



Michigan Department of Environmental Quality Toxics Steering Group 2017 Annual Report

I. INTRODUCTION

The Toxics Steering Group (TSG) is the Michigan Department of Environmental Quality's (DEQ) 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 the DEQ 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 DEQ management. The TSG monitors and evaluates the latest scientific literature and general risk assessment issues and makes recommendations relative to the DEQ'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.

II. 2017 TSG MEMBERSHIP

DEQ

Shane Morrison, Ph.D. (RRD)
Shannon Briggs, Ph.D. (WRD)
Dennis Bush, M.S. (WRD)
Mike Depa, MPH (AQD)
Christine Flaga, M.S. (RRD), Chairperson
Eric Wildfang, Ph.D. (RRD)
Keisha Williams, Ph.D. (AQD)
Deb MacKenzie-Taylor, Ph.D. (WMRPD)

Sarah Bowman, Ph.D. (WRD)
Divinia Ries, Ph.D. (RRD)
Robert Sills, MPH (AQD)
Joy Taylor Morgan, M.S. (AQD)
Kristen Kellock, Ph.D. (WMRPD)
Doreen Lehner, M.S. (AQD)
Brandon Armstrong, Ph.D. (WRD)
Tim Achee (RRD)

DHHS

Jacob Carrick M.S.
Jennifer Gray, Ph.D.
Kory Groetsch, M.S.
Lisa Quiggle, M.S.
William Farrell

Christina Bush, M.S.
Abiy Mussa, Ph.D.
Sesha Kallakuri, M.S.
Alexandra Rafalski, M.S.

MDARD

Kay Fritz, Ph.D.

III. SUMMARY OF THE TSG SUBCOMMITTEES AND WORKGROUP ACTIVITIES IN 2017

Children’s Environmental Health Subcommittee (CEHS):

CEHS Members: Deb MacKenzie-Taylor, Chair
 Christina Bush
 Divinia Ries
 Bob 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. The CEHS was not active in 2017 with the exception of considerable support provided by Deb Taylor to the RRD for the proposed criteria rules, specifically pertaining to the 2016 TSG Developmental-Reproductive Criteria Development Process Report. The process recommended in the report was followed by RRD during the comprehensive update of the cleanup criteria rules; the report is an attachment (Attachment F) to the Cleanup Criteria and Screening Levels Development and Application resource document. Deb provided information about the developmental process to update the cleanup criteria to stakeholders and department management and also assisted in developing responses to comments about the developmental process.

Per- and Polyfluoroalkyl Substances (PFAS) Workgroup:

PFAS Members: Kristen Kellock, Co-Chair
 Joy Taylor Morgan, Co-Chair
 Christina Bush
 Eric Wildfang
 Kay Fritz
 Robert Delaney (RRD)

The PFAS workgroup was charged by DEQ management to provide recommendations for establishing an environmental monitoring plan for PFAS in the state. The PFAS workgroup completed a Whitepaper titled “Perfluorinated Compounds in Michigan: Current State of Knowledge and Recommendations for Future Actions” on September 1, 2011. The PFAS workgroup continued to meet and evaluate environmental data, new research, and policies and regulations pertaining to PFAS. In the fall of 2016, the workgroup began updating portions of the existing Whitepaper for the purpose of providing a briefing to the director and new managers and staff in the DEQ, DHHS, and MDARD. The addendum was completed in August 2017 and includes information regarding EPA’s lifetime health advisories; a review of the currently available WRD, RRD, and DHHS standards/criteria/guidance values for perfluorooctane sulfonic acid and perfluorooctanoic acid; surface water and fish tissue monitoring data collected for the Great Lakes Restoration initiative grant; site-specific updates on Wurtsmith Air Force Base, Plainfield Twp., and Ann Arbor; and recommendations for future work. The updated addendum to the Whitepaper is awaiting final management approval.

Vapor Intrusion Workgroup:

Members: Deb MacKenzie-Taylor, Chair
Jennifer Gray
Kory Groetsch
Kristen Kellock
Shane Morrison
Lisa Quiggle
Divinia Ries
Keisha Williams

The workgroup was created to determine if the chronic acceptable air concentrations (AACs) developed by the RRD are appropriate for evaluating indoor air concentrations associated with vapor intrusion and protective of shorter term risks. The AACs are used to develop the cleanup criteria for the inhalation exposure pathways. The AACs were reviewed for a subset of volatile chemicals considered potentially significant to the Volatilization to Indoor Air pathway (VIAP). Additional chemicals were identified for review and that work continued through the end of 2016. The Workgroup's report was finalized January 2017 and is titled "Volatilization to Indoor Air; Recommendations for Interim Action Screening Levels and Time-Sensitive Interim Action Screening Levels". The report includes recommendations for 29 hazardous substances. To date, the workgroup has not been asked to review additional hazardous substances but may be asked to do so in the future.

The Workgroup was primarily inactive during 2017 with the exception of providing support to RRD on the recommended screening levels (RIASLs and TS RIASLs) for the proposed criteria rules. Information was provided to stakeholders and department management.

Emerging Contaminants Workgroup:

Members: Christina Pastoria
Emily Finnell
Eric Wildfang
Sesha Kallakuri
Bill Farrell
Kirby Shane
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 the DEQ'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 the DEQ needs to have a process for defining, identifying, and responding to ECs. This process would enable the department to be more proactive. Several members of the TSG were identified to continue the discussion and presented 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 will continue their work, build on the report, and present again at the April TSG meeting.

IV. COLLABORATIVE ACTIVITIES

- Divinia Ries was a member of the Interstate Technology & Regulatory Council's (ITRC) Bioavailability of Contaminants in Soil (BCS) technical team and the Total Petroleum Hydrocarbon Risk Evaluation (TPH Risk) technical team. The BCS guidance document was finalized in December and is now available online. The TPH Risk Survey of states component has been completed.
- Abiy Mussa has been working with scientists at the Agency for Toxic Substances and Disease Registry on how to apply PBPK modeling for human health risk assessments particularly for VOCs.
- Deb MacKenzie-Taylor provided significant support to RRD on the proposed criteria rules, responses to comments on the rules, and for the various stakeholder processes.
- Chris Flaga, Bob Sills, Dennis Bush, and Tim Achee (Librarian) were involved in supporting continued use of a SciFinder subscription and getting their division's approval to pay for another annual subscription, SciFinder is a subscription service that provides access to Chemical Abstract Service registry information and indexes articles from more than 9,000 journals, as well as patents, technical reports, conference proceedings, books and dissertations covering the last 110 years. SciFinder stands as one of the two "best of breed" indices for scientific information which is critical to the work of the toxicologists.
- Eric Wildfang and Deb MacKenzie-Taylor represented the department on the Governor's Child Lead Poisoning Elimination Board.
- Joy Taylor Morgan and Keisha Williams work with several organizational partners, including MDHHS on the Detroit Asthma Steering Group.

V. OUTREACH AND EDUCATION

- Kay Fritz attended the Society of Environmental Toxicology and Chemistry (SETAC) annual meeting in November 2017. Kay also served as the chair-elect for the SETAC Meetings Committee
- Divinia Ries attended the Society for Risk Analysis 2017 meeting in December and presented a poster on the ITRC BCS guidance. She attended the ITRC Spring and Fall meetings.
- Sarah Bowman serves as a board member for the Society of Environmental Toxicology and Chemistry (SETAC) until 2019. Although unable to attend the 2017 annual meeting, she viewed many presentations and posters that were available online and shared relevant presentations (e.g., PFAS) with members of the TSG.
- Divinia Ries attended a meeting in the Warren District Office to educate staff working on a site-specific project pertaining to arsenic bioavailability in soil. She also represented the DEQ Water Resources Division at the Michigan Water Collaboration Workshop where she participated in a special session to identify potential state/university collaboration on emerging contaminants.
- Brandon Armstrong attended the Society of Environmental Toxicology and Chemistry (SETAC) annual meeting in November 2017. Brandon also served as the co-lead for the SETAC Ohio Valley Chapter Revitalization Committee.
- Shane Morrison presented at the ITRC Petroleum Vapor Intrusion Class in Ann Arbor. His presentation was the development of site-specific volatilization to indoor air criteria. Shane also

presented on the volatilization to indoor air pathway to DEQ staff. His presentation was entitled "How to Investigate the Volatilization to Indoor Air Pathway (VIAP): Vapor Intrusion 101".

VI. TRAINING

- Kay Fritz attended an FDA-sponsored "GOODSamples: Guidance on obtaining defensible samples" training.
- Divinia Ries attended the State Risk Assessors Teleconference, Fate and Transport of Contaminants Webinar, Communicating Risk Webinar, FSTRAC Spring and Fall webinars.
- Sarah Bowman completed a HAZWOPER refresher course and Midwest Environmental Enforcement Association Negotiation Training. She also attended the following webinars: USGS Chlorides and Sulfides and NWQMC Webinar: Changing Pesticide Use: Challenges for Water-Quality Monitoring and Ecological Implications.
- Keisha Williams was in the 2017 Emerging Leaders Program of the Great Lakes Leadership Academy.
- Shane Morrison received the 40 hour Hazardous Waste Operations and Emergency Response training. He also attended the 2.5 day EPA Introduction to Risk Assessment Guidance for Superfund training and a Negotiation Skills workshop.
- Abiy Mussa attended a PBPK workshop in Fort Collins, Colorado.

VII. FUTURE NEEDS AND RECOMMENDATIONS OF THE TSG

- Revive participation of the TSG in Earth Day – form an informal work-group to lead this activity.
- Schedule a field trip or an in-service for TSG members for continuing education.
- Give consideration to restructuring the TSG via an MOU or a revised policy and procedures so members from different departments and the departments are more equal.

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:

- Cumulative, multi-pathway, and probabilistic risk assessment
- Dose-response modeling using the U.S. EPA's benchmark dose software
- Interpretation of health statistics and health disparities relative to environmental contaminant exposures
- Emerging contaminants
- Environmental justice and environmental exposures
- Risk communication