

Chlorophyll a endpoint of 15 µg/l at the 4/22 meeting.

consensus – 90th percentile as a metric. The goal of this is for protection of aquatic life, in this case, SAV. STAC would prefer applying this metric to the polyhaline salinity regime rather than a defined/mapped SAV grow-zone.

Need clarification on the boundaries of the salinity regimes.

Does the MCBP have this information already established?

Is the methodology consistent with that that the Chesapeake Bay Program used to define salinity regimes?

Any references you could point us to?

recall that interpretation and application of chlorophyll data and endpoints will be done at the level of model output, rather than assessment at stations as in the case of dissolved oxygen. This means we will have much more to work with, in terms of numbers and temporal and spatial extent. Because of this, although unlikely, there is the possibility that when viewing model output, there may be small areas within the polyhaline zone that are unsuitable for seagrass growth due to substrate or other non-salinity related reasons, where meeting the endpoint might be difficult due to the size of the reduction in loading needed. We would not know if this type of a situation exists, or how to address it, until we begin scenario runs, but it is a concern that has been expressed by staff here.

Regarding the salinity regime question, in summary, we feel it is a good idea and probably a workable approach. We ask for your assistance in directing us to references defining and describing the salinity regimes. We also need to get final approval on this approach from upper management at MDE.

We would be using a chlorophyll a endpoint of **50 µg/l in other areas—most likely the oligohaline and any tidal-fresh zones.**

This value has been used in other TMDLs and derives from linkage with maintaining the dissolved oxygen standard. We have not yet finalized an approach or metric, but we envision that it may take the form of a 30-day rolling average during the growing season or appropriate period of interest. We did not discuss this as much with you previously, as we were all more focused on the 15 µg/l/SAV component of the chlorophyll a endpoint. It is likely that we will need the results of scenario runs (e.g., natural conditions) to fully refine this metric and/or method of application.

3. Budgeted for 20 scenario runs

1. baseline scenario, 'natural conditions' scenario—all natural vegetation, no point sources or agronomic loads, etc. This would bound the realm of the absolutely, if not practicably, possible.
2. series of iterative/incremental load reductions—steps along the way between the two extremes. These would help establish the response of the system to gradational reductions in loads.
3. geographic isolation scenarios, in the instance that some area(s) of the system seem to be more affected by localized loads.

Any insight into mitigation practices that are 'in the pipeline' so to speak? Some things to consider would be

1. planned changes in urban land use and agricultural BMPs,
2. plans to shift septic to sewer conditions in the future,
3. shifts to spray irrigation, and so forth.

If you have this information, and it could be quantified in such a way as to be incorporated into scenarios, this would be especially helpful to us all.

1. 90th percentile 15 ug/L Chl looked reasonable
2. categorization by salinity (oligo, meso, poly) was introduced by DNR and MDE will consider
3. MDE is looking for scenarios for tmdl modeling

Approximately 20 scenarios will be necessary for TMDL number development. Bill Dennison and I came up with a scenario starting point from which to begin the discussion to select the best scenarios to have MDE run. The following is a wish list and may be too large. Runs would be for N, P and DO as surrogate endpoint.

### Coastal Bays TMDL Modeling Scenarios

Baseline – current conditions, permitted vs current WWTP flows?

All Natural conditions:

1. All forest, no ag, no impervious
2. no atmospheric input
3. no septic or sewers.

The following scenarios should be run on current conditions:

1. With and Without input from Chincoteague Island
2. None and Full implementation of N removing septic
3. All and Removal of all CAFOs
4. With and without all atmospheric inputs
5. With and without OC ocean sewage outfall
6. With and without all impervious surfaces
7. None and Full implementation of cover crop program

For entire coastal bays watershed – 6 (MDE6)

For 5 eight digit subwatersheds (MDE8)

1. Assawoman
2. Isle of Wight (includes S Martins R)
3. Sinepuxent
4. Newport Bay
5. Chincoteague