



MATT'S NEWSFLOW

2018 June Newsletter

A message from the Chairman.....

Leadership:

John S. Dunham, P.E.
District Chairman

Arthur G. Simonian, P.E.
Executive Director

Through the exceptional work by the staff at the Mattabassett District, the upgrades we all worked hard to accomplish are beginning to pay dividends. Our water quality and nutrient discharges into the Connecticut River continue to meet or exceed the stringent standards established in our operating permit. As stewards of the environment, we are encouraged by these results and continue to seek ways to improve our operational efficiencies saving money and preserving our State's precious resources for all to enjoy now and many years in the future.



John S. Dunham, P.E.

Member Towns and Representation:

New Britain

Paul Catanzaro
Peter Centurelli
Tonilynn Collins
Mary Marrocco
Timothy Stewart

Furthering our mission to improving water quality, we continue to look forward to the Middletown force main tie-in milestone, expected to be complete by Summer 2019. This is a final achievement in a long range plan that had its inception over twenty years ago. The environmental benefits of this will further improve the water quality in the Connecticut River and will eliminated the need for over the road sludge hauling from the Middletown plant to the District. (Middletown's 1,300 loads, 8.5 million gals or 855 dry tons of sludge annually will result in about \$230,000 savings. Odors, due to truck hauling, should also be reduced without the need to transfer sludge from the Middletown plant to the District.

Cromwell

Bonnie Anderson
Doug Sienna
Thomas Tokarz

About the District.....

The *Mattabassett District's Water Pollution Control Facility*, one of Connecticut's most efficient *Publicly Owned Treatment Works (POTW)*, processes wastewater from New Britain, Berlin, Cromwell, Middletown, Newington, Rocky Hill and Farmington. Once treatment is provided, clean water is discharged into the nearby Connecticut River. *The District* began operation in 1968, as a physical/chemical treatment facility; then in 1987, the facility was upgraded to provide secondary treatment; and recently has completed a second upgrade to provide Nitrogen Treatment that will meet the new State and Federal Standards. Our wastewater capture rate is over 99.8%, significantly above industry standards. Our plant is State of the Art and first of its kind to navigate through new federal emission regulations. Other plants, in the future, will be guided by Mattabassett's innovative direction.

Berlin

John S. Dunham, P.E.
Robert Argazzi
James Fallon, P.E.

Middletown

Dale Aldieri
David Bauer
Joseph Samolis
Thomas Serra

This newsletter contains the first edition of many more where we feature our plants advanced biological treatment process.

Employee Highlights

Operator Certifications

We would like to congratulate the following employees on receiving Operator Certifications:

Mateusz Bober– Class II Operator Certification (prev. passed Class III)

Timothy Comstock – Class III Operator Certification

Arthur Simonian – Class I Operator Certification

Recipients of Spotter Awards

We would like to congratulate employees on receiving a Spotter Award for their unselfish dedication to their work to help keep the District running and operating smoothly.

Giofranco Macri, C.J. Spellman, & Kaylee Buda



Kaylee Buda
Clerk Typist

Kaylee joined The District in September 2017 as a Clerk Typist in the Administration Office. She is responsible for answering phones, typing, filing, maintaining fish tank, selling tickets, running errands, taking minutes, and attending Board Meetings, etc. She has been a great asset to the District.



Michael Manfre
Operations Manager

Mike joined The District in January 2013 as a Shift Supervisor of Operations. After five plus years of dedicated employment, he was recently promoted to Operations Manager in training and will officially take over on July 1, 2018. He has been a great asset to the District and we are looking forward to working with him in this new role.



Karen Dickerman
Laboratory Technician

Karen joined The District as a Part Time Lab Technician Assistant in July 2017 and was recently promoted to a Full Time Lab Technician in January 2018. She is responsible for routine analytical testing, instrument maintenance and calibration, sample & reagent prep., and field sampling, etc.

Water Usage & Wastewater

America's future economic strength depends on investments made today in water infrastructure. These investments create jobs and support the economy. Consider these facts: Every \$1 invested in water and wastewater infrastructure increases long-term GDP by \$6.35; each job created in water and wastewater leads to 3.68 jobs in the national economy; over \$86 billion annually is spent on water related sports activities. Studies also show that the US economy would stand to gain over \$200 billion in annual economic activity and 1.3 million jobs over a 10-year period by meeting its water infrastructure needs.

Since enactment of Clean Water Act in 1972 and the Safe Drinking Water Act in 1974, Congress has supported a strong federal funding partnership with States and local ratepayers to pay for this critical infrastructure through:

- Investments in the Drinking and Clean Water State Revolving Funds, which return over \$.93 to the Federal Treasury for every \$1 invested.

Yet EPA estimates that America's water and wastewater infrastructure requires more than \$650 billion worth of investment over the next 20 years just to maintain current levels of service, and independent estimates place this figure over \$1 trillion. While local ratepayers will shoulder much of this burden, all levels of government must be part of the solution.

1 job created in water + wastewater = 3.68 jobs

Every \$1 invested in water and wastewater infrastructure increases long-term GDP by \$6.35

At a national level, a one-day disruption in water service represents an aggregate daily loss of \$43.5 billion in sales and \$22.5 billion in GDP.

| Impacts to Business | Savings Per Day of Avoided Service Disruption | |
|------------------------|---|---------------|
| | Aggregate National (\$BN) | Per Employee |
| Sales Saved | \$43.5 billion per day | \$230 per day |
| GDP Saved | \$22.5 billion per day | \$120 per day |
| Days to 1% GDP Savings | 8 days; 1.9 million jobs protected | |

Source: IMPLAN 2015, FEMA 2011, Aubuchon 2012, Chang 2002.

| Industry | Gals/\$1000 sales | Gals/Job |
|---|-------------------|-----------|
| Junior colleges, colleges, universities, and prof schools | 4,700 | 563,600 |
| Other basic organic chemical manufacturing | 1,100 | 2,116,500 |
| Dry-cleaning and laundry service | 700 | 48,300 |
| Car washes | 600 | 33,700 |
| Wineries | 400 | 141,600 |
| Hotels and motels, including casino hotels | 400 | 48,300 |
| Paper mills | 300 | 284,200 |
| Breweries | 300 | 328,000 |
| All other food manufacturing | 300 | 111,300 |
| Plastics material and resin manufacturing | 300 | 505,300 |
| Full-service restaurants | 300 | 14,100 |
| Other aircraft parts & auxiliary equipment manufacturing | 300 | 90,200 |
| Metal coating and nonprecious engraving | 300 | 71,100 |
| Other concrete product manufacturing | 300 | 59,900 |
| Pharmaceutical preparation manufacturing | 300 | 473,200 |

Source: IMPLAN 2015, USGS 2014.

Nitrogen

Nitrogen removal is a critical component of our newly upgraded wastewater facility. Too much nitrogen discharged into our waterways creates algae, hydrogen sulfide, odors and depletes oxygen, thus impacting aquatic life.

Nitrogen (expressed as Total Kjeldahl Nitrogen) or TKN is generated from human waste, foods, animal discharges and other industrial wastes. Our bodies produce an average 8 grams of TKN waste per day. That is equivalent to 1 pound for every 60 people per day! With over 110,000 people served in our District (excluding businesses, industries, colleges, and restaurants), that's a tremendous amount of Nitrogen into our system.

Our new system is so efficient that we remove about 80% of TKN or equivalent to 3,000 pounds per day.

Organic nitrogen is hydrolyzed into ammonium. Nitrification is a process necessary to convert ammonium to nitrite then nitrate. This is the most critical step in our treatment system. We have to constantly monitor and adjust the amount of oxygen and other parameters to enhance the bacterial growth process. The bacteria is extremely sensitive and often die off with cold temperatures, retention time and low oxygen that we control.

In a very short period of time (2004 to 2016) Mattabasset has reduced their Nitrogen output to the CT River by 72%, while dropping from a 9% overall state contributor to only 5%.

Matt's NewsFLOW! You may wonder why we selected this as the name of our newsletter.

MATT is obviously short for Mattabasset. However, it's also the name of the fish on our website, www.mattabassettdistrict.org. And it's also the name of the real fish that swims in an aquarium in the lobby of the wastewater treatment facility in Cromwell. The water in the aquarium is actually effluent – water taken from the facility after it has been cleaned and treated. **The effluent is so clean that the fish can survive for many years without extra treatment.**

Matt is a Gourami, they are referred to as anabantids or labyrinth fish. Gourami's make a wonderful addition to the passive community aquarium adding brilliant color and diversity. Large Gourami fish species are very graceful swimmers that have unique coloration and color patterns, and work best in the semi-aggressive community aquarium.

Hi I'm
Matt



MATTABASSETT DISTRICT EFFLUENT