

Review of the Instantaneous
Minimum Workshop Findings:
A Joint Meeting of the CAP WG and
TMAW

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Today's presentation

- Provide an update on the issue of assessing short-duration D.O. criteria in Chesapeake Bay.
- Share Findings and Action Items from the December 2013 Instantaneous Minimum D.O. Criteria Workshop.

The IM Workshop: December 2, 2013

- 5 presentations provided by Bay experts on the IM criteria and its assessment
 - (Batiuk, Shenk, Breitburg, Perry, Robertson).
- Afternoon discussion period

Our charge:

To develop science-based recommendations for consideration by the Chesapeake Bay Program partnership that may include:

1. alternative interpretations of the instantaneous minimum (IM) criterion definition,
2. alternative short-duration criteria, and
3. coincident options for their procedures supporting their assessment.

Our charge:

To develop science-based recommendations for consideration by the Chesapeake Bay Program partnership that may include:

1. alternative interpretations of the instantaneous minimum criterion definition,

Discussions focused on IM in the context of criterion assessment needs.

IM refers to 1 or a few hours of exposure to D.O. criteria threshold levels, not the singular instant in time.

ACTION – Clarify this IM interpretation.

Our charge:

To develop science-based recommendations for consideration by the Chesapeake Bay Program partnership that may include:

2. alternative short-duration criteria,

Discussions provided consensus that the published criteria thresholds remain supported by the science .

No ACTION: There are no suggestions to change the criteria thresholds.

Our charge:

To develop science-based recommendations for consideration by the Chesapeake Bay Program partnership that may include:

3. coincident options for their procedures supporting their assessment.

This is where the focus of the group centered for most of the discussions. Work remains on this topic.

The IM Workshop assessment options discussions showed:

- Sampling frequency is linked with risk of nonattainment when trying to apply the Umbrella Criterion approach (Elgin Perry).
 - Small numbers of samples produce high but quantifiable uncertainty in judging attainment with this method.
 - Use of the historical data set to inform our estimate of the mean each month may be able to reduce this uncertainty.
 - **ACTION**: An ad hoc team of analysts plans to follow up with this idea and pursue this approach this winter.

The IM Workshop assessment options discussions showed:

- The summation of nearshore (high frequency data evaluation) and offshore (low frequency fixed sites) habitat assessments may provide an acceptable hybrid assessment approach (Tish Robertson, VADEQ)
 - **ACTION**: Tish will summarize this work for further consideration supporting listing/delisting decision needs
 - There are assumptions that need to be defined and agreed upon regarding minimum numbers of sites, days of sampling etc.
 - **ACTION**: A comparison of this suggestion and assessments made with the CFD will be pursued.

The IM Workshop assessment options discussions showed:

- There are complex mortality curve exposure assessments being used to assess IM criteria (e.g. Rhode Island)
 - Conceptually desirable among participants but we are very time limited to attempt to rapidly and effectively transfer this work into the Chesapeake Bay context.

The IM Workshop assessment options discussions showed:

- Final thoughts: Don't forget to give consideration for separating physics from anthropogenic effects in the assessment process (D. Breitburg SERC).
 - A general thought that will benefit from further discussion.

In closing today:

- The CAP WG will return to the WQGIT in 2014 following up on finalizing decisions from the IM Workshop action items.
 - Clarify the interpretation of an Instantaneous Minimum criterion for assessments.
 - Address the issue of duration.
 - Summarize the Hybrid IM assessment approach.
 - Compare the Hybrid versus CFD for performance . Can we get comparable decision-making power from a different assessment method?
 - Pursue the use of historical data in supporting the Umbrella Criterion assessment approach of IM's.
 - Provide greater certainty in the monthly mean and translating that to a greater certainty regarding the risk of IM nonattainment.
 - Provide considerations for physics effects in the assessments.
 - Can the assessment better inform separation of physical and anthropogenic effects on this Bay health measure.