

## **Sustainability for Here and Now**

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## Sustainability for Here and Now

Two articles in this issue of *BioScience* address a perennial question in ecosystem management: how to trade off competing goals against one another. The article by Patricia A. Soranno and colleagues (p. 440) discusses new, hierarchical, predictive techniques for classifying—and ultimately managing—lakes, whereas Bruce E. Rieman and colleagues (p. 460) propose a framework to identify convergent solutions for the dilemmas that arise when attempting to simultaneously manage forests and fish populations.

Undeniably, some core management questions lie outside the scope of science, in the realm of politics. But it is unrealistic to expect political agreement on general, one-size-fits-all solutions to conservation or sustainable development decisions. For sure, ecological economists are spending much time and effort on quantifying the value of ecosystem services (just how much time and effort might itself be interesting to quantify). And dollar figures can shed light on the operation of important and nonobvious processes in a way that is valuable for policymakers, in particular. But imputed human valuations vary between individuals and change over time. They are by themselves unlikely to settle contentions between groups with different agendas. Indeed, numbers in general may be more illuminating for scientists than for many of their fellow citizens.

There is more hope for agreement on site-specific decisions, which is one reason the work described by Soranno is promising: It uses a sophisticated, landscape-sensitive approach that not only accounts for the predicted characteristics of individual lakes but also allows different goals to be considered explicitly. It thus provides useful ways to evaluate management approaches even when data for a specific lake are unavailable; ways that can acknowledge what has been learned about ecosystem complexity. Soranno and colleagues' approach could be used for systems other than lakes.

The scheme in principle can lead to choices and proposals relevant to political campaigns or evaluation by political leaders. For many major contentions, that must be a goal. The authors are realistic enough to recognize that not all lakes may be able to deliver all plausible ecosystem services.

Rieman and colleagues consider an arguably more difficult problem. Still, it is striking that their suggestion—that a choice between maintenance, restoration, and control is a key for resolving tensions between conservation and restoration philosophies—leads them to some of the same conclusions as Soranno. Of note, these authors believe that solutions to conflicts between people concerned about fish populations and those worried about forests are likely to be found only when disagreements are analyzed in a spatially explicit way. (Rieman also stresses the importance of paying attention to the time scales over which outcomes are desired—something to which forest managers responsible for fire policy have historically been blind).

Happily, the tools allowing the kinds of analyses discussed here are now widely available to researchers. Their application is demanding, and the necessary political dimension of using them may seem tedious to biologists. But decisionmakers need explanations they can relate to. These should preferably be informed by good science. *BioScience* looks forward to learning of more illustrative examples of successful implementations.

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