



# Phase 6 Model Scenarios, E3 Update, and Schedule

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UMD-CBPO

Modeling Workgroup Meeting  
July 25, 2017



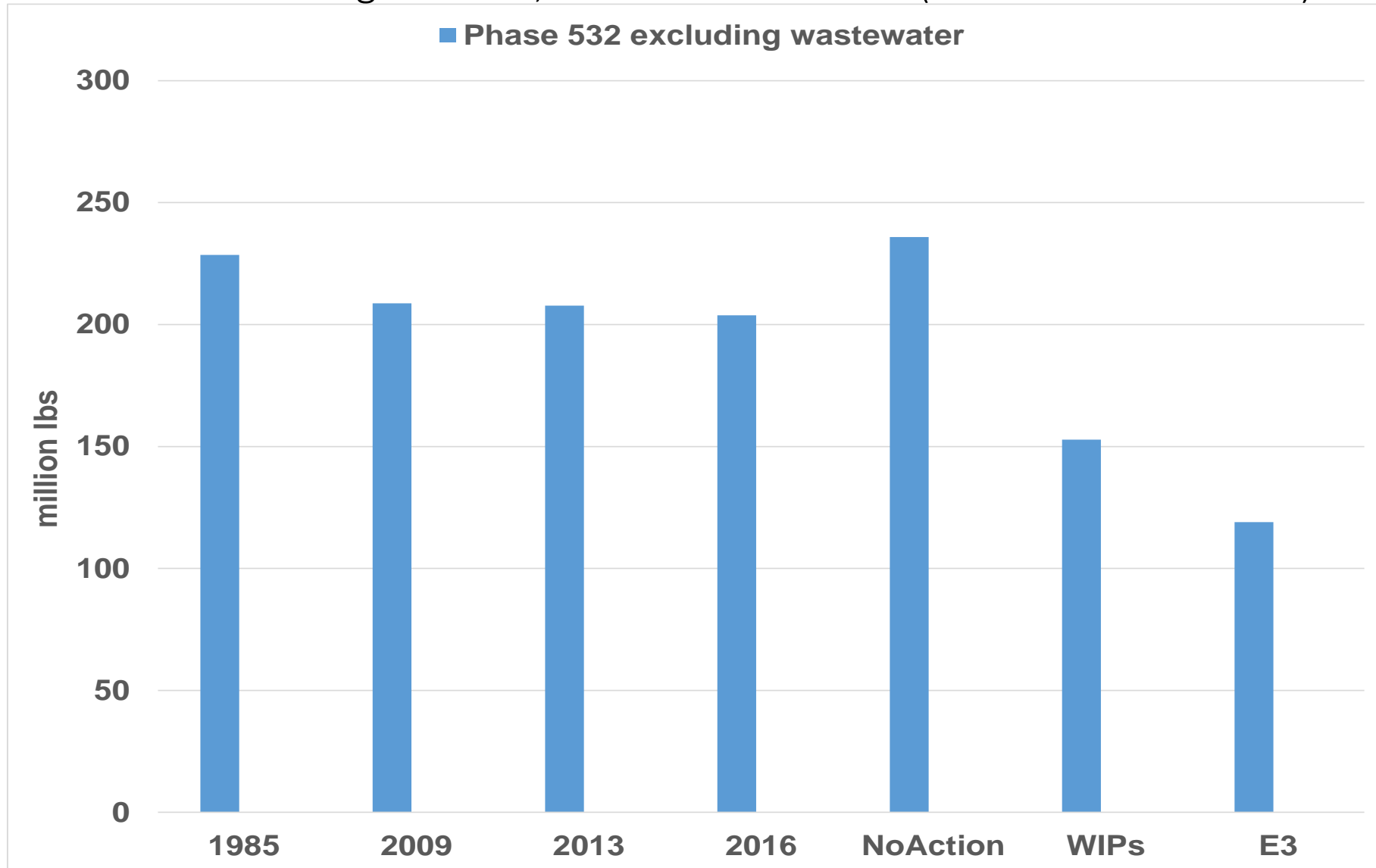
## Initial Set of Phase 6 Model Scenarios

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- 1985 – 2013 Progress, inclusive
  - BMP and wastewater data from jurisdictions for Phase 6 2014 Progress – 2016 Progress are due 9/1/17
- Phase II WIPs
- No-Action
- E3
  - No-Action and E3 are one component of the Planning Target calculations
  - Equity rule = Major river basins that contribute the most to the Bay water quality problems must do the most to resolve those problems (on a pound-per-pound basis)

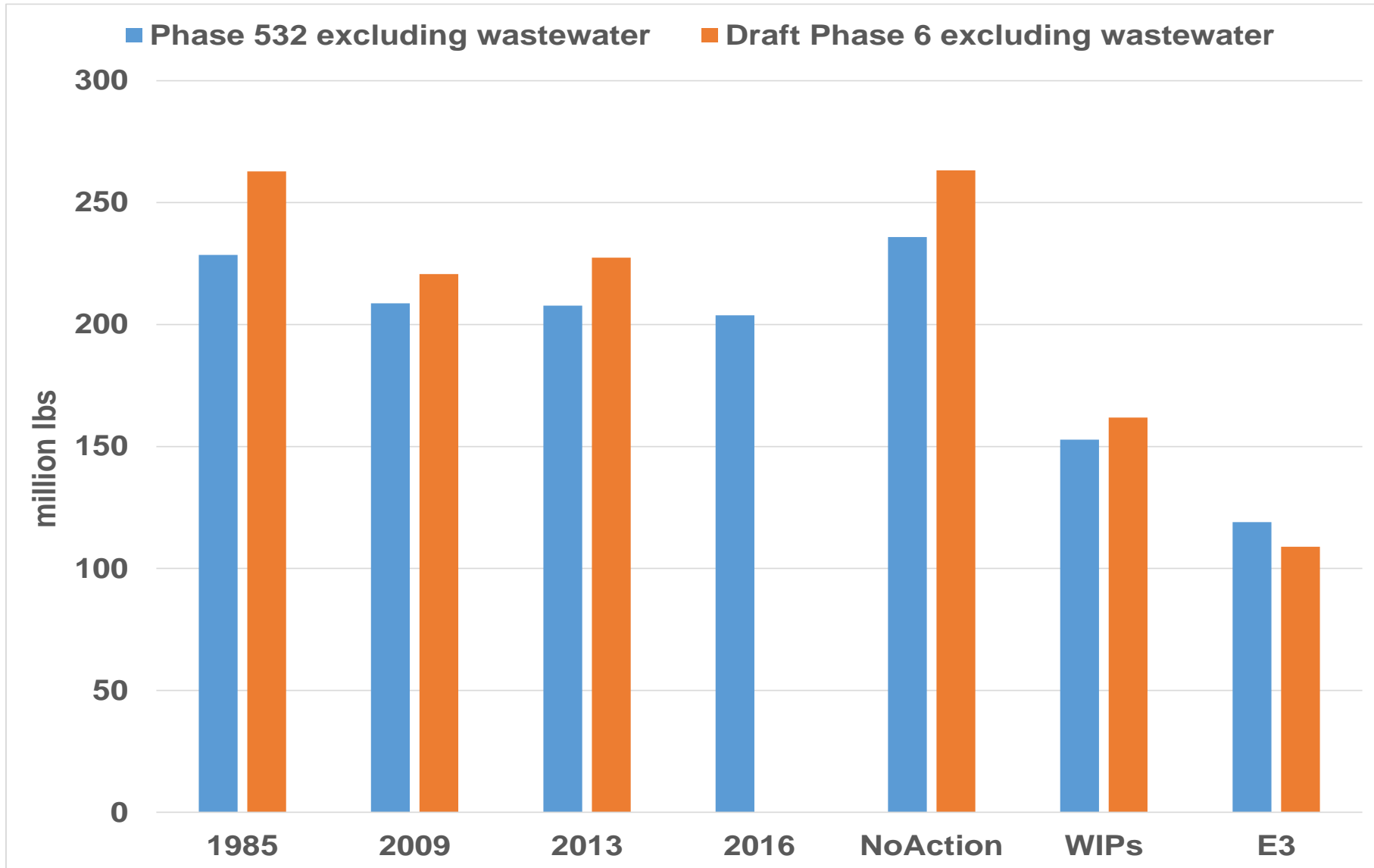
## Phase 5

Nitrogen Loads, CB Watershed-wide (excludes wastewater)



## Phase 5 and Phase 6

Nitrogen Loads, CB Watershed-wide (excludes wastewater)

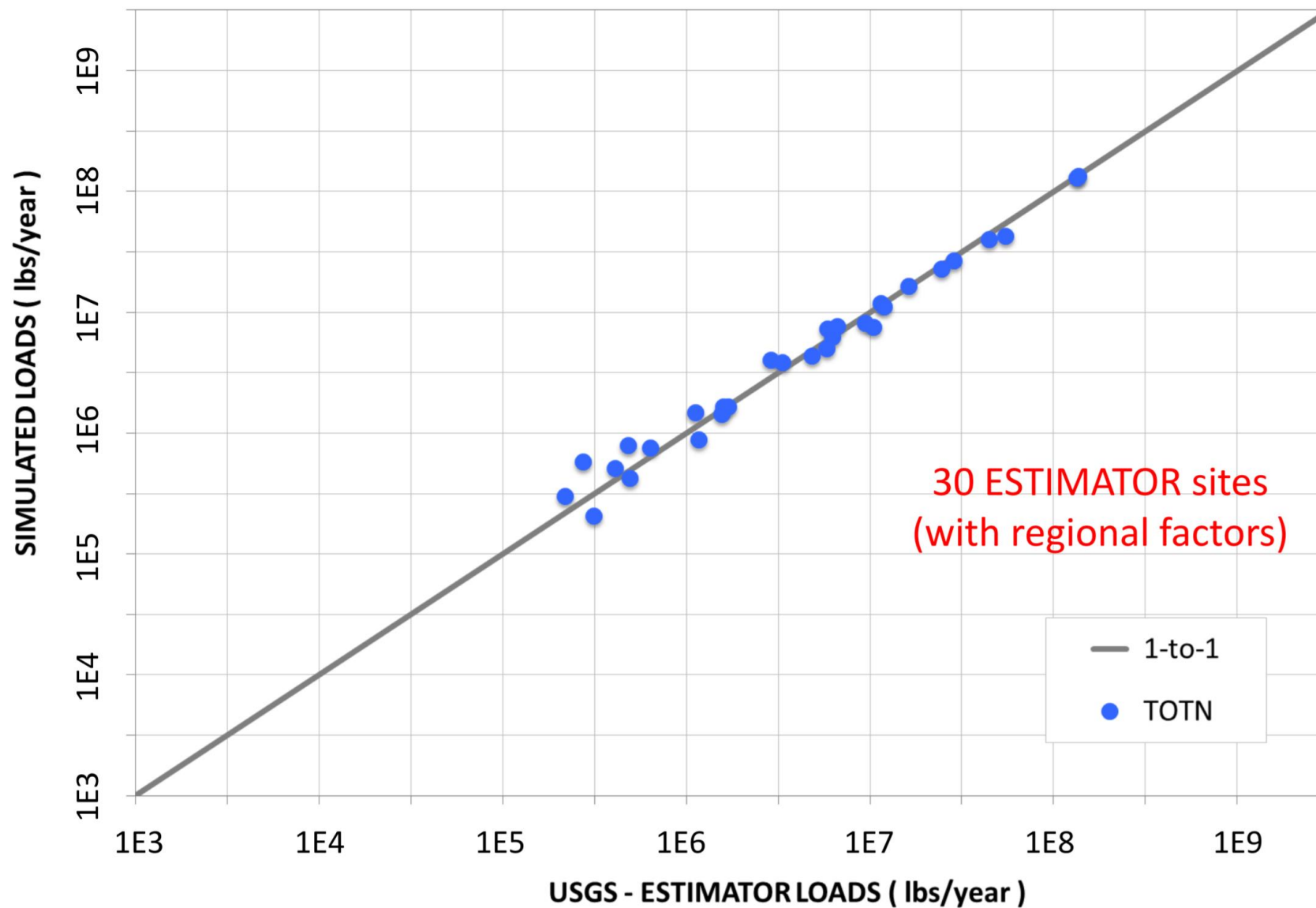


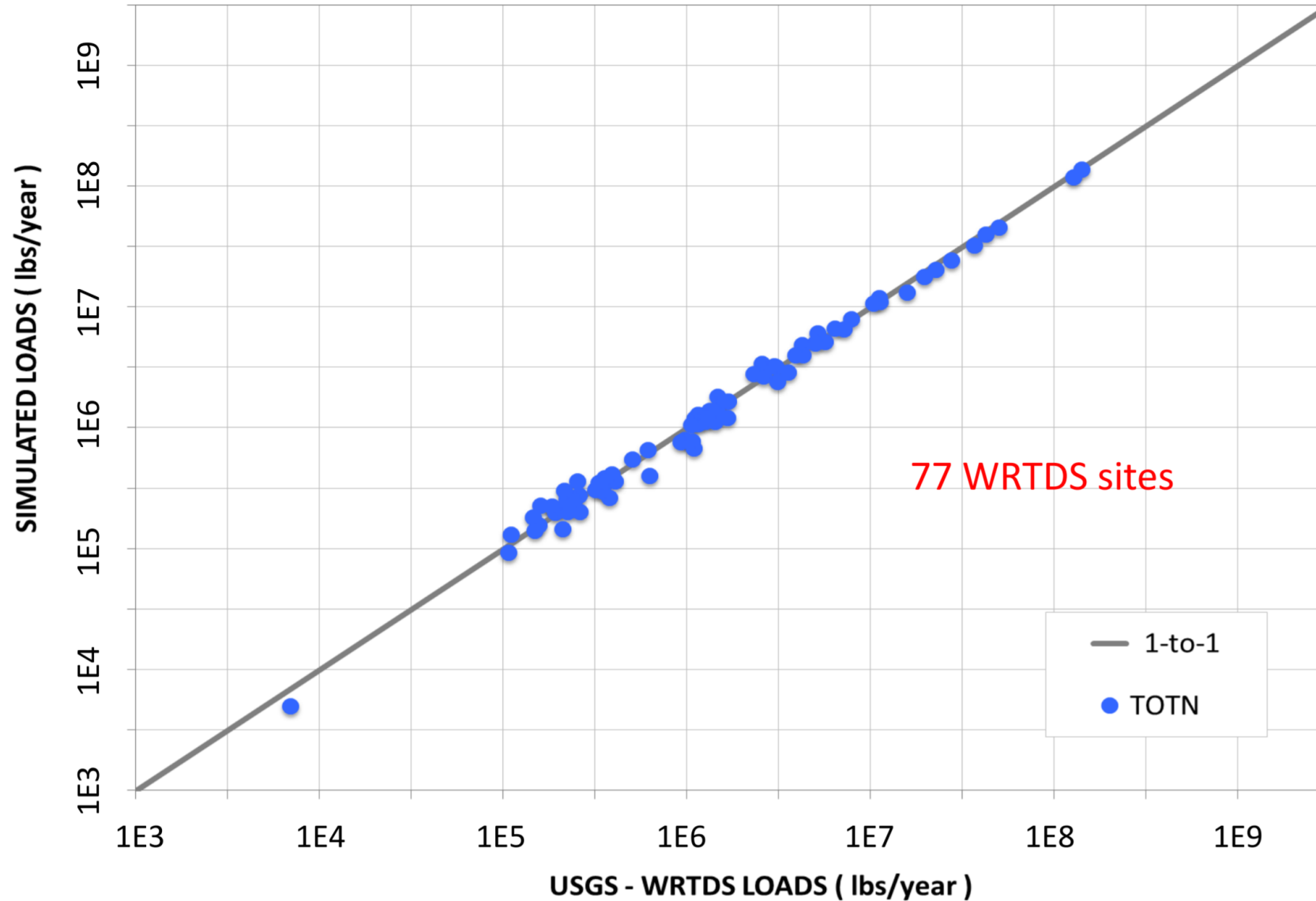
## Initial Set of Phase 6 Model Scenarios

### Big Changes from Phase 5 to Phase 6

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- Inputs, inputs, inputs matter!
- High resolution land use
- Nitrogen simulation simplified using multiple model approach
- Phosphorus simulation tied to soil P
- Sediment simulation enhanced using NRCS RUSLE2 model
- Regional factors removed
- Calibration improved!





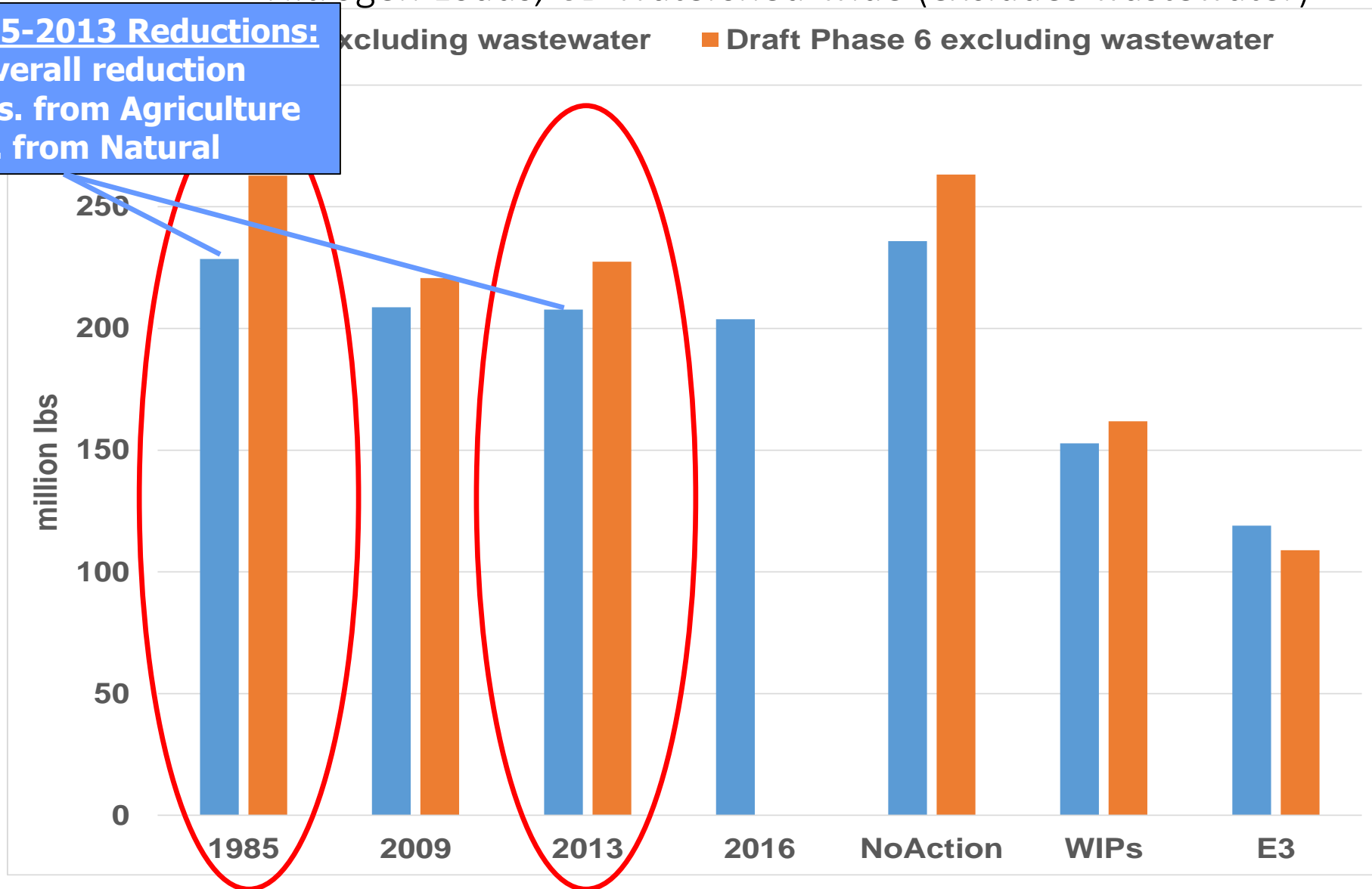
## Phase 5 and Phase 6

Nitrogen Loads, CB Watershed-wide (excludes wastewater)

### Phase 5 1985-2013 Reductions:

20.8 M lb. overall reduction

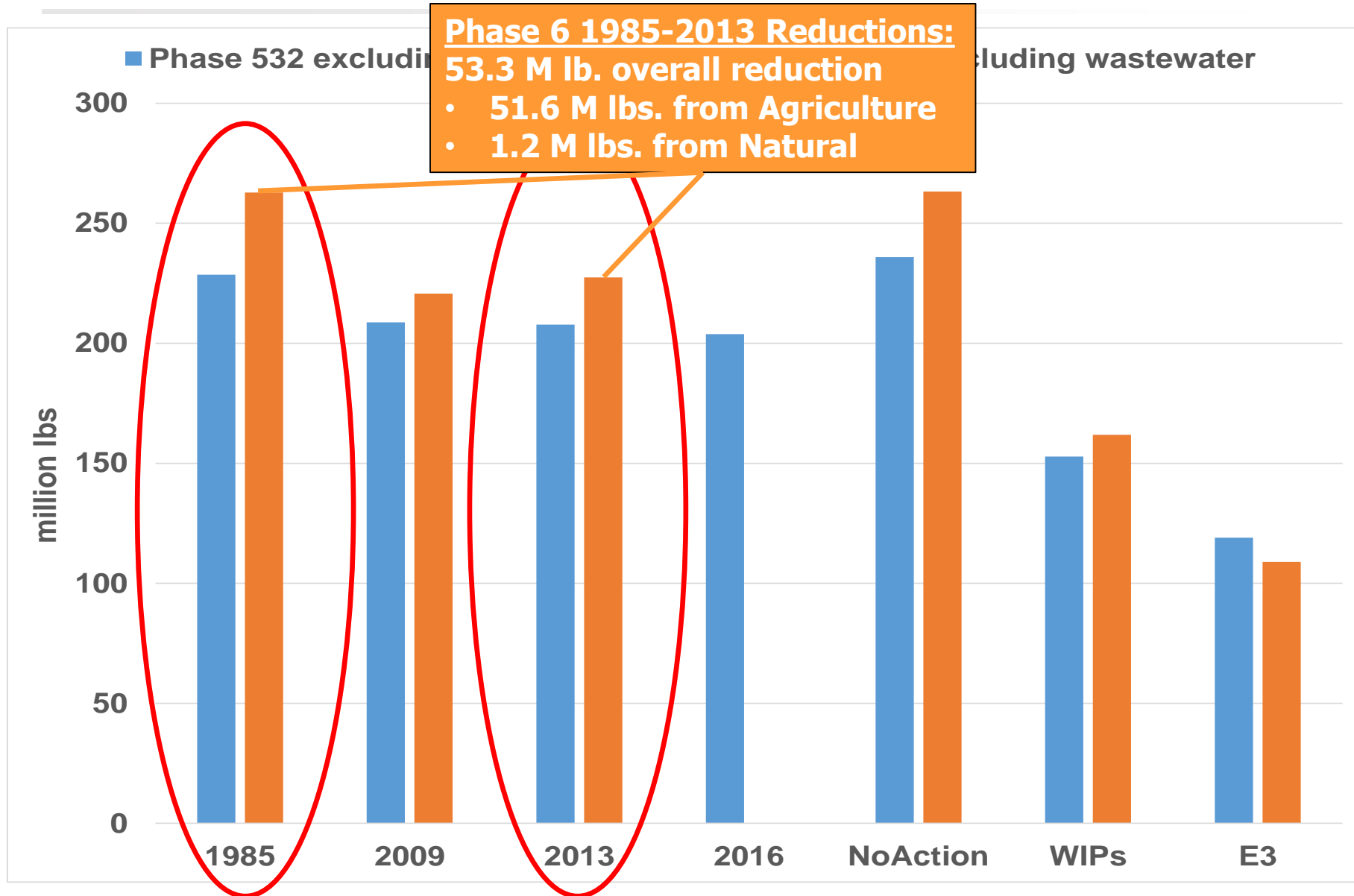
- 29.8 M lbs. from Agriculture
- 1.3 M lbs. from Natural





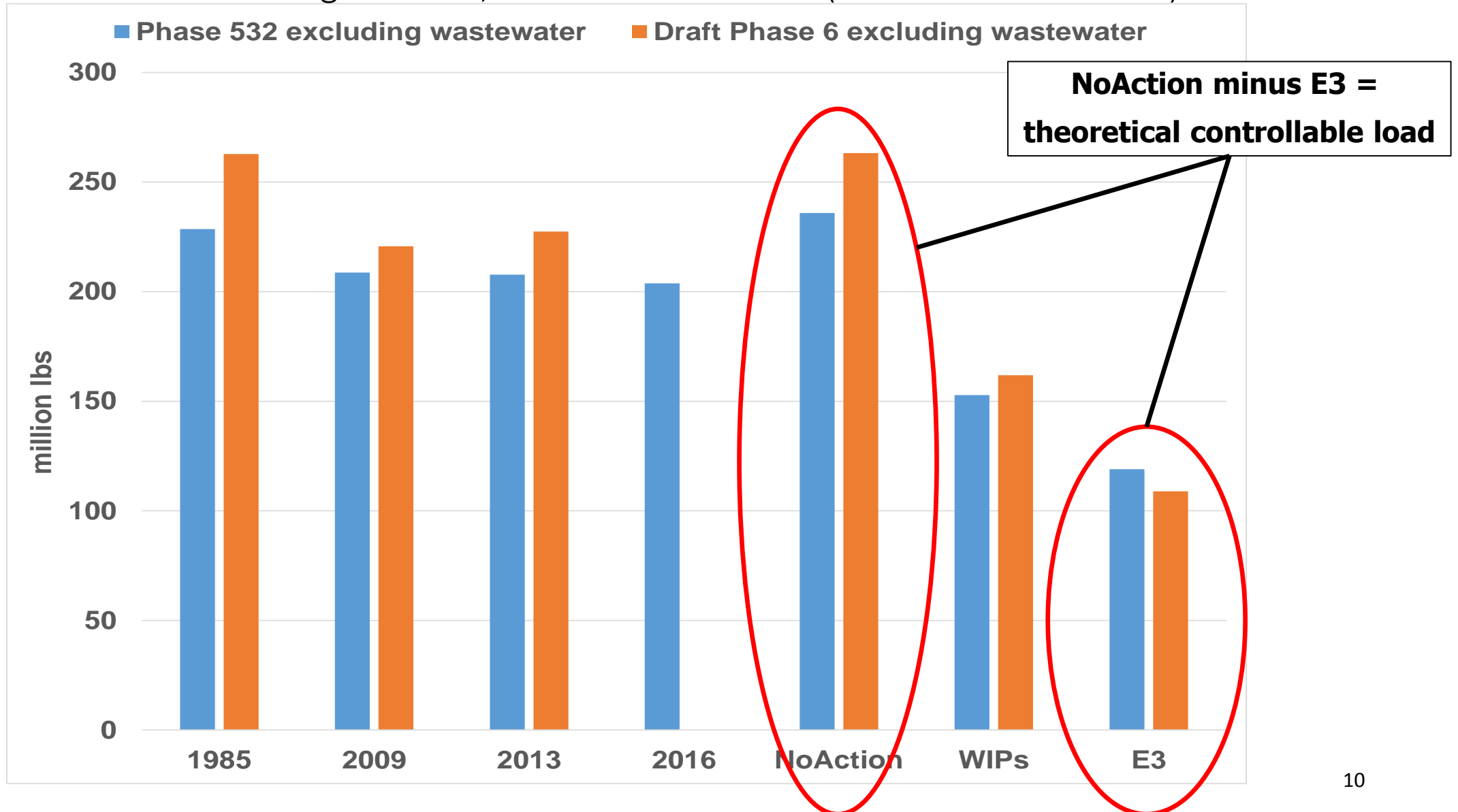
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Nitrogen Loads, CB Watershed-wide (excludes wastewater)



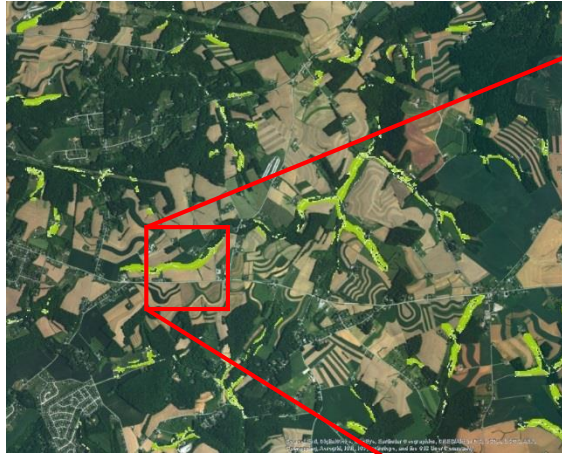
## Phase 5 and Phase 6

Nitrogen Loads, CB Watershed-wide (excludes wastewater)



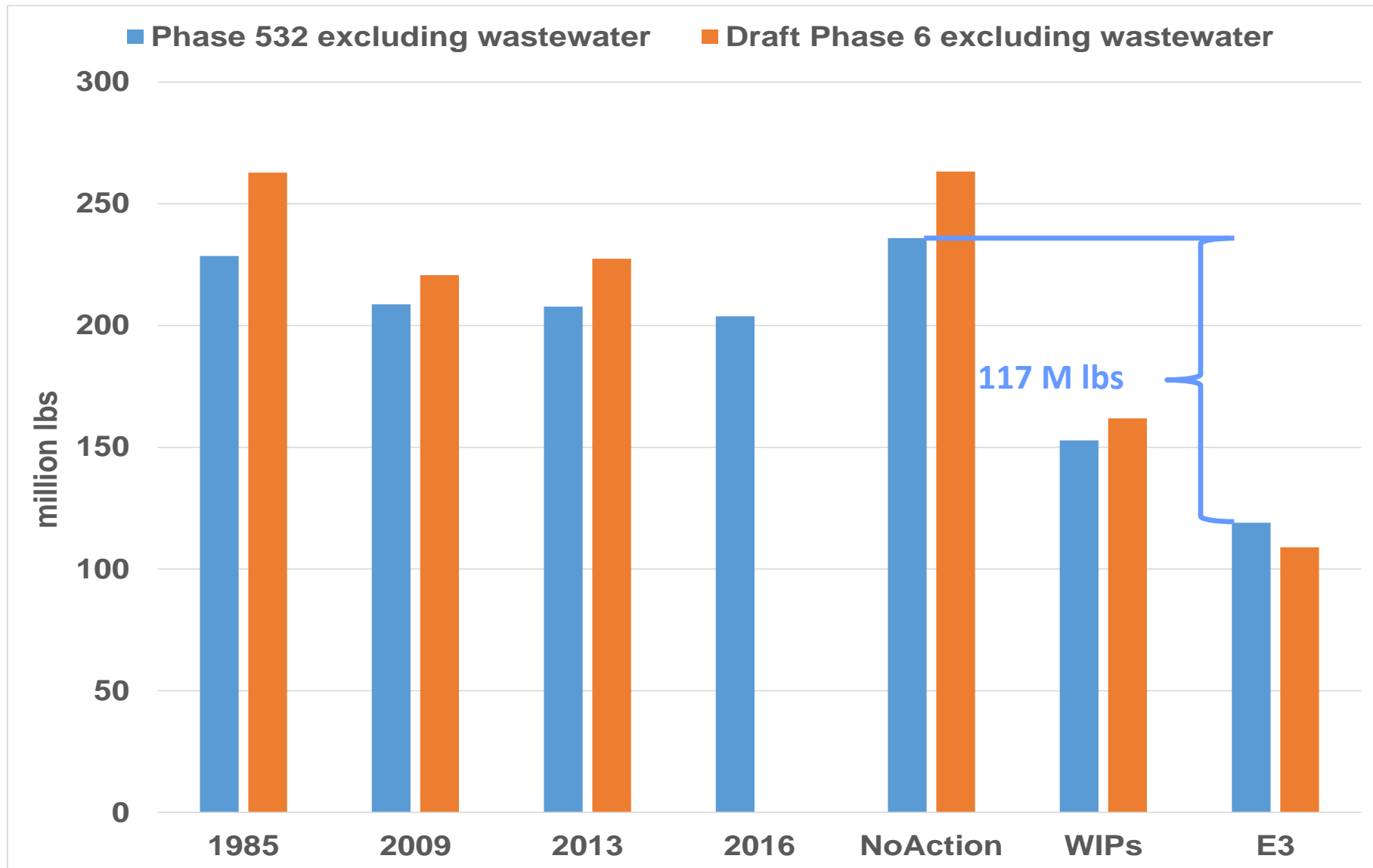
## Phase 6 E3 Scenario

### Forest Buffers



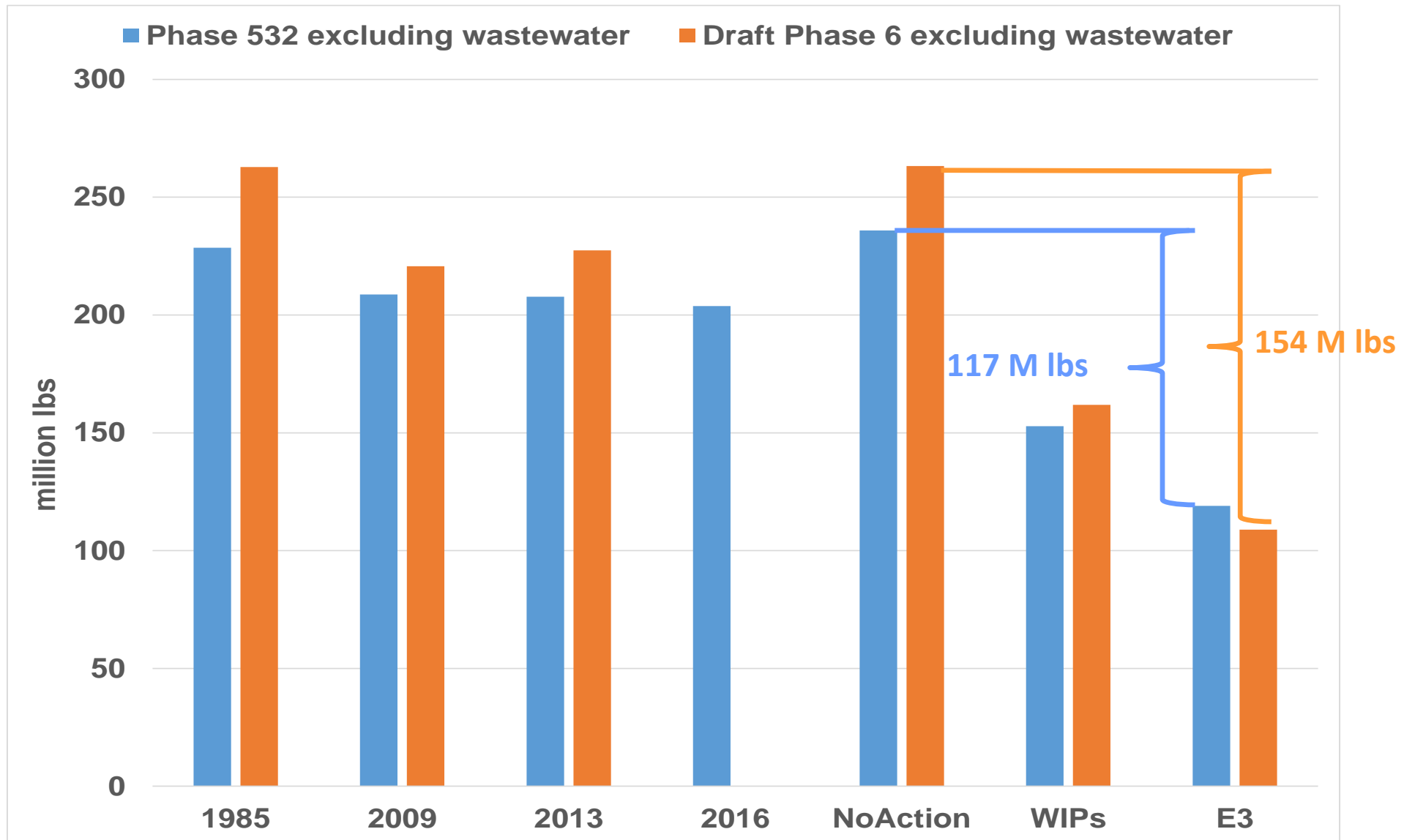
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## Nitrogen Loads, CB Watershed-wide (excludes wastewater)



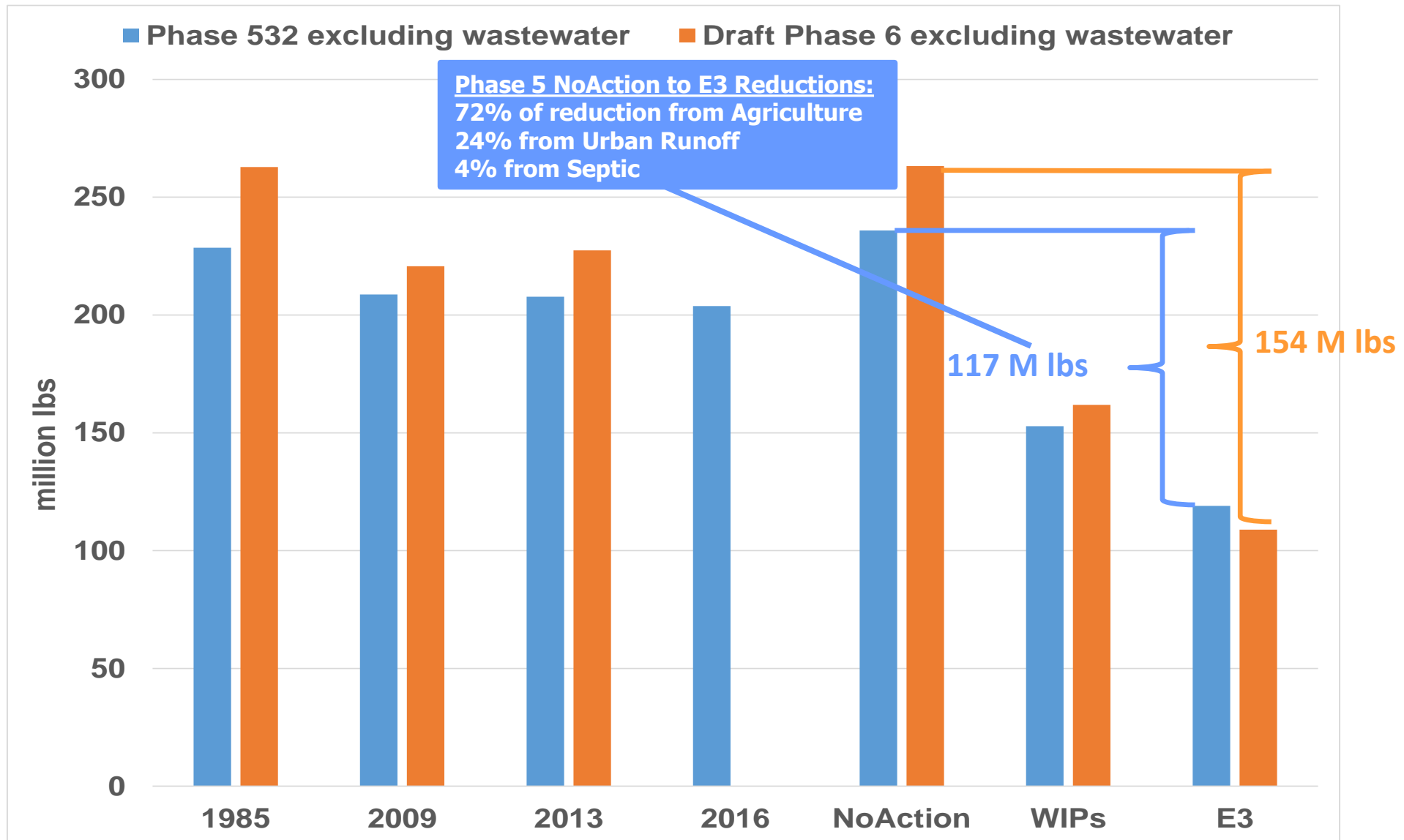
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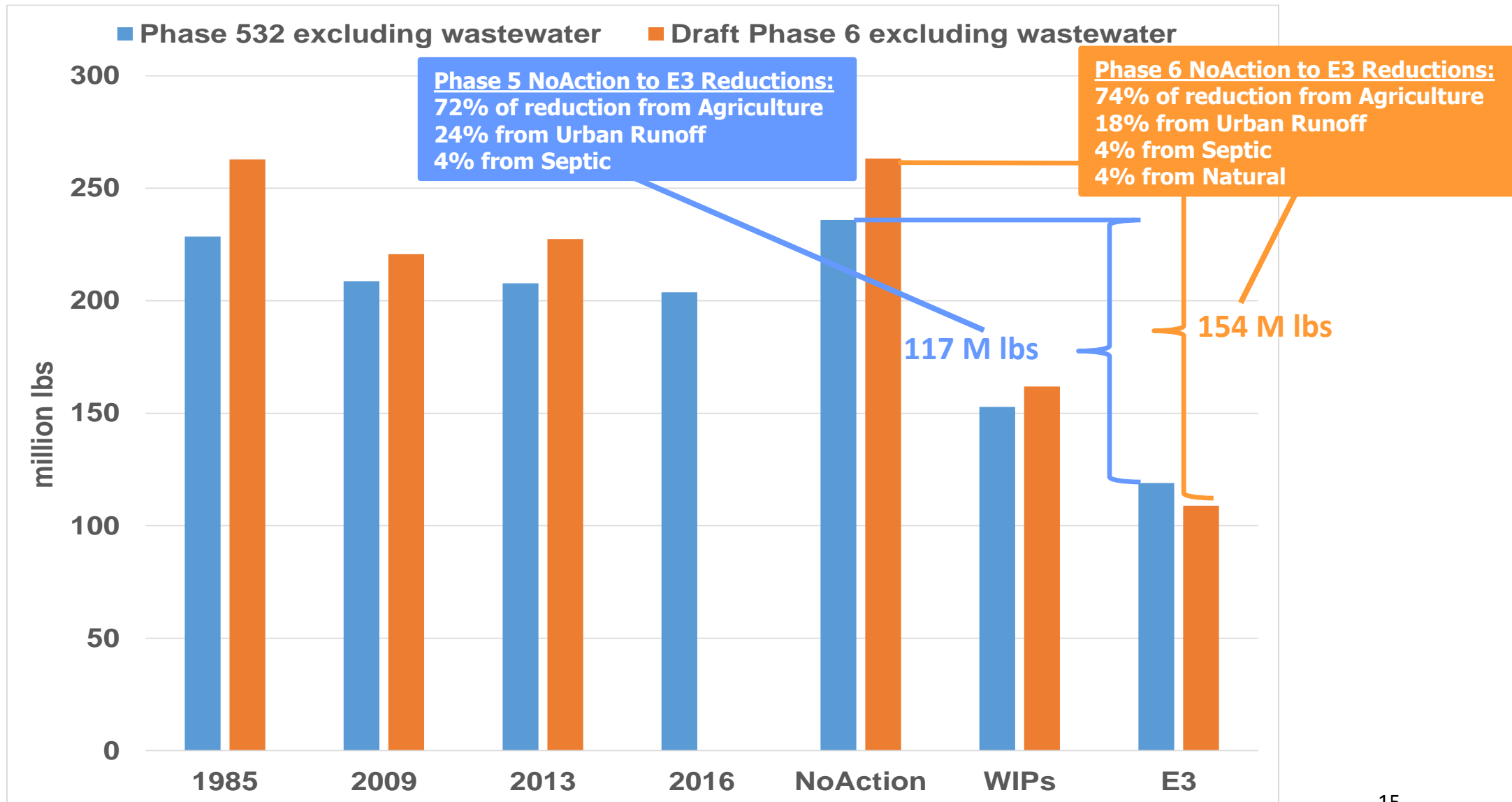
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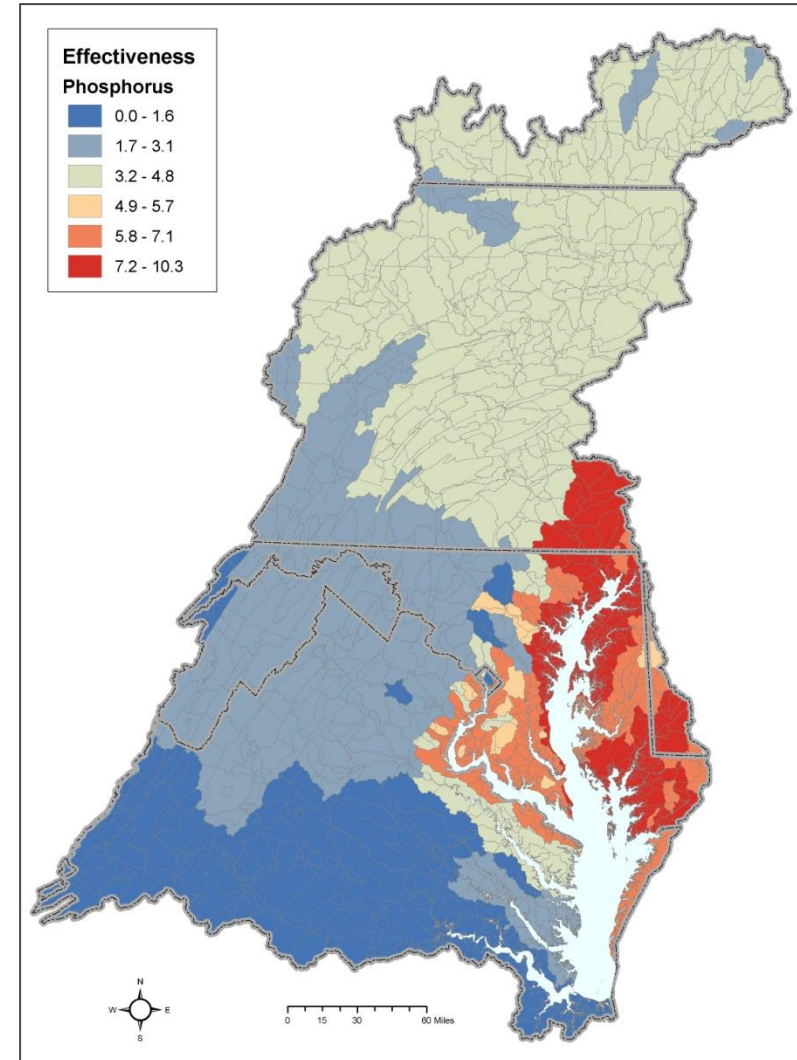
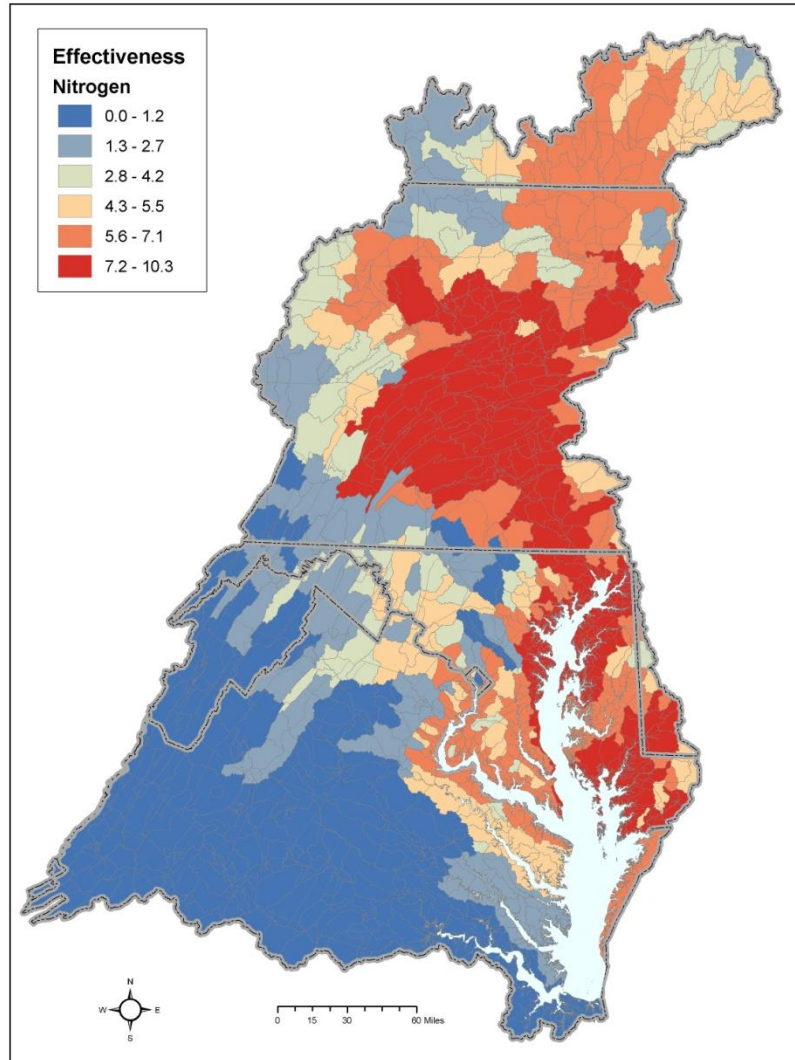


# Initial Set of Phase 6 Model Scenarios

## Nitrogen Loads, CB Watershed-wide (excludes wastewater)

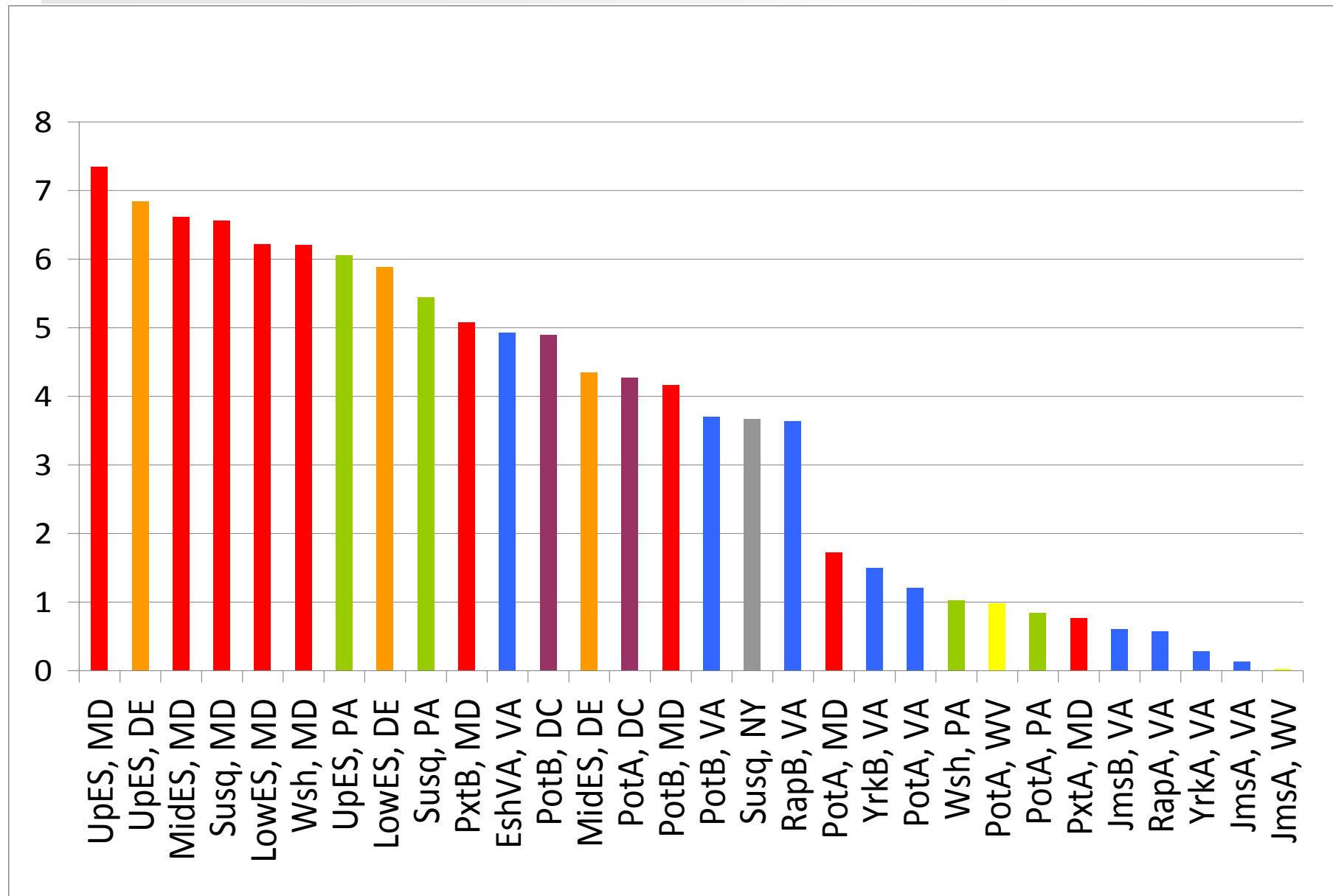


# Relative Effect of a Pound of Pollution on Bay Water Quality

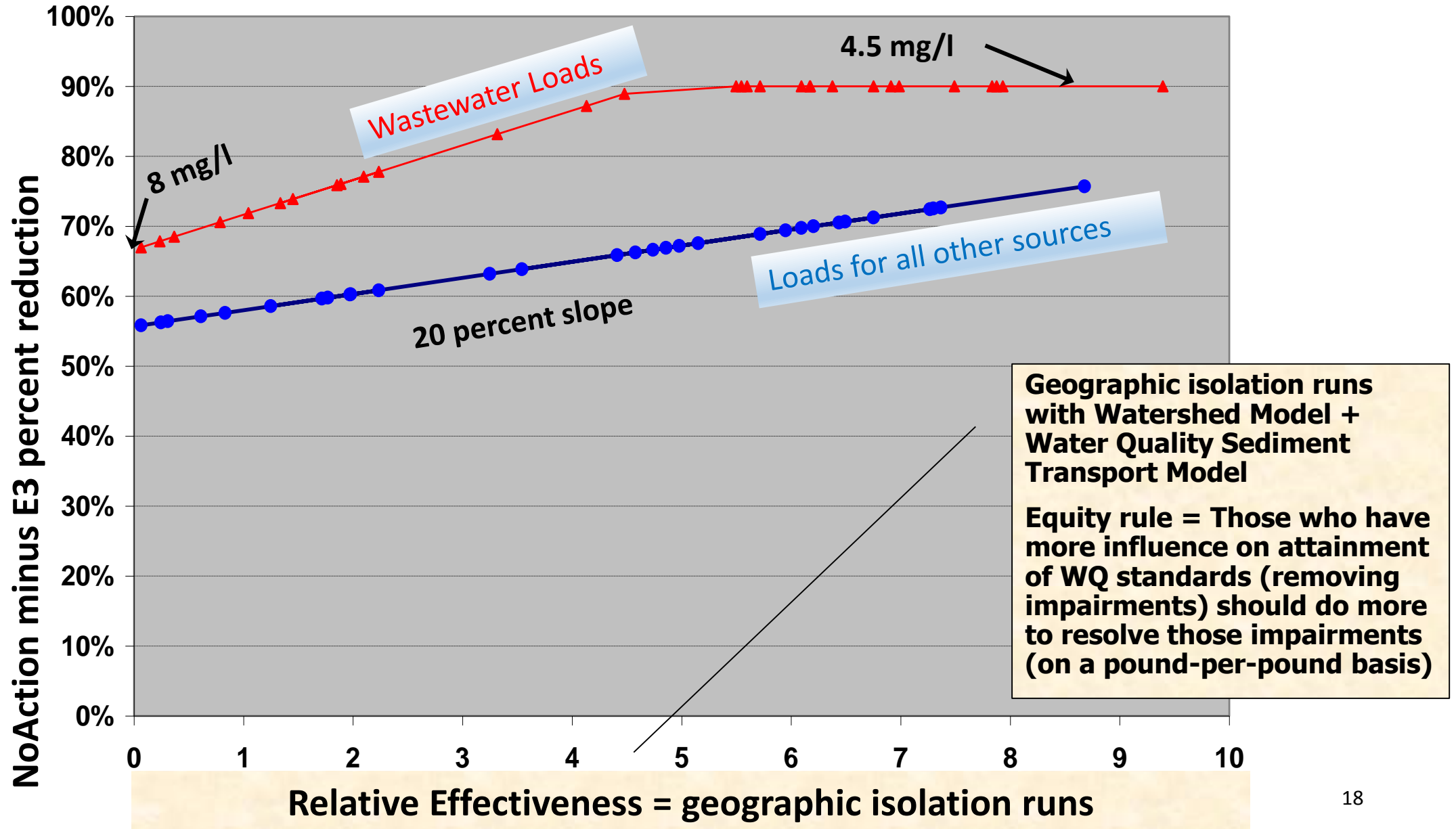




# Major River Basin by Jurisdiction Relative Impact on Bay Water Quality



## Phase 5 Planning Target Methodology “Hockey Stick”



## Phase 6 Model Scenarios

For final versions of Phase 6 scenarios and development of Planning Targets, we need:

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- Decision on what year to use for No-Action and E3 scenarios – after assessing options
  - Initial scenarios are 2010 background conditions
- Workgroups can review model results of No-Action, E3, Phase II WIPs with Phase 6 model, etc.
  - WQGIT instructed AgWG to revise E-3 by August.
- Geographic isolation runs
- Approved model – after fatal flaw review by partnership; September, 2017



## Phase 6 Model Scenarios and Planning Target Development

### Schedule

- Partnership's fatal flaw review of the Beta 6 modeling tools; through July 31, 2017
- Fatal flaw issue resolution occurs in August, 2017
- WQGIT revisits midpoint assessment schedule based on Beta 6 fatal flaw review period; August 14, 2017  
WQGIT call
- Partnership approval of Phase 6 modeling tools; September, 2017



## Phase 6 Model Scenarios and Planning Target Development

### Schedule

- Draft Phase III WIP planning target development;  
August 1 – September 30, 2017
  - No-Action, E3 + geo-isolation runs, etc.
- Release of draft Phase III WIP planning targets;  
October 31, 2017 - February 28, 2018 partnership  
review
- PSC approval of final Phase III WIP planning targets  
with special cases and release; March, 2018