

**RAF Incorporating Ecosystem Services as Assessment Endpoints for Ecological Risk
Assessments Technical Panel
August, 2010**

The Risk Assessment Forum (RAF) will initiate a new project through the Ecological Risk Oversight Committee. The RAF will undertake a project to develop general principles for incorporating ecosystem service endpoints into the Agency's Ecological Risk Assessments (ERA). Presently, ERAs use endpoints based on protecting properties of nonhuman organisms, populations and ecosystems, as described in the Risk Assessment Forum's Report, *Generic Ecological Assessment Endpoints (GEAEs) for Ecological Risk Assessment*. Ecosystem services are defined as the products of ecological functions and processes that directly or indirectly contribute to human well being. The Forum's GEAE's encompass ecosystem services, but services are not presented as a category of endpoints and the extrapolation for ecological properties to services is not described. Incorporating ecosystem service endpoints into ERA will benefit EPA and the risk assessment community by improving risk communication and risk management decisions.

Three products are anticipated:

- (1) A White Paper interpreting conventional measurement and assessment endpoints in the context of ecosystem services. Conceptual and sometimes quantitative linkages between the endpoints conventionally used in current EPA ERAs would be described to facilitate risk communication.
- (2) A case study/s of applying the ecosystem services concept in ERA. The case study will show how ecosystem service endpoints can be incorporated into the ERA at problem formulation, analysis, and risk characterization, and would assess the value of doing so.
- (3) An Addendum to the RAF GEAE. The addendum would expand the GEAE document to include a broader range of ecosystem services and more explicitly address linkages between the original GEAEs and services.

The Workgroup will be composed of scientists with expertise in ecological risk assessment, exposure, ecology, and risk management from the Program and Regional offices, as well as scientists and researchers specializing in ecological services valuation. The Technical Panel co-chairs are Mace Barron and Wayne Munns in the Office of Research and Development. RAF staff for the project is Lawrence Martin