



CONNECTICUT DEPARTMENT OF
ENVIRONMENTAL PROTECTION

Connecticut's Nitrogen Trading Program

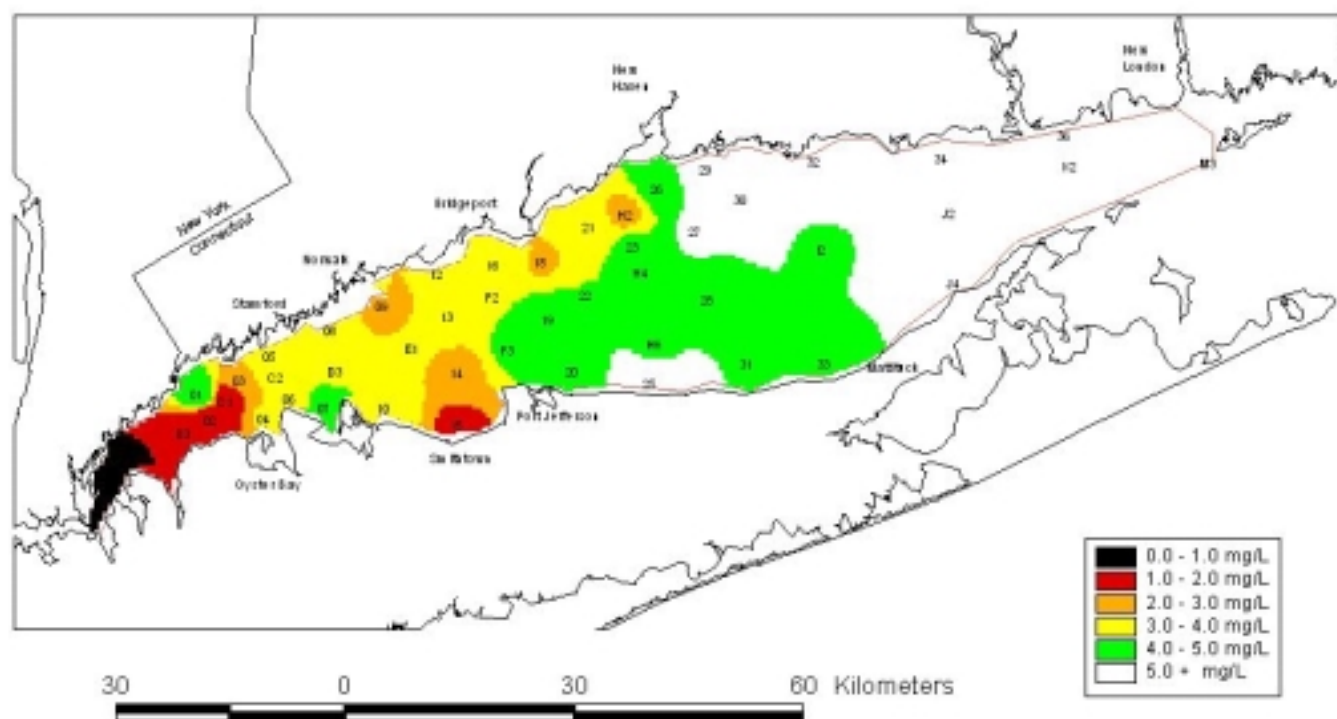
To achieve the TMDL for Long
Island Sound



Long Island Sound Water Quality Monitoring Program Summer Hypoxia Survey

Cruise: WQAUG99

August 2-5, 1999

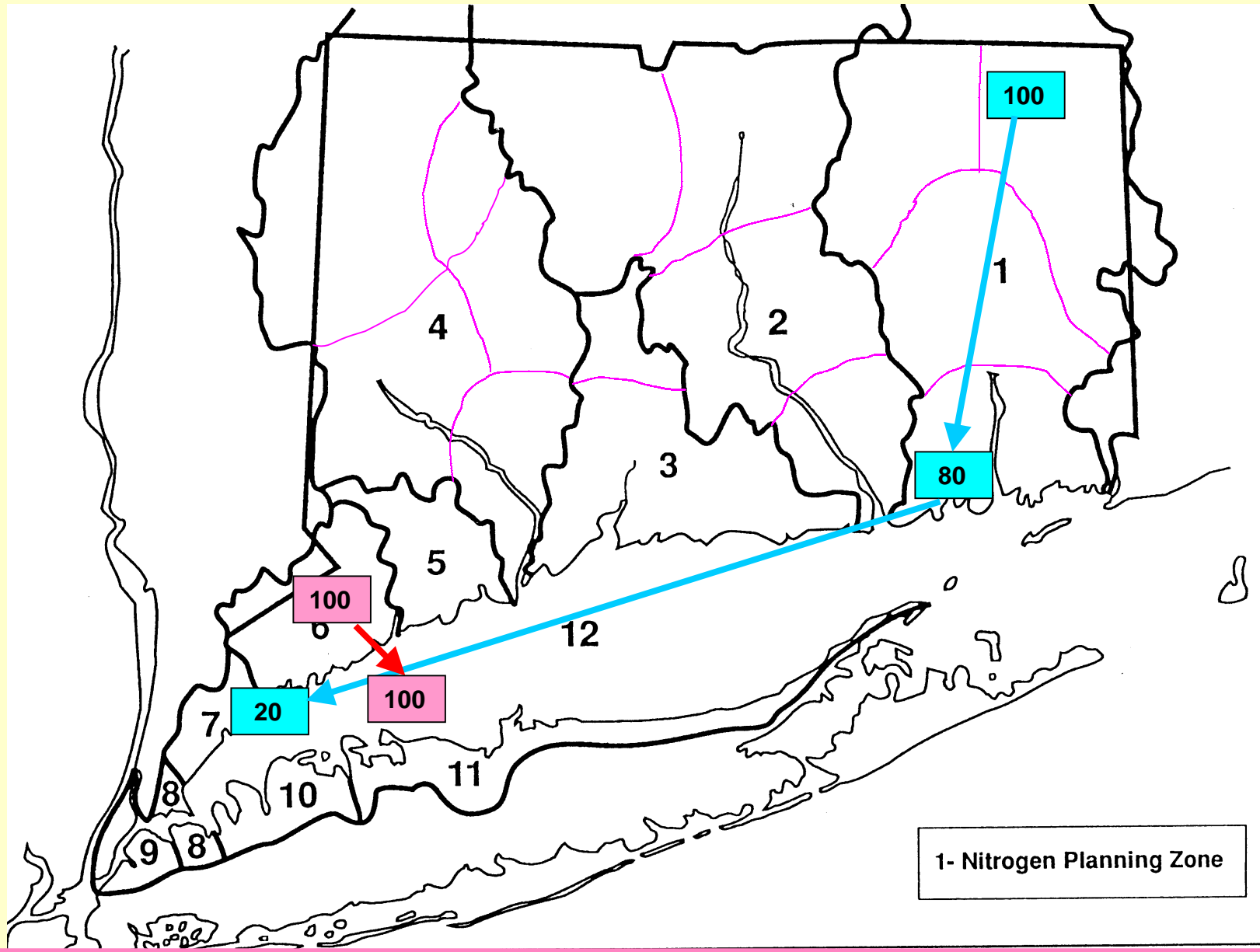


Initial TMDL Allocations 2000 Starting Point

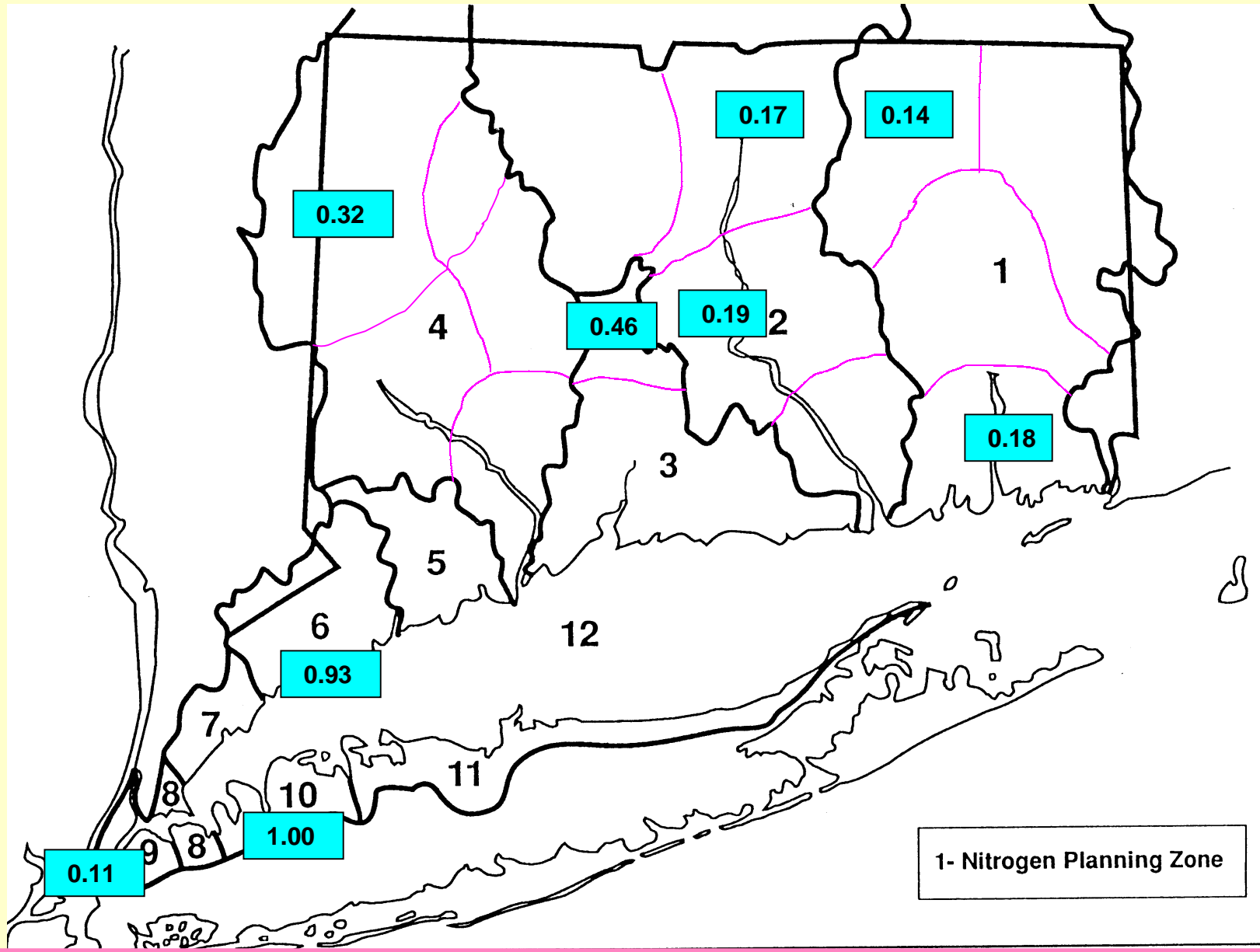
The initial loading to Long Island Sound from all municipal facilities combined was established in the draft TMDL at: **48,709 lbs/day**

Final TMDL Allocations 2014 Ending Point

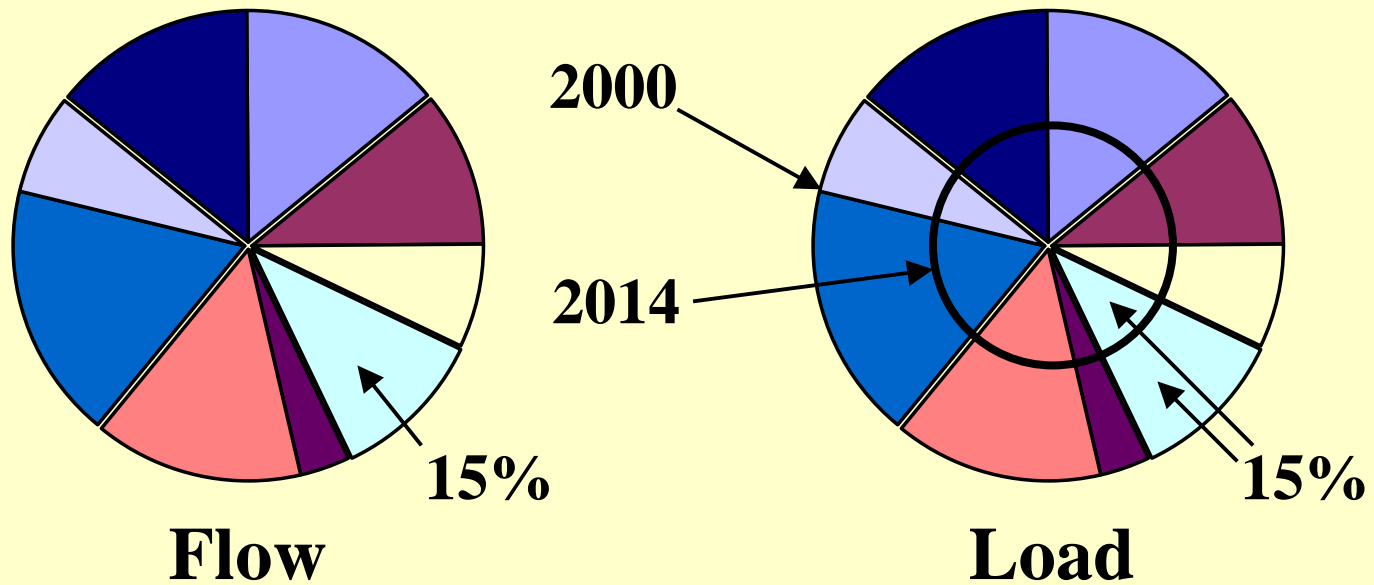
The TMDL requires the loading to
Long Island Sound from all
municipal facilities combined be
reduced to: **17,774 lbs/day**



1- Nitrogen Planning Zone



1- Nitrogen Planning Zone



Each facility was allocated a percentage of the total statewide TMDL loading equal to their percentage contribution to the statewide current discharge flow rate

Traditional NPDES Implementation:

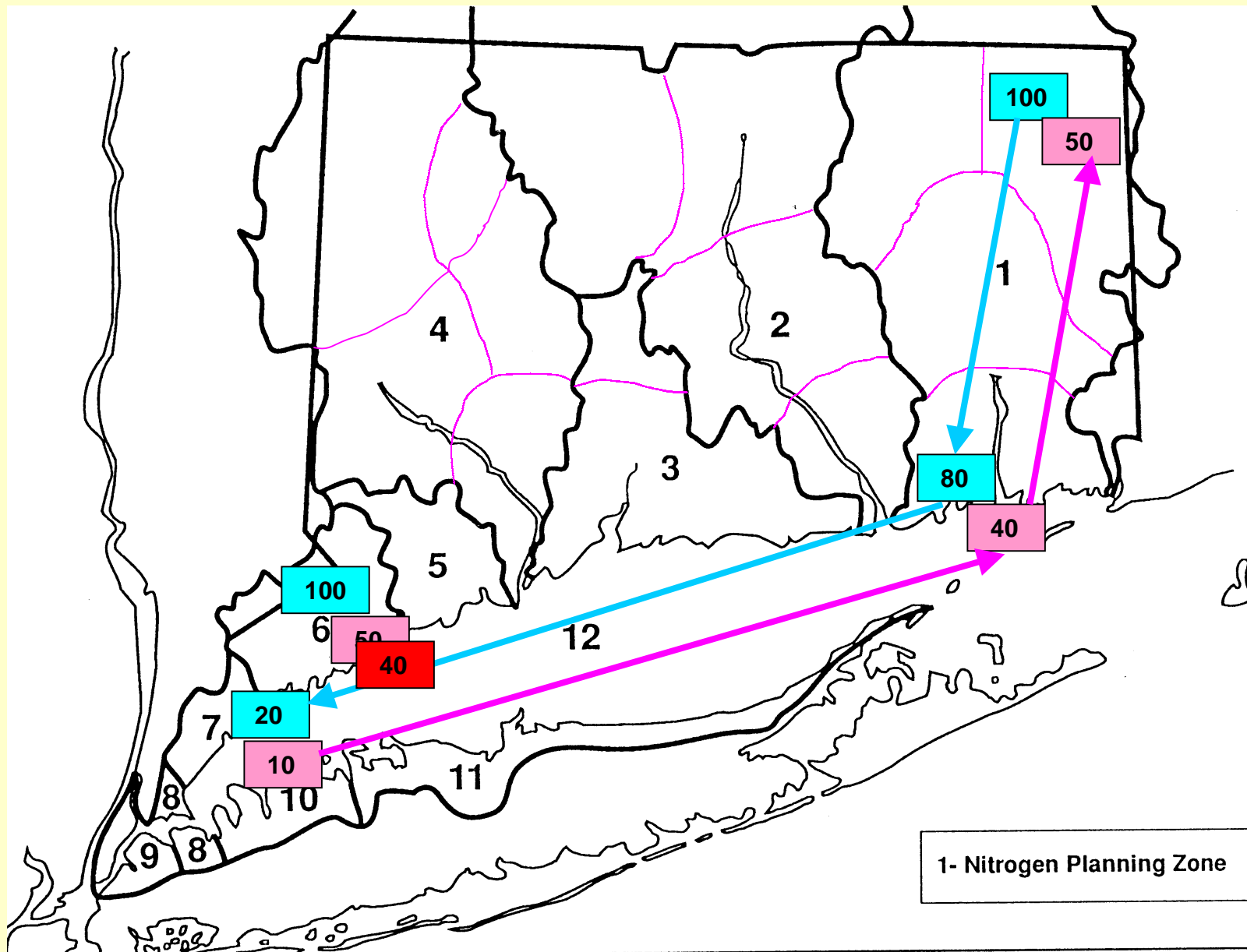
- Your Pipe
- Your Permit
- Your Problem
- High Compliance Cost
- High Non-Compliance Cost
- Rewards The Last

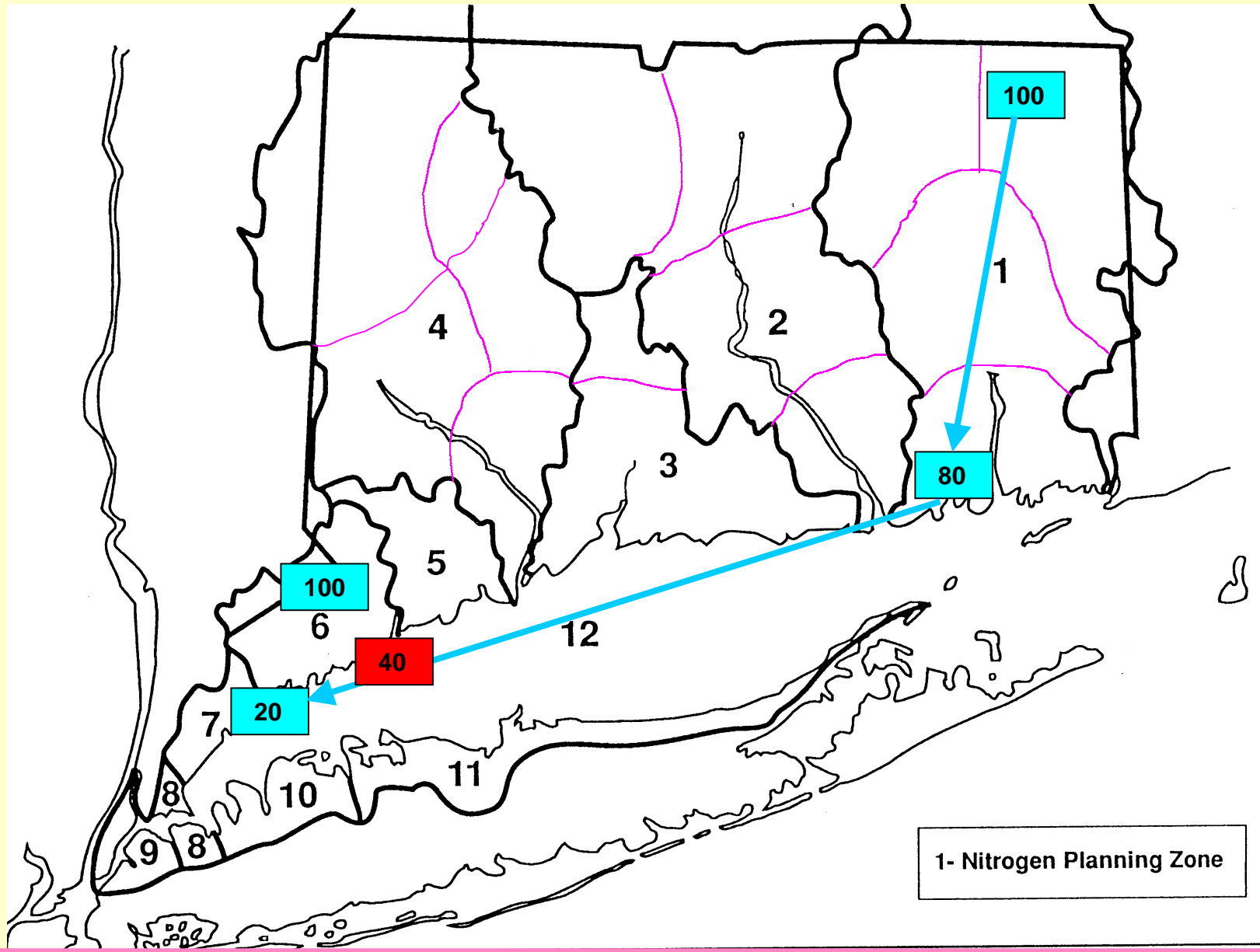
Difficult to Implement

Alternative Trading Implementation:

- Our Pipe
- Our Permit
- Our Problem
- Lower Compliance Cost
- Lower Non-Compliance Cost
- Rewards The First

Incentive to Provide Treatment





1- Nitrogen Planning Zone

Public Act 01-180

An Act Concerning Nitrogen Reduction In Long Island Sound

- Authority to Issue a General Permit
- Establish a Nitrogen Credit Advisory Board
- Provides for an Alternate Compliance Program

General Permit for Nitrogen Discharges

- Places all POTWs in Connecticut under one nitrogen bubble
- Provides total nitrogen effluent limits over 15 years
- Allows for an alternate compliance schedule

Establish a Nitrogen Credit Advisory Board and a Credit Exchange Program to assist in implementation of the TMDL

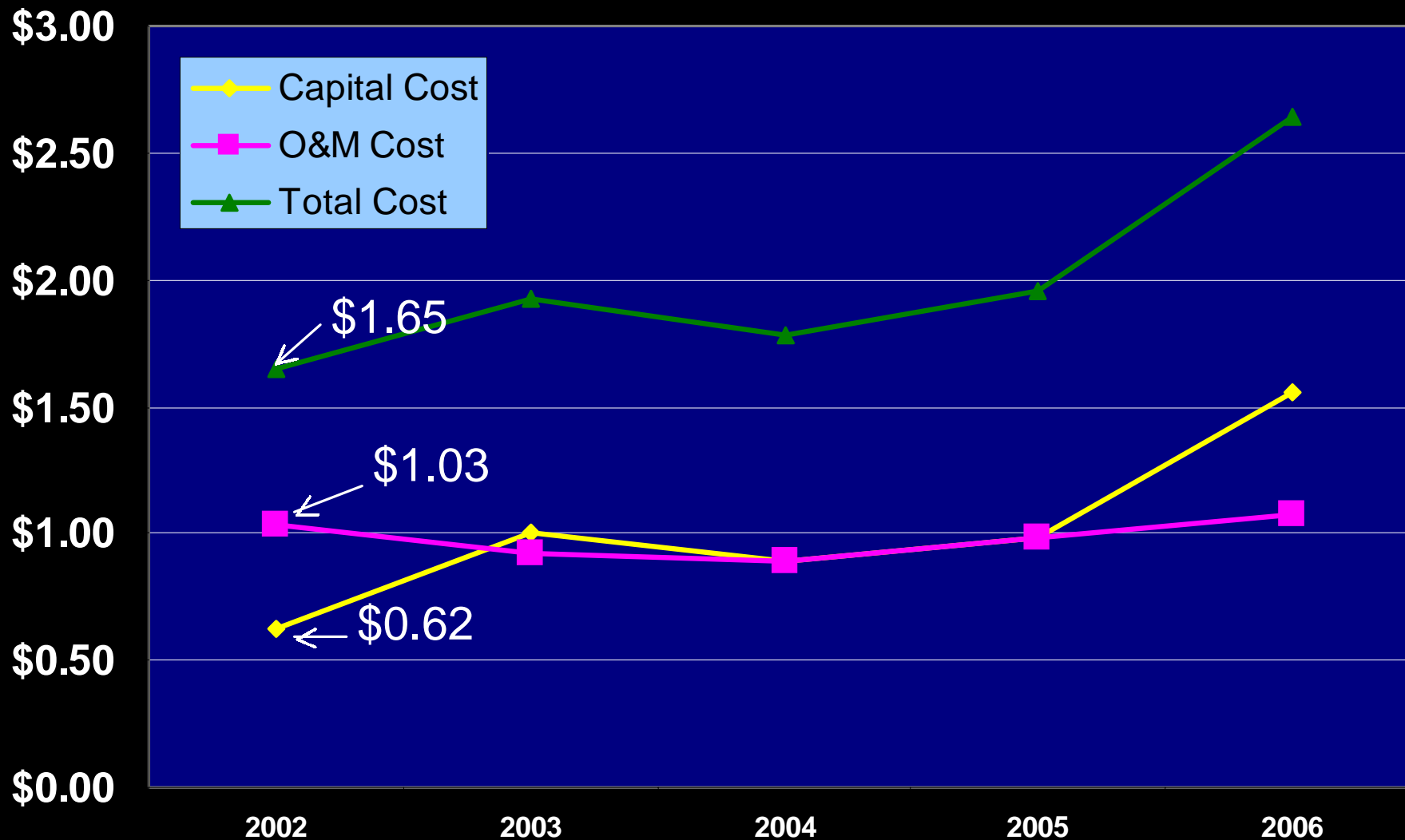
- Provides for a board of 12 members to establish the value of Nitrogen Credits
- Board will assist in setting the compliance schedule (annual effluent limits)
- Establishes an equivalency factor for each POTW
- Purchases and sells all available credits
- Establishes a technical assistance program

\$1 Million Loan

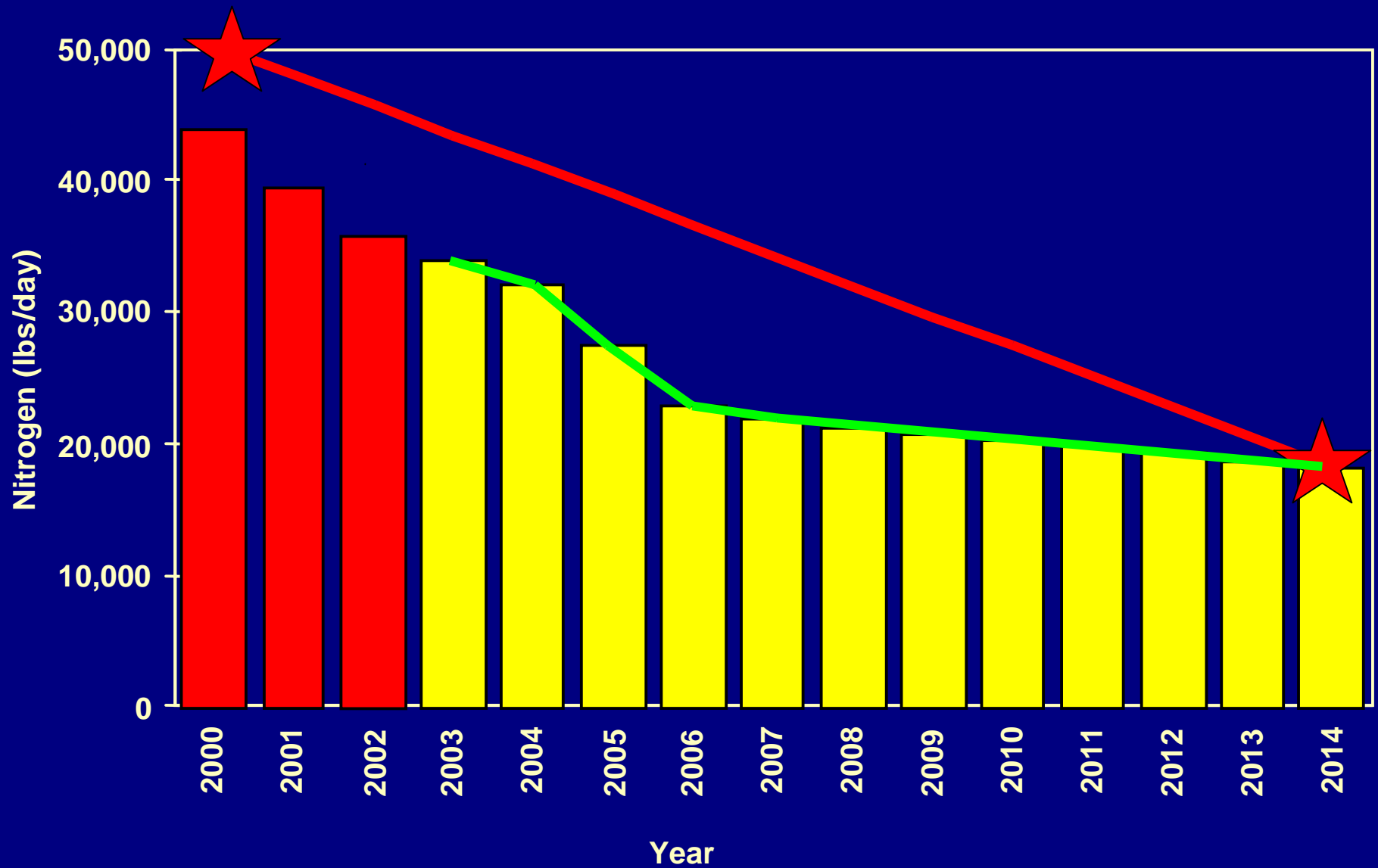
equals

\$61,160 / year

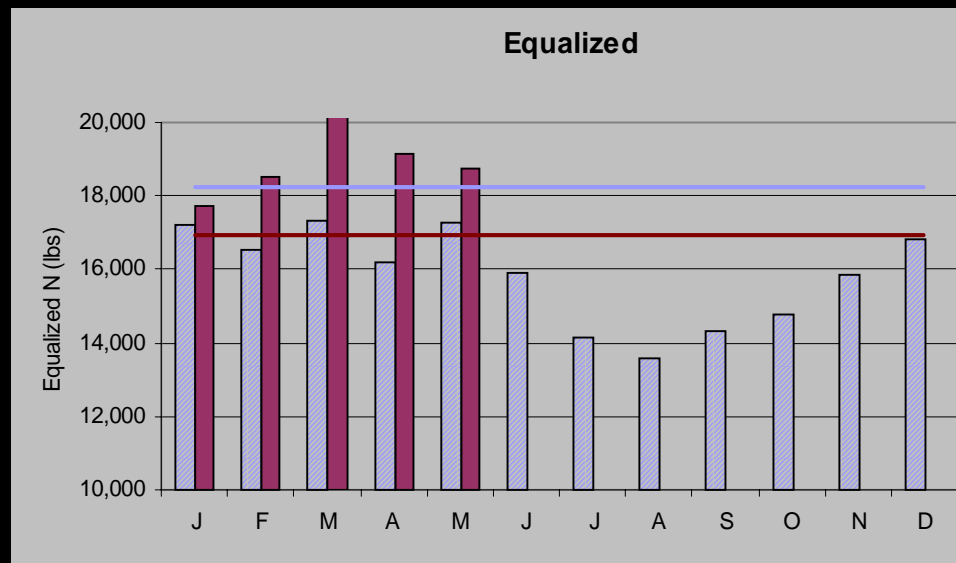
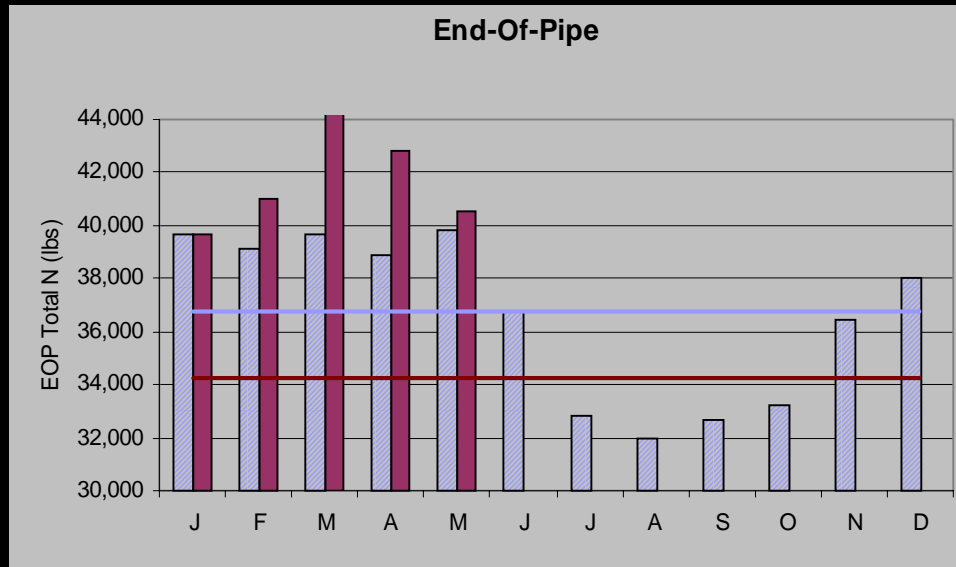
How Costs/Credit are Calculated



TMDL/WLA IMPLEMENTATION

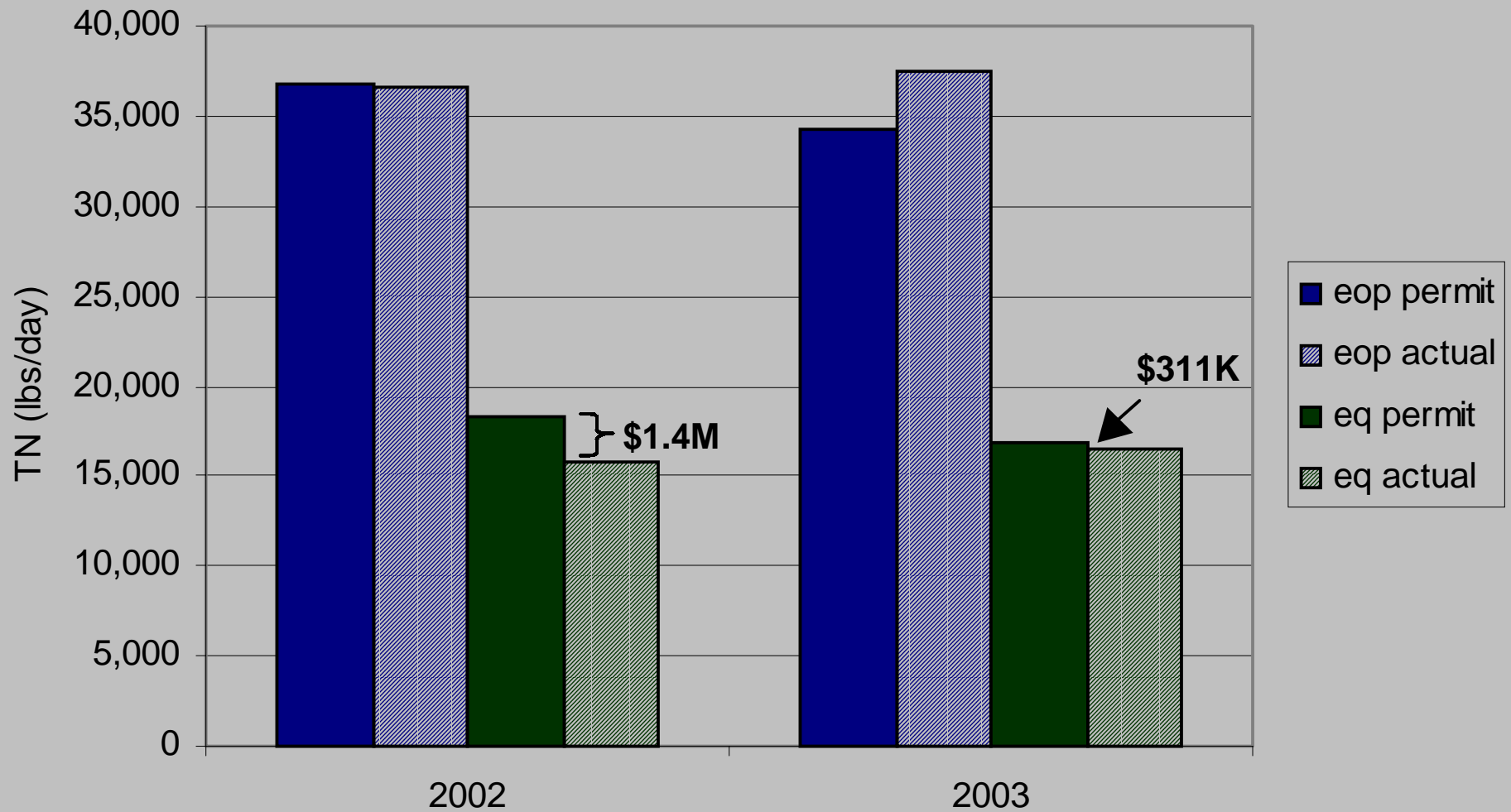


Total Nitrogen Loading, 2002-2003

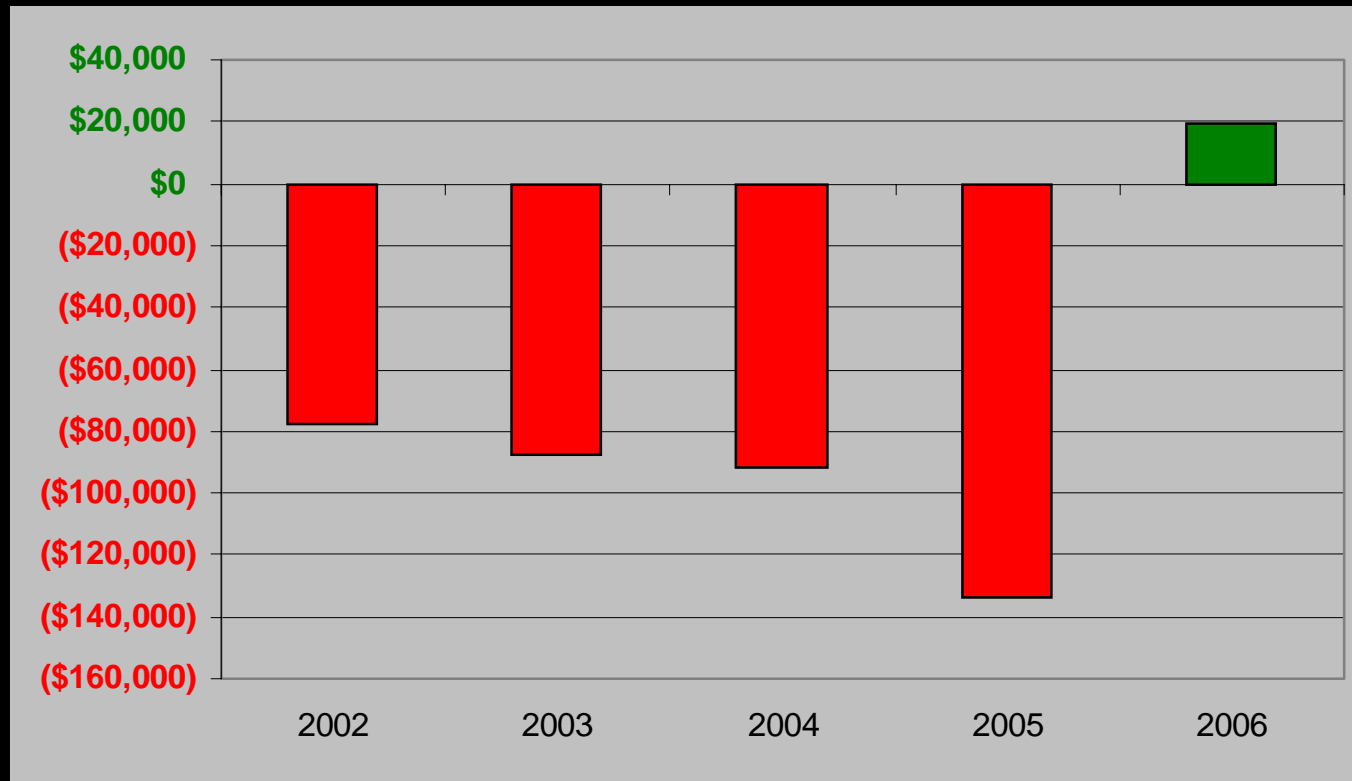


Buyers = Sellers

2002 vs. 2003 Projection EOP and EQ



CHESHIRE WPCF



(\$77,612)

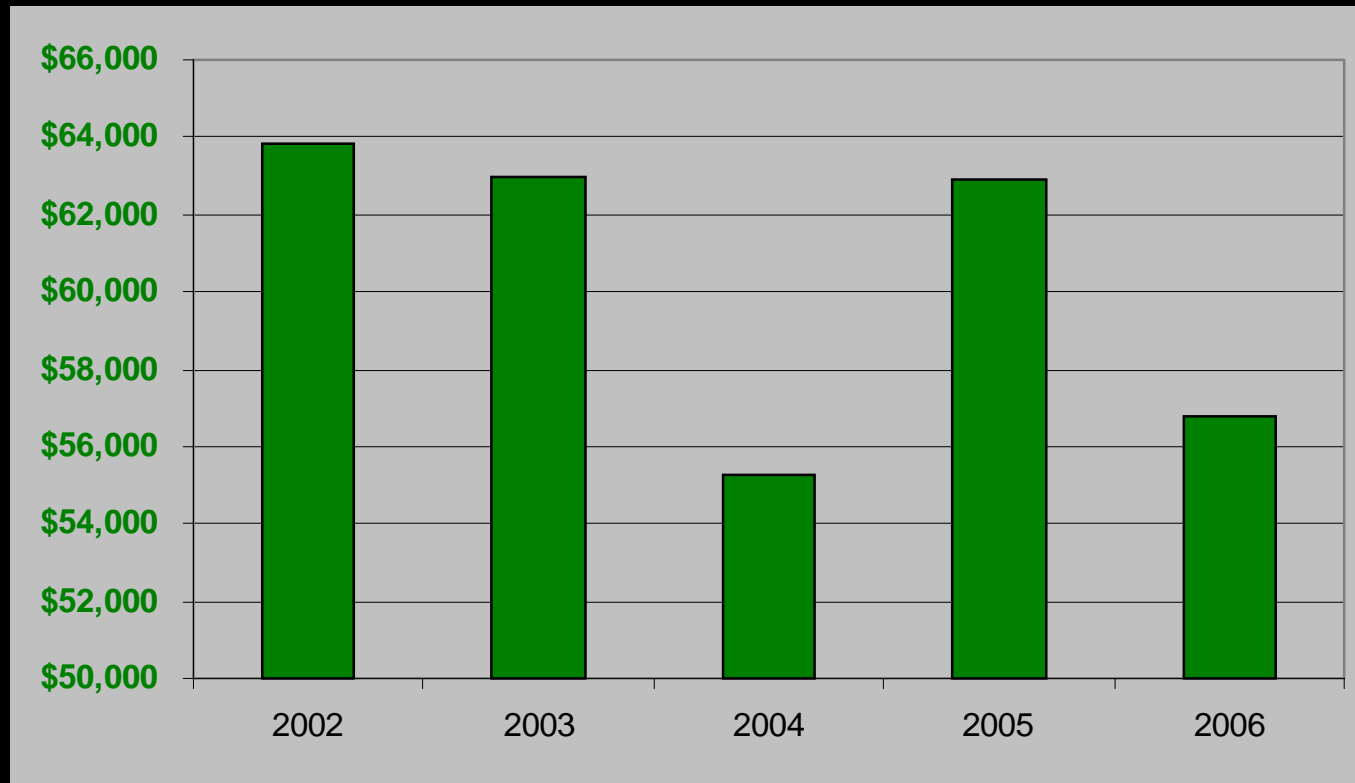
(\$87,508)

(\$91,493)

(\$133,801)

\$19,530

NEW CANAAN WPCF



\$63,839

\$62,955

\$55,254

\$62,882

\$56,798

Long Island Sound Nutrient Reduction Program Credit Exchange Invoice - 2002

NEW CANAAN WPCF, CT0101273

End-of-Pipe TN Discharged (lbs/day)

January	20
February	28
March	25
April	13
May	21
June	15
July	15
August	12
September	16
October	24
November	32
December	29

Annual Avg 21 (lbs/day)

Credit Exchange Calculation

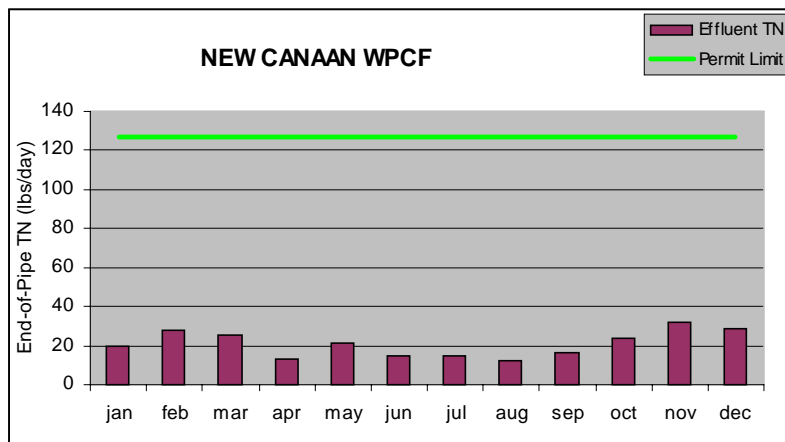
a. Permit Limit	127
b. Annual Avg	21
c. E-Factor	1.00
d. Credits (b - a) x c	-106.00
e. Cost / Credit	\$1.65
Invoice Amount*	-\$63,839

*Credits(d) x Cost of Credit(e) x 365 days

**The Commissioner will purchase
credits by August 14, 2003, in the
amount of:**

\$63,839

Monthly Discharge of TN vs. 2002 Permit Limit



Long Island Sound Nutrient Reduction Program Credit Exchange Invoice - 2002

CHESHIRE WPCF, CT0100081

End-of-Pipe TN Discharged (lbs/day)

January	446
February	496
March	492
April	490
May	433
June	392
July	537
August	450
September	495
October	470
November	459
December	460

Annual Avg **468** (lbs/day)

Credit Exchange Calculation

a. Permit Limit	205
b. Annual Avg	468
c. E-Factor	0.49
d. Credits (b - a) x c	128.87
e. Cost / Credit	\$1.65
Invoice Amount*	\$77,612

* Credits(d) x Cost of Credit(e) x 365 days

You are required to purchase credits by July 31, 2003 payable to the 'NITROGEN CREDIT EXCHANGE PROGRAM' in the amount of:

\$77,612

Monthly Discharge of TN vs. 2002 Permit Limit

