

Confronting socially generated uncertainty in adaptive management.

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Abstract

As more and more organizations with responsibility for natural resource management adopt adaptive management as the rubric in which they wish to operate, it becomes increasingly important to consider the sources of uncertainty inherent in their endeavors. Without recognizing that uncertainty originates both in the natural world and in human undertakings, efforts to manage adaptively at the least will prove frustrating and at the worst will prove damaging to the very natural resources that are the management targets. There will be more surprises and those surprises potentially may prove at the very least unwanted and at the worst devastating. We illustrate how acknowledging uncertainty associated with the natural world is necessary but not sufficient to avoid surprise using case studies of efforts to manage three wildlife species; Hector's Dolphins, American Alligators and Pallid Sturgeon. Three characteristics of indeterminism are salient to all of them; non-stationarity, irreducibility and an inability to define objective probabilities. As an antidote, we recommend employing a holistic treatment of indeterminism, that includes recognizing that uncertainty originates in ecological systems and in how people perceive, interact and decide about the natural world of which they are integral players.

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