



FSTRAC Newsletter

FEDERAL-STATE TOXICOLOGY RISK ANALYSIS COMMITTEE

What Is FSTRAC?

FSTRAC's mission is to strengthen relationships and cooperation among EPA, states and tribes through the exchange of technical information primarily regarding water-related human health and risk assessment and also share information on ecological effects related to water quality criteria. FSTRAC is composed of current representatives from governmental agencies (state, tribal, federal health and environmental agencies, and other regulatory authorities) and representatives from the Association of State Drinking Water Administrators (ASDWA) and the Association of Clean Water Administrators (ACWA). The goal of FSTRAC is to share information that supports the development of well-rounded, integrated approaches to effects assessment, risk assessment, risk management, risk communication, and standard-setting for drinking water, groundwater, and surface water contaminants. Specific objectives of FSTRAC include:

- To foster cooperation, consistency, and an understanding of goals and problems in human health and ecological risk assessment for contaminants in water.
- To allow the exchange of technical information, including toxicity/exposure data and analysis, and methodologies and assumptions related to the development and implementation of regulations, criteria, advisories, and other toxicity values under the Safe Drinking Water Act and the Clean Water Act, and other state and tribal rules and policies as applicable.
- To allow the exchange of information on research priorities and results.
- To share science policy concerns regarding water-related human health and ecological risk assessment.

Recent Webinars

FSTRAC holds several webinars each year to share information through presentations and discussions regarding human health risk analysis and water quality issues.

September 2020 FSTRAC Webinar

EPA held a FSTRAC Webinar in September 2020 during which the following topics were discussed:

HECD Updates (presented by Ms. Elizabeth (Betsy) Behl, HECD/OST/OW/EPA) Ms. Behl presented an update of EPA OST/HECD's accomplishments during 2020 in the areas of aquatic life, biosolids, nutrients, biocriteria, and human health. She also described EPA OST/HECD's FY2021 priorities, including publishing the Phase I metals Cooperative Research and Development Agreement report, holding

The purpose of this newsletter is to keep Federal-State Toxicology and Risk Analysis Committee (FSTRAC) members up-to-date on current developments in toxicology, risk analysis, and water quality criteria and standards. This newsletter also provides information on recent FSTRAC webinars and upcoming events. Please share this newsletter with anyone you think might be interested in these topics. If you are interested in joining FSTRAC, please contact the FSTRAC Co-Chairs, Dr. Shamima Akhter (Akhter.Shamima@epa.gov) or Ms. Katie Fallace (Katie.Fallace@state.mn.us).

additional regional workshops on aquatic life criteria, holding a National Biosolids Meeting, publishing the next biosolids biennial review, finalizing numeric nutrient criteria for lakes, providing technical support to states that are interested in developing lake criteria, publishing a draft policy for comment for determination of hypoxia and HABs events of national significance in fresh waters, and initiating a second peer review of the GenX toxicity values document before publishing the final GenX toxicity values.

Determination of Data-Derived Exposure Values and Uncertainty Factors for the Derivation of Health Protective Drinking Water Guideline for Manganese (presented by Dr. Mathieu Valcke, Institut National de Santé Publique du Québec (INSPQ)) Dr. Valcke presented information on INSPQ's approach to drinking water guideline (DWG) determination for manganese. He noted that INSPQ selected the most appropriate point-of-departure of 25 mg/kg/day (from $MnCl_2 \cdot 4H_2O$ administered to neonate rats through drinking water) from available toxicological reviews. Dr. Valcke described the uncertainty/adjustment factors applied, including non-default adjustment factors that accounted for human variability. He also described the rationale for the selection of exposure factors. The final DWG proposed for manganese is 60 $\mu g/L$. Dr. Valcke concluded that applying a critical review of work done by other institutions constitutes a simple, efficient approach to DWG derivation.

EPA's Draft Harmful Algal Bloom (HAB) and Hypoxia Events of National Significance (HHENS) Policy (presented by Dr. Lesley D'Anglada, OW/EPA) Dr. D'Anglada presented an overview of the HHENS policy. She provided background on the Harmful Algal Blooms, Hypoxia, Research and Control Act (HABHRCA of 1998), which describes near and long-term comprehensive efforts to prevent, reduce, and control HABs and hypoxia in the United States. Dr. D'Anglada discussed the new amendment for the determination of HABs and HHENS included

in the January 2019 reauthorization of HABHRCA. As described in the amendment, she described an "Event of National Significance" as a HABs or hypoxia event that had or will likely have a significant detrimental environmental, economic, subsistence use, or public health impact on an affected State. Dr. D'Anglada mentioned that EPA and NOAA are developing HHENS policies for freshwaters and marine waters, respectively. She noted that EPA published a Federal Register Notice requesting public comments on what to consider for determining a HHENS in freshwater in September 2019.

Comparative Potency Evaluation for Per- and Polyfluoroalkyl Substances (PFAS) PFAS Drinking Water Values (presented by Dr. Sandra Baird, Massachusetts Department of Environmental Protection (MassDEP)) Dr. Baird presented information on MassDEP's comparative potency evaluation for PFAS drinking water values. She mentioned that MassDEP is addressing a subgroup of 6 PFAS (rather than individual chemicals) because multiple PFAS are found in drinking water and these PFAS have similar structures and health effects. Dr. Baird noted that MassDEP has extended the EPA Health Advisory and reference dose approach for perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS) to the 4 additional PFAS in this subgroup, perfluorohexanesulfonate (PFHxS), perfluorononanoic acid (PFNA), perfluorodecanoic acid (PFDA), perfluoroheptanoic acid (PFHpA). She described the methods used for relative potency factor (RPF) analysis, including identifying sensitive endpoints with a dose-response trend, using individual animal data from the NTP 28-day bioassays, applying several dose metrics, conducting benchmark dose modeling, and calculating RPF using benchmark dose estimates. Dr. Baird noted that the RPFs for all five of the longer-chain subgroup of PFAS (PFOA, PFOS, PFNA, PFHxS and PFDA) were within a factor of five (and most were within a factor of two) of PFOA.

Information from States Developing Guidance for Specific Chemicals

Criteria Values

Minnesota Department of Health (MDH)

The Minnesota Department of Health has recently completed water guidance for 1H-benzotriazole, tolyltriazole, 5-methyl-1H-benzotriazole, benzophenone, biphenyl, cyanazine and atrazine chlorinated degradates, 1,4-dichlorobenzene, fomesafen, hydroxy-atrazine degradates, tris(2-butoxyethyl)phosphate (TBEP). Chemicals currently under full toxicology review by MDH include: 1,2-dichloropropane; n-hexane, PFHxA, 1,2-dibromomethane, and total petroleum hydrocarbons (TPH).

MDH's program to re-evaluate existing water guidance values has recently completed reviews of toluene, trans, 1,2-dichloroethane and PFOA. The re-evaluation resulted in lowering the guidance values for toluene and trans, 1,2-dichloroethane but did not change the value for PFOA. The cancer classification for PFOA did change as a result of the re-evaluation. In addition, as of August 2020 MDH began using the water intake rates presented in the 2019 update of US EPA Exposure Factors Handbook, Chapter 3.

More detailed information on MDH water guidance values can be found on MDH's Human Health-Based Water Guidance Table website at <https://www.health.state.mn.us/communities/environment/risk/guidance/gw/table.html>.

Massachusetts Department of Environmental Protection (MassDEP)

In October 2020, the MassDEP promulgated a Massachusetts Maximum Contaminant Level (MMCL) of 20 ng/L for a group of six per- and polyfluoroalkyl substances (PFAS), including perfluorooctane sulfonic acid (PFOS), perfluorooctanoic acid (PFOA), perfluorohexane sulfonic acid (PFHxS), perfluorononanoic acid (PFNA), perfluoroheptanoic acid (PFHpA), and perfluorodecanoic acid (PFDA), collectively termed "PFAS6". When all or some of these six compounds occur together in drinking water, the detected concentrations for these PFAS should be summed and compared to the PFAS6 value

of 20 ng/L. This value is also applicable to the individual compounds. The toxicological basis of this MMCL is discussed in MassDEP's Office of Research and Standards (ORS) assessment at <https://www.mass.gov/doc/per-and-polyfluoroalkyl-substances-pfas-an-updated-subgroup-approach-to-groundwater-and/download>. To be protective of shorter-term effects associated with these compounds, particularly developmental effects, the PFAS6 MMCL is violated when the average of three months of PFAS6 concentrations exceeds 20 ng/L within the same quarter (for instance, Quarter 2 includes April, May and June) or if PFAS6 concentrations from one or two months would cause the quarterly average to exceed 20 ng/L. For additional information on the PFAS6 MMCL and PFAS in Massachusetts, please see <https://www.mass.gov/info-details/per-and-polyfluoroalkyl-substances-pfas>.

Technical Information

EPA's Guidelines for Human Exposure Assessment

EPA has developed updated [Guidelines for Human Exposure Assessment](#) (hereafter "Guidelines") that present the current policies and practices of exposure assessors across the Agency. These Guidelines replace and supersede the [Guidelines for Exposure Assessment](#), which were published in 1992. The updates include a greater emphasis on formal planning, scoping, and problem formulation for exposure assessments; advances in the evaluation of exposure data and data quality; information on computational exposure models — with a focus on probabilistic models; a more rigorous consideration of uncertainty and variability in exposure estimates; improvements to communication with stakeholders; and, involving tribes in scoping exposure assessments related to tribal concerns. Guidance is also provided on presenting the results of the exposure assessment and characterizing uncertainty. Although these Guidelines focus on exposures of humans to chemical substances, much of the guidance also pertains to assessing wildlife exposure to chemicals, or human exposures to biological, noise or radiological agents.

Status of Chapters in EPA's Exposure Factors Handbook (2011 Edition)

The latest edition of the Exposure Factors Handbook was published in 2011, but since October 2017, EPA has begun to release chapter updates individually. This new process allows risk assessors to get the latest information as new data becomes available. Recent updates include Chapter 3. Ingestion of Water and Other Select Liquids, Chapter 5. Soil and Dust Ingestion, Chapter 9. Intake of Fruits and Vegetables, Chapter 11. Intake of Meats, Dairy Products, and Fats, Chapter 12. Intake of Grain Products, and Chapter 19. Building Characteristics. More information on individual chapters can be found here: <https://www.epa.gov/expobox/about-exposure-factors-handbook>

Risk Assessment

EPA's Chemical Safety for Sustainability National Research Program

The Environmental Protection Agency's (EPA) [Office of Research and Development \(ORD\)](#) conducts high-quality, innovative research to provide data, tools, models and information designed to inform risk-based decisions about chemicals. Under its Chemical Safety for Sustainability (CSS) National Research Program, ORD is developing new approach methodologies to accelerate the pace of chemical assessment. Our CSS program is a hub of global scientific expertise and leadership in many areas, such as computational toxicology and exposure, high-throughput toxicology, and complex systems science. This research supports the Agency, states, tribes, and other stakeholders in fulfilling their shared objectives to protect human health and the environment.

CSS research is coordinated with other federal agencies to better understand environmental chemical fate, toxicity and exposure. For example, CSS participates in the federal [Tox 21 Consortium](#) by providing expertise in computational toxicology. Using a high-throughput robotic screening system housed at the National Toxicology Program at the National Institute of Environmental Health Sciences, researchers are testing 10,000 environmental chemicals (called the [Tox21 10K library](#)) for their potential to disrupt biological pathways that may result in toxicity.

Screening results help the researchers prioritize chemicals for further in-depth investigation.

A major CSS initiative, the [CompTox Chemicals Dashboard](#), compiles and provides the public with a one-stop-shop for chemical information, accessible via the web. The dashboard contains chemical and toxicological information on over 883 thousand chemicals. Additional information is available on consumer products, high throughput screening data, automated read across tools, computational toxicology on-line resources, single chemical toxicological information for aquatic and terrestrial species through the [ECOTOX knowledgebase](#), and access to all Tox21 data.

CSS research is a critical component of the work being conducted by EPA's [Office of Research and Development](#) to provide information on [per- and polyfluoroalkyl substances \(PFAS\)](#). CSS PFAS research is focused on robust chemical curation and a tiered toxicity testing approach using new approach methods to prioritize PFAS for risk assessment, provide information for toxicity modeling approaches such as chemical read-across, and to inform future testing.

CSS works with states through the [Environmental Council of States](#) and the [Environmental Research Institute of the States](#). CSS also provides information to the states through webinars, professional and informal meetings, searchable databases of existing chemical information, internet available tools, [Science Matters Newsletter](#) and direct support and collaboration with individual states.

For additional information about CSS, please contact Heidi Bethel at bethel.heidi@epa.gov or 202-566-2054.

Drinking Water

California Environmental Protection Agency

The California Environmental Protection Agency's Office of Environmental Health Hazard Assessment (OEHHA) has recommended to the State Water Resources Control Board (SWRCB) a notification level (NL) of 0.5 parts per billion (ppb) for perfluorobutane sulfonic acid (PFBS) in drinking water. NLs are precautionary, nonregulatory health-based levels for drinking water contaminants that warrant

notification and further monitoring and assessment when exceeded. OEHHA's NL recommendation is based on thyroid toxicity observed in mice. Accepting OEHHA's recommendation, SWRCB has issued an NL of 0.5 ppb for PFBS and a response level of 5 ppb, which is the level at which removal of a drinking water source from service is recommended.

Minnesota Department of Health, Drinking Water Contaminants of Emerging Concern (CEC) Initiative

The CEC Initiative is starting the processes for developing the FY22 annual workplan. During this process, stakeholders are encouraged to submit nominations for chemicals that have been released to, found in, or have the potential to enter Minnesota waters and

- Pose a real or perceived health threat,
- Do not already have Minnesota human health-based guidance, or
- Have new or changing health or exposure information that increases the level of concern (and may therefore warrant a reassessment of an existing guidance value).

Once CEC nominations have been received, they will be screened for toxicity and exposure potential and ranked. Based on the risk-based ranking and availability of toxicity information a proposed workplan is developed. The proposed CEC workplan is shared with stakeholders for comment and feedback.

For more information on the CEC Initiative, the nomination, screening, and selection processes please visit <https://www.health.state.mn.us/cec#cecnom>.

Chemicals that have previously been nominated to the CEC Initiative can be found on the Nominated Contaminants Status table (<https://www.health.state.mn.us/communities/environment/risk/docs/guidance/dwec/chemstatus.pdf>)

Cooperative Agreement with EPA and Minnesota Department of Health (MDH)

MDH has partnered with the U.S. Environmental Protection Agency's Center for Computational Toxicology and Exposure (EPA CCTE) in a continuing effort to apply EPA's extensive data resources and

tools to MDH's assessment process for environmental contaminants. This collaborative effort is currently focused within two of MDH's initiatives: Drinking Water Contaminants of Emerging Concern (CECs) and Toxic Free Kids (TFK).

In the first project conducted under this cooperative agreement, EPA staff from CCTE and related programs met with MDH to learn about MDH's process for screening and ranking CECs. For more information on this topic, visit MDH's CEC Initiative page. EPA CCTE data scientists developed a workflow to automate MDH's exposure screening process using their own data sources and tools, as well as MDH's existing data sources. The workflow is still under development, with some aspects of the screening process proving to be more readily automated than others. If fully developed, the workflow could enable the rapid initial screening of thousands of chemicals, allowing MDH staff to focus more intensive efforts on those chemicals with higher exposure potential. Additional projects now underway under this cooperative agreement include application of EPA Chemical Dashboard data and tools to (1) MDH's assessment and classification of potentially toxic substances in consumer products used by children and (2) MDH's toxicity-based screening process for contaminants nominated to the CEC initiative.

Minnesota Department of Health (MDH), Pesticide Rapid Assessments

MDH develops Pesticide Rapid Assessments for pesticide contaminants that do not have MDH water guidance or EPA MCLs. A Pesticide Rapid Assessment is the amount of pesticide in water that is unlikely to cause harm to people drinking the water. They are developed through a shortened (or rapid) review process that uses information from an EPA Human Health Benchmarks for Pesticides (HHBP)-linked document or a current EPA risk assessment, if an HHBP is not available. The Pesticide Rapid Assessment is likely to produce a lower guidance value than a full MDH chemical review, as the Pesticide Rapid Assessment incorporates conservative measures, such as the 95th percentile infant water intake rate and an RSC of 0.5 to calculate the value. The Minnesota Department of Agriculture (MDA)

requests Pesticide Rapid Assessments frequently. Documents that more thoroughly describe MDH's Pesticide Rapid Assessment methodology and report the results of these assessment are available at <https://www.health.state.mn.us/communities/environment/risk/guidance/dwec/rapidpest.html>.

Clean Water

Flyers for Biological Assessment of Water Bodies

EPA recently released two flyers that summarize key information found in two previously published EPA technical documents on biological assessment of water bodies. These flyers provide easily understandable information for states, tribes and territories that are considering developing and applying the methods and processes described in the corresponding technical documents. A brief description of these flyers, that were developed in response to requests from state water quality program managers and staff, is provided below.

Assessing Level of Technical Rigor to Support Water Quality Management (EPA 822-F-21-002)

This flyer summarizes information from *Biological Assessment Program Review: Assessing Level of Technical Rigor to Support Water Quality Management (EPA 820-R-13-001)*. The biological assessment program review includes an evaluation of the critical technical elements, or components, of a biological monitoring and assessment program and provides a forum for agency cross-program discussions. The state program review process can help states identify the technical strengths and limitation of their biological assessment program and use it to develop a plan for improvement and maintenance. As such, the process provides detailed guidelines and milestones by which state agencies can evaluate and track progress in the development and implementation of their biological assessment programs.

A Practitioners Guide to the Biological Condition Gradient: A Framework to Describe Incremental Change in Aquatic Ecosystems (EPA 822-F-21-001)

This flyer summarizes information from *A Practitioner's Guide to the Biological Condition*

Gradient: A Framework to Describe Incremental Change in Aquatic Ecosystems (EPA 842-R-16-001). The Biological Condition Gradient model is a conceptual, scientific framework for interpreting biological response to anthropogenic stress. It supports consistent interpretation of biological condition independent of the specific method used to collect data, the type of waterbody being assessed, or the location of the waterbody. The framework is often used in biological assessments by formalizing expert knowledge of biological conditions in quantitative models for specific aquatic systems.

Drinking Water Contaminant Occurrence Information

EPA's Proposed Revisions to the Unregulated Contaminant Monitoring Rule (UCMR 5)

On **March 11, 2021**, EPA published the proposed Revisions to the Unregulated Contaminant Monitoring Rule (UCMR 5) for Public Water Systems and Announcement of Public Meeting (86 FR 13846; March 11, 2021). This action fulfills a key commitment in EPA's PFAS Action Plan by proposing monitoring for 29 per- and polyfluoroalkyl substances (PFAS) in drinking water. The action also proposes monitoring for lithium. UCMR 5 will provide EPA, states, and communities with scientifically valid data on the national occurrence of unregulated contaminants in drinking water. The data set represents one of the primary sources of national occurrence data in drinking water that EPA uses to ensure that all American's have access to safe drinking water.

EPA invites **public comments** on the proposed rule. Comments must be received on or before **May 10, 2021**. Please refer to the FR notice for more details about submitting comments to Docket ID No. EPA-HQ-OW-2020-0530 using the Federal eRulemaking Portal: <http://www.regulations.gov>.

EPA will host a **virtual stakeholder meeting** twice during the public comment period, on **April 6, 2021** and **April 7, 2021**. The purpose of the meeting is to discuss key aspects of the UCMR 5 proposal, including monitoring requirements, analyte selection and rationale, analytical methods, the laboratory approval

process, and ground water representative monitoring plans. For more details on the meeting and to register, please visit <https://www.epa.gov/dwucmr/unregulated-contaminant-monitoring-rule-ucmr-meetings-and-materials>.

To ensure adequate time for public statements, individuals or organizations interested in making a statement should identify their interest when they register. We ask that only one person present on behalf of a group or organization, that the presentation be limited to ten minutes, and the person presenting participate in a practice session prior to the live event.

Registrants will receive confirmations and further webinar information via email. Questions regarding webinar registration should be emailed to UCMRWebinar@cadmusgroup.com.

Minnesota Department of Health (MDH), Unregulated Contaminant Monitoring Project

MDH completed sampling for over 600 contaminants at approximately 70 public water systems in

the first phase of the Unregulated Contaminant Monitoring Project (UCMP) in 2019. Data analysis is currently being conducted. A final project report will be released after the project is completed. MDH will conduct additional sampling in 2021 with remaining project funds. MDH will sample for perfluoroalkyl substances (PFAS) and selected pesticides, in addition to other contaminants. MDH will collect samples from community water systems in both vulnerable and non-vulnerable geologic settings to better understand how susceptible various source waters are to unregulated contaminants. Phase II sampling will begin in the second quarter of 2021. MDH will analyze results from both project phases to identify trends in occurrence and distribution for individual contaminants and contaminant classes. MDH will use these results to inform development of health-based guidance, ongoing and future monitoring needs, and risk management approaches. Additional information is available on the project website: <https://www.health.state.mn.us/communities/environment/water/unregcontam.html>.

Upcoming Events and Conferences

Upcoming FSTRAC Webinar

The next FSTRAC Webinar is scheduled for spring 2021. Additional details, including the date of the next FSTRAC Webinar, will be provided to FSTRAC members in the coming weeks.

SETAC North America Annual Meeting

SETAC will be holding its 42nd annual North America meeting on November 14–18, 2021 in the Oregon Convention Center in Portland, Oregon. Additional information is provided on the SETAC website: <https://portland.setac.org/>

SRA Annual Meeting – Society for Risk Analysis

SRA will be holding its annual meeting on December 5–9, 2021 in Washington, DC. Additional information

is provided on the SRA website: <https://www.sra.org/event/2021-sra-annual-meeting/>

SOT Annual Meeting

SOT will be holding its annual meeting on March 27–31, 2022 in San Diego, California. Additional information is provided on the SOT website: <https://www.toxicology.org/about/history/annualMeeting.asp>

ASM Microbe – American Society for Microbiology

ASM will be holding its annual meeting virtually as part of the World Microbe Forum on June 20–24, 2021. Additional information is provided on the ASM website: <https://asm.org/Events/ASM-Microbe/Home>

Additional Upcoming Events

ACWA

ACWA will be holding a virtual spring conference and exhibition on May 12–13, 2021. Additional information is provided on the ACWA website: <https://www.acwa.com/events/2021-spring-conference-exhibition/>

ASDWA

ASDWA is planning to hold its annual conference on October 18–21, 2021 in Greenville, South Carolina. ASDWA is currently evaluating options for this conference and final details will be released in early-May. Additional information is provided on the ASDWA website: <https://www.asdwa.org/event/asdwa-annual-conference-2021/>

AWWA

AWWA will be holding a webinar on “Staying Ahead of PFAS Using AWWA’s Drinking Water Treatment for PFAS Selection Guide” on March 31, 2021. Additional information is provided on the AWWA website: <https://www.awwa.org/Events-Education/Events-Calendar/mid/11357/OccuranceId/485?ctl=ViewEvent>

ECOS

ECOS will be holding a virtual meeting on September 8–10, 2021. Additional information is provided on the ECOS website: <https://www.ecos.org/event/2021-ecos-fall-meeting/>

NACWA

NACWA will be holding Water Week 2021 on April 25–May 1, 2021 in Washington, DC. Additional information is provided on the NACWA website: <https://www.nacwa.org/conferences-events/event-at-a-glance/2021/04/25/nacwa-events/water-week-2021>

NEWMOA

NEWMOA will be holding a webinar on “Wastewater as a Source of PFAS” on April 6, 2021. Additional information is provided on the NEWMOA website: <http://www.newmoa.org/events/event.cfm?m=464>