Clean Water Goal Team

June 22-23, 2026 Hybrid Meeting

Briefing Book – All Printed Handouts Combined

Includes the materials listed below. All others are posted to the calendar page.

- Clean Water Goal and Outcome Language
- CWGT Planning Calendar
- General Discussion Questions
- Planning Targets & Tiered Implementation Discussion Questions
- Scenario Base Year Handout
- Scenario Base Year Discussion Questions
- Hydrologic & Critical Period Handout
- Hydrologic & Critical Period Discussion Questions
- Goal Team Operations & Structure Discussion Questions
- CWGT Org Chart – Version Date: June 15, 2026
- Management Strategies Discussion Questions

Clean Water Goal and Outcome Language

2025 Chesapeake Bay Watershed Agreement

Clean water is the foundation of healthy fisheries, habitats, farmlands and communities across the watershed. However, excess nitrogen, phosphorus, sediment and toxic contaminants can degrade our waterways, harm wildlife and pose risks to human health. Changes in the landscape and environmental conditions may exacerbate these impacts. Chesapeake Bay Program partners use a variety of tools to reduce excess nitrogen, phosphorus and sediment, address toxic contaminants and monitor progress toward achieving water quality standards. These actions support sustainable economies that depend on a healthy Bay and watershed.

Clean Water Goal

Reduce pollutants entering the Bay and its rivers to achieve the water quality necessary to support aquatic life and wildlife, and support human health.

Outcomes

Reducing Excess Nitrogen, Phosphorous & Sediment

Implement and maintain practices and controls to reduce nitrogen, phosphorus and sediment. These reductions are necessary to achieve the applicable water quality standards, as described in the Bay TMDL. Those water quality standards support living resources and protect human health, as required by the Clean Water Act.

- Through 2030, signatories will continue to accelerate completion of all interim water quality planning targets through implementation of Chesapeake Bay Watershed Implementation Plans, two-year milestone commitments and other innovative strategies to achieve and maintain reduced levels of nitrogen, phosphorus and sediment.
- By December 31, 2030, revise the planning targets approved by the Principals' Staff Committee for nitrogen, phosphorus and sediment, incorporating the latest watershed modeling, monitoring data and research findings, and develop new or amended Watershed Implementation Plans to meet the updated targets by 2040.
- Demonstrate net reductions in nitrogen, phosphorus and sediment through multiple lines of evidence, including modeling and monitoring data.

Toxic & Emerging Contaminants

Reduce the amount and effect of toxic contaminants, such as PCBs, plastics, mercury and PFAS, on the waters, lands, fisheries, wildlife and communities of the Chesapeake Bay watershed through an increased understanding of their impacts and mitigation options.

- Promote information sharing between researchers, program managers and policymakers on the lessons learned, best practices and most up-to-date science, policy and communications around the toxic contaminants impacting the Chesapeake Bay watershed.

Water Quality, Standards Attainment & Monitoring

Measure changing water quality conditions by maintaining monitoring networks and tracking our collective progress toward achieving clean water throughout the Chesapeake Bay and its watershed.

- Maintain full core monitoring network operations (i.e., nontidal water quality, SAV, tidal water quality, benthic and community science) annually to support analysis and communication of water quality loads, trends and criteria attainment.
- Develop and expand partnership-approved approaches for assessing whether water quality criteria are being met for all designated uses. For dissolved oxygen criteria, establish an approved method by 2028 and apply the method for data analysis and reporting by the end of 2030.
- Maintain or exceed the rate of improvement in the water quality standards attainment indicator relative to the 1985-2022 baseline.
- Analyze and report status/loads, trends and factors affecting those trends for nontidal and tidal water quality.

Clean Water Goal Team

Draft Planning Calendar

Version: June 22, 2026

Management Strategies

2026

- June 2026, Draft outcome and goal-level challenges and develop initial draft outcome and goal-level Management Approaches (starting w/ outcome discussions at CWGT in-person meeting based on workgroup responses to worksheets)
- July 2026, Draft outcome-level baseline and current conditions; confirm monitoring progress and indicator details for each outcome
- August 2026, Draft Final Outcome-level management approaches
- August 2026, Draft goal- and outcome-level baseline and current conditions; confirm monitoring progress and indicator details for each outcome
- August 2026, Compile signatory statutory authorities and snapshot of signatory resources
- August 2026, Initiate development of Clean Water outcome workplans
- September 2026, Document participating partners for each Clean Water outcome
- September 2026, Approve Management Strategy for submission to PSC (and subsequent public feedback)
- October 2026, Management Strategy due to PSC
- November 2026, Draft Workgroup workplans due to CWGT
- February 2027, Approve revised management strategy for submission to PSC

2027

- March 2027, Management Strategy due for PSC input.
- March 2027, Draft RENPs workplan due
- March 2027, Draft Toxics workplan due
- March 2027, Draft WQSAM workplan due

- May 2027, Approve final Management Strategy
- July 2027, Outcome workplans due to GT for approval.
- July 2027, Workgroup workplans due for GT approval

Phase 7 Model

2026

- August 2026, Draft Phase 7 Model review and approval process and schedule; clarify roles and expectations for CAST input and output reviews
- August 2026, Explore preferences for model update frequency
- October 2026, Approval of draft Dynamic Watershed Model (Modeling Workgroup)
- November 2026, Input/output reviews (source data reviews starting earlier at AMT), watershed model inputs (cast outputs)
- December 2026, Approve Phase 7 Model review and approval process and schedule, including roles, expectations for reviewers (I.e. CWGT workgroups), process for cataloging and resolving issues (contingent on approval of review process by Modeling Workgroup and input from source sector workgroups)

2027

- January 2027, Complete model review tools for fatal flaw review (with refining during active review period Feb-Sept 2027)
- January 2027, Approval of Phase 7 Suite of Models beta 1 for review (Modeling Workgroup)
- January 2027, Final Draft Model Documentation
- January 2027, Complete development of questions and guidance for STAC review
- January-March 2027, Training on use of model review tools; iterative revisions to tools; Webinars on model critical components (Inside look on structure, what's different, application, decisions, etc.)
- February 2027, Partnership model review begins
- March 2027, STAC Review of Phase 7 Model begins
- April 2027, Comments due for first review "sprint" (Review will be iterative between Feb-September with comment "windows" followed by review windows, high-impact comments addressed asap.
- June 2027, Resolution of comments from round 1.
- August 2027, STAC review of Phase 7 model suite complete

- September 2027, Final partnership comments on Phase 7 model due
- October 2027, Final model refinements and calibration; approval of modeling suite by Modeling Workgroup
- November 2027, CWGT approval of the Phase 7 Modeling Suite
- December 2027, PSC approval of the Phase 7 Modelling suite

Planning Targets and Tiered Implementation

2026

- August 2026, Proposed E3 and No Action Scenario definitions and justifications for all sectors; Scenario base year for planning targets considerations
- September 2026, Approval of Hydrologic Averaging Period
- September 2026, Approval of Critical Period for Phase 7 model and determining assimilative capacity.
- September 2026, Approval of E3 and No-Action Scenario definitions (as well as 1985, 2009, All Forest)—"ranging scenarios.
- September 2026, Approval of Scenario Base Year for planning targets (scenario year for WIPs—the scenario to be used for WIP development-- to be separate decision in 2027)
- September 2026, Approval of land use change forecast (2040, 2050, 2075); approval of solar and development forecasts (contingent on Reviews and approvals by source sector workgroups—LUWG (8/26), USWG (9/15))

2027

- Decision regarding atmospheric deposition load reductions
- Explore comparative scenarios w/ model runs
- Continuing discussion on decision rules and sequencing for additional habitat areas (i.e., DUs) and tiered implementation.

2028

- Q1 2028, Approve Chesapeake Bay assimilative capacity (and resolving/confirming how to account for Conowingo and changing environmental conditions, restoration exceptions)
- Q1 2028, Approve planning target methodology, aka Hockey Stick (including planning target principles, WWTP line, spread of all else line) for complete attainment of water quality standards. Recommendation to the PSC whether to confirm methods and if recommended policy changes.

- Q1 2028, Approve methods/principles for tiered implementation and local planning targets (if necessary)
- Q2 2028, Approve process for review of planning targets, including tiered implementation
- Q2 2028, Approve Preliminary draft planning targets and methods or targets for tiered implementation and local planning. (CWGT, PSC)
- Q2 2028, Decisions on additional load reductions to address Conowingo infill and Changing Environmental Conditions (CWGT, PSC)
- Q3 2028, Partnership review of draft preliminary planning targets
- Q4 2028, CWGT approval of final planning targets (CWGT, PSC)

Criteria Assessment

2026

- July 2026, Charge CAP workgroup with developing a schedule to complete criteria assessment decisions. https://www.chesapeakebay.net/files/documents/Day-2.9_CAP-Workgroup-Workplan-Overview_Robertson_CWGT_06.23.2026.pdf
- July 2026, First iteration of 4-d Interpolator tool completed (https://www.chesapeakebay.net/files/documents/Draft-4D-and-Phase-7-Timeline-5.18.26.pdf)
- November 2026, Documentation sent to STAC for review

2027

- March 2027, STAC finalizes review of 4D Interpolator
- April-August 2027, Revisions to 4D Interpolator based on STAC and BORG team review (if necessary)

Living Resources Habitat Suitability Index (LR HSI)

2027

- March 2027, Draft Habitat Suitability Model/LR Assessment completed
- March 2027, STAC review of LR HSI begins
- August 2027, STAC Review of LR HSI model completed

- October 2027, LR HSI report and scoring index finalized

BMPs

2026

- August 2026, BMP Review Protocol—discuss and charge WTWG/source sector workgroups with assessment and update of protocol; explore preferences for update in context of model update frequency.
- October 2026, Draft proposal for revised BMP review protocol (WTWG)
- December 2026, WTWG provides CWGT w/ recommendations for revising the BMP review protocol

2027

- March 2027, Approve BMP Review Protocol updates

WIPs

2026-2027

- Review of successes and lessons learned from Phase III WIPs; discuss priorities for the future

2028

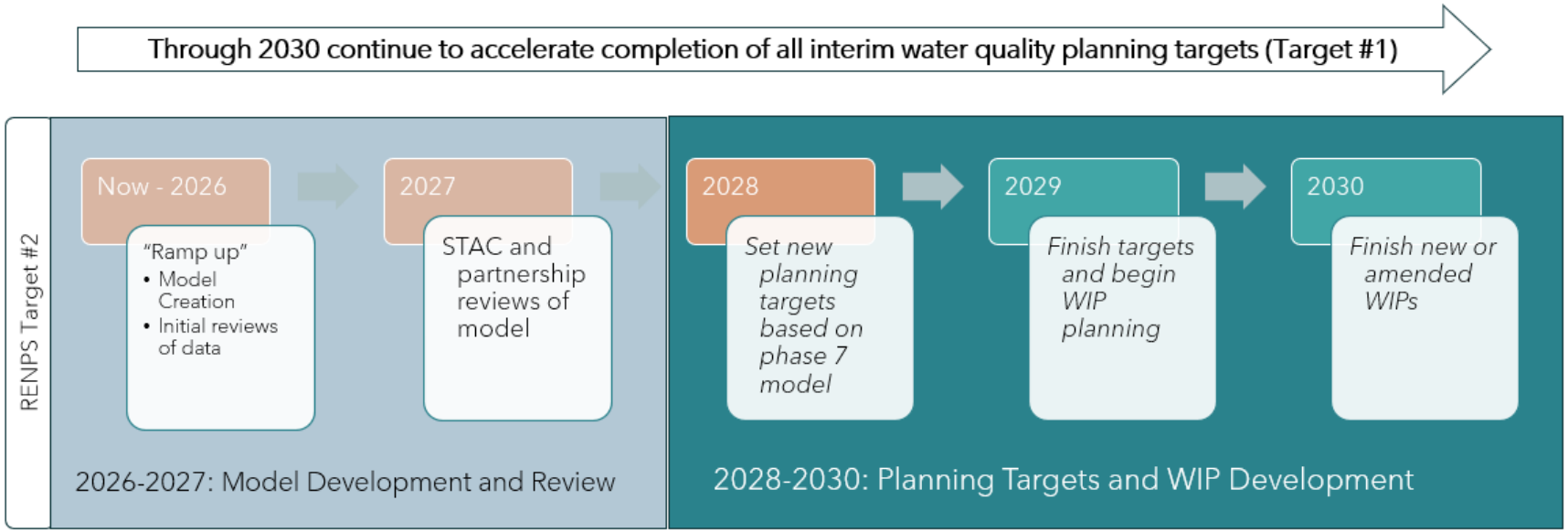
- Q1 2028, Decision regarding whether to develop new or revise Phase III WIPs
- Q1 2028, EPA Draft Expectations for WIPs
- Q2 2028, Comments on EPA draft WIP expectations due
- Q3-Q4, EPA final WIP expectations

2029

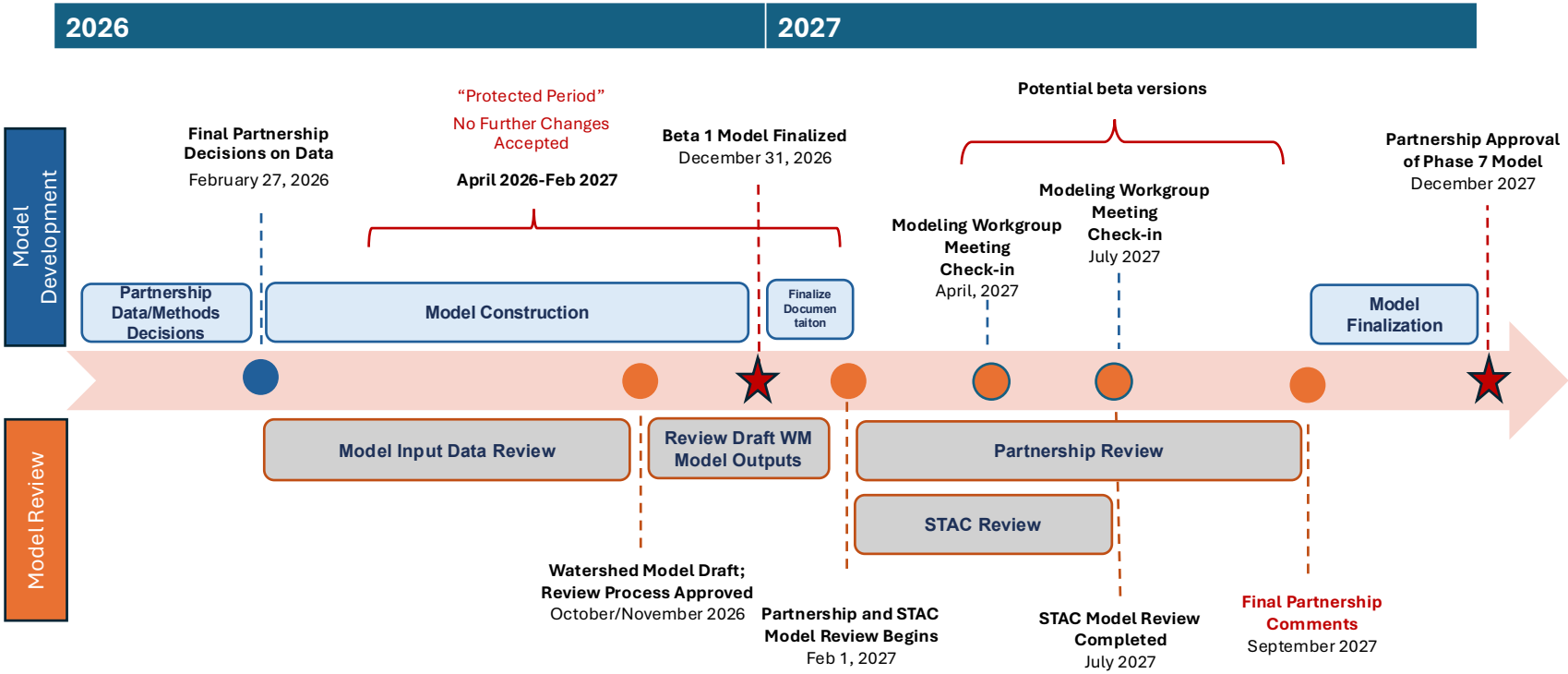
- Q1-Q2 2029, Development of WIPs
- Q3 2029, Draft Phase IV or revised Phase III WIPs due to EPA
- Q4 2029, EPA feedback on draft Phase IV or revised Phase III WIPs

2030

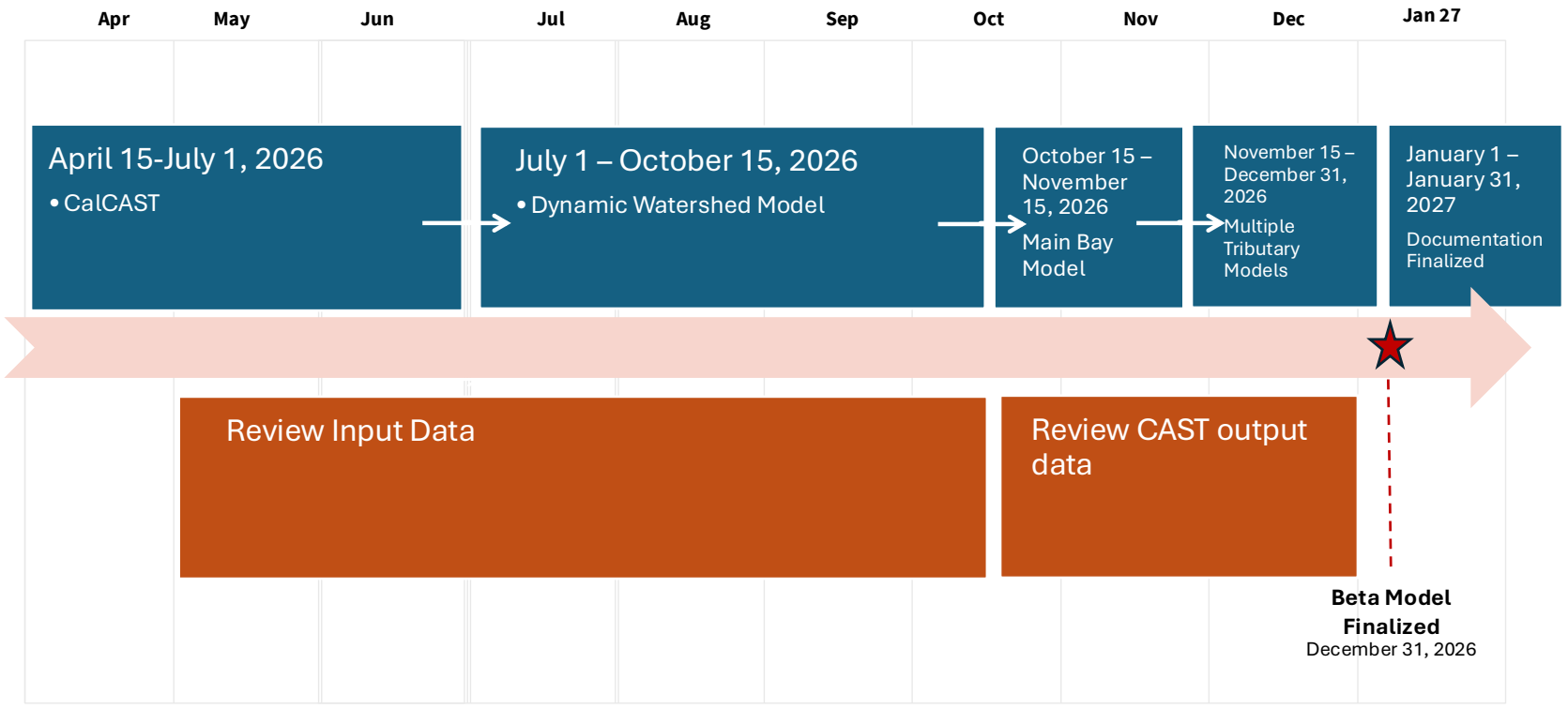
- Q2 2030, Final Phase IV or revised Phase III WIPs due to EPA
- Q3 2030, EPA evaluations of final Phase IV or revised Phase III WIPs



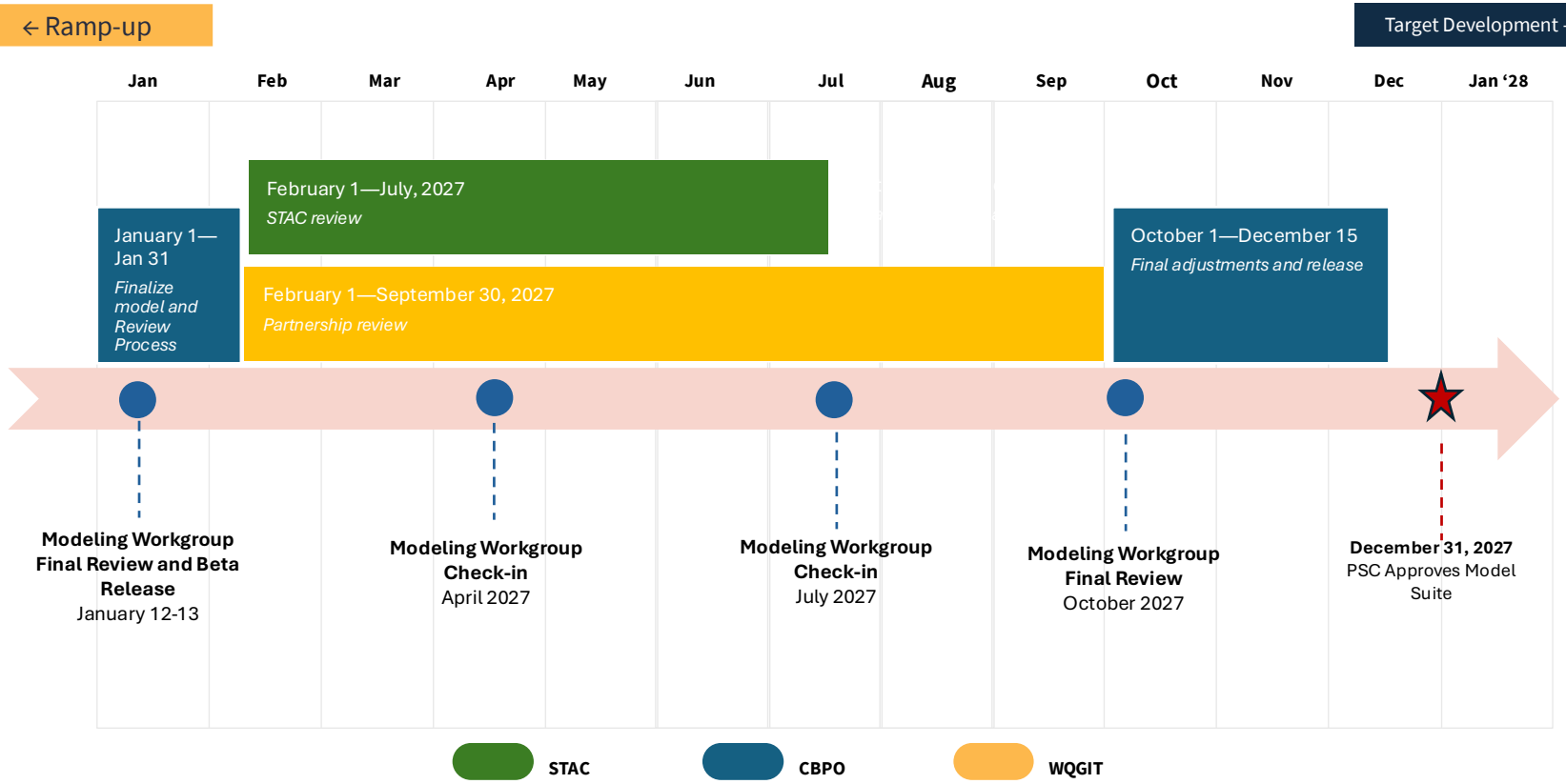
PHASE 7 DEVELOPMENT & REVIEW SCHEDULE



2026 MODEL CONSTRUCTION



2027 MODEL YEAR OF REVIEW



Questions to Consider for all Discussions

- What are your initial reactions and perspectives on the subject?
- What additional questions came up for you?
- What problems or sticking points do you see for this item that need to be resolved?

You can you this sheet as additional space to write down notes throughout the day.

Planning Targets & Tiered implementation – Discussion Questions

- Where are you seeing opportunities to increase, concentrate, or accelerate implementation—either through traditional WIP approaches or through tiered implementation strategies, such as focusing on high-opportunity segments, living resource habitat benefits, or areas with high local control or effectiveness?
- What barriers, constraints, or needs could limit the ability to reach water quality standards?
- What additional information, tools, or analytical capabilities (e.g., BMP opportunity tools, segment-level ecological opportunity data) would most improve your ability to target implementation effectively?

- What targets demonstrate accelerated implementation and closing the gap in meeting water quality standards?
- How should the partnership balance local priorities and habitat-focused gains with the need to maintain long-term alignment with the ultimate WQS-based load targets, particularly if adopting a tiered approach to planning targets?
- What benefits—and potential tradeoffs—do you see in setting 2040 as an interim, rather than ultimate, planning target?

Scenario Base Year

What does the scenario base year refer to and why does it matter?

The scenario base year is the basis for trend analyses used to produce base conditions for other years. The scenario base year defines which point in time will be used to set the key scenarios for water quality planning targets. These scenarios are:

- **No Action** - is indicative of a theoretical worst case loading situation in which no controls exist to mitigate nitrogen, phosphorus, and sediment loads from any sources.
- **E3 (Everything by Everyone Everywhere)** - represents a theoretical best-case possible situation, where a certain set of possible BMPs and available control technologies are applied to land, given the human and animal populations, and wastewater treatment facilities are represented at highest technologically achievable levels of treatment regardless of costs.

The difference between E3 and No Action determines the controllable load for each jurisdiction, which is used to represent the level of effort that a given scenario presents for each state-basin.

Key considerations for selecting the scenario base year for new planning targets:

- Level of confidence in data
- Consistency with previous phases of planning targets
- Responsibility for growth

Potential options for the scenario base year:

2010

- Land use and septic systems here are confirmed in backcast using updated data sources.
- Other data categories lean upon the past data submissions that were received during that year.
- Used in Phase 5.3.2 and Phase 6 as scenario base year
- Growth since 2010 is the responsibility of the jurisdiction where it took place

2022

- Updated data for crop acres, yields, and animal Populations (Ag Census), organic and inorganic nutrients (fertilizer, biosolids, and manure), land use, population/septic systems
- Departure from what was used in Phase 5.3.2 and Phase 6 as the scenario base year
- Growth from 2010-2022 spread out across all jurisdictions

Can we predict how a change in the scenario base year will affect the level of effort for a given jurisdiction?

No. It is **not possible** to predict how a change in scenario base year will affect loads and planning targets due to the many changes taking place in Phase 7 (e.g., different methods, inputs, scale). Any additional changes to the critical period, hydrologic averaging period, or planning targets method would also have an influence (to some degree) on the level of effort which cannot be predicted either.

Scenario Base Year – Discussion Questions

- Which criterion (level of confidence in data, consistency with Phase 6, or growth considerations) matters more to you?
- Which year (2010, 2022 or other) are you leaning towards?

Criterion	2010	2022
Level of Confidence in Data (LU, Animals, Septics, etc.)	Less Confidence	More Confidence
Consistency with Phase 6 and Phase 5.3.2 decisions	Same Year	Not Consistent
Responsibility for additional load from a state-basin that grows (in load due to LU, Animals, Septics, etc.)	State basin that is growing	All state-basins

Scenario Base Year Overview [slide 9]

Critical Period and Hydrologic Averaging Period

What's the difference between the hydrologic averaging period and the critical period?

Despite the similar sounding names, these two periods serve distinct purposes in establishing nutrient and sediment reduction planning targets. Both are explained in Section 6 of the Chesapeake Bay TMDL document. The hydrologic period is used for expressing average annual loads from various sources. It is not to be confused with the critical period, which defines a period of high stress. The critical period addresses the foundational question: "What would loads need to be for the Bay to meet water quality standards (WQS) during the *critical period*?"

Critical Period

- Defined critical *conditions* (see Section 6.2.1. below) are a required feature of all TMDLs. They are the "reasonable worst-case scenarios" used to set pollutant reduction targets. The Chesapeake Bay TMDL has a three-year critical *period* because water quality standards are evaluated over a three-year period.
- After much deliberation, the Partnership chose 1993-1995 because its 10% chance of recurrence is similar to the precedent set in other TMDLs.
- The critical period documentation is in Section 6 and Appendix G of the TMDL document.

Changing the critical period to a more recent date would:

- Increase the confidence in the overall planning target calculation. Instead of asking "How much do loads have to change since 1995 to meet WQS?" (when the data were not as robust), we would be asking "How much do loads have to change since 20XX to meet WQS?"
- Potentially allow for simplifying Conowingo considerations since the effects of dynamic equilibrium would already be part of the critical period.
- Have an effect on the overall level of nutrient and sediment reductions needed to meet water quality standards.

Hydrologic Averaging Period

- Many loads, especially nonpoint source loads, depend heavily on hydrology. When planning targets or CAST scenarios are expressed as a certain number of pounds, they are conditional on the flows and loads of the hydrologic averaging period.
- The hydrologic averaging period sets the balance among point and nonpoint loads and among basins.
- The long-term hydrologic averaging period used since 2010 is 10 years because most 10-year periods are representative of long-term hydrology.
- 1991-2000 was chosen when developing the Bay TMDL because, at the time, it was the most recent and representative of average conditions.
- The hydrologic averaging period documentation is in Section 6 and Appendix F of the TMDL.

Changing the hydrologic averaging period to a more recent date would:

- Allow for including changed environmental conditions directly in the calculations as a change in the nonpoint and point source balance.
- Retain the modeling convenience of overlap with the critical period, if the critical period were also moved.

FAQ:

Can the hydrologic and critical periods be changed without reopening the Bay TMDL?

Yes, they can be changed for purposes of calculating future planning targets without reopening the Bay TMDL. Updating the hydrologic period and the critical period for use in calculating planning targets going forward does not change the Bay TMDL.

Do the critical period and the hydrologic period have to overlap?

No, but there are important reasons for them to do so. The estuarine model must always produce scenarios that contain the critical period, and so the dynamic watershed model must always produce loads for the estuarine model that include the critical period. Those same scenarios can be run on any hydrologic averaging period for output from CAST, but it may require keeping two versions of CAST to have the periods separate.

What are the resources associated with updating the model with new critical and hydrologic periods?

The technical modeling effort in making the change is within partnership capacity, but resources in reviewing and vetting the changes in loads for the partnership will require close consideration during the review period in 2027. The CBPO has better data and tools to do the work more quickly than in 2010, but the resources would need to be balanced with other priorities.

Excerpts from the TMDL Document

Section 6.1.1: The hydrologic period for modeling purposes is the period that represents the long-term hydrologic conditions for the waterbody. This is important so that the Bay models can simulate local long-term conditions for each area of the Bay watershed and the Bay's tidal waters so that no one area is modeled with a particularly high or low loading, an unrepresentative mix of point and nonpoint sources or extremely high or low river flow. The selection of a representative hydrologic averaging period ensures that the balance between high and low river flows and the resultant point and nonpoint source loadings across the Bay watershed and Bay tidal waters are appropriate. The hydrologic period also provides the temporal boundaries on the model scenario runs from which the critical period is determined.

Section 6.2.1: The allowable loading is often dependent on key environmental factors, most notably wind, rainfall, streamflow, temperature, and sunlight. Because those environmental factors can be highly variable, EPA regulations require that in establishing the TMDL, the critical conditions (mostly environmental conditions as listed above) be identified and employed as the design conditions of the TMDL [40 CFR 130.7(c)(1)]. When TMDLs are developed using supporting watershed models,

such as the Chesapeake Bay TMDL, selecting a critical period for model simulation is essential for capturing important ranges of loading/waterbody conditions and providing the necessary information for calculating appropriate TMDL allocations that will meet applicable WQS. Because the WQS applicable to this TMDL are assessed over 3-year periods, the critical period is defined as the 3-year period within the previously selected 1991–2000 hydrologic period (see Section 6.1.1) that meets the above description (USEPA 2003a).

Hydrologic & Critical Period

Preliminary Information-Subject to Revision. Not for Citation or Distribution.

Summary

What the analysis does:

- Scores all 10-year candidate windows on how well they match long-term reference flow statistics (MAPD) and flow distribution shape (K-S test) across 9 weighted RIM stations
- Identifies 3-year critical period candidates by fitting a Weibull return period to the full reference record and flagging windows near the 10-year target (±2 years)

What we found:

- Top-ranked base periods cluster around 1997–2007; critical period consistently points to mid-2000s under modern reference assumptions
- Reference period start year is the dominant lever : it shifts both the MAPD benchmark and the 10-year return period flow threshold simultaneously
- Recent windows (2010–2022) score poorest in the candidate set on both metrics : double-penalized on MAPD and K-S

What remains open:

- Full sensitivity analysis across all 26 parameters : planned for September deliverable
- DO exceedance correlation to optimize monthly flow window (pending data)
- Formal uncertainty quantification via bootstrapping
- Whether post-2010 hydrology represents a new regime or a transient wet-dry cycle

Discussion Questions

- Long-term historical hydrology or modern conditions : which better serves Phase 7 planning targets?
- Is post-2010 hydrology a new regime driven by large-scale climate forcing (AMO, NAO, climate change), or a transient cycle, and should that question be resolved before we select a period?
- Given the nonstationarity question, is a 10-year return period still the right critical period criterion?
- Are there additional hydrologic or climate factors the group wants incorporated into the analysis before a recommendation is brought forward in September?

Goal Team Operations & Structure – Discussion Questions

- **The Role of the Goal Team**
  - Given the broader scope than the previous WQGIT, how should the role of the Clean Water Goal Team itself change?
  - What topics and level of detail should come to CWGT meetings?
  - How will we ensure and communicate clear expectations for workgroups?

- **Membership**
  - What flexibility can exist for workgroups to have membership other than a 9 signatory and 6 at-large voting member structure?
  - Which groups should this apply to?
  - What is the timeline to convert to this type of structure?
  - How will leadership recruitment for new groups occur?

- **Decision Making**
  - CWGT decision making.
  - Workgroup decision making.
  - What decisions should be elevated to the CWGT?

Clean Water Goal Team: Proposed Structure

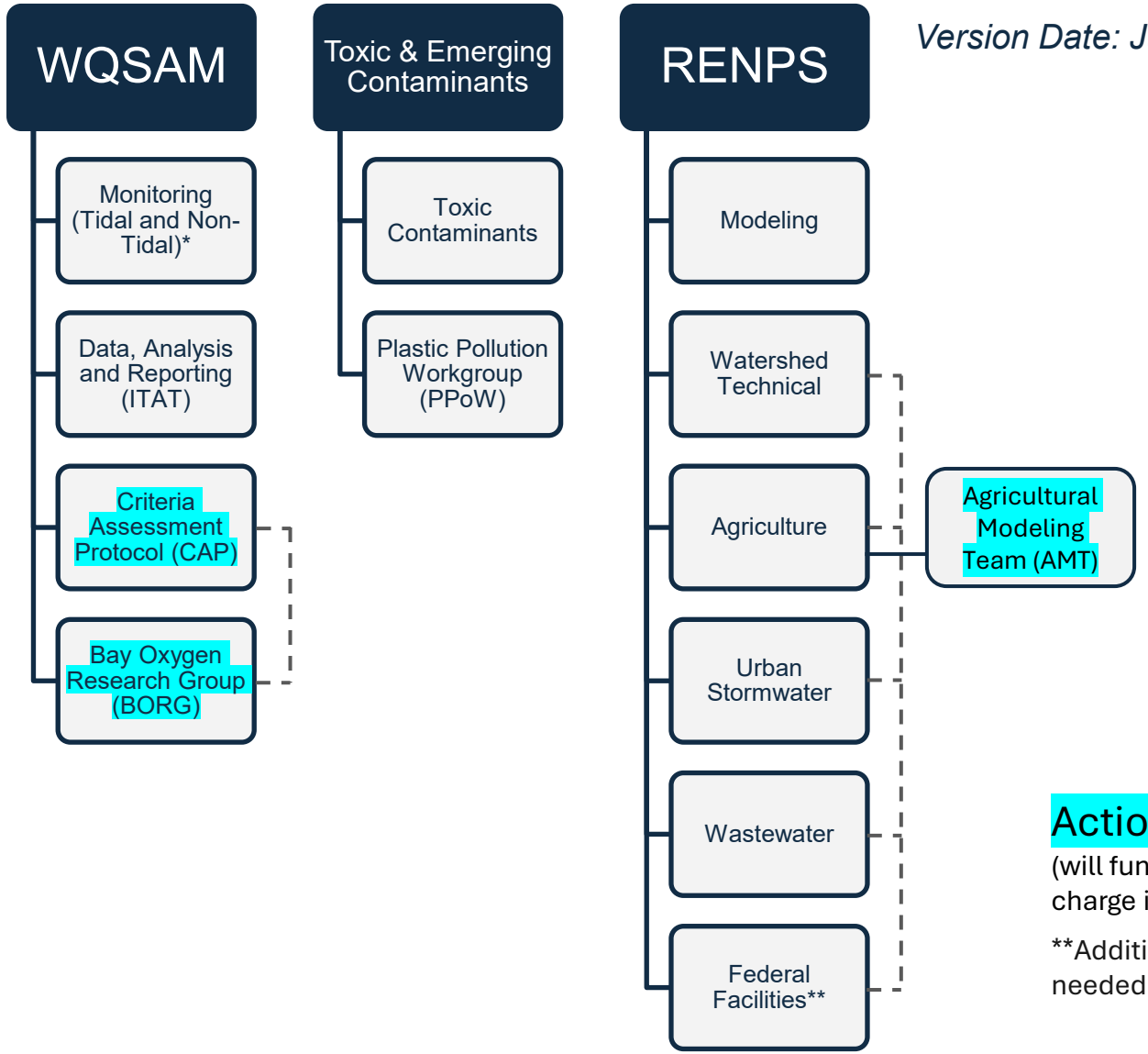
Version Date: June 15th, 2026.

Sunsetting Workgroups

- Milestones Workgroup
- Hypoxia Collaborative Team (integrated into Monitoring Workgroup)
- Non-Tidal Workgroup (integrated into Monitoring Workgroup)
- Data Integrity Workgroup (integrated into Monitoring Workgroup)

Workgroups Moving to Healthy Landscapes GT

- Forestry Workgroup
- Land Use Workgroup



Action Team
(will function until charge is fulfilled)

**Additional discussion needed on structure

Management Strategies – Guiding Questions

- What are the greatest challenges impacting progress towards Outcome attainment?
    - What scientific, environmental, fiscal or policy-related factors impact our work?
    - Which challenges are shared among Outcomes?
- Which challenges to Outcome attainment will be the most critical for partners to address over the next six years?
- What programs are currently being implemented by jurisdictions/agencies?
    - Are there efforts that CBP should avoid duplicating?
    - Are there any gaps in existing efforts?
- What general approaches or actions should CBP undertake to fill gaps and/or address the challenges to goal and outcome attainment?
    - Which approaches should be coordinated across Goal Teams and Workgroups?