Risk Training for March 5, 2019 (optional for March 6)

Outline for Risk Course for SRA World Congress / SETAC Africa Meeting in Cape Town May 5-8 2019

Instructors/Discussants: GA - Gertie Arts; PF – Patricia Fai; ARK – Abdel-Razak Kadry; LK – Larry Kapustka; AL – Annegaike Leopold; LM – Lorraine Maltby; CM – Charlie Menzie BP – Blair Paulik; AR – Amy Rosenstein; TBS – Thomas-Benjamin Seiler; BG – Bernard Gadagbui

Overview of schedule

0730 – 0800: assemble for course (coffee and finger food)

0800 – 10:35 early morning units [includes case studies breakout session]

10:35 – 11:05 break

11:05 – 12:40 late morning units [includes case studies discussion session]

12:30 – 13:30 lunch

13:25 – 14:25 early afternoon units [includes case studies discussion session]

14:25 – 15:00 short break

15:00 – 17:20 late afternoon sessions [includes case studies breakout session]

Wrap up Day 1

May 6

(we will schedule optional training in late afternoon after sessions for risk game and perhaps model)
Modules

Introduction and purpose (15 minutes with CM PF)
- round of introductions, introduce the purpose of the course, overall learning objectives; course outline

Overview of the risk assessment process (30 minutes in two 15 minute segments with CM and BG)
- overview of process (CM) [10-15 minutes]
- Distinctions between hazard and risk (BG) [15-20 minutes]

Case study introductions (20 minutes in two 10 minute segments)
- Assessing risks of a proposed activity involving pesticides (PF)
- Assessing risks posed by existing conditions – contaminated land (ARK)

Problem formulation and planning (40 minutes in two 20 minute segments)
- introduce the concept of problem formulation framed in terms of ecological receptors and ecosystem services; conceptual models will be introduced; (LM LK)
- describe how these concepts apply to human health (AR ARK/BG)

Problem formulation break out (40 minute segment to include breakout and discussion with LM, LK + ARK/BG)
- the breakout will focus on the two case studies; participants will be assembled into smaller groups to create conceptual models [they will draw these] for either one or the other case study; at the end of the exercise, the groups will share their findings; this will be accomplished by taking photographs of the conceptual models so they can be shown on the screen via computer

Concept of tiered approaches (15 minutes with LM)
- Overview and applications to environmental problems
- Screening levels for human and ecological risk assessments
Overview of Exposure Assessment (30 minutes with CM)

- we return to paradigm to show where exposure assessment fits; introduce basic concepts, describe how exposure information is developed via literature, models, measurements; space and time considerations; integrate a discussion around the two case studies with reference to ecological receptors and ecosystem services; this would include the exposure diagrams developed for the case studies

Exposure assessment for human health risk assessment (30 minutes with ARK)

- module will present key considerations when evaluating exposures to people; this will include example calculations of exposure based on one of the case studies; one of the case study conceptual models will be used to tie exposure assessment to a real case

Group discussion of exposure assessment to review what we have learned and to address questions in relation to case studies (20 minutes with all)

Overview of Effects / Dose-Response Assessment (30 minutes with GA and PF)

- overview and emphasis for eco; we return to paradigm to show where this fits; introduce basic concepts, describe how effects information is developed; identify the importance of being able to combine such information with exposure; ecosystem service linkage; use one or both case studies [perhaps the one on pesticides] as examples of information sought at this point

Effects Assessment for human health risk assessment (30 minutes with AR)

- this module covers how effects information is developed for use in human health risk assessments, the concept of dose response for carcinogens and non-carcinogens, modes of action; one or both case studies will be integrated for illustration

Derivation of toxicity reference values (20 minutes with AR ARK/BG)

- this module provides a step-by-step description of how toxicity reference values are derived and where these can be found
Overview of Risk Characterization (40 minutes with GA + LM and BP)
- we return to paradigm to show where fits; introduce basic concepts; introduce quotient type methods, weight-of-evidence approaches; the case study discussion will be integrated with group participation

Risk Characterization for human health (40 minutes with AR ARK/GB)
- this section will build on the previous one and will provide information specific to human health risk characterization. This will include cancer and non-cancer risk estimation; the case study discussion will be integrated with group participation

Risk Communication to public, policy makers, and risk managers (60 minute interactive sessions with AL BP PF TBS). This is led by our risk communication team. We can let this flow into discussion of risk management and policies.

Wrap Up for Day 1

MAY 6TH (Additional optional training)
1. Risk game led by LK – this plays out a scenario(s) where participants must make decisions about data acquisition and other aspects needed for a risk evaluation; LK can provide us with an overview
2. Human health risk focused instruction – this can be shaped to be all or part of additional learnings around the HH paradigm or could be a few key topics to discuss in some detail

Certificates will be provided via email to participants that registered for one or both opportunities. These will be signed by instructors.
Resources (literature and guidance) will be provided in electronic form to be downloaded on thumb drives; we have a starting set of this but will want to augment it