



Connecticut Department of Energy and Environmental Protection



Connecticut's Nitrogen Trading Program Ratios/EQ Factors

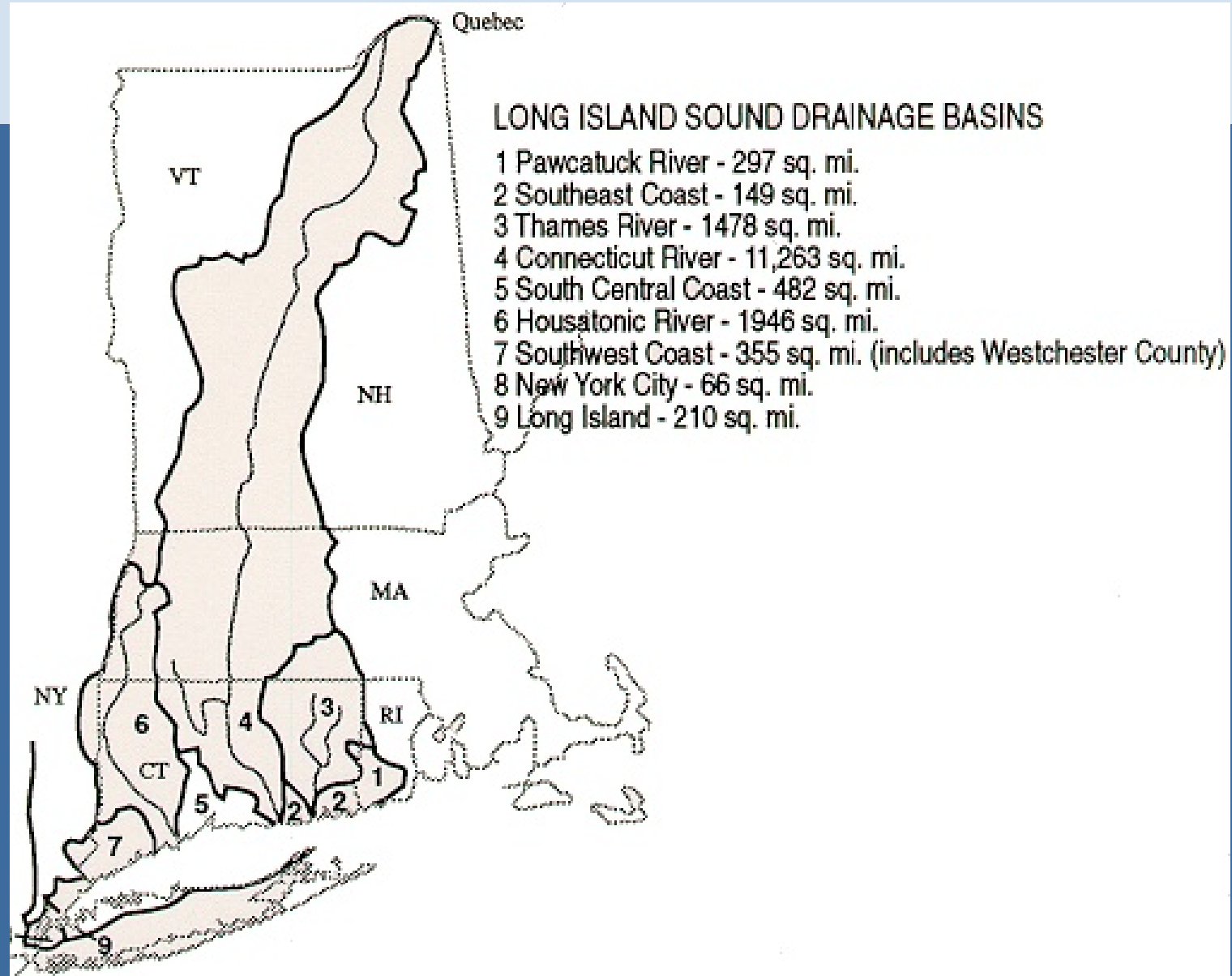
October 28, 2020

ACWA - 2020 Nutrients Permitting Workshop

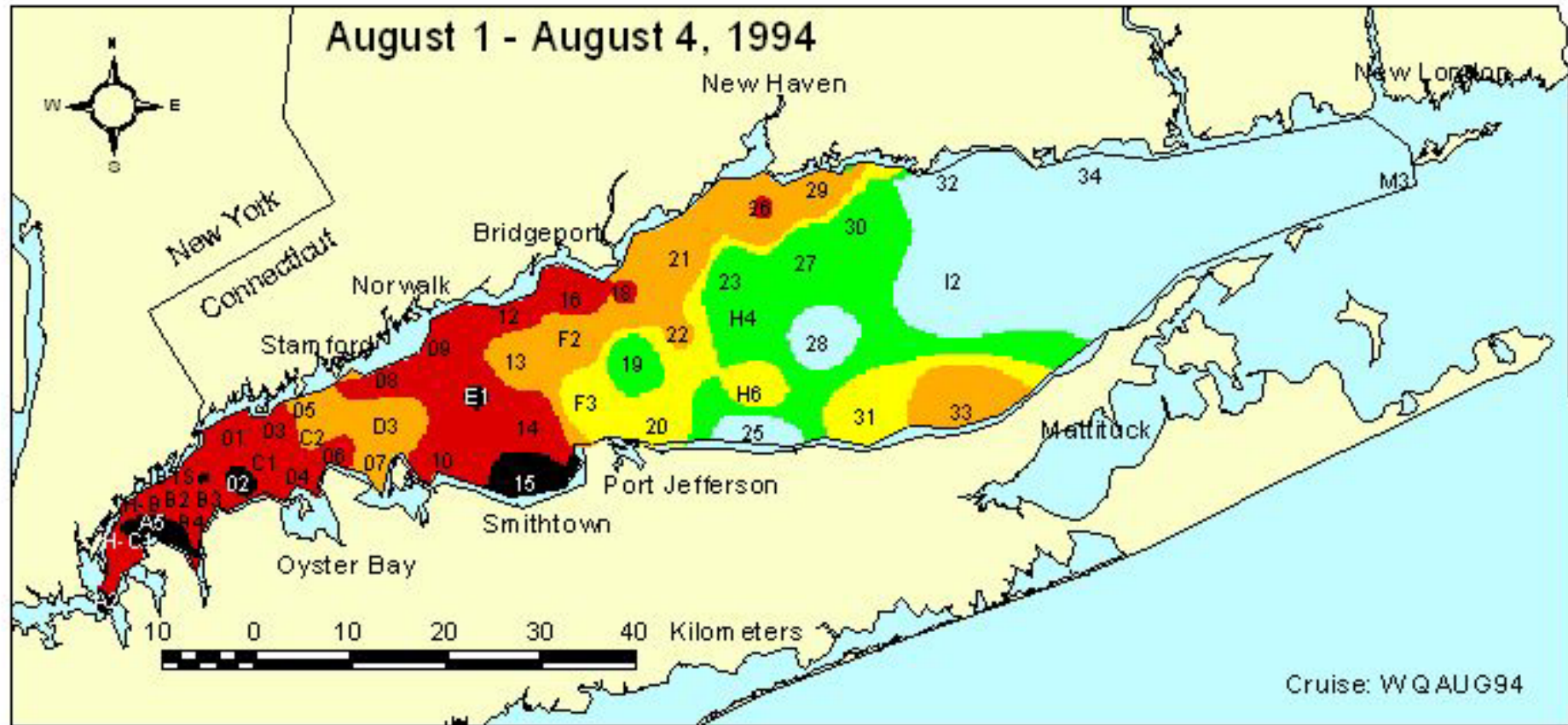
Rowland C. Denny, Supervising Environmental Analyst



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The Problem - Hypoxia



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Connecticut Nitrogen Trading Ratios

- The Nitrogen General Permit
- The POTW Nitrogen Trading Program
- The Long Island Sound TMDL



General Permit for Nitrogen Discharges

- Public Act 01-180, An Act Concerning Nitrogen Reduction In Long Island Sound – GP authority
- First issued January 1, 2002
- Latest renewal effective January 1, 2019
- Lists WLA for all 79 point sources covered
- Authorizes the discharge of Total Nitrogen



General Permit for Nitrogen Discharges

- Set limits from TMDL stepping down until 2014
- Set frequency of monitoring
- Requires operation of installed processes
- Allows for trading to meet limits



Connecticut's Nitrogen Trading Program

- Governed by the General Permit
- Public Act 01-180, An Act Concerning Nitrogen Reduction In Long Island Sound – Established NCAB to manage
- Not Free Market
- NCAB Sets Credit Prices Based on Legislated Formula
 - Annual CWF Project Capital Costs and Annual O&M Costs
- Scheduled Annual Trades
- Transactions through the State “Bank”
- POTW to POTW only



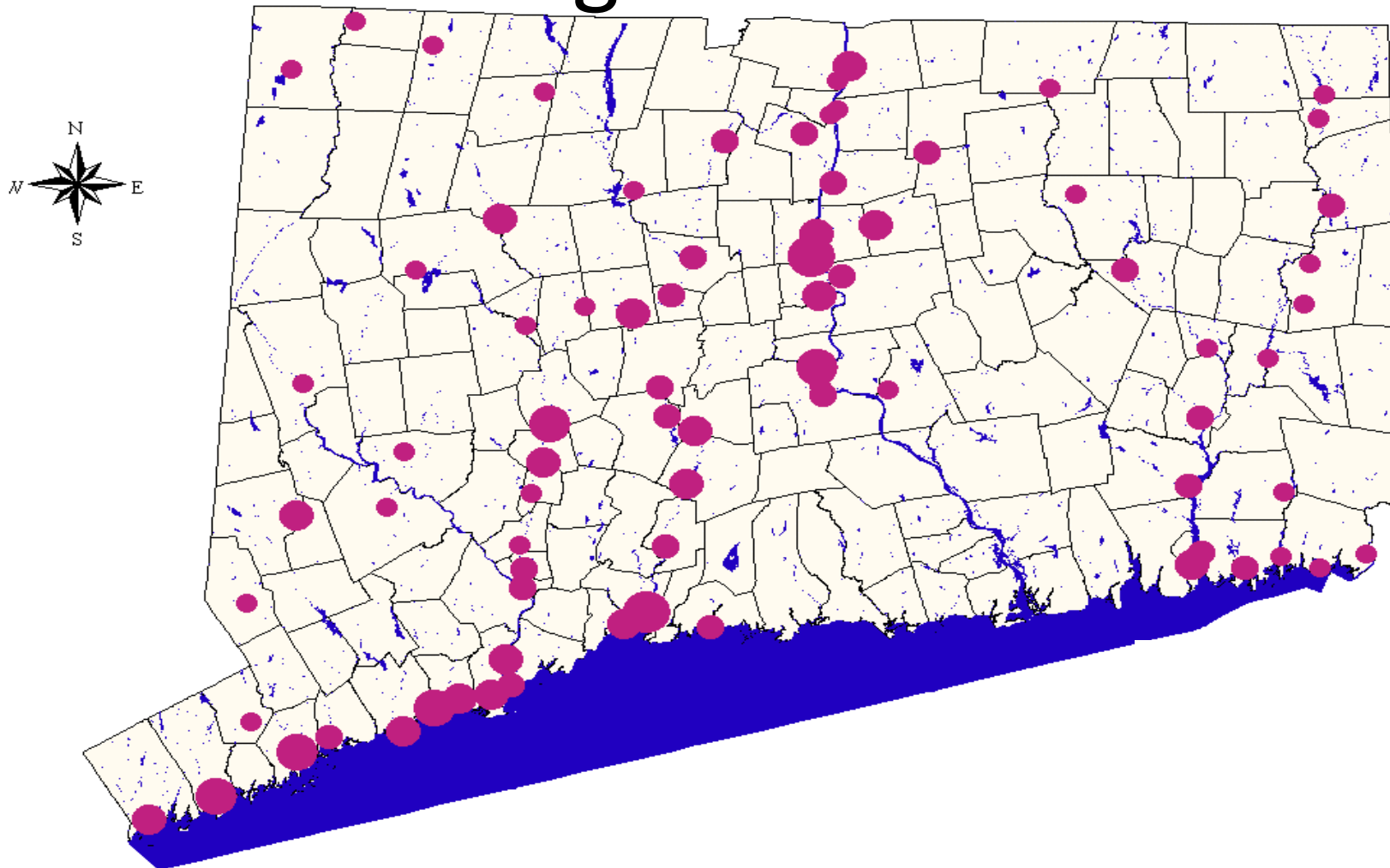


The Long Island Sound TMDL

- Congress appropriated funds for LISS
- Estuary of National Significance - 1987
- Status Report and Interim Actions for Hypoxia Management - 1990



STP Nitrogen Baseline Loads



Distribution of 79 Connecticut STPs participating in nitrogen trading. Dots are proportional to baseline, end of pipe nitrogen loads (lbs/day).

The Long Island Sound TMDL

- Comprehensive Conservation and Management Plan - 1994
- Plan for Phase III Actions for Hypoxia Management - 1998
- TMDL - 1998/2000 - EPA reviewed and approved - 2001
- In-basin Nitrogen Reduction Goal
 - 58.5%
 - 63.5% in point source reductions in Connecticut
- Enforceable Schedule – final reductions due 2014
- Allows for Trading between POTWs





The Long Island Sound TMDL

- Fresh water inputs - CT River
- Salt Water Input - East River and Atlantic Ocean
- LIS 3.0 - CT intensive monitoring since 1988
 - 18 axial and lateral monitoring stations year round and 48 in summer since 1994
 - 25 water quality constituents
 - NY - 16 stations in East River and Western narrows
 - ISC - 21 stations since 1991

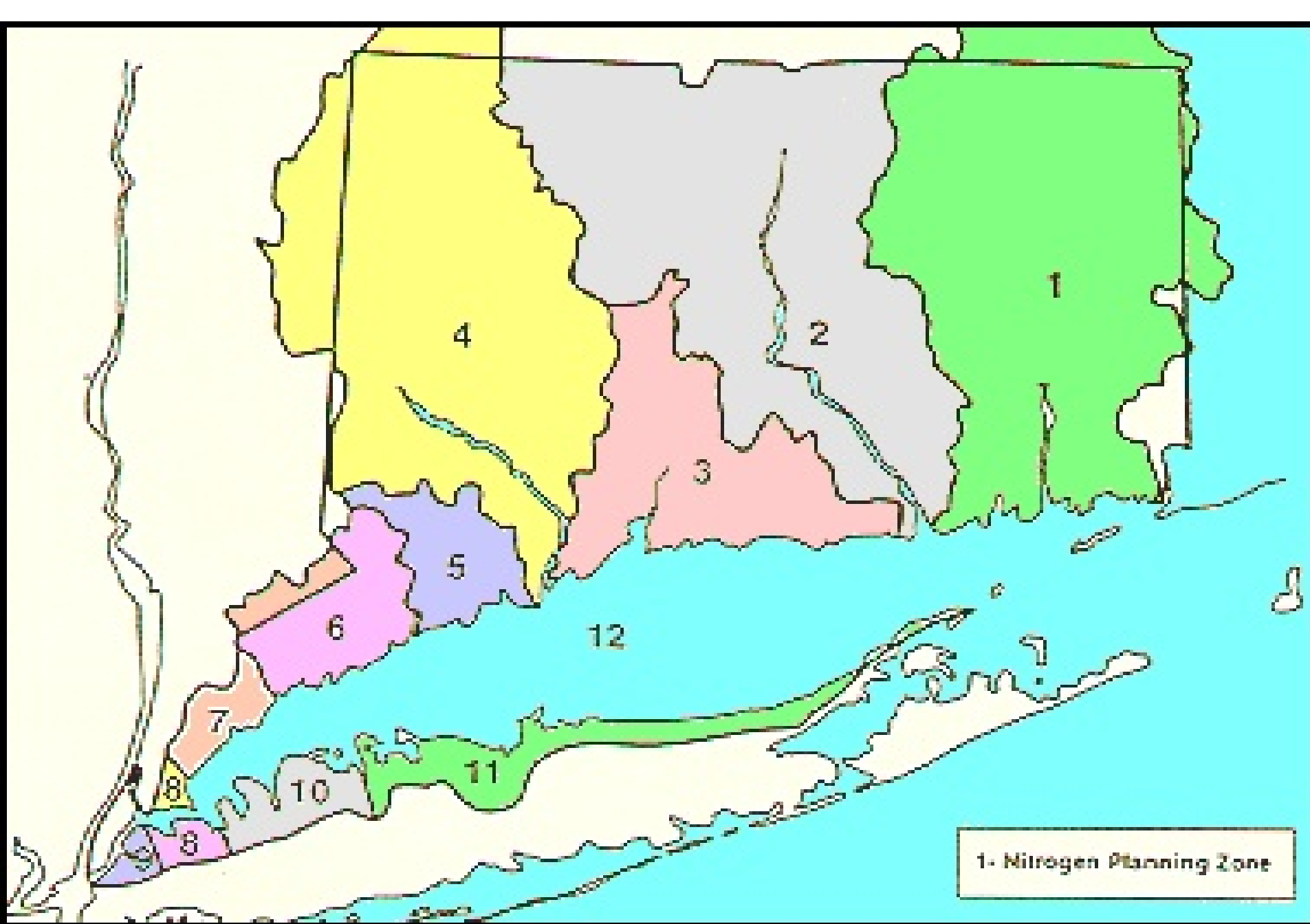


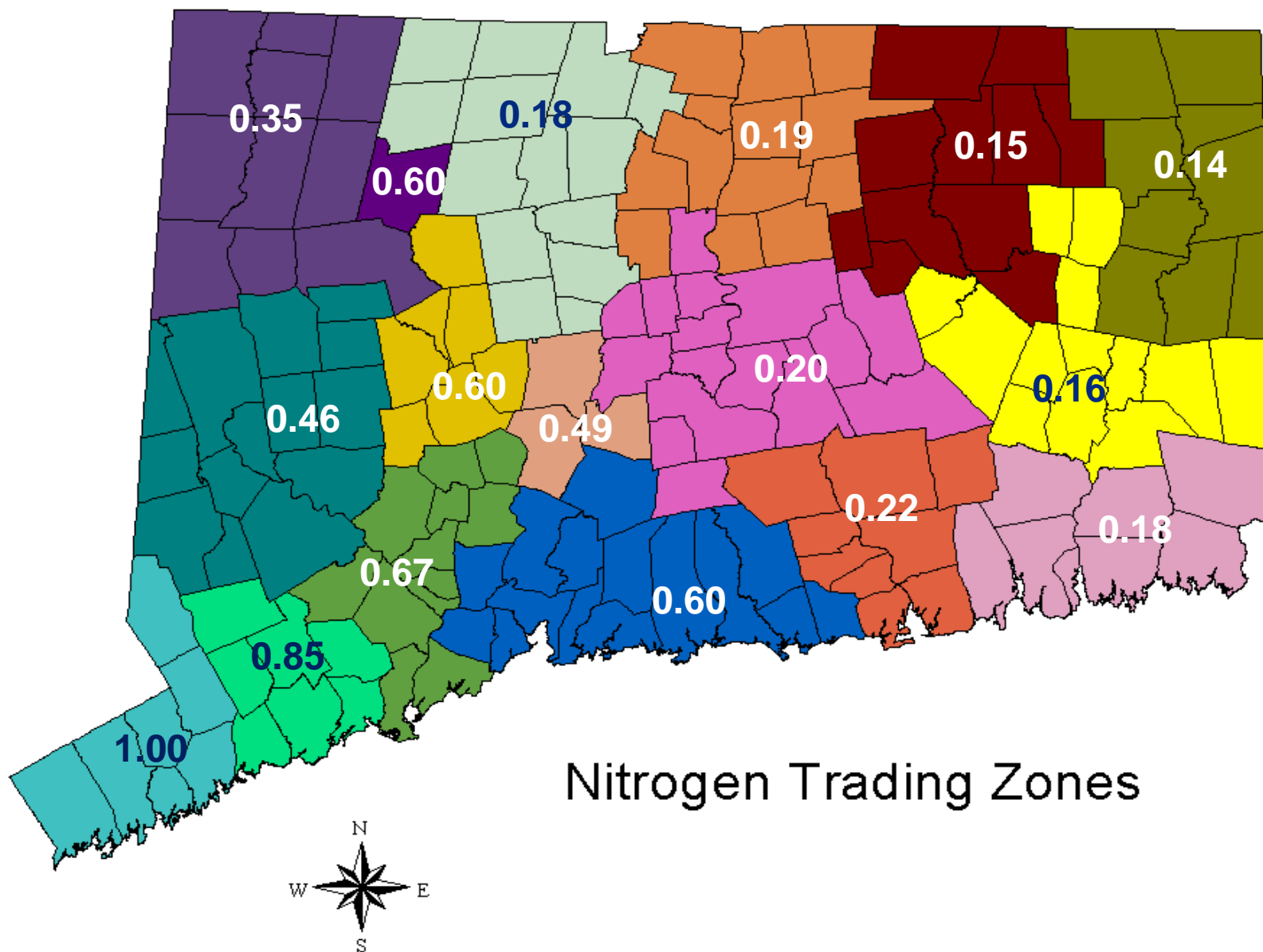


The Long Island Sound TMDL

- 12 management zones - 11 around LIS
 - the surface of LIS
- 6 management zones in CT divided into 17 tiers total







Nitrogen Trading Zones

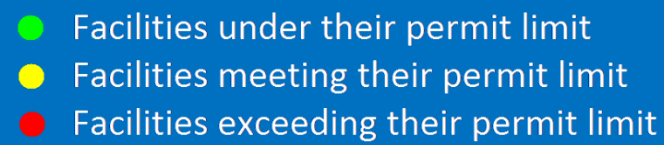
EQ Factors in General Permit

Nitrogen WLA for Connecticut Point Source Discharges

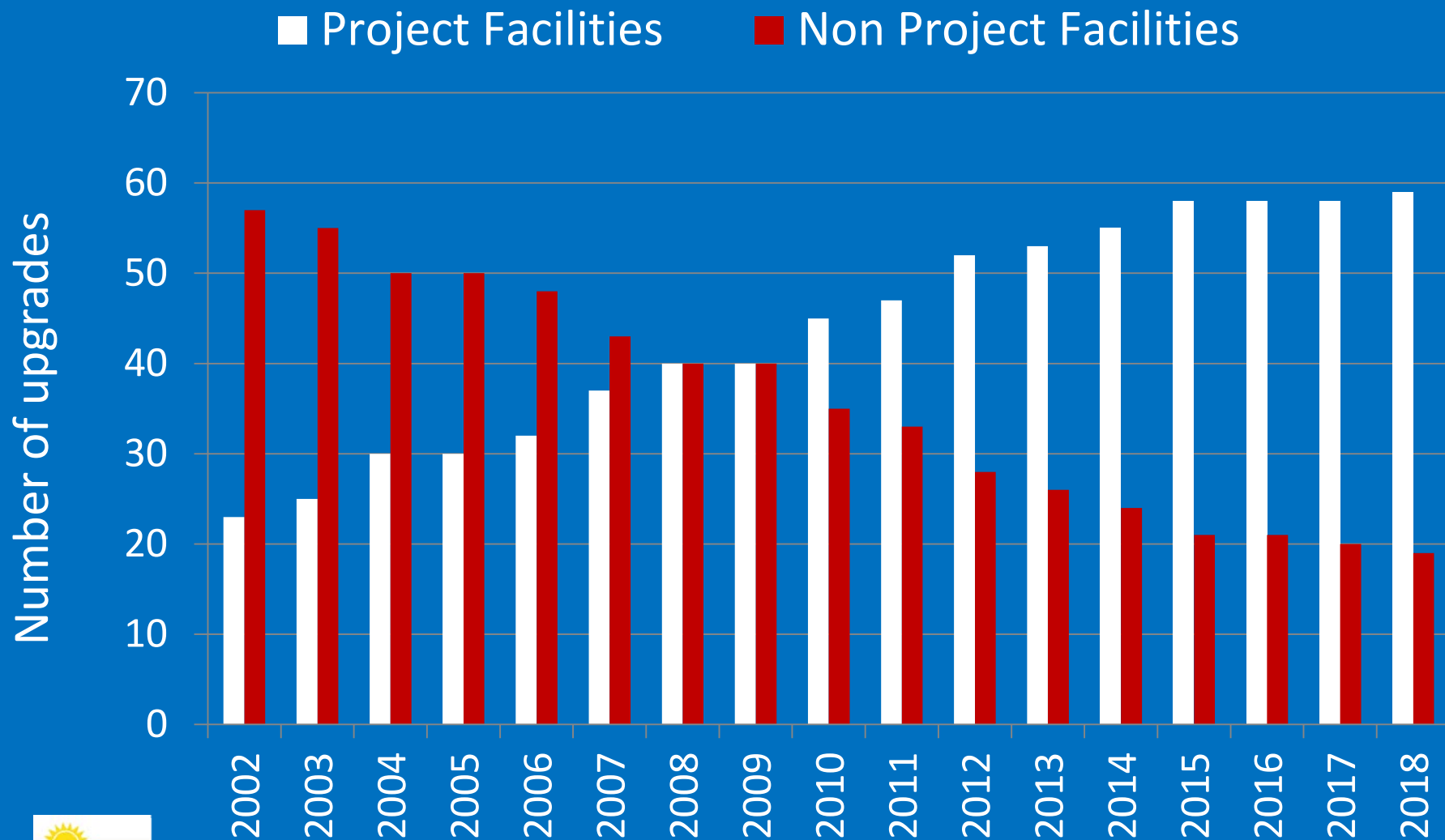
EQ factor	Facility Name	Baseline End-of-Pipe (lbs/day)	WLA End-of-Pipe (lbs/day)
0.14	Thompson	28	10
0.20	MDC Hartford	6512	2377
0.49	Meriden	1230	449
0.67	Stratford	974	356
0.85	Fairfield	1113	406
1	Norwalk	1967	718



2019 Actual



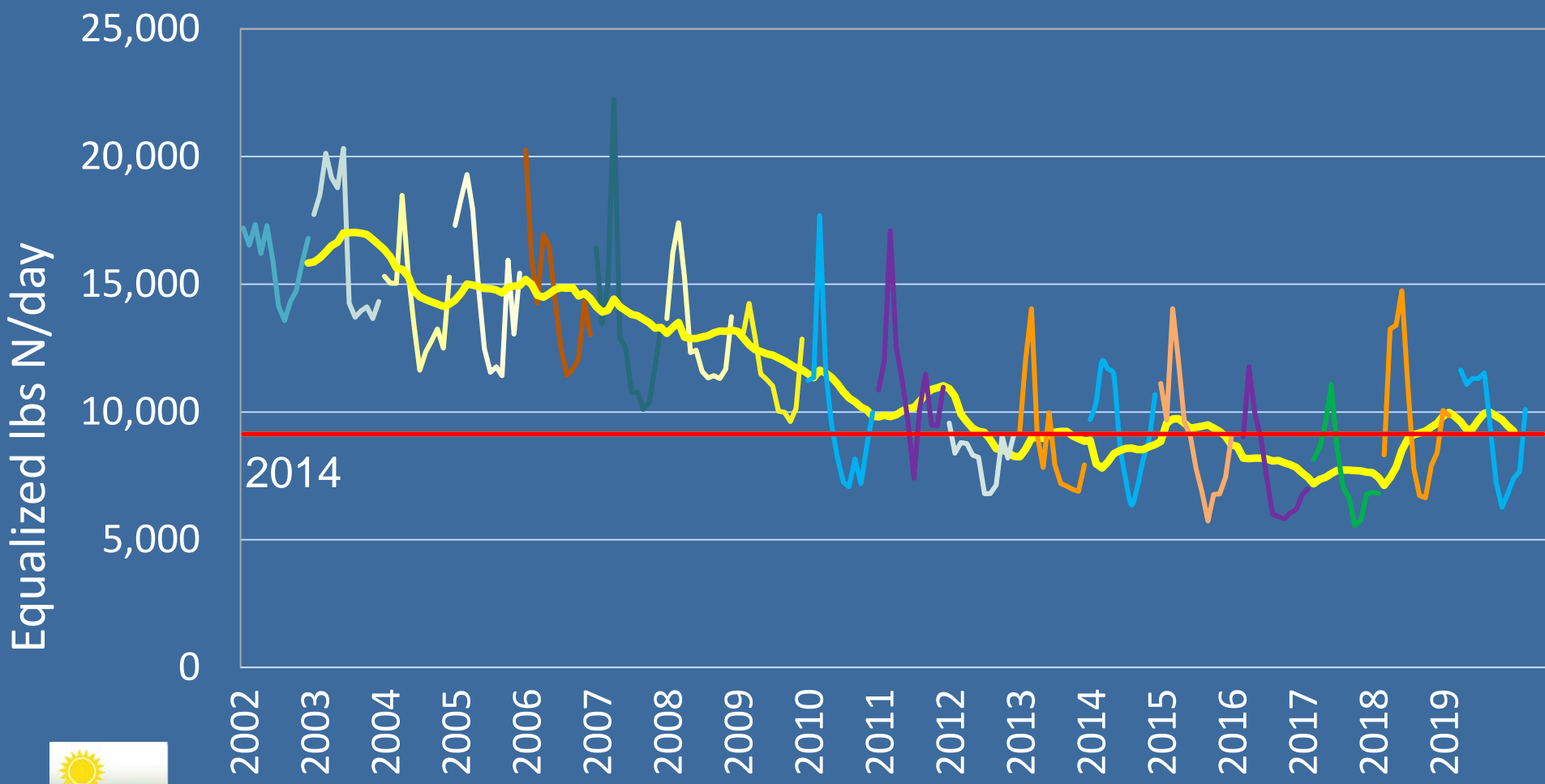
Upgrades spread out over time



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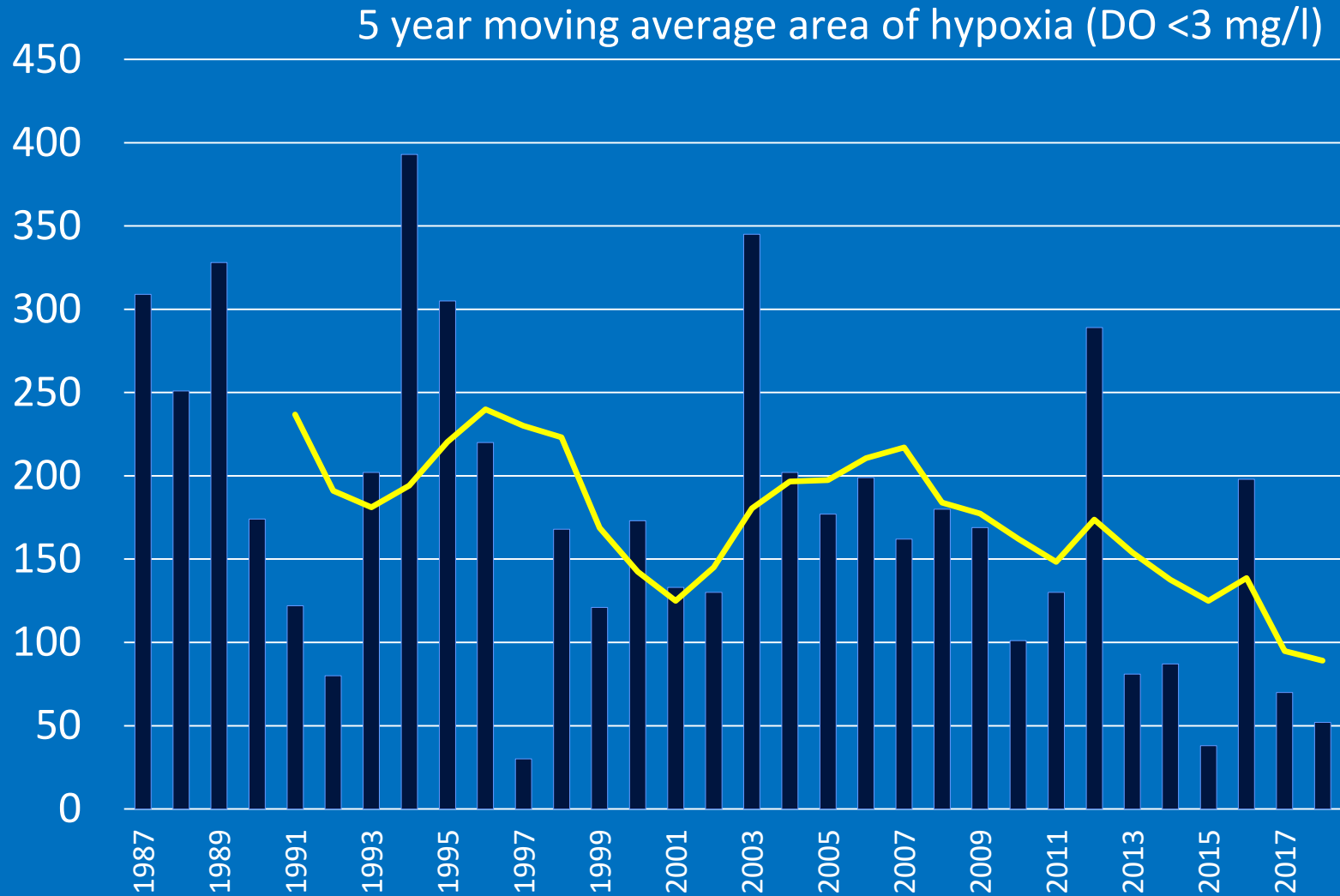


Monthly average total equalized nitrogen loading to LIS



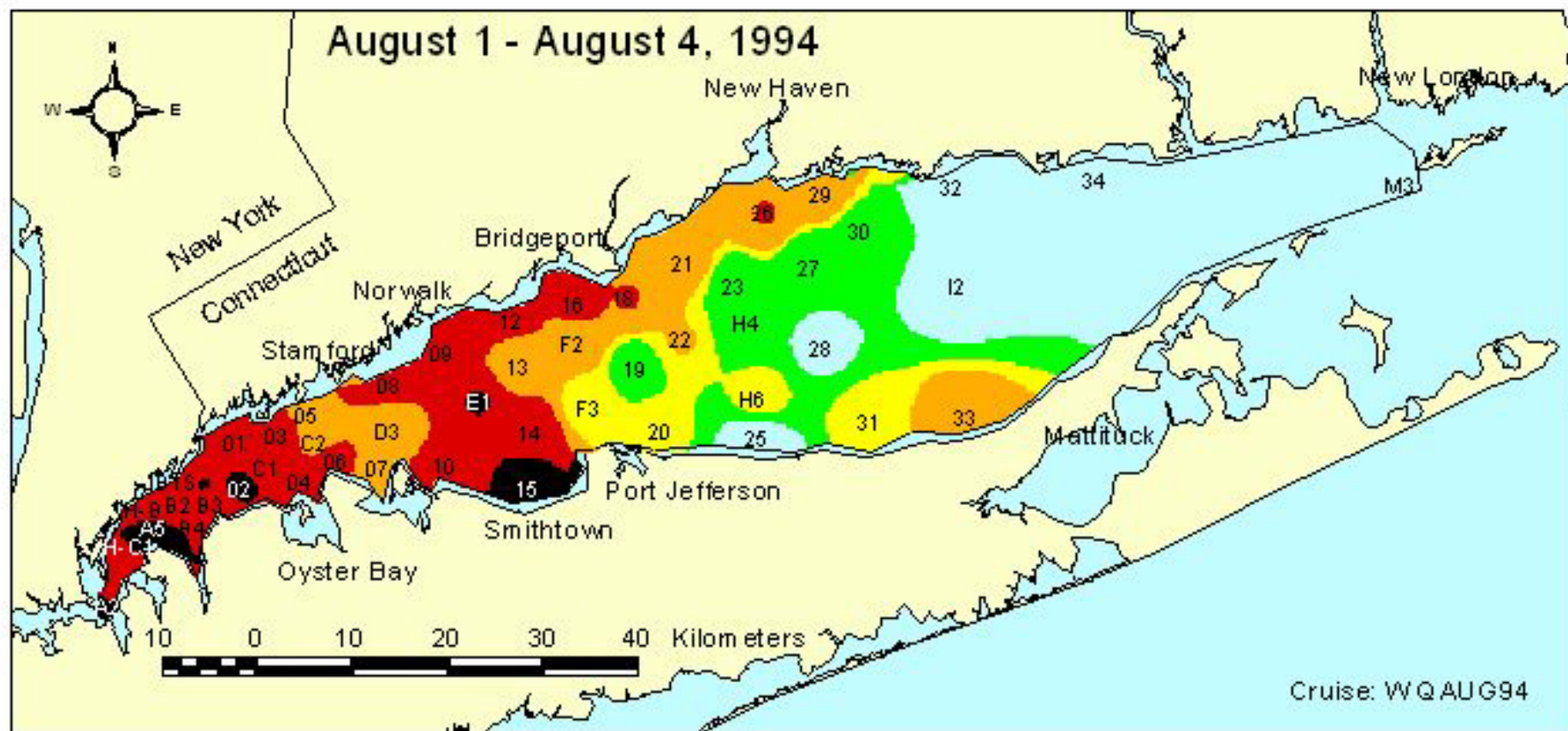
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Impact on Long Island Sound Hypoxia



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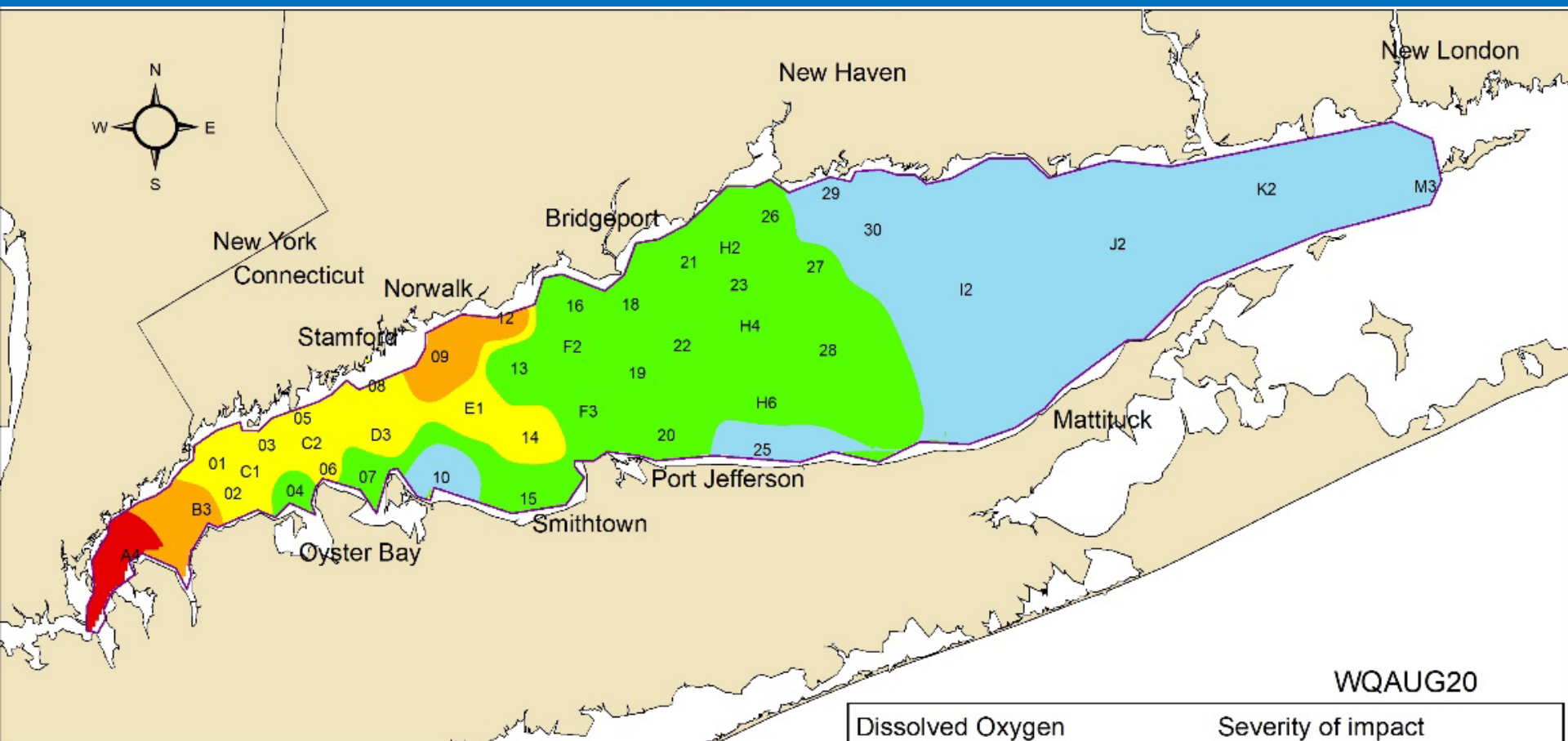
Trading Program Accomplishments



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Trading Program Accomplishments

3 August, 10 – 12 August 2020



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Near-term Goals

- Embayments and harbors
- TMDL refresh
- Upstream states





Questions?

www.ct.gov/deep/municipalwastewater

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