



Book Reviews

Governing marine protected areas in an interconnected and changing world

Governing Marine Protected Areas: Resilience through Diversity. Jones, P.J.S. Routledge, London. xiii + 240 pp. \$84.95 (hardcover). ISBN 978-1-84407-663-5

Marine protected areas (MPAs) are a useful tool for conserving biodiversity and managing fisheries. However, effective governance of MPAs is increasingly challenging in a busy, interconnected, and changing world. *Governance* is an umbrella term that refers to the structures, institutions (i.e., laws, policies, rules, and norms), and processes that determine who makes decisions, how decisions are made, and how and what actions are taken and by whom. Although the umbrella of governance facilitates (or undermines) effective environmental management, it can be differentiated from management by the resources, plans, and actions that result from the functioning of governance (Lockwood 2010). The objectives of both environmental governance and management are to steer, or change, individual behaviors or collective actions and, ultimately, to improve environmental and societal outcomes. Without good governance combined with effective management, MPAs are unlikely to succeed socially or ecologically (Bennett & Dearden 2014a).

Scholarship on environmental governance has grown significantly over the last few decades, ranging in ecological scale from individual species (e.g., whales) to resources or ecosystems (e.g., forests, coral reefs) to global concerns (e.g., climate, oceans). Specific policy realms (e.g., fisheries, agriculture, or MPAs) are also the subject of governance analyses and planning. Environmental governance studies focus on 2 central and interrelated areas: governance design and implementation and governance performance. Normative commitments (i.e., collective understandings of what constitutes good processes or outcomes) underlie governance design and performance either implicitly or explicitly (Lockwood et al. 2010). Thus, environmental governance can be evaluated either or simultaneously on whether processes are fair and legitimate and whether outcomes are socially equitable or ecologically sustainable (Bennett & Dearden 2014a). For example, MPA governance (MPAG) might be judged by stakeholders, managers, or scientists based on levels of participation in decision making, impacts on local community livelihoods, or changes in the resilience of habitats or abundance of fish (Christie 2004; McClanahan

et al. 2006; Bennett & Dearden 2014b). Yet disagreement remains about whether outputs of governance analyses should be descriptive or prescriptive.

Questions and ideas that have been taken up by environmental governance scholars (Ostrom 1990; Young 2002; Berkes et al. 2003; Liverman 2004; Lemos & Agrawal 2006; Armitage et al. 2007, 2012; Potete et al. 2010) and that either have or should be addressed in the context of MPAs include but are not limited to the following. How are individual and collective behaviors shaped by different governance institutions? What is the ideal governance structure for managing people and resources: community based, top down, or comanagement? How and why do governance institutions change and to what effect? What decision-making processes are more socially acceptable and lead to better ecological outcomes? What are the roles of different actors and organizations (e.g., governments, NGOs, private sector, local stakeholders, and resource users) in shaping governance processes and determining outcomes? How can governance address interconnected social-ecological systems and interactions across ecological, social, and institutional scales? How can governance be designed to fit different sociopolitical and ecological contexts? What limits are placed on governance by different social, political, and ecological factors? What norms or ideals (e.g., transparency, accountability, trust) should guide governance? What is the appropriate scale for governance to occur? How can collaboration and cooperation be facilitated most effectively? How can governance be designed to be stable and also to adapt to mounting social and ecological changes and unpredictable circumstances? These are not merely academic concerns. Insights provided by answers to these questions would help in the formulation of appropriate, acceptable, and supportive environmental governance policies and processes, enabling more effective management and ultimately enhancing the social and ecological outcomes of MPAs.

Many of these ideas are taken up by Peter Jones in his book *Governing Marine Protected Areas: Resilience through Diversity* (Jones 2014). This book is impressive in theoretical and geographical scope and important because it is the most comprehensive look at MPAG to date. It contributes substantially to debates, policy documents, and literatures on the governance of protected areas—terrestrial and marine—that have flourished since the 2003 World Parks Congress in Durban, where governance was a central theme. This book traces the history and trajectory of development of MPAs globally and sets



them within the international policy landscape. It reviews divergent social and ecological objectives of MPAs and introduces key debates about whether MPAs are really the most appropriate and effective tools for biodiversity conservation and fisheries management.

Jones also makes several novel contributions that lead to 2 main theses. First, he redefines governance as “steering human behavior through combinations of state, market and civil society approaches to achieve strategic objectives” (p. 63). Jones critiques and rejects “neoinstitutional place-based self-governance” and “comanagement” that, he argues, are based on ideals of participation and that relegate the role of the state to facilitating self-organization and local management. Instead, he introduces the alternative concept of coevolutionary hierarchical governance—which is a hierarchical approach that incorporates top-down, bottom-up and market-based approaches that coevolve as they interact. Jones suggests this concept also rejects both the top-down command-and-control approach while accepting that some form of state coordination and control is needed to address complex and multiscalar challenges and to set and achieve strategic societal objectives. Second, the Jones establishes 5 governance categories, ranging from non-existent to community based to top down and 36 individual incentives in 5 categories (i.e., economic, interpretive, knowledge, legal, and participative). These are incorporated into an MPAG framework that is used to analyze 20 MPA case studies from around the world. Jones’ analysis leads to the conclusions that the state has an important role to play in governance and that a diversity of institutions and incentives will build social-ecological resilience and support biodiversity outcomes in MPAs.

Although the scope of this book is impressive, it has a number of conceptual and analytical problems that might be addressed in future editions and in work on MPAG by other scholars. First, clarity is needed on the difference between governance and management. This might also lead to a more succinct definition of coevolutionary hierarchical governance and delineation of the difference between this concept and similar adaptive comanagement (Armitage et al. 2008) and polycentric governance approaches (Lebel et al. 2006; Nagendra & Ostrom 2012). Currently, the arguments for coevolutionary hierarchical governance largely appear to support well-implemented comanagement and polycentric governance—which leads me to question whether this new term is necessary or merely obfuscation.

Second, the author might engage more thoroughly with the extensive literatures (e.g., white papers, policy documents, academic literature) that focus on terrestrial and MPAG (e.g., Graham et al. 2003; Pomeroy et al. 2004; Jentoft et al. 2007; Christie & White 2007; Lockwood 2010; Basurto 2010; Chuenpagdee 2011; Borrini-Feyerabend et al. 2013; Chuenpagdee et al. 2013). A more thorough discussion of the concept of

and theories behind incentives is also needed to explain what differentiates incentives from other actions, how incentives operate to change behaviors, the types of incentives (e.g., moral, natural, coercive, remunerative), which types of incentives are more effective over the short and long term, and under what conditions incentives are likely to fail (e.g., Oliver 1980; Ostrom et al. 1993; Laffont & Martimort 2009). This background understanding would also allow for a better articulation of, for example, whether management actions enable individuals to overcome structural constraints as opposed to encourage individual or collective behaviors.

Third, the multiple case study approach shows clear potential for drawing out lessons on MPAG. Yet the MPAG analytical framework developed by Jones is problematic and the analysis has numerous unrecognized limitations. In part, this has to do with the need for more conceptual clarity as mentioned previously. An additional shortcoming is that the effectiveness indicator (i.e., a singular scale of 1–5 based on whether impacts of local activities are controlled) does not equate to social-ecological resilience, social equity, biodiversity conservation, or fisheries benefits. These outcomes are assumed to result from controlling local activities. Perhaps most problematic is that the analysis by which the central conclusions are arrived at is unclear: was it done through mental modeling, qualitative comparative analysis, or quantitative statistical methods? To demonstrate causal relationships (e.g., that institutional diversity leads to social-ecological resilience) appropriate methods need to be used. An updated MPAG framework and suitable methods combined with a larger number of case studies would allow this book to more effectively make causal inferences and better articulate the interrelationships among contextual factors, governance factors, management actions, incentives, and social and ecological outcomes. This is a project worth pursuing and the social-ecological systems framework (Ostrom 2009), as well as multiple case study (Fleischman et al. 2013) and qualitative longitudinal analytical approaches (Basurto 2013), can offer significant guidance toward this end.

These conceptual and analytical shortcomings do not necessarily negate the central conclusions of the book. If achieving good MPAG is about getting the structures, institutions, processes, and outcomes right, Jones has provided some important insights into the role of the state and the use of multiple incentives to achieve MPA objectives. Whether, how, under what conditions, and what combinations of incentives will lead to specific desired outcomes requires further exploration. Despite its shortcomings, this book remains a useful read for all scholars studying environmental and terrestrial or MPAG as well as for practitioners and policy makers. Future work on MPAG will continue to explore answers to the questions listed above for different social, political, ecological, and geographic (e.g., high seas MPAs)

contexts while addressing the aforementioned criticisms and giving specific consideration to anticipatory planning for local and global social and environmental changes.



Research that supports the planning of governance for MPA networks, national systems of MPAs, and large-scale MPAs and that seeks to understand how to transition MPAs toward more effective governance are also topics that deserve more attention.

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Noted with Interest

Saving the World's Deciduous Forests. Askins, R.A. 2014. Yale University Press, New Haven, CT. 320 pp. \$35.00 (paperback). ISBN 978-0-300-16681-1.

Today's deciduous forests are remnants of a much larger ecosystem, the ancestry of which creates intriguing ecological parallels and reveals both impressive resilience and at times catastrophic vulnerability. Askins compares deciduous forest ecology and management among North America, Europe, and Japan, focusing on specific topics of relevance to conservation, for example, long histories of disturbance and reforestation, vulnerability to invasive pathogens and pests, landscape ecology, and the role of predators in these ecosystems. A pervasive theme is the

long and complex history of human interactions with these forests and the challenge of overcoming deeply rooted myths and preconceptions to understand what these ecosystems actually are and were. Askins concludes with a thought-provoking synthesis of ecological and conservation lessons across these locales.

Restoring Tropical Forests: a Practical Guide. Elliott, S., D. Blakesley, and K. Hardwick. 2013. Royal Botanical Gardens, Kew, U.K. 344 pp. £32.00 (paperback). ISBN 978-1-84246-442-7.

This is a thorough and readable hands-on guide for restoring degraded tropical ecosystems. Beginning with enough theory and context to provide sufficient grounding for practitioners, the book then follows a logical, step-by-step sequence of topics for restoration projects. Setting clear objectives is appropriately emphasized at the start, followed by planning, working with stakeholders, fundraising, building a nursery, seed collection and germination, tree planting, caring for planted trees, monitoring progress, and even setting up a restoration research unit. Illustrations are clear and abundant, and the book contains a set of data collection sheets as appendices. Restoration guides don't get much more practical than this one.

The Biology of Sharks and Rays. Klimley, A.P. 2014. University of Chicago Press, Chicago, IL. 512 pp. \$40.00 (hardcover). ISBN 978-0-226-44249-5.

This is really the essential *Shark Week* companion for nature TV fans, and the chapter on cartilaginous fishes and humans is an especially rigorous antidote to oversensationalization. More than that though, this book is a comprehensive overview of the state of biological knowledge of these fishes. It is logically laid out, with excellent illustrations and abundant, current citations. These features, plus discussion questions for every chapter, make it a very functional textbook, but the spotlight sections and engaging writing should make it appeal to a much broader audience.

Land, Stewardship, and Legitimacy: Endangered Species Policy in Canada and the United States. Olive, A. 2014. University of Toronto Press, Toronto, ON. \$32.95 (paperback). 285 pp. ISBN 978-1-4426-1574-8.

While much has been written on endangered species policy in the United States, comparative international studies are rare. This book is a comparative case study from sites across two countries that are superficially similar but differ in important ways when it comes to biodiversity conservation. Inclusion of Canada's Nunavut Territory permits rare comparison of the considerable differences between "northern" and "southern" species management approaches. Some details in the cases are evidently not correct (e.g., polar bears actually are hunted by Alaska natives [p. 3]), but the overall cross-case synthesis of findings is plausible, intriguing, and ultimately hopeful. Olive's conclusion that the best prospects for conservation in both countries are likely to be through engaged citizens' own actions is empirically supported and cogently argued in this book.

Essentials of Conservation Biology. 6th edition. Primack, R.B. 2014. Sinauer Associates, Sunderland, MA. \$94.94 (hardcover). 603 pp. ISBN 978-1-60535-289-3.

This book aims to provide a more in-depth and comprehensive introduction to the field than Primack's *A Primer of Conservation Biology*. Comprehensive it is in its detailed address of values and ethics, biological fundamentals, and the manifold forms of conservation practice. *Essentials* is organized as an undergraduate textbook, but with its thorough coverage of many topics and updated content, it will probably be read by many other audiences. The online instructor's resource library will be especially welcomed by academics. International examples occur throughout (many from the translated international editions of this book), and they highlight the global nature of conservation challenges, techniques, and efforts.

