Herps in Ecological Risk Assessment:

A subcommittee of SETAC’s Ecotoxicology of Amphibians and Reptiles Advisory Group (EARAG)

A subcommittee was formed at the SETAC North America meeting to focus on amphibians and reptiles in ecological risk assessment. Current efforts within SETAC advisory groups and in the field at large have discussed and identified several key issues regarding the inclusion (or lack thereof) of reptiles and amphibians in ecological risk assessments. The subcommittee was formed as a merger between the EARAG (ecotox of herps) and the ecological risk assessment advisory groups to facilitate progress toward incorporation of reptiles and amphibians in ERAs. Or, alternatively, to generate convincing evidence that current ERA approaches and species are protective of herpetofauna.

I've taken the liberty of compiling some key questions and associated task items for the subcommittee to focus on in the coming months. This list is based on previous documents and input from the EARAG chair. NOTE: This is a DRAFT so please feel free to comment.

DRAFT Questions and Task Items:

1. Do current surrogate species adequately represent reptiles and amphibians? In other words, are amphibians and reptiles protected by current ERA methods and species?
   
   1.a. Are fish suitable surrogates for aquatic phase amphibians?
         Are fish as or more sensitive than amphibians?
         Do fish receive the same exposure as aquatic phase amphibians?
   
   1.b. Are birds suitable surrogates for terrestrial phase amphibians?
         Is dietary exposure the pathway of greatest concern?
         What about terrestrial amphibians?

   1.c. Are birds (or mammals) suitable surrogates for reptiles?
         One study suggests not (Weir et al, 2010).
         Both exposure and sensitivity can differ between birds and reptiles
         What about different species of reptiles?
         Is there even enough data to address this question?

   APPROACH: Literature and database review and comparison. Concurrent toxicity or exposure studies/analyses?

2. What data gaps or study deficiencies prevent or limit explicit inclusion of reptiles and amphibians in ecological risk assessments?

   2.a. Need solid toxicity and exposure information – do we have it?
When we have studies:
- Are they generally suitable for ERAs?
- Identify study features required for inclusion in EPA and EU risk assessments
- Publish paper or guidance on this
- Are there problems or issues with mesocosm studies that limit their acceptability for ecological risk assessments?

**APPROACH:** Literature and database survey. Review of guidance documents that describe how studies should be conducted for inclusion in ERAs (EPA and EU, others?).

3. How should risk assessment methods be adjusted or modified to accommodate herpetofaunal species?
   - Which regulatory/risk assessment criteria may need to be modified in order to be appropriate and practical for enabling herp studies to be included in ERAs?

**APPROACH:** Focused workgroup meetings?