Chesapeake Bay TMDL: Phase II WIP Update

Presented to
Hampton Roads Planning District Commission
November 17, 2011

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Overview

Part 1:

- Address Questions from October Meeting

Part 2:

- Update on Communications with EPA and Virginia since October meeting
- Recommended Actions




Questions from October Commission Meeting

- What are the benefits of implementing the management actions required by the TMDL?
- What is the uncertainty of the modeled water quality improvements?
- How can localities determine if water quality is improving due to implementation actions?

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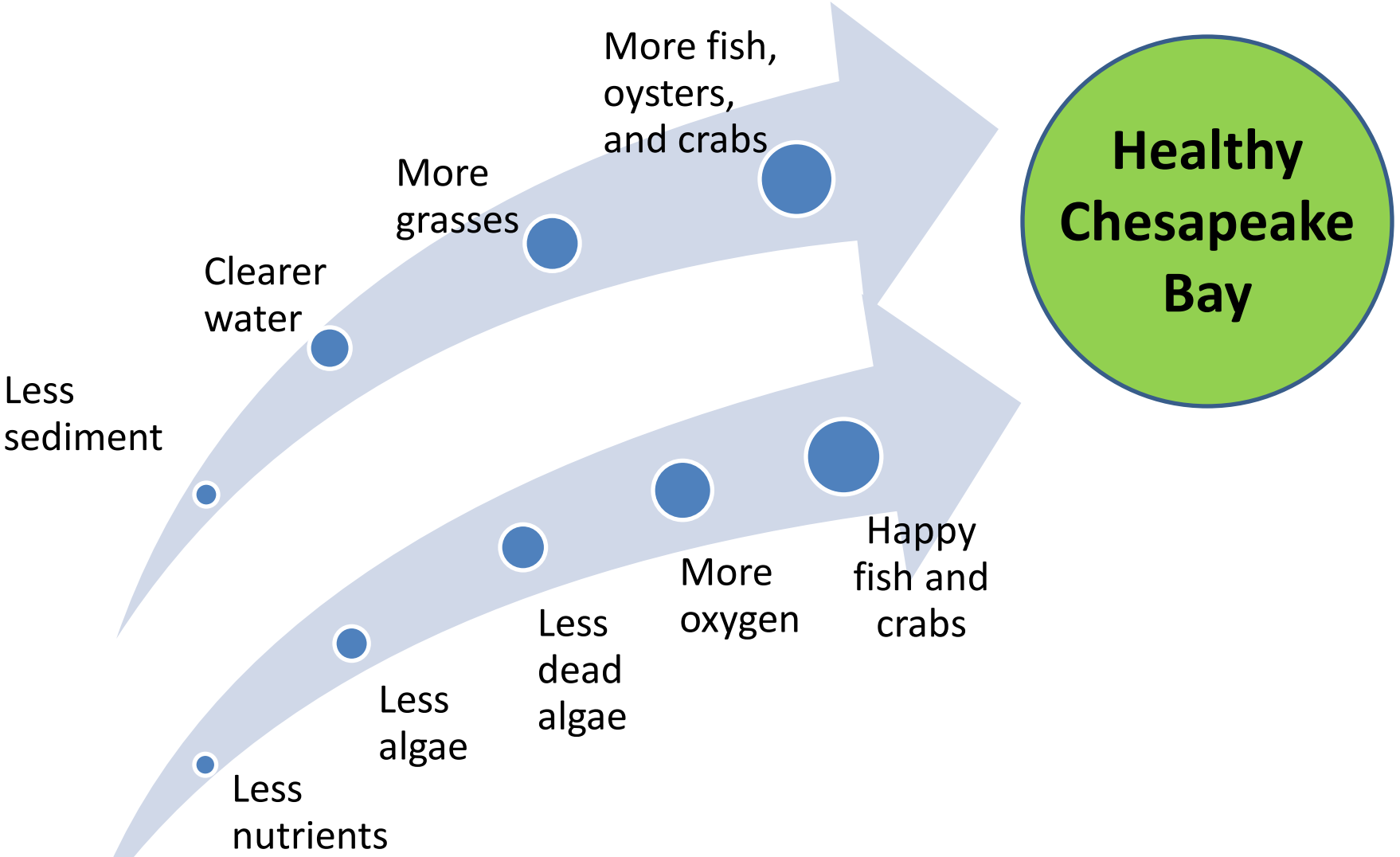
Benefits of the Management Actions



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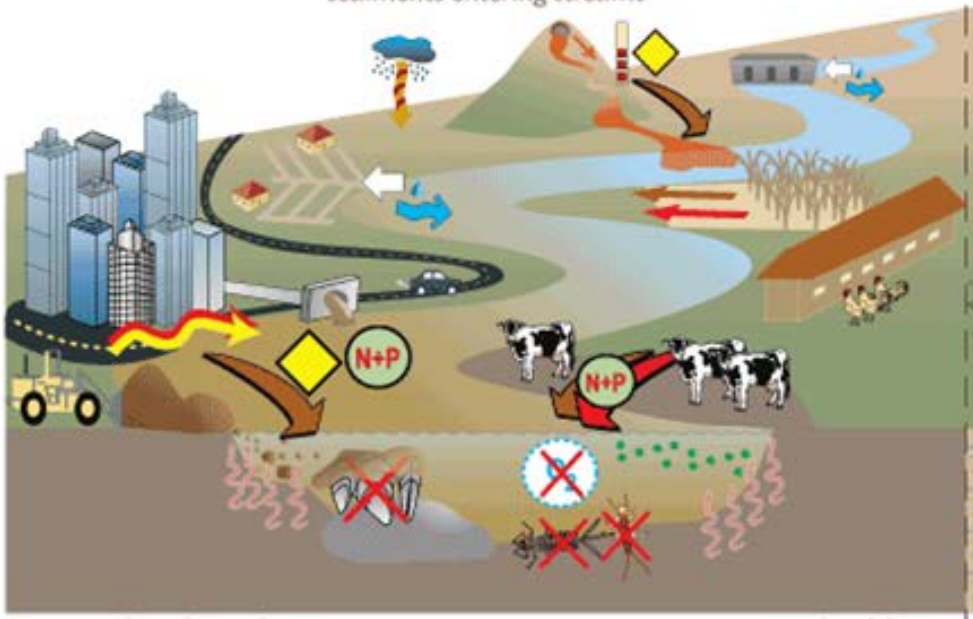
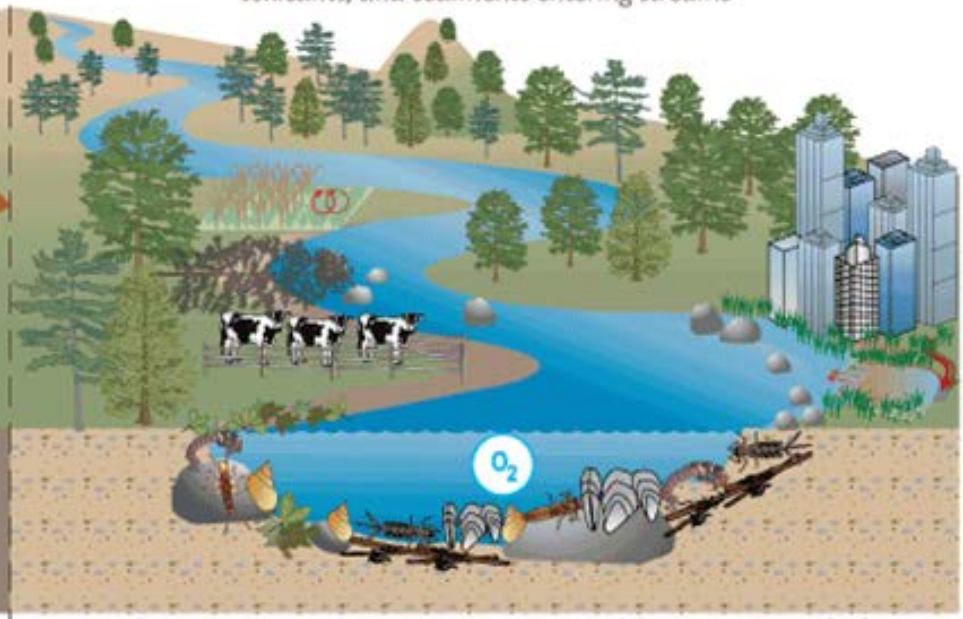
Unhealthy Streams:

Land-based activities can increase nutrients, toxicants, and sediments entering streams



Healthy Streams:

Well-managed land-based activities will reduce the amount of nutrients, toxicants, and sediments entering streams



Factors that degrade streams:

Toxic acid mine drainage and sediments

Stormwater runoff from roads, buildings, and parking lots

Smothering from sediment disruption

Nutrient and sediment runoff from livestock operations

Nitrogen from air pollution and fields without cover crops

Altered water flow and habitat from development and dams

Unhealthy streams include:

Low oxygen and algal blooms

Bloodworms

Loss of bottom-dwellers

Factors that protect streams:

Stormwater retention pond and riparian buffers

Cover crops / Best Management Practices

Fenced livestock

Shady streambanks

Healthy streams include:

Debris

Sufficient oxygen

Rocky stream bottom

Bottom-dwellers

Freshwater mussels

Caddisfly larvae

Mayfly larvae

Snails

Stonefly larvae

Dragonfly larvae

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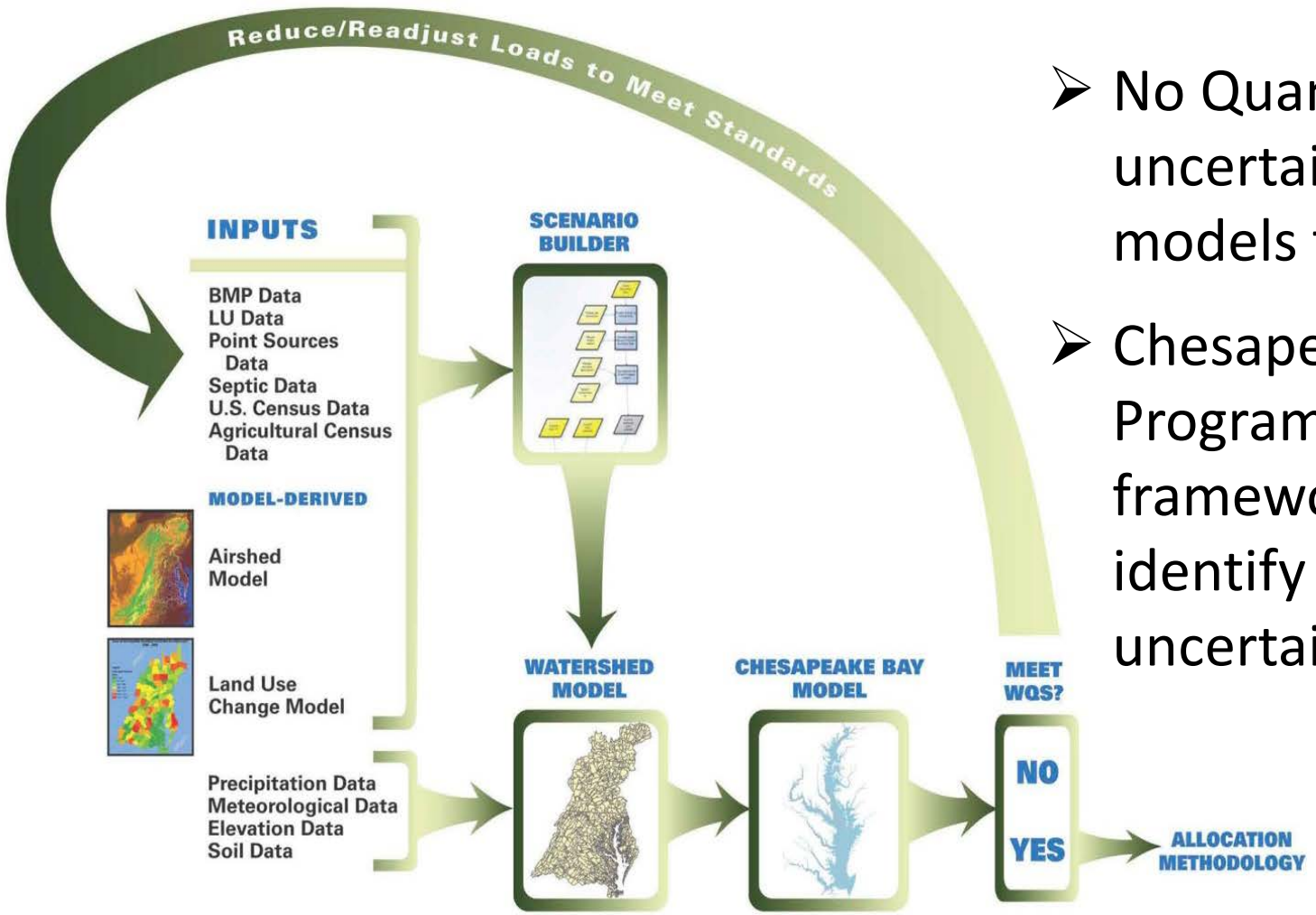
What is the Uncertainty of the Modeled Load and Water Quality Predictions?



- No Quantitative uncertainty analysis of models to date.
- Chesapeake Bay Program is developing framework to better identify and manage uncertainties.

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Linking Implementation Actions to Water Quality

- Model determines if loads are being met.
- Accurate tracking and reporting of implementation actions is essential.
- Water quality monitoring determines if water quality standards are being met.
- Progress tracked through model due to variability in environmental factors (weather).
- Increased water quality monitoring and local scale data will improve accuracy of model predictions.

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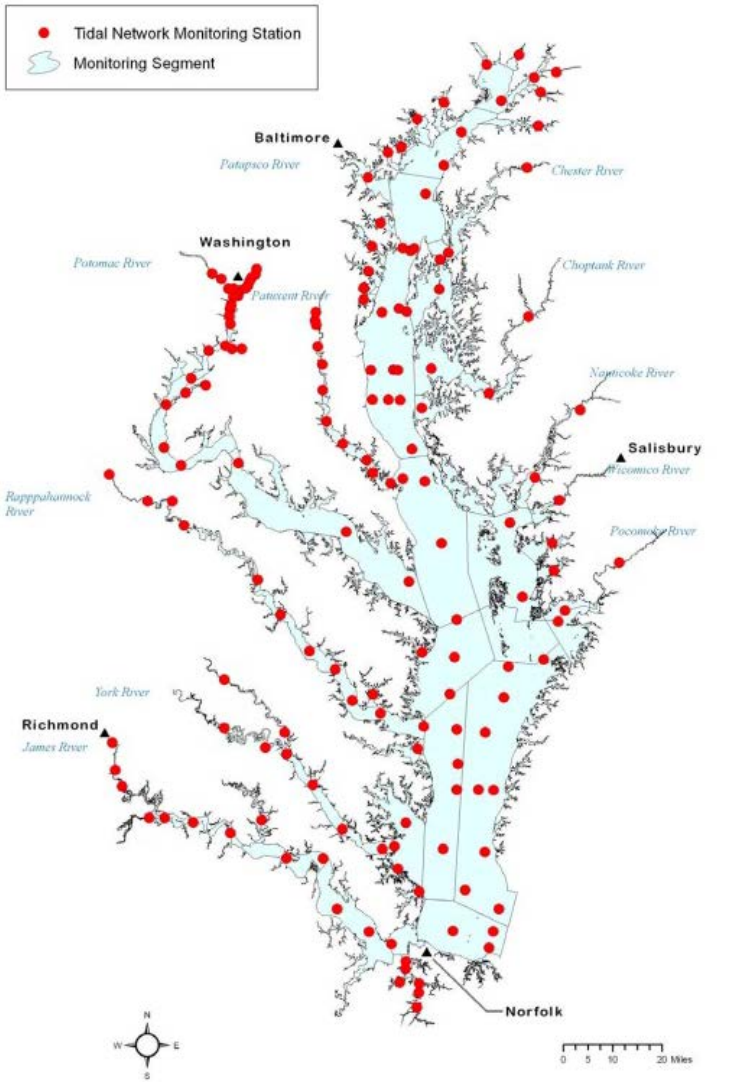
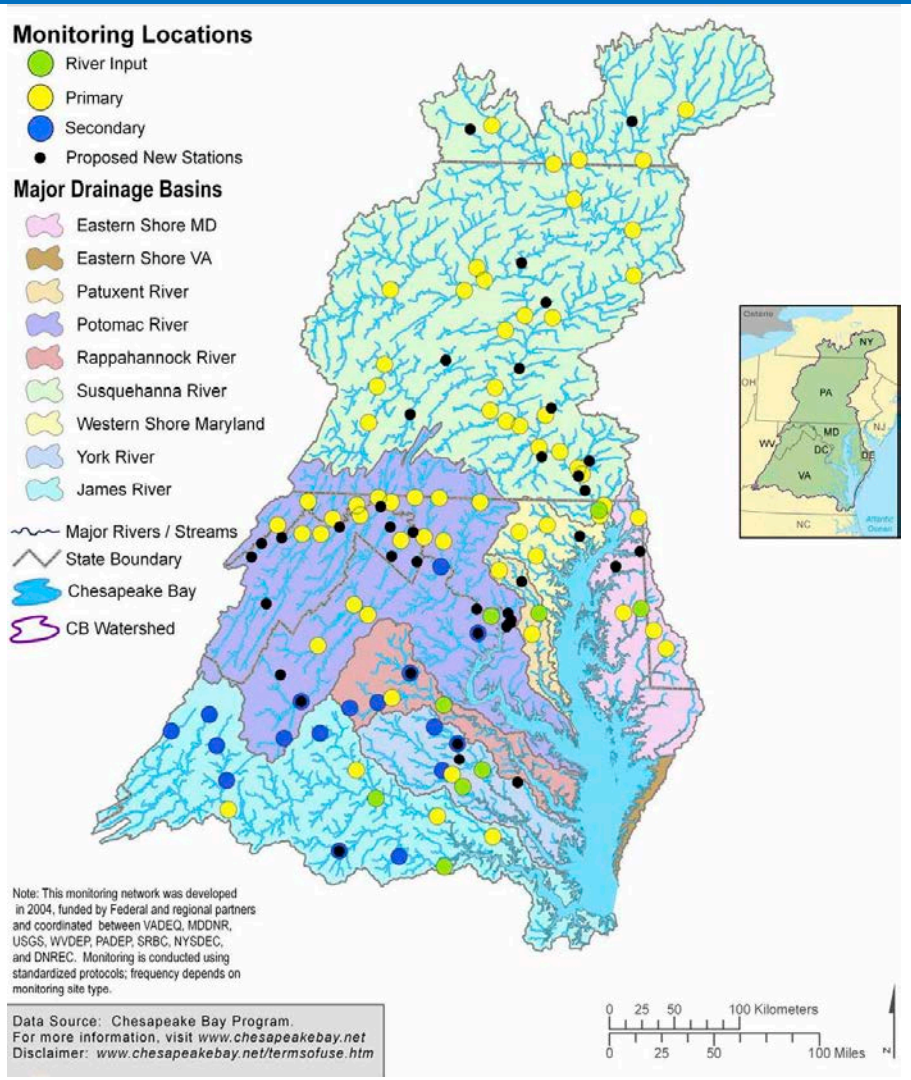
Map of Calibration Stations





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Water Quality Monitoring for Hampton Roads

- Hampton Roads localities could fund additional monitoring stations.
- Data would allow localities to better track effectiveness of implementation actions.
- Cost estimate:
  - Equipment and start-up costs = $40,000/site
  - Annual Operation and Maintenance = $75,000/site
- Coordinate with Bay program to use for 2017 calibration.
  - Improve estimates of urban loads in the coastal plain.

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Questions on Part 1?




Recent Communications from Virginia and EPA

- EPA Remarks at Virginia's November 7th Stakeholder Advisory Group Meeting
- Virginia DCR letter to Localities – November 9, 2011

EPA Response to WLA Questions

- Katherine Antos' Statement at SAG meeting- States should submit requested revisions to the TMDL (including WLA issues) to EPA as part of States' Phase II WIP submittals.

Virginia Letter to Localities

- "Shift in focus from establishing local reduction goals to BMP implementation levels of effort."
- Information Requested from local governments
  1. Develop a current BMP inventory
  2. Evaluate land use/ land cover information
  3. Review BMP scenarios identified in the Phase I WIP, and develop preferred local scenarios that provide a similar level of treatment.
  4. Develop strategies to implement the BMP scenarios.
  5. Identify any resource needs to implement the strategies.

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What does the letter mean?

- Virginia will not be submitting information to EPA at the local government scale.
- Virginia still wants numbers from local governments, so they can create scenarios at a larger (basin?) scale.
- If locals do not submit information to Virginia, then they will use the current data and the Phase I WIP strategies to define the locality obligations.




What Should Localities Submit?

1. Current BMP Inventory – Yes
2. Local land use/land cover data – Yes
3. Locality preferred BMP scenarios in VAST - ???
4. Strategies – Yes
5. Identify resource needs - Yes




Recommended Actions

1) Localities submit information on program level goals and HRPDC staff translates into a Regional VAST scenario that will be submitted to Virginia.
   - ❑ Localities will each submit an individual plan to DCR that focuses on narrative strategies.
   - ❑ HRPDC staff will translate strategies into a Regional input file that will be appended to locality reports.
2) Authorize HRPDC to write letter with other PDCs explicitly requesting Virginia to recommend, as part of its Phase II WIP submittal, that the WLAs in the TMDL be removed when the revised TMDL is finalized in July 2012.

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