Summary of Comments, WQ Workplan/Logic Table (EPA, PA, USGS):

General:

- Clarify references to updated modeling tools and consistency with PSC decisions on stopping rule and freezing planning targets through 2025 [EPA]

Response: Agree that updating modeling tools may not be consistent with the PSC decision on the stopping rule and freezing planning targets through 2025. Modeling workgroup and WQGIT will consider options in April and May, 2019.

- We see the workplan needs many of the columns completed, so perhaps with that extra detail much of our concerns will be addressed. However, our initial reaction is the workplan action step descriptions get mixed with performance targets where it isn't clear as to what is actually proposed to get done and how we are going to measure completion. It looks like a lot of work is being proposed, maybe more than what can get accomplished in the next two years. I would hate to lose sight of what has to get done in favor of the latest wish list. There is no connection that we can see to the list of priorities the WQGIT identified and how we are going to move those priorities forward. There may be some very good ideas being proposed here, but the detail just isn't there as to what is being done, by whom and when to understand how this work will move us forward. [PA]

Response: I appreciate this comment. However, the request here will require significant review and assessment to evaluate the list against priorities, not something that will happen in short order as I see it right now. Maybe over two more weeks though. PT

- Confusion on key actions and performance targets, and what should be included in each one

Response: please provide specific examples of key actions and performance targets that you suggest need additional clarity.

- USGS included STAR responsible parties for WQ standards attainment and monitoring-related actions and performance targets; minor USGS formatting and language updates to WQ standards attainment and monitoring logic table and workplan items

Response: Yes, ok.

Logic Table:

- Factor 1 and 2: reconsider current use of state-specific examples [EPA]

Response: comment is noted. The MD examples have been noted as potential lessons learned for other jurisdictions to become aware of.

- Factor 3: include references to enhanced analysis and research to link drivers to changes in aquatic conditions [USGS]

Response: OK

- Factor 5 (new data streams): concern over adding additional information to track while limited in current data analysis capacity [EPA]

Response: STAR will use information from enhanced analysis to help explain water quality trends.

- Factor 7 (next gen models, enhance Phase 6 and develop Phase 7): remove reference to Phase 7, focus only on enhancing Phase 6 [EPA]

Response: Noted

- Factor 8 (historical BMP review): may be duplicative with Factor 6 (quantifying reductions and verification) [EPA]

Response: It's a subset of Factor 6, but it seems reasonable to keep it as its own factor.

- Factor 9 (communication and synthesis): include website references for these communication products [EPA]

  Response:

Will link to data dashboard (http://gis.chesapeakebay.net/wip/dashboard/). However, no current website postings for presentations of storylines. Appropriate presentations will be posted to the Integrated Trends Analysis Team (ITAT) webpage (https://www.chesapeakebay.net/who/group/integrated_trends_analysis_team) and Phase III WIP development webpage on chesapeakebay.net. USGS will get presentations approved for posting.

- Factor 10 (co-benefits and cross-GIT):
  - USWG GIT funding proposal should be removed because they were not selected for funding [EPA]

  Response: noted, confirming this did not receive funding; however ad-hoc stream committees are ongoing anyways in the Urban Stormwater Workgroup (USWG).

  -
  - Clarify how these co-benefits/outcomes were selected for inclusion in the workplan as opposed to other outcomes in the 12 selected priorities for WIP fact sheets [PA]

  Response: There was a stakeholder survey done by LGAC (Local Government Advisory Committee) to identify outcomes most of interest to local governments. Of those, this selection is MB's best judgement as most closely related to the water quality outcomes. The selected outcomes have had co-benefits identified with them, according to the "Estimation of BMP Impact on Chesapeake Bay Program Management Strategies" (Tetra Tech 2017) report:

https://www.chesapeakebay.net/channel_files/25159/draft_bmp_impact_scoring_report_-_20170421.pdf .

- Factor 11 (oyster/filter feeder BMPs): consider including freshwater mussels in filter feeder BMPs [EPA]

Response: comment noted. Currently there is not much available data on mussels filter feeding capacity. USFWS and Anacostia Watershed Society have ongoing research on this topic area.

- Factor 12 (climate projections improvement and climate resilient BMPs): recommendation to use 2050 climate projections rather than 2025 projections. This expectation needs to reflect "beyond 2025." [PA]

Response: The partnership will be looking at projected climate change effects expected by 2025, 2035, 2045, and 2050 from the baseline of 1995. Recommend replacing with the following language "Better understanding of climate resilient BMPs and the quantification of climate change impacts on hypoxia in 2025 and beyond."

- Factor 15: Confirm with VADEQ - Modeling and criteria and assessment alternatives analysis have delayed final rule making that will establish new Chlorophyll-a criteria for the James until late in 2018 or 2019 [EPA]

Response: confirmed with Jim Martin Davis, this deliverable is expected to be completed by the summer of 2019.

Workplan:

- General: Make sure to include performance targets for all actions and management approaches [EPA]

Response: comment noted. Performance targets have been documented for actions and management approaches where they are currently known.

- Action 1.2: Include references to USGS's new modeling approaches for sediment source targeting (addressing factors 1 & 3) [EPA]

Response: addition has been noted. This addition is a useful management action.

- Merge 1.4 and 1.7 for soil phosphorus work in AgWG. [EPA]

Response: MA 1.7 is more focused on the improvement of data than the Phase 6 Watershed Model. This MA is fine with standing as its own MA, given the various performance targets outlined in MA 1.7.

- Consider moving 1.7 (improving Phase 6 model for soil 6) to MA #5 (Phase III WIP implementation) [EPA]

Response: Doesn't seem like an appropriate move. Modeling improvements are not actually part of BMP implementation.

- Recommend adding an MA 2.4 for developing an indicator for measuring incremental progress towards WQ standards attainment. [EPA]

Response: Good, yes, easily done as we are working on this.

- Action 3.2 (new data streams): reference use of WQX and STORET in support of reporting new monitoring streams and data collection [EPA.

Response: Good, yes, such work is happening

- USGS recommends adding new Action 3.3: Expand continuous monitoring in tributaries and the bay to improve the understanding of direct responses in the bay to watershed inputs

Response: Yes, ok.

- Edit MA 4 language to read: Management Approach 4: Enhance analysis of modeled and monitored data ~~of projects identified for additional analyses following the Midpoint Assessment to enhance our understanding of factors affecting water quality~~ to better target pollution reduction practices and to better measure progress towards attaining Water Quality Standards. [EPA]

Response: Yes, ok.

- MA 4: header language is unclear. The action steps look like a big wish list for research, half of which I am not sure what the purpose is. Until some form of prioritization of research needs is done by the Management Board, I suggest deleting this. A workplan on how to address those research needs can then be developed once that list is defined. [PA]

Response: This prioritization is underway by STAR and USGS. The Management Board will review this prioritization of research needs.

- Management Approach 4 header language is way too long. Revise to read: Enhance analysis for ~~of projects identified for additional analyses following the Midpoint Assessment to enhance~~ our understanding of factors affecting water quality [USGS]

Response: Yes, ok.

- Include new measures (indicator) of incremental progress towards WQ standards attainment in Action 4.5 (improvement and enhanced development of metrics to assess change, e.g GAMs, attainment deficit trends) [EPA]

Response: Yes, ok.

- USGS recommends adding action 4.9: Build capacity for analysis and communication of linkage between watershed changes and estuary response

Response: Yes, ok.

- USGS recommends deleting action 4.10 (refine studies and tools to improve understanding of relation between BMP implementation and watershed and estuary response). Merged with 4.8, and unsure who will be able to carry out this action.

Response: Yes, ok. Accepted merging.

- Action 4.12: consider removing model uncertainty analysis if no performance target [EPA]

  Response: The partnership needs to have a better understanding of uncertainty quantification. Performance targets will be developed in future time periods, as the partnership develops additional data/information on uncertainty associated with model projections. The partnership will decide what to do with uncertainty quantification in future time periods.

- Action 4.14: updating land cover/land use is listed under MA 6 in the strategy [EPA]

Response: Not clear where in MA 6 "Approaches targeted to local participation including municipalities, counties, soil and water conservation districts, and local private sector groups and individuals") Action 4.14 is located, please clarify. Are you saying that MA 4.14 supports or is related to MA 6?

- USGS recommends adding action 4.15: Provide analyses of Conowingo and estuarine monitoring through 2018 high flows to support Conowingo WIP development

Response: Yes, ok.

- USGS recommends deleting Action 4.16: continue and expand engagement of scientists to advance the understanding of estuarine responses to watershed management.

Response: Yes, ok.

- MA 5 (Phase III WIP implementation): EPA recommends several performance targets for actions under MA 5. Consider how the WQGIT should assist on evaluating cost effectiveness of source-sector distribution of loads [EPA]

Response: The CAST team has provided planning level information on the cost-effectiveness of BMPs within CAST to inform development of Phase III WIPs: http://cast.chesapeakebay.net/Documentation/DevelopPlans . Additional information about the grant funding sources and on ground performance of BMPs would assist jurisdictions with BMP optimization. Funding gaps for cost-effective BMPs should be identified.

- MA 5.1, 5.2, 5.3: PA recommends removing these actions (revenue sources, cost effectiveness considerations and funding gaps identification for Phase III WIPs). These are already in the Phase III WIPs
  Response: Yes, OK

- Merge 5.4 (evaluation of BMP implementation and maintenance costs) into Management Approach 7 (cross-outcome, multiple benefits and optimization)

Response: Seems more appropriate where it currently is at in MA 5. Unless BMP implementation and maintenance costs address how optimization may take place and evaluates multiple benefits.

- 5.5 (oyster BMP panel work): consider removing if work is already in progress [PA]
  Response: Yes work in progress and phase 2 report to be completed in Sumer of 2019. A public webinar on the the work of the panel will be held in May 2019. Will remove this.

- Action 5.6: Consider inclusion of trading programs; don't limit to just ag and ag certainty programs [EPA]
  Response: Noted. Additional Management Approaches will address this: MA 5.7 "Work with other federal agencies to build capacity that will support an efficient and robust trading market"and MA 5.8 "Guide development of jurisdictions' trading and offset programs."

- EPA recommendation: add actions **5.7** (Work with other federal agencies to build capacity that will support an efficient and robust trading market) and **5.8** (Guide development of jurisdictions' trading and offset programs) EPA recommendation: add actions **6.2** (Development of success stories/lessons learned to share with local entities (focus on local water quality, improvements in flood protection, livability, economic growth, in addition to improvements to the Bay)) and **6.3** (Developing and supporting state or regional approaches to improve local implementation (e.g., circuit rider programs))
  Response: These are great additions.

- Key action 8.4 (stronger use of results to inform WIP implementation): clarify exactly what results are referenced [EPA]
  Response: Results referenced include completed synthesis projects part of MPA and any new analysis and synthesis referenced in the logic table and workplan. Communications will include briefings to STAR, WQGIT and workgroups. Further outreach efforts (e.g. Dashboard) are being developed, including targeted communications every 2 years prior to milestones.

- Need clarification and definition of parameters and teams for Management Approaches 7.1, 7.2, 7.3 (optimization tools and co-benefits quantification) [PA]
  Response: suggested additional language is shown below for MA 7.2 and is applicable to MA 7.1 and 7.3.
  "Quantification of the Value of Green Infrastructure Hazard Mitigation Related to Inland and Coastal Flooding RFP to develop the following. Purpose of the research: Demonstrate how to quantify or monetize the value of natural assets (BMPs) to help planners realize this value and make decisions to optimize for considerations beyond just cost effectiveness; Improve ability to identify and quantify ecosystem services associated with natural green infrastructure and with watershed agreement outcomes; Identify methods for quantifying and valuing ecosystem services in such a way that values can be associated with BMP implementation levels in CAST and for future CAST optimization models; Delineate a process or methodology by which the Bay Program can identify ecosystem services associated with the watershed agreement outcomes or with other goals and priorities, identify which of these services can be quantified or valued, associate services with nutrient and sediment reduction BMPs, quantify services for use in CAST. "

- Action 7.4 performance targets (multiple benefits projects for toxic contaminants and USWG projects (stream restoration, MS4 stormwater programs). Clarify deliverables and exact outcomes desired [PA]
  Response: Approaches for collaboration and prioritization of toxics/source sector issues are documented in the management strategies and workplans for Toxics Policy & Prevention and Toxics Research outcomes. Can reference Toxics documents in this item's performance targets.

- Add a performance target under 7.4: Conduct STAC workshop on either agricultural or storm water settings, to inform benefits of nutrient, sediment, and contaminant reductions [USGS]
  Response: OK, agree.
- Action 8.3 (expansion of technical tools and development of new tools for decision support): clarify what tools and how they will be developed [PA]

Response: Tools include Watershed Data Dashboard (http://gis.chesapeakebay.net/wip/dashboard/); currently developing planning, tracking and reporting tools in coordination with PA. These tools will be developed in coordination with WQGIT, EPA and jurisdictions. We are currently working to build on the Cross GIT mapping effort (http://gis.chesapeakebay.net/intergit/mapviewer.html), and are preparing to coordinate with all GITs in this effort. Current story maps (Conservation and Restoration) are available online, and report on these mapping efforts is being developed.