

Michigan Department of Environment, Great Lakes, and Energy
Toxics Steering Group
2018 Annual Report

Introduction

The Toxics Steering Group (TSG) is the Michigan Department of Environment, Great Lakes, and Energy (EGLE) forum for discussion of human health and risk assessment issues related to exposure to environmental contaminants. Members of the TSG are risk assessors and toxicologists within EGLE Air Quality Division (AQD), Remediation and Redevelopment Division (RRD), Waste Management and Radiological Protection Division (WMRPD), and Water Resources Division (WRD), toxicologists from other state agencies (the Department of Health and Human Services (DHHS) and the Department of Agriculture and Rural Development [MDARD]), and other related state experts. The TSG meets quarterly, or more if needed, with the goal of using the best available science to address human health and risk assessment issues identified by the TSG or EGLE management. The TSG monitors and evaluates the latest scientific literature and general risk assessment issues and makes recommendations relative to EGLE's environmental programs. The TSG provides a forum for consideration of information used to develop criteria and screening levels; for monitoring, reviewing, and discussion of new and innovative approaches to complex risk assessment concepts; and for addressing scientific and technical issues related to hazard, exposure, and risk assessments.

2018 TSG Members

1. Achee, Timothy (EGLE)
2. Armstrong, Brandon (EGLE)
3. Bailey, Jordan (DHHS)
4. Bowman, Sarah (EGLE)
5. Bush, Christina (DHHS)
6. Bush, Dennis (EGLE)
7. Briggs, Shannon (EGLE)
8. Carrick, Jacob (DHHS)
9. Cooch, Aaron (DHHS)
10. Depa, Michael (EGLE)
11. Farrell, William (DHHS)
12. Flaga, Christine (EGLE)
13. Fritz, Kay (MDARD)
14. Gray, Jennifer (DHHS)
15. Groetsch, Kory J. (DHHS)
16. Kallakuri, Sessa (DHHS)
17. Keatley, Aaron (EGLE)
18. Klase, Gary (DHHS)
19. Lehner, Doreen (EGLE)
20. MacKenzie-Taylor, Deb (DHHS)
21. Morrison, Shane (EGLE)
22. Mussa, Abiy (DHHS)
23. Nandula, Mounica (DHHS)
24. Quiggle, Lisa (DHHS)
25. Rafalski, Alexandra (DHHS)
26. Ries, Divinia (EGLE)

27. Rhodes, Geoff (EGLE-WRD Tox Unit student intern)
28. Sanabria, Nicole (EGLE)
29. Sills, Robert (EGLE)
30. Skinner, Sarah (EGLE-RRD Tox Unit student assistant)
31. Taylor Morgan, Joy (EGLE)
32. Taylor, Al (EGLE)
33. Wildfang, Eric (EGLE)
34. Williams, Keisha (EGLE)

Summary of the TSG Subcommittees and Workgroup in 2018

Children's Environmental Health Subcommittee (CEHS)

Member

- Robert Sills

The CEHS is charged with tracking developments in the area of children's environmental health and making recommendations to the TSG for incorporation into human health risk assessment procedures. In 2017, the CEHS was composed of 5 members (1 from AQD, 1 from RRD, 2 from WMD, and 1 from DHHS. Only one member has remained at this time (Robert Sills). The function and membership of this subcommittee were evaluated in a previous TSG meeting for possible restructuring, but no final decision has been made.

Per- and Polyfluoroalkyl Substances (PFAS) Workgroup

Members

- Christina Bush, Co-Chair (retired December 2018)
- Joy Taylor Morgan, Co-Chair
- Jennifer Gray
- Eric Wildfang
- Kay Fritz
- Robert Delaney (RRD)

The PFAS Workgroup (Joy Taylor-Morgan and Chris Bush) is inactive as members are now more involved with the [Michigan PFAS Action Response Team](#) (MPART).

Joy requested that the PFAS Workgroup be allowed to stay inactive. Aaron Keatley acknowledged the changes in the PFAS Workgroup and will wait to determine future activity.

Volatilization to Indoor Air Workgroup

Members

- Shane Morrison, Chair
- Aubrey Brewer
- Jennifer Gray
- Lisa Quiggle
- Alexandra Rafalski
- Divinia Ries
- Keisha Williams

The workgroup was created in 2016 to evaluate and develop indoor air screening levels for volatile substances that are protective of short-term human health risks associated with volatilization to indoor air. The workgroup has developed an initial set of Recommended Interim Action Screening Levels (RIASL) and Time-Sensitive Recommended Interim Action Screening Levels (TSRIASL) for residential and nonresidential indoor air exposure scenarios for a group of Part 201 hazardous substances. The workgroup is currently developing RIASLs and TSRIASLs for additional hazardous substances. Management decisions may be required to reconcile the conflict identified between the screening level development process and the recent statutory changes to the Part 201 Cleanup Program.

Emerging Contaminants Workgroup

Members

- Christina Pastoria (Department of Natural Resources)
- Emily Finnell (Department of Natural Resources)
- Eric Wildfang
- Sesha Kallakuri
- Bill Farrell
- Kirby Shane (EGLE)
- Joy Taylor Morgan
- Deb MacKenzie-Taylor
- Sarah Bowman

At the September meeting, a discussion about emerging contaminants was initiated by staff from the Office of the Great Lakes (Emily Finnell and Christina Pastoria) who were working on the issue related for EGLE's Water Strategy. They wrote a briefing on emerging contaminants for the Interdepartmental Water Team entitled, "*Summary of Current Efforts to Address Emerging Pollutants in the Great Lakes Region.*" It was agreed that EGLE needs to have a process for defining, identifying, and responding to emerging contaminants. This process would enable the department to be more proactive. Several members of the TSG were identified to continue the discussion and present their ideas at the January TSG meeting. The group wrote a draft report, which presents the information they were able to collect since the last meeting. The Workgroup has been on hiatus following the formation of the MPART due to overlapping objectives.

Collaborative Activities

Kay Fritz, Sesha Kallakuri, Gary Klase, and Eric Wildfang worked with the MPART to address contaminated PFAS sites in Michigan. Sesha Kallakuri worked with the Air Quality and Groundwater MPART Workgroups.

Kay Fritz worked with the PFAS Biosolids Workgroup and the PFAS Animal Health and Food Safety Workgroup. She also coordinated EGLE, AECOM, and Michigan State University efforts to sample a crop for PFAS analysis. She participated as a member of the EGLE-MDARD Waste Coordination Committee and the Agriculture and the Environment Committee.

Sesha Kallakuri coordinated efforts with the Air Quality Division (EGLE) to provide a response to a resident that had concerns of multiple chemical sensitivities that he thinks might be due to paint emissions from an industrial area in rural Genesee County.

Gary Klase and Jennifer Gray represented State of Michigan on the Great Lakes Consortium for Fish Consumption Advisories.

Joy Taylor Morgan and Keisha Williams worked with several organization representatives on the Detroit Asthma Steering Group.

Robert Sills and Keisha Williams participated on the University of Michigan grant project: Community Action to Promote Healthy Environments.

Outreach and Education

Brandon Armstrong was named president of the Ohio Valley Chapter of Society of Environmental Toxicology and Chemistry (SETAC) and attended the Ohio Valley SETAC Conference in Columbus, Ohio. He and Shannon Briggs attended the Michigan Environmental Health Association Annual Education Conference in Pontiac, Michigan.

Shannon Briggs co-chaired the Great Lakes Beach and Water Safety Consortium in Cleveland, Ohio.

Sarah Bowman serves on the SETAC Board of Directors and attended the annual meeting in Sacramento, California. She also serves on the board for the Ohio Valley Chapter of SETAC and attended the regional chapter meeting in Columbus, Ohio. Sarah presented a poster at the Emerging Contaminants in the Aquatic Environment Conference in Champaign, Illinois. She also participated in an Emerging Contaminants Workshop hosted by the Association of Clean Water Administrators in Washington, D.C.

Kay Fritz served on the SETAC North American Professional Training and Education Committee and served as chair of the SETAC North American Meetings Committee.

Jennifer Gray and Gary Klase participated in two public meetings for PFAS in the Huron River and explained the DHHS "Do Not Eat" advisory for Huron River fish and other PFAS issues.

Sesha Kallakuri participated in a public meeting to address PCBs contamination at the Ten Mile Drain Superfund site and provided information on preventing exposure to PCBs to residents at

the Open House; responded to a mercury spill at a residence in Genesee County and provided the relevant health information; participated in a public meeting for PFAS contamination at Camp Grayling and presented the general understanding and health effects of PFAS; attended the Lake Margrethe Property Owner's Association meeting and addressed residents concern related to PFAS-contamination in the area; presented a PFAS 101 to the staff at Community Health and Emergency Co-ordination Center; attended the Restoration Advisory Board meeting for K.I. Sawyer Air Force Base and addressed residents concern related to PFAS contamination in the area; and presented the *Health Effects of Mercury* to Emergency Preparedness Coordinator's and firefighters at a Mercury Workshop in Howell, Michigan.

Shane Morrison presented a Webinar with Matt Williams called, "Calculating the Generic Criteria for the Volatilization to Indoor Air Pathway (VIAP) in the Proposed Part 201 Rules." He also presented with Mitch Adelman (EGLE) at the Michigan Environmental Compliance Conference, "Volatilization to Indoor Air Pathway (VIAP): Site Screening & Evaluation." Shane presented "Vapor Intrusion (VI) and the Volatilization to Indoor Air Pathway (VIAP)" for the Michigan Tribal Environmental Group Meeting and provided four, two-day VIAP training events for staff at a regulated community.

Divinia Ries participated in the Interstate Technology & Regulatory Council (ITRC) Total Petroleum Hydrocarbons Risk Evaluation Team. Composed of public- and private-sector risk environmental and risk assessment professionals, the ITRC team developed a guidance document to assist state regulators and practitioners with evaluating risk and establishing cleanup requirements at petroleum release sites. Training on this guidance, which focused on factors that are unique to petroleum hydrocarbon releases, is available in 2019. Divinia presented a poster relating to this guidance at the Society for Risk Analysis Annual Conference at New Orleans on December 4, 2018. Divinia co-presented a Michigan-specific case study on "Evaluation of Bioavailability of Arsenic from Contaminated Soil - Case Study for a Site in Southeast Michigan" at the American Institute for Professional Geologists Michigan Section 8th Annual Workshop on Emerging Contaminants and Pathways on June 13, 2018.

Keisha Williams provided educational materials at two community health fairs in metro Detroit and gave presentations around the health significance of air monitoring results at community meetings, an internal Air Quality Division webinar, and the Michigan Environmental Compliance Conference.

TSG members staffed several educational displays at the 2018 Quality of Life Earth Day event.

Training

Brandon Armstrong attended Saginaw Bay Nutrient workshop at Saginaw Valley State University and the ITRC PFAS workshop in Grand Rapids

Shannon Briggs attended the Microbial Source Tracking qPCR Laboratory Course hosted by the USEPA.

Sarah Bowman and Kay Fritz attended Michigan State University's short course called, "Introduction to Physiologically Based Toxicokinetic (PBTK) / Pharmacokinetic (PBPK) Modeling."

Kay Fritz attended training for the SETAC North America Focused Topic Meeting: High-Throughput Screening and Ecological Risk Assessment, the Federal Drug Administration's Rapid Response Team media training, and "How to present your science keeping all ages engaged workshop."

Sesha Kallakuri attended the American Institute for Professional Geologists Michigan Annual Environment Risk Management Workshop; completed a 40-hour course in Hazardous Materials Incident Response Operations EPA 165.5; and attended the Risk Assessment and Guidance for Superfund training in Chicago.

Gary Klase attended Risk Assessment Guidance for Superfund training at the United States Environmental Protection Agency (USEPA) in Chicago, 40-hour HAZWOPER with the Michigan State Police, and attended mercury spill workshop presented by DHHS.

Chris Flaga and Eric Wildfang attended the 2018 Toxicology and Risk Assessment Conference in Cincinnati, Ohio.

Future Needs and Recommendations of the TSG

1. Develop ideas and potential connections to recruit new toxicologists to apply for positions with the EGLE.
2. Revive participation of the TSG in Earth Day – form an informal workgroup to lead this activity.
3. Schedule a field trip or an in-service for TSG members for continuing education.

Future Training

To achieve adequate protection of public health and the environment in general and children's health specifically, the TSG needs to be equipped with risk communication skills and enhanced ability to apply the best available science and practices in toxicology and human health risk assessment. In response to advancements in the field of risk assessment, the TSG continues to recommend that its members pursue training, and the department support training, to gain knowledge and skills in the following areas:

1. Cumulative, multi-pathway, and probabilistic risk assessment.
2. Dose-response modeling using the USEPA's benchmark dose software.
3. Interpretation of health statistics and health disparities relative to environmental contaminant exposures.
4. Emerging contaminants.
5. Environmental justice and environmental exposures.
6. Risk communication.