

Technical Oversight Team Reviews for Quarter 4, 2012

NatureServe, Climate Change Vulnerability Assessment Project

TOT Reviewer 1: The quarterly report looks good and should be accepted. I am curious if the citations compilation will be completed in a way that allows easy web access once completed. I also concur with Elizabeth's comments.

A couple more thoughts:

- a) It seems likely that the differing methods for determining the climate signal in each of the methods reviewed will yield significantly different stress scenarios, so selection of best methods should include a careful review of that component.
- b) My one disappointment is that the vulnerability methods seem to all be fairly focused on the species, which is resilient and may not show signs of stress till a tipping point is reached. I'd like to see vulnerability methods that take more of a biogeochemical approach. For example, tree resilience to climate change is very dependent on soil nutrient availability, and how much those nutrients have been leached by acidic deposition. Tree polyamines can be used to see nutrient deficit or aluminum stress in trees before visible signs of stress or decline are observable. Being able to see response before the problem becomes chronic is the ultimate goal of a vulnerability assessment, and using one of the methods described is a good first step to get a broad assessment completed. I support that. To effectively manage for that vulnerability may require going deeper to addressing the biogeochemical changes occurring in the ecosystems. That said, I'm not sure there are any at sufficient maturity to use at this point.

TOT Reviewer 2: The second quarterly report looks good. It appears that the project is progressing well, on schedule, and within budget. The expert group is nicely put together and has begun its work. The compilation of methodologies is a good summary, and I presume in the next quarter we will see the assessment of strengths and weaknesses of each method.

I expected the CCVA spreadsheet to include more than just a list of species assessed, however. I would expect it to include the vulnerability score for each species, the method used, and ideally it would also include comments, factor scores, and confidence scores for each species. This data set would presumably guide the selection of additional species for assessment. For example, there is probably little need to further assess obligate cave invertebrates, since they all have the same score so far. Species from groups that have high variability in their vulnerabilities, or groups that are highly vulnerable, may be targeted for additional assessment.

If a standard format for the CCVA database is developed at this stage, then meaningful analysis of the species assessed during the project will be much simpler to perform.