Modeling Work Plan

4/28/2016

Midpoint Assessment Timeline

Jurisdiction Implementation of WIPs & Two Year Milestones
Evaluation of Programmatic and Load Reduction Commitments
Monitoring data assessments/factors affecting trend findings

Agreement on path forward and data inputs

- 2014
- New land use classifications and loading rates approved
- BMP panel recommendations for Phase 6.0 inclusion
- Agreement on Midpoint Assessment Schedule

Agreement on framing the priority issues

- 2015
- Early review of decision support tools
- James River chlorophyll assessment criteria completed
- Conowingo Dam study complete
- Review and incorporate decisions of climate change impacts
- BMP panel recommendations for Phase 6.0 inclusion

Approval of decision support tools

- 2016
- Final partnership comments on suite of tools
- Partnership input to any updates to local area target expectations
- Review and incorporate decisions of climate change impacts

Establish Phase III WIP targets

- 2017
- Phase III WIP expectations finalized
- Partnership informs final decisions on reallocation process

Complete Phase III WIPs

- 2018
- Support for Phase III WIP development using Phase 6.0 modeling tools

Evaluation of 60% by 2017 target using Phase 5.3.2 modeling tools

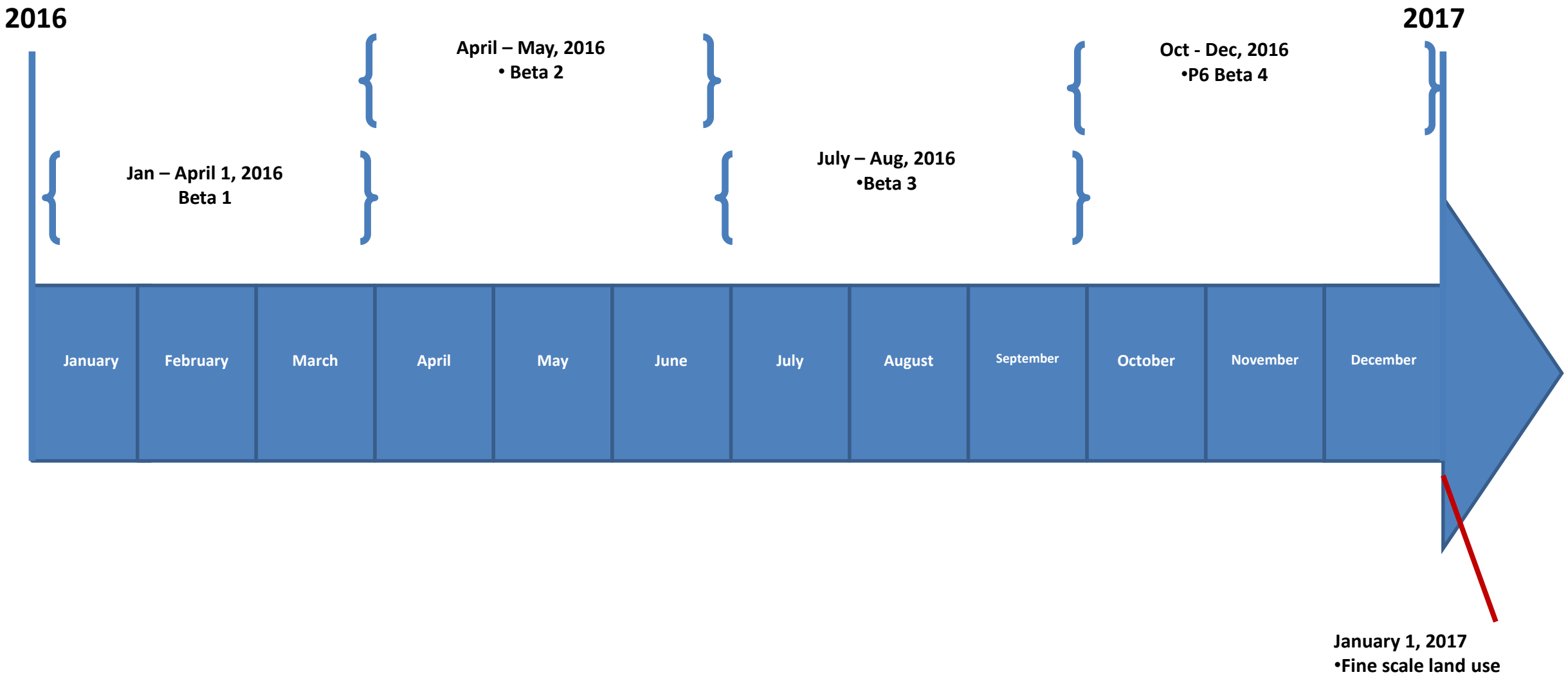
- 2018
- Comprehensive monitoring and trend findings through 2016

CREATE The Models

REVIEW The Models

USE The Models

2016 Phase 6 Model Review Timeline



2016 Phase 6 Model Timeline

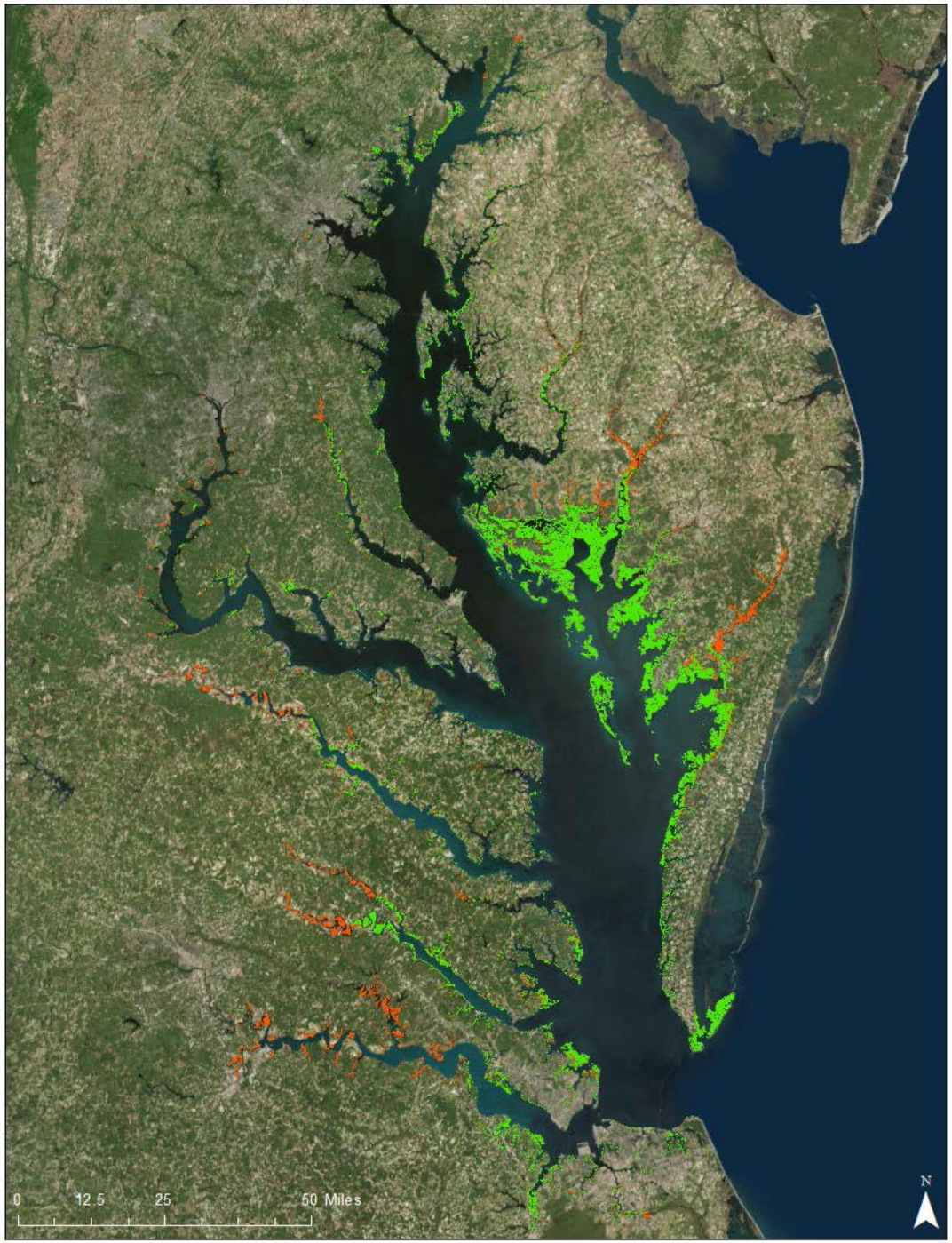
- Beta 1
  - Full Structure in place
  - Many p5 inputs
  - Initial values for P6 inputs
- Beta 2
  - Full P6 inputs
- Beta 3
  - Updated P6 Nutrient inputs
  - Updated calibration method

Near Term Schedule

- Next week
  - Release all documentation, model loads, and inputs
  - Schedule Webinar
- Next Month
  - Update Section 10 of documentation
  - Start STAC review Process
- Next Quarter
  - Primarily work on calibration

WQSTM Updates

- Calibration is underway and on schedule.
- We’re continuously updating to reflect WSM revisions, latest information from the field.
- We want to settle on a final parameter set from the Conowingo but it doesn’t look like a “game changer.”



Chesapeake Bay Tidal Wetlands

- Extent from National Wetlands Inventory.
- Determined largely from vegetation perceived via aerial photography.
- 190,000 hectares of estuarine (green) and tidal fresh (red) wetlands.
- Shape files provided by Quentin Stubbs and Peter Claggett, EPA Chesapeake Bay Program.

WQSTM Shallow-Water Simulation

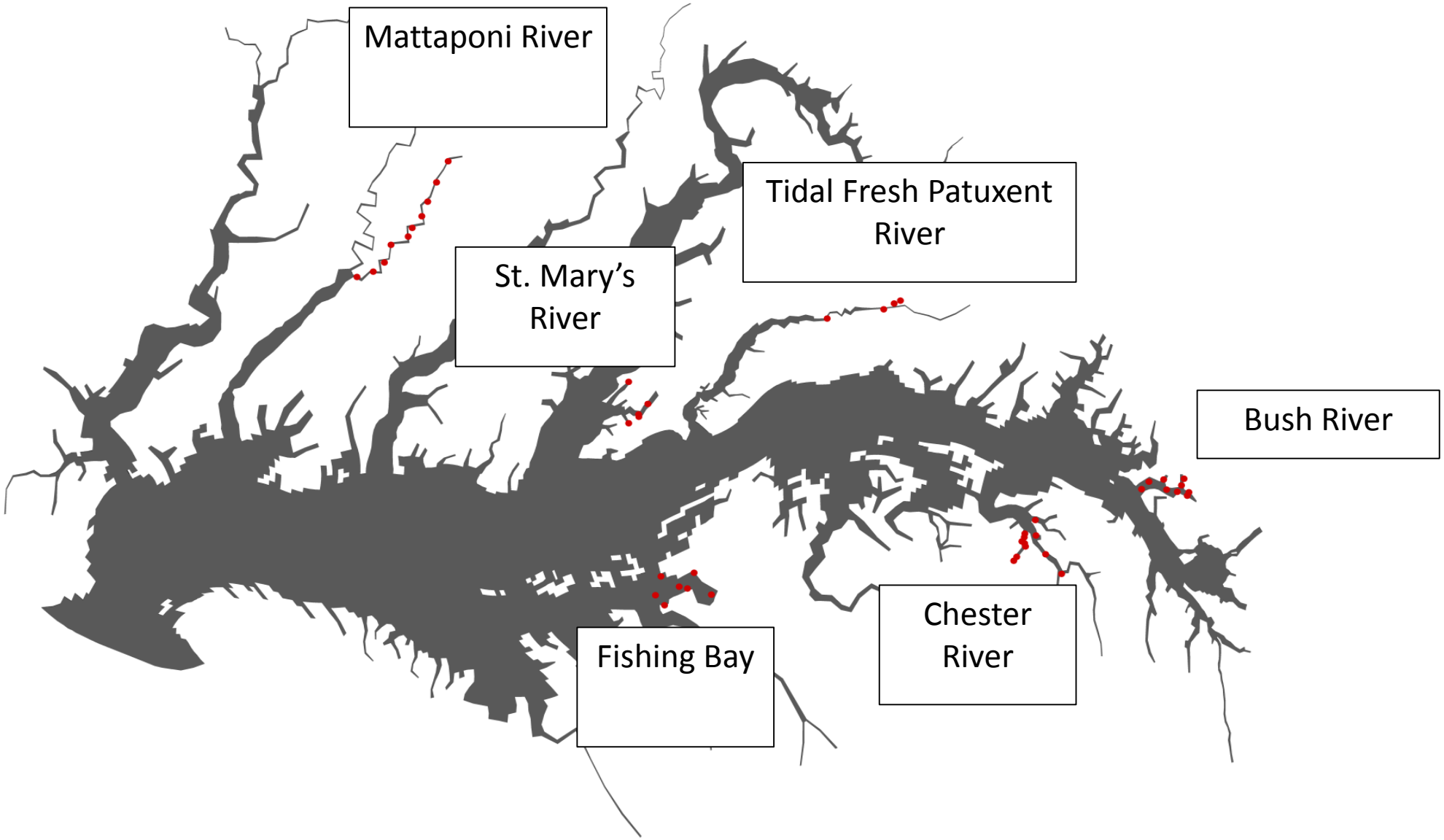
- We received the shallow-water database from CBP circa autumn 2012.
- These are grab samples and measures collected when continuous stations are serviced and coincident with Dataflow cruises.
- More than 750,000 records.
- Roughly 84,000 useful observations.

WQSTM Shallow-Water Simulation

- We’ve reviewed the data and eliminated all stations more then two model layers deep.
- This eliminated roughly 20% of the data.
- We’ve repeated model-data comparisons with the latest model version and loads.

Complete
Data Set

Revised,
< 4m deep


Mattaponi River
Tidal Fresh Patuxent River
St. Mary's River
Bush River
Chester River
Fishing Bay

Conclusions/More Work

- Several ongoing projects to refine the Watershed Model and Water Quality and Sediment Transport Model
- Conowingo Efforts
- Climate Change Preliminary Analyses
- STAC Reviews
- STAC Workshops
- Needs: