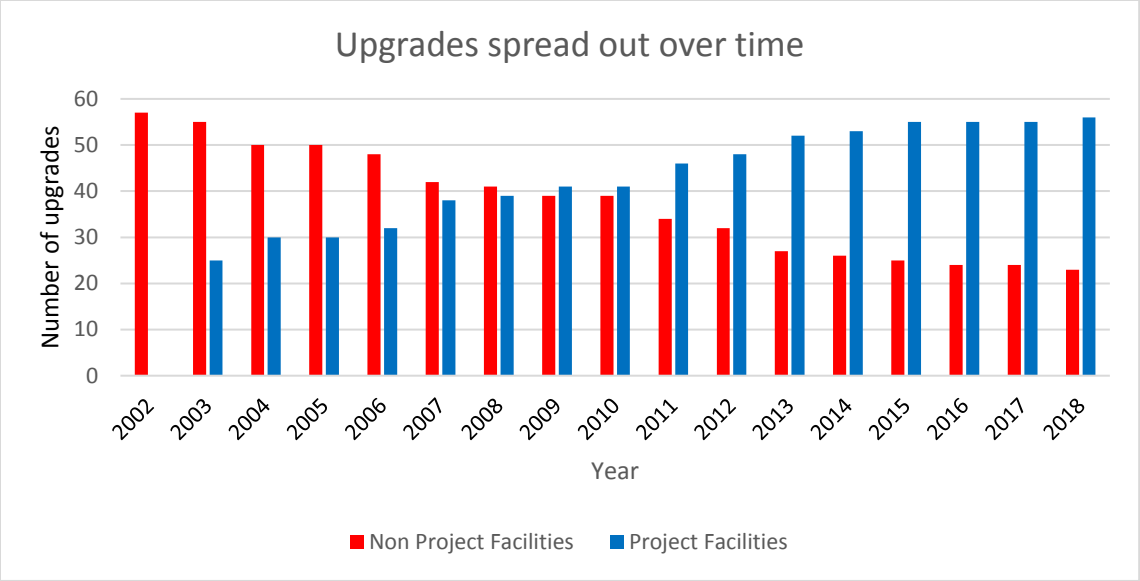


Figure 4. Upgrades of WPCFs 2002-2018

IV. Finances

The Clean Water Fund (CWF)

The FY 2017 and FY 2018 State capital budget increased Connecticut's ability to meet State wastewater infrastructure needs and provided a stimulus to the economy.

The CWF Priority List for FY 2017 became effective on June 13, 2016 and the FY 2018 CWF Priority List became effective on June 11, 2018. The level of State funding for the CWF program is as follows:

FY	General Obligation Bonds	Revenue Bonds	Total Funding
2017	$67M	$180M	$247M
2018	$ 0M	$158M	$158M

Nitrogen removal projects under construction in calendar year 2017 include Farmington and Rocky Hill. In calendar year 2018, Torrington started construction of their nitrogen removal project.

CWF Investment in Projects

The full list of nitrogen removal projects that have been completed or are currently approved for funding by the CWF are shown in Attachment G.

The Nitrogen Trading Program has been an innovative approach to cost effectively meet the 2014 TMDL. It is estimated that this fiscal strategy has resulted in cost savings of $300 - $400 million. As of 2017, $452 million has been funded by the CWF to upgrade 58 treatment plants for nitrogen removal.

Use of Nitrogen Credit Exchange Funds

According to CGS Sec. 22a-524(b)(11), the Commissioner, in consultation with the NCAB, shall: "Establish accounts of funds created from the purchase and sale of equivalent nitrogen credits to be used for administration of the Nitrogen Credit Exchange Program and which may be used for nitrogen removal projects, habitat restoration projects and research". Furthermore, in CGS Sec. 22a-524(b)(12), the Commissioner, in consultation with the NCAB, shall: "Establish any other policies or procedures the Commissioner may deem necessary to carry out the Nitrogen Credit Exchange Program"; and in CGS Sec. 22a-524(b)(13), provides abilities to "establish a technical assistance program to educate and assist municipalities in implementing the Nitrogen Credit Exchange Program".

Over the past years, the NCAB recommended funds be used for training and providing technical assistance.

Projects that are in progress and funded with the nitrogen credit exchange funds are:

- Provide funding to the United States Geological Survey (USGS) for enhanced Connecticut River monitoring. In November 2007, $180,000 was allocated to monitor the river. In December 2010, the NCAB allocated an additional $90,000 for FY 2011 and FY 2012 to continue monitoring and in 2012, an additional $45,000 was allocated to monitor the river during 2013. USGS monitored nitrogen loads during different seasons and during the tropical storms in 2011 and 2012. The monitoring of the Connecticut River at Middle Haddam uses new and novel approaches for continuous total nitrogen monitoring. The project is ongoing and the data analysis developed under this project element will help to advance the understanding of the hydrologic and water-quality processes in the tidal environment, as well as advancing both field and analytical methodology. Supplemental funding of $100,000 was approved for nitrogen monitoring in 2016 and $100,000 for 2017of the Connecticut River at Middle Haddam.

- The NCAB funded enhanced nutrient monitoring Statewide by partnering with the USGS. In 2008, $240,000 was provided for monitoring to be conducted in rivers throughout the State to better determine nitrogen loads from within and outside of Connecticut. A total of $500,000 was allocated from 2011 to 2016 for monitoring. Utilizing the data along with their existing database; USGS released a report on nitrogen loads and trends in LIS entitled *Estimated Nitrogen Loads from Selected Tributaries in Connecticut Drainage to Long Island Sound, 1999 – 2009*. Another $100,000 was appropriated in 2017 for monitoring rivers throughout the State.

- Nitrogen load monitoring at different sites is essential for LIS nitrogen load calculations. The results from the sites allow us to highlight the changes that have taken place at some of the sewage treatment plants outfalls. USGS is finalizing regression models to calculate nitrogen from continuously measured data and a web tool has been built to present the data more frequently.

- The NCAB recommended $1,966,500 be used for the purchase of on-line (automated) or portable analyzers for dissolved oxygen (DO) and nitrogen analyzer equipment for those WPCFs that did not have adequate equipment. WPCFs were reimbursed 75% of the purchase price, which was limited to $40,000 for two on-line analyzers and $3,000 for portable analyzers. Seventeen facilities requested money and were reimbursed $550,097. Since the installation of the analyzers, facilities have been better able to control the amount of dissolved oxygen entering the anoxic zones and optimize nitrate recycle rates and the amount of supplemental carbon added to the treatment process.

V. Attachments

A. Nitrogen Credit Advisory Board Members 2017
B. Total Nitrogen Balance Sheet – 2017 Monthly Averages by Plant
C. Total Nitrogen Balance Sheet – Monthly Averages by Plant 2002 - 2017
D. LIS Total Nitrogen Credit Exchange Balance – 2017
E. Equalized lbs Reduced by Project Facilities 2017
F. Total Annual Project Cost 2017
G. Nitrogen Removal Projects Financed by the CWF through 2017
H. Purchase or Sale of Equivalent Nitrogen Credits for 2017
I. General Permit for Nitrogen Discharges
J. Nitrogen Credit Advisory Board 2017 Meetings

VI. Acknowledgements

DEEP wishes to thank the members of the NCAB for their contributions to this document and their ongoing participation in the NCE Program.

Attachment A

LIST OF APPOINTEES

	Name	**Appointed Authority**	**Term***
1.	Vacant	Senate Majority Leader	3 years
2.	Thomas A. Tyler The Metropolitan District 240 Brainard Road Hartford, CT 06114	Senate President Pro Tempore	3 years
3.	Betsey Wingfield Bureau Chief DEEP 79 Elm St Hartford, CT 06016 Phone: (860) 424-3704	Robert Klee Commissioner Energy & Environmental Protection	No specific term
4.	Marie Moylan Office of the Treasurer 55 Elm Street Hartford, CT 06106 Phone: (860) 702-3000	Denise L. Nappier Secretary Office of the Treasurer	No specific term
5.	Astrid T. Hanzalek 31 Abraham Terrace Suffield, CT 06078 Phone: (860) 668-2739	Lawrence F. Cafero, Jr. House Minority Leader (Ward Appointee)	3 years
6.	Vacant	House Majority Leader	3 years
7.	Joseph Michelangelo 1 Fitzgerald Lane Branford, CT 06405	John McKinney Senate Minority Leader	3 years

8.	Vacant	Governor	3 years
9.	Vacant	Senate Majority Leader	3 years
10.	William Norton, Director City of West Haven WPCA 355 Main Street West Haven, CT06516 (203) 937-3706	Christopher G. Donovan Speaker of the House	3 years

* Appointees remain active until removed by their appointees' authority

Attachment B

Total Nitrogen Balance Sheet -2017 Monthly Averages by Plant

Plant	Limit	Avg	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Zone 1														
GROTON CITY WPCF	99	83	94	82	87	120	87	75	172	60	41	48	58	74
GROTON TOWN WPCF	153	266	300	294	346	374	248	332	439	173	190	125	168	200
JEWETT CITY WPCF	15	14	29	41	42	12	2	6	2	3	4	6	9	6
KILLINGLY WPCF	131	128	94	115	65	145	204	135	131	147	162	125	87	129
LEDYARD WPCF	7	6	8	4	6	4	4	9	4	6	6	6	9	7
MONTVILLE WPCF	118	45	62	53	33	51	51	39	38	55	25	34	49	49
NEW LONDON WPCF	386	373	396	323	330	499	404	374	786	310	342	213	245	250
NORWICH WPCF	201	515	579	635	534	493	657	532	441	416	456	506	506	428
PLAINFIELD NORTH WPCF	34	46	70	72	67	111	66	26	25	20	16	23	30	23
PLAINFIELD VILLAGE WPCF	24	31	59	27	56	56	33	26	20	22	15	16	9	36
PUTNAM WPCF	53	35	40	31	18	23	38	38	31	26	51	42	42	45
SPRAGUE WPCF	7	24	11	10	8	17	10	20	24	40	45	29	34	40
STAFFORD SPRINGS WPCF	60	76	80	71	75	111	70	71	65	70	71	73	77	78
STONINGTON BOROUGH WPCF	14	7	8	8	8	7	5	5	11	8	10	8	6	4
STONINGTON MYSTIC WPCF	27	41	27	50	66	84	68	26	26	23	20	15	31	52
STONINGTON PAWCATUCK WPCF	24	19	23	22	23	27	19	16	11	15	22	20	20	12
THOMPSON WPCF	10	45	42	59	54	45	54	52	54	51	30	31	29	40
UCONN WPCF	44	124	73	160	137	194	94	62	60	49	190	199	147	121
WINDHAM WPCF	125	133	102	137	113	181	121	89	79	140	161	136	212	129
Zone 2														
BRISTOL WPCF	398	506	600	457	495	693	899	495	355	492	358	385	411	433
CANTON WPCF	24	41	40	44	49	65	54	53	44	40	26	16	28	31
EAST HAMPTON WPCF	54	92	88	115	87	92	93	77	60	92	91	82	98	129
EAST HARTFORD WPCF	292	389	505	630	350	456	371	529	303	275	289	284	324	354
EAST WINDSOR WPCF	59	45	62	57	55	44	46	36	44	33	37	34	39	48
ENFIELD WPCF	278	203	124	150	242	206	282	254	236	197	192	184	188	186
FARMINGTON WPCF	178	315	202	324	350	468	535	379	159	205	279	328	255	291
GLASTONBURY WPCF	98	84	81	85	82	91	90	92	72	73	51	97	103	93
HARTFORD WPCF	2377	3546	3360	5070	4820	5543	4782	4386	2095	1875	2138	2991	2512	2977
MANCHESTER WPCF	312	152	218	231	197	254	121	119	85	95	65	119	187	133
MATTABASSETT WPCF	834	529	582	543	713	729	563	433	319	345	334	729	439	616
MIDDLETOWN WPCF	222	467	611	592	635	608	420	328	337	359	405	556	386	368
NEW HARTFORD WPCF	3	2	1	1	1	1	1	1	1	1	2	2	5	5
PLAINVILLE WPCF	101	117	75	64	185	181	231	104	104	57	81	76	139	103

Total Nitrogen Balance Sheet -2017 Monthly Averages by Plant

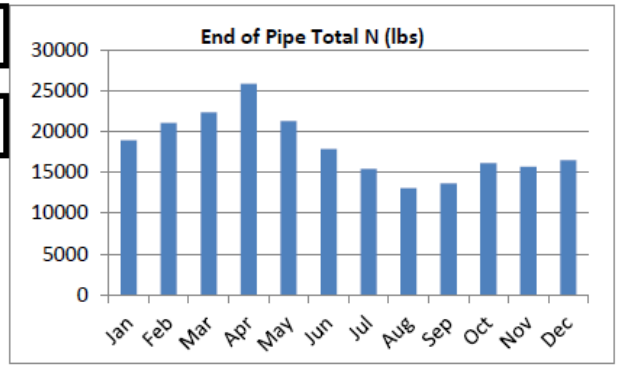
Plant	Limit	Avg	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
PLYMOUTH WPCF	42	57	47	56	54	53	40	41	32	37	63	80	95	91
PORTLAND WPCF	31	27	31	36	42	52	32	19	21	20	19	16	20	21
ROCKY HILL WPCF	288	293	324	335	404	469	341	252	195	165	156	226	249	395
SIMSBURY WPCF	107	48	53	74	53	47	39	38	47	33	43	50	52	52
SOUTH WINDSOR WPCF	106	90	84	83	90	105	96	96	77	94	90	84	84	98
SUFFIELD WPCF	45	26	29	23	37	26	21	20	29	19	24	28	39	19
VERNON WPCF	184	529	600	527	663	675	517	504	604	412	441	424	400	585
WINDSOR LOCKS WPCF	66	64	65	53	69	79	69	48	59	55	51	74	77	69
WINDSOR POQUONOCK WPCF	98	534	513	590	506	631	562	499	486	463	486	607	519	544
WINSTED WPCF	64	71	83	86	99	94	87	54	53	60	59	60	53	66
Zone 3														
BRANFORD WPCF	192	100	114	81	180	155	93	84	105	77	76	81	74	76
CHESHIRE WPCF	103	93	58	105	71	169	92	76	105	89	98	63	104	83
MERIDEN WPCF	449	98	124	129	145	174	87	61	55	59	69	96	89	88
NEW HAVEN EAST WPCF	1568	648	753	675	939	1090	549	461	437	334	489	751	583	716
NORTH HAVEN WPCF	158	179	184	188	211	204	210	184	205	128	138	167	162	163
SOUTHINGTON WPCF	204	180	226	245	257	234	271	218	191	123	99	126	90	83
WALLINGFORD WPCF	269	415	464	491	527	584	607	372	289	240	280	267	440	414
WEST HAVEN WPCF	353	229	308	263	264	410	247	166	229	147	166	150	197	200
Zone 4														
ANSONIA WPCF	115	44	39	41	45	66	62	41	33	35	27	48	42	49
BEACON FALLS WPCF	12	50	53	35	37	42	35	38	65	59	60	63	59	57
DANBURY WPCF	442	348	330	300	373	372	384	412	360	376	292	336	349	297
DERBY WPCF	71	63	65	69	71	86	87	83	52	52	47	57	47	44
LITCHFIELD WPCF	24	18	21	15	21	41	37	10	8	8	15	12	16	15
MILFORD BEAVER BROOK WPCF	94	70	65	64	62	80	150	68	75	64	44	47	54	67
MILFORD HOUSATONIC WPCF	307	263	218	321	484	440	417	229	101	111	88	148	308	290
NAUGATUCK TREATMENT Co.	246	240	180	184	202	189	205	337	774	175	129	198	160	149
NEW MILFORD WPCF	28	38	23	23	22	22	26	153	60	24	24	27	25	23
NEWTOWN WPCF	42	13	11	13	16	17	14	8	9	12	11	17	19	14
NORFOLK WPCF	11	15	16	12	15	23	17	29	11	8	12	9	15	15
NORTH CANAAN WPCF	13	42	44	40	49	45	42	50	41	48	40	27	37	38
SALISBURY WPCF	21	28	27	22	28	32	34	22	31	26	40	35	24	19
SEYMOUR WPCF	61	58	37	68	77	37	60	79	63	64	81	54	39	39

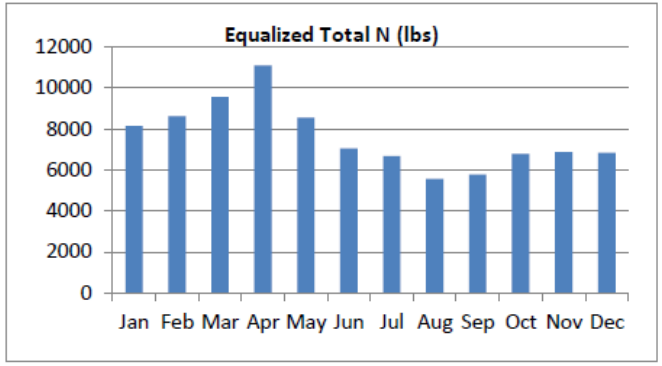
Total Nitrogen Balance Sheet -2017 Monthly Averages by Plant

Plant	Limit	Avg	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
SHELTON WPCF	106	99	105	126	155	126	158	89	59	61	82	70	88	70
STRATFORD WPCF	356	305	212	281	373	1011	572	126	119	152	129	135	136	410
THOMASTON WPCF	42	24	20	22	37	32	34	24	30	19	17	16	18	17
TORRINGTON WCPF	248	236	283	287	314	304	246	205	180	185	214	188	217	206
WATERBURY WPCF	1010	814	777	919	802	996	1051	784	737	839	670	789	733	671
Zone 5														
BRIDGEPORT EAST WPCF	362	213	342	238	263	313	179	198	145	132	148	176	214	210
BRIDGEPORT WEST WPCF	1041	1277	1198	1517	2099	2075	1063	936	1075	972	1063	1191	1144	988
FAIRFIELD WPCF	406	310	481	404	291	372	301	239	323	222	258	210	374	244
WESTPORT WPCF	87	29	37	30	48	37	34	33	18	17	18	24	22	25
Zone 6														
GREENWICH WPCF	479	482	529	500	451	642	515	481	484	438	400	486	451	405
NEW CANAAN WPCF	64	16	24	23	16	31	13	11	7	8	9	17	19	16
NORWALK WPCF	718	551	791	605	636	737	551	474	451	348	408	574	555	485
RIDGEFIELD SOUTH ST. WPCF	29	41	43	61	56	54	50	40	33	25	30	32	32	40
STAMFORD WPCF	926	261	230	221	329	370	246	237	238	223	216	251	293	281
End of Pipe Total			18907	21038	22312	25828	21266	17848	15434	13031	13624	16125	15699	16437
Equalized Total			8142	8602	9563	11082	8536	7050	6663	5566	5757	6787	6861	6825

End of Pipe Permit = 18,450
End of Pipe Avg = 18,129

Equalized Permit = 9,148
Equalized Avg = 7,620





Attachment C

Total Nitrogen Balance Sheet - Monthly Averages lbs/day by plant, 2002 - 2017

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Avg 2011 to 2017
ZONE:1																	
GROTON CITY WPCF	210	161	179	132	118	129	110	114	107	99	76	98	98	80	80	83	88
GROTON TOWN WPCF	566	465	447	444	470	421	451	353	278	260	246	199	220	240	244	266	239
JEWETT CITY WPCF	36	40	39	13	10	13	13	8	9	6	5	11	7	9	7	14	8
KILLINGLY WPCF	162	147	159	177	152	158	191	126	170	247	225	277	151	129	102	128	180
LEDYARD WPC	5	3	4	5	7	5	7	5	5	6	6	6	7	4	6	6	6
MONTVILLE WPCF	187	153	222	92	98	69	82	91	82	115	63	54	62	55	51	45	64
NEW LONDON WPCF	449	405	332	434	423	414	377	391	335	304	243	296	281	280	380	373	308
NORWICH WPCF	758	986	769	748	828	684	673	612	481	470	457	535	562	452	512	515	500
PLAINFIELD NORTH V	50	87	78	90	119	108	105	88	481	65	66	108	88	63	68	46	72
PLAINFIELD VILLAGE	32	44	41	49	54	42	42	43	51	31	28	48	49	56	29	31	39
PUTNAM WPCF	163	170	174	193	205	206	206	157	140	147	153	68	42	43	44	35	76
SPRAGUE WPCF	15	7	10	13	22	14	15	21	21	16	7	12	12	9	10	24	13
STAFFORD SPRINGS V	135	131	121	131	114	120	160	162	129	191	208	164	89	74	63	76	124
STONINGTON BOROU	55	55	42	47	37	22	19	13	11	8	7	11	14	4	5	7	8
STONINGTON MYSTIC	36	43	49	48	51	31	30	25	32	28	30	41	30	15	20	41	29
STONINGTON PAWCA	46	34	46	30	25	18	19	25	33	32	22	18	16	11	16	19	19
THOMPSON WPCF	21	35	29	33	28	28	21	18	30	29	44	31	47	36	41	45	39
UCONN WPCF	78	70	107	65	94	67	103	83	65	55	52	60	73	57	104	124	75
WINDHAM WPCF	265	243	216	165	167	174	258	364	340	289	146	112	141	92	82	133	142
End of Pipe Total	3269	3279	3064	2909	3022	2723	2882	2699	2800	2398	2084	2149	1989	1709	1864	2011	2029
ZONE:2																	
BRISTOL WPCF	949	1121	793	567	575	532	511	452	560	632	416	517	508	427	414	506	500
CANTON WPCF	70	87	101	106	113	92	99	100	121	103	90	95	81	59	44	41	86
EAST HAMPTON WPC	86	119	96	85	140	110	136	121	117	127	82	101	83	80	80	92	95
EAST HARTFORD WP	755	749	812	803	902	391	417	418	366	505	397	525	462	309	346	389	440
EAST WINDSOR WPCF	20	34	31	45	32	32	27	26	20	31	32	29	30	28	37	45	30
ENFIELD WPCF	914	839	275	535	331	218	272	282	248	324	219	252	253	238	155	203	257
FARMINGTON WPCF	386	354	401	398	440	433	309	269	250	340	241	289	311	373	268	315	311
GLASTONBURY WPCF	263	307	340	214	290	295	364	223	118	101	77	51	62	49	62	84	68
HARTFORD WPCF	5978	5900	6529	6831	7408	5839	5326	4217	3841	5090	3282	3888	3194	4360	3563	3546	3963
MANCHESTER WPCF	822	762	755	772	785	715	705	851	866	1069	1064	946	674	293	174	152	809
MATTABASSETT WPC	2120	1795	1453	1408	1202	1129	1053	1123	1261	1377	1200	1127	1198	822	402	529	1145
MIDDLETOWN WPCF	392	385	424	486	440	397	446	490	497	567	521	581	544	501	503	467	543
PLAINVILLE WPCF	252	304	311	285	301	280	315	135	97	129	122	104	112	82	67	117	110
PLYMOUTH WPCF	73	69	68	76	80	71	87	85	68	100	74	83	67	57	23	57	76
PORTLAND WPCF	24	28	36	33	34	26	33	33	28	39	25	23	21	23	29	27	26

Total Nitrogen Balance Sheet - Monthly Averages lbs/day by plant, 2002 - 2017

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Avg 2011 to 2017
ROCKY HILL WPCF	631	767	780	919	787	610	484	526	498	542	446	412	420	457	350	293	455
SIMSBURY WCPF	344	316	323	368	206	84	70	84	43	84	50	48	57	37	36	48	55
SOUTH WINDSOR WP	298	324	317	340	298	322	323	326	342	276	111	109	103	104	95	90	141
SUFFIELD WPCF	34	37	38	72	88	74	88	47	25	35	34	36	27	22	21	26	31
VERNON WPCF	483	663	538	488	580	469	426	361	386	520	422	344	427	395	424	529	422
WINDSOR LOCKS WP	131	116	100	143	98	94	110	113	96	89	58	71	56	51	49	64	65
WINDSOR POQUONO	427	422	441	467	432	419	457	450	494	500	483	512	525	503	482	534	505
WINSTED WPCF	250	187	201	206	223	120	82	66	64	70	63	79	84	72	60	71	74
End of Pipe Total	15701	15683	15163	15647	15785	12752	12140	10798	10406	12650	9509	10222	9299	9342	7684	8225	10204
ZONE:3																	
BRANFORD WPCF	142	79	129	135	103	111	105	94	110	102	94	131	108	92	113	100	105
CHESHIRE WPCF	468	492	536	480	171	74	75	63	38	74	48	78	73	60	56	93	67
MERIDEN WPCF	860	917	882	781	827	810	1008	1051	696	253	142	164	145	116	159	98	164
NEW HAVEN EAST WI	1400	1630	1408	1703	2271	2201	1650	1592	1494	1993	1493	1667	2894	3183	1224	648	2246
NORTH HAVEN WPCF	534	502	489	424	226	214	249	191	164	199	172	150	158	138	145	179	163
SOUTHINGTON WPCF	819	798	768	754	761	868	911	725	194	262	99	99	198	83	136	180	148
WALLINGFORD WPCF	549	601	627	657	522	340	381	429	456	517	356	427	423	463	379	415	437
WEST HAVEN WPCF	796	668	511	601	546	498	779	549	612	673	326	249	291	211	196	229	350
End of Pipe Total	5568	5687	5349	5535	5427	5116	5158	4694	3764	4073	2730	2965	4290	4346	2408	1942	3681
ZONE:4																	
ANSONIA WPCF	273	307	260	287	289	237	260	270	178	76	63	59	59	52	43	44	62
BEACON FALLS WPCF	41	45	38	42	44	50	57	58	60	52	40	42	52	50	48	50	47
DANBURY WPCF	1866	1875	1825	1766	2072	1778	1885	1974	644	576	462	401	374	339	346	348	430
DERBY WPCF	53	64	58	59	65	63	64	64	63	82	71	54	66	68	81	63	68
LITCHFIELD WPCF	67	54	35	49	39	38	45	43	35	39	24	24	21	16	12	18	25
MILFORD BEAVER BR	130	180	120	127	130	132	121	137	101	127	74	70	55	51	48	70	75
MILFORD HOUSATON	439	429	431	479	574	662	742	324	238	598	291	343	365	262	206	263	372
NAUGATUCK TREAT	479	440	234	279	263	250	344	345	248	320	222	251	232	182	162	240	241
NEW MILFORD WPCF	76	52	56	91	86	88	103	109	135	117	32	27	25	24	23	38	45
NEWTOWN WPCF	34	50	32	24	36	26	19	18	21	20	18	15	13	15	13	13	16
NORFOLK WPCF	9	13	12	20	29	32	29	26	23	30	21	17	16	12	14	15	19
NORTH CANAAN WPC	18	22	21	31	23	25	24	25	26	26	24	28	25	27	28	42	26
SALISBURY WPCF	27	27	23	28	29	28	34	32	34	35	28	33	28	22	21	28	29
SEYMOUR WPCF	55	56	61	69	66	62	58	69	62	89	41	52	63	53	57	58	60
SHELTON WPCF	452	545	509	501	480	413	219	219	113	121	69	61	64	87	86	99	80
SOUTHBURY TR. SCH	17	18	16	14	10	7	8	4	7	9	3	3					5
STRATFORD WPCF	535	646	431	539	537	616	1425	605	245	259	179	300	352	245	198	305	267

Total Nitrogen Balance Sheet - Monthly Averages lbs/day by plant, 2002 - 2017

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Avg 2011 to 2017
THOMASTON WPCF	35	51	45	45	44	32	42	40	25	27	18	31	29	21	20	24	25
TORRINGTON WCPF	283	299	287	254	265	247	275	226	242	298	195	266	250	274	227	236	257
WATERBURY WPCF	778	1335	913	965	1001	1034	869	857	802	914	582	742	667	571	504	814	695
End of Pipe Total	5667	6508	5407	5669	6082	5820	6623	5445	3302	3815	2457	2819	2756	2371	2137	2768	2846
ZONE:5																	
BRIDGEPORT EAST W	568	615	459	470	468	271	253	301	412	376	325	444	400	357	228	213	380
BRIDGEPORT WEST W	2305	2306	1158	1564	1145	1146	1262	1019	1211	1017	1006	919	925	1029	1452	1277	979
FAIRFIELD WPCF	735	453	417	383	530	408	488	431	325	388	338	296	273	296	299	310	318
WESTPORT WPCF	140	133	152	148	153	70	44	38	41	35	25	27	28	20	24	29	27
End of Pipe Total	3748	3508	2186	2565	2296	1895	2047	1789	1989	1816	1694	1686	1626	1702	2003	1829	1705
ZONE:6																	
GREENWICH WPCF	410	459	443	556	520	697	479	461	458	572	430	443	475	441	443	482	472
NEW CANAAN WPCF	21	24	20	30	30	38	29	30	29	39	21	25	26	17	14	16	26
NORWALK WPCF	605	888	784	818	755	1043	766	881	600	742	640	702	738	583	625	551	681
RIDGEFIELD SOUTH S	23	27	28	35	28	32	34	38	42	39	38	47	43	43	45	41	42
STAMFORD WPCF	1652	1645	1523	1418	1029	726	550	510	497	592	506	440	408	278	265	261	445
End of Pipe Total	2711	3044	2798	2857	2362	2536	1858	1920	1626	1984	1635	1657	1690	1362	1392		1666
State End of Pipe Total	36664	37708	33966	33182	34974	30842	30702	27345	27345	26736	20109	21498	21650	20832	17488	16775	22130

Attachment D

Table 3

LIS Total Nitrogen Credit Exchange

FINAL

Under the Self-Sufficient Program

SELLING Credits			BUYING Credits		
Facility Name	Equalized Credits	2017 at $2.5893	Facility Name	Equalized Credits	2017 at $6.61
STAMFORD WPCF	665	$628,488	HARTFORD WPCF	233.8	$564,078
NEW HAVEN EAST WPCF	552	$521,692	BRIDGEPORT WEST WPCF	200.6	$483,978
MERIDEN WPCF	171.99	$162,547	WALLINGFORD WPCF	87.6	$211,348
NORWALK WPCF	167	$157,831	WINDSOR POQUONOCK WPCF	82.84	$199,864
BRIDGEPORT EAST WPCF	126.65	$119,696	VERNON WPCF	65.55	$158,149
WATERBURY WPCF	117.6	$111,143	NORWICH WPCF	56.52	$136,363
FAIRFIELD WPCF	81.6	$77,120	MIDDLETOWN WPCF	49	$118,220
WEST HAVEN WPCF	74.4	$70,315	BEACON FALLS WPCF	25.46	$61,426
MATTABASSETT WPCF	61	$57,651	FARMINGTON WPCF	24.66	$59,496
BRANFORD WPCF	55.2	$52,169	GROTON TOWN WPCF	20.34	$49,073
WESTPORT WPCF	49.3	$46,593	BRISTOL WPCF	19.44	$46,902
NEW CANAAN WPCF	48	$45,365	EAST HARTFORD WPCF	18.43	$44,465
ANSONIA WPCF	47.57	$44,958	NORTH HAVEN WPCF	12.6	$30,399
DANBURY WPCF	43.24	$40,866	RIDGEFIELD SOUTH ST. WPCF	12	$28,952
STRATFORD WPCF	34.17	$32,294	UCONN WPCF	12	$28,952
MANCHESTER WPCF	30.4	$28,731	NORTH CANAAN WPCF	10.15	$24,488
MILFORD HOUSATONIC WPCF	29.48	$27,861	EAST HAMPTON WPCF	7.6	$18,336
MILFORD BEAVER BROOK WPCF	16.08	$15,197	THOMPSON WPCF	6.3	$15,200
ENFIELD WPCF	14.25	$13,468	NEW MILFORD WPCF	4.6	$11,098
NEWTOWN WPCF	13.34	$12,608	CANTON WPCF	3.06	$7,383
MONTVILLE WPCF	13.14	$12,419	GREENWICH WPCF	3	$7,238
SOUTHINGTON WPCF	11.76	$11,114	PLAINVILLE WPCF	2.88	$6,948
THOMASTON WPCF	10.8	$10,207	SPRAGUE WPCF	2.72	$6,562
SIMSBURY WPCF	10.62	$10,037	PLYMOUTH WPCF	2.7	$6,514
TORRINGTON WCPF	7.2	$6,805	STONINGTON MYSTIC WPCF	2.52	$6,080
DERBY WPCF	5.36	$5,066	SALISBURY WPCF	2.45	$5,911
CHESHIRE WPCF	4.9	$4,631	STAFFORD SPRINGS WPCF	2.4	$5,790
SHELTON WPCF	4.69	$4,432	PLAINFIELD NORTH WPCF	1.68	$4,053
SUFFIELD WPCF	3.61	$3,412	NORFOLK WPCF	1.4	$3,378
NAUGATUCK TREATMENT Co.	3.6	$3,402	WINSTED WPCF	1.26	$3,040
SOUTH WINDSOR WPCF	3.04	$2,873	WINDHAM WPCF	1.2	$2,895
GROTON CITY WPCF	2.88	$2,722	ROCKY HILL WPCF	1	$2,413
GLASTONBURY WPCF	2.8	$2,643	PLAINFIELD VILLAGE WPCF	0.98	$2,364
EAST WINDSOR WPCF	2.66	$2,514			
PUTNAM WPCF	2.52	$2,382			
NEW LONDON WPCF	2.34	$2,212			
LITCHFIELD WPCF	2.1	$1,985			
SEYMOUR WPCF	2.01	$1,900			
STONINGTON BOROUGH WPCF	1.26	$1,191			
STONINGTON PAWCATUCK WPCF	0.85	$803			
PORTLAND WPCF	0.8	$756			
KILLINGLY WPCF	0.42	$397			
WINDSOR LOCKS WPCF	0.38	$359			
LEDYARD WPCF	0.18	$170			
NEW HARTFORD WPCF	0.18	$170			
JEWETT CITY WPCF	0.17	$161			

Self-Sufficient Program consists of the buyers purchasing the credits (978.74 equalized at $6.61) they need to meet their General Permit with those Payments being shared ($2,361,356) among the sellers credits (2498.54 equalized at $2.5893) proportionally. Therefore, there will be no purchase of excess credits. The 2017 year data is traded in 2018.

Total Sum		**$2,361,356.00**	**Total Sum**	978.74	**$2,361,356.00**

Attachment E

Equalized lbs Reduced by Project Facilities and Cost of Credit 2017

Project Facilities	Baseload	Average TN	EOP Reduced	E Factor	E Pounds Reduced
ANSONIA WPCF	314	44	270	0.67	180.9
BRANFORD WPCF	526	100	426	0.6	255.6
BRIDGEPORT EAST WPCF	991	213	778	0.85	661.3
BRIDGEPORT WEST WPCF	2852	1277	1575	0.85	1338.75
BRISTOL WPCF	1091	506	585	0.18	105.3
CHESHIRE WPCF	281	93	188	0.49	92.12
DANBURY WPCF	1211	348	863	0.46	396.98
DERBY WPCF	195	63	132	0.67	88.44
EAST HAMPTON WPCF	148	92	56	0.2	11.2
EAST HARTFORD WPCF	801	389	412	0.19	78.28
EAST WINDSOR WPCF	163	45	118	0.19	22.42
ENFIELD WPCF	763	203	560	0.19	106.4
FAIRFIELD WPCF	1113	310	803	0.85	682.55
GLASTONBURY WPCF	268	84	184	0.2	36.8
GREENWICH WPCF	1313	482	831	1	831
GROTON TOWN WPCF	420	266	154	0.18	27.72
HARTFORD WPCF	6512	3546	2966	0.2	593.2
JEWETT CITY WPCF	42	14	28	0.17	4.76
LEDYARD WPCF	20	6	14	0.18	2.52
LITCHFIELD WPCF	64	18	46	0.35	16.1
MANCHESTER WPCF	855	152	703	0.19	133.57
MATTABASEET WPCF	2285	152	2133	0.19	405.27
MERIDEN WPCF	1230	98	1132	0.49	554.68
MILFORD BEAVER BROOK WPCF	258	70	188	0.67	125.96
MILFORD HOUSATONIC WPCF	844	263	581	0.67	389.27
NEW CANAAN WPCF	175	16	159	1	159
NEW HARTFORD WPCF	12	2	10	0.18	1.8
NEW HAVEN EAST WPCF	4294	648	3646	0.6	2187.6
NEW MILFORD WPCF	66	38	28	0.46	12.88
NEW LONDON WPCF	1057	373	684	0.18	123.12
NEWTOWN WPCF	45	13	32	0.46	14.72
NORTH HAVEN WPCF	433	179	254	0.6	152.4
NORWALK WPCF	1967	551	1416	1	1416
PLAINVILLE WPCF	277	117	160	0.18	28.8
PLYMOUTH WPCF	114	57	57	0.18	10.26
PORTLAND WPCF	86	27	59	0.2	11.8
PUTNAM WPCF	145	35	110	0.14	15.4
RIDGEFIELD SOUTH ST. WPCF	80	41	39	1	39
SEYMOUR WPCF	167	58	109	0.67	73.03
SHELTON WPCF	290	99	191	0.67	127.97
SIMSBURY WPCF	293	48	245	0.18	44.1
SOUTHINGTON WPCF	557	180	377	0.49	184.73
SOUTH WINDSOR WPCF	289	90	199	0.19	37.81
STAFFORD WPCF	164	76	88	0.15	13.2
STAMFORD WPCF	2536	261	2275	1	2275

Equalized lbs Reduced by Project Facilities and Cost of Credit 2017

Project Facilities	Baseload	Average TN	EOP Reduced	E Factor	E Pounds Reduced
STRATFORD WPCF	974	305	669	0.67	448.23
SUFFIELD WPCF	122	26	96	0.19	18.24
THOMASTON WPCF	114	24	90	0.6	54
UCONN WPCF	120	124	-4	0.15	-0.6
WALLINGFORD WPCF	737	415	322	0.6	193.2
WATERBURY WPCF	2766	814	1952	0.6	1171.2
WEST HAVEN WPCF	967	229	738	0.6	442.8
WESTPORT WPCF	238	29	209	0.85	177.65
WINDHAM WPCF	344	133	211	0.15	31.65
WINDSOR LOCKS WPCF	180	64	116	0.19	22.04
WINSTED WPCF	175	71	104	0.18	18.72
Total					**16646.84**
Project Cost					**$ 40,161,422.00**
Credit Cost:					**$ 6.61**
BOLD=New Project Plant for Year 2017					

Attachment F

Total Annual Project Cost 2017

Project Facilities	Total Annual Capital Cost	Total Annual O&M Cost	Total Annual Project Cost
ANSONIA WPCF	$465,697	$273,160	$738,857
BRANFORD WPCF	$168,661	$263,090	$431,751
BRIDGEPORT EAST WPCF	$51,755	$522,765	$574,520
BRIDGEPORT WEST WPCF	$155,266	$1,063,369	$1,218,635
BRISTOL WPCF	$28,759	$115,973	$144,732
CHESHIRE WPCF	$317,316	$249,371	$566,687
DANBURY WPCF	$46,466	$520,343	$566,809
DERBY WPCF	$31,785	$176,910	$208,695
EAST HAMPTON WPCF	$30,144	$176,759	$206,903
EAST HARTFORD WPCF	$82,707	$206,192	$288,899
EAST WINDSOR WPCF	$61,136	$107,286	$168,422
ENFIELD WPCF	$0	$378,172	$378,172
FAIRFIELD WPCF	$514,885	$536,505	$1,051,390
GLASTONBURY WPCF	$272,568	$484,287	$756,855
GREENWICH WPCF	$0	$163,920	$163,920
GROTON TOWN WPCF	$242,100	$248,999	$491,099
HARTFORD WPCF	$3,804,815	$3,082,620	$6,887,435
JEWETT CITY WPCF	$65,659	$191,644	$257,303
LEDYARD WPCF	$18,062	$37,789	$55,851
LITCHFIELD WPCF	$45,829	$208,976	$254,805
MANCHESTER WPCF	$333,911	$453,029	$786,940
MATTABASSETT WPCF	$1,235,054	$543,473	$1,778,527
MERIDEN WPCF	$492,418	$789,288	$1,281,706
MILFORD BEAVER BROOK WI	$143,806	$284,876	$428,682
MILFORD HOUSATONIC WPCI	$399,082	$413,112	$812,194
NEW CANAAN WPCF	$56,656	$135,500	$192,156
NEW HARTFORD WPCF	$0	$65,131	$65,131
NEW HAVEN EAST WPCF	$640,070	$866,736	$1,506,806
NEW LONDON WPCF	$54,978	$394,256	$449,234
NEW MILFORD WPCF	$299,782	$105,163	$404,945
NEWTOWN WPCF	$72,954	$105,253	$178,207
NORTH HAVEN WPCF	$54,418	$138,069	$192,487
NORWALK WPCF	$276,853	$910,121	$1,186,974
PLAINVILLE WPCF	$253,448	$271,682	$525,130
PLYMOUTH WPCF	$59,682	$154,442	$214,124
PORTLAND WPCF	$44,740	$174,201	$218,941
PUTNAM WPCF	$0	$165,998	$165,998
RIDGEFIELD SOUTH ST. WPCF	$0	$47,914	$47,914
SEYMOUR WPCF	$14,654	$210,962	$225,616
SIMSBURY WPCF	$211,063	$112,657	$323,720

SHELTON WPCF	$21,642	$536,505	$558,147
SOUTHINGTON WPCF	$201,085	$616,491	$817,576
SOUTH WINDSOR WPCF	$303,783	$258,726	$562,509
STAFFORD WPCF	$0	$73,480	$73,480
STAMFORD WPCF	$2,238,236	$989,986	$3,228,222
STRATFORD WPCF	$648,477	$505,976	$1,154,453
SUFFIELD WPCF	$0	$161,640	$161,640
THOMASTON WPCF	$56,408	$155,446	$211,854
UCONN WPCF	$0	$297,528	$297,528
WALLINGFORD WPCF	$122,125	$296,761	$418,886
WATERBURY WCPF	$737,935	$1,566,476	$2,304,411
WEST HAVEN WPCF	$359,358	$1,121,814	$1,481,172
WESTPORT WPCF	$1,688,193	$75,221	$1,763,414
WINDHAM WPCF	$159,477	$236,649	$396,126
WINDSOR LOCKS WPCF	$84,200	$105,359	$189,559
WINSTED WPCF	$43,673	$101,600	$145,273
TOTAL	$17,711,771	$22,449,651	$40,161,422

BOLD = New Project Plant for Year 2017

Total Annual Capital Cost from Nitrogen Removal Projects
Total Annual O&M Cost from Project Facilities

Attachment G

Nitrogen Removal Projects Financed by the CWF through 2018						
City or Town	**Total Project Cost ($)**	**Nitrogen Cost Portion ($)**	**Year Project Completed**	**Baseline lbs/day**	**2016 lbs/day**	**2017 lbs/day**
Seymour	9,800,000	250,000	1993	167	57	58
East Windsor	10,000,000	1,000,000	1996	163	37	45
Fairfield Phase 1	4,700,000	4,700,000	1996	1113	299	310
Greenwich	500,000	500,000	1996	1313	443	482
Milford BB Phase 1	1,000,000	1,000,000	1996	258	48	70
Milford H Phase 1	650,000	650,000	1996	844	206	263
Norwalk Phase 1	1,100,000	1,100,000	1996	1967	625	551
Ridgefield	200,000	200,000	1996	80	45	41
Stratford Phase 1	800,000	800,000	1996	974	198	305
Univ. of Conn	12,000,000	1,058,000	1996	120	104	124
West Haven Phase 1	750,000	750,000	1996	967	196	229
Westport Phase 1	400,000	400,000	1996	238	24	29
Ledyard	3,500,000	350,000	1997	20	6	6
New Haven Phase 1	8,200,000	8,200,000	1997	4294	1224	648
Newtown	12,000,000	1,058,000	1997	45	13	13
Stamford Phase 1	3,500,000	3,500,000	1997	2536	265	261
Derby	2,763,000	677,000	2000	195	81	63
New Canaan	14,000,000	1,235,000	2000	175	14	16
Norwalk Phase 2	56,000,000	5,538,000	2000	1967	625	551
Waterbury	120,000,000	17,359,000	2000	2766	504	814
East Hampton	690,000	690,000	2001	148	80	92
Thomaston	9,313,000	1,164,000	2001	114	20	24
New London	3,069,000	2,669,000	2002	1057	380	373
Portland	5,200,000	1,047,000	2002	86	29	27
Branford	21,542,000	3,158,000	2003	526	113	100
Fairfield Phase 2	40,551,000	12,046,000	2003	1113	299	310
Windsor Locks	2,349,000	1,841,000	2003	180	49	64
Bridgeport E Phase 1	2,090,000	2,090,000	2004	991	228	213
Bridgeport W Phase 1	2,375,000	2,375,000	2004	2852	1452	1277
Bristol	584,000	584,000	2004	1091	414	506
Enfield	2,390,000	2,390,000	2004	763	155	203
Litchfield	4,000,000	1,000,000	2004	64	12	18
Jewett City	10,000,000	1,500,000	2005	42	7	14
Stamford Phase 2	97,223,000	59,500,000	2006	2536	265	261
North Haven	1,000,000	1,000,000	2006	433	145	179

City or Town	Total Project Cost ($)	Nitrogen Cost Portion ($)	Year Project Completed	Baseline lbs/day	2016 lbs/day	2017 lbs/day
Wallingford	2,276,000	2,276,000	2006	737	379	415
East Hartford	1,965,000	1,965,000	2007	801	346	389
Cheshire	5,775,000	5,775,000	2007	281	56	93
Simsbury	21,231,000	4,044,000	2007	293	36	48
Suffield	4,075,000	3,370,000	2007	122	21	26
Winsted	1,100,000	1,100,000	2007	175	60	71
Westport Phase 2	37,131,000	8,253,000	2008	238	24	29
Shelton	21,642,000	4,293,000	2008	290	86	99
Hartford Phase 1	6,900,000	6,900,000	2008	6512	3563	3546
Plainville	22,931,076	4,815,525	2008	277	67	117
Milford BB Phase 2	11,700,000	1,613,000	2009	258	48	70
Milford H Phase 2	34,900,000	10,038,000	2009	844	206	263
Stratford Phase 2	54,000,000	10,116,000	2009	974	198	305
Danbury	5,000,000	5,000,000	2010	1211	346	348
Groton Town	16,551,000	4,842,000	2010	420	244	266
Southington	13,000,000	13,000,000	2010	433	136	180
Meriden	42,455,000	32,517,000	2010	1230	159	98
New Hartford	10,000,000	1,000,000	2010	12	1	2
Stafford	Funded by USDA		2011	164	63	76
Glastonbury	23,701,000	272,570	2011	268	62	84
South Windsor	36,000,000	7,300,000	2012	289	95	90
Windham	22,917,000	1,638,583	2012	344	82	133
New Milford	29,900,000	6,080,545	2012	66	23	38
West Haven	55,000,000	13,200,000	2012	967	196	229
Ansonia	41,731,000	10,015,000	2012	314	43	44
Putnam	Funded by USDA		2014	145	44	35
Mattabassett	107,864,987	31,084,566	2014	228	402	529
Manchester	52,185,765	7,695,619	2015	855	174	152
New Haven	61,043,403	11,262,508	2015	4294	1224	648
Plymouth	1,200,499	728,845	2015	114	23	57
Rocky Hill	53,236,199	7,373,705	2018	789	350	293

Univ. of Conn, Stafford and Putnam were not funded by the CWF program.

Attachment H

Connecticut Department of
ENERGY &
ENVIRONMENTAL
PROTECTION

79 Elm Street • Hartford, CT 06106-5127 www.ct.gov/deep Affirmative Action/Equal Opportunity Employer

To: Connecticut Municipalities with Sewage Treatment Facilities
Covered under the General Permit for Nitrogen Discharges

From: Betsey Wingfield, Chairman
Nitrogen Credit Advisory Board

Date: March 23, 2018

Subject: Invoice Notification
Purchase or Sale of Equivalent Nitrogen Credits for 2017

The Connecticut Department of Energy and Environmental Protection (Department), working with the Nitrogen Credit Advisory Board, have established a Nitrogen Credit Exchange Program and General Permit to comply with Sections 22a-521 through 22a-527 of the Connecticut General Statutes (The Nitrogen Reduction Program in Connecticut for Long Island Sound).

Under the Nitrogen Credit Exchange Program, on February 23, 2018, the Department proposed a value for an equivalent nitrogen credit of $6.61 for buyers and $2.5893 for sellers for calendar year 2017.

The Department did not receive a petition for review of the proposed values, therefore, the value of $6.61 for an equivalent nitrogen credit for buyers and $2.5893 for sellers for calendar year 2017 is now final.

The buyers will purchase the credits they need to meet the General Permit and those payments will be distributed among the sellers credits proportionally. Therefore, there will be no purchase of excess credits. Calendar year 2017 nitrogen credits are traded in 2018.

If your facility discharged more nitrogen than allowed by the 2017 General Permit limit, the invoice enclosed itemizes the total credits that must be purchased. ***Payment must be made on or before July 31, 2018*** by check stating on its face: "Nitrogen Credit Purchase". Payment should be mailed to:

State of Connecticut, Office of the Treasurer
6th Floor, 55 Elm Street
Hartford, CT 06106
Attn: Clean Water Fund Financial Administrator

If payment of the invoice is not received by July 31, 2018, the municipality's sewage treatment facility will be considered out of compliance with the General Permit and subject to the enforcement provisions of Chapter 446k of the Connecticut General Statutes.

If your facility removed more nitrogen than was required by the 2017 General Permit, the enclosed invoice itemizes the total credits to be sold. The Nitrogen Credit Exchange Program will issue a check in the amount shown on the invoice to the Water Pollution Control Authority of the municipality on or before August 15, 2018. No further action is required by the municipality to receive this payment.

Should you have any questions or believe there is an error on the invoice, please contact Iliana Raffa of the Department's Water Protection and Land Reuse Bureau at (860) 424-3758 or e-mail at (Iliana.Raffa@ct.gov).

cc: Nitrogen Credit Advisory Board Members
Enclosures
2017 Nitrogen Invoice Notification

Attachment I

Connecticut Department of
ENERGY &
ENVIRONMENTAL
PROTECTION

79 Elm Street • Hartford, CT 06106-5127 www.ct.gov/deep Affirmative Action/Equal Opportunity Employer

General Permit for Nitrogen Discharges

Effective Date: January 1, 2016
Expiration Date: December 31, 2018

Bureau of Water Protection and Land Reuse
Water Planning and Standards Division
860-424-3704

General Permit for Nitrogen Discharges

Table of Contents

monitoring days during the month and rounded to the nearest whole number.

"Municipality" means municipality as defined by section 22a-423 of the Connecticut General Statutes.

"Nitrogen analysis report" or *"NAR"* means a report form provided or approved by the commissioner for use by a permittee in submitting monitoring data to the Department related to the discharge of nitrogen from a facility.

"Nitrogen credit" means the difference between the annual mass loading of total nitrogen specified for a POTW in the general permit for treated nitrogen discharges and the monitored annual mass loading of total nitrogen discharged by that POTW expressed as pounds of nitrogen per day.

"Nitrogen credit exchange program" means the program within the Department established pursuant to section 22a-524 of the Connecticut General Statutes.

"Nitrogen wasteload allocation" means a total load of nitrogen assigned to a discharger expressed in pounds per day of total nitrogen discharged.

"Permittee" means a municipality or person discharging nitrogen as authorized by the general permit.

"Person" means person as defined by section 22a-423 of the Connecticut General Statutes.

"Publicly owned treatment works" or *"POTW"* means a system used for the collection, treatment or disposal of sewage from one or more parcels of land and that discharges to the waters of the state and is owned by a municipality of the state.

"Sample date" means the date on which the daily composite sampling ended.

"Total daily flow" means the total flow of wastewater over an operating day.

"Total maximum daily load" or *"TMDL"* means the total maximum daily load analysis to achieve water quality standards for dissolved oxygen in Long Island Sound as established by the Department and as approved by the United States Environmental Protection Agency on April 3, 2001.

"Total nitrogen" means the total of the concentrations of ammonia nitrogen, organic nitrogen, nitrite nitrogen, and nitrate nitrogen expressed as milligrams of nitrogen per liter.

Section 3. Authorization Under This General Permit

(a) Eligible Activities or Discharges

This general permit authorizes the discharge of total nitrogen from the POTWs listed in Appendix 1 of this general permit, provided the activities are conducted in accordance with this general permit.

This general permit does not authorize any discharge of water, substance or material into the waters of the state other than the one specified in this section. Any person or municipality which initiates, creates, originates or maintains such a discharge must first apply for and obtain authorization under section 22a-430 of the General Statutes.

(b) Geographic Area

This general permit applies throughout the State of Connecticut.

(c) Effective Date and Expiration Date of this General Permit

This general permit is effective on January 1, 2016, and expires on December 31, 2018.

(d) Effective Date of Authorization

An activity is authorized by this general permit on the date the general permit is issued.

Section 4. Conditions of this General Permit

A permittee shall conduct activities authorized by this general permit in accordance with the following conditions:

(a) Discharge Limits

(1) Annual discharge limit applicable to each POTW are set forth in Appendix 1, which is incorporated herein in its entirety, as part of this general permit.

(2) Each permittee shall limit the discharge of nitrogen to the annual discharge limits set forth in Appendix 1 of this general permit, except as set forth in Section 4(b)(1)(b) of this general permit.

(b) Compliance During Term of Permit

(1) A permittee shall be in compliance with its annual discharge limits of this general permit if:

(a) the POTW's annual mass loading of total nitrogen is less than or equal to the discharge limit set forth in Appendix 1 of this general permit; or,

(b) the permittee has secured state-owned equivalent nitrogen credits equal to the amount the POTW exceeded the annual discharge limit set forth in Appendix 1 of this general permit in accordance with the Nitrogen Credit Exchange Program and sections 22a-521 through 527 of the Connecticut General Statutes.

(2) A permittee shall be out of compliance with the annual discharge limits of the general permit and subject to the enforcement provisions of chapter 446k of the Connecticut General Statues if:

(a) the POTW's annual mass loading of total nitrogen is greater than the discharge limit set forth in Appendix 1 of this general permit; and

(b) the permittee fails to secure sufficient state-owned equivalent nitrogen credits in a timely manner in accordance with the Nitrogen Credit Exchange Program and sections 22a-521 through 527 of the Connecticut General Statutes.

(c) Operation of Nitrogen Removal Process Equipment

The permittee shall not bypass or fail to operate any of the approved nitrogen removal equipment or processes without the written approval of the commissioner. The permittee shall operate all necessary equipment to optimize nitrogen removal so as to reduce nitrogen discharges to the maximum extent practicable. This includes but is not limited to all recycle pumping systems, aeration equipment, aeration tank cycling, mixing equipment, anoxic basins, chemical feed systems or any other process equipment necessary for the optimal removal of nitrogen.

(d) Monitoring Requirements

(1) Effective upon issuance of this general permit, the permittee shall monitor total nitrogen in the final effluent in accordance with the following frequency:

(a) POTWs with a design flow rate specified in the individual permit for the facility of less than 10,000,000 gallons per day shall monitor the final effluent at a minimum frequency of weekly.

(b) POTWs with a design flow rate specified in the individual permit for the facility equal to or greater than 10,000,000 gallons per day shall monitor the final effluent at a minimum frequency of twice per week.

(2) Monitoring requirements shall commence on *January 1, 2016.*

(3) Final effluent and monitoring locations shall be identical to that used to determine compliance with final effluent limitations and monitoring conditions established in the individual permit for the facility.

(4) All samples analyzed to determine compliance with limits on total nitrogen shall be daily composite samples unless otherwise approved in writing by the commissioner.

(5) Chemical analyses to determine compliance with effluent limits and conditions established in this general permit shall be performed using the methods approved in or pursuant to 40 CFR 136 unless an alternative method has been approved in writing pursuant to 40 CFR 136.4.

(6) The permittee shall measure the total daily flow of wastewater received by the facility at the main flow meter as set forth in the individual permit for the facility.

(7) In the event of a flow meter malfunction on a day when a sample for total

nitrogen analysis is collected, the permittee shall utilize the arithmetic average of the 7 highest daily flows measured during the previous 30-day period to calculate the total daily nitrogen loading unless an alternative procedure has been agreed to by the commissioner.

(e) Reporting Requirements

The results of chemical analyss for the total nitrogen in all samples collected during the month and the total daily flow of effluent for each day on which a sample is collected during the month shall be entered on the Nitrogen Analysis Reports (NAR) and reported to the Department. Results must also be entered in Discharge Monitoring Reports (DMR) as a calculated monthly mass loading of total nitrogen. The NAR and DMR must be received at the following address by the 15th day of the month following the month samples are collected.

ATTN: Municipal Wastewater Monitoring Coordinator
Water Planning and Standards Division
Bureau of Water Protection and Land Reuse
Connecticut Department of Energy and Environmental Protection
79 Elm Street
Hartford, CT 06106-5127

(f) Record Keeping Requirements

The permittee shall retain copies of all reports required by this general permit, and records of all data used to compile these reports for a period of at least five years from the date of the report submission to the Department.

Section 5. General Conditions

(a) Duty to Correct and Report Violations

Upon learning of a violation of a condition of this general permit, including any failure of flow monitoring equipment, the permittee shall immediately take all reasonable action to determine the cause of such violation, correct such violation and mitigate its results, prevent further such violation, and report in writing such violation and such corrective action to the commissioner within five (5) days of the permittee learning of such violation. Such report shall be certified in accordance with Section 5(c) of this general permit.

(b) Duty to Provide Information

If the commissioner requests any information pertinent to the authorized activity or to compliance with this general permit, the permittee shall provide such information in writing within thirty (30) days of such request. Such information shall be certified in accordance with Section 5(c) of this general permit.

(c) Certification of Documents

Any document, including but not limited to any notice, which is submitted to the commissioner under this general permit shall be signed by, as applicable, the permittee in accordance with section 22a-430-3(b)(2) of the Regulations of Connecticut State Agencies, and by the individual or individuals responsible for actually preparing such document, each of whom shall certify in writing as follows:

"I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief. I understand that a false statement made in the submitted information may be punishable as a criminal offense, in accordance with section 22a-6 of the General Statutes, pursuant to section 53a-157b of the General Statutes, and in accordance with any other applicable statute."

(d) Date of Filing

For purposes of this general permit, the date of filing with the commissioner of any document is the date such document is received by the commissioner. The word "day" as used in this general permit means the calendar day; if any date specified in the general permit falls on a Saturday, Sunday, or legal holiday, such deadline shall be the next business day thereafter.

(e) False Statements

Any false statement in any information submitted pursuant to this general permit may be punishable as a criminal offense, in accordance with section 22a-6 of the General Statutes, pursuant to section 53a-157b of the General Statutes, and in accordance with any other applicable statute.

(f) Correction of Inaccuracies

Within fifteen days after the date a permittee becomes aware of a change in any information in any material submitted pursuant to this general permit, or becomes aware that any such information is inaccurate or misleading or that any relevant information has been omitted, such permittee shall correct the inaccurate or misleading information or supply the omitted information in writing to the commissioner. Such information shall be certified in accordance with Section 5(c) of this general permit.

(g) Other Applicable Law

Nothing in this general permit shall relieve the permittee of the obligation to comply with any applicable federal, state and local law, including but not limited to the obligation to obtain and comply with any authorizations required by such law. In the event a POTW is subject to a more stringent nitrogen limitation than set forth in this general permit, the permittee shall comply with that more stringent limitation and may not purchase or transfer nitrogen credits to comply with that additional limitation.

(h) Other Rights

This general permit is subject to and does not derogate any present or future rights or powers of the State of Connecticut and conveys no rights in real or personal property nor any exclusive privileges, and is subject to all public and private rights and to any federal, state, and local laws pertinent to the property or activity affected by such general permit. In conducting any discharge authorized hereunder, the permittee may not cause pollution, impairment, or destruction of the air, water, or other natural resources of this state. The issuance of this general permit shall not create any presumption that this general permit should or will be renewed.

Section 5. Commissioner's Powers

(a) Abatement of Violations

The commissioner may take any action provided by law to abate a violation of this general permit, including the commencement of proceedings to collect penalties for such violation. The commissioner may, by summary proceedings or otherwise and for any reason provided by law, including violation of this general permit, revoke a permittee's authorization hereunder in accordance with sections 22a-3a-2 through 22a-3a-6, inclusive, of the Regulations of Connecticut State Agencies. Nothing herein shall be construed to affect any remedy available to the commissioner by law.

(b) General Permit Revocation, Suspension, or Modification

The commissioner may, for any reason provided by law, by summary proceedings or otherwise, revoke or suspend this general permit or modify it to establish any appropriate conditions, schedules of compliance, or other provisions which may be necessary to protect human health or the environment or to implement the TMDL.

Issued Date: January 1, 2016

MICHAEL SULLIVAN
Deputy Commissioner

APPENDIX 1

ANNUAL DISCHARGE LIMITS FOR TOTAL NITROGEN

Zone	Publicly Owned Treatment Works	Equivalency Factor	Total Nitrogen (Pounds/Day) 2016-2018
1	JEWETT CITY WPCF	0.17	15
1	GROTON CITY WPCF	0.18	99
1	GROTON TOWN WPCF	0.18	153
1	KILLINGLY WPCF	0.14	131
1	LEDYARD WPC	0.18	7
1	MONTVILLE WPCF	0.18	118
1	NEW LONDON WPCF	0.18	386
1	NORWICH WPCF	0.18	201
1	STONINGTON PAWCATUCK WPCF	0.17	24
1	PLAINFIELD NORTH WPCF	0.14	34
1	PLAINFIELD VILLAGE WPCF	0.14	24
1	PUTNAM WPCF	0.14	53
1	SPRAGUE WPCF	0.16	7
1	STAFFORD SPRINGS WPCF	0.15	60
1	STONINGTON BOROUGH WPCF	0.18	14
1	STONINGTON MYSTIC WPCF	0.18	27
1	THOMPSON WPCF	0.14	10
1	UCONN WPCF	0.15	44
1	WINDHAM WPCF	0.15	125
2	BRISTOL WPCF	0.18	398
2	CANTON WPCF	0.18	24
2	EAST HAMPTON WPCF	0.20	54
2	EAST HARTFORD WPCF	0.19	292
2	EAST WINDSOR WPCF	0.19	59
2	ENFIELD WPCF	0.19	278
2	FARMINGTON WPCF	0.18	178
2	GLASTONBURY WPCF	0.20	98
2	HARTFORD WPCF	0.20	2377
2	MANCHESTER WPCF	0.19	312
2	MATTABASSET WPCF	0.20	834
2	MIDDLETOWN WPCF	0.20	222
2	NEW HARTFORD	0.18	3
2	PLAINVILLE WPCF	0.18	101
2	PLYMOUTH WPCF	0.18	42
2	WINDSOR POQUONOCK WPCF	0.19	98
2	PORTLAND WPCF	0.20	31
2	ROCKY HILL WPCF	0.20	288
2	SIMSBURY WPCF	0.18	107

Zone	Publicly Owned Treatment Works	Equivalency Factor	Total Nitrogen (Pounds/Day) 2016-2018
2	SOUTH WINDSOR WPCF	0.19	106
2	SUFFIELD WPCF	0.19	45
2	VERNON WPCF	0.19	184
2	WINDSOR LOCKS WPCF	0.19	66
2	WINSTED WPCF	0.18	64
3	BRANFORD WPCF	0.60	192
3	CHESHIRE WPCF	0.49	103
3	MERIDEN WPCF	0.49	449
3	NEW HAVEN EAST WPCF	0.60	1568
3	NORTH HAVEN WPCF	0.60	158
3	SOUTHINGTON WPCF	0.49	204
3	WALLINGFORD WPCF	0.60	269
3	WEST HAVEN WPCF	0.60	353
4	ANSONIA WPCF	0.67	115
4	BEACON FALLS WPCF	0.67	12
4	DANBURY WPCF	0.46	442
4	DERBY WPCF	0.67	71
4	LITCHFIELD WPCF	0.35	24
4	MILFORD BEAVER BROOK WPCF	0.67	94
4	MILFORD HOUSATONIC WPCF	0.67	307
4	NAUGATUCK TREATMENT Co.	0.60	246
4	NEW MILFORD WPCF	0.46	28
4	NEWTOWN WPCF	0.46	42
4	NORFOLK WPCF	0.35	11
4	NORTH CANAAN WPCF	0.35	13
4	SALISBURY WPCF	0.35	21
4	SEYMOUR WPCF	0.67	61
4	SHELTON WPCF	0.67	106
4	SOUTHBURY TR. SCHOOL WPCF	0.46	15
4	STRATFORD WPCF	0.67	356
4	THOMASTON WPCF	0.60	42
4	TORRINGTON WPCF	0.60	248
4	WATERBURY WPCF	0.60	1049
5	BRIDGEPORT EAST WPCF	0.85	362
5	BRIDGEPORT WEST WPCF	0.85	1041
5	FAIRFIELD WPCF	0.85	406
5	WESTPORT WPCF	0.85	87
6	GREENWICH WPCF	1.00	479
6	NEW CANAAN WPCF	1.00	64
6	NORWALK WPCF	1.00	718
6	RIDGEFIELD SOUTH ST. WPCF	1.00	29
6	STAMFORD WPCF	1.00	926

Attachment J

Nitrogen Credit Advisory Board 2017 Meeting Schedule

All meetings are scheduled for 10:00 am at 79 Elm Street, Hartford, CT 06106-5127

March 31, 2017

October 25, 2017