



Chesapeake Bay Program
Science. Restoration. Partnership.

Phase 7 Flaw Review



September 2026 CWGT

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Timeline for Lead-Up Activities and Partnership Model Review (not STAC):



1.

Review Prep

2027 Model Review Materials:

- Initial Input and Scenario Review, Phase 7 Flaw Definition, Comment Aggregation Tool (C.A.T.), Flaw Review Process and Workgroup Roles, Emailed Instructions on Partnership Review Request
- Model Documentation, Review Tool Finalization, Accuracy Metrics



2.

Dynamic Watershed Model and Estuarine Model Approval



1.

Review Sprints

~5-6 months: Phase 7 Flaw Review of Draft 1

- 3-4 months: Model Review Period for workgroups
- 2 months: Partnership-recognized Pause on model review for Modeling Workgroup to prioritize and respond to comments



2.

~5-6 months: (Depends on severity of flaws) Review of Draft 2

- 3-4 months: Partnership renews its review with less rigid timeline
- 2 months: Completion and rollout of reviewed model for Planning Targets



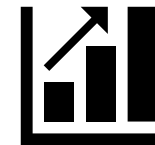
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Partnership Review Prep Steps:

Initial Input and Scenario Review:

Depending on severity, flaws on these scenarios that are noted are binned for Draft 2 of model

WTWG, sector workgroups, and associated partnership bodies receive and review:



Scenarios:

- **No-Action** - one year
- **E3** - one year
- **All-Forests** - one year
- **Progress Scenarios** - 1985-2024 (AA)
- **WIPs:**
 - P6 WIPs translated to P7. The translation includes the BMPs, geographies and land use groups.
 - 2040 Target Year.



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Partnership Review Prep Steps:



Phase 7 Flaw: proposed review term, as the 2027 review process is different than the previous Fatal Flaw Review.

Definition from
Phase 6:

A Fatal Flaw ~~is:~~ **was**

- A **significant** impediment in the ability of the partnership to establish reasonable planning targets or evaluate progress toward achieving the planning targets due to:
 - A calculation or method that does not follow the documented final decisions of the CBP partnership
 - A calculation or method, or combinations thereof, that produce illogical results that result in significant impediment
 - The omission of data submitted by the CBP partnership subject to established deadlines
 - The overall failure of the model to match observed flows and loads when compared to the level of performance in previous models



(2017):



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Partnership Review Prep Steps:

A Fatal Flaw is:-- **was**

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 - A calculation or method that does not follow the documented final decisions of the CBP partnership
 - A calculation or method, or combinations thereof, that produce illogical results that result in significant impediment
 - The omission of data submitted by the CBP partnership subject to established deadlines
 - The overall failure of the model to match observed flows and loads when compared to the level of performance in previous models

Proposed “Phase 7 Flaw” Definition:

- ~~A significant impediment to the ability of the partnership~~ The inability for the partnership to establish planning targets **that achieve water quality standards** or evaluate progress toward achieving **those** planning targets due to:
 - A calculation or method that does not follow the documented final decisions of the CBP partnership, **or associated model documentation for review**
 - A calculation or method, or combinations thereof, that produces **illogical results not supported by the best available science accepted by the partnership**
 - The omission of data submitted by the CBP partnership ~~subject to~~ **by** established deadlines
 - The overall failure of the model to match observed flows and loads when compared to the level of performance in previous models



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Partnership Review Prep Steps:

Comment Aggregation Tool (C.A.T.):

To be provided as a link to workgroup leadership (voting members) advisory committees, and jurisdictional agencies to ensure a higher level of understanding with respect to the Phase 7 model.

Questions:

1. What is your name
 1. First Name Text Box
 2. Last Name Text Box
2. What is your organization/workgroup
 1. Drop Down: List of
 1. Jurisdictions' Reporting Agency (DOEE, DNREC, MDE, NYDEC, PADEP, VADEQ, WVDEP)
 2. Relevant CWGT/ Other Workgroups
 3. Advisory Committees
 4. Member of the Public
3. Please describe the flaw present in this section, and be specific as possible to help with review of this noted flaw:
 1. Text Box for their reply
Included Context:
 1. Is the flaw with an input, the model processing an approved methodology, or the documentation? (This can need some parsing on our end too, so not too prescriptive)
 2. Phase 7 Flaw Scale and Definition
 - State/Basin scale because the planning target development process provides jurisdiction allocations at that scale.
 - If different than state/Basin scale, please provide noted scale flaw was observed at:
 - A Phase 7 Flaw is/is not context
4. How important a priority would you rank this flaw as needing adjustment now for Phase 7. A rank of 1 is critical now for Phase 7 adjustment and a rank of 5 would indicate you are fine holding this comment for discussion later for Phase 8. This is all relative for comment submitter but gives internal review team a place to start.
 1. Drop Down: List of 1-5
 1. All comments will be replied to, but internal review determines what needs to action for a next draft of the model.



Phase 7 Flaw Comment Aggregation Tool

This form is used to aggregate Partnership comments on the Phase 7 suite of modeling tools to aid review for needed adjustments before the finalization and release of these products.

1. Please provide your first name *

Enter your answer

2. Please provide your last name *

Enter your answer

3. What review body (jurisdictional agency, workgroup, or advisory committee) is this comment being noted from? *

- ☐ WTWG
☐ DOEE
☐ Option 3

4. Please describe the flaw you noted and be specific as possible to help with review: *

Scale and Definition Inclusions

Enter your answer

5. How important a priority would you rank this flaw for immediate adjustment for Phase 7. *

1=Most Important; 5 = Hold till Phase 8

1
2
3
4



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Partnership Review Prep Steps:

CBPO Emails to Begin Review (~2027):

Email outreach to jurisdictions, ACs, and assigned workgroups to help direct review, to ensure aggregation, synthesis, and vetting of comments.

1. Email to:

1. Jurisdictional leadership from reporting agencies to help direct review, to ensure aggregation, synthesis, and vetting of comments, and that their comments are in sync with any workgroup comments from their staff.
2. Workgroup will lead review of specified sections from CWGT and comments from them can be specific to their sector, jurisdictions-submitted comments likely to be more load focused.
3. Advisory Committees are also encouraged to work with relevant CWGT sector workgroups and provide review remarks.
 - These three sets of review groups will ensure all review comments are then submitted with relevant information included and by specified deadlines (April 1, 2027).
 - Hearing a comment from two/all three may be a good cause for quicker review/higher prioritization.
4. Public email blast and posting



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Partnership Review:

~Now-2027:

- Workgroup Review Roles Communicated
- Flaw Definition
- CAT Communicated
- Email Model Review Request to Jurisdictions and workgroups
- Necessary Model Documentation for 2027 Review Completed
- Model Review Support Tools for 2027 Review Completed
- Instructional Webinars Scheduled

1. ~5-6 Month Review Period: Phase 7 Flaw Initial Review of Draft 1

- ~3-4 months: Model Review Period for workgroups
- ~2 months: Partnership-recognized **Pause** on model review for Modeling Workgroup to prioritize and respond to comments
- Release Draft 2 of Model



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Partnership Review:

Review “Sprints”



1st Sprint of Model Review 1 (~5-6 months):

1. ~3-4 month partnership review (time for RENPS workgroups to meet 2 or 3 times ideally).
2. Get all comments workgroups and jurisdictions in by that time for initial pause and review by MWG. Review can continue but recognize some review may be invalid after hypothetical draft 2.
3. 2 months MWG review, action, and response to comments back to partnership.

2nd Sprint (This is uncertain, so must be more adaptable with wiggle room in the timeline)

1. As comments are noted and viewed, group updated so they can be reviewed on rolling basis and responded to as needed
2. ~3-4 months as needed; Draft 3 released in similar manner to above if required.



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****If flaw results in revised methodology requiring WG approval, this will need to be pursued and achieved immediately by ideally utilizing the next workgroup meeting window and partnership model review timeline communicated.**



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Partnership Review:

Workgroup Review Roles:

CWGT will assign these review roles to each workgroup.

Each Phase 7 model adjacent workgroup will be responsible for these two overarching goals:

1. Ensuring the collective partnership-based decisions have been fully carried out (omissions review)
2. Evaluating model calibration inputs and outputs specific to their respective land uses (evaluate unintended outcomes or consequences) or larger source categories



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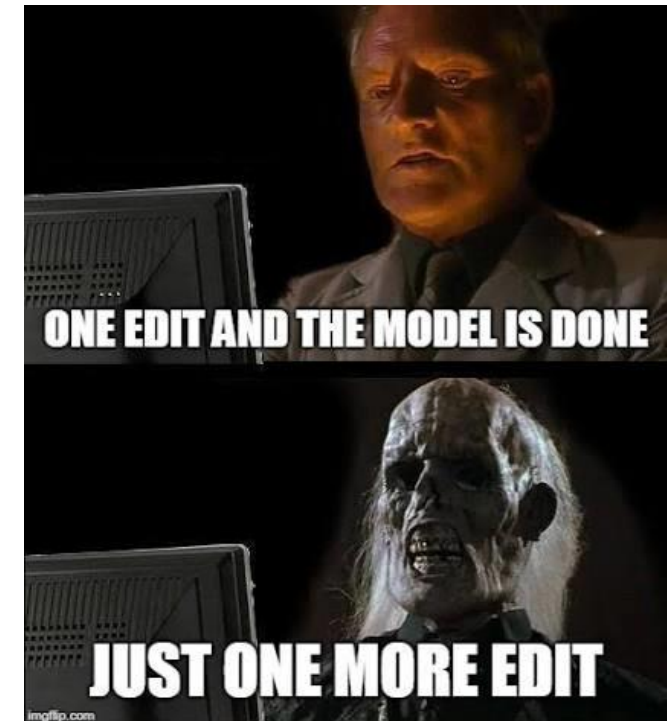
Partnership Review:



Workgroup Review Roles:

Modeling Workgroup

- Review watershed model documentation chapters 2 -Physical Setting, Scale, Segmentation, 6 - Sensitivity, 7 -Land Use, 9 -Land to Water and 10 -Direct Loads
- Review summary findings and implications of the Chesapeake Bay Program Office Modeling Workgroup's report out on their detailed review of calibration results for each calibration station, looking for any bigger picture anomalies or patterns
- Evaluate effects of Phase 7 spatial framework changes on watershed model calibration performance and shifts in flow, sediment, and nutrient calibration metrics across scales and regions.
- Conduct review of the Phase 6 vs Phase 7 Watershed Model responses to varying levels of model inputs and BMP implementation for key scenarios including WIP III, E3, No-Action, All Forests, and Progress scenarios
- Assist with responding to source sector and technical support workgroups analysis questions that do not have the modeling expertise or needed experience to conduct or review sensitivity and other model suitability/scale analyses.





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Partnership Review:

Workgroup Review Roles:

Watershed Technical Workgroup

- Review all technical chapters (Chapters 2-23) of the Phase 7 watershed model documentation
- Review loading rates from specific land use dominated land river segments to ensure consistency with partnership approved target loading rates within and across source sectors—work with specific source sector workgroups as warranted based on the results of the review
- Chapters will be modified based on completed documentation, please ignore these and specify chapter titles, and not numbers, if outlining specific topics to review
- Feeding space (Section 7.4.3) and Construction (Section 7.5.2) and *Developing Load Sources from Mapped Land Use (Section 7.5)
- Federal Lands (Section 7.2.1) and Developing Load Sources from Mapped Land Use (Section 7.5)

Land Use Workgroup

- Review watershed model documentation chapter 7
- Introduction to Land Use (Section 7.1) and Mapped Phase 7 Land Use (Section 7.3)
- Schedule and conduct webinars focused on the Phase 7 land use and land cover data sets as well as the back-cast and forecast land use projections

Agriculture Modeling Team

- Review watershed model documentation chapters 4 – Watershed Nutrient Inputs and 7 Land Use,
- Compare the state and county CAST scenario outputs for the agriculture sector
- Review the input information leading to potential Phase 7 flaws.
- Brief the Agriculture Workgroup on findings from all the above analyses and evaluation as well as the ranging scenarios (e.g., All Forest, Phase III WIPs, E3, No Action, others) run through the calibrated Phase 7 models
- Estimating Agricultural Acres (Section 7.4), Adjustments to Census of Agriculture (Section 7.5.3), and Proportioning the Census of Agriculture (Section 7.5.4)



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Partnership Review:



Workgroup Review Roles:

Urban Stormwater Workgroup

- For all urban sector inputs and land use data, the USWG should review and understand major methodological changes between P6 and P7 and ensure documentation exists to support the changes.
- Review watershed model documentation chapter 2 (Average Loads)
- Review calibration results for suburb/urban development dominated watersheds—both inputs and outputs
 - On the inputs side, the USWG should pay particular attention to non-farm fertilizer and associated documentation
- Regulated Lands CSOs & MS4s (Section 7.2.2) and Construction (Section 7.5.2)

Forestry Workgroup

- Review watershed model documentation chapter 2 – Physical Setting, Scale, Segmentation
- Review calibration results for forest dominated watersheds
- Harvestable Forest (Section 7.3.5) and Reconciling State-Reported Harvested Forest (Section 7.5.2.1) and Developing Load Sources from Mapped Land Use (Section 7.5)

Wastewater Treatment Workgroup

- Review watershed model documentation chapter 8 - BMPs
- Review the change in discharged loads over time to ensure it aligns with data provided by jurisdictions and the model simulated loads reasonably reflects what has occurred over time
- Regulated Lands CSOs & MS4s (Section 7.2.2)

