

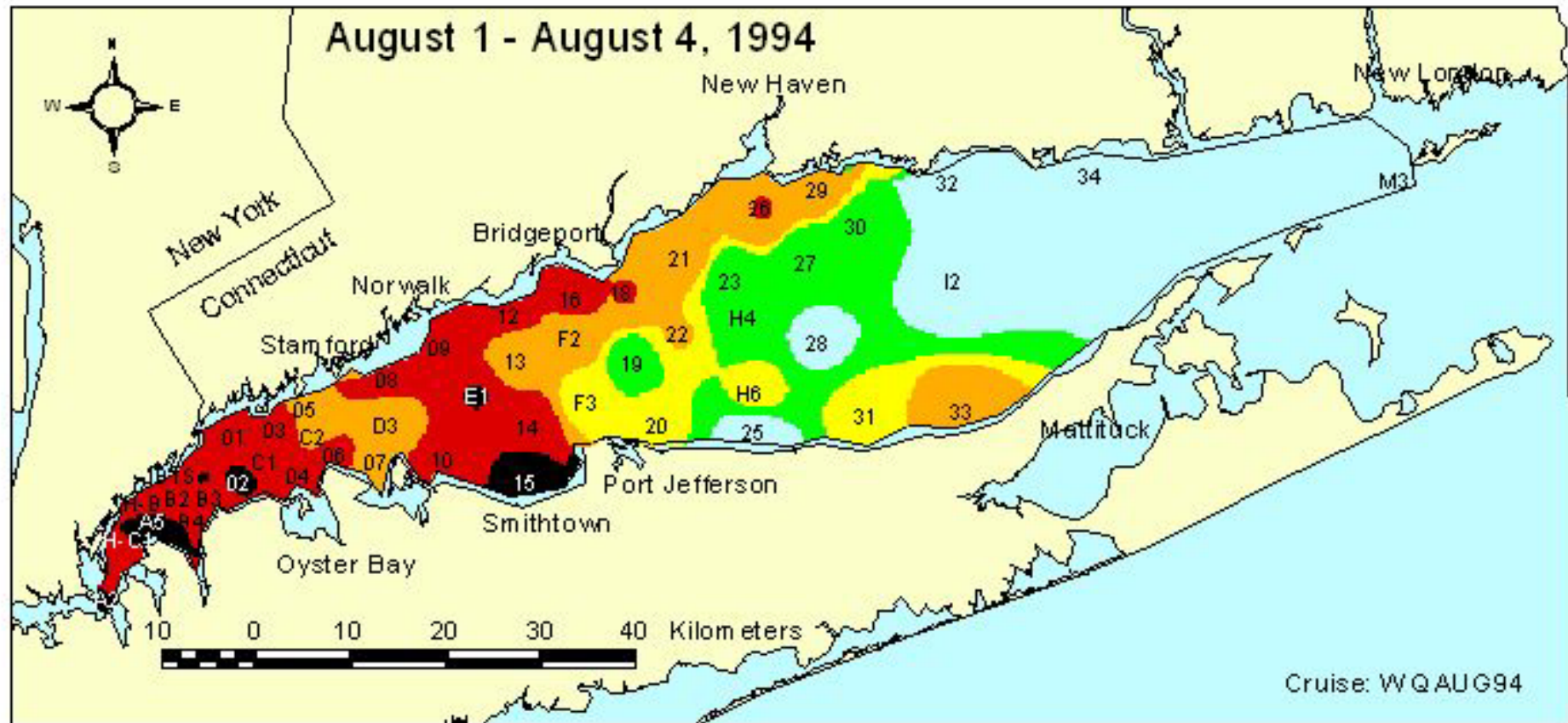


# Connecticut Department of Energy and Environmental Protection



Connecticut Department of  
**ENERGY &  
ENVIRONMENTAL  
PROTECTION**

# A Nitrogen TMDL for Long Island Sound

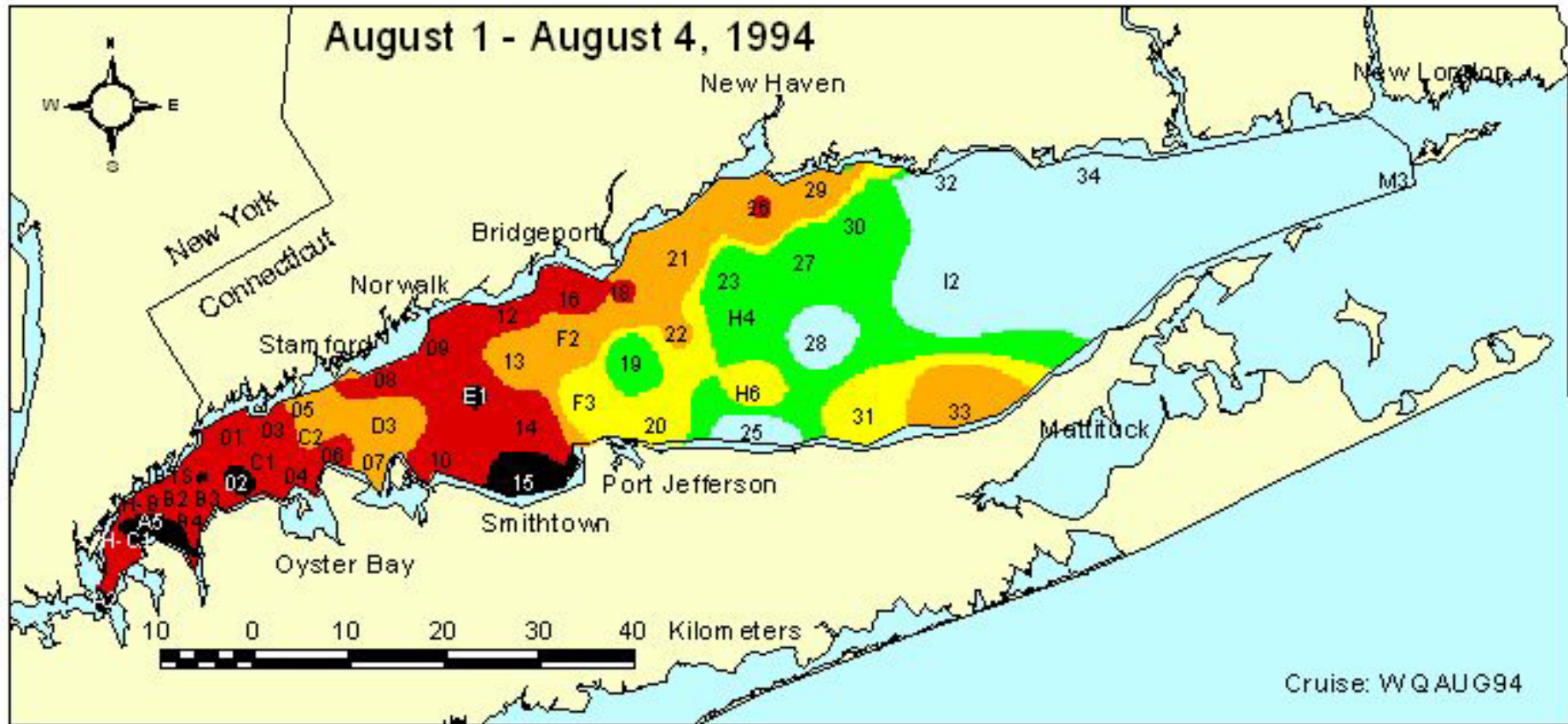


# A Nitrogen TMDL for Long Island Sound

- The LIS TMDL
- How does it fit into the permitting program?



# The Long Island Sound TMDL

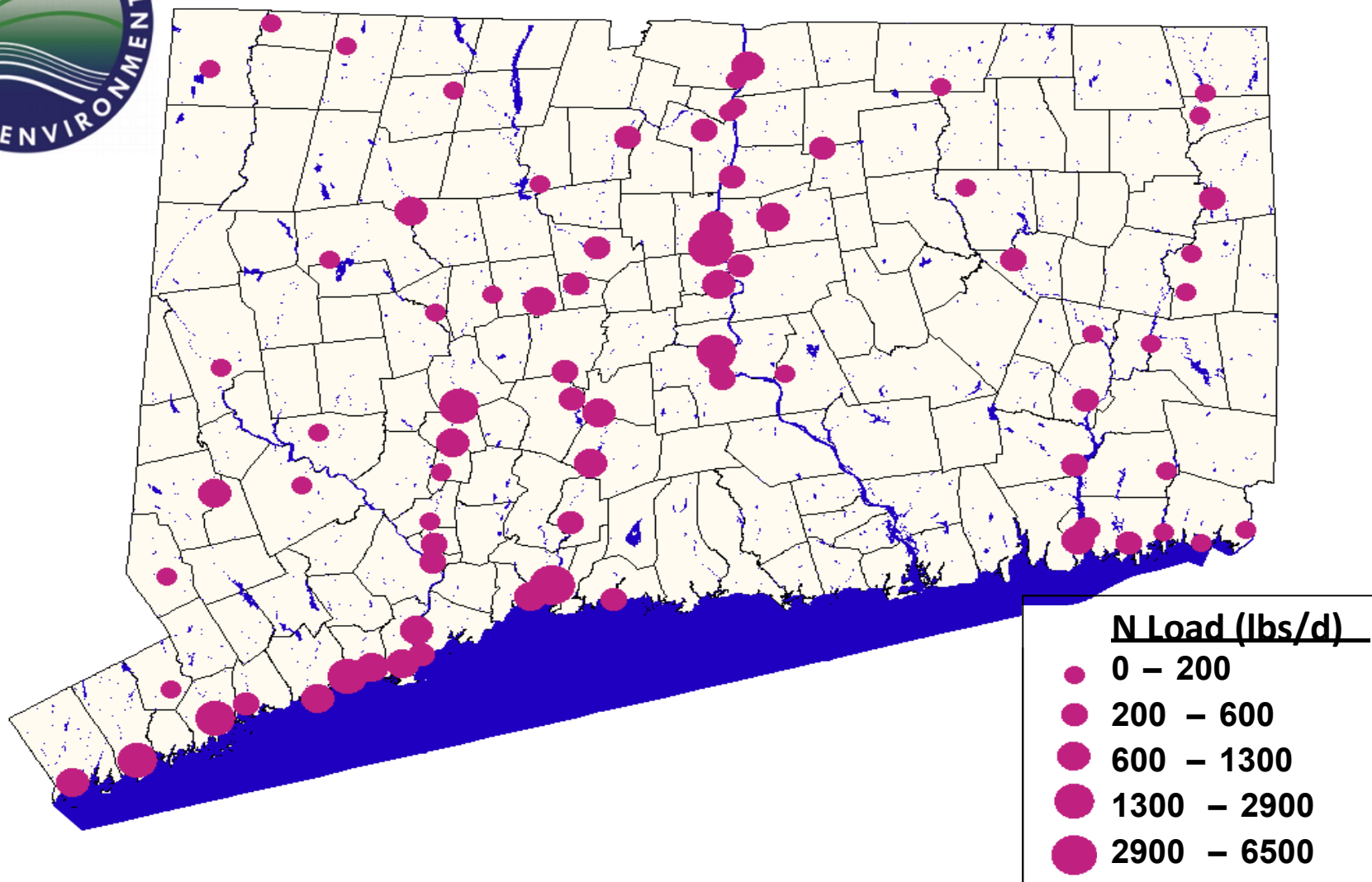


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# STP Nitrogen Loads



**Distribution of 79 Connecticut STPs In the Nitrogen General Permit.  
Dots are proportional to baseline, end of pipe nitrogen loads (lbs/day).**

# The Long Island Sound TMDL

- The Long Island Sound Study – 1985
  - Congress appropriated \$
- Significant level of monitoring since 1986
- Management Conference - 1988
- Status Report and Interim Actions for Hypoxia Management – 1990 *Phase I*



# The Long Island Sound TMDL

- By 1994 there were 48 axial and lateral monitoring stations
- Developed a Comprehensive Conservation and Management Plan – 1994 *Phase II*
- CT, NY and EPA adopted *Phase III Actions for Hypoxia Management* – 1998



# The Long Island Sound TMDL

- Draft TMDL prepared by New York and Connecticut
  - 1998, 1999 and Revised 2000
- EPA reviewed and approved - 2001
- Enforceable Schedule
  - 23.4% by August 2004
  - 43.9% by August 2009
  - 58.5% by August 2014





# The Long Island Sound TMDL

- Allows for Trading between POTWs
- 58.5% Reduction in Total Nitrogen Loading
  - The reduction applied to WWTPs in CT is 63.5%



# The Long Island Sound TMDL

- 25% Aggregate WWTP Reductions for Upstream States (MA, NH, VT)
- 10% Reduction in NPS (the entire watershed)
- Atmospheric Reductions
  - 18% reduction expected (CAA)



# The Long Island Sound TMDL

## Nitrogen WLA for Connecticut Point Source Discharges

Facility Name	Baseline End-of-Pipe (lbs/day)	WLA End-of-Pipe (lbs/day)
<b>Zone 6</b>		
Greenwich WPCF	1313	479
New Canaan WPCF	175	64
Norwalk WPCF	1967	718
Ridgefield South St. WPCF	80	29
Stamford WPCF	2536	926
<b>Subtotal</b>	<b>6071</b>	<b>2216</b>



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# Permitting

## Using NPDES Permits to set limits

- High Compliance Cost
- High Non-Compliance Cost
- Rewards those that go last

Difficult to implement -  
79 NPDES permits to  
issue for point sources



# Permitting

## Using a General Permit to meet goals

- EPA approval of revised draft Beacon Falls NPDES permit
- Easier to implement for limited staff



# 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 is effective January 1, 2019
- Lists point sources with reductions required
- Authorizes the discharge of Total Nitrogen
- Requires operation of installed processes
- Allows for trading to meet limits





# General Permit for Nitrogen Discharges

Past GPs set limits from TMDL stepped over 14 years

- Enforceable Schedule
  - 23.4% by August 2004
  - 43.9% by August 2009
  - 58.5% by August 2014



# General Permit for Nitrogen Discharges

Sets frequency of monitoring:

- Total Nitrogen Concentration
- POTWs Less Than 10 MGD Design - Weekly
- POTWs Greater Than 10 MGD Design - Twice per Week
- Average Flow - Daily
- Sample Location - Final Effluent
- Sample Type - Daily Composite

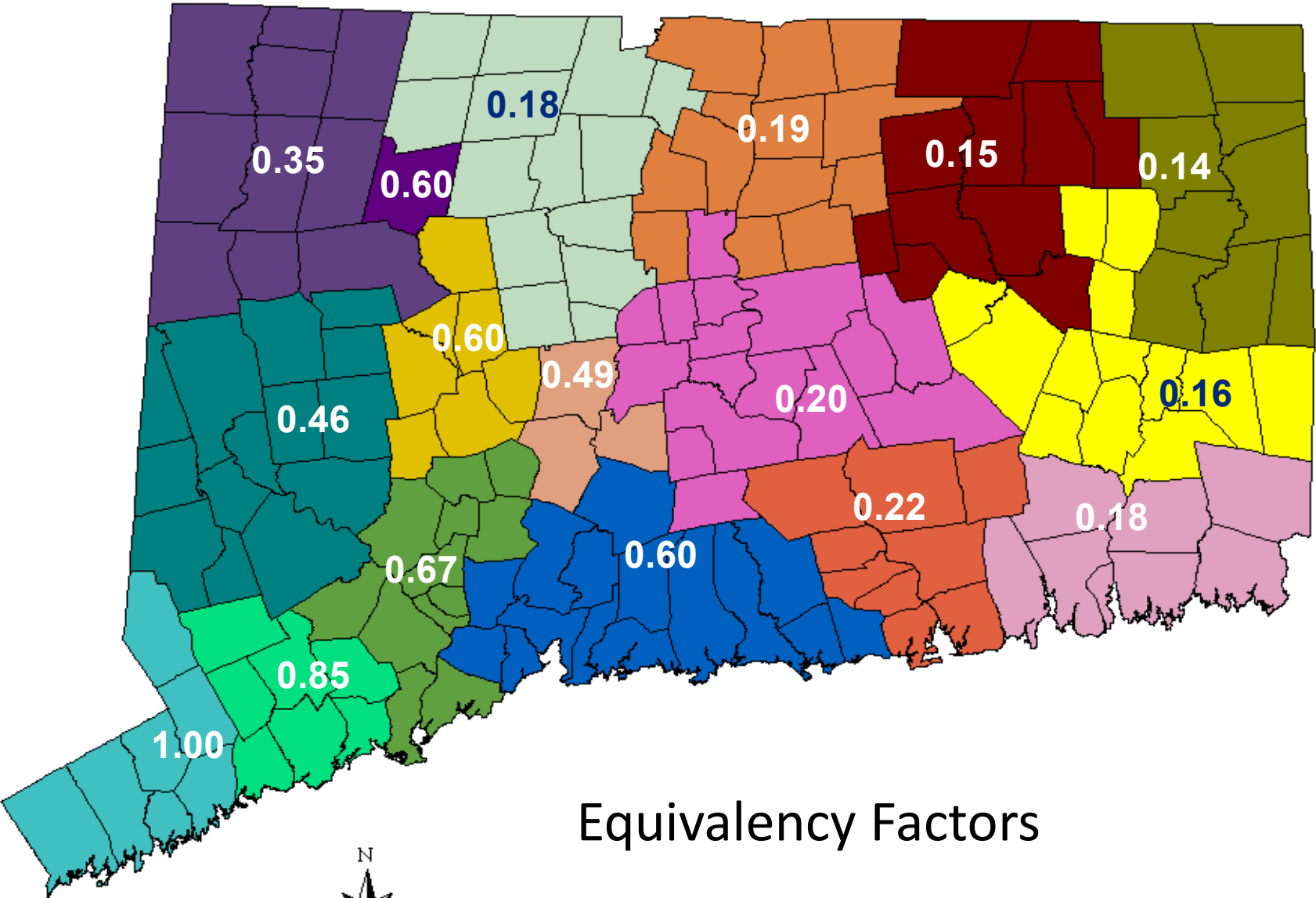


# General Permit for Nitrogen Discharges

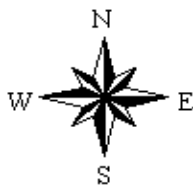
ANNUAL DISCHARGE LIMITS FOR TOTAL NITROGEN		
POTWs	Equivalency Factor	Total Nitrogen (pounds/day)
<b>Zone 6</b>		
Greenwich WPCF	1	479
New Canaan WPCF	1	64
Norwalk WPCF	1	718
Ridgefield South St. WPCF	1	29
Stamford WPCF	1	926



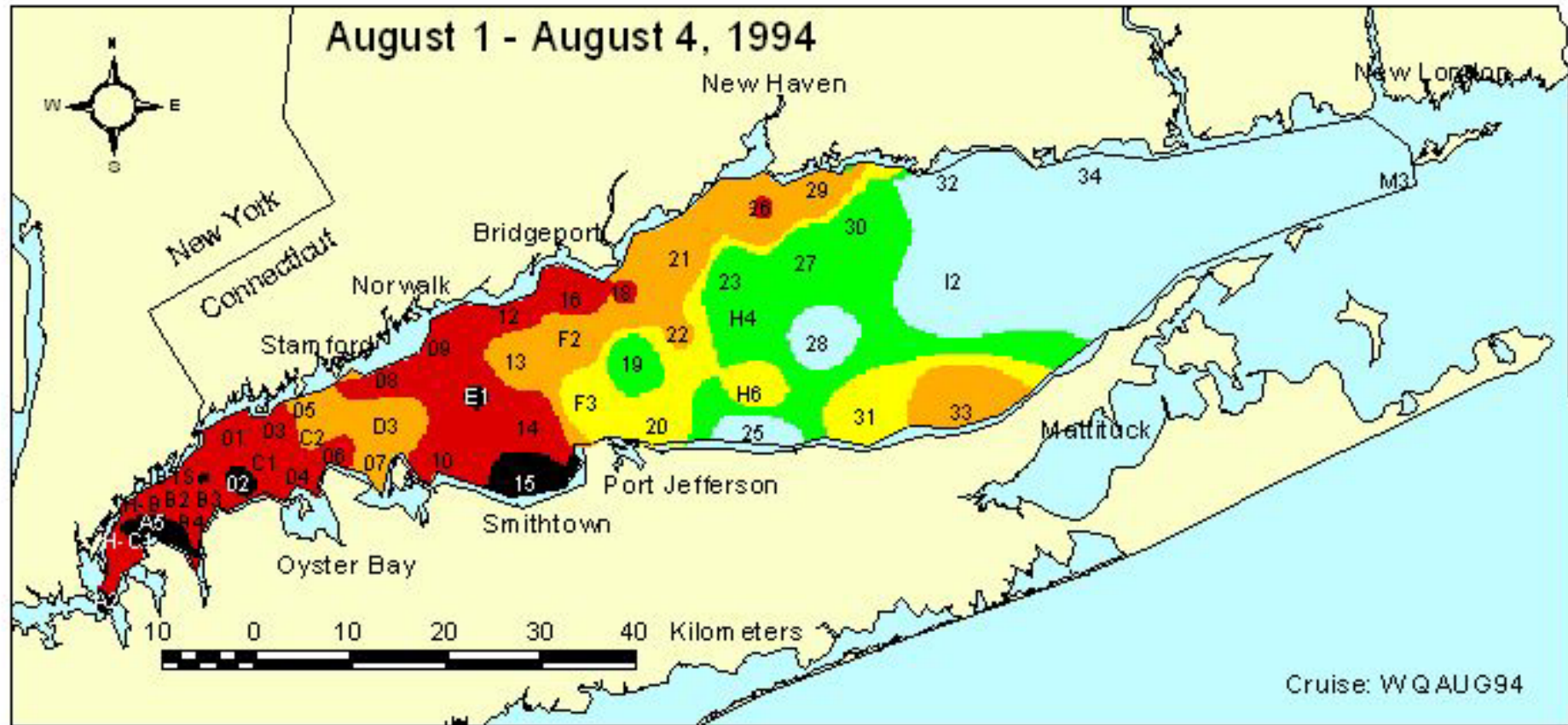
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Equivalency Factors



# General Permit for Nitrogen Discharges

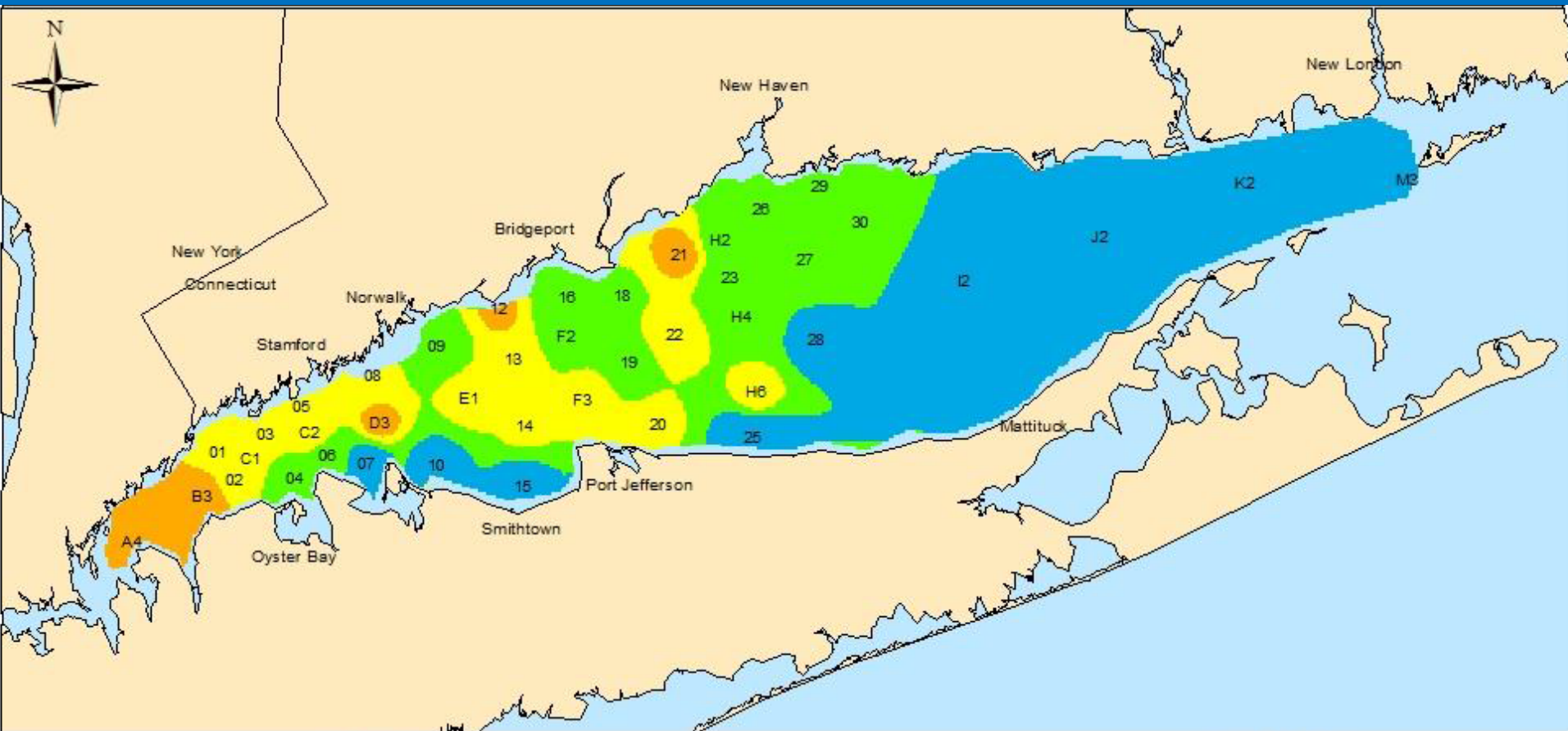


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# General Permit for Nitrogen Discharges

## Dissolved Oxygen in Long Island Sound Bottom Waters

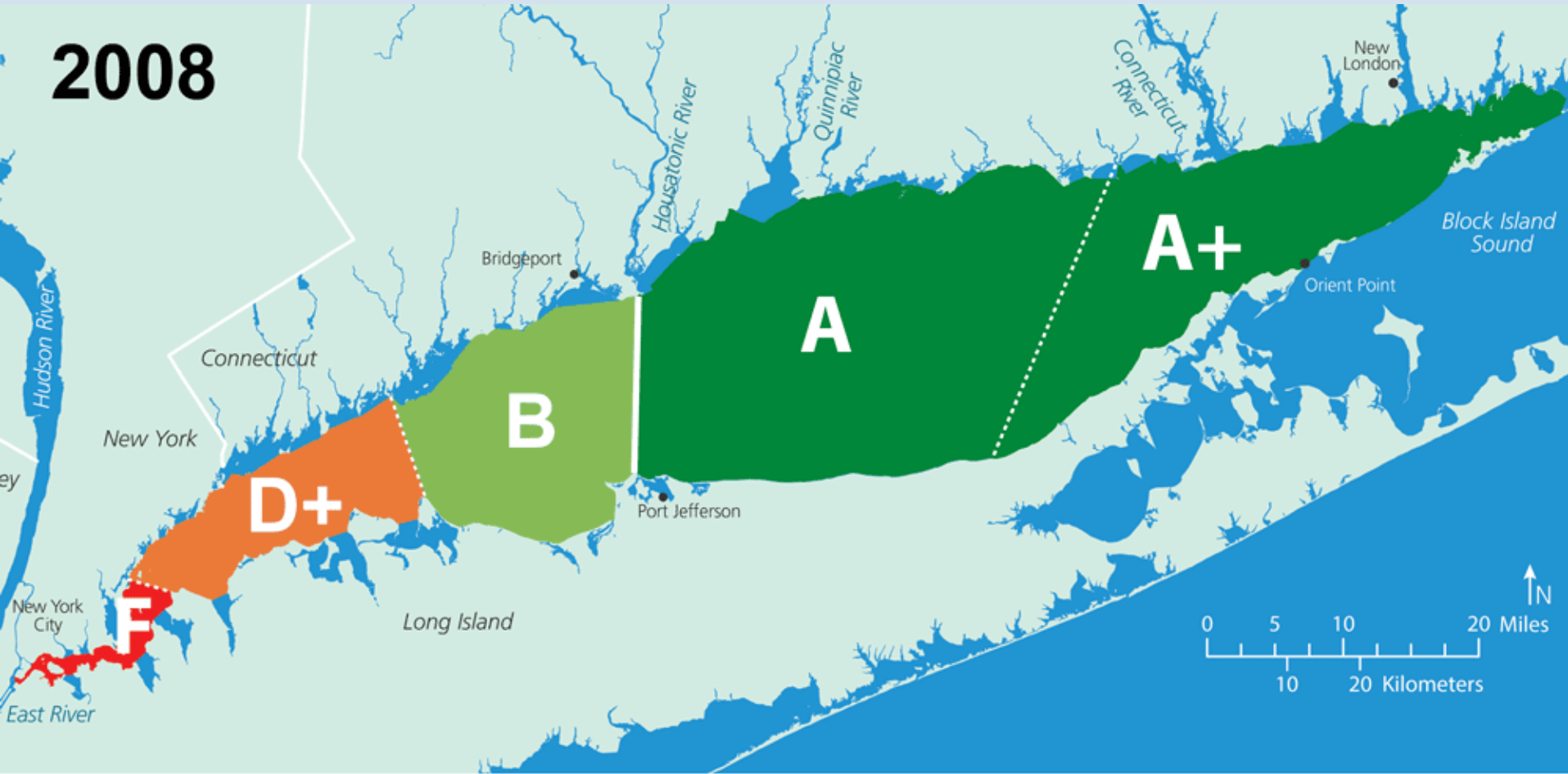
27 August – 29 August 2018



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# General Permit for Nitrogen Discharges



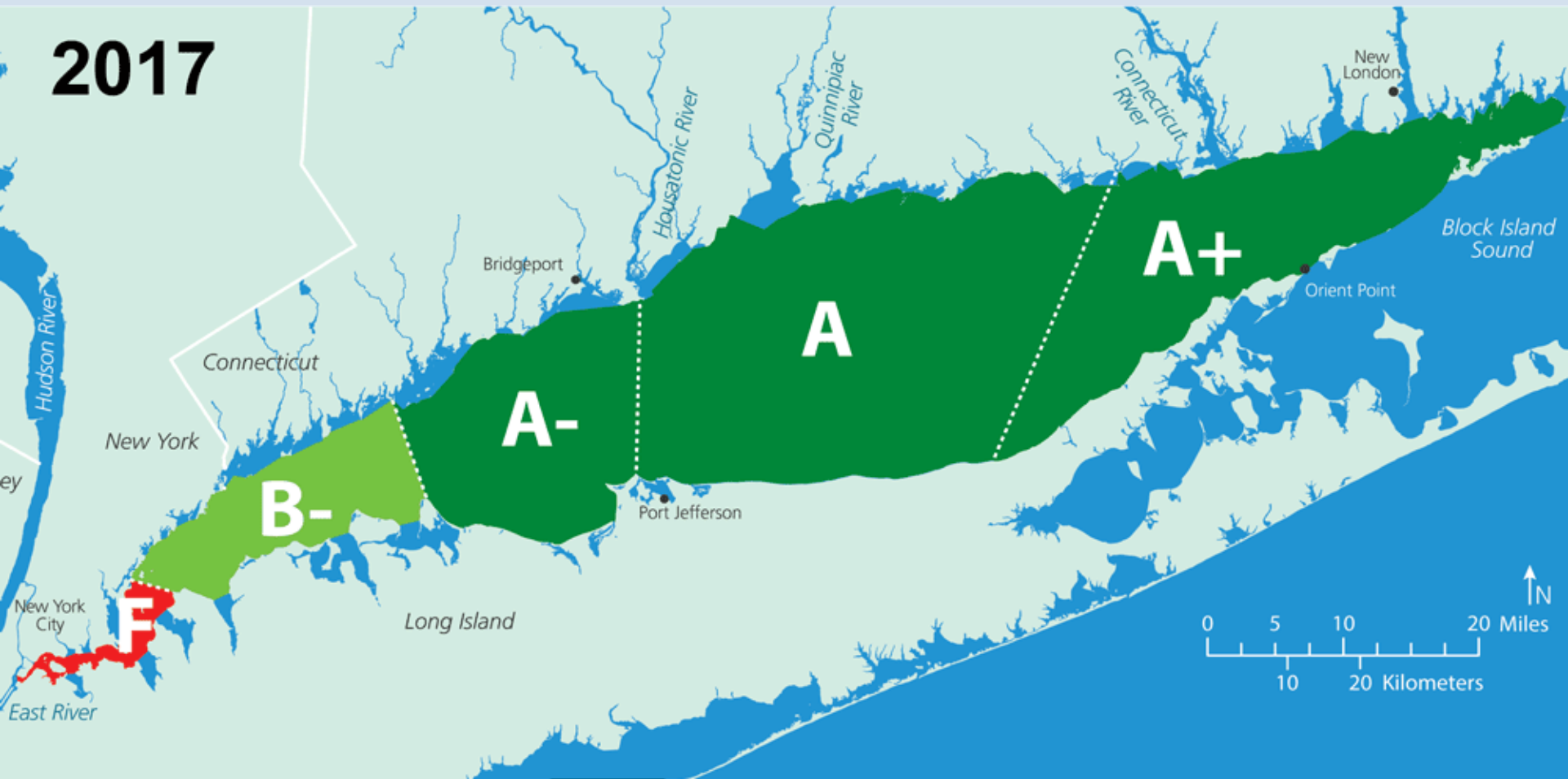
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Save the Sound®



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# General Permit for Nitrogen Discharges



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# Questions?

[www.ct.gov/deep/municipalwastewater](http://www.ct.gov/deep/municipalwastewater)

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