

NC Nutrient Criteria Development Plan – Criteria Implementation Committee
(meeting #3)
4/17/2017

Attendees

SAC members in attendance:

Andy McDaniel
Anne Coan
John Fear
Douglas Durbin

T.J. Lynch
Douglas Wakeman
Bill Kreutzberger

CIC members online:

Carla Seiwert

SAC meeting facilitator:

Andy Sachs

NCDEQ DWR staff in attendance:

Brian Wrenn
Jim Hawhee
Mike Templeton
Connie Brower
Pam Behm

David Huffman
Christopher Ventaloro
Jeff Manning
Jucilene Hoffman
Nora Deamer

Meeting materials can be found on the Division of Water Resources Nutrient Criteria Development Plan Scientific Advisory Council webpage. Click [here](#) for a direct link.

Meeting notes

All questions, comments and answers are paraphrased

1. **Convene** (Andy Sachs)
 - a. CIC members, DWR staff and audience attendees provide names and affiliations.
 - b. Brief review of the CICs role in the NCDP process
 - c. Request for comments on previous CIC meeting minutes
 - i. Comment: Some CIC members are having problems with the embedded pdf documents not opening. Request weblink be used.
2. **NCDP Progress: An Update to the CIC** (Jim Hawhee) – See slides
 - a. Recap of SAC meetings
 - i. Twelve meetings to date. Have been meeting bimonthly for the most part
 - ii. Initially focusing on three pilot areas:

NC Nutrient Criteria Development Plan – Criteria Implementation Committee
(meeting #3)
4/17/2017

1. High Rock Lake (lake/reservoir)
 - Tentative resolution of turbidity, clarity, and DO as of March 2017
 - i. Turbidity: existing criteria acceptable, weak link to nutrients
 - ii. Clarity: declined to make recommendation. May be better represented by chlorophyll-a
 - iii. DO: existing criteria acceptable
 - Evaluation of pH criteria ongoing
 2. Middle Cape Fear River (river/stream)
 - DWR special monitoring study planned for 2018
 - Periphyton monitoring project underway
 - Applied university research underway
 3. Albemarle Sound (estuary)
 - Phase 1 completed
 - i. Potential criteria parameters and research needs evaluated
 - ii. Phase 1 report on the way
 - Additional research underway
 - Phase 2 reevaluation of Albemarle Sound criteria to be done by SAC/CIC
- iii. Earlier SAC meeting focused on: approaches to deriving criteria, monitoring programs and trends, N.C. Lakes report, HRL data monitoring/modeling, causal/response indicators for HRL, HRL fish data and data correlations (conceptual model), HRL designated uses and impairments, and overviews of Albemarle Sound and Middle Cape Fear River.
- iv. For now, the SAC will be focusing on individual indicators and deciding how to move forward with criteria development. SAC has agreed on a decision-making process. Any recommendations require buy-in from 70% of active SAC members.
- b. Comments/questions:
- i. Bill: Will the SAC discuss chlorophyll-a in May?
 1. Jim H.: Probably not. There is still more work to do on DO and pH, plus Astrid will be presenting her findings on the cyanotoxin analyses from the High Rock Lake summer sampling project. We hope to discuss chlorophyll-a in July.
 - ii. Douglas D.: Has the SAC encountered any roadblocks so far?
 1. Jim H.: Teasing out criteria related to drinking water supplies was challenging. Also, deciding on the most sensitive use in HRL remains an issue.
 2. Andy M.: There was also a discussion about the limited amount of available data for cyanotoxins.

NC Nutrient Criteria Development Plan – Criteria Implementation Committee
(meeting #3)
4/17/2017

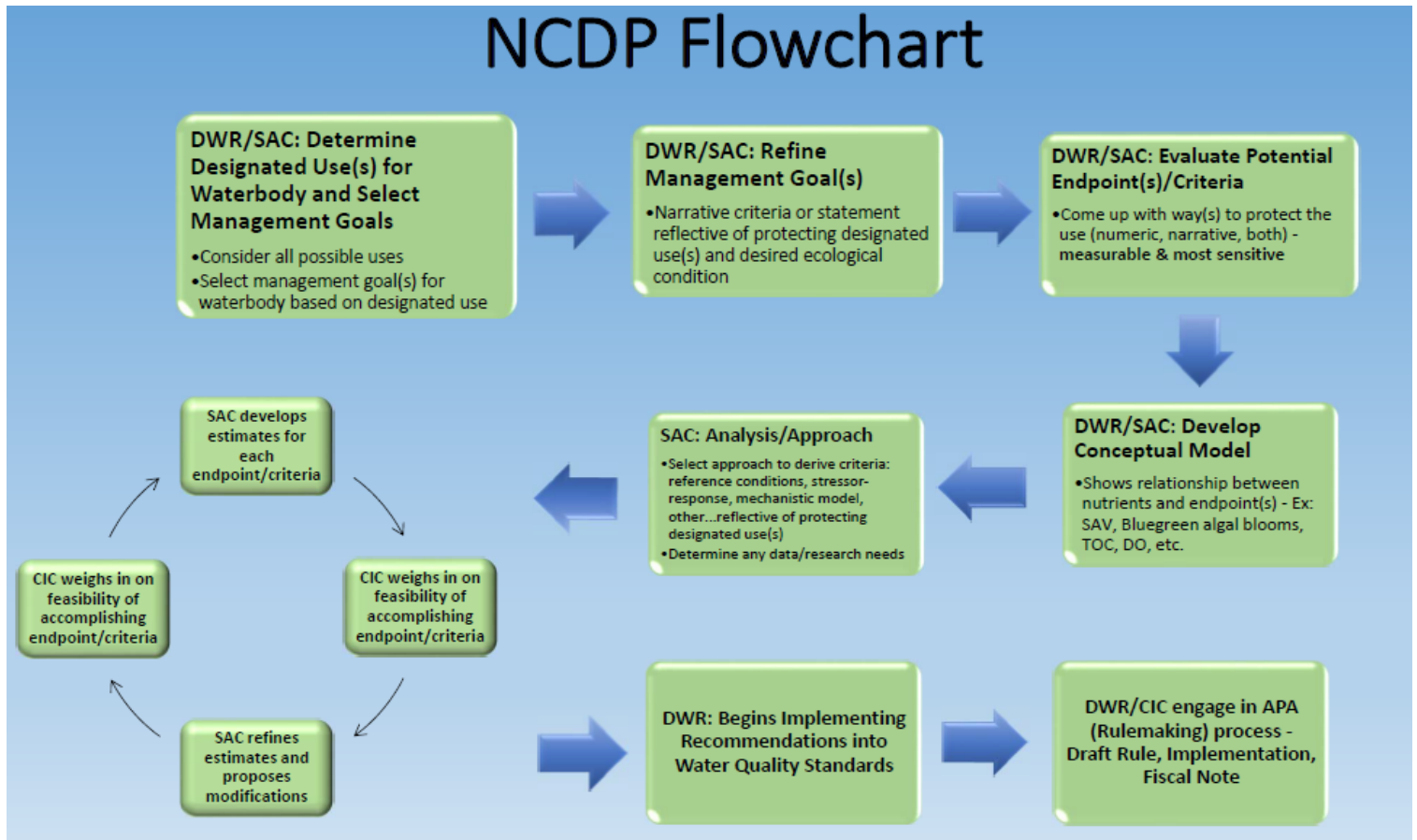
- Jim H.: There has been some recent guidance from EPA:
 - i. Drinking water Health Advisories
 - ii. Draft recreation criteria for cyanotoxins
 - iii. Douglas D.: There has been a lot of discussion by the SAC concerning identifying if actual impairment in HRL. Has this been resolved?
 - 1. Jim H.: Impairment in HRL and how it relates to criteria development is an ongoing discussion within the SAC. A few ways of looking at it have been discussed so far, but it seems likely that this conversation will continue as we start to look at chlorophyll-a as an indicator. Some of the discussion has included the following:
 - Detect an impairment first and then develop criteria to remedy it.
 - Follow EPA's approach of enacting literature based criteria.
 - iv. Andy M.: Regarding the SACs resolution of the turbidity & water clarity indicators: Were these formal recommendations by the SAC?
 - 1. Jim H.: These are preliminary recommendations. The SAC has expressed that they wish to revisit the indicators a final time prior to offering their official recommendations.
 - v. Andy S.: Is there anything to discuss concerning what the SAC will be doing going forward?
 - 1. Jim H.: I tried to lay a out a game plan for the indicators going forward:
 - DO resolution and pH discussion:
 - i. Seems to be consensus that the current DO standard is appropriate. Still need to discuss pH further.
 - pH & cyanotoxins in May
 - Chlorophyll-a in July
 - Causal parameters in September
 - vi. Andy M.: Can you elaborate on the Cape Fear study?
 - 1. Pam: The study started prior to the NCDP and was begun due to a need for a model to determine impacts of nutrient loading for permitting. At this point we still need to discuss who will be sampling (DWR, coalitions?). Also, not sure how this will tie in with NCDP criteria development. We are looking at various modeling tools. SWAP tool is already set up for the Rocky River subbasin, but other models may be required depending on how the nutrient criteria discussion goes.
3. **Role of the CIC in the NCDP: A Review** (Brian Wrenn)
- a. Previous CIC meetings:
 - i. August 5, 2015
 - 1. Ground rules & charter
 - 2. Interaction of SAC & CIC

NC Nutrient Criteria Development Plan – Criteria Implementation Committee
(meeting #3)
4/17/2017

3. HRL introduction
4. CIC priorities
- ii. September 25, 2015
 1. SAC update
 2. Presentation of nutrient criteria development case studies from VA & FL
 3. Presentation on NC's nutrient criteria implementation process
- b. CIC purpose (per the CIC charter)
 - i. "The purpose of the NCDP CIC will be to provide advice and recommendations to the DWR, on the feasibility, application, implementation and potential implications of nutrient criteria recommended by the SAC."
- c. CIC duties (per the CIC charter):
 - i. Advise DWR on the social and economic implications of implementing proposed nutrient criteria, also the relative impacts of alternative criteria and nutrient management strategies.
 - ii. Assist DWR with fiscal note preparation
 - iii. Other duties as identified by the members of the CIC and the DWR
- d. CIC ground rules
 - i. Refer to the CIC charter [here](#)

NC Nutrient Criteria Development Plan – Criteria Implementation Committee
(meeting #3)
4/17/2017

e. NCDP flowchart:



f. CIC deliverables:

- i. Provide comments on implementation of criteria
 1. Are criteria clearly written?
 2. Can the criteria be employed statewide with little to no modification?
 3. Can water quality be measured easily and accurately for assessment purposes?
 4. Is the assessment method defensible?
 5. Are benefits of criteria clear and defensible?
 6. Are the potential costs reasonable for the benefits?
 7. See presentation for examples of comments that are and are not helpful.

g. Communication process with SAC

- i. How often does the CIC want to be updated on SAC?
 1. Andy M.: The CIC should be updated when SAC develops draft criteria. The CIC should also be briefed following the SAC discussion of chlorophyll-a.
- ii. What should the CIC meeting schedule be going forward?

NC Nutrient Criteria Development Plan – Criteria Implementation Committee
(meeting #3)
4/17/2017

1. Brian: Meet every other month or as information becomes available? I will send out a poll with possible dates for future CIC meetings.
- iii. What should the format be for CIC comments to the SAC?
 1. Brian: Provide comments back to SAC once criteria recommendations are fully developed?
 - Bill: I like that approach.
 - Anne: I'm okay with this, but would like to be updated frequently. I am concerned about the time it may take for the CIC to develop responses.
 - Brian: We can try and minimize response turn-around time through continuous updates.
 - Anne: As soon as the SAC has a draft criterion we can start developing comments.
- h. Comments/questions:
 - i. Andy M. (regarding the NCDP flow chart): Where does the SACs formal criteria determination come in?
 1. Brian: The SAC provides DWR with science-based criteria as an end-product of the circular discussion component in the flowchart.
 2. Connie: The CIC's role is to help determine how we might implement these proposed criteria.
 - ii. Douglas D.: Would it be helpful to have joint meetings?
 1. Brian: It may be useful at certain points, but, in general, the CIC should not be weighing in on the discussion of the science behind the criteria recommendations.
 - iii. Anne (regarding the NCDP flowchart): The circular component of the flowchart is confusing. Are we (the CIC) advising the SAC or DWR?
 1. Brian: The CIC will be advising both. If the SAC proposes a criterion that can in no way be implemented in a realistic way, the CIC can provide feedback which the SAC can then use to reconsider the criterion. The CIC will also advise DWR concerning the implementation of recommended criteria and in the development of fiscal notes/analyses.
 2. Connie: The Division's role is to bring the recommended criteria to the EMC. If the SAC decides that it is finished with the criteria, the CIC can comment on implementation concerns. The goal is to maintain protections while considering implementation.
 - iv. Anne: Can the SAC ignore comments from the CIC? What if we don't have buy-in?
 1. Connie: Yes, the SAC does not have to act on comments made by the CIC. The concerns of the CIC will be addressed by the EMC and stakeholders as

NC Nutrient Criteria Development Plan – Criteria Implementation Committee
(meeting #3)
4/17/2017

- part of a triennial review to adopt the water quality standards. The triennial review requires public hearings and fiscal notes.
2. Pam: There will be a lot of opportunity for people to weigh in. This is only a small part of the process.
 3. Andy S.: In the worst case, any disagreement between the SAC & CIC will be noted and brought forward as part of the normal water quality standards adoption process.
 4. Jim H.: Adoption of water quality standards requires a rule making process. If HRL continues to experience nutrient related problems even after adoption of new standards, there is a separate rulemaking process that deals with nutrient management strategies.
- v. Bill: It's not clear how the NCDP criteria recommendations will be carried forward to rule making.
1. Jim H.: This is something that we will develop more as we move forward.
- vi. John F. (regarding review of SAC criteria recommendations): Timelines for criteria implementation will be helpful so that we can consider both short and long-term costs.
1. Jim H.: 30-year periods are typically used for long-term. This can also be addressed as part of the fiscal notes for the triennial review and nutrient management strategies that may be developed.
- vii. Andy M.: How do you envision rulemaking going forward? Will criteria rulemaking be separate from implementation rule making?
1. Connie: Criteria will move forward as always as part of a triennial review.
 2. Andy M.: The costs of implementation are what we are really considering. We will need to know what DWR is assuming.
 3. Jim H.: The Division of Office & Budget requires a fiscal note for standards.
 4. Connie: There is no actual cost for changing a standard. The costs come in the implementation. We are hoping the CIC can help us gather information on potential costs prior to the triennial review.
- viii. Douglas D.: EPA considers implementation as being separate from development of water quality standards. However, some implementation has been incorporated in the current standards.
1. Connie: That is correct, however, EPA has disapproved of the implementation component that was included in the triennial review and we are still in a state of disagreement with them concerning this.
- ix. Bill (regarding CIC comments that are not helpful): CIC input on averaging periods may be useful.

NC Nutrient Criteria Development Plan – Criteria Implementation Committee
(meeting #3)
4/17/2017

1. Jim H.: Just a reminder that we are obligated under the Clean Water Act to protect designated uses. The CIC needs to consider this when making comments to the SAC.
 - x. Anne (regarding CIC comments that are not helpful): “Stringent” can mean different things. For example: We may not be able to measure to a selected criterion.
 1. Brian: That is a good comment.
 - xi. Bill: Based on discussion being had by the SAC, there is a gradation of impact to uses. There is no fine line until a water quality standard is selected.
 - xii. Anne: If EPA disapproves of final NCDP criteria, would the SAC/CIC be reconvened?
 1. Jeff: EPA has disapproved of implementation components in standards in the past. Hopefully, EPA being involved in the NCDP will help to avoid disapproval of NCDP criteria.
 2. Connie: Lauren & Carla from EPA are online. They have commented that they are on the SAC & CIC to prevent disapprovals.
4. **Presentation: Stakeholder Analysis to Support Development of a High Rock Lake Nutrient Management Strategy** (Bill Kreutzberger)
- a. See presentation slides [here](#)
 - b. Comments/questions:
 - i. Jucilene: Have you considered running a model for TN/TP reductions to remove waters from the 303(d)-impaired water list?
 1. Bill: We can look at that, but it would depend on what the future standards end up being.
 - ii. Jim H. (Regarding the three sampling stations used in the model): Did the sampling stations referenced in the presentation encompass the full extent of the impaired portion of HRL?
 1. Bill: The impaired area goes into the higher portions of the lake where turbidity becomes an issue. The three sampling stations were chosen because they do not have turbidity issues. This is the area where the HRL model works best.
5. **Wrap-up** (Brian Wrenn)
- a. Brian: Will send out a poll with possible dates for future CIC meetings. CIC members should think about what format to use for commenting on SAC criteria proposals.
 - b. Last thoughts:
 - i. Bill: Another issue related to implementation is spatial averages.
 - ii. J.T: Would like to hear a presentation from agriculture regarding nutrient loading.
 1. Anne: Most agriculture studies are done at the fields edge or edge of management unit. It can be hard to determine nutrient loading from

NC Nutrient Criteria Development Plan – Criteria Implementation Committee
(meeting #3)
4/17/2017

agriculture sources because the non-point source can be far from the water. This applies to any non-point source.

- iii. Anne: I'm still fuzzy on where in the NCDP process the final product would be introduced.
- iv. John: Concerned about using a one-size-fits-all process for these parameters.