

**Sixth Annual
Symposium on Contaminated Site Risk Assessment**

**Add Your Voice to the Shaping of Risk Assessment
Guidance!**

GeoEnviroLogic Professional Development Workshop

Reidar Zapf-Gilje
rzapf-gilje@shaw.ca
604-617-6623

www.geoenvirologic.ca



Agenda

MORNING:

8:00 – Sign-in

8:15 - Refreshments and Introductions

8:30 – 9:00 - Keynote – Mark Richardson, SNC Lavalin: Interplay of Science and Policy

9:00 -10:15 – Roster Review of Risk Assessments (Protocol 6): Group Discussion

10:15 – 10:30 Refreshments

10:30 – 11:45 – Groundwater standards and implications for risk assessment (Technical Guidance 6): Group Discussion

11:45 – 12:00 – Morning Wrap-up: How can Practitioners Effectively Support and Cooperate in the Development of New Guidance?

12:00 – 13:00 Lunch Break



Agenda

AFTERNOON

13:00-14:30 – Regulatory Updates and “Hot” topics

- Environment Canada Update: Environment Canada Ecological Risk Assessment Guidance, Ute Pott
- Health Canada: Update on Guidance including PBET, Sediment Quality Guidelines for Human Health, and others, Sanya Petrovic
- To Assess or Not to Assess – A Somewhat “Iron-ic” Tale: Ryan Stevenson, Golder Associates
- CSI Coastal Scene Investigation: Solving marine ecotoxicological puzzles in contaminated harbours using clues from transsexual snails and invasion of alien species into the intertidal. Shannon Bard, SNC Lavalin

14:30-14:45 Refreshments

14:45-16:15 Regulatory Updates and “Hot” topics (continued)

- Risk assessment of Amphibians and Reptiles – Scott Steer, Steer Environmental Associates Ltd.
- Rationale and Methods for Porewater Investigations – Ralph Turner and Alena Fikart, Azimuth
- Terrestrial risk assessment for a salt contaminated site
- CSAP Guidance For COPC Screening: Reidar Zapf-Gilje, GeoEnviroLogic

16:15 – 16:30: Wrap up

CSAP Technical Guidance for Risk Assessment COPC Screening

- ▶ Based on White Papers developed by Risk Forum Members for SAB with funding from MOE
- ▶ Still in DRAFT, soon to be posted on the CSAP website



CSAP Technical Guidance for Risk Assessment COPC Screening

1. **Unregulated Substances** – should substances that were analyzed at a site, but for which there is no standard, be included in the risk assessment;
2. **Applicable Standards** – if substances only exceed standards for one of human receptors or ecological receptors (but not both), do the substances need to be included in both the human health risk assessment and the ecological risk assessment or just the one risk assessment for the receptors for which the substance exceeded; and
3. **Use of Statistics** – should site data be subjected to statistical analysis prior to comparison to standards for identification of COPCs or should maximum concentrations be used

COPC Screening – Unregulated Substances

- ▶ *Unregulated substances should be considered COPCs in risk assessments if the substances are present at concentrations higher than background for the area, and attributed to on-site or off-site use.*
- ▶ *Iron/manganese should be considered COPCs for the ecological risk assessment, if iron/manganese are:*
 - ▶ *present at concentrations more than ten times the water quality guidelines in close proximity to a surface water;*
 - ▶ *present at concentrations higher than background for the area; and*
 - ▶ *directly or indirectly attributable to activities at the Site).*
- ▶ *unregulated PAHs need not be included as COPCs in risk assessments.*



COPC Screening – Soil

- ▶ *Chemicals that exceed the generic CSR soil standards of Schedule 4 and 10 should be considered COPCs for both the human and ecological risk assessments.*
- ▶ *Chemicals (not including bioaccumulative substances) that only exceed the Schedule 5 “intake of contaminated soil” standards should only be considered COPC for human risk assessments.*
- ▶ *Chemicals (not including bioaccumulative substances) that only exceed the applicable Schedule 5 standards protective of ecological receptors should only be considered COPC for ecological risk assessments.*
- ▶ *Bioaccumulative substances that exceed any of the applicable Schedule 5 standards should be considered COPC for both the human and ecological risk assessments, unless supporting rationale has been provided.*

COPC Screening – Sediment

- ▶ *In sediments, chemicals (not including bioaccumulative substances) that only exceed Schedule 9 standards should only be considered COPC for ecological risk assessments.*
- ▶ *In intertidal sediments, chemicals (not including bioaccumulative substances) that exceed Schedule 4 or Schedule 5 “intake of contaminated soil” standards (or Schedule 10 standards, if not present in Schedule 4 or 5) should be considered COPC for human risk assessments.*
- ▶ *Bioaccumulative substances that exceed any of the applicable Schedule 9, Schedule 4 or Schedule 5 “intake of contaminated soil” standards (or Schedule 10 standards, if not present in Schedule 4, 5 or 9) should be considered COPC for both the human and ecological risk assessments, unless supporting rationale has been provided.*

COPC Screening – Groundwater

- ▶ *For potential exposure of ecological or human receptors via groundwater, COPCs should be identified based on comparing maximum groundwater concentrations to the applicable Schedule 6 water use standards rather than comparing soil concentrations to soil standards.*

COPC Screening - Use of Statistics

- ▶ *If a statistical approach is utilized in a Detailed Site Investigation (DSI) to conclude that a substance meets numerical standards, this conclusion (and the statistical approach upon which it is based) does not need to be re-evaluated in the risk assessment. Therefore, the substance would not be considered a COPC.*

