



Reinvigorating Virginia's Investment in Water Quality



Saving a National Treasure



How Are Virginia Rivers Doing?

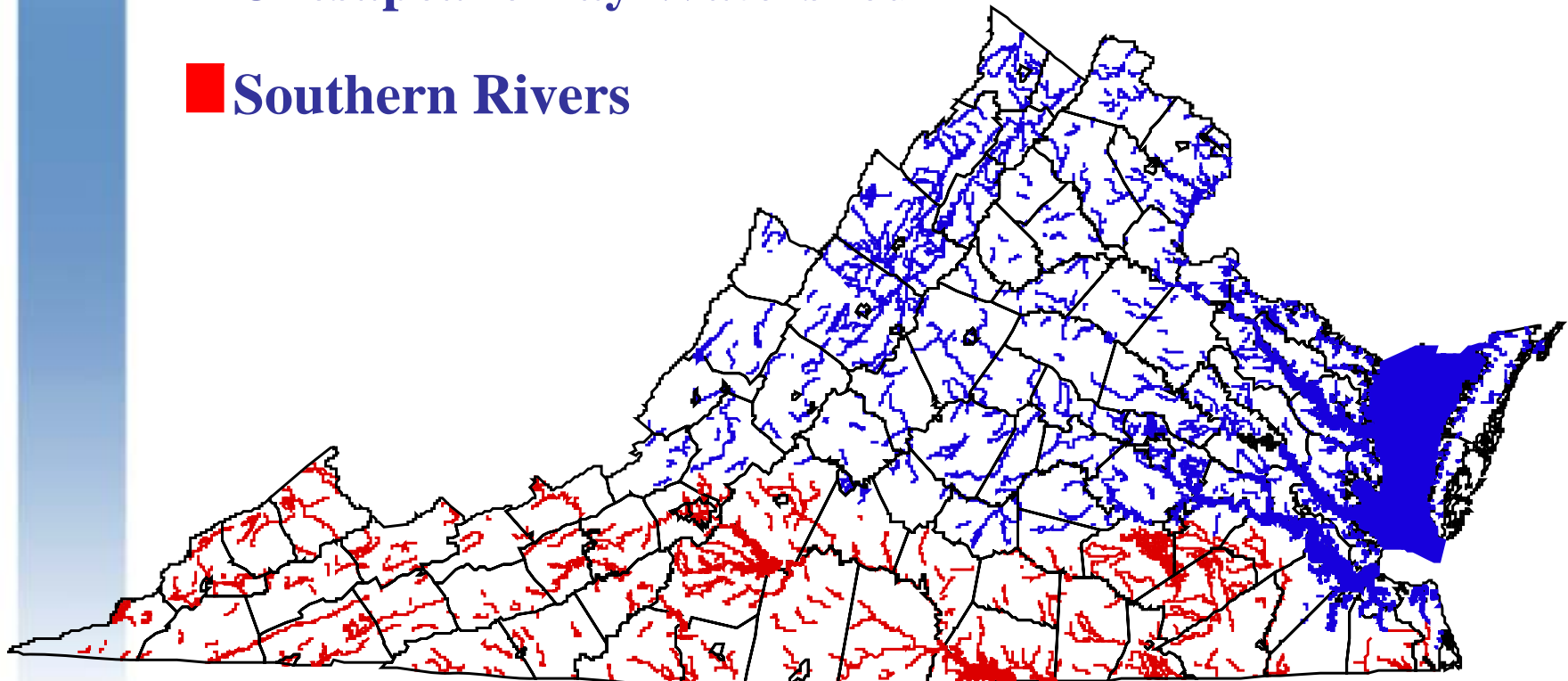




Common Problem for the Commonwealth: “Impaired Waters”

■ Chesapeake Bay Watershed

■ Southern Rivers





“Impaired Waters” of the Commonwealth

- **8,984 miles of streams, rivers**
- **109,208 acres of lakes**
- **2,216 square miles of estuaries – nearly all of Chesapeake Bay**



Source: Virginia Dept. of Environmental Quality 2004 303d Report



York River Watershed

- 321 miles of streams & rivers
- 17 sq. miles of estuaries
- 2,512 acres of lakes





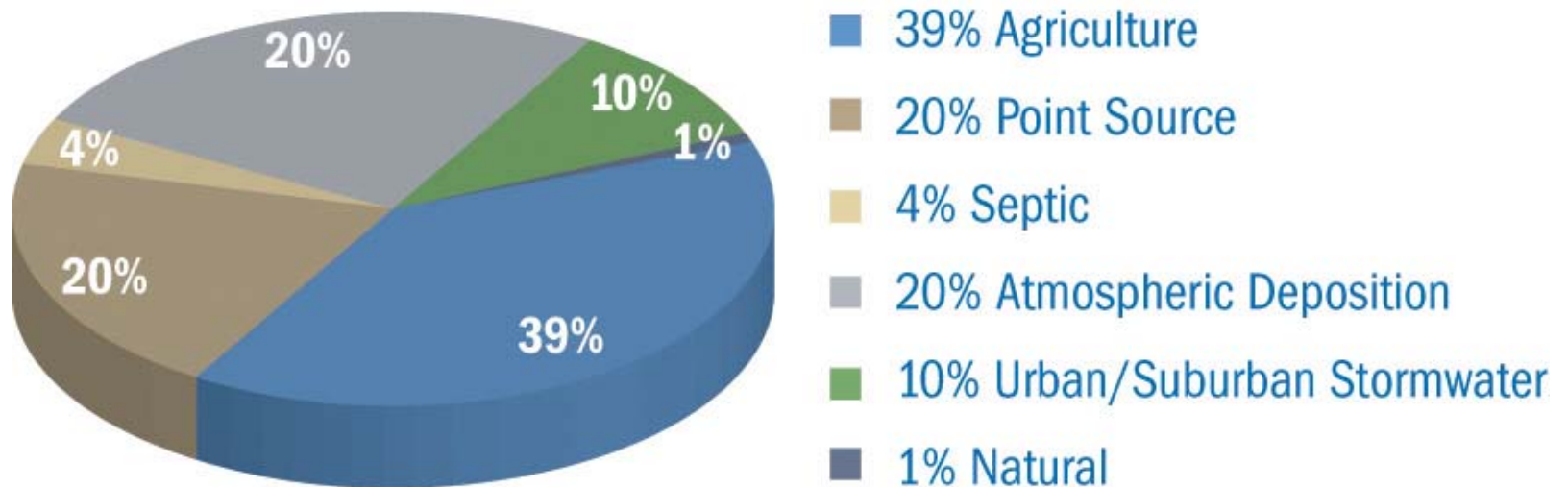
Excess Nitrogen & Phosphorous

Overall, the largest source of impairment in Virginia rivers and the Chesapeake Bay





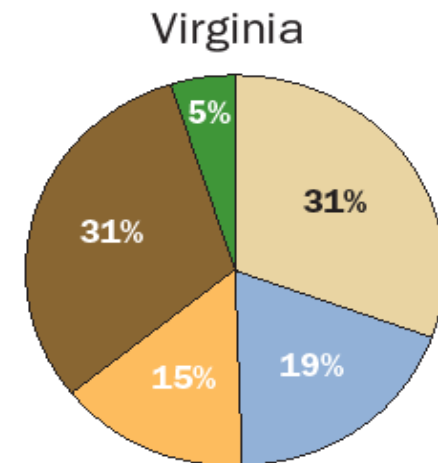
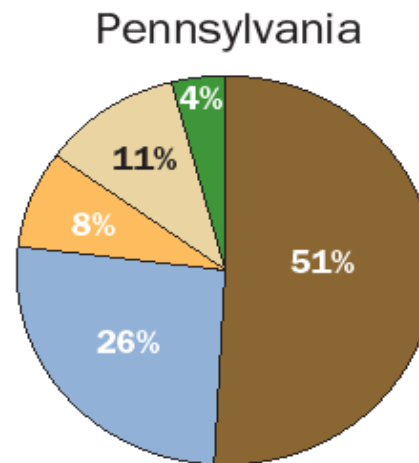
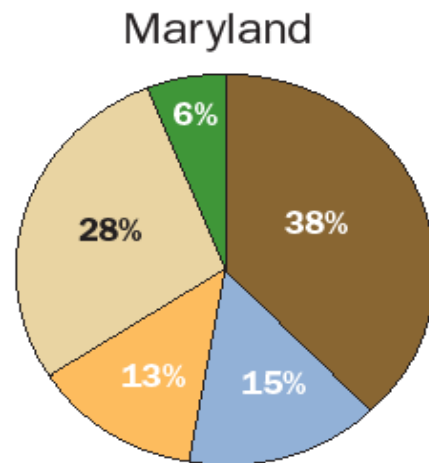
AVERAGED SOURCES OF NITROGEN TO THE CHESAPEAKE



* Atmospheric deposition includes emissions from cars, power plants and other sources that fall on land and water. Data are 2003 estimates from the Chesapeake Bay Program.



Principal Bay States Nitrogen Pollution Loads by Source



Point Sources Agriculture Septic Urban/Suburban Runoff Atmospheric Deposition

Based on Chesapeake Bay Program 2005 modeled loads.
Agriculture sector includes air emissions from agricultural sources.

July 2007



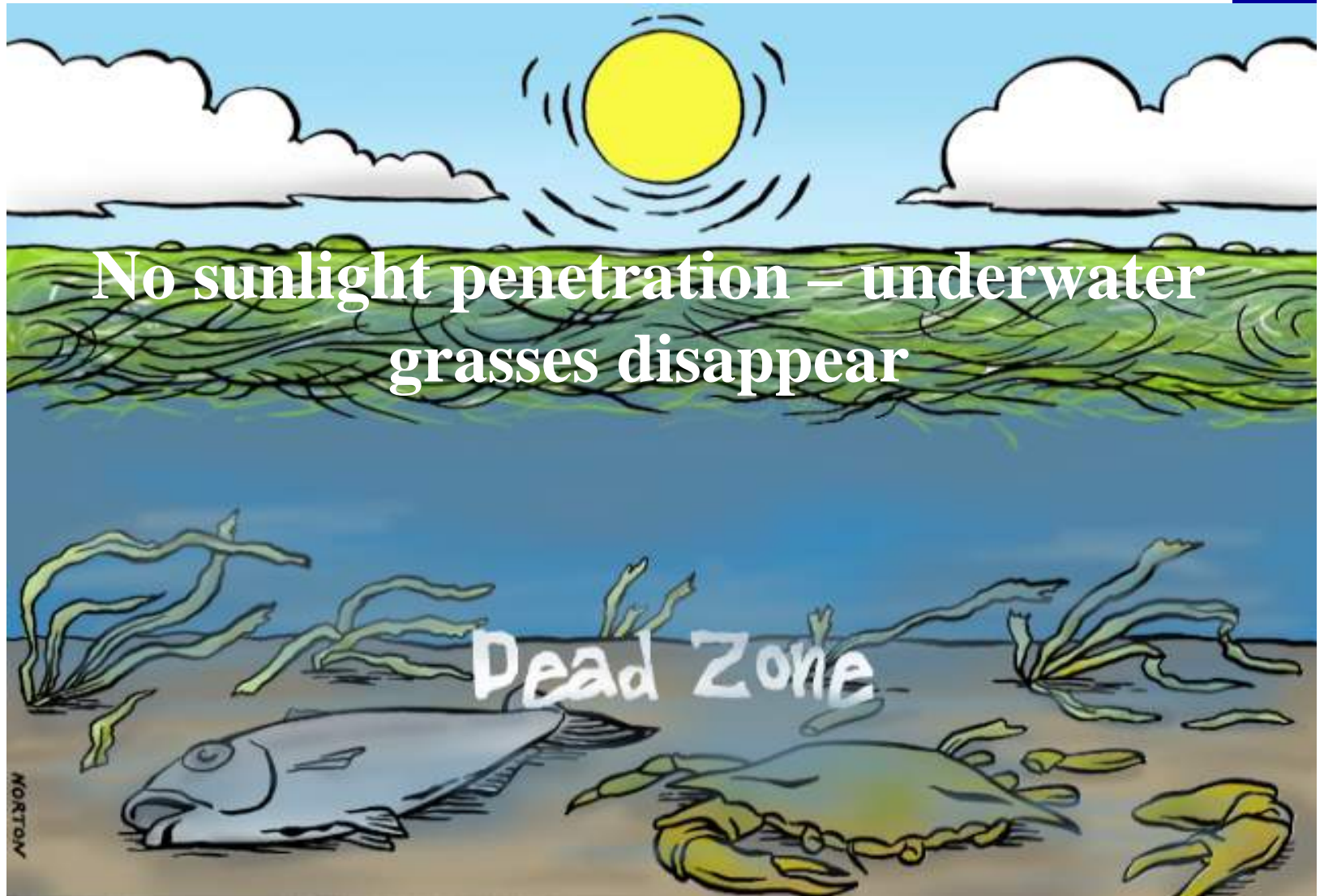
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Mahogany Tide, York River, September 2005



ALGAL BLOOMS





Dead Zone

July 2006

Oxygen levels necessary to support life

1.0 – Oyster



2.0 – Spot

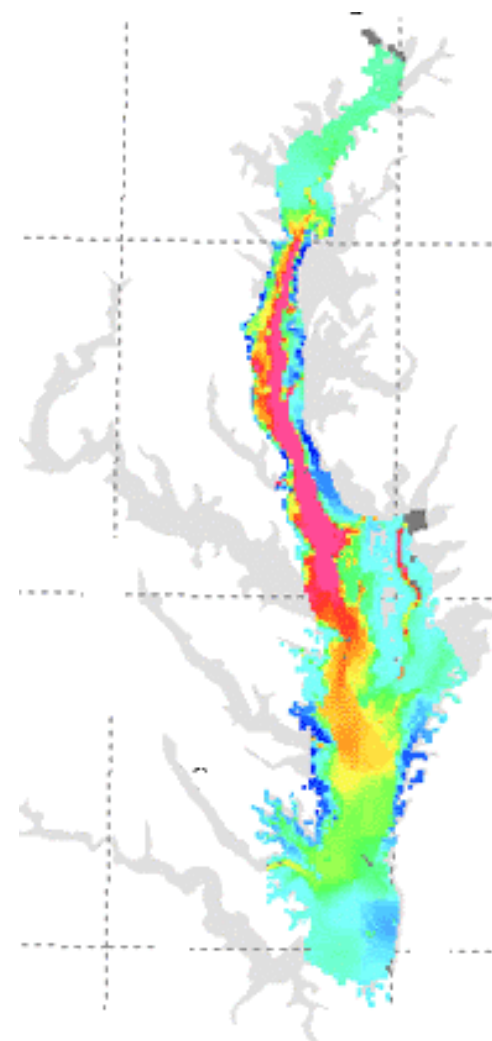
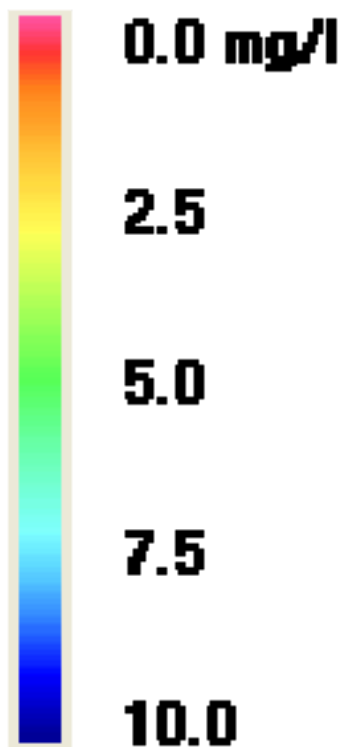
3.0 – Blue Crab



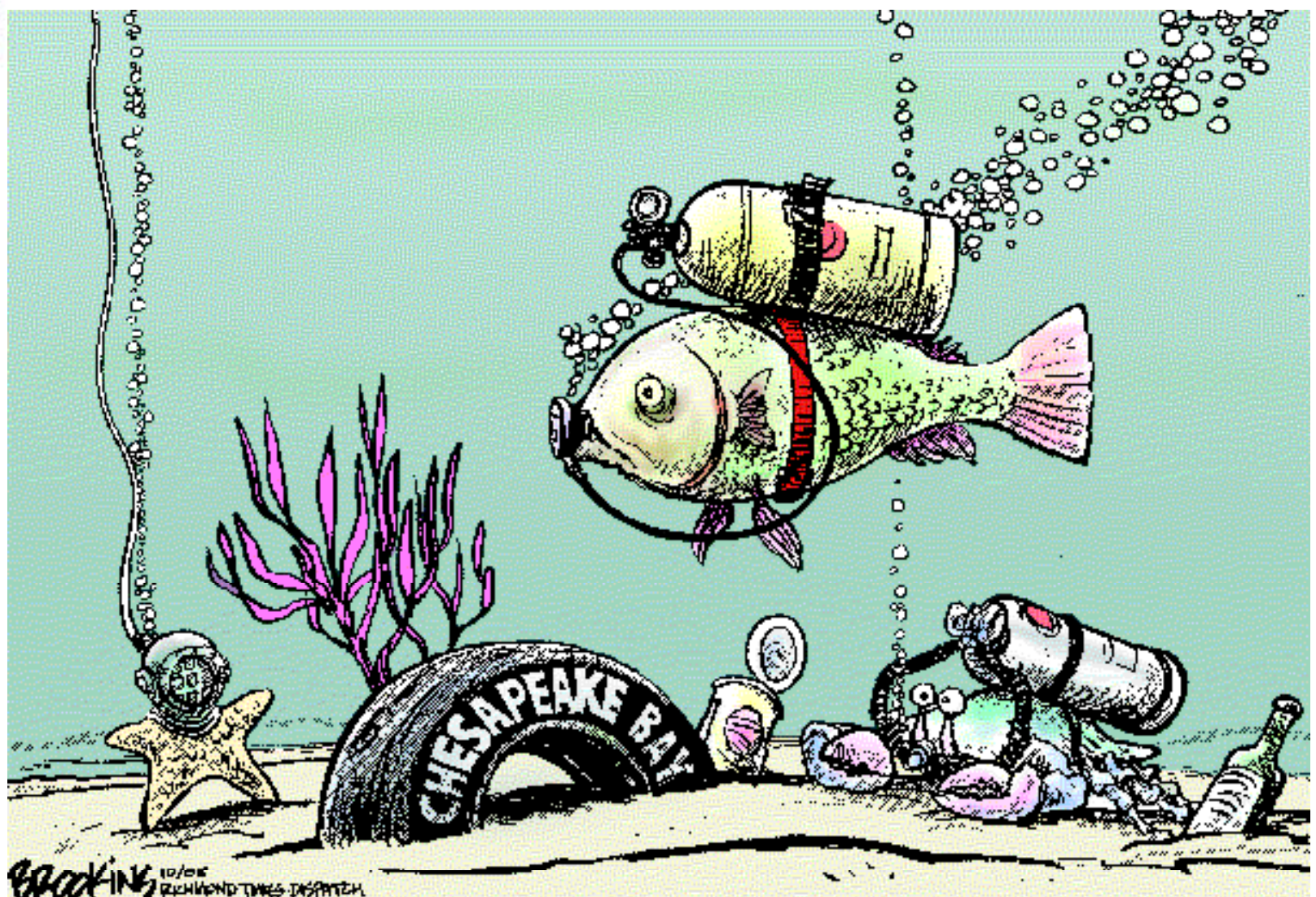
5.0 – Rockfish

Shad

White Percn



Source: Chesapeake Bay Program



Brookings 10/06 RICHMOND TIMES DISPATCH



Unhealthy Waters Hurt Virginia's Economy



- Tourism
- Fisheries
- Recreation





- We know the science
- We have the technology
- We have developed the plans

- We need the financial resources and the political will



The Challenge --

Reducing excess nutrients from:

- **Sewage**
- **Agricultural runoff**
- **Urban/Suburban runoff**



Reducing Excess Nutrients from Sewage

Modernizing Virginia's sewage treatment plants will:

- Achieve 31% of needed nitrogen reductions
- Achieve 21% of needed phosphorous reductions
- Produce quick results
- Help meet commitments

Chesapeake 2000 Agreement

Source: Virginia Tributary Strategy



Sewage outflow into Shenandoah River

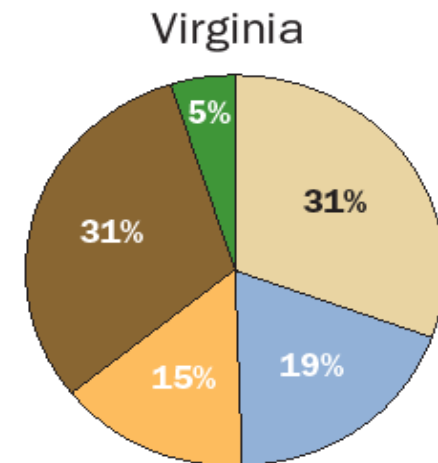
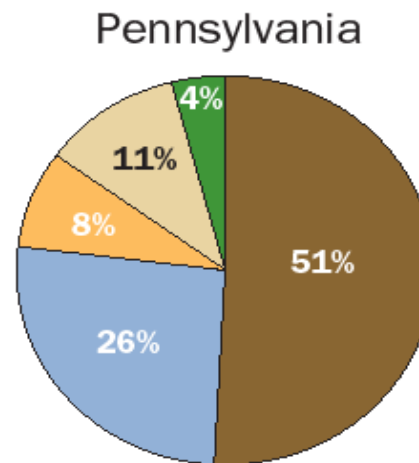
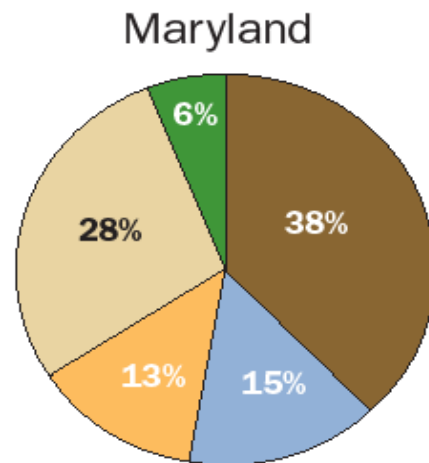


In the past few years, the Virginia General Assembly has approved more than \$500 million to upgrade Virginia wastewater treatment plants.





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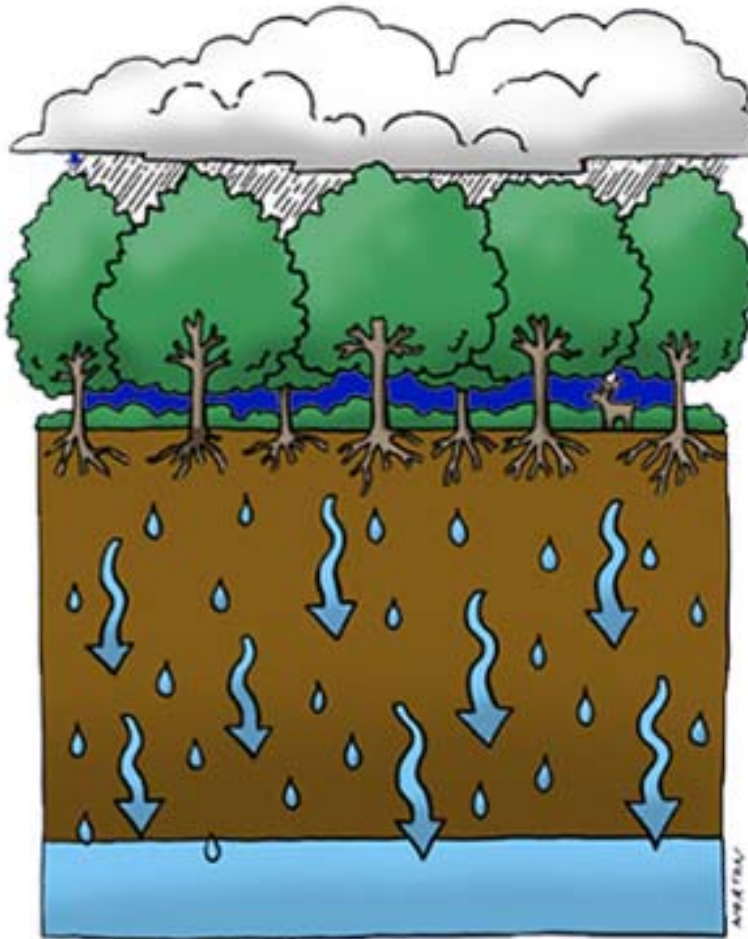


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Land can be a green filter...

...or a gray funnel





Reducing Farm Runoff



- **Plans to limit fertilizer use**
- **Fence livestock from streams**
- **Restore streamside buffers**
- **Plant cover crops**
- **Minimize Soil Disturbance**

Source: Virginia Tributary Strategy



Conservation Practices



Before



After



5 Priority BMPs

- 60% of Non-point Nutrient Reduction Goal
- 9 million pound reduction in Nitrogen



Restoring the Chesapeake Bay in Partnership with Agriculture

Chesapeake Bay Foundation

Friends of the Rappahannock

James River Association

Potomac Conservancy

Virginiaforever

Virginia Agribusiness Council

Virginia Association of Soil & Water Conservation

Districts

Virginia Farm Bureau Federation

Virginia Poultry Federation

Virginia State Dairymen's Association