

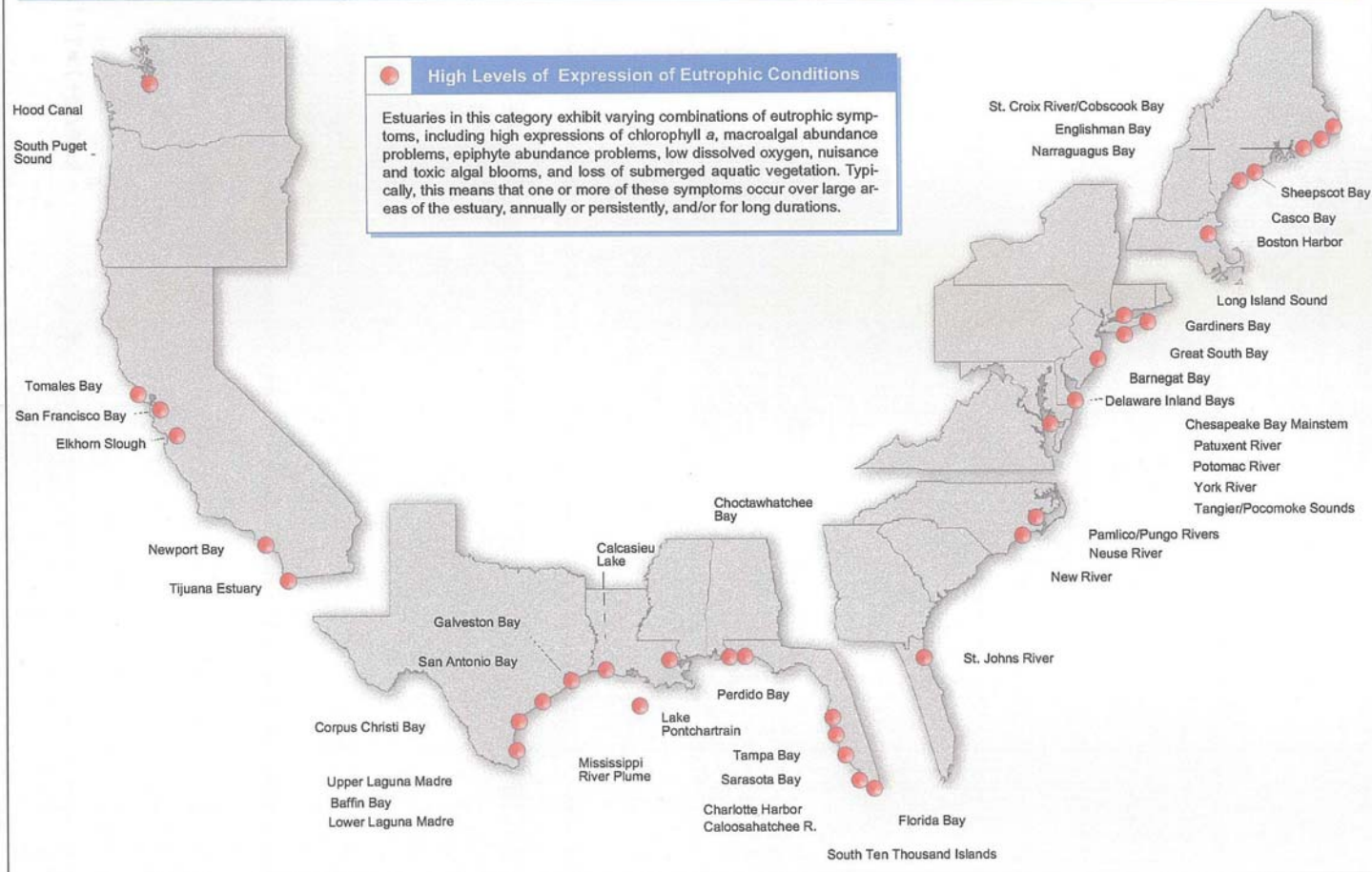
# Why (Nutrient WQ) Trading? Why Now?

Doug Lipton  
University of Maryland/STAC

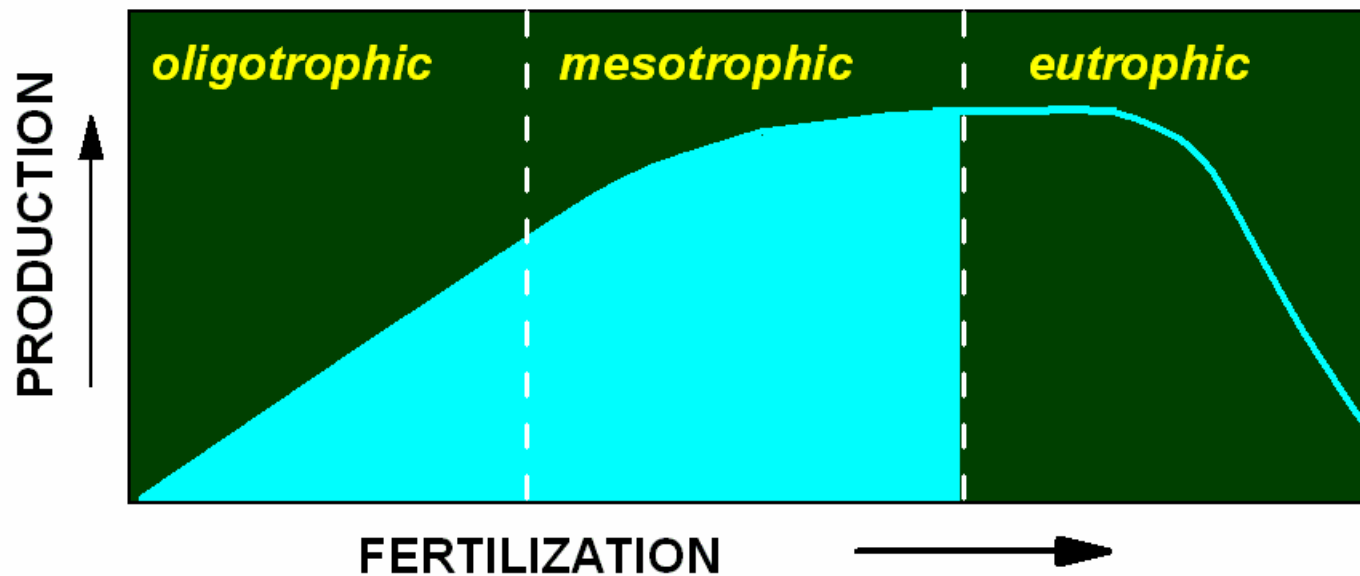
Tom Simpson  
University of Maryland/STAC

# Nutrient Impacted Coastal Waters

Forty-four estuaries along all of the nation's coasts were assessed by workshop participants as showing high expressions of eutrophic conditions. The Middle Atlantic and Gulf of Mexico have the highest percentages of estuaries with high eutrophic conditions. The Pacific and South Atlantic regions contain the highest percentage of estuaries that lack sufficient information to confidently assess eutrophic conditions. An additional forty estuaries (not shown) have moderate levels of eutrophic conditions.

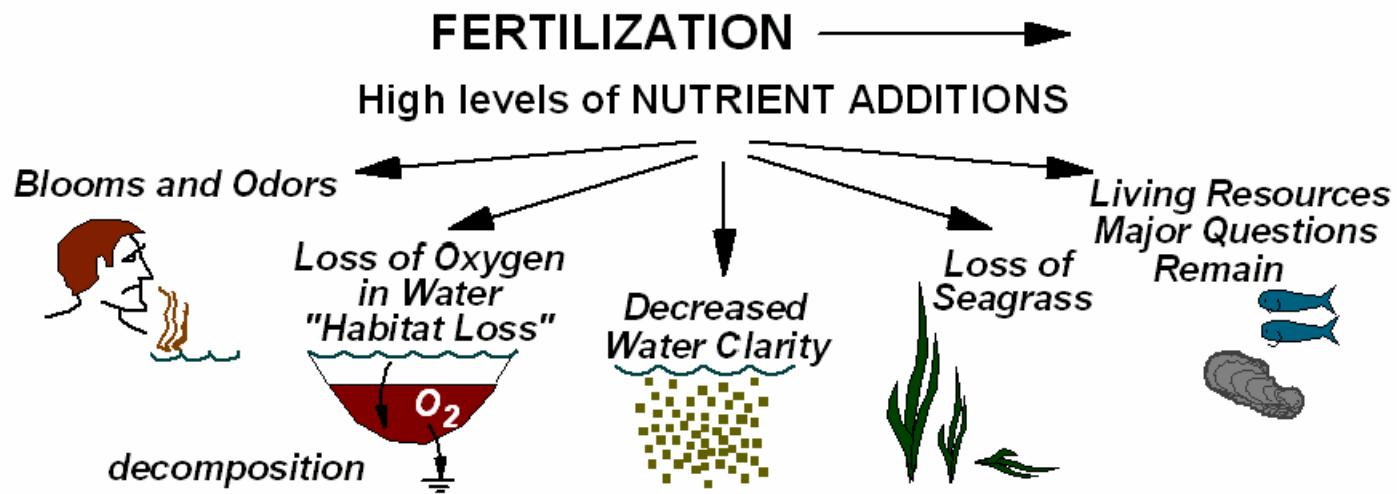
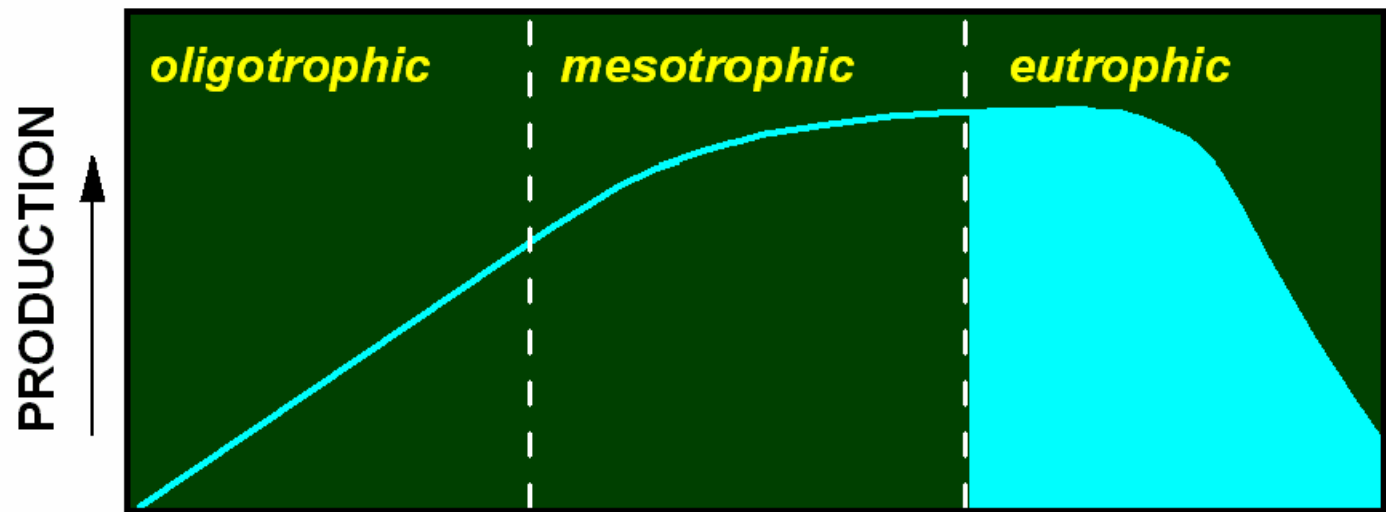


## POSITIVE EFFECTS



- Essential for plant growth. In most estuaries and the open ocean microscopic plants provide the basic food supply.
- Within limits, increased fertilization increases food supply and production of other organisms.

# NEGATIVE EFFECTS



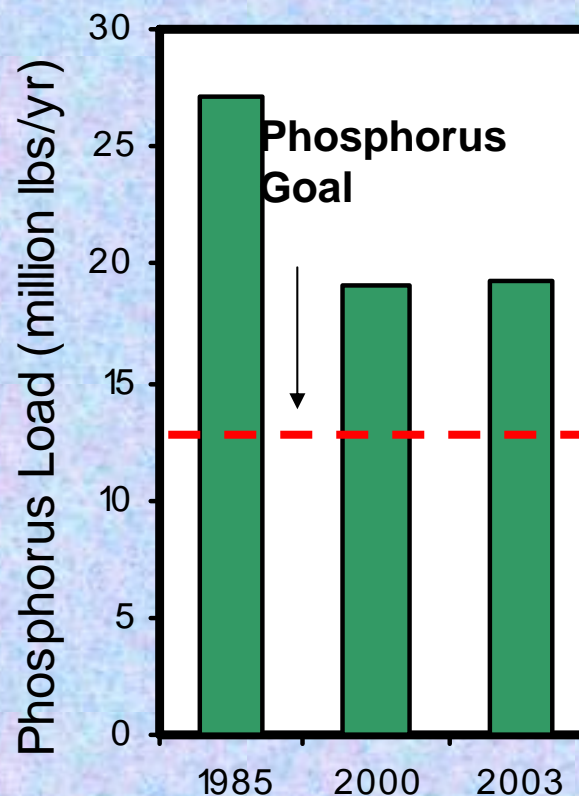
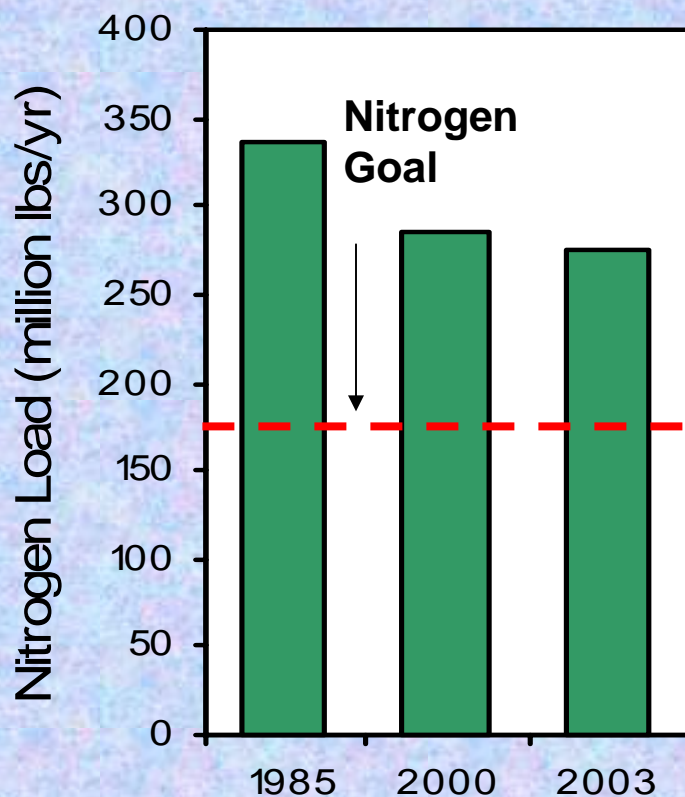
# *The Chesapeake Bay Program:*

## Chesapeake Bay Agreements

- 1983      General agreement to work together to restore Bay
- 1987      “40%” reduction in pollutant nutrient pollution by 2000
- 1992      Tributary specific nutrient reduction strategies
- 2000      Remove all nutrient and sediment impairments

# Chesapeake 2000 Agreement

- Goal of removing all nutrient impairments to Chesapeake Bay and tidal tributaries
- Adopted a cooperative approach to achieve goal to avoid regulatory nutrient limits for point source dischargers in 2011



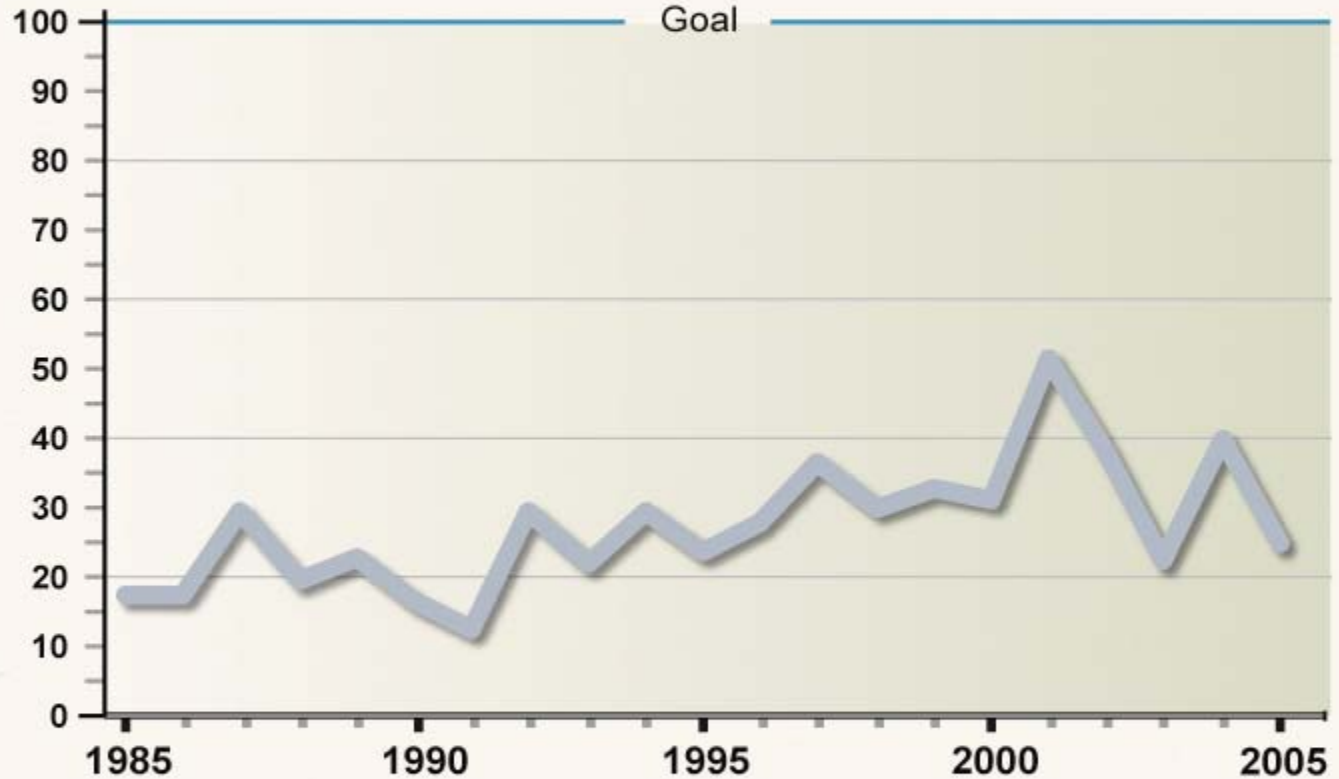
# Dissolved Oxygen

Percent of Bay Meeting Guidelines



**24%**

of Goal Achieved



Data and Methods: [www.chesapeakebay.net/assess/methods](http://www.chesapeakebay.net/assess/methods)

# Achieving New Chesapeake Bay Nutrient Loading Goals

(From Chesapeake Bay STAC 2004 white paper)

- “Full” implementation of current practices on ag and urban lands
- Upgrade sewage treatment plants
- Reduce atmospheric NOX & NH<sub>3</sub> deposition
- Identify new practices, programs and policy
- Evaluate long- term systems changes

# Why Trading?

- Looking for low cost alternative for PS upgrades
- Clean Water Act excludes most of Ag
- Looking for major market-based funding source for Ag. BMP implementation
- Hope that with expanded Ag. BMP implementation, adoption will become self sustaining
- Ag BMP "regulation by contract" with PS
- Frustration with Ag. BMP implementation progress

# Why now?

- Water Quality Restoration Goals
- TMDLs
- Criteria and Standards
- Permit Limits
- Offsetting growth impacts
- Need alternative/supplemental funding source (to federal and state funding)

# Defining Success

A successful nutrient trading program *achieves water quality objectives* in an economically optimal manner (using a market-based approach)

Nutrient trading programs must address market, technical and accountability issues to accomplish water quality, economic and legal objectives

