

# **U.S. Environmental Protection Agency Board of Scientific Counselors**

## **Executive Committee**

### **Virtual Meeting Summary**

**January 27, 2021**

**Dates and Times:** January 27, 2021, 2:00 to 5:00 p.m. Eastern Time

**Location:** Virtual

#### **Executive Summary**

On January 27, 2021, the Environmental Protection Agency's (EPA's) Board of Scientific Counselors (BOSC) Executive Committee (further referred to as the Committee or EC) convened in a virtual meeting. The goals of the one-day meeting were to hold discussions about the Homeland Security (HS) and the Safe and Sustainable Water Resources (SSWR) subcommittee draft reports. The meeting format allowed for subcommittee presentations, open dialogue, program feedback, Committee deliberations and questions, and EPA responses to questions.

Dr. Jennifer Orme-Zavaleta, the Office of Research and Development's (ORD's) Principal Deputy Assistant Administrator for Science, welcomed the BOSC EC members and thanked them for their attendance. She explained her role serving as the ORD Acting Administrator during the administration transition. In advance of the Presidential Inauguration, EPA staff provided the transition team several briefings on general scientific topics with scientific integrity and research on Coronavirus Disease 2019 (COVID-19). Dr. Orme-Zavaleta emphasized the Committee's partnership with EPA and value to help ensure they conduct ORD research in ways that add credibility and confidence in science used to inform Agency decisions.

#### **Deliberation on Homeland Security Subcommittee Draft Report**

Dr. Paula Olsiewski, Chair, and Justin Teegarden, Vice Chair, Homeland Security (HS) subcommittee, provided a summary of the Homeland Security Research Program's (HSRP) research focus and the subcommittee's responses to the charge questions. Dr. Olsiewski summarized HSRP research areas covered during the HS subcommittee virtual meetings in August 2020 and provided a brief overview of the strengths and suggestions for each charge question. She shared the subcommittee's recommendations for three charge questions on Research Area 4, which focused on water treatment infrastructure decontamination research, and its recommendations for the two charge questions on Research Area 5, which focused on oil spill response research.

Dr. Olsiewski then outlined the charge questions for the subcommittee and presented the draft subcommittee recommendations under Charge Questions 1a, 1b, and 1c for Research Area 4 and recommendations under Charge Questions 2a, and 2b for Research Area 5. Finally, she shared the subcommittee's draft conclusion, which states that under the current EPA HSRP Strategic Research Action Plan (StRAP) (2019–2022), HSRP is conducting research that contributes directly to deliver research results and solutions needed to support EPA's overall mission to

protect human health and the environment, fulfill the EPA's legislative mandates, and advance cross-Agency priorities.

Following the summary, the Committee asked questions pertaining to HSRP's research, including the Agency's COVID-19-related research, specifically pathogens in wastewater. The Committee also discussed issues related to cybersecurity and natural disasters. In addition, members of the Committee questioned how the Agency evaluates its responses to identify partner needs.

Dr. Shawn Ryan, HSRP National Program Director, appreciated the HS subcommittee's time, suggestions, and recommendations, and he ensured that HSRP would consider all recommendations. Dr. Ryan shared how HSRP values its interactions with the HS subcommittee and looks forward to the next meeting, which will focus on the wide-area remediation program.

### **Deliberation on Safe and Sustainable Water Resources Subcommittee Draft Report**

Dr. Joseph Rodricks, Chair, SSWR Subcommittee, provided an overview of the SSWR Research Program, and he discussed the research areas that the SSWR program covered during the SSWR subcommittee's virtual meeting in October 2020. Dr. Rodricks explained that the SSWR StRAP consists of topic areas, and the watersheds topic and its three research areas were the focus of the subcommittee's 2020 review.

Dr. Robert Blanz, Vice Chair, SSWR Subcommittee, discussed Charge Question 1, which highlighted microplastics. He described the three niches ORD identified as understudied research areas to focus its microplastics research on, including (1) measurement methods for microplastics in sediment, (2) nanoplastics, and (3) less expensive methods to serve as prescreening tools for evaluating effective methodologies. Dr. Blanz shared the subcommittee's recommendation for the SSWR program to develop a measurement methods strategy. He then shared key strengths of the SSWR program's work, including the partnerships with EPA's Regional Applied Research Effort (RARE) and the American Society for Testing and Materials.

Dr. Blanz discussed Charge Question 2, which focuses on geospatial datasets and mapping rivers, streams, and wetlands to support water management decisions. He shared the subcommittee's recommendation for the SSWR program to use probabilistic metrics and quantify uncertainties in datasets. He then described key strengths including the Agency's interagency efforts to identify jurisdictional waters mapping strategies and areas with high-resolution data and modeling tools.

Dr. Blanz explained how Charge Question 3 focuses on research to advance human health protection from fecal contaminants in recreational waters. He described the subcommittee's recommendation to prioritize the further development of methods to detect and quantify coliphages as indicators of fecal contamination in surface waters. He then shared key strengths including the SSWR program's strategic partnerships, certified reference DNA material research, and method development for detect and quantify coliphages.

## **Board of Scientific Counselors Executive Committee Deliberation**

Committee members asked clarification questions and made further suggestions pertaining to the HSRP and SSWR subcommittee reports and related charge questions. The Committee held discussions on topics related to coliphage indicators, deposition of microplastics, and mapping jurisdictional waters.

Dr. Courtney Flint commented that all recommendations should be actionable, and Dr. Olsiewski noted that the current COVID-19 pandemic exemplified how resource constrained EPA is and added that the Committee should be careful not to create additional requirements that would require time and resources.

Dr. Bruce Rodan, ORD's Associate Director for Science, explained that ORD will review the Agency's per- and polyfluoroalkyl substances (PFAS) portfolio in the Summer of 2021. He shared that ORD would request the Committee's review of the PFAS portfolio. Dr. Olsiewski and Dr. Rodricks agreed it would be a valuable review effort for the Committee to participate in. Dr. James Stevens shared it could be useful to organize swim lanes for the review to ensure efforts are not duplicative.

Following deliberation, Dr. Gilman confirmed the Committee's concurrence that the reports should be finalized and transmitted to ORD.

## **Summary and Next Steps**

Mr. Tom Tracy, Designated Federal Officer, stated that EPA would make the subcommittee report changes discussed during the meeting, and he would circulate for attendees' concurrence. Mr. Tracy shared that EPA would cancel the February 11, 2021 BOSC EC meeting and expressed his gratitude that the BOSC has still been able to meet virtually to continue its important work.

## Meeting Agenda and Other Meeting Materials

The [agenda](https://www.epa.gov/bosc/executive-committee-meeting-january-27-2021)<sup>1</sup> and other meeting materials can be accessed at <https://www.epa.gov/bosc/executive-committee-meeting-january-27-2021>. The meeting participants and subcommittees' charge questions are provided below.

## Meeting Participants

### BOSC Executive Committee Members:

Paul Gilman, *Chair*  
Lucinda Johnson, *Vice Chair*  
Viney Aneja  
Robert Blanz  
Shahid Chaudhry\*  
Kari Cutting  
Courtney Flint  
Charlette Geffen  
Matthew Naud  
Paula Olsiewski  
Joseph Rodricks  
Leslie Rubin  
Sandra Smith  
James Stevens  
Justin Teegarden\*  
Katrina Waters

\* *did not attend*

**EPA Designated Federal Officer (DFO):** Tom Tracy, *Office of Science Advisor, Policy, and Engagement*

### EPA Presenters:

Sang Don Lee, *Principal Associate National Program Director, Homeland Security Research Program*  
Jennifer Orme-Zavaleta, *Principal Deputy Assistance Administrator for Science, Office of Research and Development*  
Bruce Rodan, *Associate Director for Science, Office of Research and Development*  
Shawn Ryan, *National Program Director, Homeland Security Research Program*  
Suzanne van Drunick, *National Program Director, Safe and Sustainable Water Resources Research Program*  
Joseph Williams, *Principal Associate National Program Director, Safe and Sustainable Water Resources Research Program*

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<sup>1</sup><https://usepa.sharepoint.com/:b:/r/sites/bosc/EC%20Document%20Library/January%202021%20Meeting/EC%20Jan%202021%20Agenda.pdf?csf=1&web=1&e=FoQUcA>

**Other EPA Attendees:**

Savannah Bertrand	Russell Erickson	Jeff Szabo
Jay Christensen	Rick Greene	Emily Trentacoste
Robyn Conmy	Kay Ho	
Lou D'Amico	Mary Ross	
Kacee Deener	Orin Shanks	

**Other Attendees:**

Lara Beaven  
Caitlin McHale  
Kevin Moss  
Shawna Nieraeth  
Linda Wilson

**Contractor Support (ICF):**

Camden Byrd  
Kaitlin Geary  
Amy Scheuer

**Charge Questions**

**Homeland Security:**

Research Area 4: Water Treatment Infrastructure Decontamination

Q.1a. How well does the water research portfolio of proposed Products and Outputs respond to the partner-identified needs?

Q.1b. The Water Security Test Bed (WSTB) is a critical capability for the water research portfolio to assess full-scale decontamination approaches for contaminated infrastructure, including premise plumbing, and emergency on-site treatment of contaminated water. Are there suggested improvements to the test bed, to the planned research, and/or partner/stakeholder involvement for StRAP implementation?

Q.1c. The HSRP wastewater research is informed by Water Research Foundation (WRF) and National Science Foundation (NSF) workgroups to examine the fate of priority pathogens in wastewater collection system infrastructure and in wastewater treatment plants. To what extent is the planned research and capabilities adequate to address the acceptance and safe/effective treatment of wastewater?

Research Area #5 - Oil Spill Response

Q.2a. The U.S. EPA has the regulatory responsibility for maintaining the National Oil and Hazardous Substances Pollution Contingency Plan Product Schedule (NCPSP), which lists commercially available spill-treating agents for oil spill response operations. Please provide recommendation on how protocol development can be improved or advanced to support the EPA

OLEM Program Office which maintains the NCPPS. How can our research program improve partner and/or stakeholder engagement beyond the EPA Program Offices?

Q.2b. Spilled oil that cannot be mechanically removed from the environment undergoes physical, chemical, and biological changes that affect the behavior and ultimate fate of the oil. To better assess oil behavior and the impact of oil on ecosystems, HSRP conducts research on biodegradation, toxicity, dispersion, and detection of oil in water. Please provide recommendations on how to expand or improve experiments conducted within this Research Area and to improve the delivery or dissemination of products to our partners and stakeholders.

### **Safe and Sustainable Water Resources:**

Q.1: Progress towards characterizing microplastics in the environment and uncertainties about their potential environmental health effects requires reliable and consistent methods. SSWR is conducting research to develop and standardize collection, extraction, identification and quantification methods for microplastics. Based on the progress and results to date, what suggestion(s) or recommendation(s) does the Subcommittee offer on research into addressing the uncertainties and challenges associated with the Agency's efforts to develop reliable and consistent microplastics analytical methods? [Research Area 1, Output 4]

Q.2: Existing geospatial datasets are often limited with respect to mapping rivers, streams, and wetlands with the degree of accuracy and at the resolution needed to support federal, state, tribal, and local water management decisions, including identifying "waters of the United States" subject to Clean Water Act jurisdiction. SSWR is leveraging existing interagency partnerships to improve the accuracy and application of geospatial data for mapping aquatic resources nationally. What suggestion(s) or recommendation(s) does the Subcommittee offer on further identifying emerging technologies, methodologies, and datasets to improve aquatic resource mapping tools and their application for federal, state and local water management decisions? [Research Area 2, Output 1]

Q.3: To help reduce health risks associated with exposure to fecal contaminants in recreational waters, SSWR is conducting research to strengthen the scientific basis of existing, and to advance new, fecal contaminant detection methods, source tracking, predictive tools, and health effects assessments that contribute to human health recreational water quality criteria programs. As the research progresses, what suggestion(s) or recommendation(s) does the Subcommittee offer on continuing to identify and conduct research of greatest importance to advancing human health protection from fecal contaminants in recreational waters? [Research Area 3, Output 1]