

Federal Policy Brief: Incorporating Cultural Ecosystem Services into Decision-Making

Summary Learnings from ACES panel on cultural ecosystem services (December 2021)

Prepared by Kristin Hoelting and Rachelle Gould

Based on content presented by, and with input from, panel speakers:

Kristin Hoelting (Ph.D. Candidate, Colorado State University)

Dr. Doreen Martinez (Colorado State University)

Lucas Bair (USGS Southwest Biological Science Center)

Dr. Kelly Biedenweg (Oregon State University)

Dr. Rachelle Gould (University of Vermont)

Dr. Chris Armatas (US Forest Service, Aldo Leopold Wilderness Research Institute)

Charles Ka'ai'ai (Community & Indigenous Program Coordinator, NOAA WPRFMC, retired)

Recordings of all panel presentations are linked within this document.

Motivation and Purpose

Current research on cultural ecosystem services (cultural ES) emphasizes the need to consider alternative ways of knowing and how these might impact characterization of cultural ES. Protecting cultural ES is inherently connected to issues of equity, environmental justice, and legal obligation to consult, and thus is a crucial component of holistic ES valuation. Relatedly, consideration of multiple ways of knowing within cultural ES work responds to diverse Federal directives, including: the 2015 [Ecosystem Services Federal Memorandum](#); the November 2021 [Memorandum on Indigenous Traditional Ecological Knowledge](#); and conservation and equity initiatives arising from [Executive Order 14008](#), such as [30 by 30](#) and [Justice40](#).

There is extensive interest in and demand for attention to cultural ES within ACES (A Community on Ecosystem Services, a group of policy-makers, scholars, and practitioners) and beyond. People already engaging in this work want support to do it well; people who have not yet done this want support to begin. Many have requested a clear set of guidelines and examples of effective actions to support meaningful integration of cultural ES in decision-making. This policy brief provides overarching principles and examples of how these principles can be applied in concrete actions.

Overarching principles for incorporating cultural ES

Here we summarize five overarching principles for incorporating cultural ES in meaningful ways. Hyperlinks are provided for important concepts. Examples of how these principles can be applied are provided in a Menu of Action Items, below.

1. ***Many cultural ES are embedded in the context of valued relationships between humans and ecosystems.*** Cultural ES are increasingly linked to the concept of [relational value\(s\)](#), which are associated with meaningful relationships. Cultural ES cannot exist without communities, individuals, and the continuation of their chosen or obliged relationships with the ecosystem (these relationships can take countless forms, e.g., recreation-based, care-based, use-based, etc.).
2. ***A focus on plural values (i.e., multiple forms of value) can allow for fuller treatment of cultural ES in valuation.*** To better integrate cultural ES in valuation, we must look beyond monetary value and Western biophysical representations of value (e.g., carbon sequestered or water quantity). Other forms of value include [relational value\(s\)](#) and [shared](#)

- [and social value\(s\)](#). One implication of attending to multiple forms of value is improved ability to address aspects of traditional values that are currently marginalized.
3. ***Understanding multiple knowledge systems improves incorporation of diverse forms of value.*** Reductionist approaches that privilege Western science currently dominate the ES field. Incorporation of a [broader array of approaches to knowledge development and integration](#) will allow adequate treatment and incorporation of a full suite of cultural ES, and thus make space for the full meaning of the profound concept of valuation. This principle relates closely to ideas of legitimacy – i.e., what forms of data and knowledge are considered legitimate?
 4. ***Comprehensive valuation of cultural ES must consider process (i.e., how valuation occurs).*** Valuation is taking place throughout decision-making, including during early, foundational phases. Valuation is, like decision-making, often iterative. Each round of valuation begins with determination of the rules or structures that will guide the exercise (e.g., defining terms and setting objectives) and continues with steps such as assigning weights or characterizing value. Decisions about these features of valuation [determine what kinds of value can be expressed](#).
 5. ***Comprehensive valuation of cultural ES must consider who is involved (i.e., who holds authority and/or participates) at each step.*** Robust engagement throughout the phases of decision-making described in Principle 4, with communities representing diverse knowledge systems, enables more accurate, comprehensive valuation. This can manifest in many ways, including providing footing for multiple knowledge systems within the structures of decision-making.

Possible Action Items (non-exhaustive list), with examples:

Action (Most relevant principles)	Examples	Links to Further Resources
Provide opportunities for communities to maintain their relationships with ecosystems, including through control of ecosystem management. (Principles 1 & 5)	<p><i>Example 1:</i> Customary fisheries management in Hawai'i.</p> <p><i>Example 2:</i> Huckleberry co-stewardship between USFS and Tulalip Tribes, can enable integration of cultural ES without requiring that all values and benefits be explicitly documented.</p>	<p>EX1: Ka'a'ai ACES talk.</p> <p>EX2: Huckleberry co-stewardship between USFS and Tulalip Tribes in Washington State.</p>
Pursue creative and more inclusive forms of valuation. (Principle 2, 4 & 5)	<p><i>Example 1:</i> Inviting park visitors to write letters to trees, as non-human persons; these letters convey multiple forms of value.</p> <p><i>Example 2:</i> Ancient narratives and myths clarify collective responsibility and spiritual duty to protect the land.</p>	<p>EX1: Article on creativity in environmental valuation.</p> <p>EX2: Article on incorporating Indigenous values in forest management.</p>

<p>Consider and incorporate cultural ES at foundational phases of decision-making. (Principles 2, 4 & 5)</p>	<p><i>Example 1:</i> Non-quantifiable, relational aspects of value can inform problem definition and objective setting in the context of adaptive management.</p> <p><i>Example 2:</i> Non-quantifiable relational and social values linked to cultural ES can guide early phases of multi-criteria analysis.</p>	<p>EX1: Bair ACES talk.</p> <p>EX2: Article showing how relational values and social values inform multi-criteria analysis.</p>
<p>Ensure that decision-makers are aware of their own philosophical/cultural assumptions. (Principle 3)</p>	<p><i>Example:</i> The Bureau of Reclamation has agreed to fund cultural sensitivity training for agency staff to improve awareness of Tribal relationships to the Grand Canyon and their contributions to Tribal well-being.</p>	<p>EX: Bureau of Reclamation Programmatic Agreement (Section III, C., pg. 8).</p> <p>See also: Article on epistemological variation in conservation work.</p>
<p>Recognize that each knowledge system has processes to achieve social and empirical legitimacy. This includes distinct approaches to gaining and sharing knowledge. (Principle 3)</p>	<p><i>Example 1:</i> Consider alternative ways of knowing and how these might impact characterization of cultural ES and well-being more broadly.</p> <p><i>Example 2:</i> Identify diverse forms in which knowledge of cultural ES is made available to inform decision-making, including knowledge products and knowledge practices.</p>	<p>EX1: Martinez ACES talk.</p> <p>EX2: Hoelting ACES talk.</p> <p>See also: Article on knowledge as not only a product, but also a process and Article on knowledge pluralism and validity (Box 1, pg. 583).</p>
<p>Involve communities in identification of relevant ES and development of indicators. (Principle 4)</p>	<p><i>Example 1:</i> Development of bioregional well-being indicators in collaboration with rightsholders and stakeholders.</p> <p><i>Example 2:</i> Development of place-based cultural ES categories and indicators for Hawai'i.</p>	<p>EX1: Biedenweg ACES talk and Article on place-based human well-being indicators.</p> <p>EX2: NOAA Tech Report on cultural ES categories and indicators in Hawai'i.</p>
<p>Support relationship-building and iterative conversation that enable negotiation of values. (Principles 4 & 5)</p>	<p><i>Example:</i> Use the Q-sort method represent diverse and potentially conflicting discourses across groups of stakeholders. These representations provide a framework for mutual understanding, relationship building, and negotiation of values as a foundation for value articulation.</p>	<p>EX: Armatas ACES talk and US Forest Service Technical Manual on Public Engagement.</p>