

**U.S. Environmental Protection Agency Board of Scientific Counselors**  
**Sustainable and Healthy Communities Subcommittee**  
**Virtual Meeting Summary**  
**June 16–18 and 30, 2020**

**Dates and Times:** June 16, 2020, 11:00 a.m. to 3:00 p.m.; June 17, 2020, 11:00 a.m. to 3:00 p.m.; June 18, 2020, 3:00 p.m. to 5:00 p.m.; June 30, 2020, 1:00 p.m. to 4:00 p.m. Eastern Time

**Location:** Virtual

**Executive Summary**

On June 16–18 and 30, 2020, the Environmental Protection Agency’s (EPA’s) Board of Scientific Counselors (BOSC) Sustainable and Healthy Communities (SHC) Subcommittee (further referred to here as Subcommittee) convened in a virtual meeting. The goals of the three-day meeting and following teleconference were to discuss EPA’s response to Subcommittee comments on the draft SHC Strategic Research Action Plan (StRAP), provide an overview of the full SHC planned research portfolio, emphasize the program’s center and partner engagement, and review Research Areas 9 and 10. The meeting format allowed for presentations, open dialogue, program feedback, Subcommittee deliberations and questions, and EPA responses to questions.

Day 1 consisted of presentations and discussions outlining the SHC program’s research portfolio, center capabilities, and Research Area 9. Day 2 included presentations and discussion about Research Area 10 and program and regional office partnerships. Day 3 consisted of Subcommittee deliberations to draft charge questions responses within a subcommittee report. The teleconference on June 30 allowed for the Subcommittee to complete their report and report their draft strengths, suggestions, and recommendations.

Dr. Jennifer Orme-Zavaleta, the Office of Research and Development’s (ORD’s) Principal Deputy Assistant Administrator for Science, thanked everyone for their flexibility to meet virtually due to Coronavirus Disease 2019 (COVID-19) gathering restrictions. She emphasized the Subcommittee’s vital role to help ensure ORD research is conducted in ways that add credibility and confidence in science used to inform Agency decisions.

**Overview of the SHC Research Program**

Dr. Michael Slimak, National Program Director, SHC Research Program, provided an overview of the SHC program and explained that the program is in the research implementation stage. The draft SHC StRAP includes 3 topics (below) and 11 research areas.

- Topic 1: Contaminated Sites
- Topic 2: Waste and Materials Management
- Topic 3: Healthy and Resilient Communities

Dr. Slimak explained that the focus of the meeting would be on Research Area 9 (Benefits for Remediation, Restoration, and Revitalization, or R2R2R) and Research Area 10 (Community-Driven Solutions).

Dr. Andrew Geller, Principal Associate National Program Director of the SHC program, explained how Research Area 9 focuses on remediation of contaminated sites and leverages lessons learned by developing criteria to characterize and evaluate restoration effectiveness. The subsequent research area outputs can link to community revitalization through building local ecosystem services benefits into decision-making activities, with a special focus on brownfield sites.

Dr. Geller described Research Area 10 as the intense application of knowledge about ecosystem services and public health, addressing community health, vulnerability, and resiliency. The translational research considers community ability, development, and economics.

### **Center Capabilities: Implementing the Portfolio**

Dr. Timothy Buckley provided an overview of the Center for Public Health and Environmental Assessment (CPHEA), emphasizing the center's vision to be science leaders delivering innovative and integrative research and providing the foundations for evidence-based decisions and actions to protect the environment, public health, and well-being. CPHEA provides the science needed to understand the complex interrelationships between people and nature in support of assessments and policy to protect human health and ecological integrity.

Dr. Rusty Thomas described the Center for Computational Toxicology and Exposure (CCTE) and their mission to focus on providing solutions driven research to rapidly evaluate human health and environmental risks due to exposure to environmental chemicals. CCTE seeks to understand how to conduct its research more quickly and less costly.

Dr. Tim Watkins presented an overview of the Center for Environmental Measurement and Modeling (CEMM) and the center's vision to protect human health and the environment by delivering innovative measurement and modeling solutions to EPA and its partners. This vision helped produce CEMM's three-part mission statement. CEMM develops, evaluates, and applies measurements and models to characterize the sources, occurrence, transformation, transport, and effects of pollutants and stressors in the natural environment.

Dr. Gregory Sayles outlined the Center for Environmental Solutions and Emergency Response (CESER) and their mission to conduct stakeholder-driven research and applied technical responsive support to help the natural environment. CESER develops environmental solutions to challenges primarily around the built environment, such as the infrastructure associated with drinking water, stormwater, and wastewater. CESER performs work regarding characterization and cleanup associated with environmental disasters including terrorist attacks, natural disasters, and related instances.

### **Research Area 9 Overview**

Dr. Russell, Assistant Center Director, CCTE, explained that Research Area 9 places a heavy emphasis on R2R2R. Within Research Area 9, there are four complementary outputs within three problem statements:

- **Problem Statement 1: Evaluation of restoration effectiveness.** Dr. Russell outlined the first problem statement and its connection to Output 9.1, "Methods and Measures for Evaluation Restoration Effectiveness." He added that Output 9.1 uses multiple lines of

evidence to evaluate spatial and temporal scales, evaluate effectiveness of linked remediation and ecological restoration actions, refine or develop approaches, and measure change in ecological condition and associated beneficial uses.

- **Problem Statement 2: Linking remediation and restoration to revitalization.**

Dr. Russell outlined the second problem statement and its connection to Output 9.2, “Ecosystem Services Tools and Approaches to Support Remediation to Restoration to Revitalization,” and Output 9.3, “Contribution of Site Remediation and Restoration to Revitalizing Communities and Improving Well-being.”

- **Problem Statement 3: Translating ORD Tools for Brownfield Communities.**

Dr. Russell outlined the third problem statement and its connection to Output 9.4, “Case Studies to Apply and Analyze Use of Tools at Brownfield Sites.”

Dr. Susan Yee, Ecologist within CEMM, explained that work within Output 9.1 will refine existing approaches and develop innovative approaches that assess restoration effectiveness and measure changes in ecological condition.

Through meetings with SHC program partners and the Research Area 9 Research Area Coordination Team (RACT), researchers within Output 9.1 decided to address partner needs for measures that integrate across the different R2R2R goals. This work resulted in two products. Dr. Yee explained that the two products will inform ongoing restoration decisions in several place-based studies.

Dr. Matt Harwell, Branch Chief, CEMM, said Output 9.2 concentrates on ecosystem services tools and approaches to support R2R2R. He explained that the SHC program encourages partners to think about ecosystem services when thinking about contaminated sites. The SHC program’s work advances the effort and translational science through the applications of ecosystem services in the contaminated site context. Dr. Harwell outlined the program partner needs as further defined within the SHC StRAP.

Dr. Joel Hoffman, Research Biologist, CCTE, explained that during the formulation of the SHC StRAP, the SHC program identified key partner needs regarding site remediation, site restoration, and community priority integration to improve well-being, leading to Output 9.3’s focus.

Dr. Britta Bierwagen, Group Chief, CPHEA, said Output 9.4 centers on using case studies to apply and analyze the use of tools at brownfield sites. She said that SHC program partners wanted more technical ability to maximize public benefits, improve community health outcomes, or progress to site revitalization, redevelopment, and effective brownfield site reuse. Dr. Bierwagen emphasized the importance of understanding how existing tools can support decisions and help the partners move through the brownfield process.

Following the presentations, Subcommittee members and EPA staff engaged in discussion. Topics discussed included community engagement, site-specific projects, SHC tools, ecological goods and services, and the health impacts assessment process.

## **Research Area 10 Overview**

Dr. Susan Julius, Assistant Center Director, CPHEA, explained that Research Area 10 focuses on the interrelated phases of understanding the community assets at risk, risks at stake from changing conditions, and extreme events and the holistic solution to environmental challenges.

Dr. Anne Neale, Physical Scientist, CPHEA, explained Output 10.1 concentrates on data and approaches for identifying and mapping assets and vulnerabilities. Dr. Neale provided an overview of one of the Output products, “Enhanced EnviroAtlas Functionality and New Tools for Asset and Vulnerability Mapping.” She emphasized the SHC program’s approach to add functionality to EnviroAtlas to provide national and community extent grid-cell data layers and develop tools will allow users to calculate metrics for their own areas of interest.

Dr. Nicolle Tulve, Research Physical Scientist, CPHEA, described that Output 10.2 strives to understand how the interactions of environmental exposures, stressors from the natural environment, and social determinants contribute to impacts on vulnerable groups. She emphasized that the SHC program’s research includes chemical and non-chemical stressors.

Dr. Emily Eisenhauer, Social Scientist, CPHEA, said Output 10.3 focuses on pathways to revitalization and resilience that build community capacity. Through work in the output, CPHEA delivers products, trainings, and tools, including deliverables such as software, checklists, and databases to provide information or analyses that support decision-making, planning, or other actions.

Dr. Thomas Johnson, Physical Scientist, CPHEA, explained Output 10.4 investigates environmental and natural disaster impacts. He discussed the four Output 10.4 products that address extreme event impacts, vulnerability, community health effects, and risk. The four products focus on contaminants, communities, and infrastructure, as well as ecosystem services and human health.

Dr. Michael Nye, Social Scientist, CPHEA, described that Output 10.5 provides guidance for partners and stakeholders to consider effective plans to increase community resilience. This output has seven products focused on resilience guidance, emphasizing contaminated sites and cross-boundary risk management.

Following the presentations, SHC subcommittee members and EPA staff engaged in conversation. Topics discussed included how the COVID-19 pandemic will affect ongoing SHC research, EnviroAtlas trainings, proximity to contaminated sites, workforce development, and community assessments.

## **Program and Regional Partner Panel**

Five different representatives from EPA programs and regions provided brief overviews of how their respective offices collaborate with the SHC program. The representatives were:

- Ann Carroll, Office of Land and Emergency Management
- Lisa Chang, EPA Region 10
- Jonathan Essoka, Region 3
- Jeanine Finley, Office of Water

- Amy Pelka, Great Lakes National Program Office
- Alexis Rourk, Office of Community Revitalization

Following the overviews, Subcommittee members and EPA staff engaged in discussion. Topics discussed included communication with states and local communities, product deliverables, and model products.

#### **Thursday, June 18, 2020: BOSC Discussion and Deliberation**

Subcommittee members divided into two workgroups to discuss responses to Charge Questions 1 and 2. After 45 minutes of deliberation, each group provided a report-out of their discussion, including strengths, suggestions, and recommendations for the SHC program as they relate to each charge question.

Charge Question 1 recommendations focused on ways the SHC program could fill critical research gaps. The recommendations emphasized the need for the SHC program to include the built environment in their research, incorporate frameworks beyond EnviroAtlas for a more holistic environmental analysis, and incorporate more long-term systematic research in communities.

Recommendations for Charge Question 2 centered on the SHC program increasing partner engagement. The Subcommittee raised that increased partner engagement would enhance tool development, tool testing, and training needs. Additionally, the Subcommittee recommended that the SHC program explore research translation plans for their products.

#### **Tuesday, June 30, 2020: BOSC Discussion, Deliberations, and Report-Out**

Subcommittee members reconvened to discuss the finalization of their subcommittee report. Dr. Courtney Flint acknowledged Drs. Derek Shendell and Barrett Ristroph for their work to synthesize the report. During the meeting, Subcommittee members discussed PFAS work within the SHC research program, opportunistic versus systemic research, and economic modeling in the EnviroAtlas.

The Subcommittee cancelled the July 9, 2020 meeting because they agreed there was nothing further to discuss in their report.

## Meeting Agenda and Other Meeting Materials

The [agenda](#)<sup>1</sup>, [charge questions](#)<sup>2</sup>, and other meeting materials can be accessed at <https://www.epa.gov/bosc/sustainable-and-healthy-communities-june-2020-strap-implementation-review>.

## Meeting Participants

### BOSC Sustainable and Healthy Communities Subcommittee Members:

Courtney Flint, *Chair*  
Matthew Naud, *Vice Chair*  
Kimberly Gray  
Jay Golden\*  
Elena Irwin  
James Kelly  
Rainer Lohmann  
Jonathan Meiman  
Donald Nelson\*\*  
Barrett Ristroph\*\*\*  
Leslie Rubin  
Derek Shendell  
Michael Steinhoff

\**did not attend June 17 and 18*

\*\**did not attend June 18*

\*\*\**did not attend June 30*

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

### EPA Presenters:

Britta Bierwagen, *Group Chief, Center for Public Health and Environmental Assessment*  
Timothy Buckley, *Acting Associate Director for Ecology and Health, Center for Public Health and Environmental Assessment*  
Andrew Geller, *Principal Associate National Program Director, Sustainable and Healthy Communities Research Program*  
Michael Slimak, *National Program Director, Sustainable and Healthy Communities Research Program*  
Emily Eisenhauer, *Social Scientist, Center for Public Health and Environmental Assessment*  
Matt Harwell, *Branch Chief, Center for Environmental Measurement and Modeling*  
Joel Hoffman, *Research Biologist, Center for Environmental Measurement and Modeling*  
Thomas Johnson, *Physical Scientist, Center for Public Health and Environmental Assessment*

---

<sup>1</sup> [https://www.epa.gov/sites/production/files/2020-06/documents/agenda\\_shc\\_bosc\\_june\\_16\\_17\\_5.13.20\\_.pdf](https://www.epa.gov/sites/production/files/2020-06/documents/agenda_shc_bosc_june_16_17_5.13.20_.pdf)

<sup>2</sup> [https://www.epa.gov/sites/production/files/2020-05/documents/shc\\_bosc\\_charge\\_questions\\_june\\_2020.pdf](https://www.epa.gov/sites/production/files/2020-05/documents/shc_bosc_charge_questions_june_2020.pdf)

Susan Julius, *Assistant Center Director, Center for Public Health and Environmental Assessment*

Anne Neale, *Physical Scientist, Center for Public Health and Environmental Assessment*

Michael Nye, *Social Scientist, Center for Public Health and Environmental Assessment*

Jennifer Orme-Zavaleta, *Principal Deputy Assistance Administrator for Science, Office of Research and Development*

Marc Russell, *Assistant Center Director, Center for Computational Toxicology and Exposure*

Greg Sayles, *Director, Center for Environmental Solutions and Emergency Response*

Rusty Thomas, *Director, Center for Computational Toxicology and Exposure*

Nicolle Tulve, *Research Physical Scientist, Center for Public Health and Environmental Assessment*

Tim Watkins, *Director, Center for Environmental Measurement and Modeling*

Susan Yee, *Ecologist, Center for Environmental Measurement and Modeling*

Sarah Mazur, *Moderator, Associate Director, Sustainable and Healthy Communities Research Program*

**Panelists:**

Ann Carroll, Office of Land and Emergency Management

Lisa Chang, Region 10

Jonathan Essoka, ORD Superfund and Technology Liaison for Region 3

Jeanine Finley, Office of Water

Amy Pelka, Great Lakes National Program Office

Alexis Rourk, Office of Community Revitalization

**Other EPA Attendees:**

<b>A – Hod</b>	<b>Hol – Pa</b>	<b>Ph – Z</b>
Hayley Aja	Thomas Holdsworth	Lara Phelps
Theodore Angradi	Bryan Hubbell	Drew Pilant
Mary Ballew	Chloe Jackson	Regina Poeske
Barbara Bergen	Lindsey Jones	Kathleen Raffaele
Walter Berry	Jennifer Josephs	Santhini Ramasamy
Doris Betancourt	Ozge Kaplan	Paul Ringold
Laura Bloch	Rabi Kieber	Bruce Rodan
Justin Bousquin	Andrea Kirk	Mary Ross
Carole Braverman	Richard Kirschner	William Russo
Allen Brookes	Urmila Kodavanti	Kathryn Saterson
Laureen Burton	Michael Kravitz	Amar Singh
Jim Carleton	Anne Kuhn	Lisa Smith
Jennifer Cashdollar	Michelle Latham	Raymond Smith
Jessica Daniel	Chris Lau	James Starr
Kacee Deener	Bill Linak	Jenny Stephenson
Bayou Demeke	Monica Linnenbrink	James Summers

**A – Hod**

David Diaz-Sanchez  
David Dunlap  
Andrey Egorov  
Robert Elleman  
Gina Ferreira  
Aaron Ferster  
William Fisher  
Megan Fleming  
Stiven Foster  
Meridith Fry  
Rich Fulford  
Chandra Giri  
Eugene Green  
Greg Grissom  
Annette Guiseppi-Elie  
Intaek Hahn  
Linda Harwell  
Mehdi Hazari  
Colette Hodes

**Hol – Pa**

Christine Lloyd  
Danelle Lobdell  
Nick Loschin  
Keahna Margeson  
Brooke Mastervich  
Charles Maurice  
James McCord  
Melissa McCullough  
Bob McKane  
Megan Mehaffey  
Colette Miller  
Marc Mills  
Diane Nacci  
Tammy Newcomer-  
Johnson  
Carlos Nunez  
Tom O'Farrell  
David Olszyk  
Sebastian Paczuski

**Ph – Z**

Timothy Taylor  
Salina Tesfay  
Kent Thomas  
Anett Trebitz  
Emily Trentacoste  
Michael Troyer  
Wei-Lun Tsai  
Tim Wade  
Cavin Ward-Caviness  
Ben Washington  
Jordan West  
Siobhan Whitlock  
Pai-Yei Whung  
Katie Williams  
Darrell Winner  
Roger Yeardeley  
Jose Zambrana

**Other Attendees:**

Linda Wilson

**Contractor Support (ICF):**

Canden Byrd  
Blake Riley  
Amy Scheuer