

*Connecting spirituality, identity, and other intangibles to ecosystem decision-making*

Rachelle Gould, Joshua Morse, Alison Adams

Hunting or fishing for a special meal, a calming walk on a windswept beach, a ceremony to honor forest deities, and watching baby robins in springtime are just a few examples of the countless ways humans connect with nature. The intangible aspects of these connections are experienced through values related to beauty, heritage, identity, and spirituality, among others. This paper explores how research on these intangible values connects to decision-making.

The ecosystem services field aims to help decision-makers account for the benefits people receive from nature. Part of the ecosystem services field—“cultural ecosystem services”—focuses on the intangible connections that we explore in this paper. By framing these intangible connections and values as cultural ecosystem services, they can be included in an existing decision-making framework. In this paper, we explore how research on cultural ecosystem services has integrated with decision-making.

About half of the papers we review address decision-making – mostly by governments – with some detail. The other half mention decision-making briefly or not at all. Some (about half) of the papers that do discuss decision-making make general contributions. These papers might, for example, present a new tool to measure cultural ecosystem services, or offer theoretical insight about integration with decision-making. The other papers that discuss decision-making reference specific situations. They describe, for instance, how their results might impact a particular development project, or try out a new method in a particular place.

For many people, cultural ecosystem services are crucial and deeply meaningful. However, our findings suggest that they are difficult to represent in decision-making. Though half of the articles we reviewed discuss decision-making, very few report actually influencing decisions. We find it important to continue to work toward better

ways to include these values in decision-making. We encourage researchers to be creative in considering how to represent these values and integrate them into decision-making. We even have a specific suggestion: get together with people from different backgrounds and take a walk outside. Both the different human perspectives and time outdoors will likely increase creativity!



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