

Indicator 44: The Importance of Forests to People

Summary

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The *2010 National Report on Sustainable Forests* will include a new indicator: “The Importance of Forests to People” (Indicator # 44). The Sustainable Forests Partnership (SFP) is developing metrics for measuring this new Montreal Process indicator.

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The team’s tasks are to:

1. Develop a literature review of social constructs relating to the importance of forests to people including what metrics have been used, what metrics have been proposed but not actually used, and what general constructs have been discussed.
2. Hold a workshop with the Roundtable on Sustainable Forests to discuss the literature review and potential metrics for Indicator #44.
3. Develop metrics to measure Indicator #44.
4. Collect and analyze data.
5. Prepare a report in support of the 2010 National Report.

The 2005 Millennium Ecosystem Assessment Report: *Ecosystems and Human Well-Being: Synthesis* provides the conceptual framework for Indicator 44. The assessment is global in scope and provides an overview of ecosystem services in relationship to human well-being. The general types of services include provisioning, regulating, supporting, and cultural. We acknowledge the importance of understand the complete range of forest benefits and services. However, in addition to examining importance across this range of benefits, our analysis focuses on cultural services including cultural diversity, spiritual and religious values, knowledge systems, educational values, inspiration, aesthetic values, social relations, sense of place, cultural heritage values, and recreation and ecotourism. Our analysis seeks to measure how people actually perceive forests.

At the September 2007 Roundtable on Sustainable Forests meeting in Madison, Wisconsin, workshop participants will be asked to consider:

1. What is a forest?
2. What is meant by “importance”?
3. Methods and metrics for measuring Indicator 44.

1. What is a forest?

For the purpose of this analysis, we consider forests a cultural construct. A forest depends on one's perspective, which in turn is a function of one's experiences. In its simplest form, a forest may be defined as a segment of landscape that includes trees, and ranges from urban to wilderness ecosystems.

There is substantial evidence that trees have played a central role in everyday life throughout human history, and that current preferences for trees and forests are a function of both our evolutionary history and our ongoing experiences. Thus, young children from around the world seem to prefer the acacia tree form over other tree forms in savanna or parkland settings (i.e., scattered trees in a grassland matrix), but with age their preferences for tree forms and their settings is modified as a result of their experiences (for example, to a preference for the oak tree form in a closed-canopy forest). For this reason, it seems prudent to embrace the broadest concept of forests possible. Moreover, even within individuals, there is an attraction to a diversity of forest composition and structure at various scales and levels of access relative to various benefits provided by forests. For example, for the urbanite or suburbanite, distant wilderness forests may provide a respect for and awe of nature in ways that cannot be provided by urban or suburban forests, while the latter, on the other hand, are readily accessible on a daily basis and may have an ongoing influence on one's quality of life in a myriad of ways.

Key References: Kahn 2002, Kahn and Kellert 2002, Kaplan and Kaplan 1989, Kellert and Wilson 1999, Orians 1986, Patel, et.al. 199, Quantz 1897, Sommer 1997

2. What is meant by “importance”?

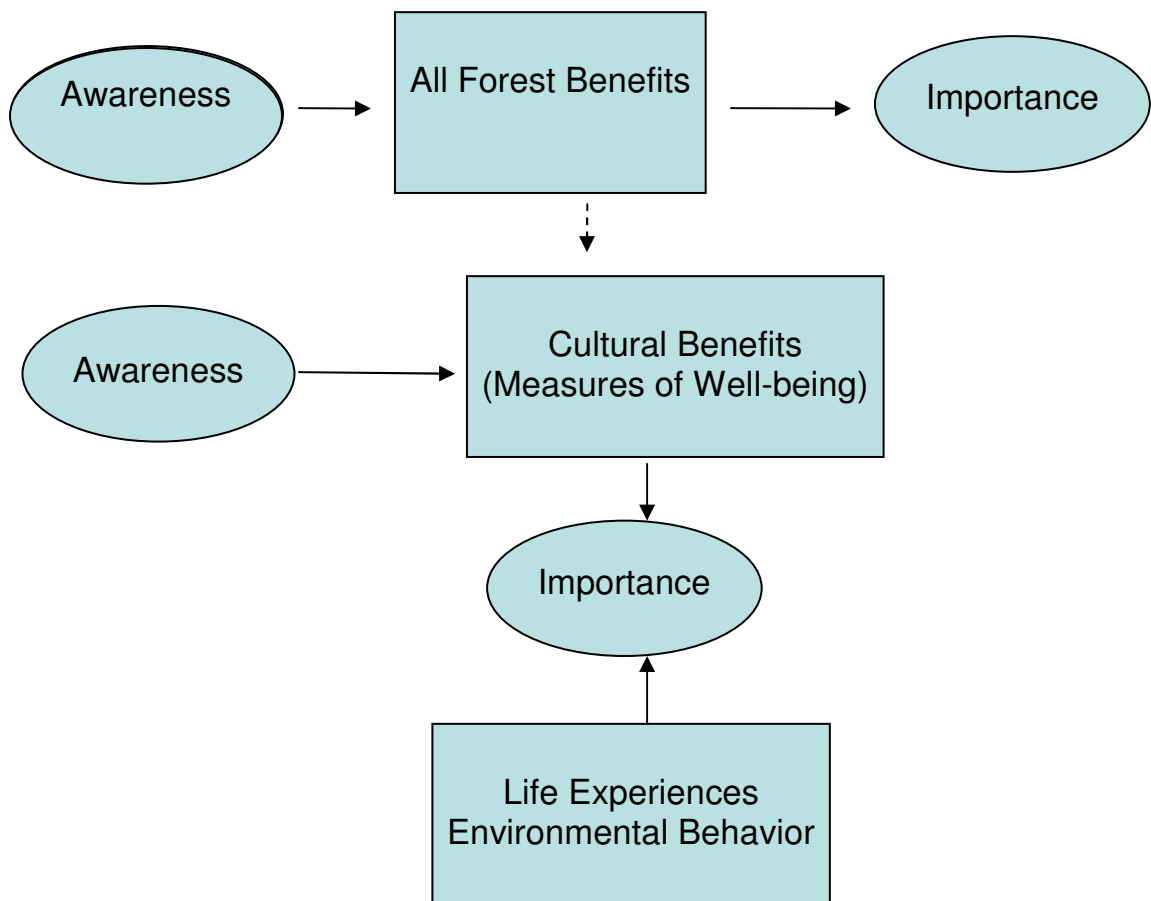
Constructing an understanding of the meaning of importance is central to operationalizing Indicator 44: *Importance of Forest to People*. Importance suggests conceptually a relative ranking of values or services. However, a simple relative ranking fails to capture the full dimensionality of importance. By dimensionality, we suggest that importance must consider potential modifiers (e.g., tradeoffs, scarcity, substitutability, complementarity, threats, and thresholds/satiation). Further, importance of anything and forests in particular, relates to an individual's perception of well-being, which, again, has several dimensions (e.g., security, basic material for good life, health, social relations, and freedom of choice and action.).

a. Objectives:

Various research studies have enumerated the breadth of values and services that people extract from or associate with forests. Not surprisingly these listings provide a mix of values and services that extend from consumptive to non-consumptive uses and include items that relate to economic, ecological, and social benefits. Some of these services (e.g., clean air and water) are intrinsically essential, and are expectedly very important to people; however, equally important, but perhaps less well understood values (e.g., biological or genetic diversity) might not achieve high

relative importance rankings from people. These apparently incongruous responses suggest that people lack sufficient knowledge about specific values. We propose then that it is more appropriate to explore a person's awareness of a value rather than their knowledge of the value. Rogers (1983) suggests that before people are willing to seek information or acquire knowledge, they must first become aware.

We propose a two step process. The first step is to conduct a social assessment of all forest ecosystem benefits by examining peoples' awareness of the full suite of benefits and then measuring the degree of importance for those items of which they indicate awareness. The second step will focus on cultural services. In this step we will identify the full suite of cultural services and develop metrics to specifically measure their importance.



b. Potential Modifiers

A number of items could potentially modify the importance ascribed to the different components of cultural services including trade-offs, scarcity, complementarity, substitutability, threats, and thresholds and satiation. These items relate to the characteristics of forests themselves or to the local context.

First, it may not be useful to rank forests relative to other potential priorities such as security or health care because such ranking creates false dichotomies or absolutes. Such ranked orderings do not report tradeoffs that would be inherent in any realistic decision. This type of absolute ranking also fails to provide information about how forests are valued.

Additional modifiers relate to the economic concepts of scarcity, complementarity, and substitutability (Boyd 2004). If a service provided by a forest is scarce, the value/importance ascribed to that service may increase. Additionally, if there are complementary assets (such as roads, facilities, and trails), the importance of the service may increase. However, if there are substitutes that can provide a setting where the qualities or experiences associated with forests can be provided, the importance of forests would be expected to diminish. For example, a beach may be able to provide recreational alternatives to those provided by forests. Furthermore, perceived threats could modify the importance related to forests as the quantity of services provided, while not yet changed, might diminish in the future.

We also considered thresholds and satiation as additional modifiers of importance. A threshold is the amount of forest necessary to provide minimal levels of a particular service. For example, what is the minimal amount of forest required to meet spiritual needs? Satiation is the point beyond which additional forest does not add additional value for a particular service. At satiation, additional forest could be allocated to other services.

c. Well-being

Another consideration of “importance” is the relationship between human well-being and ecosystem services. The Millennium Ecosystem Assessment Report (2005) notes changes in ecosystem services impact human well-being. The report goes on to define five main components of human well-being: the basic material needs for a good life, health, good social relations, security, and freedom of choice and actions. The later component is strongly related to education and is a precondition for the other components.

Other measures of human well-being focus on communities and include ability to adapt to change, percent of families below the poverty line, average education, infant mortality, and incidence of social pathologies such as alcoholism.

Key references: Boyd 2004, Boyd and Banzhaf 2007, Eaton 1998, Grossman et al. 2007, Kusel and Fortmann 1991, Rogers 1983, Shindler and Cramer 1999, USDA Forest Service 2004

4. Methods and metrics

By using a multiple-method research design we believe it is possible to create a more complete understanding of the importance of forests to people. Numerous studies have shown that employing multiple methods to collect multiple perspectives and data provided more depth and insight when investigating complex issues involving diverse stakeholders than the use of a single method. Qualitative methods are most useful for generating new insights with respect to emerging phenomena such as the importance of forests to people, but they lack the specificity and ability to generalize to larger populations. We will therefore pair these methods with quantitative approaches.

Methods and metrics identified in the literature regarding importance of forests to people include:

- Surveys
- Collective measurement (if importance of forests is a collective judgment)
- Economic valuation
- Policy analysis
- Focus groups, oral histories
- Storytelling and other methods from the humanities
- Participatory methods (mapping, matrix ranking, trend diagramming, etc)
- Tradeoff analysis
 - Conjoint analysis to assess tradeoffs
 - Scenarios to evaluate tradeoffs
- Content analysis
 - Media
 - Myths and stories
- Indices
 - What would be lost if forests were changed?
 - Potential threat to the forest
 - Level of control over the outcome
 - Scale of the issue (for example, childhood tree vs. cultural icon)

Key references: Brewer and Hunter, 1989; Chenoweta and Gobster 1990, Creswell, 2003; Doaln and White 2006, Egan et al., 1995; Jensen and Preston 2004, MacQueen 2005, Tashakkori and Teddlie, 1998, Bourke et al., 1996; Egan et al., 1995; Luloff et al., 1995, Reed and Brown 2003, Williams and Vaske 2003