

**Multi-Stakeholder Engagement on New/Revised Recreational Water
Quality Criteria
February 20, 2008
The National Press Club, Washington, D.C.**

Meeting Summary and Highlights

EPA held a multi-stakeholder meeting on February 20, 2008, in Washington, D.C. to provide an update on EPA's ongoing work toward the development of new/revised recreational water criteria by 2012 and to receive input on key areas of work. The main focus of the meeting was to discuss the Critical Path Science Plan (CPSP). The last multi-stakeholder meeting was held in early December 2006. Jan Connery (ERG, Inc.) once again served as the meeting facilitator.

The first presentation was an overview of the meeting purpose and goals. The goals, as described in the agenda were as follows:

- Update Stakeholders on activities since the December 2006 Multi-stakeholder Meeting.
- Share EPA's Critical Path Science Plan with stakeholders and report on Critical Path Science Plan progress.
- Provide stakeholders with an introduction to Quantitative Microbial Risk Assessment.
- Receive stakeholder input on:
 - research directions for inland waters;
 - desired attributes of new criteria; and
 - how best to engage stakeholders during Critical Path Science Plan implementation and criteria development through 2012.

The presentation summarized progress in criteria development and related research since the last multi-stakeholder meeting. EPA emphasized that although secondary contact criteria are important, EPA will focus on developing new or revised primary recreational water criteria. EPA discussed the need for new/revised criteria to be applicable for all Clean Water Act purposes, not just beach monitoring and advisories. Additionally, EPA is ready and willing to collaborate, seek technical expertise, research partners, and value added opportunities in support of new or revised criteria, which is expected to be published by the end of 2012.

The next meeting sessions focused on CPSP presentations. Specifically, an overview of the key research questions and research activities in the CPSP, clarifications on identified research priorities, and a progress report on CPSP activities to date. These discussions emphasized that the CPSP lays out and prioritizes the research and science needed to establish a foundation for new/revised recreational criteria, provides an integrated approach to answering key science questions, and summarizes research that EPA will support technically and/or financially. A snapshot of other ongoing and planned epidemiology recreational water studies that EPA may support in some capacity was also discussed by stakeholders and EPA.

Because of the potential importance of quantitative microbial risk assessment (QMRA) in the criteria development process and because QMRA is not as well understood as epidemiological studies are for public health risk characterization, Jeff Soller (Soller Environmental) provided an

overview of QMRA, including past and potential uses of the methodology in the development of new or revised criteria. Following lunch, there were three afternoon sessions dedicated to obtaining stakeholder input on (1) research direction for inland waters and; (2) input on new/revised criteria; and (3) options for stakeholder involvement. Three envelopes were also placed outside of the meeting area and into which participants could add completed notecards regarding the following areas: (1) general thoughts/research (e.g., other research EPA should know about); (2) data on inland waters and ways to obtain data on these waters; and (3) QMRA/sanitary survey site characterization methods (e.g., provide examples of use of QMRA).

Summary of key points from the multi-stakeholder meeting:

- Stakeholders (primarily states) expressed that it is vitally important for EPA to clearly articulate the public health benefits from moving from the 1986 criteria to new/revised criteria. This is so that states can adopt the criteria into water quality standards in a timely and efficient manner.
- It is important for EPA to seek early engagement on policy issues, such as what is an appropriate risk level for the new/revised criteria and their structure.
- EPA should look for a non-East Coast venue for the next multi-stakeholder meeting to increase participation by organizations and individuals from central and western states.
- EPA and stakeholders need to identify strategic opportunities to obtain focused input in other ways besides face-to-face meetings, such as online forums or dedicated web page, to synopsize what has been (is being) learned in the CPSP research projects over time.
- Stakeholders stressed the importance of developing the implementation guidance simultaneously with the criteria and to allow states to give input first, but not at the expense of other stakeholders.
- In order for EPA to maintain constructive engagement with the stakeholders and researchers doing work supportive of EPA's, improved avenues and mechanisms are needed to share research results early and discuss the implications of those results for both future research and real-time on-the-ground implementation.
- Suggestions and discussions for additional research regarding the development of new or revised criteria can be grouped into the following three areas: (1) ensuring applicability of criteria to inland waters; (2) characterization of water quality conditions in wet and dry weather; and (3) work in the area of indicators and associated methods (e.g., viral indicators may be a more appropriate gauge of public health protection in point source dominated waters).

As a result of the meeting, EPA will be providing these summary notes and presentations to all meeting participants and other stakeholders that could not attend the meeting. EPA will also expand the inland water research directions based on the input received, develop a proposal for broader stakeholder engagement throughout the next 5 years, and develop a proposal for a scientific research-focused workshop that will occur sometime in 2008.

Attachment: Select Questions and Answers (Q&A) from the February 20, 2008 Multi-Stakeholder Engagement on New/Revised Recreational Water Quality Criteria

Q&A for EPA Critical Path Science Plan (CPSP) Presentations

Question: Can EPA say if there will be new criteria for non coastal recreational waters in 2012?

EPA response: Yes, the intent is that new/revised recreational criteria (304a) will apply to all recreational waters (coastal and inland).

Question: What about birds, is EPA looking at bird contributions to beach closures as there are lots of them nationwide?

EPA response: Some data is available and this topic has received lots of discussion at EPA. Focus will be on developing bovine indicators which are closer to development and, based on the Experts Workshop input, are believed to more likely be a higher risk to humans than avian sources of fecal contamination. The thinking is that given the diversity of possible animal sources that starting with those sources that are expected to pose a higher risk should ensure protection from other (less risky) sources.

Question: Would EPA consider making raw (epidemiological or epi) data available as it is generated for other researchers to evaluate/analyze?

- *EPA response: There are important privacy issues as epi data has personal data that needs to be kept internal, some data modifications would be needed before being made publicly available and which would take time. This could be an area that stakeholders can suggest additional types of data analysis.*

Question: Regarding the upcoming Miami, Florida epi study that is being planned, will it be (sub)tropical and will EPA collaborate with Dr. Lora Fleming (U. Miami)?

EPA response: EPA is talking with Dr. Fleming about opportunities for cooperating on this study, though notably, the study uses a different epi design than that EPA uses (randomized control trial as opposed to prospective cohort) and is already underway.

Question: Another epi study is being planned in Florida that may have freshwater and marine water components. Does EPA know or have input into what indicators will be used and will they use culturable *E. coli*?

EPA answer: The study referred to is the Tampa Bay study, which is still in design (focus on urban runoff; Jody Harwood, USF-Tampa); EPA has had some early discussions regarding this potential study by talking with Dr. Harwood, who is still seeking collaborators and funding.

Question: Given that algae is implicated in Great Lakes for adding fecal contaminants, will any EPA studies examine algae as a source of fecal indicator bacteria?

EPA response: EPA is not looking at such sources at present or in planned studies, though EPA would be interested to know if USGS has any relevant data to contribute.

Question: Will the implementation guidance for the new/revised criteria also be peer reviewed?

EPA response: EPA intends to provide implementation guidance simultaneously with the new or revised criteria. Peer review is for scientific products. However, EPA plans to provide opportunities for public input/comments on the Implementation Guidance. The timing for such public involvement appears in the Criteria Development Plan and Schedule (now available on EPA's website <http://www.epa.gov/ost/criteria/recreation/>).

Question: For CPSP projects P13 and P14—developing a quantitative sanitary survey method protocol and pilot sanitary survey study—will these surveys be different than will be used in other waters?

EPA response: The ongoing Great Lakes pilot survey is specific to Great Lakes waters; EPA will also look at other non-Great Lakes states to learn their sanitary survey approaches, and intends to combine them in order to provide a more quantitative protocol.

Question: Regarding CPSP project P29—analysis of data for children from previous (2004) Great Lakes epi studies—will they assess other sensitive populations, such as the elderly?

EPA response: EPA has data on several age groups, but the issue is adequacy (e.g., the statistical power of the numbers of recreators) of those datasets for conducting such analyses. If we can, we will.

Q&A for QMRA Presentation

Question: There seems to be a gap between using QMRA and epi and site-specific applications; for example, exposures between dry and wet weather exposure (number of individuals) will vary tremendously. Because these are huge gaps, how can EPA develop criteria using epi and/or QMRA to factor all these considerations in (e.g., for *Cryptosporidium*)?

Soller response: Exposure characterization is difficult and uncertain and there are different types of exposure for different types of waters (EPA policy call for how to address); but from pure QMRA perspective, such issues can be assessed. How to address precipitation changes will have to be handled by EPA policy calls.

EPA response: EPA is not proposing to develop pathogen-specific criteria, they will be indicator-based in 2012; need to determine how to translate pathogen-specific QMRA to indicator-based criteria.

Question: Can QMRA be useful for selecting the actual numeric criterion?

Soller response: QMRA can help with this, by anchoring QMRA to real/observable data (e.g., have data for freshwater Great Lakes), QMRA can be used to recreate epi results and then assess other scenarios by changing the parameters.

Question: Does EPA plan to do QMRA or epi studies to develop acceptable levels of risk as part of new/revised criteria?

EPA response: EPA is looking at a lower level of risk in ongoing epi studies (e.g., because the definition of illness no longer includes fever) but realizes this is a contentious issue; thus EPA needs to make a policy decision, but one that will involve stakeholder input.

Q& A for Stakeholder Input Sessions

- Suggestion that, in the future, EPA collect *E. coli* culture data so they have it for future comparison with molecular-based methods.
 - *EPA response: EPA remains open to culture methods for various indicators.*
- Discussion of a recently completed QMRA study for Chicago waterways (designated for secondary contact) by the Metropolitan Water Reclamation District of Greater Chicago that will be available in March 2008 and which has initiated a secondary contact epi study.
- Discussion of whether and how EPA plans to address sediment re-suspension issues into their epi and related studies? Has EPA considered the health effects of exposure to sediments?
 - *EPA response: The 2007 marine epi studies included sediment samples; EPA is discussing how to analyze those samples but needs to talk to the scientific community more about how address potential health effects.*
- The new or revised criteria need to be flexible and will have several important short-term and long-term uses, this requires flexibility; also have to consider how they will be used under various CWA programs. However, EPA should not necessarily abandon the use of geometric means or single sample maximums; some sort of scale or sliding criteria based on pollution sources is needed.
- The new/revised criteria should be protective of public health, including children and other subpopulations; EPA should provide guidance on making public notification/risk communication efforts more consistent. States will be looking to EPA for support for how to “sell” adopting and implementing new criteria.
- There is a need for stakeholders (and others) to know more about how EPA will arrive at a particular criterion and for it to be defensible—if the criteria vary strongly from existing approach, there is widespread stakeholder concern that the vast resources and data collection efforts conducted to date may go to waste?
- EPA is particularly interested in stakeholder input on CPSP research and identifying new opportunities to provide updates to stakeholders throughout the criteria and implementation guidance process. For example, what types of involvement would stakeholders like to have? When, how often, new opportunities, etc.? There was consensus for stakeholders/EPA to interact at least every 6 months, though not necessarily in face-to-face meetings.
- There was considerable interest in having a future stakeholder meeting in Hawaii or California (not on the East Coast), perhaps in conjunction with a beach conference.

- One stakeholder stated that it is next to impossible for a utility to keep track of all CPSP projects; could EPA provide some sort of summary or highlight of how the research projects are progressing, whether online and voluntary to sign up?
 - *EPA response: EPA has discussed developing some sort of online forum and whether there are other ways to interact other than face-to-face stakeholder meetings; EPA also noted that other EPA programs have list serves and forums for periodic updates and where stakeholders can share concerns.*
 - The participants agreed that some sort of email notification process to advise stakeholders of changes in projects that can be viewed online, project-by-project, how frequent, etc., would be highly useful.

- There is need for a substantive discussion of what the acceptable risk will be for the new or revised criteria before the new criteria are released.