

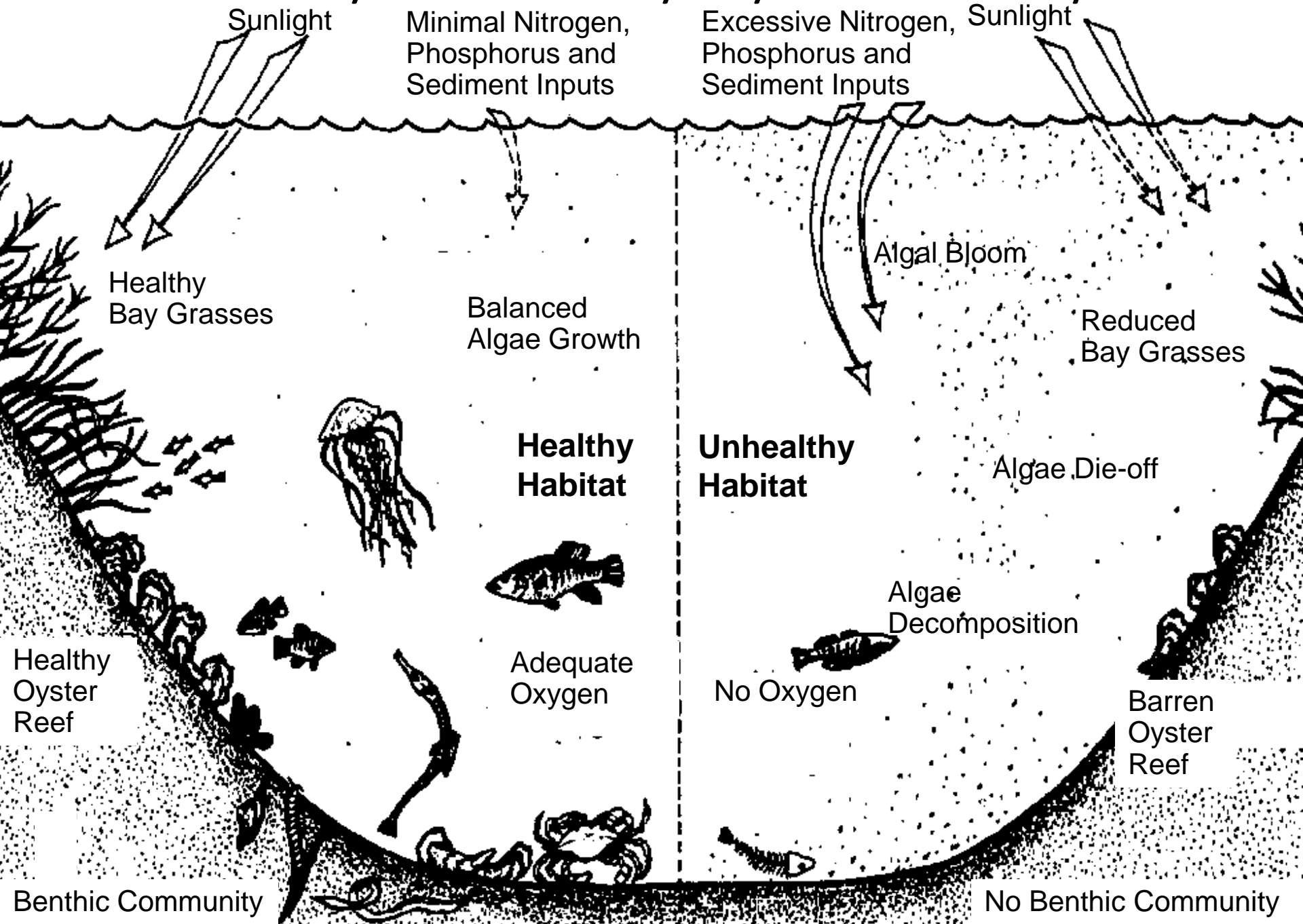
# NCER 2011



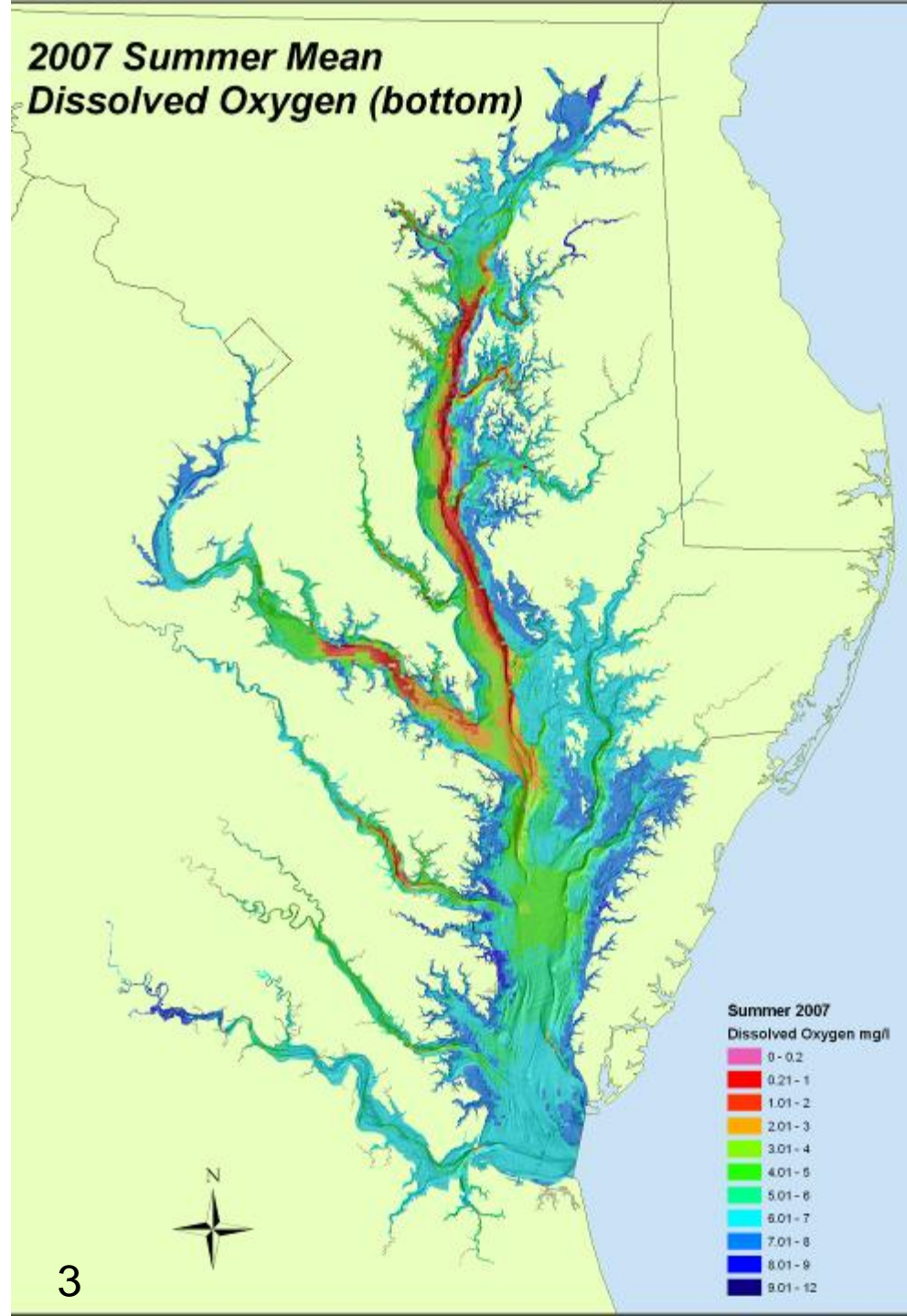
## **Regulatory Pollution Diet for the Six-State Chesapeake Bay Watershed**

### **Introduction and Overview**

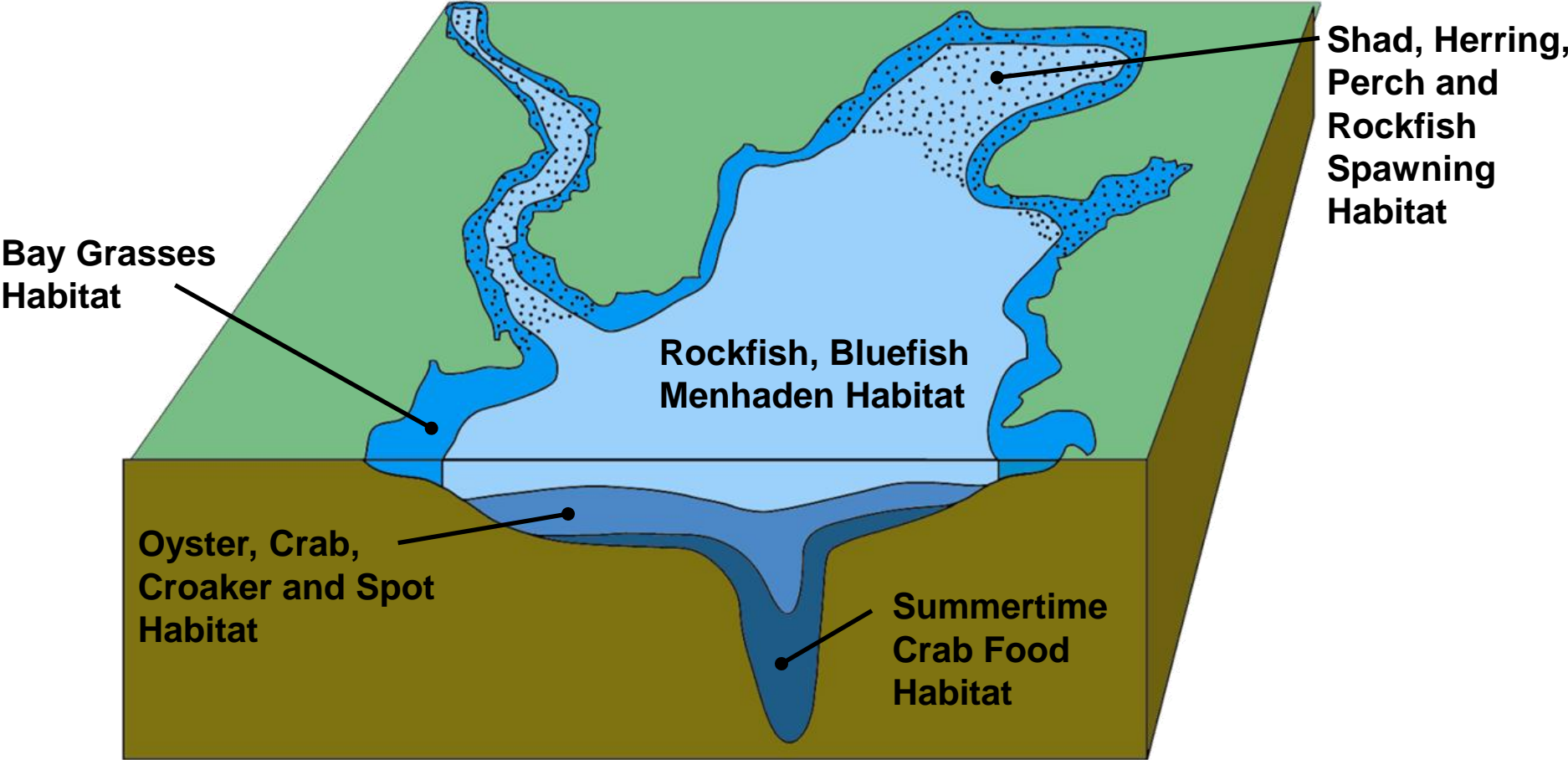
# Healthy vs. Unhealthy Bay Water Quality



**Low to no  
dissolved oxygen  
in the Bay and  
tidal rivers every  
summer**



# Local “Zoning” for Bay and Tidal River Fish, Crab and Grasses Habitats

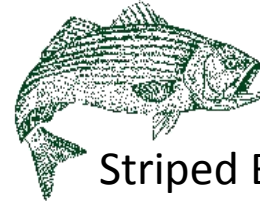


# Bay Dissolved Oxygen Criteria

Minimum Amount of Oxygen (mg/L) Needed to Survive by Species

Migratory Fish Spawning & Nursery Areas

6



Striped Bass: 5-6



American Shad: 5

Shallow and Open Water Areas

5



White Perch:



Yellow Perch: 5

4

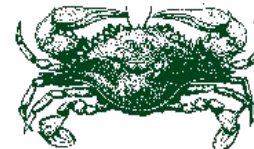


5

Hard Clams: 5

Deep Water

3



Crabs: 3



Alewife: 3.6

2



Spot: 2



Bay Anchovy: 3

Deep Channel

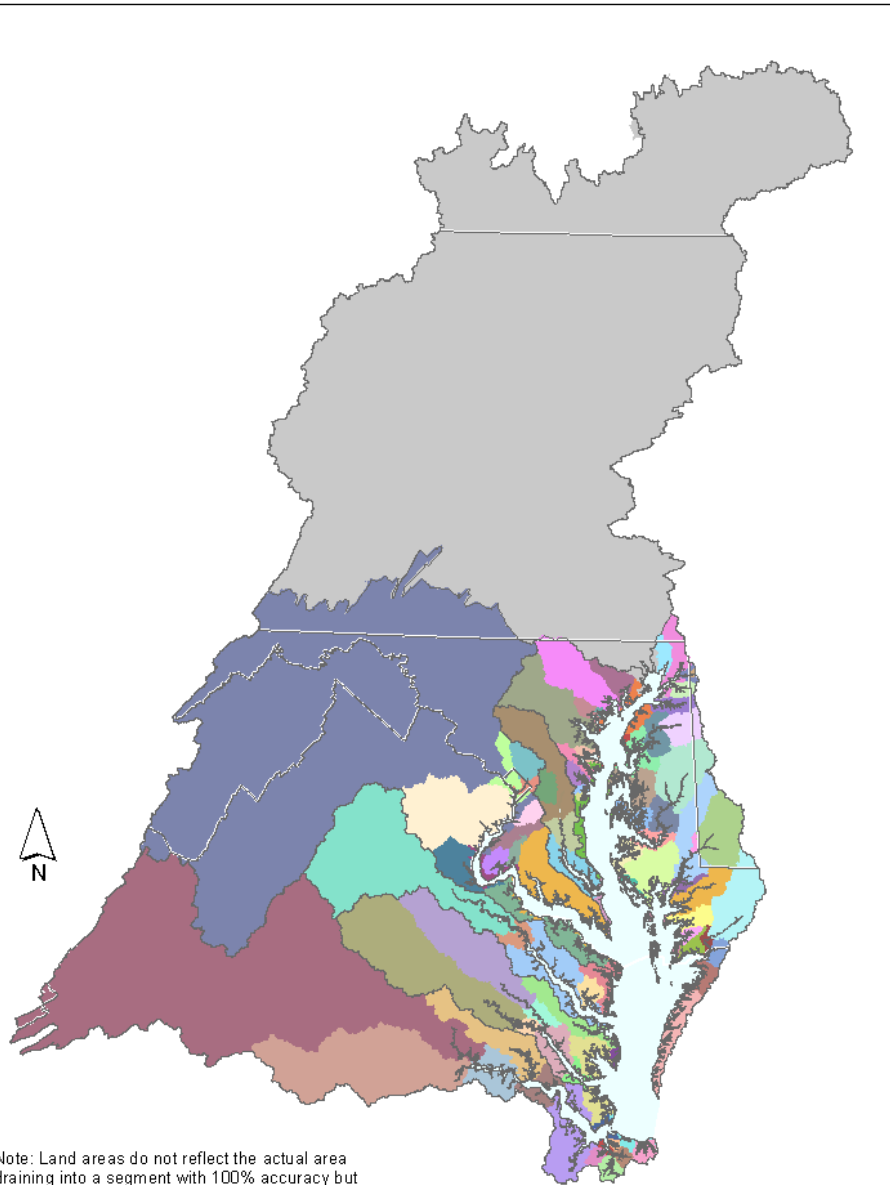
1



Worms: 1

0

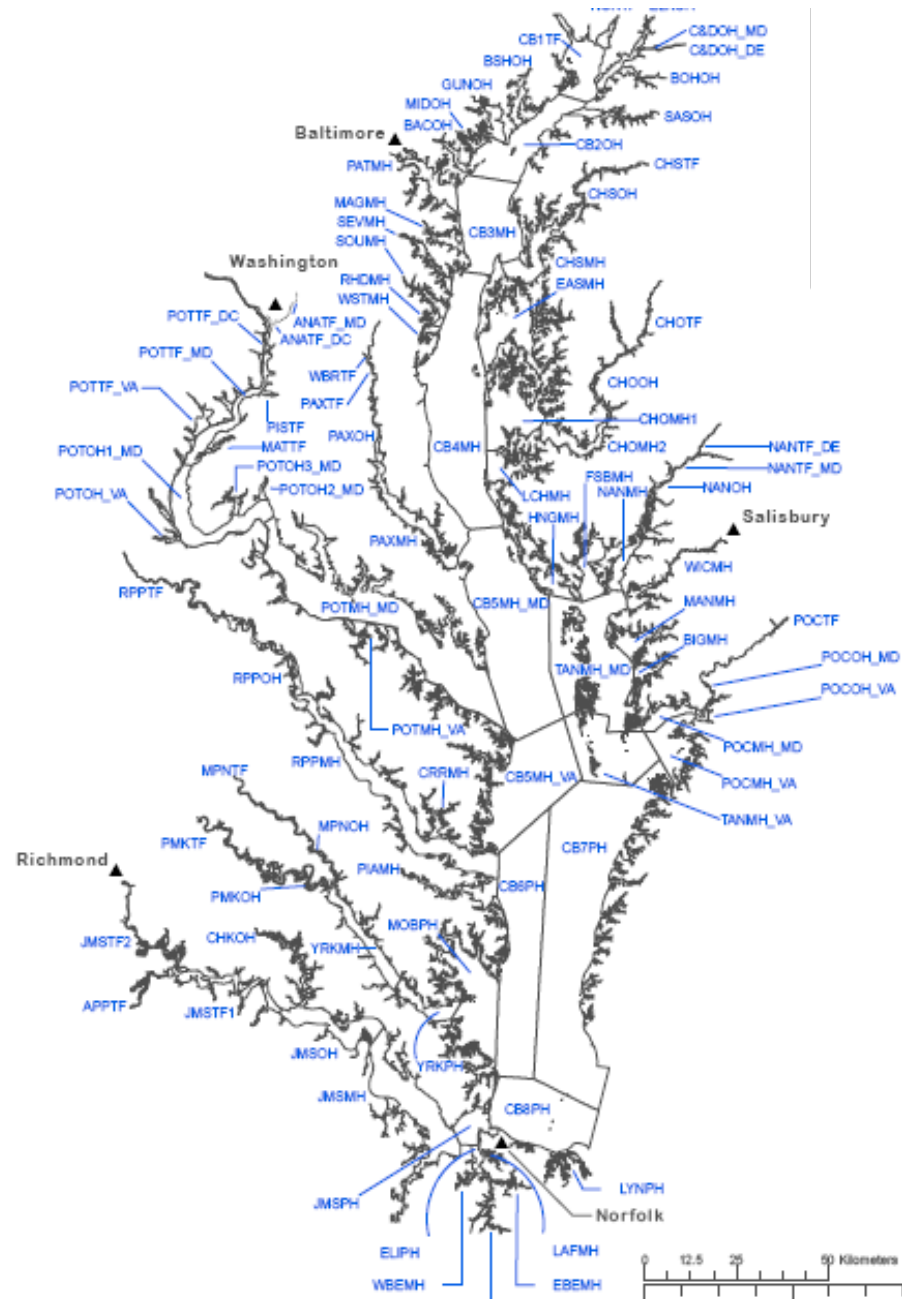
# Pollution Diet for Each Tidal Water Segment



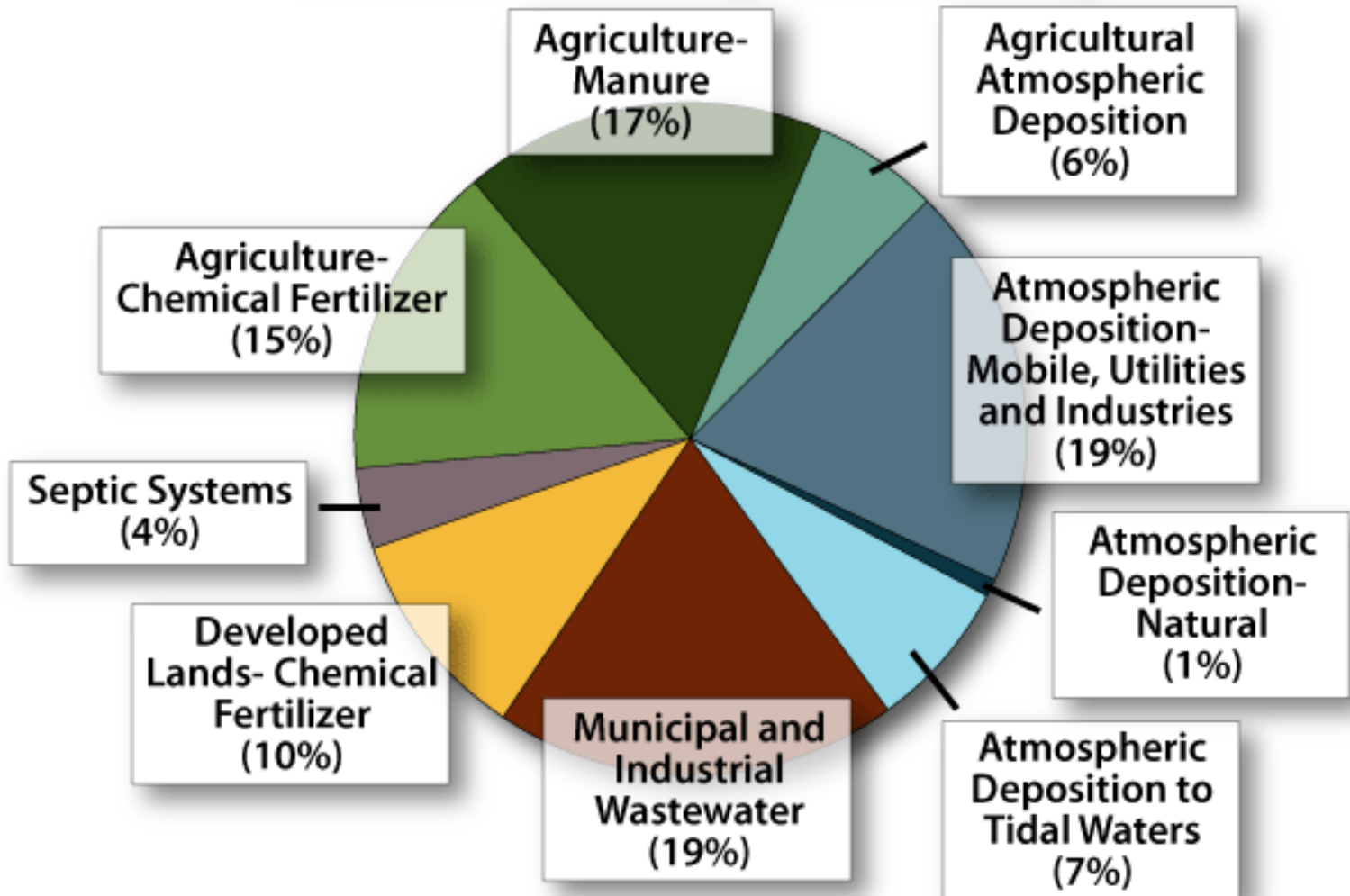
Note: Land areas do not reflect the actual area draining into a segment with 100% accuracy but are basically correct at the map scale.

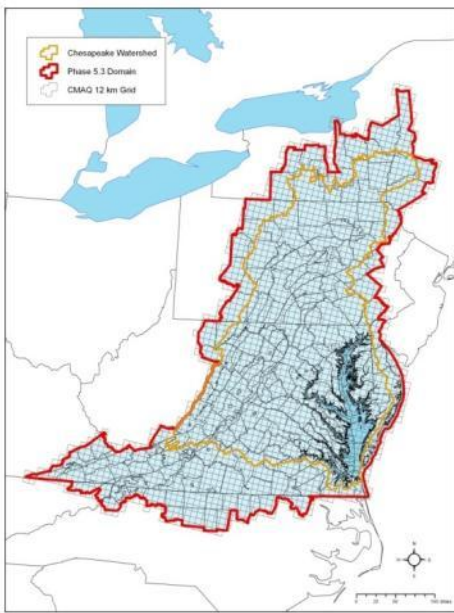
Created 09/24/09 by HW.

0 20 40 60 Miles



# Sources of Nitrogen to the Bay

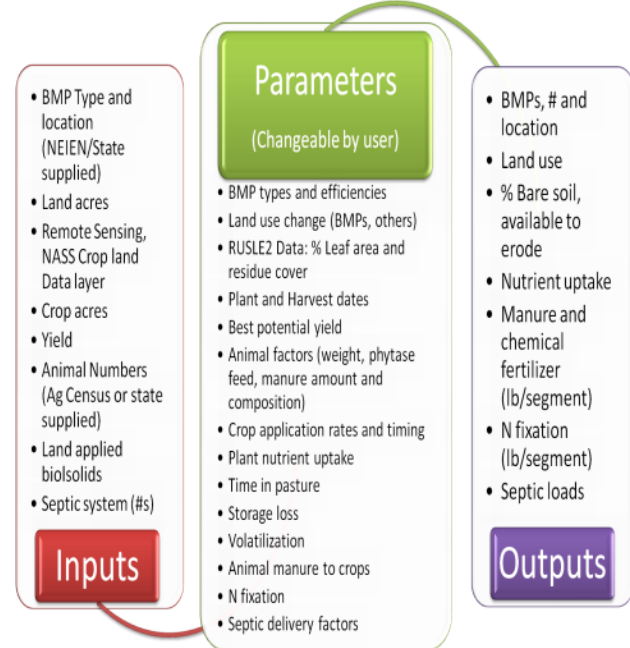




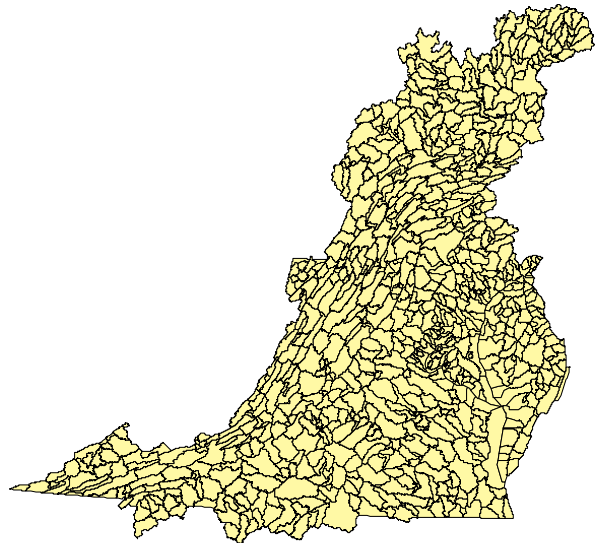
**Chesapeake Bay Airshed Model**



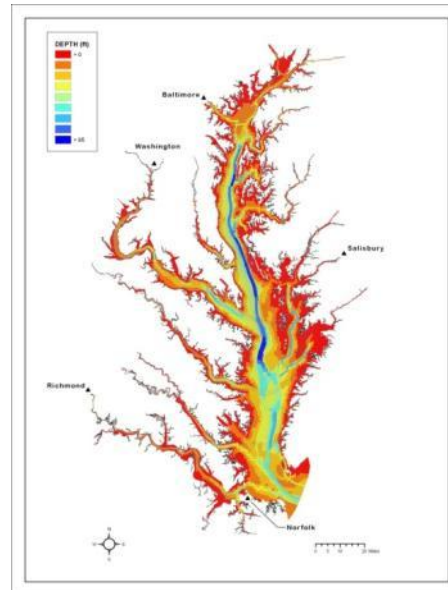
**Chesapeake Bay Land Change Model**



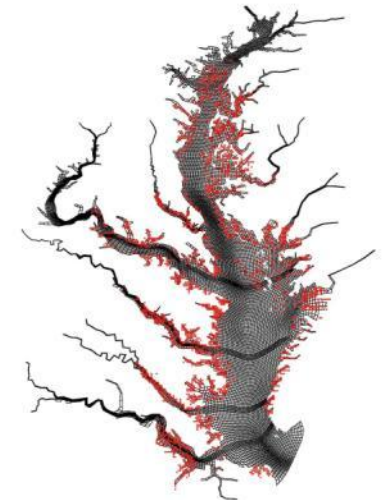
**Chesapeake Bay Scenario Builder**



**Chesapeake Bay Watershed Model**



**Chesapeake Bay Water Quality and Sediment Transport Model**



**Chesapeake Bay Filter Feeder Model**



Reduce/Readjust Loads to Meet Standards

### INPUTS

BMP Data  
LU Data  
Point Sources  
Data  
Septic Data  
U.S. Census Data  
Agricultural Census  
Data

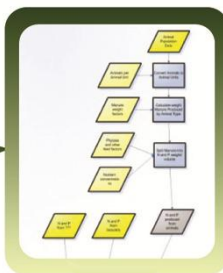
### MODEL-DERIVED

Airshed  
Model

Land Use  
Change Model

Precipitation Data  
Meteorological Data  
Elevation Data  
Soil Data

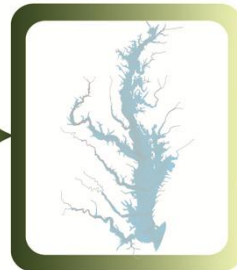
### SCENARIO BUILDER



### WATERSHED MODEL



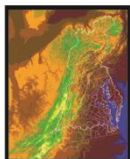
### CHESAPEAKE BAY MODEL



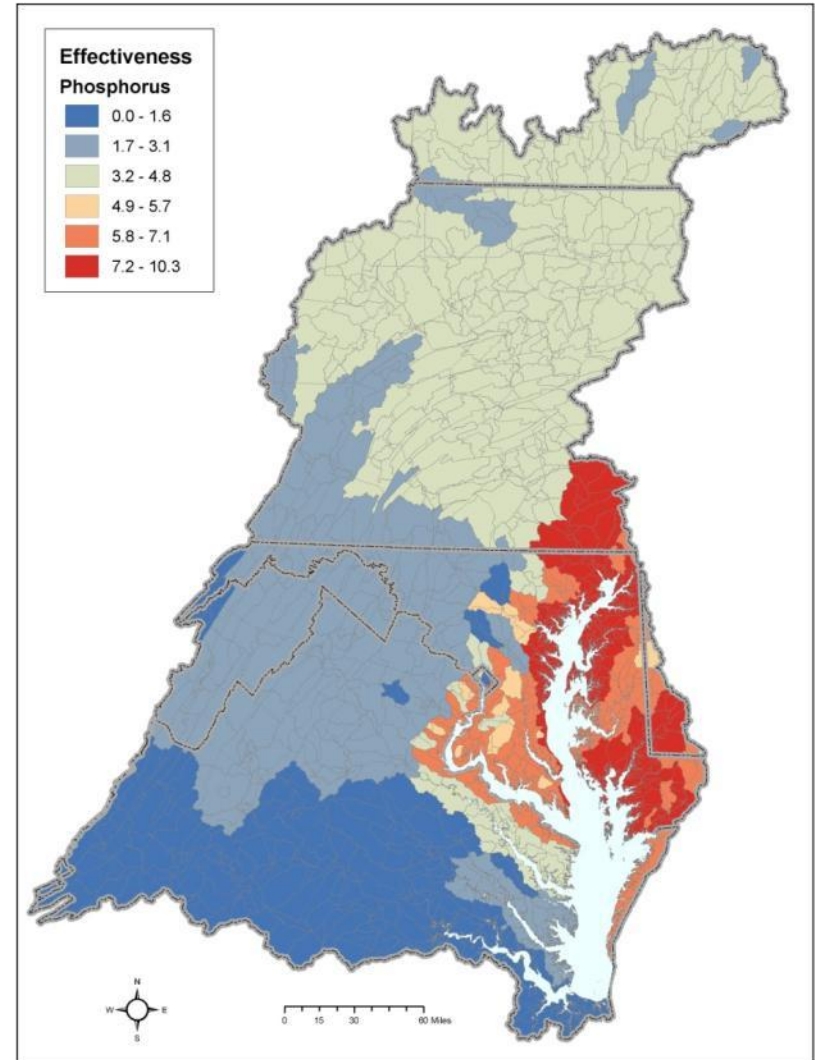
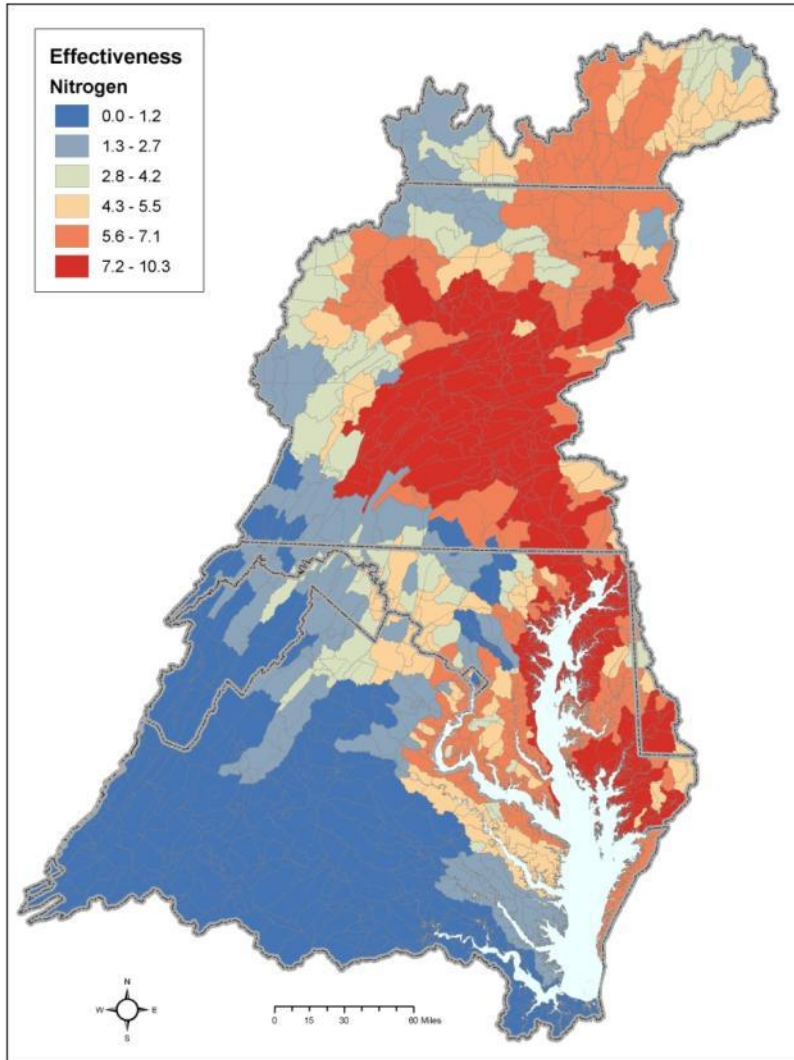
### MEET WQS?



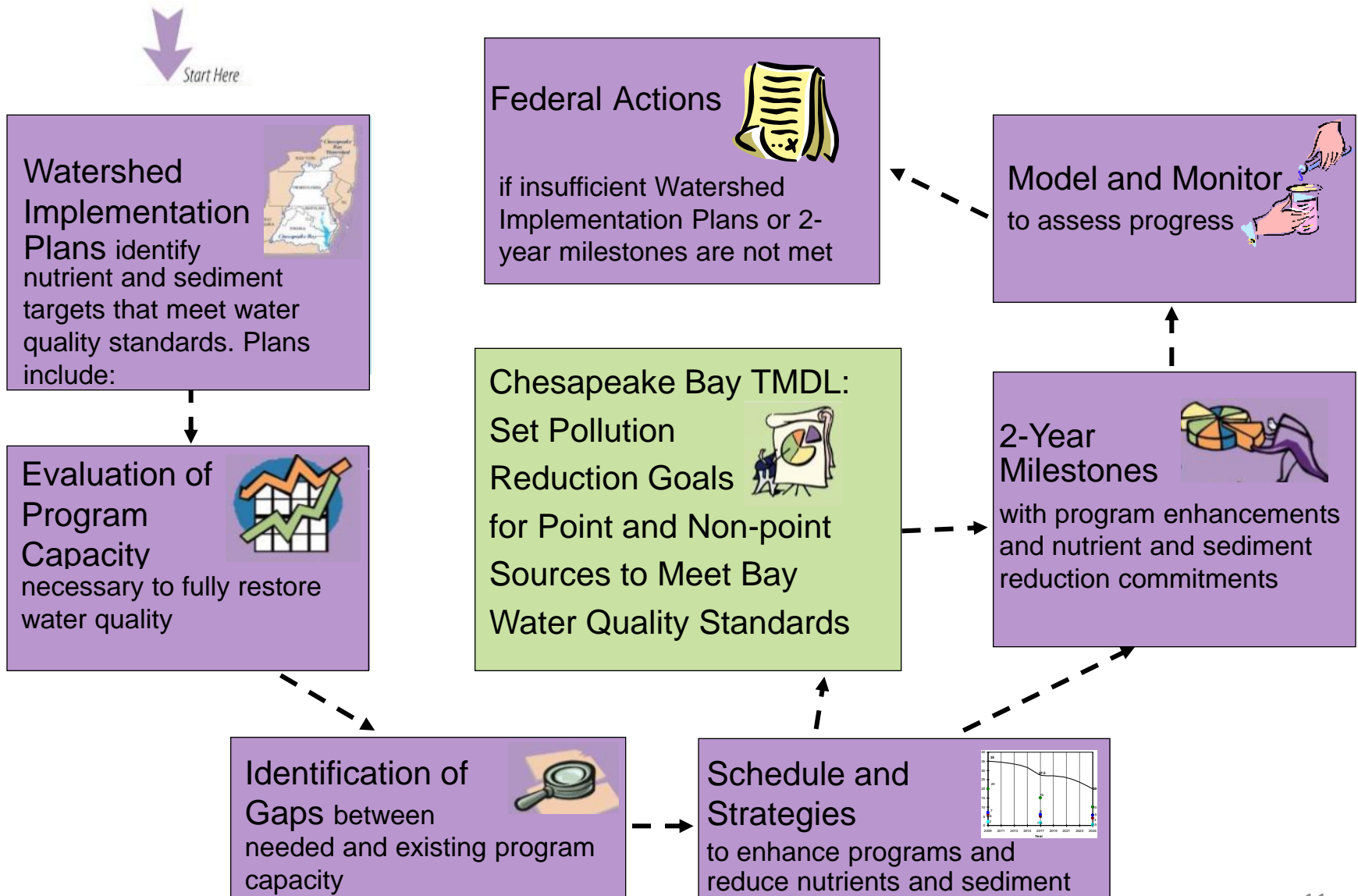
ALLOCATION  
METHODOLOGY



# Relative Effect of a Pound of Pollution on Bay Water Quality



# Overview of Accountability Process





# Regulatory Pollution Diet Speakers

- **Gary Shenk**, U.S. EPA CBPO: Components of the Chesapeake Bay TMDL
- **Jeni Keisman**, UMCES/CBPO: Assigning Regional Pollutant Reductions in a Multi-State TMDL
- **Katherine Antos**, U.S. EPA CBPO: Creating an Accountability System for Implementing a Multi-Jurisdictional TMDL
- **Jennifer Volk**, DE DNREC: Delaware's Role in Restoring Chesapeake Bay

**For More Information:**

 **[www.epa.gov/ChesapeakeBayTMDL](http://www.epa.gov/ChesapeakeBayTMDL)**

**[www.chesapeakebay.net](http://www.chesapeakebay.net)**