

The Law and Policy of Ecosystem Services

J.B. Ruhl, S. E. Kraft, and C. L. Lant. 2007. Washington DC: Island Press. Paper, \$35.00. ISBN: 1-55963-095-7. 360 pages.

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If you are looking for one book to introduce you to the full spectrum of ideas around the concept of ecosystem services, this is it. In addition to covering law and policy issues, as indicated in the title, authors Ruhl, Kraft, and Lant also extensively discuss the ecology, geography and economics of ecosystem services and chart the way forward in bringing ecosystem service concepts into the policy and institutional mainstream. They do this in a style that is both easy to read, authoritative, and comprehensive.

The book is organized in four main parts: 1) context (including ecology, geography, and economics); 2) law and policy (including property rights, regulation, and social norms; 3) case studies (9 in all); and 4) designing new law and policy for ecosystem services. All of these parts are well-researched and well worth reading from start to finish.

The first part on context is a masterful summary of the research and thinking to date on the three major academic threads woven into the ecosystem services concept: ecology, economics, and geography. There is a large and rapidly growing literature on ecosystem services, which is also a central topic in the transdisciplinary field of "Ecological Economics." A recent search of the Institute for Scientific Information (ISI) database for the terms "ecosystem services" or "natural capital," for example, turned up over 1,000 papers published since 1991, with the rate of publication increasing exponentially, and with over 200 papers published in 2006 alone. There have been over 10,000 citations to these papers.

The second part of the book, focused on law and policy, is an effective and detailed review of the history of how the United States has dealt with natural capital (badly) over the years. This section, unlike the first, which is more globally applicable, is almost exclusively about the U.S. Nevertheless, many other countries have followed a similar path, and the U.S. case is certainly an important one. The authors document the "anti-ecosystem services bias" prevalent in American property law, regulation, and social norms, and detail statutes and regulations for resource protection of individual U.S. states.

One particularly interesting counter-trend to this bias emerges in the "public trust doctrine," an idea that law professor Joseph Sax identified in the 1970's as the only legal doctrine with the breadth and substance to be useful as a comprehensive approach to natural resource (and ecosystem service) management. The authors describe this trend and explain that, while the public trust doctrine may one day fulfill this role, so far the U. S. Supreme Court has declined to take it there. Recent proposals (not mentioned in the book) to expand the "commons sector" of the U. S. and global economy by creating "common asset trusts" to manage the atmosphere, water, and other natural capital assets (structured like the Alaska Permanent Fund or the many existing Land Trusts) may be one way of implementing this doctrine (Barnes 2006, Barnes et al. 2008). For example, a bill was introduced in the Vermont Senate in 2007 to create a "Vermont Common Asset Trust," based on the public trust doctrine, to "propertize" (but not privatize) the state's natural and social capital assets in order to better manage them on behalf of their common stakeholders (both living and future).

Part Three consists of nine case studies of how ideas about ecosystems services and natural capital have played out in practice in several different contexts. The cases include water law and policy, integrated watershed management, the Conservation Reserve Program and other agricultural policies, mitigation banking, and pollution trading. All of these highlight the promise, pitfalls, and limitations of applying conventional institutional frameworks to managing ecosystem services.

Part Four describes law and policy needed for effective ecosystem service management. The authors describe, for example, why “models employed for purposes of decision making about natural capital and ecosystem services must be integrated between resource and human systems and between spatial and temporal scales” (pp. 260). These truly integrated models are beginning to be developed (c.f. Boumans et al. 2002) and can be effective tools in understanding and quantifying how ecosystem services work and how they contribute to human well-being. Issues of property rights are also critical in creating effective new policies. But, because many ecosystem services are not private goods, we have to move beyond private property regimes to effectively manage them. As mentioned above, the public trust doctrine may form the basis for a suite of new “commons sector” institutions that are better able to manage the ecological and social commons.

In conclusion, the authors recognize that there are many social traps that mitigate against our ability to manage ecosystem services effectively. Solving this “tragedy of the ecosystem service commons” requires new law and policy, new and more integrated models, and new instruments and institutions. They point to potential cures along three major avenues: 1) changes in the common law of property (i.e. by expanding the “commons sector”); 2) readjusting the economic playing field into an ecological-economic playing field by communicating the value of ecosystem services in decisions about the allocation of natural capital (i.e. through better, more integrated modeling and analysis); and 3) the development of geographically defined governmental or non-governmental institutions for the regulation of natural capital and the provision of ecosystem services as public goods (i.e. through systems of payment for ecosystem services like the one in Costa Rica).

The authors fully recognize that ecosystem services are not “the silver bullet that will deliver environmental law and policy from the problems of our present and future.” But they also recognize that “we could be making far better decisions, throughout government and the economy, than we are today when it comes to natural capital and ecosystem services” (p. 296). This book will dramatically help that cause.

References

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