

ACES Workshop Summary

I. Title:

Evolution and Valuation of Ecosystem Services

Description:

The goal of this workshop is to provide an overview and understanding of the evolving "ecosystem services" field and provide an assessment of how ecosystem services are quantified and can be applied in evaluating actions that affect the environment. These actions will include the integration of ecosystem services into resource management decisions affecting environmental sustainability, conservation, land management and development, site remediation and natural resource damage assessments. The workshop will provide discussion of the recent development of policies, strategies and solutions that utilize ecosystem services (e.g., broadly described as net environmental benefit analyses [NEBA]) in managing both short-and long-term environmental issues. The workshop panel will address the technical, legal, and historical basis for the application of ecosystem services to a wide variety of environmental issues. The panel will present recent case studies that utilize ecosystem service valuation in various contexts.

Agenda:

1. Origin and Evolution of Ecosystem Services (15 Min): *Joe Nicolette, CH2MHILL*
2. Environmental Economic Methods for Ecosystem Service Valuation and Quantification (45 Min): *Bruce Peacock, DOI, Natural Resource Economist*
3. Understanding Net Environmental Benefit Analysis (NEBA): Application as it applies environmental sustainability, conservation, land management and development, site remediation and natural resource damage assessments (30 Minutes): *Mark Rockel, CH2M HILL, Natural Resource Economist*
4. Case Studies: Application of Methods (30 Minutes):

David Nicholas, USEPA OSWER; Demonstrating the Net Benefit of Site Cleanup: An Evaluation of Ecological and Economic Metrics at Two Superfund Sites

Jon Weier, CH2M HILL, SE Ecosystems Market Segment leader: NEBA Case Study
5. Panel and Participant Hands On Exercise and Discussion (30 Minutes)

II. Discussion:

With a significant part of regulatory decision-making focused on the protection of human health, regulatory agencies have recently re-emphasized their mandate to protect the environment while providing sustainable solutions with increased attention to the ecological benefits of their policies and actions. This renewed effort recognizes that these agencies face a growing demand for more rigorous and comprehensive accounting of the ecosystem

impacts. Therefore, an understanding of ecosystem services, how they are quantified, and how quantified ecosystem services can be applied in decision-making is paramount.

Target audience:

- Industry
- Regulatory Agencies
- Policy makers
- Land Owners and Developers
- NGOs
- Land Planners
- Consultants

III. Organizer's Qualifications

Mr. Nicolette has over 24 years in the environmental consulting field, primarily serving private industry. He is currently a Vice President and *EcoValuation Practice Director* for CH2M HILL, Inc. Within his practice area, he assists landowners in developing strategies to maximize the value of their land assets (i.e., eco-assets) and manage site liabilities (i.e., remedial/restoration liability). His experience includes the use of economics-based natural resource valuation models to quantify, document, and maximize the ecosystem service benefits/values (ecological and human use) associated with land management alternatives.

Mr. Nicolette has made significant contributions to the NEBA approach. The NEBA approach is an innovative methodology that allows for a systematic comparison of actions that affect the environment so that the net ecological and human use benefits associated with each action can be quantified, compared, and maximized. Mr. Nicolette led a pilot study for USEPA on the implementation of the NEBA methodology to document the environmental benefits associated with actions that affect the environment.

Mr. Nicolette has managed several large multi-million dollar natural resource injury/NRDA projects and has been involved in more than 50 NRDA liability associated projects since 1990. He has also worked with several law firms to provide technical and/or expert witness support in multiple environmental litigation matters. These cases focused on subject matter related to NRDA and the effects of contaminant releases on the environment. Mr. Nicolette has provided testimony via both written affidavits and deposition.

IV. Workshop Organizers

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