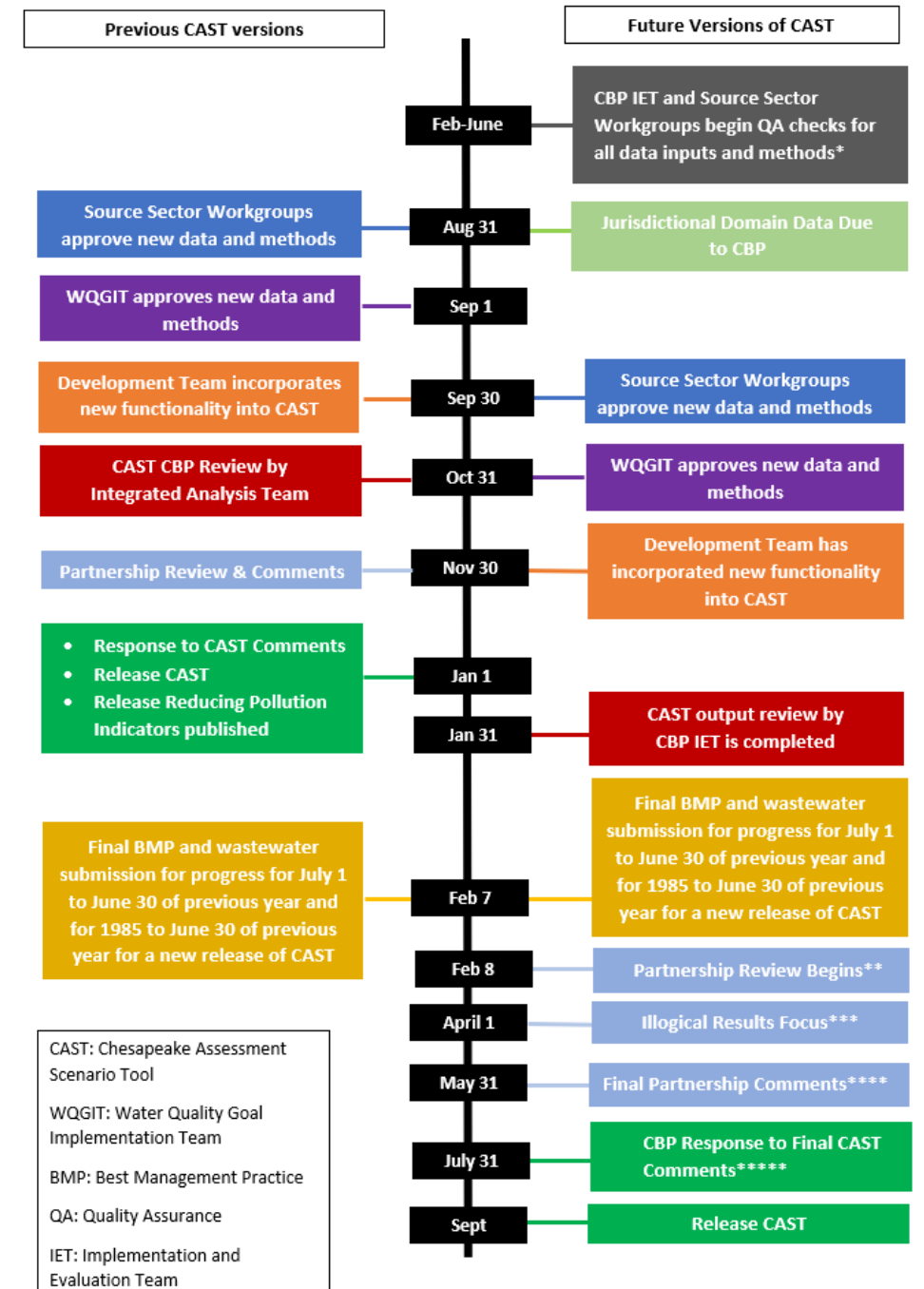


PSC Action & Decision #3: **WTWG Recommendations to the WQGIT**

- **August 2022 PSC Decision 3:** The partnership will **update the process for incorporating data into CAST to include additional safeguards to prevent data analysis errors and to assess reasonability of modeling results after CBP protocols are applied.**
- **WQGIT charged WTWG with developing recommendations for this charge**
- **WTWG broke charge into two parts: PRE (Track 1) and POST data processing (Track 2)**
 - **Pre-Data Processing:** Safeguards and protocols to prevent and protect against data input errors
 - **Post Data Processing:** A process/protocols to assess reasonability of results ("after protocols are applied" means "when we see results")
- **Evaluated each track separately; addressed both within the framework of a formalized *CAST Updates Review Process***

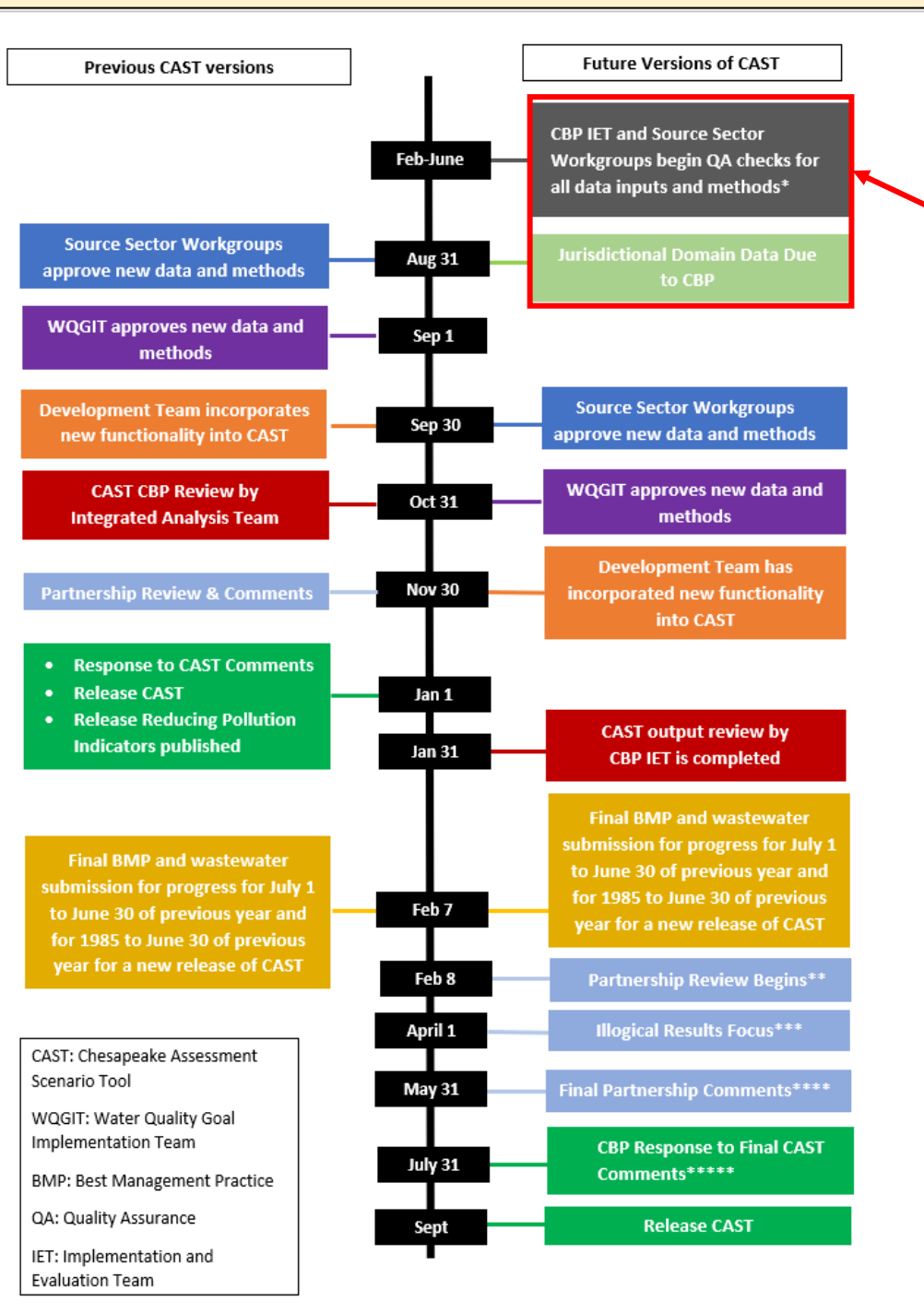
Draft revised **Phase 6 CAST Updates Review Process**- outlines a comprehensive quality assurance procedure and corresponding timeline for CAST data updates.

- Emphasizes and incorporates the initial data, methods, processes and documentation review into the timeline- jurisdictions, WG's & IET
- Lengthens jurisdictional review period
- Adjusts timing of the jurisdictional review
- Emphasizes IET support, communication and prioritization during jurisdictional review
- Addresses perceived anomalies in a timely, scientifically valid and consistent fashion
- Suggests recourse for unresolved issues



CAST 2025 - Phase 6 Final Release Schedule

[illegible]

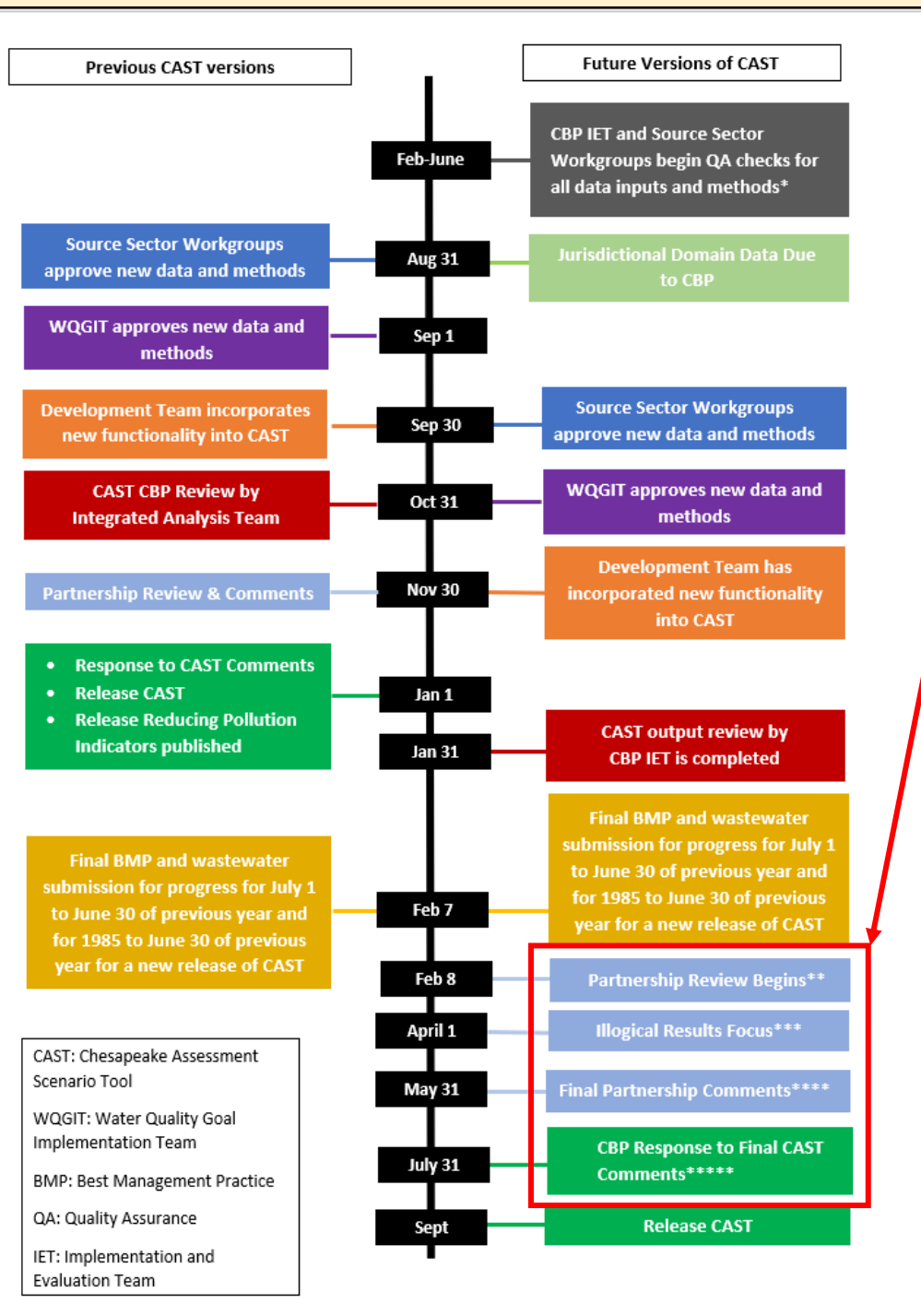


Track 1-Inputs

Includes a review of data inputs within this process-workgroup coordinators and IET (Implementation and Evaluation Team) would ensure that this process occurs

Data input QA/QC Checks (gray and light green boxes) Recommendations:

- Model update review process begins with a quality assurance review of data input sources, data preparation methods, model processing methods, and corresponding documentation
- Review of the processing of data that informs the load
- Review should begin within appropriate source sector workgroups in February of a data update year
- Review of methods, processes and documentation need not wait for the new data to become available
- When new data becomes available a data specific quality assurance review should begin
- Workgroup coordinators should initiate this process with support from the CBP IET to maximize the review period prior to the approval of new data and methods.



Track 2: Outputs and Anomalies

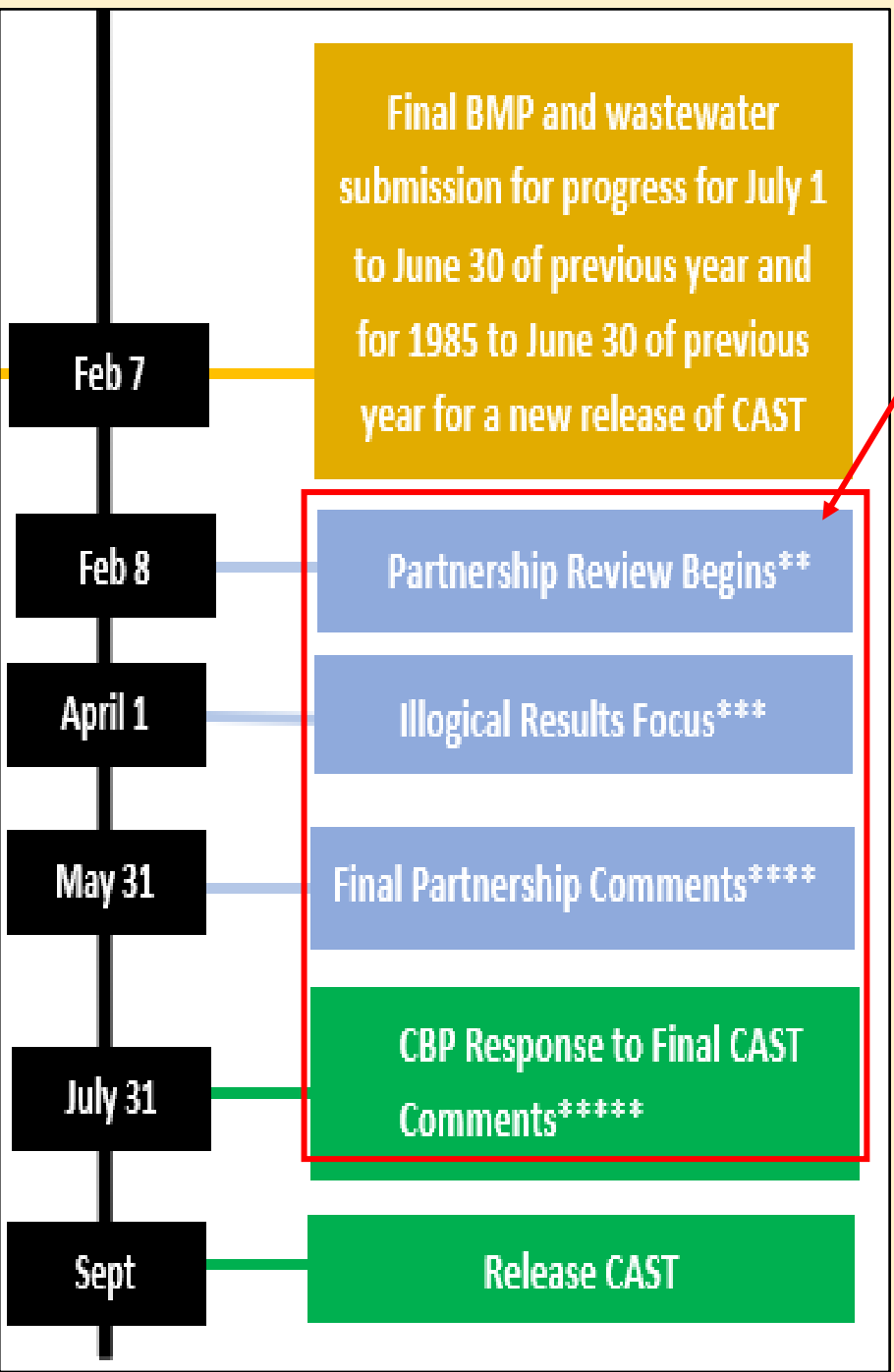
Jurisdictional review of CAST model outputs broken into 4 main steps:

Partnership Review Begins: Ongoing IET jurisdictional support, jurisdictional identification of anomalies

Illogical Results Focus: IET jurisdictional and workgroup support, review process steps

Final Partnership Comments Due: would include documentation of persisting unresolved issues

CBP IET Response to Final CAST Comments: would include unresolved issues and path forward



Track 2: Outputs and Anomalies

Partnership Review Begins: CBP IET jurisdictional support, jurisdictional identification of anomalies

Recommendations:

- Jurisdictional review must occur in a timely fashion- begin as close to Feb. 8 as possible
- **Jurisdictional Support During the Entire Review Process:**
 - CBP IET staff available to answer questions, investigate issues
 - IET jurisdictional support products for viewing and analyzing data
 - Example: **CAST Comparison Tool**: allows “apples to apples” comparison, previous or current progress year could be looked at in the existing model versus the newly updated model version
- Make assertions for unresolved data anomaly/illogical output issues by **March 31st** to IET and relevant source sector workgroup

Final BMP and wastewater submission for progress for July 1 to June 30 of previous year and for 1985 to June 30 of previous year for a new release of CAST

Feb 7

Feb 8

April 1

May 31

July 31

Sept

Partnership Review Begins**

Illogical Results Focus***

Final Partnership Comments****

CBP Response to Final CAST Comments*****

Release CAST

Track 2: Outputs and Anomalies

Illogical Results Focus: IET and source sector workgroup jurisdictional support, review process steps

Recommendations:

- April 1st Begin further investigation of contended anomalies within appropriate **source sector workgroup** with support from IET
- Contender should illustrate/present why data results are illogical; scientifically support or validate that the result is not representative of real change that has occurred from the previous model version
- Workgroup members should confirm or agree that results are illogical
- If agreed upon, workgroup, supported by IET seeks resolution of the anomaly with goal of approving the proposed solution by late May

Final BMP and wastewater submission for progress for July 1 to June 30 of previous year and for 1985 to June 30 of previous year for a new release of CAST

Feb 7

Feb 8

April 1

May 31

July 31

Sept

Partnership Review Begins**

Illogical Results Focus***

Final Partnership Comments****

CBP Response to Final CAST Comments*****

Release CAST

Track 2: Outputs and Anomalies

Final Partnership Comments Due: would include documentation of persisting unresolved issues

Recommendations:

- If resolution of the anomaly cannot be achieved at the workgroup level, the contender documents the issue in their Final Partnership Comments
- The issue should be presented to the WQGIT for review
- The partnership would need to confirm results are illogical, and that no acceptable resolution has been proposed by the workgroup/IET

Track 2: Outputs and Anomalies

CBP IET Response to Final CAST Comments: would include proposed path forward for unresolved issues

Next steps if WQGIT confirms the issue remains unresolved:

Recommendations:

- IET and appropriate source sector workgroup continue work on the issue until an agreed upon solution is developed
- Option to revert to previous model data and methods related to the anomalous results and CAST update is released

Final BMP and wastewater submission for progress for July 1 to June 30 of previous year and for 1985 to June 30 of previous year for a new release of CAST

Feb 7

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April 1

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July 31

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Partnership Review Begins**

Illogical Results Focus***

Final Partnership Comments****

CBP Response to Final CAST Comments*****

Release CAST

WTWG PSC Decision 3 Vote:

- DC: Endorse
- MD: agree with reservations
- VA: stand aside
- WV: endorse
- PA: endorse
- NY: endorse
- DE: endorse
- EPA: endorse
- At-Large: Norm G: stand aside