Phase 7 Model Options Discussion

- We have received a lot of feedback on the Phase 7 options that were presented at the October 25-26, 2021 meeting and have a better understanding of what WQGIT members and others are asking for.

- The Phase 7 Development Table has been adjusted to provide a demarcation between what can only be done as part of a Phase 7 update/refinement and other activities that could be included at any time because they do not affect our underlying data, assumptions, or calculation methodology.

- The first 4 items listed in the table are Phase 7 updates. The second 5 items can be completed at any time and therefore can be considered to be outside the scope of the Phase 7 updates. The darker line separates the list.

- There were many questions about the need of using a finer spatial scale. However, as was done in Phase 6 we can accommodate multiple scales in our tools based on the purpose that's to be achieved and can adapt or change that's based on future discussions. The current fine scale deployment for certain things in the Phase 6 suite of tools has been fully successful.

- With the revised schedule we will be able to complete the Phase 7 identified options above the line and most of the activities below the line.

- The Water Quality Standard Assessment (development of a new 4D interpolator) is happening on a parallel track to Phase 7 and will not involve the Phase 7 developers in any significant way.

- Spatially Explicit CAST is a user interface upgrade that will allow people to see a visual representation of what is being used by the model. The interface update will allow for a visual on potential co-benefits and valuation (if that information is available and provided to the CAST team for inclusion).

- BMP transparency reporting – can be worked on at any time and incorporated into a CAST release but may take time and coincide with the release of the new Phase 7 suite of models.

Potential Areas of Focus	Recommendations	Impacts Estuarine Model	Impacts CAST	Level of effort	Benefits
Finer-scale modeling - Scale can be variable to support different needs	**WQGIT, other GITs, STAC**	✓	✓	**High**	**Greater accuracy watershed modeling; Enables fine scale targeting of practices; Needed for some co-benefits**
Physical process simulation	**STAC, WQGIT other GITs, CBPO**	✓	✓	**Low-High**	**Greater watershed model accuracy overall**
Nutrient Application calculation	**CBPO**		✓	**Medium-High**	**Increases transparency of CAST scenarios; Reduces unintended consequences of model and data changes**
Improve climate change modeling	**PSC, WQGIT**	✓	✓	**Low**	**Directly addresses PSC priorities; improves confidence in 2025 climate decision.**
Co-benefits and ecosystem services	**WQGIT, other GITs, STAC**		✓	**Low-High**	**Helps partners develop comprehensive plans that benefit local citizens.**
Uncertainty Quantification	**WQGIT, STAC**			**Medium**	**Helps prioritize model updates; Incorporates trends in monitored data**
BMP reporting transparency	**WQGIT**		✓	**High**	**Understanding of the reporting process**
Spatially explicit CAST	**Non-CB TMDL partners**		✓	**Medium**	**GIS based user interface that allows for other views/options for visual representation**
WQ standards Assessment	**WQGIT, STAC**			**Low-Medium**	**Potential to assess all tidal oxygen standards and to delist segments**

https://www.chesapeakebay.net/channel_files/41830/watershed_modeling_workplan_options_for_2025_v2021_08_26_clean.pdf