

Applications and Potential of Ecosystem Services Valuation within USDA – Advancing the Science Draft Workshop Agenda

This cross-agency USDA sponsored workshop will begin with a 20 minute call-to-action plenary presentation on the importance of this topic and what we hope to accomplish in the two day workshop.

The workshop will be divided into three parts. Part One provides a retrospective look at existing research to estimate the value of ecosystem services. Part Two, comprising the bulk of the workshop, discusses forward looking research. We end with a wrap up panel to examine where we can go from here.

Part 1: Existing Research

The first part of the workshop will examine existing research on ecosystem service values (ESVs) associated with USDA programs and policies.

For completed work that has been integrated into USDA programs or policies, themes of interest include:

- How well has this research stood the test of time, both in scientific and practical terms?
- What challenges, such as data adequacy and model stringency, were most constraining? Were there any that later proved to be less significant?
- What were the main limitations or gaps?
- Were the results more defensible -- in terms of contributing to program or policy design -- than comparable approaches that used other methods; such as intuition/experience, biological/physical models, and public opinion?

For current work – ESV work that has recently (or will soon be) applied in USDA program and policy analysis – themes of interest include:

- What kind of resources might be needed to improve and extend the ESV estimates?
- How were gaps dealt with, such as an inadequate base of existing studies, a lack of biophysical models, and inconsistent definitions of ecosystem service?
- What in the biophysical literature helped quantify agriculture's and forest management impacts on ecosystem services (ES)?
- Did the analysis incorporate insights from other social sciences (such as geography, anthropology, archaeology, psychology, and sociology)?
- What challenges, such as data adequacy, model stringency, and ES parameters were most constraining?

Part 2: Looking forward

The second part of the workshop consists of several sessions that *look forward*, with 20 and 30 minute presentations and discussant comments.

Papers should be relevant to the workshop's *raison d'être* of *valuing the ecosystem services associated with USDA programs and policies*. This includes ESV work from other Federal agencies that could apply to USDA. Papers should discuss how the research is relevant to USDA applications.

In particular, papers should be cognizant of the “guidance” in the call-to-action document that can be found on the workshop’s web site.

In the looking forward sections, it is useful, but not necessary, to consider topics in three broad categories: novel methods, exploration of measurement differences across ESs, and valuation of previously neglected ESs. Theoretical papers are encouraged as long as relevance and realistic applications to USDA programs and policies can be drawn.

Examples of **novel methods** include:

- Big data availability and applications (i.e., special use permit, farm program, and census data)
- Innovative use and the collection of data
- Experimental or behavioral economics applications
- Challenges in applying benefits transfer
- Creating indexes of value (or other methods) where infinite-value services (e.g., marginal gains in endangered species protection, heritage sites)
- Site-level data collection and analyses, across multiple sites, to be used in meta analyses
- Features (of estimates or models) that facilitate updating as time and circumstances change (say, by using broad socio-economic and biophysical indicators)
- Simplifying the application or reducing data needs

Examples of **measurement differences** include:

- The derivation of marginal values for use in targeting versus average values to be used in program valuations
- Updating the existing measures of ESVs
- Damages to consumers and industries
- Filling gaps in biophysical analyses that underlie changes in ecosystem services or distributional effects on forest and range lands (i.e., assumptions, if any, that can cover major gaps)

Examples of **neglected ecosystem services** include:

- Preservation of heritage sites across limited time horizons
- Marginal increase in survival probabilities of endangered species
- Valuation of public health benefits of urban forested environments
- Can these results be readily used in some form of meta-analysis?

Part 3. Wrap Up

The workshop will conclude with a wrap-up session panel that will synthesize the information learned during the workshop and suggest next steps. The session is organized around a counterfactual: If time was the only constraint to the task of “creating useful ESVs”, how should research proceed?