

US EPA ARCHIVE DOCUMENT

New Ecological Science Advice for Ecosystem Protection

EPA Science Forum

Healthy Communities and Ecosystems

The EPA Science Advisory Board (SAB) Staff Office supports three external scientific advisory committees reporting to the Administrator.

Advisory projects involving ecological science are underway in each.

SAB Advisory Panel on EPA's Report on the Environment (met in March 2004)

The Science Advisory Board (SAB) provided advice on the Agency's draft Report on the Environment. The SAB advisory panel reviewed the approach and process used to develop the draft Report on the Environment. In addition, the panel reviewed the scientific and technical soundness of the indicators, data, and conclusions in the Report. The SAB also provided advice to enhance the presentation of information in the Report. The advisory panel found the Report on the Environment to be a critically important document, and provided recommendations that will be used to improve future versions of the Report to make it more useful to EPA and other intended audiences.

Consultation on the Application of the Regional Vulnerability Assessment (ReVA) Integration Tool and Underlying Methods for Multi-Scale Decision Making

The SAB is establishing a Panel to provide advice to the Office of Research and Development on the ReVA tool. The goal of ReVA is to develop and demonstrate an approach to comprehensive, regional-scale assessment that effectively informs decision-makers as to the magnitude, extent, distribution, and uncertainty of current and anticipated environmental vulnerabilities. Vulnerability, in this context, is defined as the risk of serious degradation of the ecological goods and services that are valued by society.

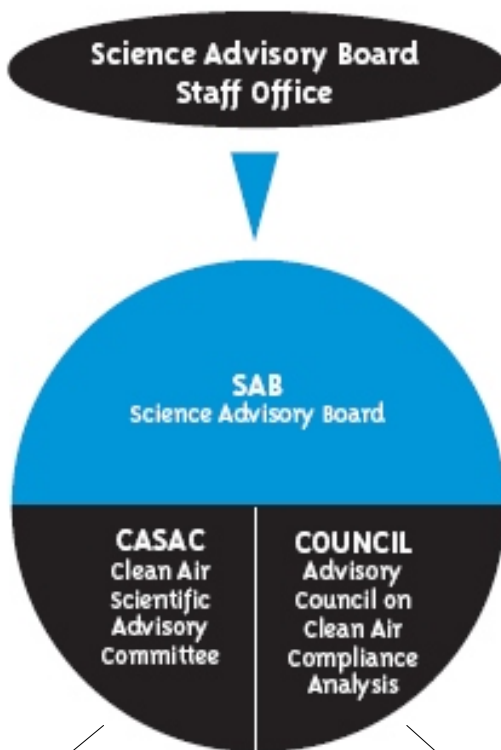
The SAB Panel will conduct a scientific review of the underlying methods and evaluate the integration tool for use by clients in decision-making at local to regional scales, including targeting current and future vulnerabilities.

CASAC

Advises the Agency on health and ecological assessments related to Criteria Air Pollutants.

The SAB Staff Office is forming a new Ozone Review Panel that will include expertise in ecological effects and resource valuation. Expertise will be needed to address: patterns of exposure to ozone and/or other photochemical oxidants of ornamental and/or agricultural plants and/or natural ecosystems and their components; effects of ozone and other photochemical oxidants on natural ecosystems (especially terrestrial) and their components (both flora and fauna), ranging from biochemical/sub-cellular effects and identification of indicators of pathophysiological effects at the individual plant level, to effects on species and populations, on up to include impacts on increasingly more complex (e.g., landscape) levels of ecosystem organization.

Science Advisory Board Staff Office



Committees provide to EPA Administrator:

- Scientific and technical peer reviews
- Independent advice
- Credible scientific information
- Scientific and technical advice on agency-related policy decisions

EPA Administrator

Valuing the Protection of Ecological Systems and Services (Estimated Project Completion: September 2005)

Charge to the Committee from the SAB's Executive Committee: the Committee will assess Agency needs and the state of the art and science of valuing protection of ecological systems and services, and then will identify key areas for improving knowledge, methodologies, practice, and research.

Specific types of EPA needs for advice include:

- Needs for benefit assessments supporting regulations protecting ecological systems and services.
- Regional needs for assessing and communicating the value of protecting ecological systems and services.
- Needs for assessing and communicating to Congress, the Executive Branch, and the public the value of EPA's programs protecting ecological systems and services under the Government Performance and Results Act.
- Needs for information products communicating to the general public about the benefits of EPA regulatory decisions protecting ecological systems and benefits of voluntary actions protecting them.

Planned Activities

- Advising the Agency on its plan to develop a "Strategic Plan for Ecological Benefits."
- Providing advice to EPA offices and Regions interested in the Committee's advice on specific issues.
- Hosting workshops on science-based approaches to valuing the protection of ecological systems and services used by groups outside EPA.
- At the conclusion of the two-year initiative, issuing a final report.

SAB Review of the Region 5 Critical Ecosystem Assessment Model (CrEAM)

The SAB is establishing a Panel to review the model developed by the Region 5 Critical Ecosystems Team to predict the ecological significance of undeveloped land using ecological theory, existing data sets, and geographic information system (GIS) technology. The model has been used to predict locations of ecosystems of high ecological significance in the Region.

The Panel will provide advice on the scientific validity of the conceptual framework and methodology used to identify ecologically significant ecosystems, and on the scientific defensibility of the results generated from CrEAM queries.

The Council

Provides advice on the Agency's major analysis of costs and benefits associated with implementing the Clean Air Act.

To strengthen the Agency's capabilities for assessing ecological benefits of air pollutants, the SAB Staff Office established an Ecological Effects Subcommittee in April 2004. Members have expertise in air pollution-related ecological sciences relevant to terrestrial and aquatic systems.