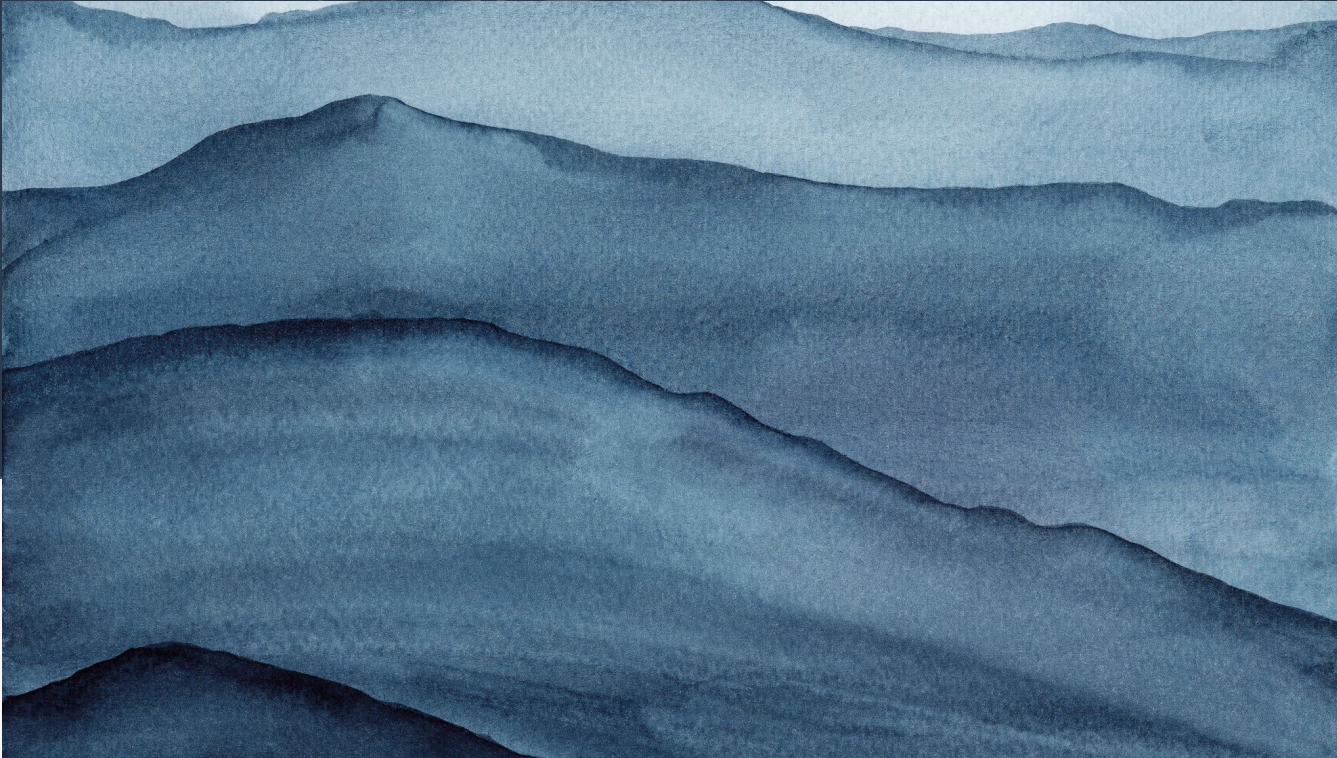


Comprehensive Evaluation of System Response (CESR) Update to STAC



March Quarterly Meeting
2022

When we began the effort.....

President Trump Gives Speech Regarding Mueller



On March 2, President Trump gave a speech regarding the ongoing Mueller investigation. The investigation has surfaced in the past few months. Cohen, went in front of the Supreme Court. Mueller is expected to hand in his report (BBC)

Anti-Vaccination Bills Passed



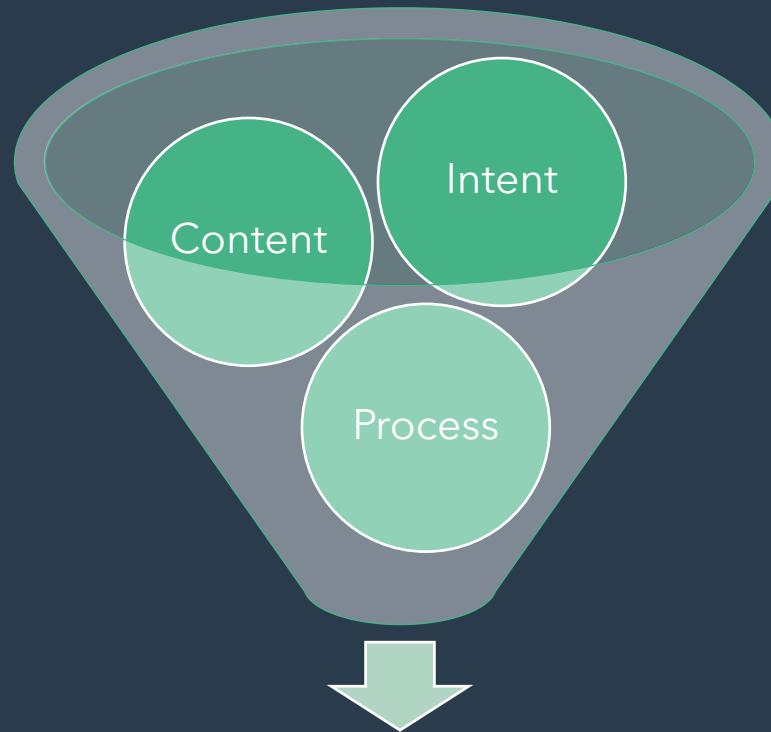
On March 6, at least 11 states passed anti-vaccination bills despite the outbreak of previously eliminated diseases. The bills expand the reasons for parents to opt out of vaccinations for their kids. The bills also state that they provide more information regarding the risks of the vaccines. The intention is to eliminate the stigma surrounding the world of vaccinations. (CNN)

College Admission Cheating Scandal



On March 12, the Department of Justice announced that over 50 people have been arrested in connection with a college admissions scheme. The scam included cheating on standardized tests and bribing admission administration. Many Hollywood stars, such as Lori Loughlin and Felicity Huffman, have been indicted on charges. (CNN)

Today, a brief review of:



Important & Impactful

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Intent

CHESAPEAKE FUTURES



Choices for the 21st Century

AN INDEPENDENT REPORT BY THE
SCIENTIFIC AND TECHNICAL ADVISORY COMMITTEE



CHESAPEAKE FUTURES *Choices for the 21st Century*

*edited by
Donald F. Boesch
and
Jack Greer*

*An Independent Report by the
Scientific and Technical Advisory Committee*

March 2019 STAC Mtg; Benham, Easton, Stephenson

Chesapeake Bay: State of the Science 2025

Engage STAC to generate a consensus report that assess the level of confidence in existing and future management efforts to achieve existing water quality standards.

1. Are management efforts (current and planned) sufficient to achieve target nutrient/sediment load reductions (delivered, not modeled)?
2. If current nutrient/sediment load reduction goals are achieved, will those reductions be sufficient to achieve existing water quality standards?
3. Identify the level of confidence in existing and future management efforts to achieve water quality standards and assess the potential of alternative management policies to improve the probability of achieving water quality standards.
4. Assess the consequences for living resources if existing water quality standards can not be attained.



Chesapeake Bay: State of the Science 2025

Potential Proactive STAC Assessment Effort



Content

Public Policy

Chesapeake Bay Agreement: Restoration Goals

- Sustainable Fisheries
- Vital Habitat
- Water Quality**
- Toxic Contaminants
- Heathy Watershed
- Climate Resiliency
- Land Conservation
- Stewardship
- Public Access
- Environmental Literacy

Water Quality Standards

Designated Uses

Water Quality Criteria
Dissolved Oxygen, Water clarity/SAV, & Chl-a across 5 habitats

| | | | |
|---|---|---|-------------------|
| 6 | Migratory Spawning and Nursery Habitats | 6 | Striped Bass: 5-6 |
| 5 | Shallow-Water and Open-Water Habitats | 5 | White Perch: 5 |
| 4 | Deep-Water Habitats | 5 | American Shad: 5 |
| 3 | Deep-Water Habitats | 5 | Yellow Perch: 5 |
| 2 | Deep-Water Habitats | 5 | Hard Clams: 5 |
| 1 | Deep-Channel Habitats | 3 | Alewife: 3-6 |
| 0 | | 3 | Crabs: 3 |
| | | 3 | Bay Anchovy: 3 |
| | | 1 | Worms: 1 |

TMDL: Stressor Reduction Goals

Targets: Nitrogen, phosphorus, sediment loads to achieve water quality criteria

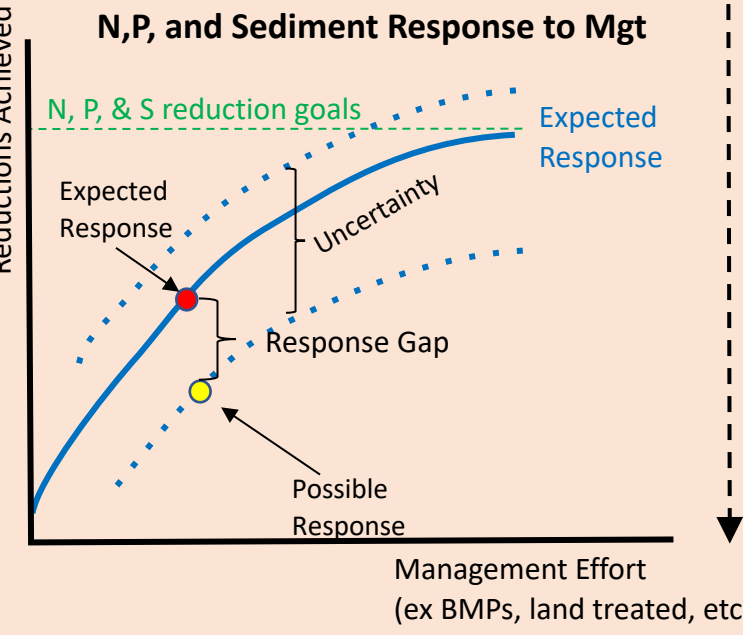
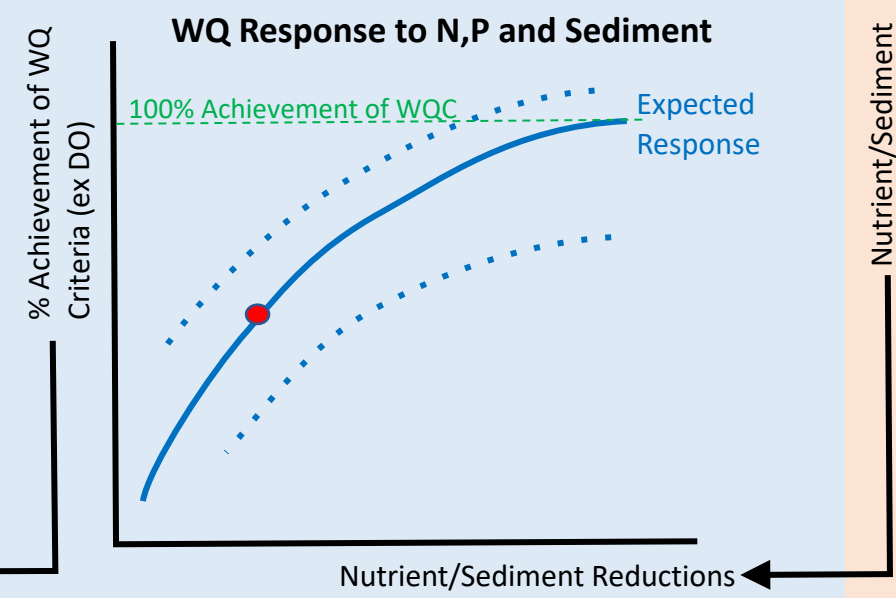
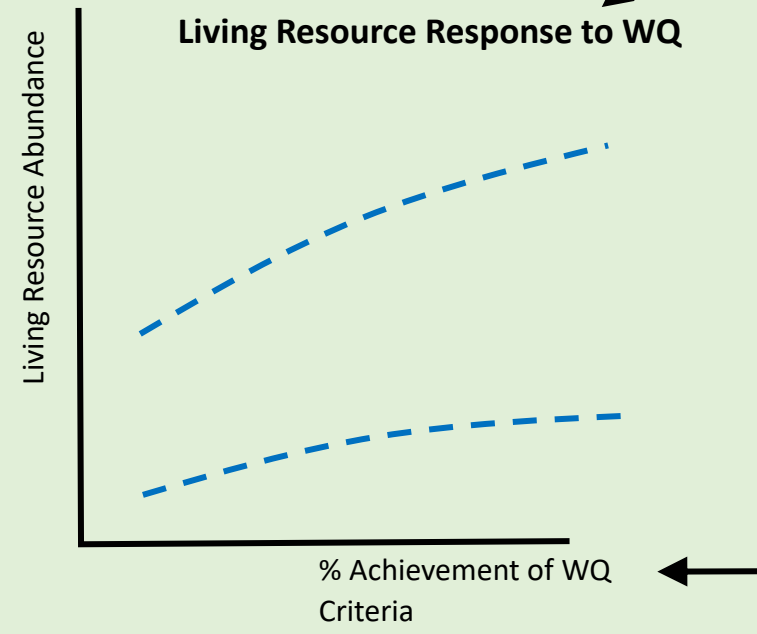
TN: 214.6 m/lbs/yr
TP: 13.4m lb/yr
TSS: 18,587m lb/yr

Implementation Policy

Policies designed to reduce stressors to achieve WQS.

- Point source
- Urban nonpoint source
- Ag nonpoint source
- Budgets

Biological, Physical, and Social System Response

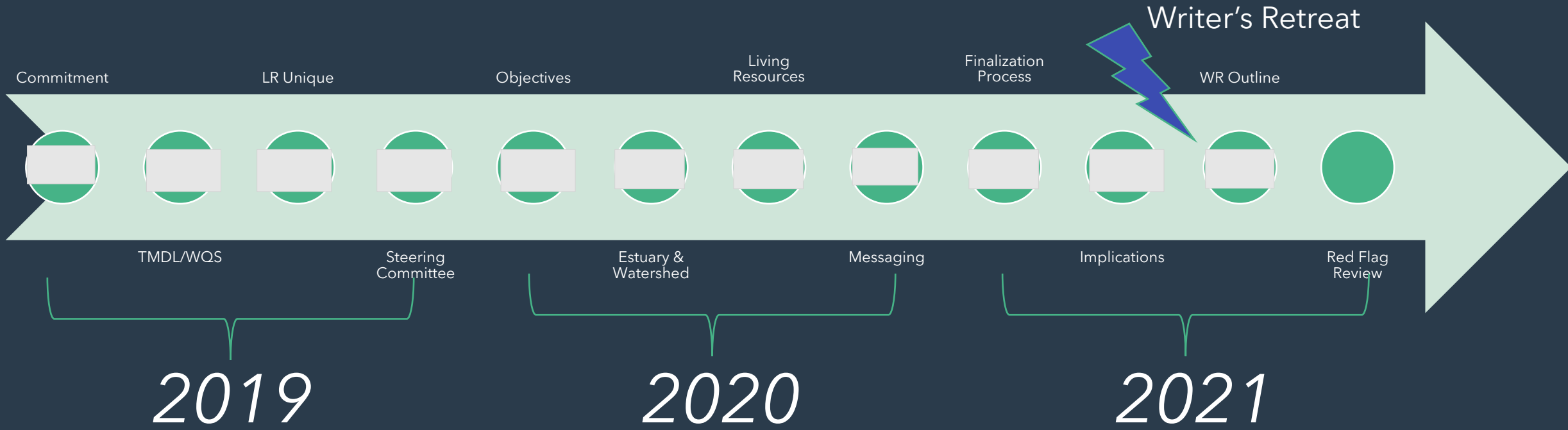


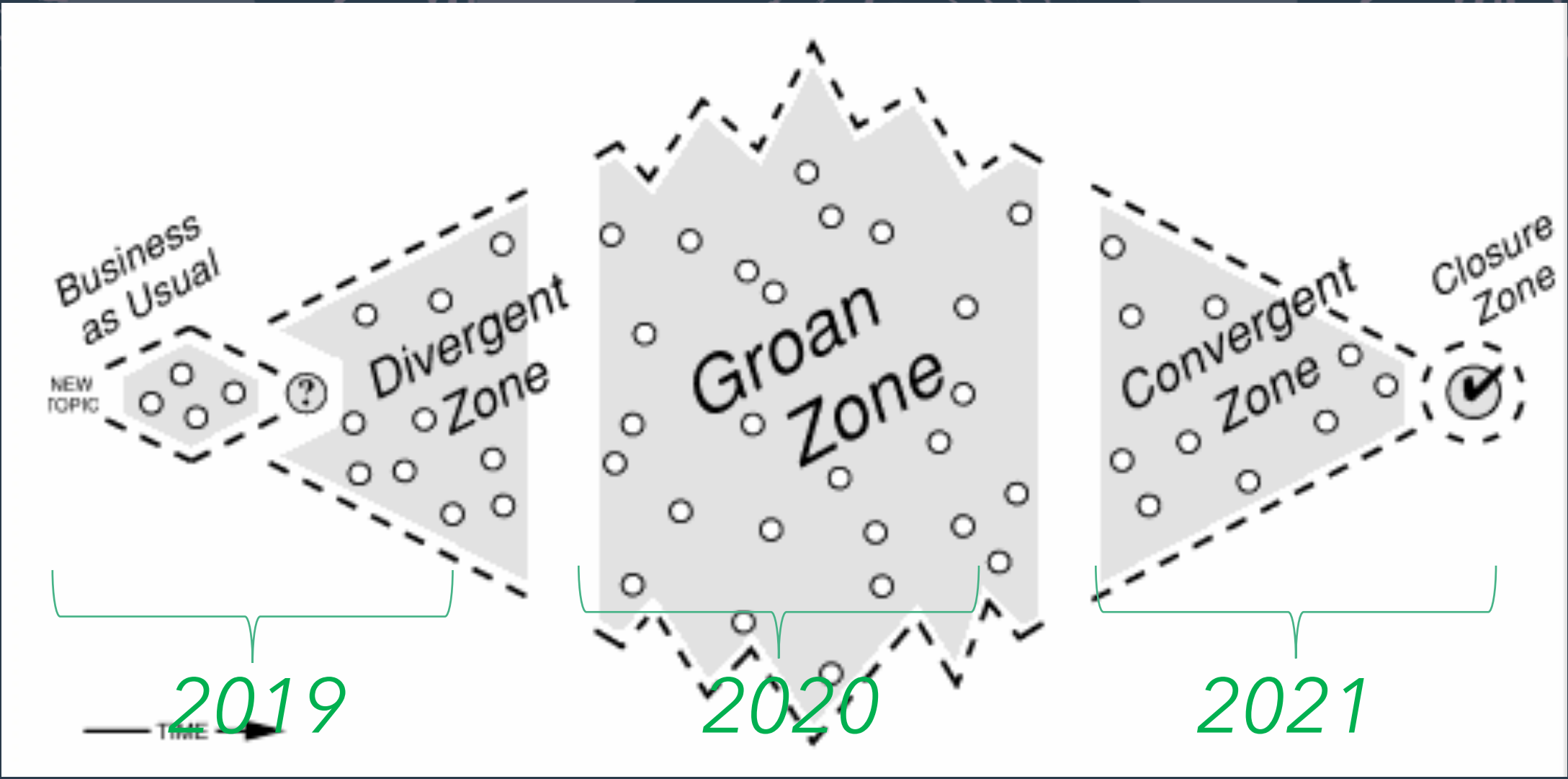
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Process

CESR Timeline

March 2019 - December 2021





Courtesy of Sherry Witt

What Level of Support is Optimal?

**Enthusiastic
support is
necessary**



**Lukewarm support
is good enough**

| | | |
|------------------|------------------------------|-----------------|
| High Stakes | Overall Importance | Low Stakes |
| Long-term Impact | Duration of Impact | Short-term Only |
| Tough Problem | Difficulty of the Problem | Simple Problem |
| High Investment | Stakeholder Buy-In | Low Investment |
| High Autonomy | Empowerment of Group Members | Low Autonomy |

One minute essay: what is your definition of consensus?



This Photo by Unknown Author is licensed under [CC BY](#)

Wikipedia's definition of consensus

- Consensus is a group discussion where everyone's opinions are heard and understood, and a solution is created that respects those opinions. Consensus is not what everyone agrees to, nor is it the preference of the majority. Consensus results in the best solution that the group can achieve at the time.

https://en.wikipedia.org/wiki/Wikipedia:What_is_consensus%3F; accessed 3/7/2022

What Consensus is not

- A majority vote
- Unanimity
- All or nothing
- Permanent
- The king
- A walled garden
- A contest
- Hypothetical

Processes are unique

e.g., Water Quality Goal Implementation Process



Courtesy of Sherry Witt

Design Spheres for a Process

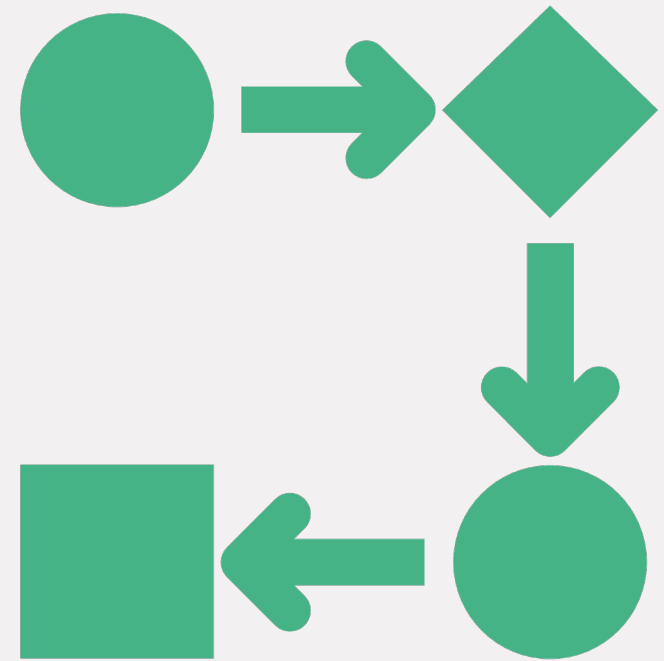


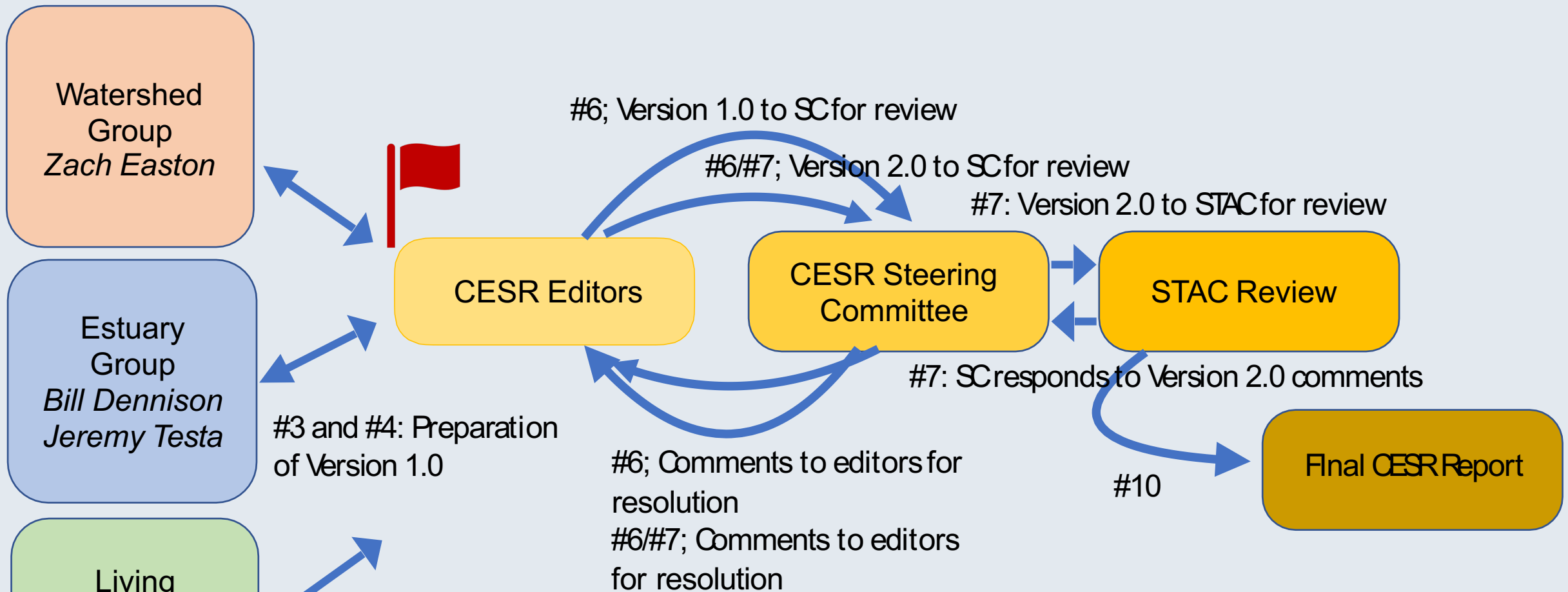
What are important considerations by STAC members?

- Before submitting a final report to STAC staff, the draft report should be reviewed by all parties deemed necessary and appropriate by the report author(s), including the steering committee, workshop participants, STAC members, and relevant experts.
- For any STAC report compiled for a workshop, review or other activity, STAC will vote to endorse a final editorial authority. The final editorial authority must be one of the following: 1) the STAC representative(s) on a review or workshop committee; 2) the STAC Executive Board; or 3) a majority of the entire STAC membership. Note, please see STAC Review Protocols for attaching letters of support or letters of alternative opinions.
- STAC staff will conduct a final editorial review before publication and dissemination of the final report. Significant editorial changes made during this review will be submitted to the author(s) for approval prior to publication and distribution.

Process Design Objective

- To provide support for the preparation of the CESR Report, in a way that provides defensibility, efficiency, and consensus, so that the partnership is supported in decision-making as it approaches the 2025 deadline.





Steps:

- #1 Preliminary “stitching together” of summaries and draft text for Framing Outline
- #2 Framing Outline to Steering Committee for approval; identification of scope of CCSR Report versus alternative destinations for additional products; presentation of format, draft Summary, and draft Implications to STAC
- #3 Preparation of Version 1.0 by DHW and KS
- #4 Preparation/Iteration of Version 1.0 by *Writer’s Group* and supporting personnel
- #5 Additional product(s) to CRC for support and drafting of plan
- #6 Version 1.0 report to Steering Committee for major notes for Version 2.0; submittal to Reader
- #6/#7. Version 2.0 to Steering Committee with resolution of comments
- #7 Presentation of Version 2.0 to STAC for consensus review; Steering Committee resolves STAC comments
- #8 CRC admin support of publishing of associated products through appropriate channels
- #9 Planning/Partnership with CBP for Outreach Plan (CESR and others)
- #10 Publishing of signed Version 2.0

STAC Approvals/Presentations to date

- Report Objectives (approved by STAC)
- Formation of Steering Committee (approved by STAC)
- Proposed production and review process (approved by Steering Committee, presented to STAC)
- Revised report format (approved by Writer's Group, presented to STAC)
- Sections 1 and 2 (general review by STAC)
- Framing questions to Watershed, Estuaries, and Living Resources (approved by Steering Committee, presented to STAC)
- High level summary of responses to Framing Questions (approved by Writer's Group, presented to STAC)
- High level summary of major points for Implications (approved by Writer's Group, presented to STAC)
- Red Flag Review by STAC

Red Flag Review by at- large membership (September through December 2021)

“Both the Summary and the Implications are consensus pieces that were constructed in outline format at the 2-day Writer’s Retreat held in August, and were drafted by myself based on these outlines. While the Resource Documents allows authors flexibility to explore related issues beyond the confines of the framing questions, the Summary and Implications sections need to be succinct and representative of STAC. Thus, we are presenting both sections to you tomorrow, and asking you to review them for the following:

1. Identify any points that are not understandable in their current form; we will address these comments as we write the Summary and Implications sections.
2. Flag points that you find objectionable for inclusion, i.e., “deal breakers”; we will address resolution of these in a follow up process.
3. Propose points for Implications that appear to be missing.

Red Flag Review Results

- All comments are compiled (6 pages!) and will be used as Version 1.0 is being prepared
- Most were editorial in nature, e.g., pertaining to tone, additional material to include, general presentation notes (Category #1)
- Content that was judged by members to be sensitive, or comments that were the result of considerable time and care, were discussed via one-on-one phone conversations
- None of the major points outlined in the summary were judged to be disagreeable at this point, and so document preparation is following the complete outline summary as presented (Category #2)
- No additional implications were identified (Category #3)
- Steering Committee will assess whether comments have been addressed to satisfaction

Implications

- **Expand Adaptive Governance/Management.** The attainment of WQS may get harder and the effectiveness of nutrient/sediment investments more uncertain; therefore, the program must evolve beyond its current adaptive management approach.
- **Rethink Criteria.** Given what we've learned and the changing stressors on the Bay, it will be necessary to reconsider desired endpoints and/or reevaluate how they are defined.
- **More Effective Implementation.** Both physical (BMP effectiveness) and social (behavioral change) aspects of implementation need revision to make substantial progress in reducing nonpoint source nutrient/sediment loads
- **Evaluate Tradeoffs/Allocate Resources Appropriately.** The TMDL operates in the context of a larger set of goals and a future of changing conditions; this implies that success will involve both a reflection on our goals as well as how we design our approach.

Scientific and Technical Advisory Committee (STAC)

About the Scientific and Technical Advisory Committee

The Scientific and Technical Advisory Committee (STAC) provides scientific and technical guidance to the Chesapeake Bay Program (CBP) on measures to restore and protect the Chesapeake Bay. Since its creation in December 1984, STAC has worked to enhance scientific communication and outreach throughout the Chesapeake Bay Watershed and beyond. STAC provides scientific and technical advice in various ways, including (1) technical reports and papers, (2) discussion groups, (3) assistance in organizing merit reviews of CBP programs and projects, (4) technical workshops, and (5) interaction between STAC members and the CBP. Through professional and academic contacts and organizational networks of its members, STAC ensures close cooperation among and between the various research institutions and management agencies represented in the Watershed. For additional information about STAC, please visit the STAC website at <http://www.chesapeake.org/stac>.

Publication Date: Month Day, 2022

Publication Number: 22-XXX

Suggested Citation:

Scientific and Technical Advisory Committee (STAC). 2022. *Achieving Water Quality Goals in the Chesapeake Bay: An Evaluation of System Response*. STAC Publication Number 22-XXX. Chesapeake Bay Program Scientific and Technical Advisory Committee (STAC), Edgewater, MD. XX pp.

Achieving Water Quality Goals in the Chesapeake Bay: An Evaluation of System Response

Report Steering Committee

Brian Benham, Virginia Tech
Anthony Buda, USDA Agricultural Research Service.
Bill Dennison, University of Maryland Center for Environmental Science
Zachary Easton, Virginia Tech
Ellen Gilinsky, Ellen Gilinsky LLC
Andy Miller, University of Maryland, Baltimore County
Mark Monaco, NOAA, National Centers for Coastal Ocean Science
Kenny Rose, University of Maryland Center for Environmental Science
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Achieving Water Quality Goals in the Chesapeake Bay: An Evaluation of System Response

Table of Contents

Executive Summary

1. Introduction: Challenges and Future Opportunities for Achieving Water Quality Goals in the Chesapeake Bay
2. Evaluating of System Response to Water Quality Policy and Management Efforts
3. Achieving TMDL Nutrient and Sediment Reductions
4. Achieving Water Quality Standards in the Chesapeake Bay
5. Living Resource Response to Changes in Water Quality
6. Implications for Future Water Quality Policy and Management for the Bay

Supplemental Reports (listed, but not included, in the report and published by CRC separately):

Easton, Z., K. Stephenson, B. Benham, J.K. Bohlke, C. Brosch, A. Buda, A. Collick, L. Fowler, E. Gilinsky, C. Hershner, A. Miller, G. Noe, L. Palm-Forster, T. Thompson. 2022. *Evaluation of Watershed System Response to Nutrient and Sediment Policy and Management*, STAC Publication Number 22-XXX. Chesapeake Bay Program Scientific and Technical Advisory Committee (STAC), Edgewater, MD. XX pp.

Dennison, W., L. Sanford, J. Testa, B. Benham, C. Hershner, W. Ball, D. Gibson, M. Runge, and K. Boomer. 2022. *Knowledge Gaps, Uncertainties, and Opportunities Regarding the Response of the Chesapeake Bay Estuary to proposed TMDLs*, STAC Publication Number 22-XXX. Chesapeake Bay Program Scientific and Technical Advisory Committee (STAC), Edgewater, MD. XX pp.

Rose, K., M. Monaco, K. Havens, H. Karimi, J. Hubbard, E. Smith, J. Stauffer, T. Ihde, L. Shabman. 2022. *Proposed Framework for Analyzing Water Quality and Habitat Effects on the Living Resources of Chesapeake Bay*. STAC Publication Number 22-XXX. Chesapeake Bay Program Scientific and Technical Advisory Committee (STAC), Edgewater, MD. XX pp.

Finalization

Existing Process

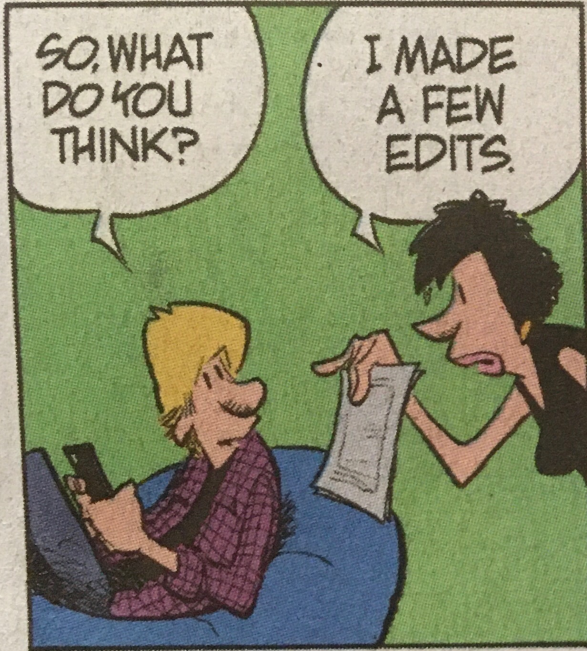
- Version 1.0 to Steering Committee for review
- DHW/KS respond to **all** comments
- Version 2.0 to Steering Committee for review
- Version 2.0 to at-large STAC for approval
- Steering Committee responds to comments from at-large STAC

Proposed Revised Process

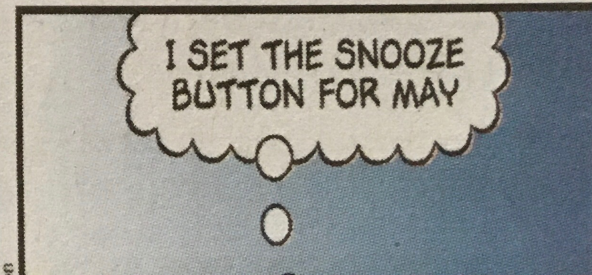
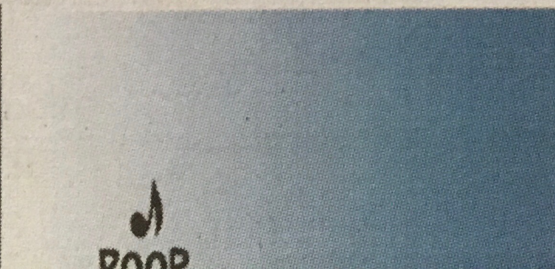
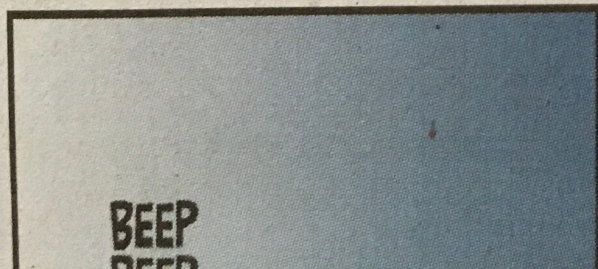
- Version 1.0 to Steering Committee + **committed parties** for review
- DHW/KS respond to **all** comments
- Version 2.0 to Steering Committee for review
- **Version 2.0 to at-large STAC for individual inclusion/opt out decision**



ZITS Jerry Scott and Jim Borgman




GARFIELD Jim Davis



Action Items

- Acknowledgement to move to finalization re: process
- Identification of those wishing to review Version 1.0 with comments going to Steering Committee

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**Patience is not simply the ability
to wait - it's how we behave while
we're waiting.** Joyce Meyer

Thank you