

ADVANCED ANALYSIS OF BAYFAST, CAST, MAST AND VAST SCENARIO RESULTS

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AGENDA

- Purpose of CAST, MAST, VAST and BayFAST
- How to set up scenarios to answer your questions
- Comparisons to the reduction target
- BMP information to facilitate best selection
- Downloaded files—use to facilitate analyses
- Strategies for meeting your load reduction targets
- Costs

PURPOSE OF TOOLS

- <http://casttool.org/About.aspx>
- The tools are designed as planning tools
- They are not intended to record implementation or track the exact location of implementation. As such, the scale is not a point like a latitude and longitude, but for a broader area.
- Initially developed for WIPs associated with the 2010 Chesapeake Bay TMDL
- Commonly used for
 - Milestones
 - NFWF proposals and reports
 - 319 Plans
 - WLAs for MS4s
 - Nutrient and sediment local TMDL development and watershed management plans

SETTING UP YOUR SCENARIO

- Typically one scenario for baseline, and others for your plan
- Select initial conditions
- Determine if using an annual progress scenario for baseline is appropriate, and then which scale makes the most sense for your purpose
- For Milestone development
 - Use the year of the milestone, e.g.: 2017 initial conditions for the 2016-2017 milestone
 - Copy in BMPs from the most recent progress at the county scale rather than the state-submitted scale from the most recent progress OR use your state's 2017 WIP

COMPARISON TO A REDUCTION TARGET

- %, lb., or lb. /A. Use what you know.
- Sometimes targets are for a year, and sometimes an amount per year.
- Unit conversions from concentration to lb.
- Spatial scale

BMP INFORMATION

- <http://casttool.org/Documentation.aspx>
- See the Commonly used Chesapeake Bay Program BMP names crosswalk
- See the Source Data, BMP definitions
- To understand the BMP types and how they are calculated, see the BMP calculations
 - Mutually exclusive
 - Overlapping
- Three types of BMPs
 - Land use change BMPs
 - Efficiency BMPs
 - Load reduction BMPs
 - Both land use change and efficiency

DOWNLOAD FILES

- Download files provide additional information
- Use for graphing
- Check to make sure all of your submitted BMP area was credited
- Sum amounts to show amount of implementation or loads on different land uses and geographic scales

STRATEGIES FOR MEETING YOUR LOAD REDUCTION TARGET

- Address the load from the area with the highest delivery factors
- Target the highest loading land uses by looking at the baseline lb/a (no BMP or initial conditions)
- Sort BMPs for those eligible to treat those land uses with highest load
- Choose BMPs that have the highest load reductions/efficiencies
- Consider cost and reallocating loads among sectors based on cost
- Consider doing something different, not more of the same

COSTS

- Public and private costs are shown
- Annualized costs, because you do not know when a practice will be implemented
 - To generate multi-year costs, multiply by no. of years OR adjust lifespan
- To determine future costs, use compare scenarios and subtract from your baseline
- Cost lifespan is the life of the BMP. Economists refer to this as the life of the asset rather than the life of the instrument . For example, a house payment does not last as long as a house. The house payment is the life of the instrument, the house is the life of the asset. CAST lifespans are for the life of the house.
- Post 2025, BMPs must be maintained and new growth offset