



# Phase I WIP Loading Targets

## An Orientation to “The Numbers”

April 13, 2011



# Handouts

- The charts in this handout summarize the Phase I WIP loads (P5.3.0) by major source sector.
- Although these numbers are expected to be updated in early summer 2011 by the US EPA, they are being provided in response to general interest by the Phase II WIP Local Teams.
- The notes provided on the first page are important. Strategies developed on the basis of these numbers may need to be revised when final updated allocations are received.

# Downloading

<http://www.mde.state.md.us/programs/Water/TMDL/TMDLImplementation/Pages/PhaseISummaryLoadsOld.aspx>

Phase I Summary Loads Old - Windows Internet Explorer

Phase I Summary Loads Old

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**Phase I WIP Summary Loads**

**Transmittal Memo**

Charts summarizing the target loads for nutrients in Maryland's Phase I Watershed Implementation Plan (WIP) for the Chesapeake Bay are available below. A summary explanation outlining what is contained is included in this [Transmittal Memo](#).

**Phase I WIP Statewide Loads from Watershed Model Phase 5.3.0 (Earlier Model)**

[Statewide Load Summary - PDF](#)

**Phase I WIP County Loads from Watershed Model Phase 5.3.0 (Earlier Model)**

[All Counties - zip](#)

<a href="#">Allegany County</a>	<a href="#">Charles County</a>	<a href="#">Prince George's County</a>
<a href="#">Anne Arundel County</a>	<a href="#">Dorchester County</a>	<a href="#">Queen Anne's County</a>
<a href="#">Baltimore City</a>	<a href="#">Frederick County</a>	<a href="#">St. Mary's County</a>
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<a href="#">Cecil County</a>	<a href="#">Kent County</a>	<a href="#">Wicomico County</a>
	<a href="#">Montgomery County</a>	<a href="#">Worcester County</a>

Adobe® Reader is required to view and print the PDF files. If you do not have it click on the icon to the right.

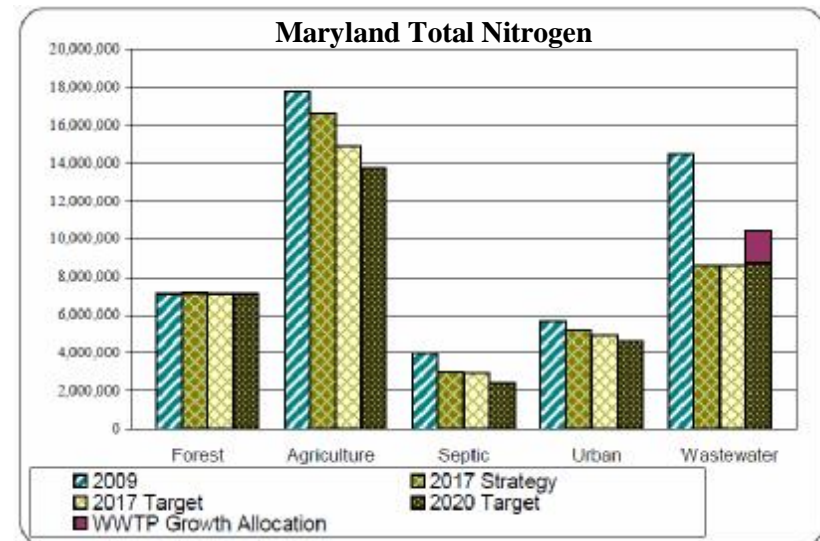
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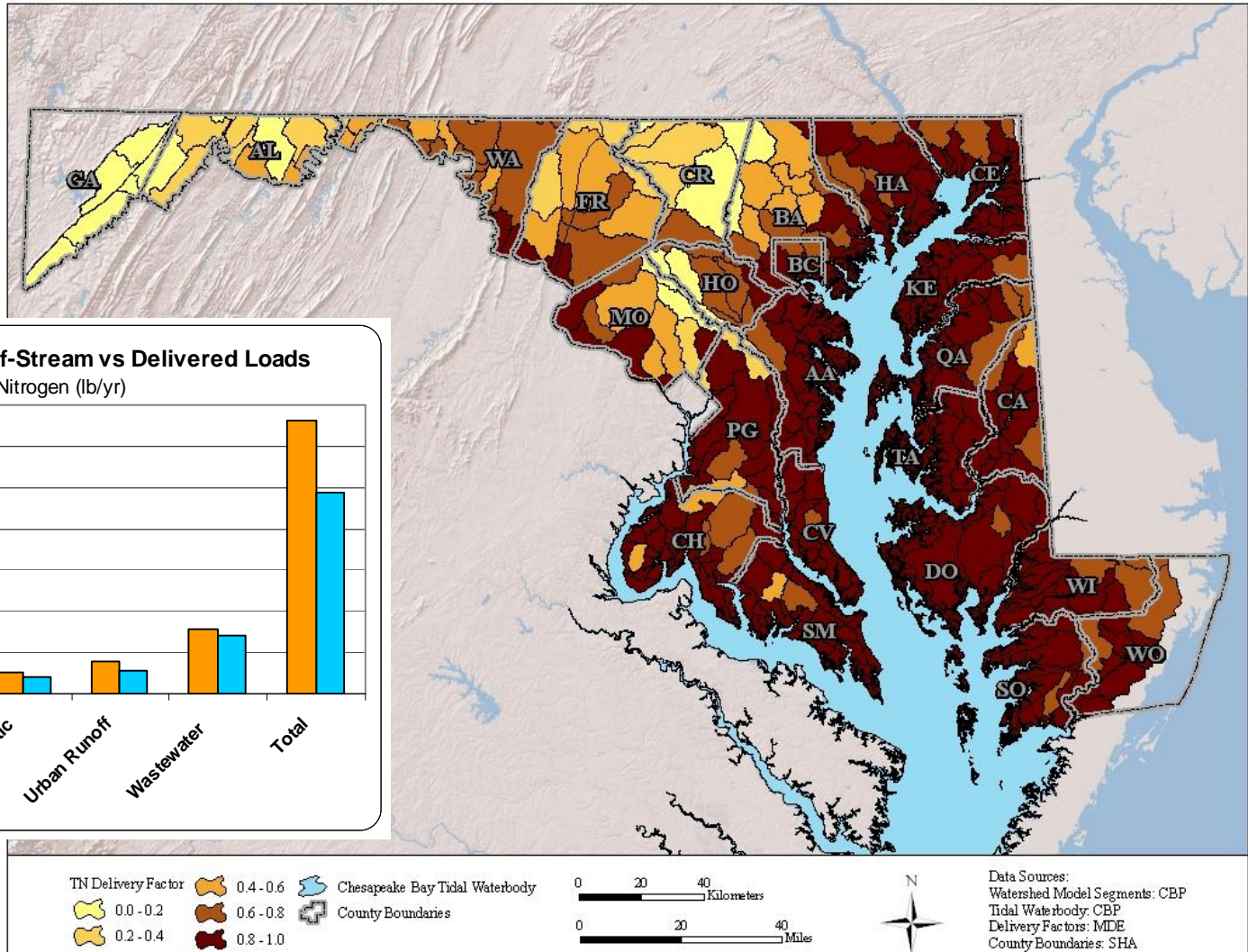
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# Key Scenarios

- 2009 (Current Progress)
- 2017 Strategies
- 2017 Target (70%)
- 2020 Final Target

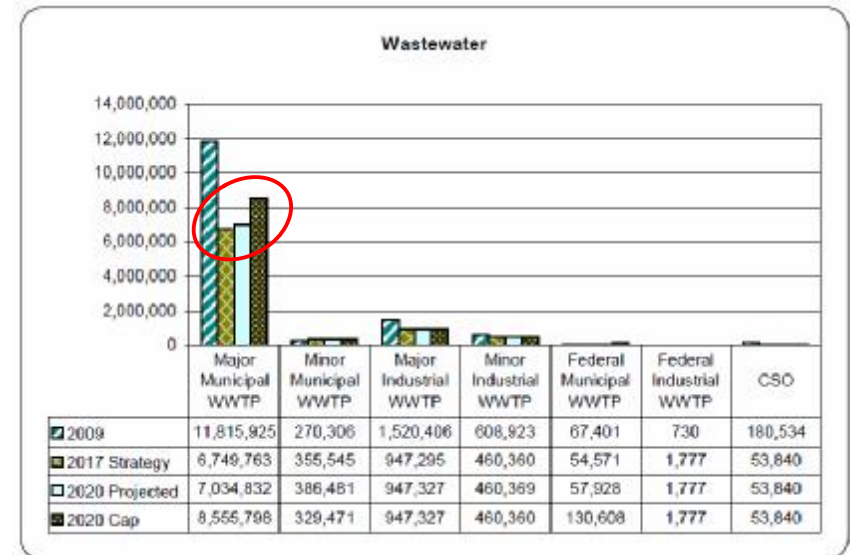


# Reported in Delivered Loads



# WWTP Growth Allocation

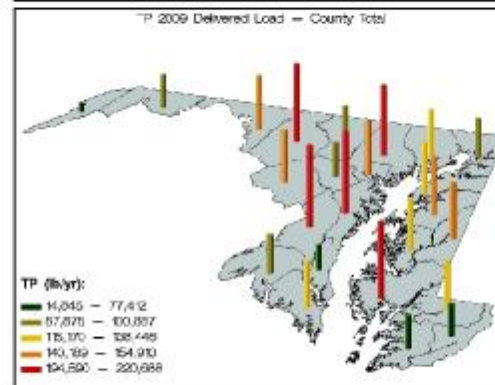
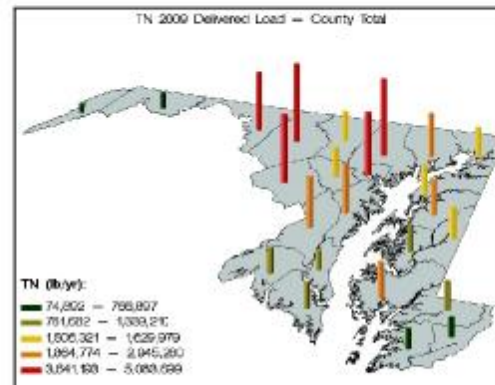
- The Final point source loads are the cap strategy and not the estimated load in 2020
- The estimated load in 2020 is presented as "2020 Projected"
- Where the "Cap" load is larger than the load projected in 2020, the remaining load is presented as "Growth Allocation"
- The State reserves the right to adjust the remaining WWTP load allocation and/or make other necessary adjustments if the state is falling short of its overall goals



## Summary of Phase I WIP Loads - Maryland

The charts in this handout summarize the Phase I WIP loads by major source sector. Although these numbers are expected to be updated in early summer 2011 by the US EPA, they are being provided in response to general interest by the Phase II WIP Local Teams. The following footnotes are important. There is a near certainty that these numbers will change. Therefore strategies developed on the basis of these numbers may need to be revised when final updated allocations are received.

1. Loads are reported as delivered loads to the Bay. Note that delivery factors (i.e. the proportion of load delivered to the Bay) can change between scenarios.
2. EPA's revised Bay watershed model will significantly revise how agricultural nutrient management plans are addressed, and will increase the amount of low density urban.
3. Scenarios presented<sup>1</sup>:
  - 2009 = Progress
  - 2017 Strategy = Result of Phase I WIP strategies
  - 2017 Target = 70% from 2009 Progress to 2020 Target for nonpoint sources (including stormwater)
  - 2020 Target = Allocation of the TMDL
    - The Final point source loads are the cap strategy and not the estimated load in 2020. The estimated load in 2020 is presented as "2020 Projected".
4. The State reserves the right to adjust the remaining WWTP load allocation and/or make other necessary adjustments if the state is falling short of its overall goals.
5. The 2017 allocated loads and target reductions assume full implementation of ENR and other upgrades by the WWTP sector. These upgrades accomplish a disproportionately large share of the 70% statewide target reduction set for 2017, compared to other sectors.
6. The 2017 Target is to achieve relatively evenly distributed progress in all source sectors toward their final nonpoint source targets between now and 2020. The 2020 targets, then, should be the focus of local planning and implementation strategies, including 2-year milestones.
7. CAFO (Concentrated Animal Feeding Operation) loads are associated with the animal production area, which is why the loads are small. Manure that is applied on fields is counted within the Agricultural sources.
8. Non-Regulated (Non-MC4) Stormwater (SW) reductions are associated with additional fertilizer management (urban nutrient management) on commercially managed lawns.
9. "Urban (Regulated)" includes all Urban load for Phase I and Phase II NPDES Permitted jurisdictions and for Construction, Extractive, and Industrial lands.



Printed on 4/5/2011

<sup>1</sup>Results from EPA Chesapeake Bay Program Phase 0.0.0 Watershed Model (Model 1) Phase I WIP. These numbers are expected to be updated in early summer 2011 by the US EPA, with revised Phase 0.0.2 Model.

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# Handouts – Page 2

## Maryland WIP 2017 Strategies

### Point Sources:

- Major WWTPs – Continue Upgrades to ENR
- Blue Plains WWTP Upgrades
- Major Industrial - Retrofits and Optimization at Treatment Plants
- Minor Industrial - Identify loading targets and issue schedules in permits for reductions
- Federal facilities (major) - ENR Retrofits at Major Federal WWTPs
- Upgrade Large Minor Municipal WWTPs (0.1-0.5 MGD) – 5 Plants to be determined
- Continue to Eliminate Sewer Overflows

### Urban:

- MS4 Phase I Permitted Counties - Reductions equivalent to retrofit of 30% of pre-1985 developed land
- SHA MS4 Phase I and II - Reductions equivalent to retrofit of 30% of pre-1985 developed land in MS4 Phase I areas; 20% in MS4 Phase II areas
- MS4 Phase II (CE and WA Counties, larger municipalities, and Federal facilities) - Reductions equivalent to retrofit of 20% of pre-1985 developed land
- Urban Nutrient Management Law – Continue the regulation of fertilizer applications on commercially managed lawns

### Septics:

- Continue Upgrade of new and failing Septic Systems in the Critical Area
- Septic hookups to ENR plants
- Require upgrade of all systems in Critical Area

### Agriculture:

- Various Practices (i.e. Cover Crops, Conservation Plans, Nutrient Management Plans, Forest/Grass Buffers, and Animal Waste Management BMPs on AFO (Animal Feeding Operations) and CAFO (Concentrated Animal Feeding Operations))

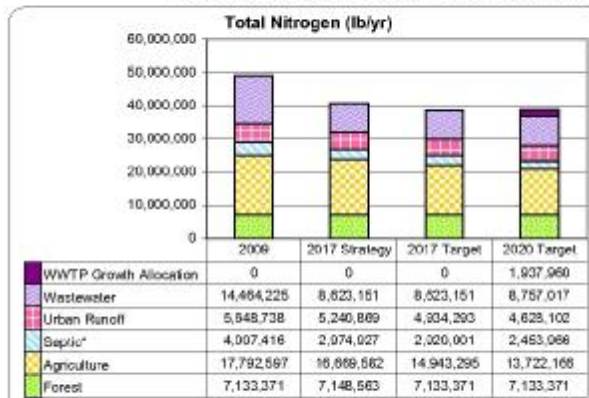
### Air:

- Clean Air Act Implementation
- Maryland Healthy Air Act
- Clean Air Interstate Rule
- Tier-2 Vehicle Rule
- Nonroad Engine Rule
- Heavy-Duty Diesel Engine Rule
- Locomotive/Marine Engine Rule

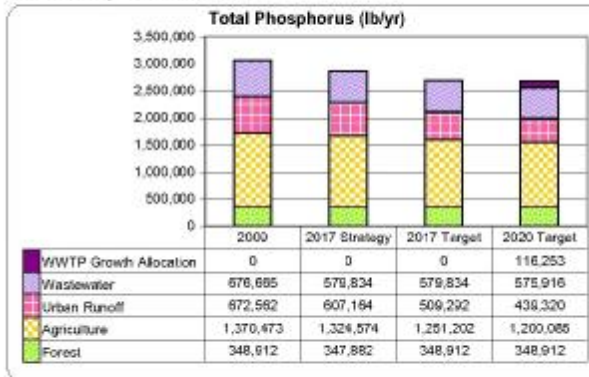
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\*Results from EPA Chesapeake Bay Program Phase 03.0 Watershed Model (Model 3) Phase I RFP. These numbers are expected to be updated/modified sometime in 2011 by the US EPA, with revised Phase 03.2 Model.

## Maryland Delivered Loads - From Now to 2020



\* Different assumptions were used by the US EPA for 2009 septic loads versus 2017 and 2020. Reductions from 2009 are likely less than indicated here.

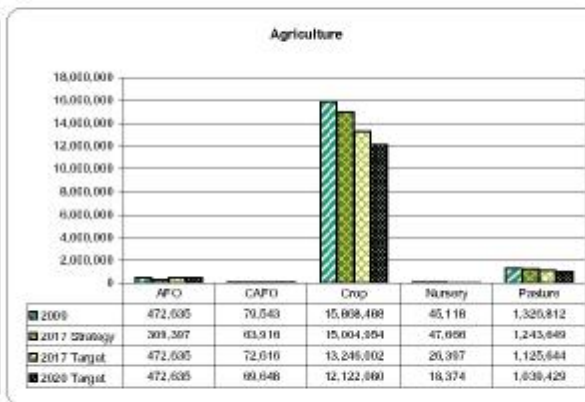
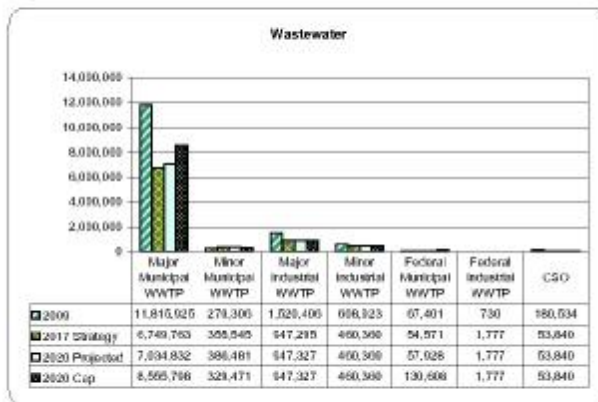
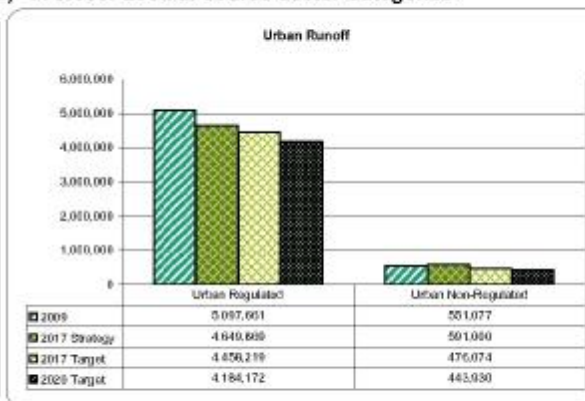
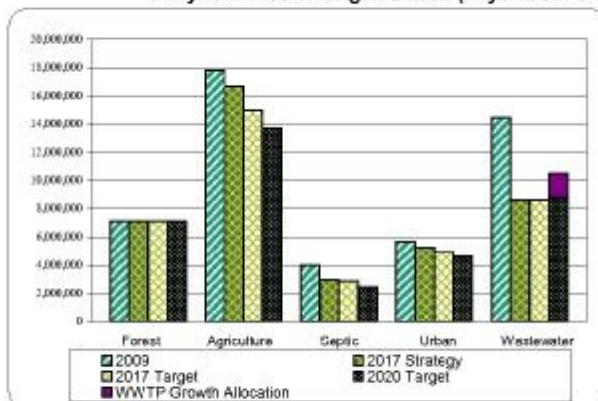


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# Handouts – Page 3

Maryland Total Nitrogen Loads (lb/yr - Delivered) - A Closer Look at Source Sector Categories



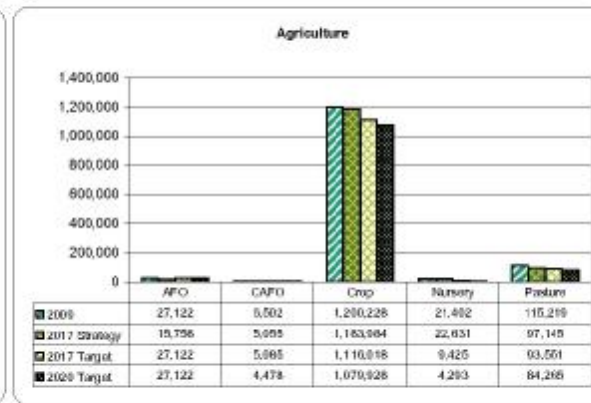
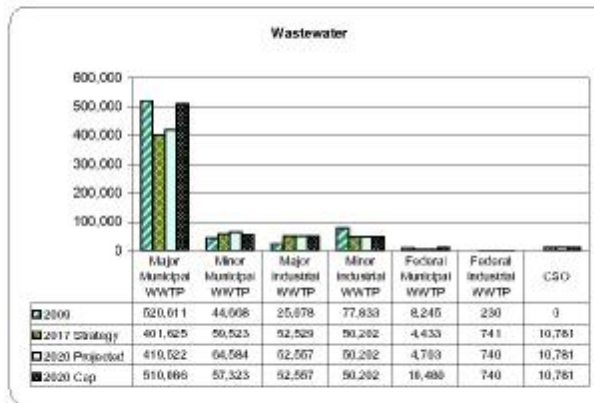
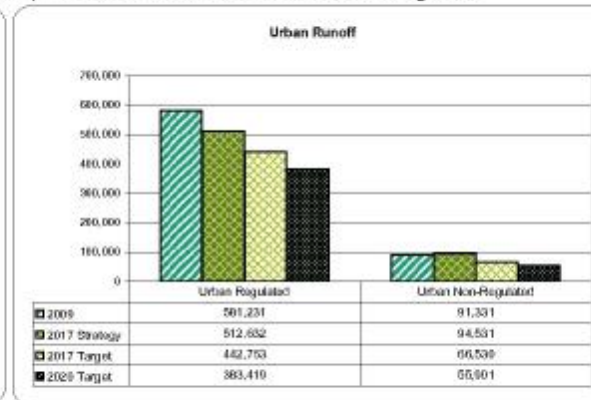
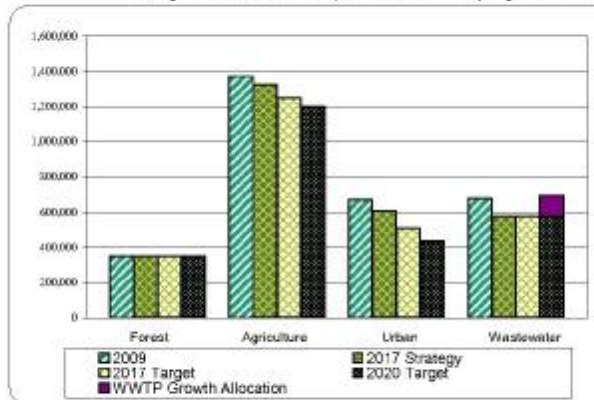
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Results from EPA Chesapeake Bay Program Phase 03.0 Watershed Model (Model 11 Phase 1 RFP) - These numbers are expected to be updated in early summer 2011 by the USEPA, with revised Phase 03.2 Model.

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# Handouts – Page 4

Maryland Total Phosphorus Loads (lb/yr - Delivered) - A Closer Look at Source Sector Categories



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Results from EPA Chesapeake Bay Program Phase 0.0.0 Watershed Model (Subs. 1) Phase 1 (RFP) - These numbers are expected to be updated in early summer 2011 by the USEPA, with revised Phase 0.0.2 Model.

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# How to use handouts

For a start...

- How are pollutant sources ranked?
- What are my loads and how do they compare to other sources in the watershed?
- What are the strategies in 2017?

...with caution giving model revisions

# Reminder

- Expect changes in loads
  - All scenarios (No Action, 2009, 2017, 2020, E3)
  - Statewide and within county source sector loads
- Resulting from
  - Increase in low density urban landuse
  - Correction in septic loads
  - Revision of nutrient management application
  - Recalibration

