

Review of CAST Phase 6 Prior to Releasing an Updated Version

The flowchart schedule below shows the process steps and schedule for Chesapeake Assessment Scenario Tool (CAST) releases. The left flowchart is the initial schedule developed for prior CAST updates. The right flowchart is one option for future CAST version updates.

For CAST-2021, we spent the month of September undertaking a CBP staff review of the processed CAST nutrients applied and loads data. This included graphing those data and providing the data and graphs to the **Implementation and Evaluation Team (IET)**. The data review is an important step that allows us to be prepared for the questions and concerns that we anticipate the Water Quality Goal Implementation Team (WQGIT) and others to bring forward. This analysis focused on the following:

- Identifying shifts in overall loads
- Determining if some states are disproportionately affected or if loads shift in different directions for some states
- Assessing which load sources show the most change
- Determining how much of the changes are due to data updates and how much is due to the updated Best Management Practice (BMP) history.
- All detailed updates are posted here: <https://cast.chesapeakebay.net/About/UpgradeHistory>

Improvements are necessary and welcome. The process outline below can serve as the basis of a framework for addressing data abnormalities evidenced in Phase 6 CAST going forward.

The model update review process should begin with a quality assurance review of data input sources, data preparation methods, and model processing methods, along with corresponding documentation. This review should begin within appropriate source sector workgroups as soon as data becomes available, with support from the CBP IET to maximize the review period prior to the approval of new data and methods- this process is described by the gray and blue boxes in the diagram

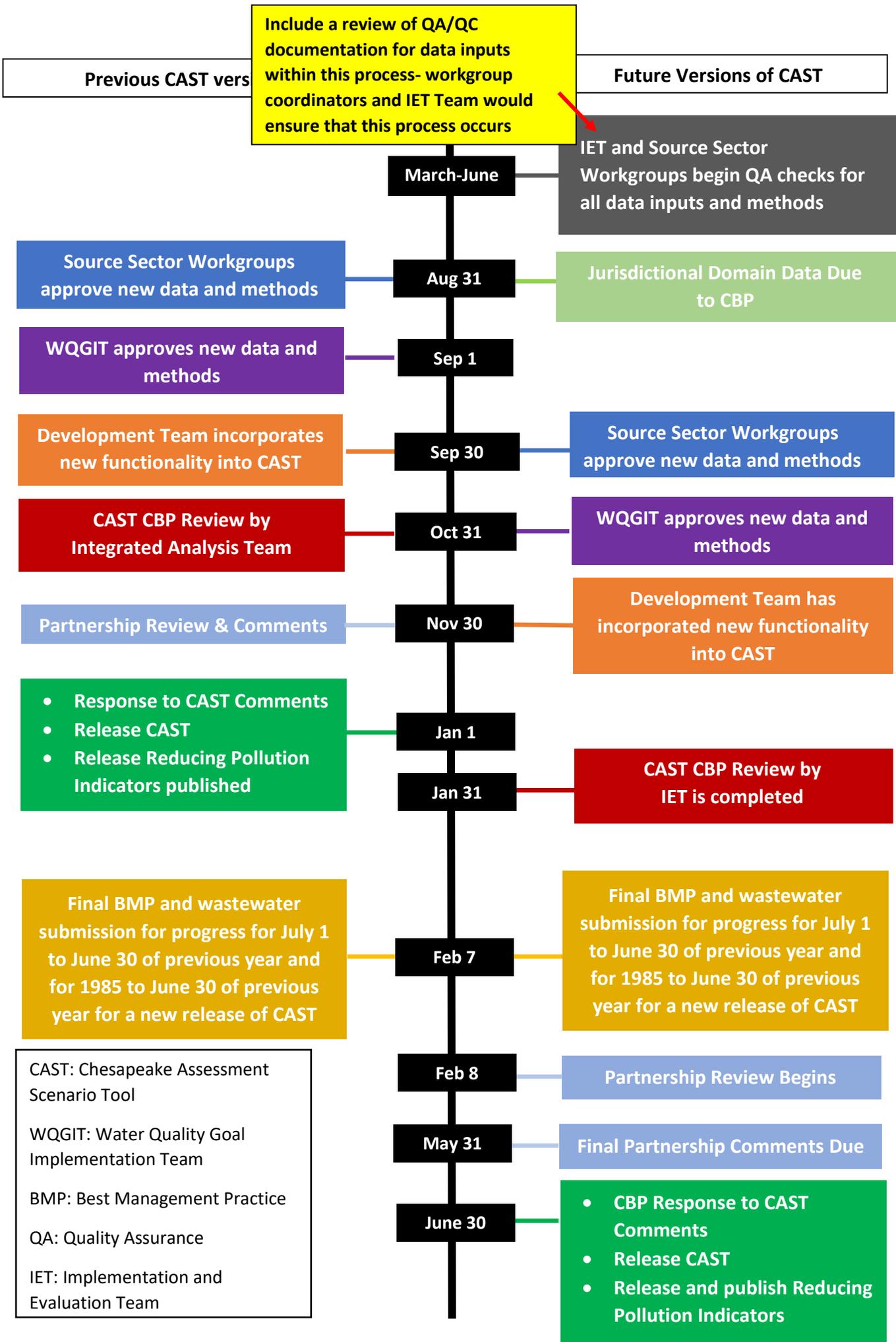
For example: the 5 year Ag Census is usually released in February so review of the data and quality assurance methods used to review and process the data should begin in March in the AgWG and be completed by September 30 of that year.

Other model inputs such as fertilizer, land-use (expected in June), newly approved BMPs, NASS yields, and animal nutrient generation data should be treated likewise.

State domain input data such as construction acres, harvested forest acres, and animal permitted/nonpermitted splits should be similarly reviewed by each jurisdiction prior to submittal to the CBP by August 31st of that year.

A comprehensive list of CAST input data can be found on the CAST website at *Progress Reporting- "CAST Data Update Frequency"* and is linked here:

<https://d18lev1ok5leia.cloudfront.net/chesapeakebay/documents/CASTDataUpdateFrequency-20230131.xlsx>



CAST: Chesapeake Assessment Scenario Tool

WQGIT: Water Quality Goal Implementation Team

BMP: Best Management Practice

QA: Quality Assurance

IET: Implementation and Evaluation Team