

In the last four centuries people have destroyed large amounts of many critical Chesapeake Bay habitats.



- There are many reasons:
- Human population growth
  - Coastal development
  - Habitat destruction
  - Over-harvesting, and



Humans have more than doubled the amount of NITROGEN in living organic material by manufacturing and using fertilizer.

# NUTRIFICATION

## WHY are excess nutrients harmful?

Nutrients fertilize tiny suspended plants, which grow so rapidly they cloud the water and limit light penetration. Cloudy water prevents the growth of Submerged Aquatic Vegetation (SAV), which provides habitat for juvenile fish and crabs. We have destroyed about 90% of this critical Bay habitat. When the tiny plants die, they are decomposed by bacteria. This process removes dissolved oxygen from the water and stresses animal life. Decomposing plants release nutrients back into the water. The cycle of rapid growth, death and decomposition continues.

## HOW do the nutrients nitrate (NO<sub>3</sub>) and phosphate (PO<sub>4</sub>) get into our waterways?

Power plants and internal combustion engines convert N<sub>2</sub> gas into nitrates, which dissolve in rain and . . . . . enter the groundwater, Anything flushed down the drain is converted by our septic systems into . . . . . and eventually, NO<sub>3</sub> and PO<sub>4</sub>, which. . . . . our waterways. When homeowners and farmers use too much fertilizer, the excesses not used by the plants. . . . .

Our groundwater, on average, contains 5 mg/l nitrate. Less than 1 mg/l is "normal"