



Chesapeake Bay TMDL & Rivanna Pilot Project

Presented to Rivanna River Basin
Commission
by Jack E. Frye

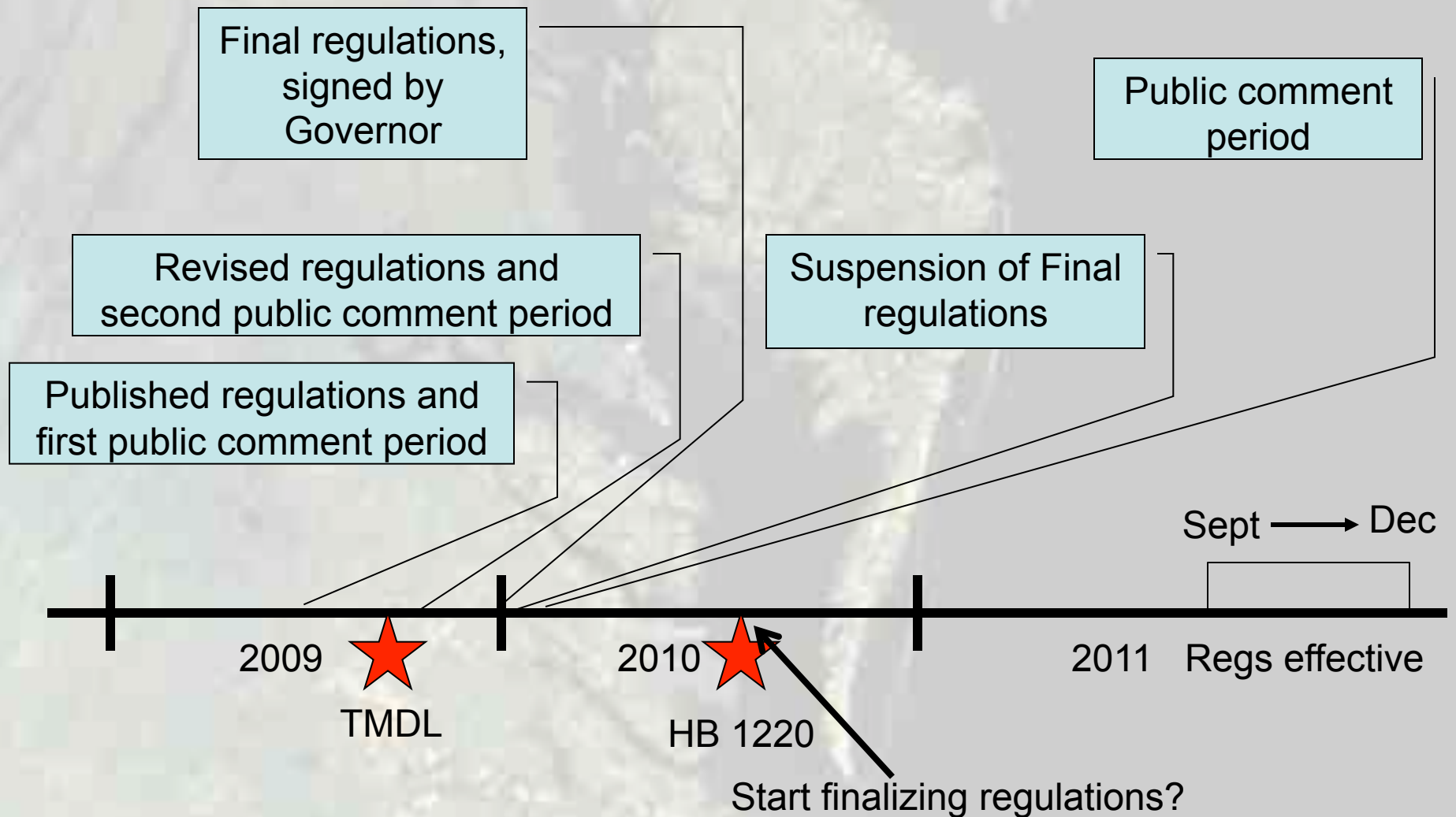


April 15, 2010

An aerial photograph of a river valley, showing a winding road, fields, and a river. The image is faded and serves as a background for the text.

Status of the Virginia Stormwater Management Program Regulations

Stormwater Timeline



What do amendments to the regulations need to address?

- **Water quality improvements**: Addressing stormwater management is a key component (along with impacts from agriculture, point sources, and air deposition- informed by Bay TMDL) to improving water quality in Virginia's rivers, streams, lakes, and Chesapeake Bay.
- **Water quantity**: Today's standards still result in significant flooding and channel erosion.
- **Operation of a local stormwater management program**: Operated by a locality ("qualifying local program") or DCR.
- **Fee levels**: That will provide sufficient funding for local stormwater management programs and DCR oversight.

Items to consider:

- Requirements of Bay TMDL: N, P & Sediment
- Stormwater BMP Choices
- Treating Impervious Cover & Managed Turf Areas
- Offsite compliance
- Inspections/Maintenance
- Grandfathering
- Spreadsheet Compliance Tool
- Establishment of Locality-Administered Stormwater Management Programs (Section III)

New Stormwater BMP Paradigm

- Do not: design a site and try to retrofit/shoehorn stormwater management in after-the-fact
- Use site design, conventional BMPs (revised Blue Book), BMP Clearinghouse, and Run-off Reduction Techniques
- Use of “treatment train” of practices & innovation
- BMP performance = Runoff reduction + Pollutant removal

Rainwater Re-Use



Green Roof



Pervious Parking



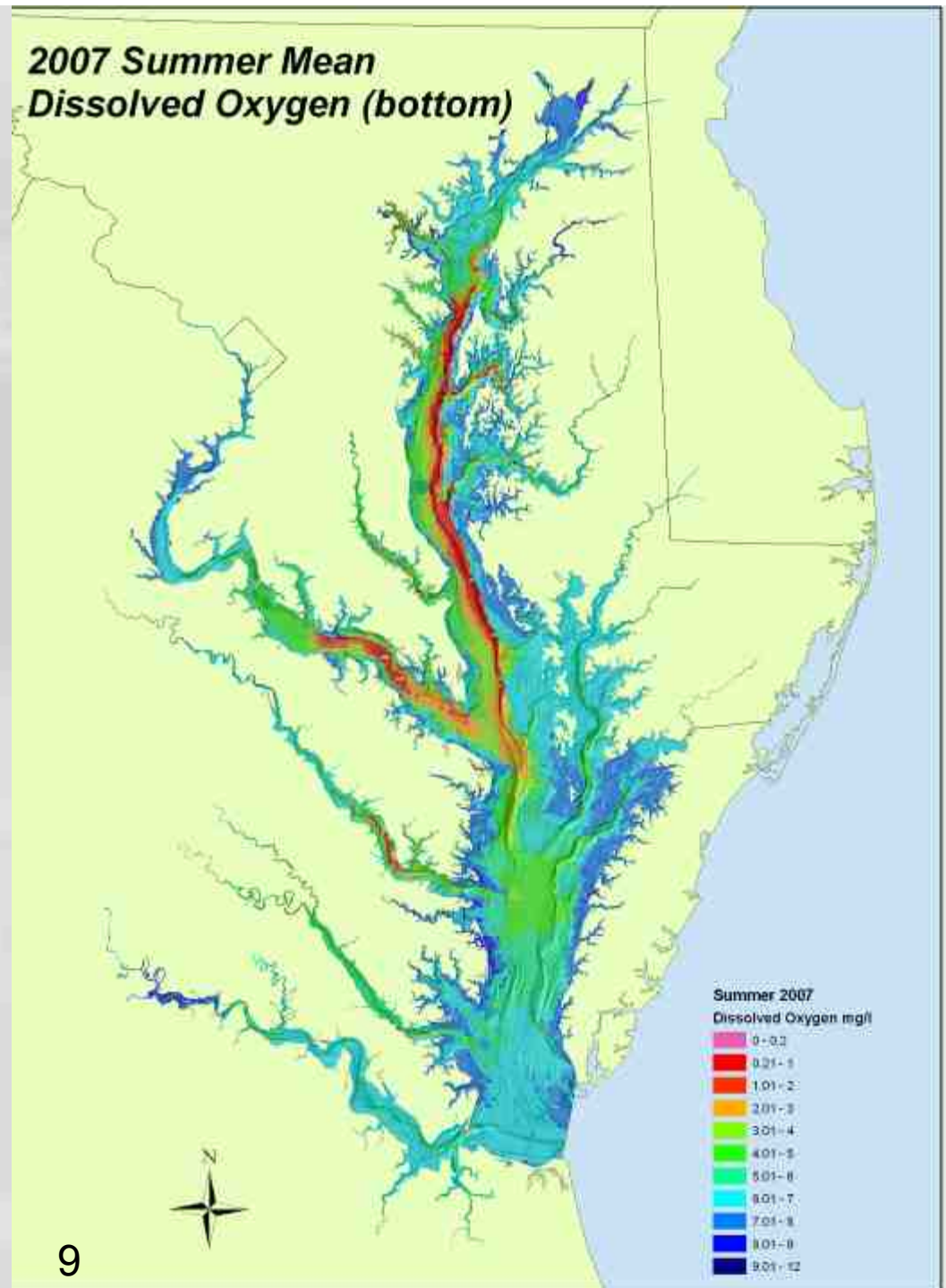
Bioretention



Where we are in the Water Quality Process & TMDLs

- Establish Water Quality Standards to protect uses
- Monitor waters and assess data
- Place Impaired Waters on 303(d) List due to violations of Standards [Bay listed for N, P, Dissolved Oxygen in 1998]
- **Develop TMDL [Total Maximum Daily Load] = Total Pollutant limit assigned to point and nonpoint sources**
- **Develop TMDL Implementation Plan that shows how each source sector will meet its load caps**
- Implement TMDL Plan(s)
- Remove Waters from 303(d) List when monitoring shows Water Quality Standards achieved

High nutrient and sediment loads in the Chesapeake Bay are resulting in low oxygen, cloudy water, algae blooms, and impacts to commercial and recreational fishing, tourism, and property values

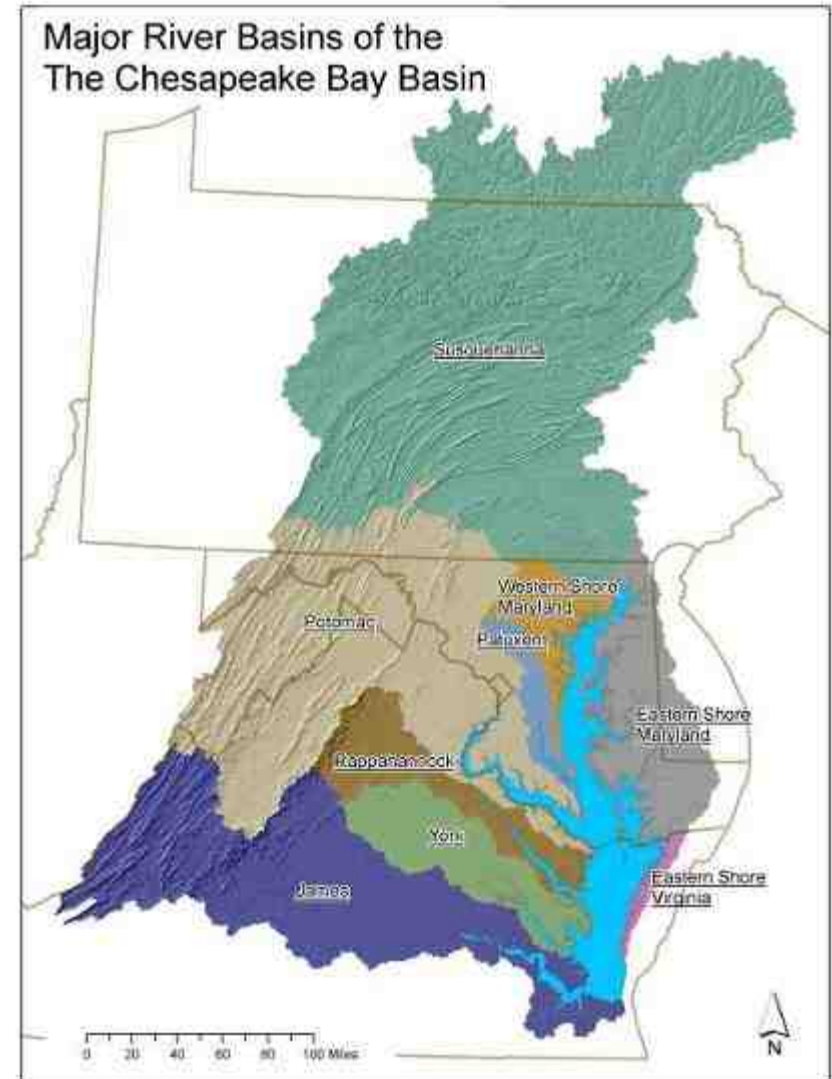


Agreements by State Governors and EPA

- 2000 Chesapeake Bay Agreement
 - Set nutrient caps to clean Bay
 - Delist Bay by 2010 to avoid TMDL
- Progress made, but not enough
 - VA reductions: about 2/3 toward nutrient caps
- Interstate waters, so EPA does TMDL
- VA Consent Decree sets the Bay TMDL deadline
 - must be done by May 2011 although current agreement is to complete by end of 2010

Chesapeake Bay TMDL

- EPA sets pollution diet to meet states' Bay clean water standards
- Caps on nitrogen, phosphorus and sediment loads for all 6 Bay watershed states and DC
- States allocate loads to point and non-point sources so not exceed TMDL cap [i.e., diet]

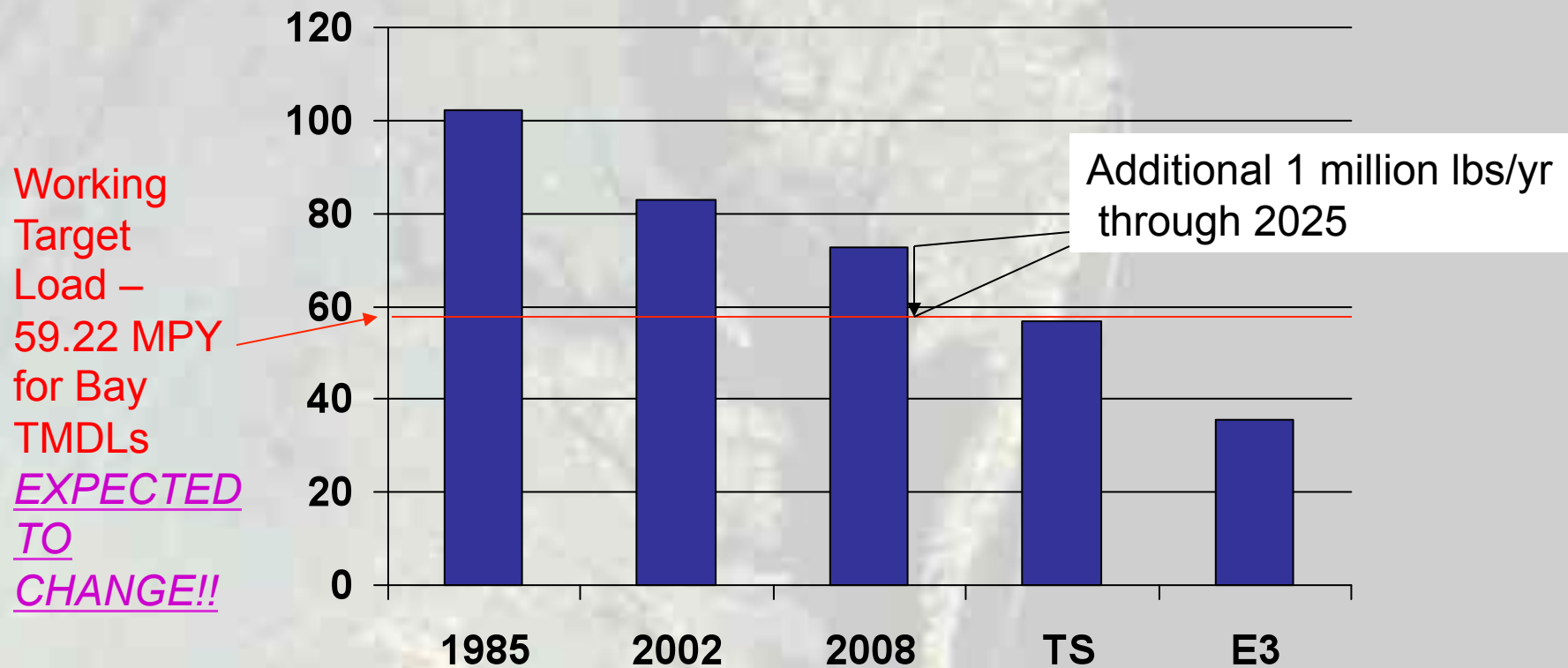


Pre-TMDL VA Progress

We have already achieved some reductions in wastewater and agriculture sectors

- **Wastewater** progress based on watershed general permit for major dischargers, and WQIF funding [~\$1.5 billion in state & local funds]
- **Agriculture** progress based on \$12 million per year to Bay SWCDs FY08-10, targeting cost-effective BMPs, coordination with federal programs, revised Nutrient Mgt. regulations, MOA to reduce P content of poultry litter and voluntary poultry waste transfer program, federal Ag BMPs too

Virginia Nitrogen Loads [million lbs/yr]

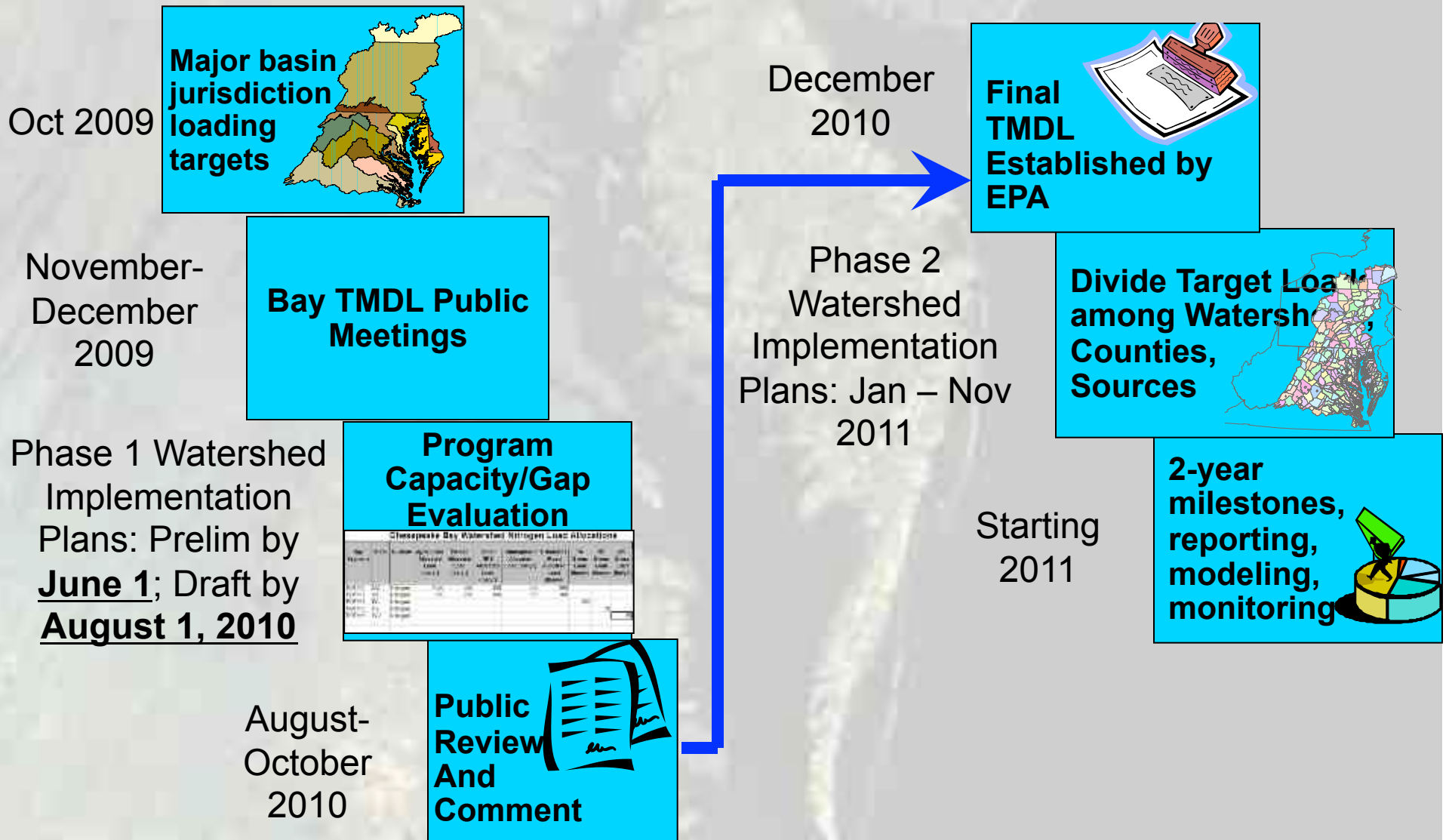


TS – VA Tributary Strategy issued in 2005
E3 – Theoretical maximum reductions

Watershed Implementation Plans

- EPA expects States to develop Plans that provide roadmap of how TMDL will be achieved and maintained – provide ***Reasonable Assurance***
- Challenge is for States to equitably allocate loads to source sectors, such as:
 - **Wastewater: municipal and industrial**
 - **Agriculture: CAFOs and unregulated Ag**
 - **Storm Water: construction permits, MS4s, non-MS4 developed land**
 - **On-site septic systems: retrofits, new systems, connection**
 - **Forestry**
- Some sectors are regulated, some are not
- Need to reduce pollution and then **CAP** the load

Schedule for Bay TMDL Process



Take it Local

- Local governments control land use
- Land management a key issue
- Achieve load CAP and manage land use and land management to maintain load
- Local accountability
- Better coordinate development process
- More meaningful comprehensive plan

Why DCR Supports This Pilot

- Need local engagement & commitment to succeed
- Local govt. & organizations can work directly with citizens
- Additional resources if broadly supported
- Need a good local experience-test drive
- Demonstrate local “adaptive management”
- Local govt. want to control their destiny