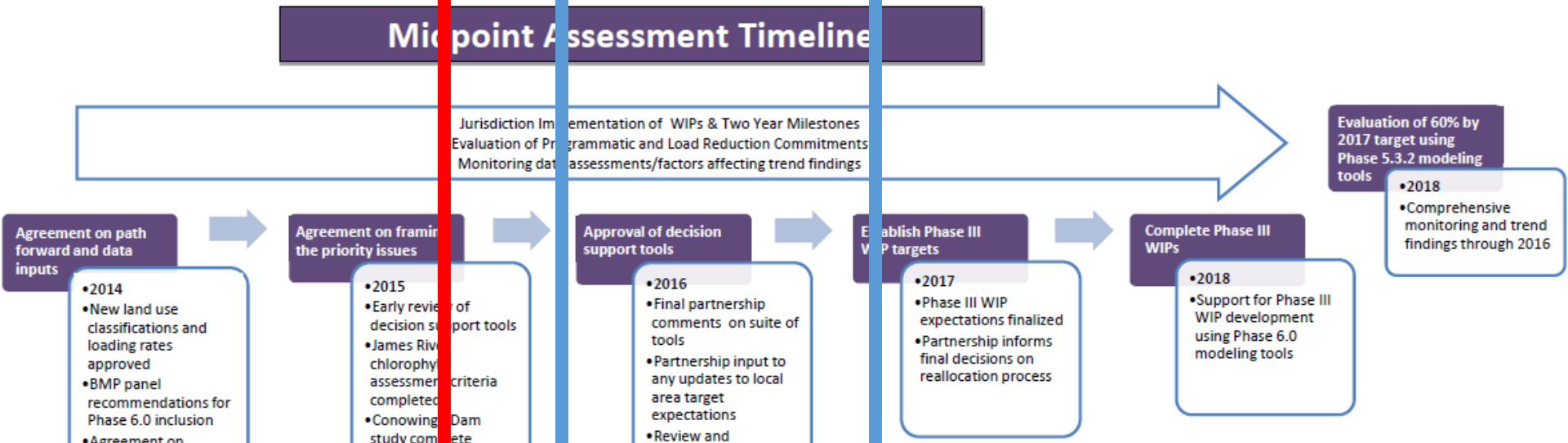
Scenario Builder and Watershed Model Progress toward the MPA

Gary Shenk Modeling Workgroup 7/9/2015



CREATE The Models

REVIEW The Models

USE The Models

3 months of development to go

Expect changes
Nothing guaranteed

Calibration Timeline

- **October 2014** – Rough Draft of major changes to nutrient processing in Scenario Builder will need to be complete. Continued sensitivity refinement
- **February 2015** - draft targets for draft land Uses
- **March 2015** – All major partnership decisions are made on changes to scenario builder processing and data. Scenario builder final modifications begin.
- **April 2015** - final targets approved by Modeling Workgroup for draft land uses
- **Early October 2015** – All inputs are final and delivered to the WSM by the scenario builder team for the final calibration run. Final targets are based on this information.
- **December 2015** - Phase 6 draft model is complete.
- **December 2015 – December 2016** - Evaluation followed by fine tuning during the next year. Key scenarios available
- **September 2016** – Final comments on the draft Phase 6 model
- **December 2016** - All models are final. The partnership decision-making process begins to discuss how these new models will be used in the WIP3 process

1-Slide Status Report

• Land Use Types and Acreage	
• Land Use Loading Rates	
• Sensitivities to inputs	Yactayo
• Watershed Model Development	Bhatt
• Groundwater Lag	
• Calibration Methodology	
• Fine-scale Processes	Noe / Claggett
• Time Series Data	
• Reservoirs	
• Atmospheric Data	
• Climate Change	Early January
• Scenario Builder Development	

Finished

Potentially Finished

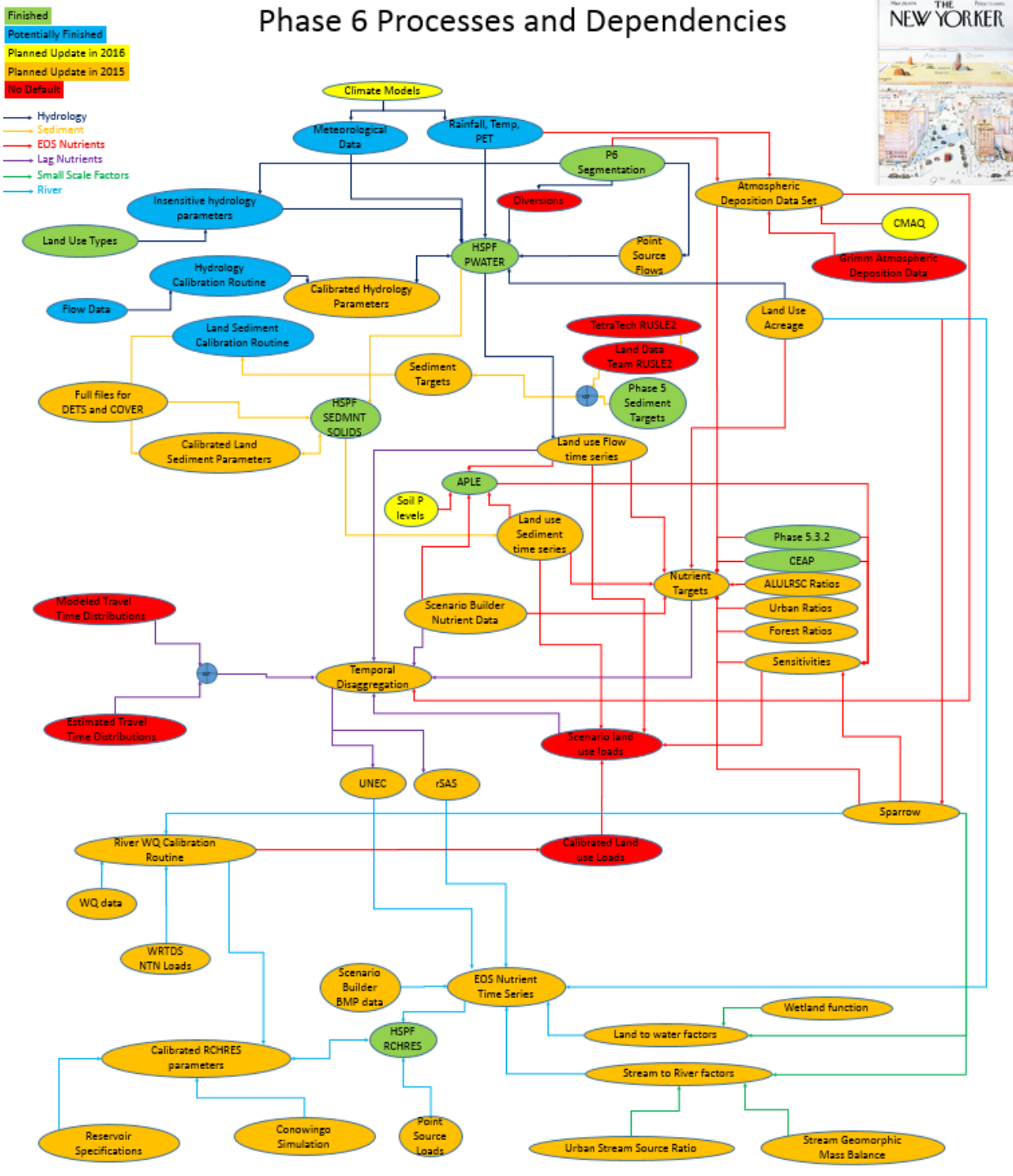
Planned Update in 2016

Planned Update in 2015

No Default

Each box represents a dataset, model, or process

Still a lot to get done, but all in the plan.







Load for a land use in a segment =

Estimated Average Load + **Sensitivity** * **Δ Inputs**

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BMPs

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Watershed Delivery Variance

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Stream Delivery

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River Delivery

Phase 6

Multiple Lines of Evidence And multiple models

Estimated Average Load + **Sensitivity** * **Δ Inputs**

Multiple models

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BMPs ← Scenario Builder

*

Estimated with Sparrow
Estimated by Land Data team → **Watershed Delivery Variance**

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Estimated with Sparrow → **Stream Delivery**
Estimated by USGS / WVU / Land Data team

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Simulated in HSPF → **River Delivery**
Calibrated with data, WRTDS, and Sparrow

Yactayo

Estimated Average Load + **Sensitivity** * **Δ Inputs**

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BMPs

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Watershed Delivery Variance

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Noe / Claggett

Stream Delivery

*

River Delivery

Bhatt