

2010

## **Friends of Casco Bay (FOCB) Water Quality Monitoring Program: A brief look at water quality in Casco Bay (2010 State of the Bay Presentation)**

Friends of Casco Bay

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# Friends of Casco Bay Water Quality Monitoring Program

*A brief look at water quality in  
Casco Bay*



# Outline

- What is Water Quality?
- How do we collect Water Quality Data?
- How Healthy is Casco Bay?



# Conclusions

- Water Quality in Casco Bay is generally good...
- However, there are regions with reduced water quality and increasing evidence of nitrogen pollution.



# What is Water Quality?

- Parameters
  - Water Transparency
  - Water Temperature
  - Dissolved Oxygen
  - pH
  - Nitrogen





# How do we collect data on water quality, and how much data do we have?

- I will be discussing the results of 16 years of water quality data collected *at the surface* between *April and October*.



# Where did all this data come from?





# Where did all this data come from?





# Summary Statistics – all data

	Water Transparency	Water Temperature	Dissolved Oxygen	Percent Saturation	pH	Nitrate+Nitrite	Ammonium	Dissolved Inorganic Nitrogen	Total Nitrogen
<i>Units</i>	<i>m</i>	<i>C</i>	<i>mg/l</i>	<i>%</i>		<i>uM</i>	<i>uM</i>	<i>uM</i>	<i>mg/l</i>
Mean	2.5	14.4	8.9	102.9	7.9	2.8	6.5	9.4	0.40
Min	0.1	2.9	1.4	15.0	6.0	0.0	0.0	0.0	0.03
Max	15.3	30.0	14.9	166.7	8.7	84.2	127.3	151.6	1.37
sd	1.2	4.4	1.4	13.2	0.2	5.7	10.6	13.4	0.25

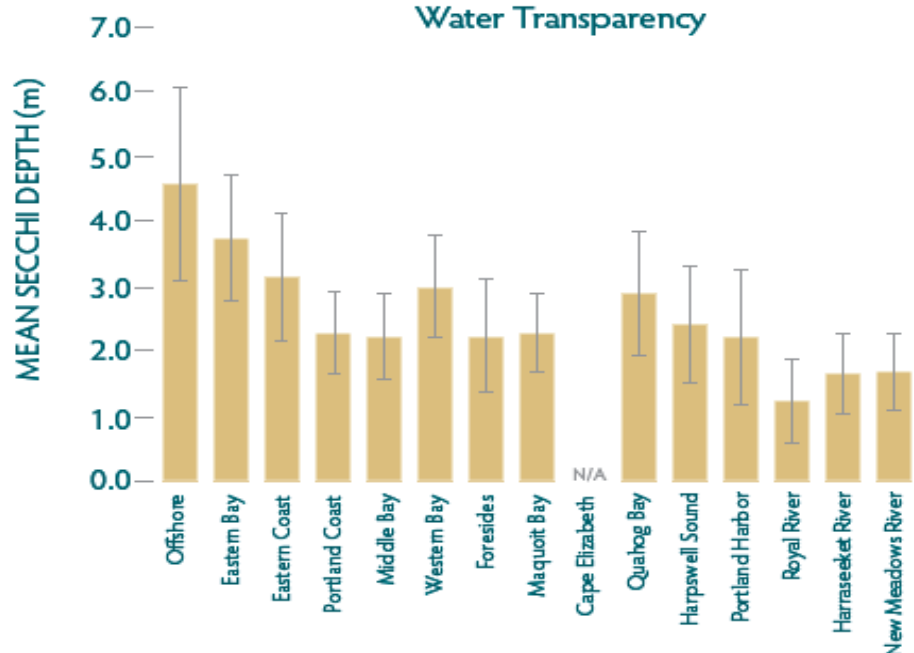
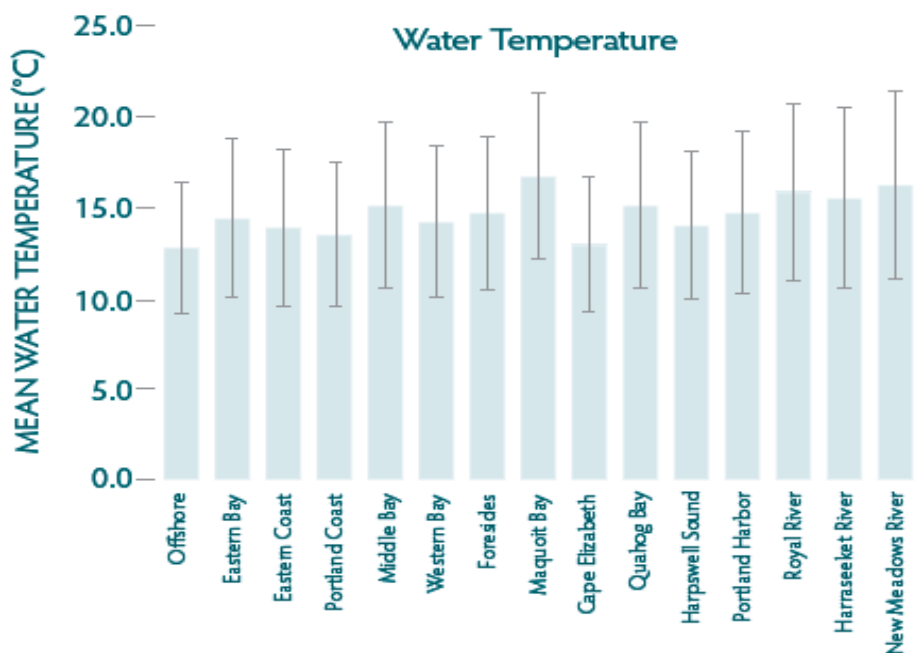
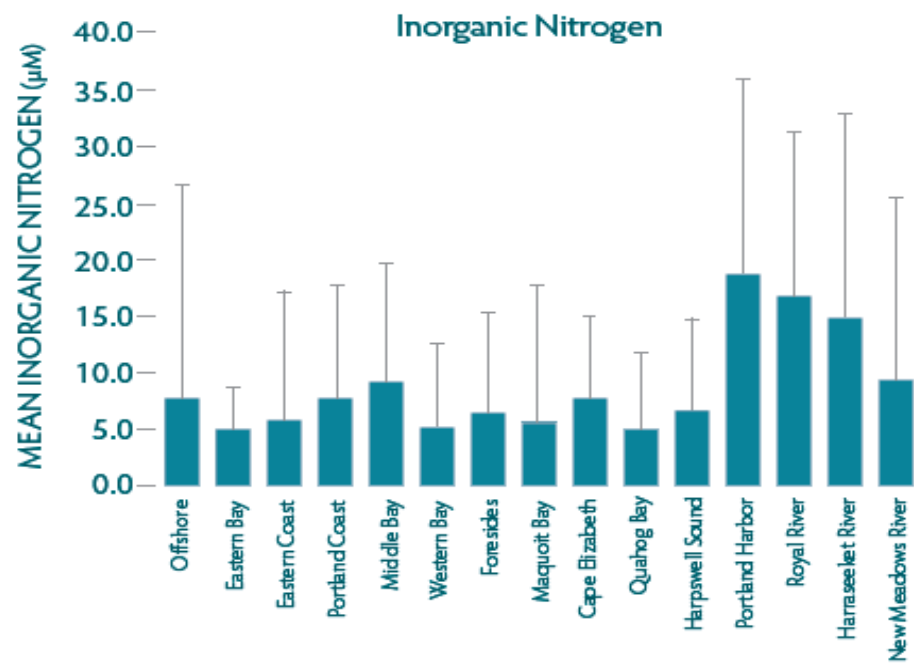
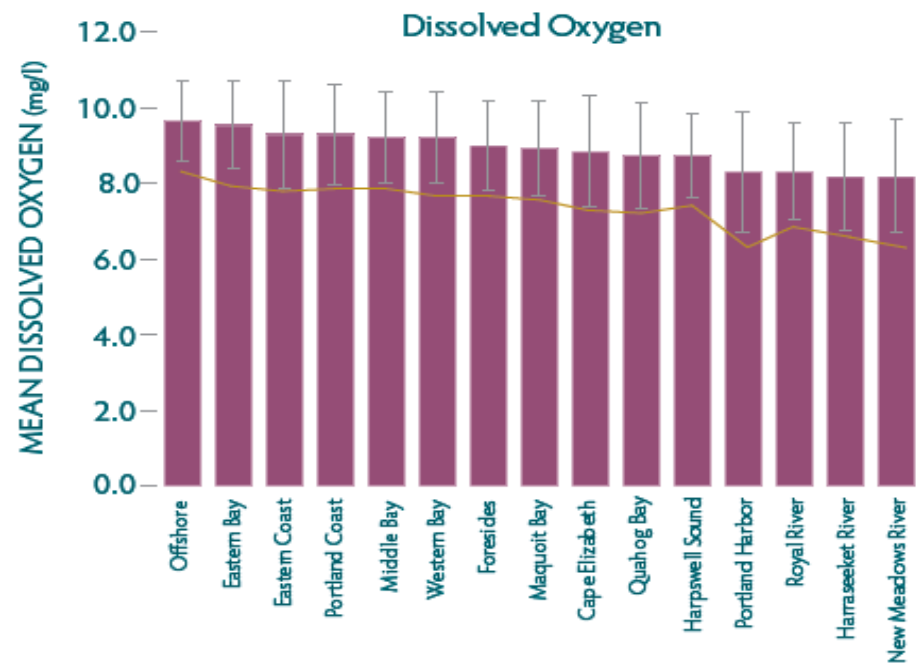


# Friends of Casco Bay Water Quality Sites, Grouped by Region



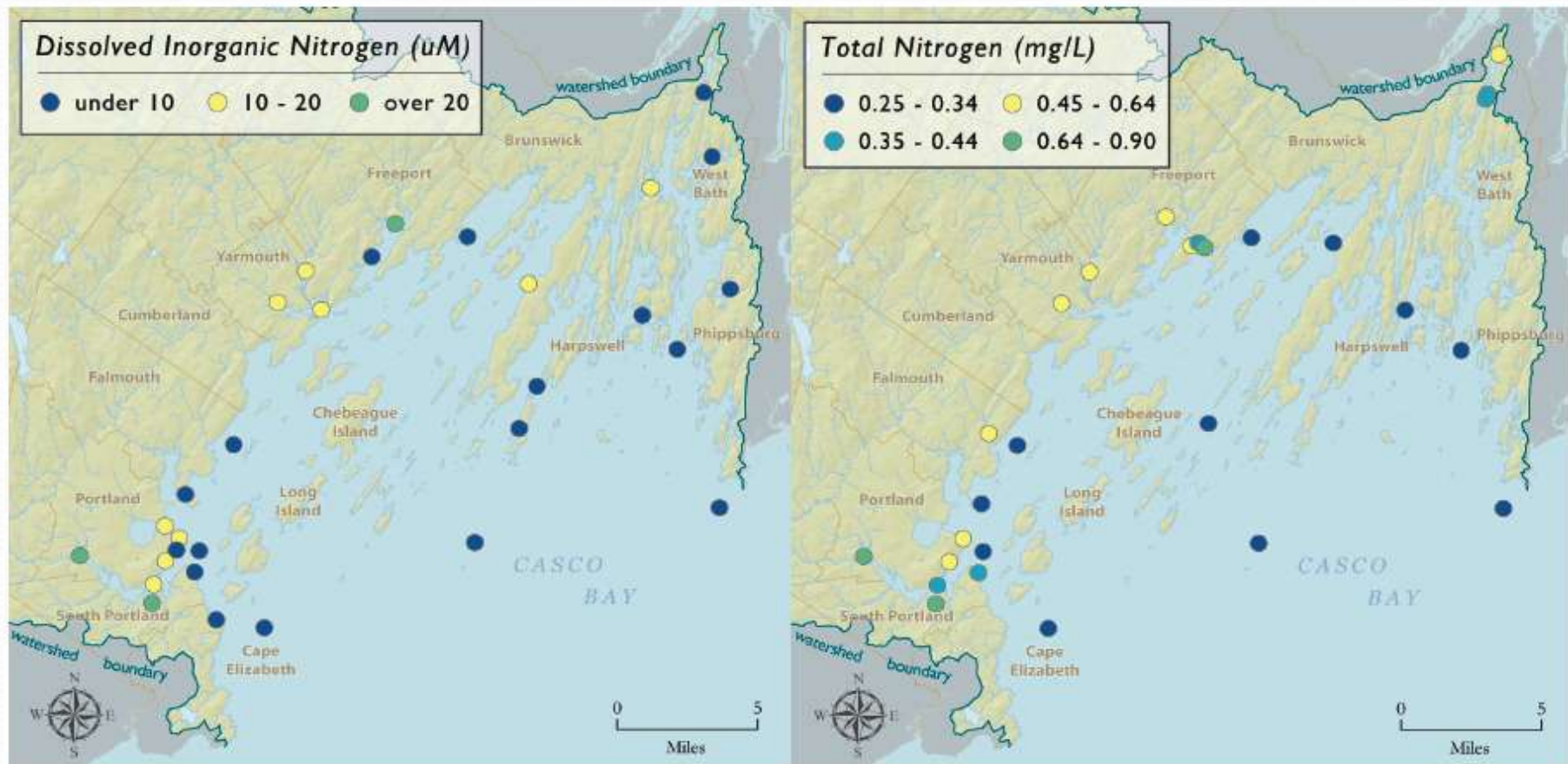
Samples are collected at the surface at more than 45 sites around Casco Bay from April through October. The sites are grouped into the 15 color-coded regions shown (FOCB 2010).



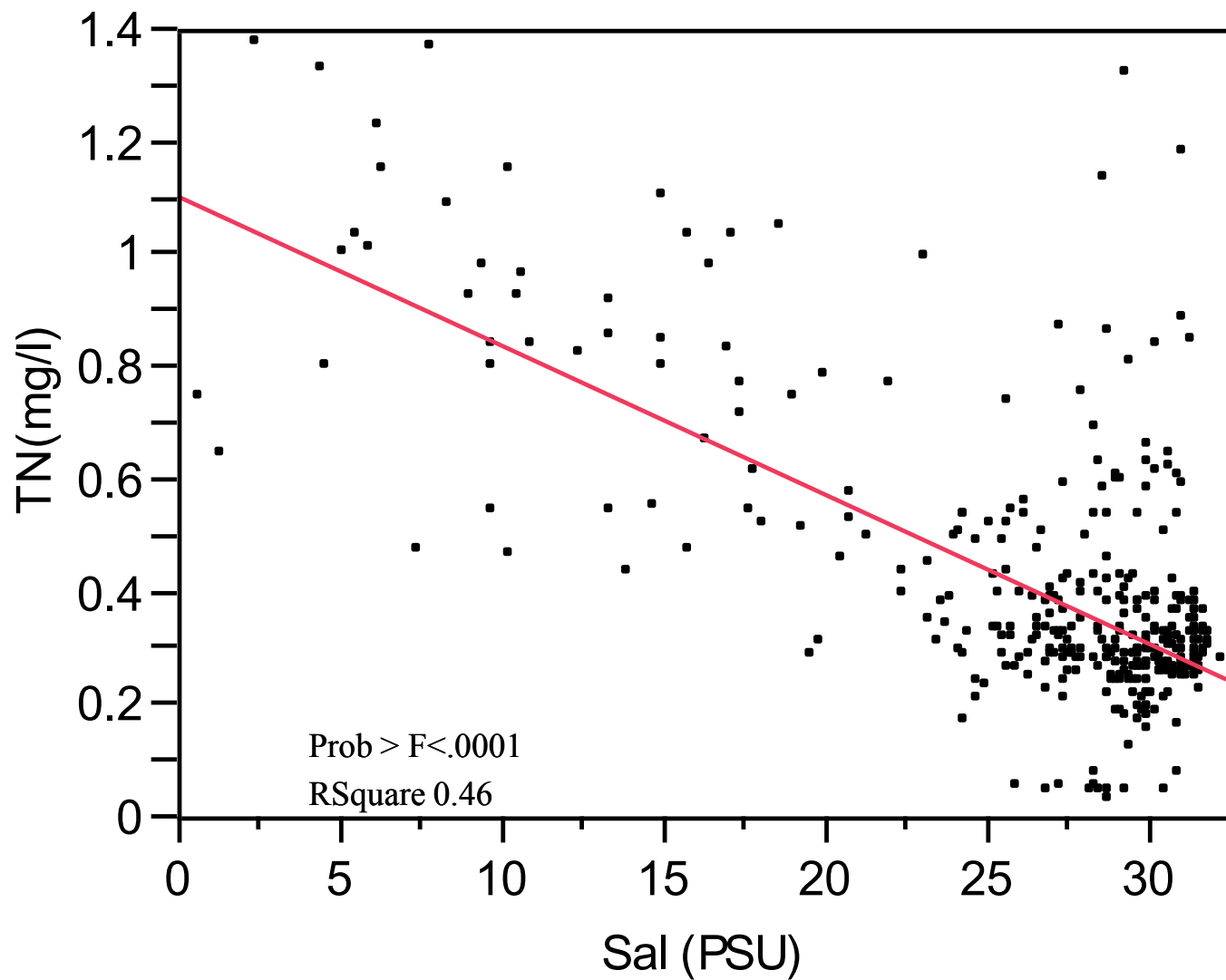




# Nitrogen in Casco Bay



# Land-side influence of Nitrogen

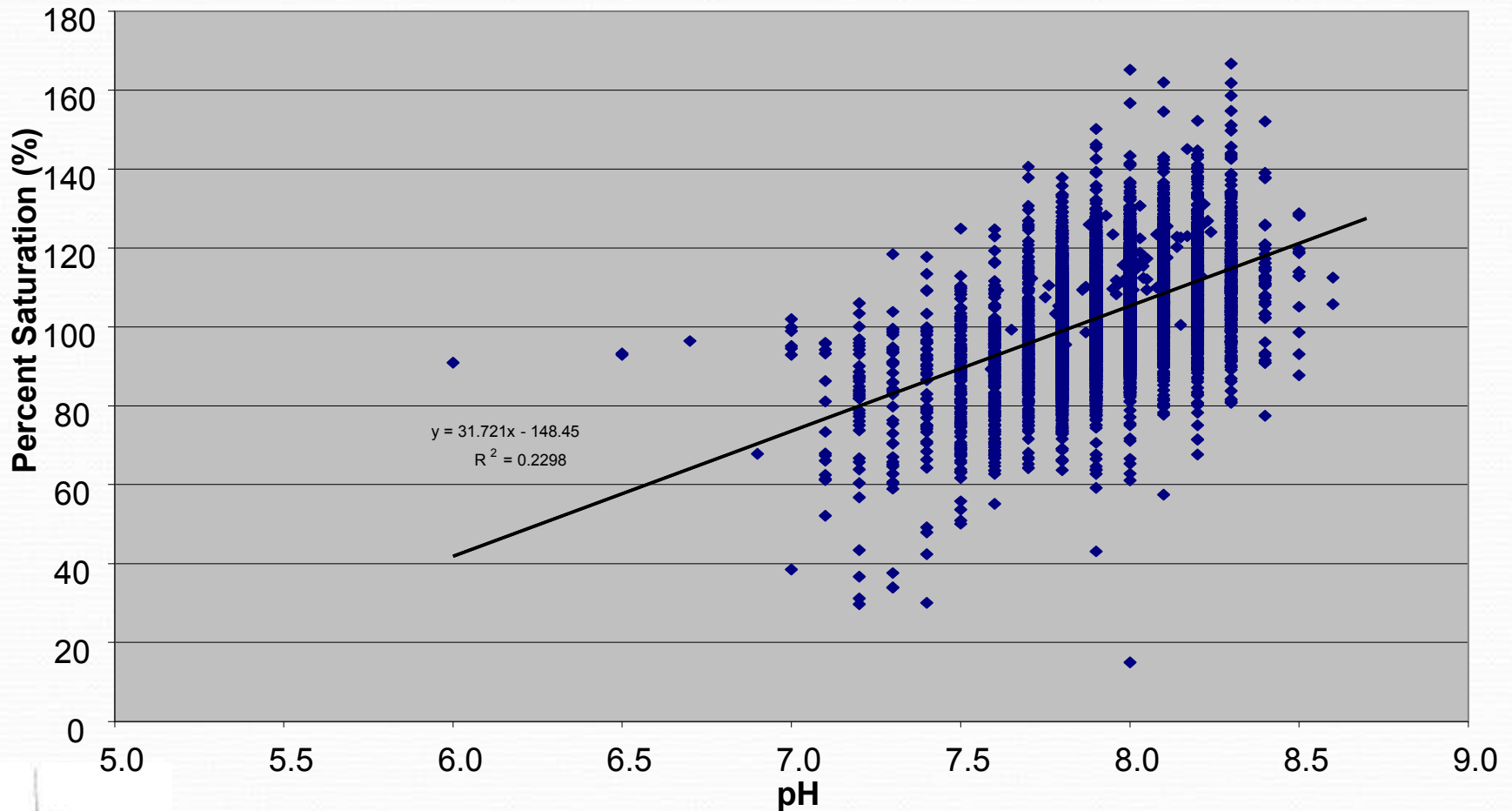


● Prob > F<.0001

● RSquare 0.46

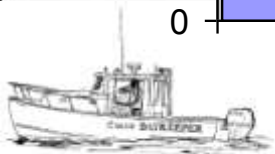
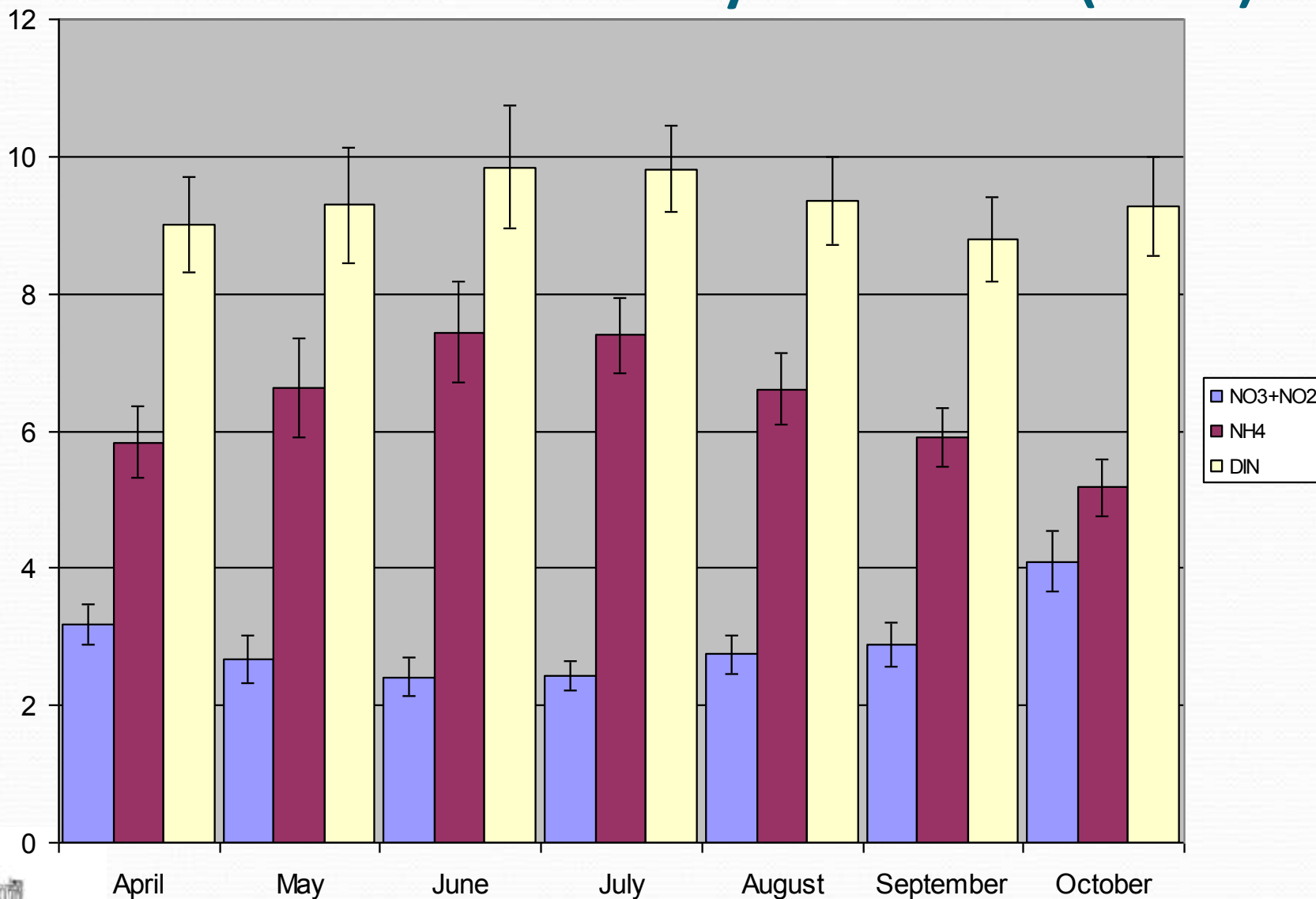


# DO and pH





# Mean DIN Values by Month (uM)



# Conclusions

- Water Quality in Casco Bay is generally good...
- However, there are regions with reduced water quality and increasing evidence of nitrogen pollution.

