



Michigan Department of Environmental Quality Toxics Steering Group 2016 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. 2016 TSG MEMBERSHIP

DEQ

Amy Babcock, MPH (WRD)
Sarah Bowman, Ph.D. (WRD)
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)
Shane Morrison, Ph.D. (RRD)
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)

DHHS

Christina Bush, M.S.
Jacob Carrick M.S.
Jennifer Gray, Ph.D.
Kory Groetsch, M.S.
Lisa Quiggle, M.S.
Abiy Mussa, Ph.D.
Linda Dykema, Ph.D.

MDARD

Kay Fritz, Ph.D.

III. SUMMARY OF THE TSG SUBCOMMITTEES AND WORKGROUP ACTIVITIES IN 2016

Children's Environmental Health Subcommittee (CEHS):

CEHS Members: Deb MacKenzie-Taylor, Chair
Amy Babcock
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. In 2015, RRD requested the CEHS to assist the division by addressing the Collaborative Stakeholders Advisory Group's recommendation that the DEQ develop a process for calculating cleanup criteria for environmental contaminants that demonstrate developmental and/or reproductive adverse effects. The report was completed in December 2015. In early 2016, RRD requested that the subcommittee expand the report to address exposures to pregnant residents and workers from developmental toxicants with known prenatal exposure data and effects to the fetus. The additional information addresses the appropriate averaging time parameter to use within the criteria equations and provides instruction on how to determine whether the exposure should be addressed by a single event exposure during pregnancy (one day) or averaged over the length of the pregnancy (nine months). The expanded report was finalized in May 2016 and is available on the DEQ website.

Deb Taylor provided support on developmental toxicity to RRD in addressing comments and questions that arose from the cleanup criteria administrative rules public comment periods and the subsequent criteria stakeholder process.

Per- and Polyfluoroalkyl Substances (PFAS) Workgroup:

PFAS Members: Amy Babcock, 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 will include 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 will be completed in May, 2017.

Vapor Intrusion Workgroup:

Members: Deb MacKenzie-Taylor, Chair
Jennifer Gray
Kory Groetsch
Kristen Kellock
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 inhalation-based cleanup criteria for the inhalation exposure pathways. The AACs were reviewed for a subset of volatile chemicals considered potentially significant to the VI pathway. The first draft of the Workgroup's report entitled: "Volatilization to Indoor Air; Recommendations for Interim Action Screening Levels and Time Sensitive Interim Action Screening Levels" was distributed in November. Additional chemicals were identified for review and the additional work continued through the end of 2016.

1,4-Dioxane Subcommittee:

Members: Christine Flaga, Chair
Jennifer Gray
Deb MacKenzie-Taylor
Divinia Ries

The 1,4-Dioxane Subcommittee did not conduct any work in 2016 and is currently in inactive status.

IV. COLLABORATIVE ACTIVITIES

- 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.
- Divinia Ries was a member of the Interstate Technology & Regulatory Council's Bioavailability of Contaminants in Soil technical team and the Total Petroleum Hydrocarbon Risk Evaluation technical team.
- Chris Flaga, Bob Sills, and Dennis Bush were involved in getting their division's approval to share the cost of a half-time librarian position. Joy Taylor Morgan, Chris Flaga and Dennis Bush helped to create the materials for the position and conducted the interviews.
- Eric Wildfang and Deb MacKenzie-Taylor represented the department on the Governor's Child Lead Poisoning Elimination Board.
- Deb MacKenzie-Taylor has been working with other WMRPD staff and staff at DHHS and MDARD to develop educational materials for raising livestock and gardening in

areas with soil contamination for a variety of contaminants. This group is also working on potential pilot sampling for chicken egg sampling.

- Joy Taylor Morgan and Keisha Williams worked with several organizational partners, including the EPA and MDHHS, to organize a Detroit-specific Asthma Summit.
- Kristen Kellock and Deb MacKenzie-Taylor assisted with the drinking water sampling efforts during the Flint drinking water crisis.

V. OUTREACH AND EDUCATION

- 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.
- Eric Wildfang chaired the Displays Subcommittee of the 2016 State of Michigan Quality of Life Earth Day event. He recruited and coordinated QOL and external exhibitors for the annual environmental education and outreach event.
- Sarah Bowman attended the Society of Environmental Toxicology and Chemistry (SETAC) annual meeting in November 2016. Sarah also serves as a SETAC board member.
- Kristen Kellock was a presenter for vapor intrusion training provided to staff of the WMRPD (November 2016).

VI. TRAINING

- Kay Fritz attended an EPA Region 5 Farm Worker Advocate Training and Renewed State Relationships Workshop.
- Kay also attended an Emerging Contaminants Workshop
- Kristen Kellock attended the Michigan Radon Workshop: Reducing Radon in New Construction and the Radiological Emergency Preparedness training for the Radiologic Protection Section.
- Keisha Williams attended a course at Michigan State University entitled “The Communication of Science and Risk/Uncertainty in the Current Media Landscape”
- Webinars provide the TSG with opportunities to keep abreast of the newest and most relevant issues in toxicology and risk assessment. Webinars sponsored by agencies and organizations attended by TSG members included:
 - Society of Toxicology FDA Colloquium: Application of In Vitro to In Vivo Extrapolation in Safety Assessment
 - Neurodevelopment and Manganese Exposure in a Rural US Cohort
 - Communicating Risk and Engaging Communities: Arsenic and Well Testing
 - Contaminants of Emerging Concern (CECs) in Source and Treated Drinking Water
 - NEWMOA PFAS webinars
 - State Risk Assessor’s conference calls

VII. FUTURE NEEDS AND RECOMMENDATIONS OF THE TSG

- Revive participation of the TSG in Earth Day – consider creating and running an exhibit.
- Schedule a field trip or an in-service for TSG members for continuing education.
- Organize an informational webinar for staff in DHHS, DEQ, and MDARD...”What’s New in Human Health Risk Assessment and Toxicology” (e.g. acute toxicity; new chemicals, new toxicity testing, new risk assessment methodology, etc.)
- Clarification is needed regarding the MOU for information sharing between MDEQ and MDHHS, and the TSG’s role.

TRAINING

In response to advancements in the field of risk assessment, the TSG continues to recommend that its members pursue 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

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.