

## *Part I: Overview*



## Chapter 1

# Large Scale Conservation in the Common Interest: An Overview

*Susan G. Clark, Catherine Picard, and Aaron Hohl<sup>1</sup>*

### ABSTRACT

This publication adds to existing literature on conservation management policy by offering a comprehensive, interdisciplinary, and pragmatic perspective to problem solving and leadership in the service of large scale conservation. Our analysis moves beyond conventional typologies and problem definitions to focus on the contextual, foundational, and practical elements of large scale conservation, including the formulae, doctrines, and symbols that are used. The diverse approaches currently in place are not equally effective, given the goals of human dignity and sustainability. This chapter provides an overview of large scale conservation and introduces the organization, rationale, and utility of this volume. A brief problem oriented appraisal of large scale conservation is offered, including a look at our goals, current trends in conservation, underlying conditioning factors behind those trends, and projections about whether current trends and conditions are heading us toward or away from the desired goals of environmental sustainability and human dignity. The chapter concludes by summarizing our proposed alternative—the practice of adaptive governance—which promises to be more effective in achieving these goals.

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**Key words:** *Large scale conservation, interdisciplinary problem solving, sustainability, common interest*

<sup>1</sup> Authors are affiliated through the Yale School of Forestry & Environmental Studies. Hohl is now at Humboldt State University. Email addresses: amhohl@yahoo.com, susan.g.clark@yale.edu, catherine.picard@yale.edu

## INTRODUCTION

A growing number of scientists, managers, and resource users worldwide recognize that short-term and narrowly focused remedies to environmental problems are not tenable. Traditional, expert-driven interventions based on the principles of scientific management have failed to meet demands for increased community participation in policy and management (Wilkinson et al. 2007). As a result, people are increasingly turning to large scale conservation strategies—from ecosystem management to transboundary conservation—to address the growing number, scope, and complexity of environmental problems (Gordon et al. 2005). However, facile solutions for alleviating environmental problems do not exist, and scaling up existing models is insufficient (Clark 1993). First, sustainable solutions must account not only for human uses but also for the needs of other species (Kellert and Wilson 1993, Bammer 2005). Second, they must attend not only to intergenerational equity, but also to spatial equity (Chapin et al. 2009, Oliver 2003). And finally, they must account not only for large spatial and temporal scales, but also for biophysical and sociopolitical complexity. The problem oriented approach used throughout this volume seeks to overcome the incomplete formulae currently being used by integrating knowledge and action to meet the twin goals of human dignity and sustainability.

## LARGE SCALE CONSERVATION: A PROBLEM ORIENTATION

Diverse large scale conservation strategies are being intensely promoted and rapidly adopted around the world; however, there is no precise definition of the concept. Large scale conservation is used simultaneously to refer to increased *spatial* scales (e.g., landscape-level conservation), *ecological* criteria (e.g., biodiversity hotspots), as well as the need to attend to the *political* dimensions of conservation (e.g., transboundary protected areas and peace parks). These approaches are promoted under different labels and some come to have great symbolic appeal (e.g., the Yellowstone to Yukon, “rewilding” North America, and the “Free to Roam” initiative). With so many overlapping conceptions, definitions, and typologies in use, it has become increasingly difficult to distinguish among the diversity of approaches, and how they differ (if at all) with respect to their underlying assumptions (doctrine), formulas, and symbols.

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In this volume, we use the term large scale conservation to refer to conservation efforts that deliberately seek to function at larger and more complex spatial, temporal, and governance scales than previous efforts. Our approach requires that the mix of ordinary, governance, and constitutive challenges inherent at large scales

be addressed simultaneously and pragmatically. Larger spatial scales, for example, shift the target of conservation from individual protected areas to ecosystem services and functions and finally to human dignity and sustainability. Expanded temporal scales include explicit attention to the historical context and future impact of a conservation intervention. Finally, more complex scales of governance seek to expand participation, coordination, and cooperation in natural resource decision making. Fortunately, concepts and methods already exist to permit us to do this and these are introduced in the volume and further detailed in the literature cited.

Large scale conservation is inherently complex and requires integrating information and action from disparate disciplines and participants into a rational framework for decision making. A variety of research methods, policy instruments, and management approaches are currently used to address the challenges posed by large scale conservation. Our analysis differs from many existing efforts by adopting an explicitly interdisciplinary and problem oriented approach that focuses on the social and decision making processes that characterize large scale conservation. Being problem oriented instead of solution oriented entails clarifying participants' goals and values, describing trends, analyzing the conditions that drive these trends, and projecting future developments. Finally, it requires the identification, evaluation and selection of management policy alternatives. These problem oriented tasks must be addressed explicitly and systematically in an interactive fashion (Clark 2002).

### **Content and process**

Large scale conservation is about both content and process issues, and their inter-relationship (Clark 2008). The content (biophysical substance) of a problem and the process (relations, procedures, and decision making patterns) of its development and solution are two interrelated elements of any real world problem. Some practitioners and approaches to large scale conservation emphasize one dimension over the other. Typically content issues are featured, and process issues are underappreciated or ignored. For example, traditional ecologists and conservation biologists may emphasize biophysical content (e.g., ecological functions and processes) at the expense of attending to human processes, relations, or procedures (e.g., values, and decision processes). As Li (2007: 7) notes, "Questions that are rendered technical are simultaneously rendered nonpolitical. For the most part, experts tasked with improvement exclude the structures of political-economic [process] relations for their diagnosis and prescriptions." Conversely, social scientists (e.g., political ecologists, anthropologists, political scientists) tend to emphasize processes or relations (such as power and economic wealth) at the expense of other key social variables and biophysical dimensions, including the structure and function of ecosystems. Whatever the discipline used, each has strengths in clarifying challenges, but each also suffers from blind spots that cause important aspects to be overlooked and not integrated into the picture as a whole (Clark 1993, Clark 1997). We contend that successful large scale conservation efforts must simultaneously attend to both content and process issues in a manner that is realistic, explicit, and practical. Concepts and methods exist to do this but are underutilized at present in large scale conservation. The *adaptive governance*

approach proposed and detailed throughout this volume is an example of an integrated, balanced approach between content and process concerns.

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### **Our goals**

We specifically recommend four goals for improving the design and practice of large scale conservation. These are human dignity, sustainability, common interest, and effective leadership. We offer these goals not as ambiguous abstractions (see Mirovitskaya and Ascher 2001, McDougal 1992-93, Hohl 2009), but rather as objectives that can be subjected to empirical criteria, standards, and tests, and achieved in practice (Brunner et al. 2002, 2005).

#### *Human dignity*

We believe there is no higher goal than human dignity (McDougal et al. 1980). Some may feel that discussions of such topics are far removed from natural resources, but large scale conservation cannot be achieved without sustainable, healthy societies based on human dignity for all people. The goal of human dignity arises from respect for the value of the individual, equal treatment under the law, individual freedom, and social justice (Lasswell and McDougal 1992: 34-35). It is a widely supported goal in human affairs, and is articulated in the United Nations Universal Declaration of Human Rights and many other constitutions, declarations, and conventions worldwide (Hunt 2007, Weston 2008, Mattson and Clark submitted). Human dignity rests on the principles of respect, participation, and freedom of choice. Applying these principles in practice is often problematic. The perennial challenge is to honor the principles without violating the basic rights of others. Freedom of choice, for example, requires mutual deference to others' choices. Finding the most efficacious approach to achieve human dignity in large scale conservation can be both difficult and contentious, but it is possible.

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#### *Sustainability*

Sustainability in large scale conservation requires maintaining the potential of a system to persist or improve its functioning and the benefits derived from that system over time. There are no precise criteria to determine if something is sustainable, although it is often painfully clear when policies and practice fall far short of sustainability (Mirovitskaya and Ascher 2001). Sustainability has been criticized as a

“woolly, ambiguous concept that is resistant to precise definition, fraught with internal inconsistencies, and difficult to apply in practice. It shares these difficulties with other core societal values, such as freedom, equality, and justice” (Sarewitz 2001: 74). To achieve institutions and practices of sustainability will require learning and change at the individual and organizational level (Clark 2002: 153-172). It will also require a special kind of strategic leadership and professionalism, which is why this volume stresses the importance of leadership skills, critical thinking, and problem solving.

### *Common interest*

An interest is a demand for values made on behalf of a person or group and supported by expectations that the demand will be advantageous (McDougal et al. 1980: 205). A common interest is at stake “whenever people act on their perceived interests and form a community around an issue” (Brunner et al. 2002: 12). A distinction can be made between common and special interests. In the simplest conception, “interests are ‘common’ when they are shared, ‘special’ when they are incompatible with comprehensive goals” (Lasswell and McDougal 1992: 360). For example, safe drinking water and clean air are inclusive common interests. The common interest should not be assumed or taken to be permanent. Nor is it a collection of special interests that are fused together into a forced, ‘win-win’ scenario. The common interest is comprised of mutually dependent interests such that in order to further any one set of values the interests of other participants must also be advanced. It is “a process of balancing, accommodating, and integrating the rich diversity of culture, class, interest and personality which characterizes all arenas” (McDougal et al. 1980: 207). Finally, the common interest should not be confused with unanimity. “Unanimity is a euphemism for minority veto power, in which the negative decision of one community member enforces policies on all” (McDougal et al. 1980: 202).

Steelman and duMond (2009: 396) note that “we have lost the language, vocabulary, and ability to talk about the common interest.” The job of clarifying the common interest in large scale conservation may depend on distinguishing between valid versus assumed or expedient interests (see McDougal et al. 1980). In practice, determining the common interest is full of procedural, substantive, and pragmatic challenges. We must relearn how to clarify, secure, and sustain our common interest. There are partial tests that can be applied to determine if a project or policy is achieving the goals describe above. These include a “procedural test” to determine if decision making is inclusive, participatory and representative, a “substantive test” that asks if concerns are valid, appropriate and broadly supported, and finally a “pragmatic test” that determines if participant’s expectations have been upheld and policies/decisions work in practice (Cromley 2002).

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### *Leadership*

Effective leadership is essential if large scale conservation is going to achieve the goals described above. Effective leaders show good timing, respond to clear needs, and may or may not be highly visible to the public. They inspire commitment and action, lead in problem solving, encourage broad-based involvement, and sustain hope and participation. Chief among their skills is helping to clarify goals, map events and social interactions, identify the underlying conditions that drive these events, project future outcomes, and select practical alternatives. Leaders understand the value demands and identities of potential followers, and use this knowledge to fully engage and meet the needs of participants. In short, they raise people and themselves to a higher level of motivation by empowering others and providing a new sense of perspective and energy. Finally, effective leadership includes promoting and safeguarding the process of deliberation in the common interest. The goal of this volume is to help practitioners and students to become skilled leaders—aware of their own standpoints and psychodynamics—in the service of large scale conservation.

### **Historic trends**

A core premise of large scale conservation according to Noss (2002: 10) “is that the integrity of any piece of land or water is ultimately dependent on the health and quality of the broader landscape that surrounds it...therefore, larger scales are ultimately more meaningful than smaller, isolated efforts.” A consequence of this premise has been an expansion of the scale and breadth of conservation efforts from isolated protected areas and single use management strategies to regional and even international efforts that transcend political boundaries and encompass multiple goals (e.g., integrated conservation and development projects). Large scale conservation approaches are justified as efficient, “science-based” strategies that enable practitioners and donors to identify the most effective means of expending their limited resources (Groves et al. 2002, Chapin et al. 2009).

Large scale conservation strategies are now embraced by every major conservation organization and donor agency around the world (Gordon et al. 2005). Between 1998 and 2008, the number of transboundary protected area complexes increased globally from 59 to 227 (Lysenko et al. 2007). Terrestrial protected areas now cover more than 12 percent of the earth’s surface, and more land is now under official protected status than is currently used for permanent arable crops (Chape et al. 2003). However, in spite of the significant increase in the number, size, and type of large scale conservation initiatives established around the world, biological diversity and ecosystem services remain severely threatened.

According to the Millennium Ecosystem Assessment report, human activities have accelerated the rate of species’ extinction by as much as 1000 times the historical average. This means that more biodiversity has been lost over the past fifty years than during any other period of human history (Millennium Ecosystem Assessment 2005: 10). Fifteen out of twenty-four of the world’s ecosystem services considered in the Assessment are listed as “degraded,” including air and water quality, the health of marine fisheries, and the ability to protect against natural

hazards. The costs of environmental problems are disproportionately borne by people with limited resources and access to decision making processes. This has in turn led to increased tensions—even violence—over access to and control over the world’s remaining natural resources. These trends suggest that simply increasing the spatial and temporal scale of protected areas, or harmonizing natural resource policies across administrative and political boundaries, is by itself insufficient to secure environmental sustainability.

### Conditions

The widespread adoption of large scale conservation can be traced to three underlying conditions: innovations in the study of ecology, economic conditioning factors, and socio-political dynamics. Groves et al. (2002) highlight several advances in ecological research that led to the promotion of large scale conservation approaches. First, conserving ecosystem processes and functions—rather than individual species or habitats—allows for a wider assemblage of biological communities and ecosystems to be protected. Given that scientists are dealing with incomplete and changing data, protecting ecosystems and not individual species is a useful precautionary strategy. Second, research has demonstrated that ecosystems function across multiple spatial and temporal scales, and these factors must be considered when planning conservation targets and goals. Finally, ecosystems are not locked in a steady state or predetermined successional trajectory, but are instead characterized by dynamic, and often unpredictable fluctuations. Accordingly, ecologists argue that conservation interventions should focus on increasing ecological connectivity and resiliency if they are to achieve any lasting impact.

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Economic conditioning factors also play an important role in the rise of large scale conservation. First, large scale approaches should provide efficiencies by managing resources at ever increasing economies of scale. They may also increase net benefits for communities when the cost of conserving one particular location is offset by benefits of conserving a broader set of ecosystem services. Large scale approaches such as ecoregional planning are also used to make conservation more economically efficient by prioritizing conservation targets, in order to get the greatest return out of every conservation dollar.

Finally, as the world’s population becomes increasingly connected and interdependent, there are social and political conditioning factors that encourage the coordination of natural resource policies across administrative and political boundaries. The cooperative management of wildlife and water across international

boundaries has, for example, been widely promoted as a way to promote regional peace and security (Ali 2007). Together these ecological, economic and socio-political conditioning factors work in conjunction to drive the growth of large scale conservation approaches across the globe.

### **Problem definitions**

We identified three basic types of problems in large scale conservation which are further described in Chapter 2. First, there are a range of *technical* problems including a global decline in biodiversity, the degradation of ecosystem processes, and mounting pressures on the earth's resources as human populations expand. These technical problems threaten to impair the ability of future generations to live high quality, dignified, and sustainable lives. Second, there are *governance* problems as our decision making systems have proven inadequate to address the diversity and complexity of environmental problems that we currently face. This has led to increased demands for community participation in natural resource policy and management that our current institutions seem ill equipped to handle. Third, there are *constitutive* problems that concern the underlying assumptions, expectations and norms that guide the organization of our societies and determine how we carry out decision making. For example, our basic doctrine for managing natural resources privileges scientific management and economic efficiency, making it difficult for participants to identify, let alone secure, their common interests. These less than effective approaches have become institutionalized in many organizations' operations. Large scale conservation efforts are inherently complex and must address all three types of problems if they are to be successful.

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### **The future**

Based on current trends and conditions, the Millennium Ecosystem Assessment projects that environmental problems—including significant losses of biodiversity and the widespread degradation of ecosystem services—are likely to continue unabated over the next fifty years. The report also suggests that our current governance systems, institutions and legal frameworks are ill suited to effectively manage large scale ecosystem processes such as international watersheds (Millennium Ecosystem Assessment 2005: 72). As resources continue to be degraded and threatened, participants are demanding greater participation in the decision making process. In doing so, they often run up against the limitations of governance and constitutive institutions. It is not clear, however, if such demands are having any lasting effects on the institutions and policies that govern large scale conservation. In short, the common interest has not yet been clarified, much less secured in most large scale conservation

initiatives. The papers in this volume suggest that the goals of environmental sustainability and human dignity are not likely to be achieved by relying solely on technological fixes, increased cooperation or additional research. Current approaches to large scale conservation can be improved by being more contextual, problem oriented, and attentive to the constitutive and governance processes.

### **Our recommendation**

A growing consensus is emerging among conservation scientists, practitioners, and local resource users that contextual, and practical methods are essential when undertaking large scale conservation projects. This requires goal clarity (i.e., sound doctrine and standpoint clarification), understanding problems pragmatically and contextually, practical means (i.e., a workable formula), and ways to learn from experience (i.e., adaptation). We propose the practice of adaptive governance as a means to accomplish these objectives. Adaptive governance assumes that science is relational, but that the behavior of humans depends on context as much as scientific principles or disciplinary knowledge. Problem definitions are contextual and draw from both local and scientific knowledge (Wilkinson et al. 2007). Multiple methods are used to solve problems, some of which are qualitative, interpretive, and integrative. Adaptive governance relies on integrative decision making and sound judgment by skilled leaders in order to address multiple goals. Policy improvement depends on regular monitoring, evaluation and a comprehensive focus on how decisions are made. Failed policies and programs should be terminated, but lessons should also be harvested and disseminated from unsuccessful large scale conservation projects (Clark et al. 2000).

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The practice of adaptive governance calls for finding and describing successful conservation efforts, adapting and diffusing them widely, and creating new opportunities to build future successes. In practice, this first means that more inclusive social and decision making process must be created. This can help clarify values and expectations. Second, expectations and demands about the conditions under which a solution is possible must be identified. And third, expectations and demands about problem solving, coordination, and participation in decision making must be clarified. Adaptive governance strives to find ways to help people clarify, secure, and sustain the common interest in these tasks. This leads to integrated solutions and enduring outcomes. The goal is not to create “win-win” scenarios, but to identify mutually dependent and interdependent interests that are secured through an iterative decision making process that is effective and practical.

## CONCLUSION

In this volume, we analyze three large scale conservation approaches that are attempting to address complex environmental problems in a sustainable fashion. All are “large scale,” based on spatial, as well as temporal and complexity scales. All are facing significant challenges in identifying, securing and sustaining the common interest. We recommend adaptive governance as the basis for achieving dignity and sustainability goals and for learning. Best practices in large scale conservation can be identified, diffused, and adapted successfully (e.g., Brunner et al. 2002, 2005, Brunner and Clark 1997). In this volume we move beyond descriptive typologies of large scale conservation (e.g., Gordon et al. 2005) to explore and analyze the formula, symbols, and doctrine that underpin a diversity of large scale conservation models currently in use. We also advocate undertaking a comprehensive problem oriented approach that distinguishes among ordinary, governance, and constitutive problems and their interrelationship. Finally, we seek to clarify and upgrade the social and decision processes that are the very foundation of all large scale conservation efforts.

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