

Saving Waterways through Onsite Septic Reform

Exploring the key differences
between Advanced Treatment and
Traditional Septic

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FujiClean USA



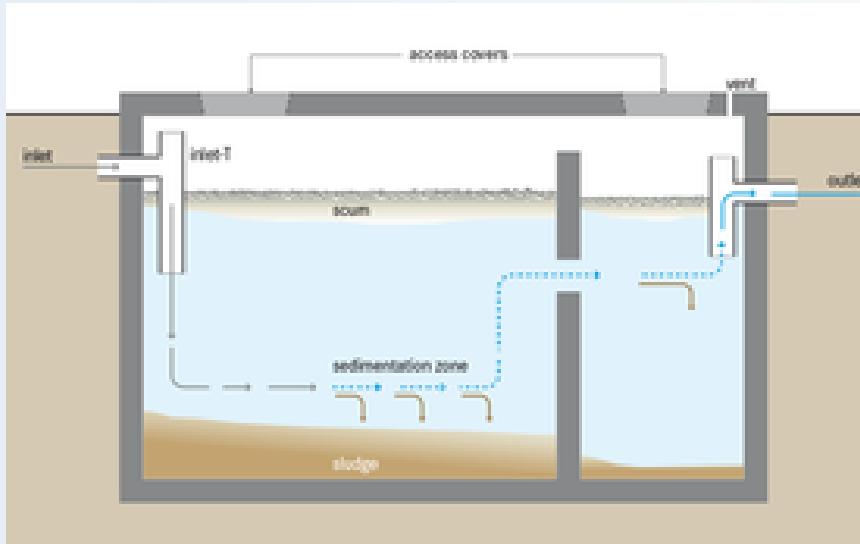
Overview

- What is Advanced Treatment?
- Installation & Maintenance of ATUs
- Comparison of Local Regulations



What is Advanced Treatment?

Septic Tank vs Advanced Treatment Unit



Septic systems have only sedimentation and anaerobic chambers.

Effluent BOD: 60-80mg/L

Effluent TN: 65-120mg/L

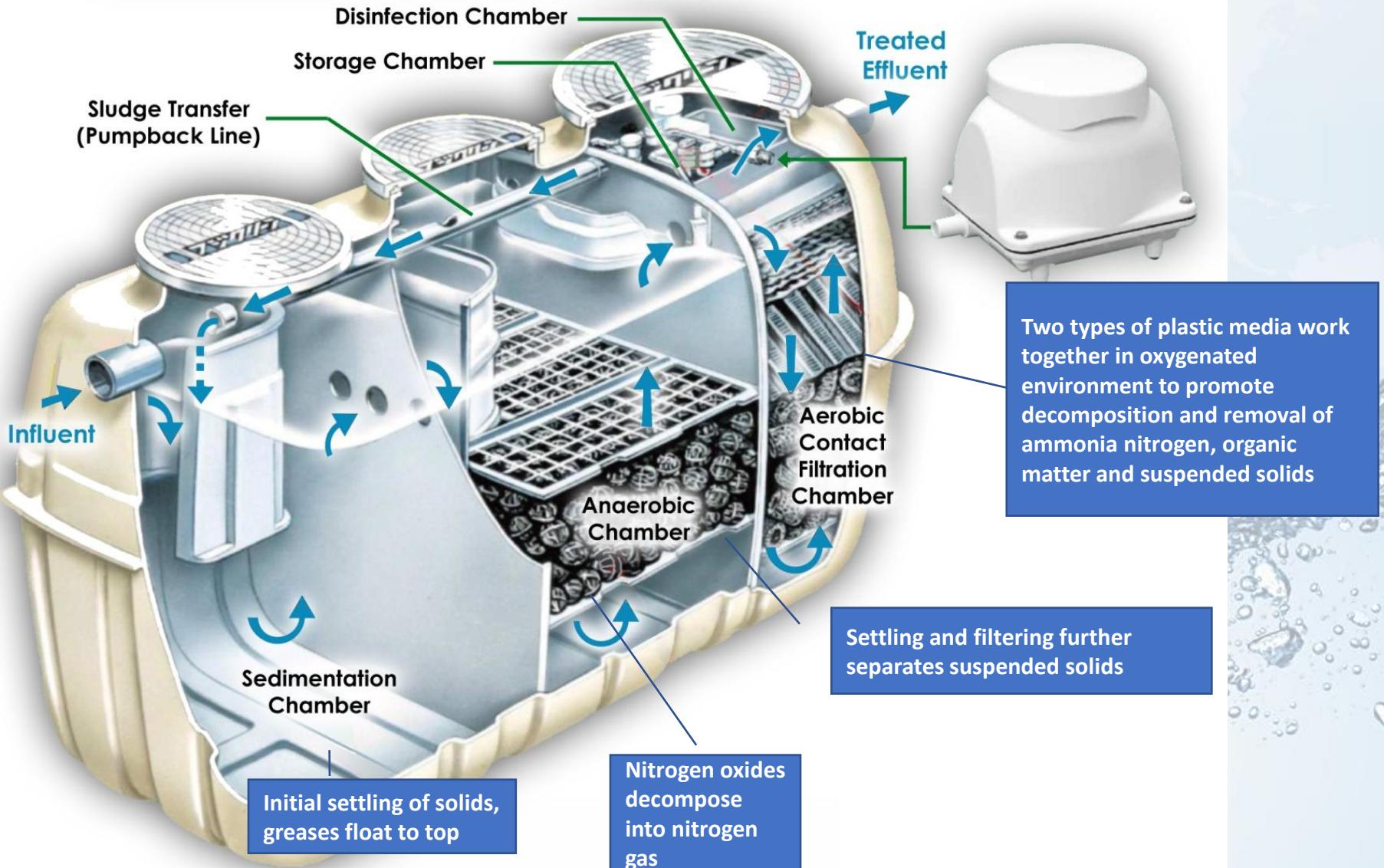
Advanced Treatment Units (ATUs) have controlled aerobic biological treatment processes.

Effluent BOD: 10-20mg/L

Effluent TN: <20mg/L



Treatment Process



Installation & Maintenance of ATUs



Costs Involved with Advanced Treatment

Approximate Costs for a 4 BR Home

- Treatment System: approx. \$7,000
- Installation (including dispersal) : \$10,000 ++
- Maintenance: First 2 years FREE (per NSF),
\$300/year thereafter
- Power: approx. \$100/year



Cost Comparisons

- Source: [Maryland DEP](#)

VENDOR IN ASCENDING ORDER	COST OF PURCHASE, INSTALLATION AND 2 YEAR OPERATION MAINTENANCE	VERIFIED BY
Singulair TNT	\$17,182	Vendor
Singulair Green	\$17,362	Vendor
AquaKlear AK6S245	\$17,497	Vendor
BioMicrobics RetroFast**	\$18,132	Vendor
Fuji Clean CEN 5	\$18,221	Vendor
Hydro Action AN series	\$19,368	Vendor
Fuji Clean CEN 7	\$20,610	Vendor
Hoot BNR	\$22,295	Vendor
SeptiTech M400D	\$22,717	Vendor
AdvanTex AX20	\$23,687	Vendor
Advantex AX20RT	\$26,925	Vendor

All prices are Estimate Averages across Maryland and subject to change per county, contact Manufacturer.
The BRF Program no longer funds the non field verified systems for installation.

Price does not include electrical costs per year.

** RetroFast unit limited to households of 1-4 occupants with 3 bedrooms or less. Price includes use of new tank. For use of existing tank, manufacturer must certify tank suitable and watertight.

Cost Comparisons

- Source: [Maryland DEP](#)

VENDOR IN ASCENDING ORDER	1 YEAR ELECTRICAL CONSUMPTION (represented as kW h/year)	INCREASED ELECTRICAL COSTS PER YEAR ASSUMING \$0.16 PER kW h
Advantex AX20RT	210.2 kWh/year	\$33.63
Advantex AX20	210.2 kWh/year	\$33.63
AquaKlear AK6S245	298.7 kWh/ year	\$47.79
Fuji Clean CEN 5	446.7 kWh/year	\$71.47
Fuji Clean CEN 7	648.2 kWh/year	\$103.71
Hydro Action AN series	734.26 kWh/year	\$117.48
Hoot BNR	765.77 kWh/ year	\$122.52
Singulair TNT	979.66 kWh/ year	\$156.75
Singulair Green	979.66 kWh/year	\$156.75
BioMicrobics RetroFast**	1401.6 kWh/year	\$224.26
SeptiTech M400D	1741.05 kWh/year	\$278.57

Cost Comparisons

- Source: [Maryland DEP](#)

VENDOR IN ASCENDING ORDER	OPERATION AND MAINTENANCE PER YEAR AFTER THE 2 YEAR CONTRACT	MINIMUM NUMBER OF SITE VISITS PER YEAR*	VERIFIED BY
AdvanTex AX20	\$250.00	1	Vendor
Advantex AX20RT	\$250.00	1	Vendor
Fuji Clean CEN 5	\$350.00	2	Vendor
Fuji Clean CEN 7	\$350.00	2	Vendor
AquaKlear AK6S245	\$275.00	1	Vendor
BioMicrobics RetroFast**	\$275.00	1	Vendor
SeptiTech M400D	\$275.00	1	Vendor
Hoot BNR	\$250.00	1	Vendor
Singulair TNT	\$350.00	2	Vendor
Singulair Green	\$350.00	2	Vendor
Hydro Action AN series	\$250.00	1	Vendor

All prices are estimates and based on the 2-yr O&M BAT bid submitted to the State. Some prices have been rounded.
Prices are subject to change and may vary based on location. Contact manufacturer for O&M price details.
* Based off manufacturer-required service visits per year

Additional Charges may apply with certain manufacturers. It is the responsibility of the homeowner to contact the manufacturer for precise details of contract.

Cost Comparisons

- Source: [Maryland DEP](#)

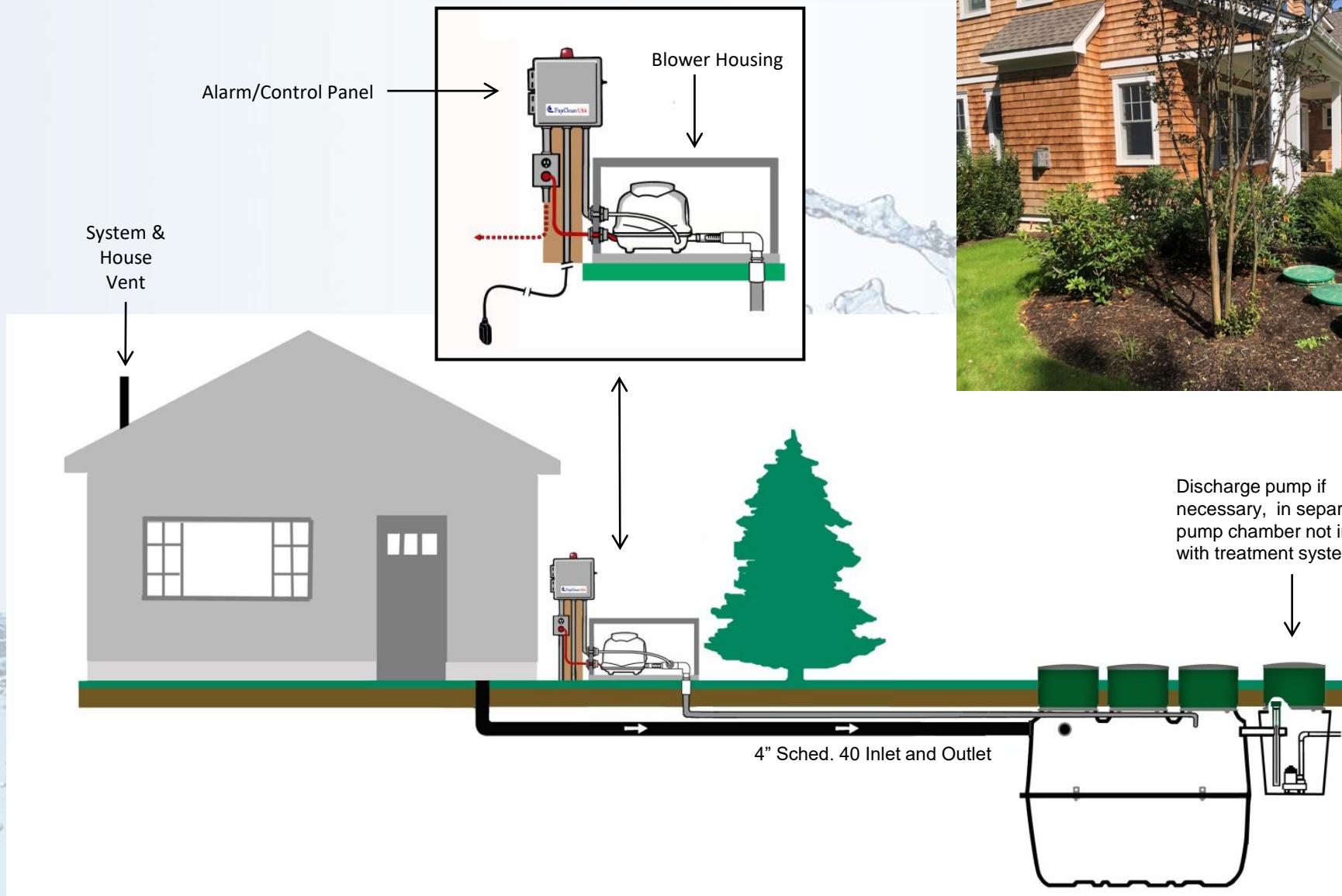
VENDOR IN ASCENDING ORDER	PRICE PER POUND OF N REDUCED	VERIFIED BY
Fuji Clean CEN 5	\$101.12	MDE
Fuji Clean CEN 7	\$115.60	MDE
Hydro Action AN series	\$127.98	MDE
AquaKlear AK6S245	\$136.87	MDE
Singulair TNT	\$140.17	MDE
AdvanTex AX20	\$139.13	MDE
Singulair Green	\$141.52	MDE
BioMicrobics RetroFast**	\$144.44	MDE
Advantex AX20RT	\$147.49	MDE
Hoot BNR	\$151.11	MDE
SeptiTech M400D	\$156.51	MDE

Price per pound of N reduced equals [(Price of technology plus (increased electrical costs multiplied by Ten))divided by Ten] divided by (24.32 lbs of N per year multiplied by percent reduction of N by system)

As the data for non field verified systems is incomplete, MDE has classified the % reduction of TN and the Price per Pound of N Reduced for non field verified systems as Deliberative Data.

** RetroFast unit limited to households of 1-4 occupants with 3 bedrooms or less.

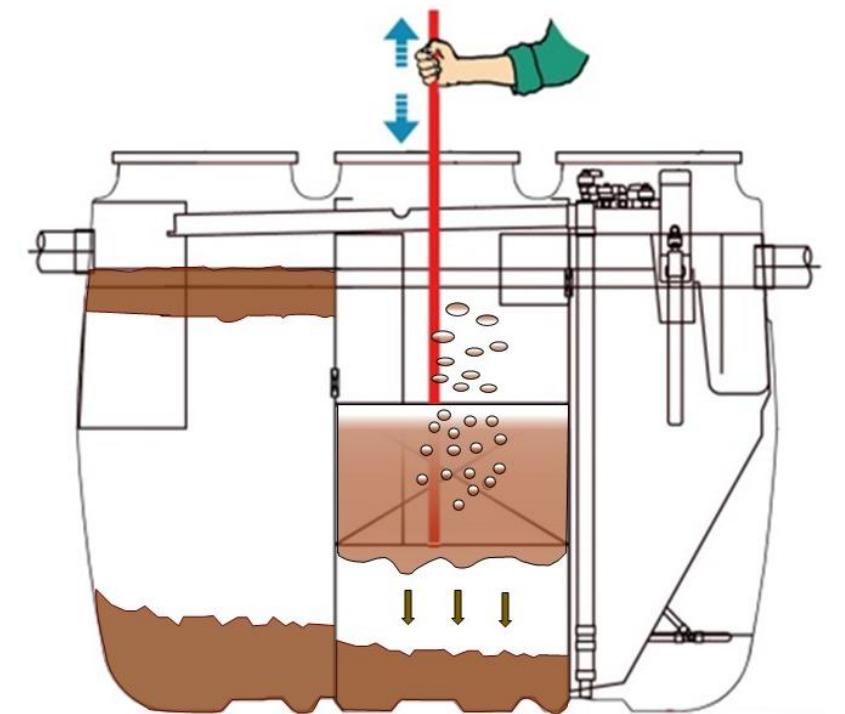
Installation Overview



Maintenance Overview

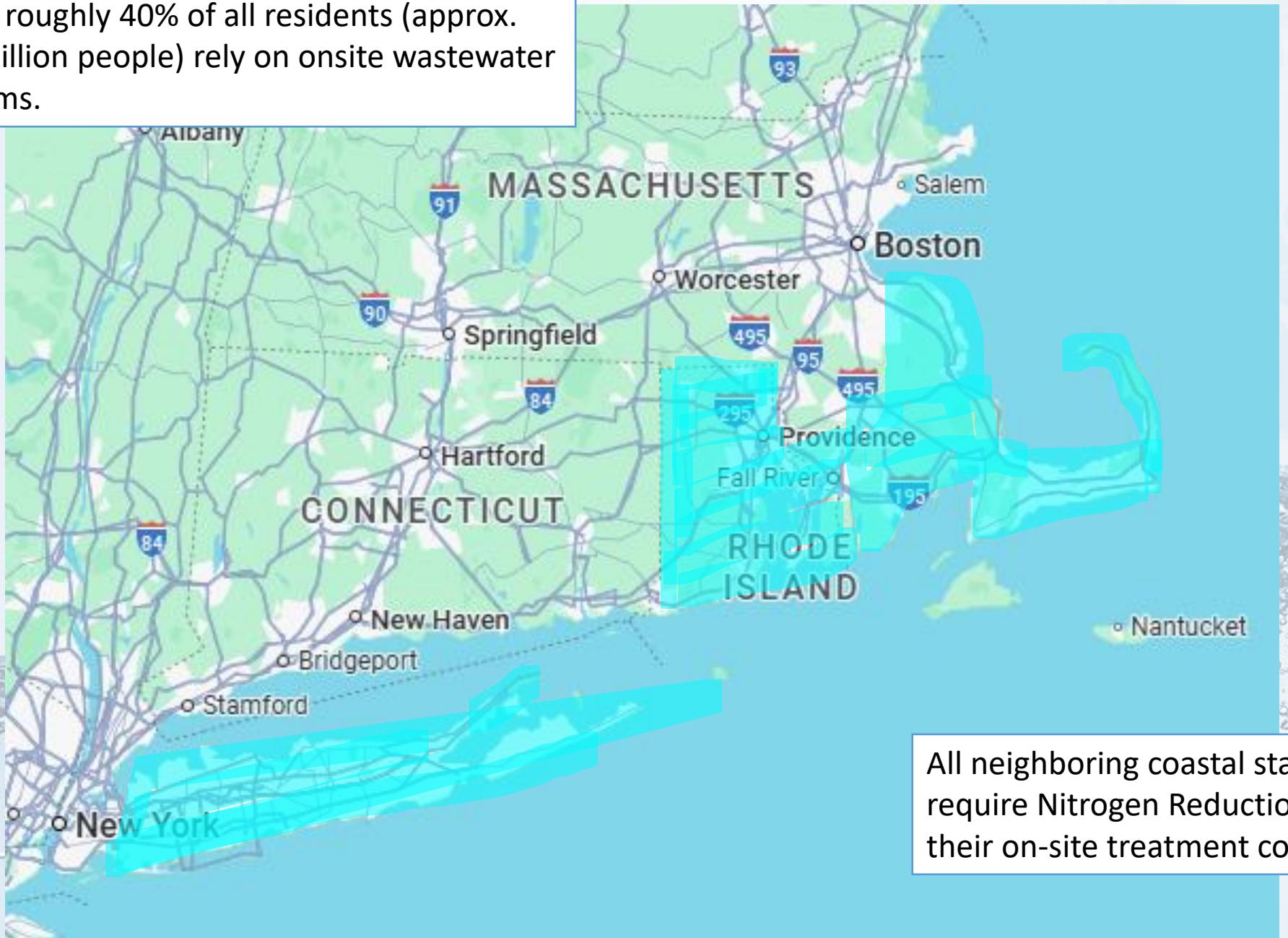


- O&M Takes about 30-45 minutes
- Vital for maintaining good treatment levels
- Nothing needs to be removed or replaced



Comparison of Local Regulations

In CT, roughly 40% of all residents (approx. 1.5 million people) rely on onsite wastewater systems.



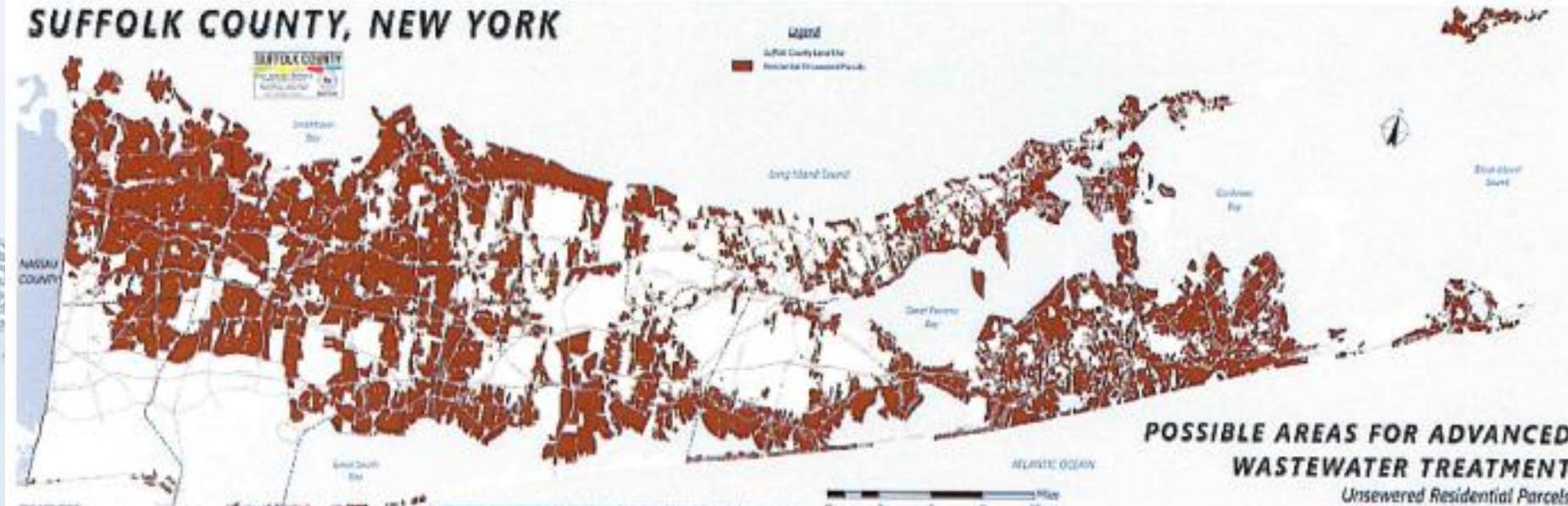
All neighboring coastal states require Nitrogen Reduction in their on-site treatment codes.



74% NON-PERFORMING WASTEWATER TREATMENT

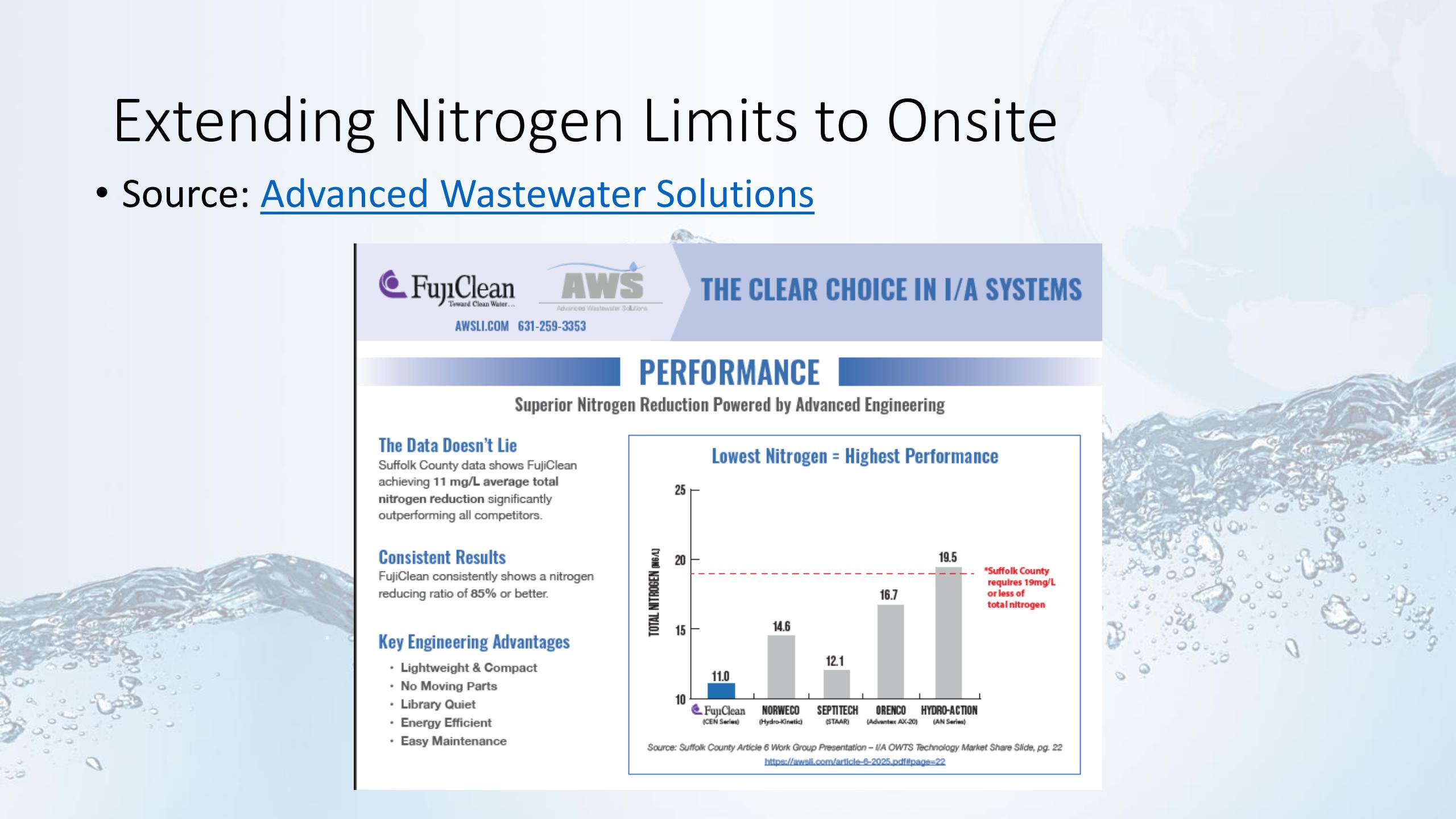
- Approximately 380,000 onsite sewage disposal system
- 209,000 systems in priority areas
- Approximately 252,530 pre-date requirement for septic tank

SUFFOLK COUNTY, NEW YORK



Extending Nitrogen Limits to Onsite

- Source: [Advanced Wastewater Solutions](#)



FujiClean
Toward Clean Water...
AWS
Advanced Wastewater Solutions
AWSLI.COM 631-259-3353

THE CLEAR CHOICE IN I/A SYSTEMS

PERFORMANCE

Superior Nitrogen Reduction Powered by Advanced Engineering

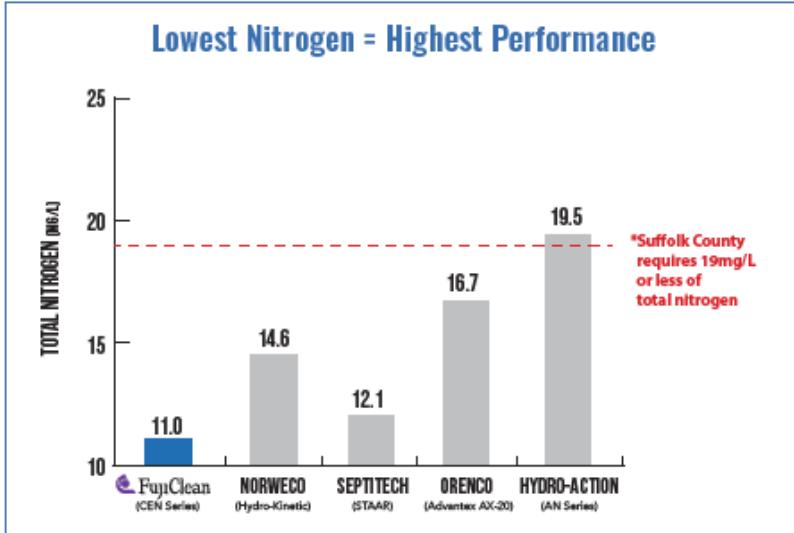
The Data Doesn't Lie
Suffolk County data shows FujiClean achieving 11 mg/L average total nitrogen reduction significantly outperforming all competitors.

Consistent Results
FujiClean consistently shows a nitrogen reducing ratio of 85% or better.

Key Engineering Advantages

- Lightweight & Compact
- No Moving Parts
- Library Quiet
- Energy Efficient
- Easy Maintenance

Lowest Nitrogen = Highest Performance



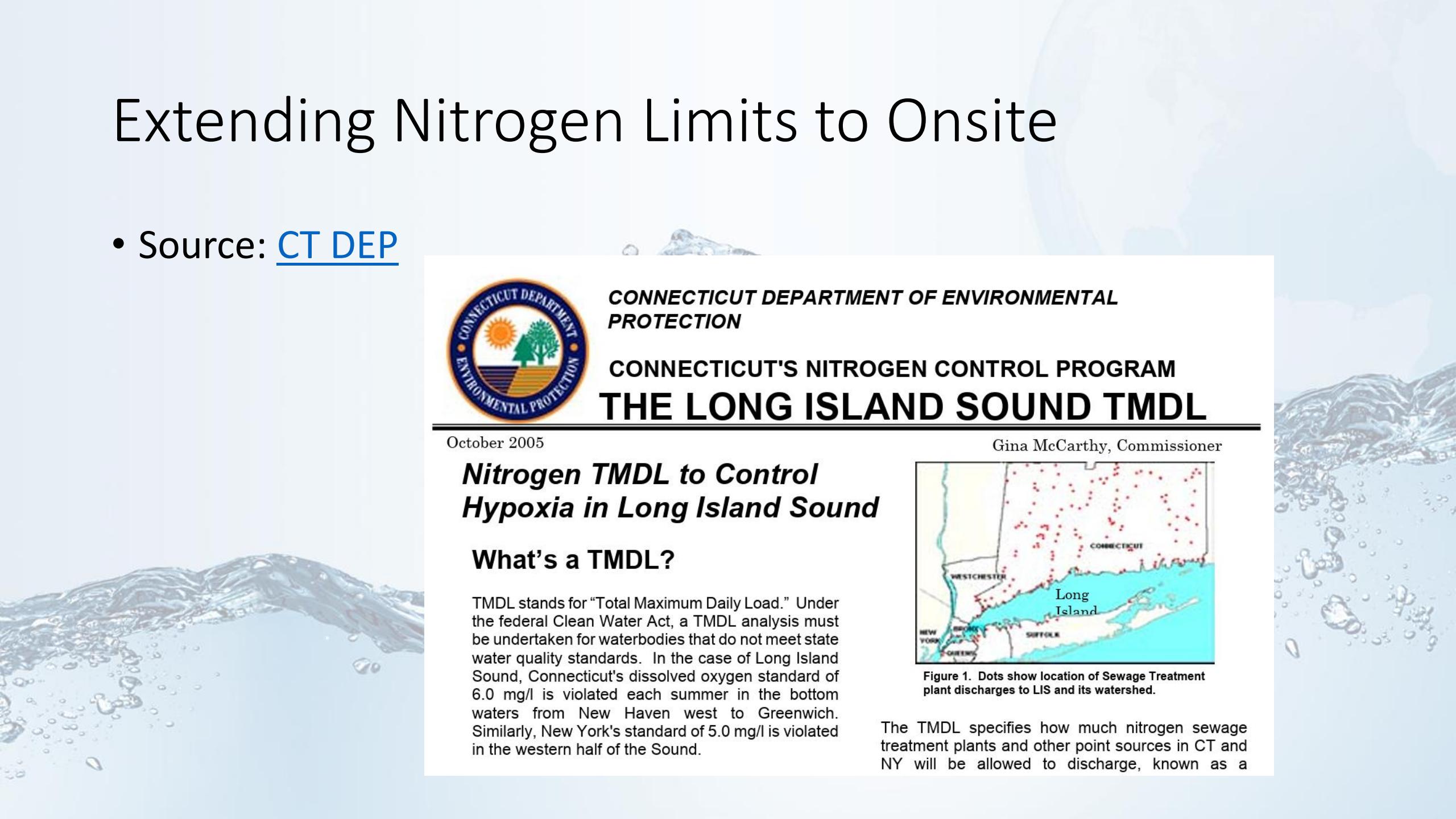
System	Total Nitrogen (mg/L)
FujiClean (CEN Series)	11.0
NORWECO (Hydro-Kinetic)	14.6
SEPTITECH (STAAR)	12.1
ORENCO (Advantec AX-20)	16.7
HYDRO-ACTION (AN Series)	19.5

*Suffolk County requires 19mg/L or less of total nitrogen

Source: Suffolk County Article 6 Work Group Presentation – I/A OWTS Technology Market Share Slide, pg. 22
<https://awсли.com/article-6-2025.pdf#page=22>

Extending Nitrogen Limits to Onsite

- Source: [CT DEP](#)



CONNECTICUT DEPARTMENT OF ENVIRONMENTAL PROTECTION

CONNECTICUT'S NITROGEN CONTROL PROGRAM

THE LONG ISLAND SOUND TMDL

October 2005

Gina McCarthy, Commissioner

Nitrogen TMDL to Control Hypoxia in Long Island Sound

What's a TMDL?

TMDL stands for "Total Maximum Daily Load." Under the federal Clean Water Act, a TMDL analysis must be undertaken for waterbodies that do not meet state water quality standards. In the case of Long Island Sound, Connecticut's dissolved oxygen standard of 6.0 mg/l is violated each summer in the bottom waters from New Haven west to Greenwich. Similarly, New York's standard of 5.0 mg/l is violated in the western half of the Sound.



Figure 1. Dots show location of Sewage Treatment plant discharges to LIS and its watershed.

The TMDL specifies how much nitrogen sewage treatment plants and other point sources in CT and NY will be allowed to discharge, known as a

Thank you!

For more information, contact:
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