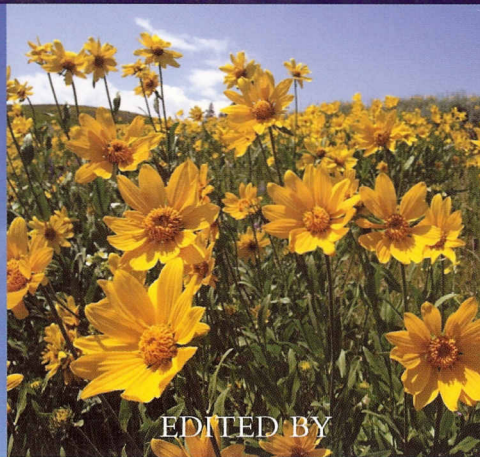
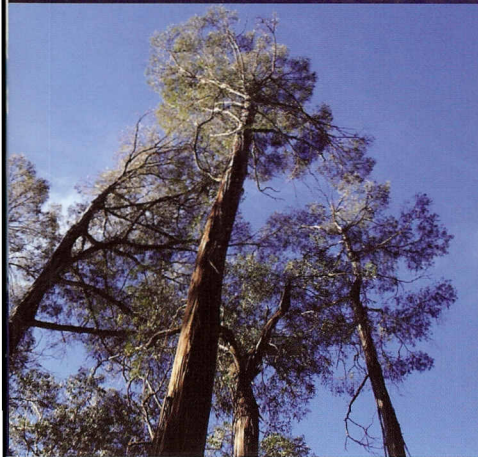




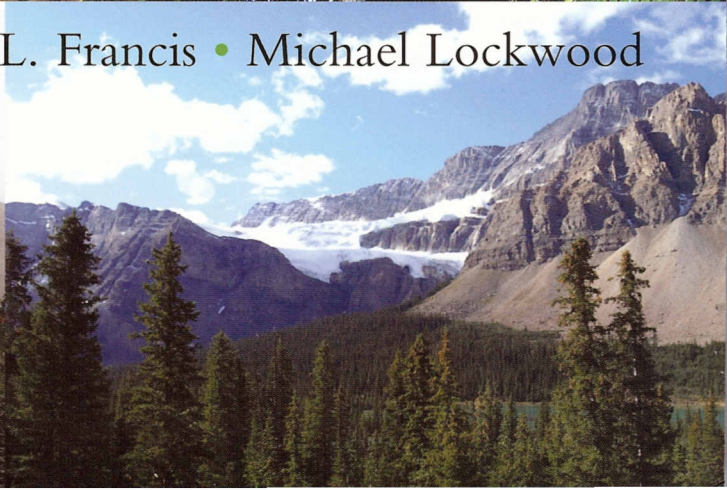
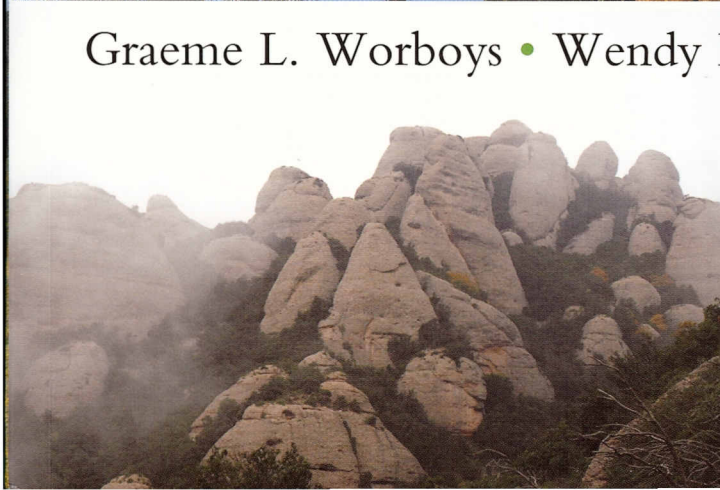
Connectivity Conservation Management

A GLOBAL GUIDE



EDITED BY

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Foreword

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As the human footprint on the planet expands exponentially, biodiversity conservation, ecological processes and the benefits that ecosystem services bestow on humans, are increasingly threatened. Not only do habitat degradation and fragmentation pose direct threats to terrestrial landscape conservation, these threats are now, and will be further, exacerbated by climate change.

Since 1872, when the world's first national park, Yellowstone, was founded, focusing on the creation of defined protected areas has been a pillar of conservation. Whether protected area conservation efforts in the 'Yellowstonian' era considered how larger, surrounding landscapes sustain these natural refugia, or considered how protected areas serve to sustain their surrounding landscapes, is debatable. Much of society views protected areas as natural capital bank accounts, put aside in perpetuity as self-sustaining investments, separate from surrounding land uses. This misperception needs to be addressed; long-term ecological research has now shown that all states of nature are dynamic, particularly with the cascading effects of climate change on the immediate horizon. In this light, protected area conservation requires more vigilant, more adaptive management. Biodiversity conservation can no longer be envisioned as occurring within the boundaries of protected areas alone.

As protected areas become increasingly circumscribed by fragmented lands, as they

become, in effect, ecological islands in a matrix of human dominated landscapes, they grow more susceptible to the detrimental consequences of human and natural disturbances. If we expect and desire that protected areas continue to function to sustain and nourish the natural and human world, it is vital that we maintain connectivity in the landscapes surrounding them. Connectivity can be thought of as both a life line linking core protected areas, and as the landscape's circulatory system, facilitating the movement, dispersal and migration of species and the continuity of ecological processes. When connected, core protected areas have more capacity to rebound successfully from the plethora of threats facing landscapes today. Thus, connectivity conservation can be viewed as an opportunity to realize climate adaptation management on the most fundamental level, because connectivity furthers resilience, and resilience, nature's ability to recover from disturbance, means survival for ecological systems.

Ecological resilience will determine how much nature will be affected by the pervasive impacts of global climate change. The Intergovernmental Panel on Climate Change unequivocally states that humans are directly and adversely altering the planet's climate at a pace faster than many of the most sophisticated models predicted (IPCC, 2007a). All species will feel the heat, and survival will be linked to how species are able to respond to changing environmental conditions. In 2009, even the most optimistic models forecast that if greenhouse gas emissions could be reined in today and climate change mitigation

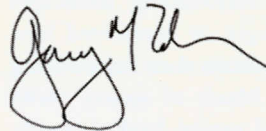
efforts optimized, the momentum of global climate change could not be stopped for at least another century. All life on the planet today will be challenged by a future that has no analogue in the past. In this brave new reality, life will persist in flux, with many species going extinct under the impact of human activities, and many ecosystems pushed to the brink of collapse.

All those who seek to maintain connectivity and reconnect fragmented landscapes must face an irrefutable truth: it is easier to conserve existing intact nature than it is to restore fragmented nature. And, just because lands are connected to each other, they are not necessarily fully ecologically functional. Some landscapes have connectivity that is limited to particular functions and species, and so do not possess the degree of connection required to secure fully functioning landscapes. On the other hand, the reality of land use does not always permit partitioning landscapes to maximize optimal core areas and connectivity conservation corridors. Yet, our best hope arises from the reality that connectivity can serve as the architecture for landscape restoration.

All of our conservation investments, all our natural systems, all that nature yields to sustain life and human livelihood, are under threat. If people do nothing, then nothing of nature as we know it in 2009 will be passed on to our heirs. Ultimately, it is the resilience of the human spirit that will unearth our abilities to meet these challenges. Conservation success in a changed world climate requires collective human resolve to create conditions that allow nature to maximize its own resilience. An ideal conservationist-practitioner of the 21st century will be a resilience manager. How, then, can we develop the skills to achieve the effective management of connectivity conservation?

By learning what others have done successfully and what hasn't worked is one way of doing this and this is provided by this book. It is one of its great strengths. The book describes, from first-hand practitioner experience, many inspiring large-scale connectivity conservation initiatives around the globe, and the many lessons learned from managing these areas. This book, however goes much further. It uses these lessons learned to develop a new conceptual framework for connectivity conservation management, a development that is crucial for the effective strategic planning and visioning processes needed for large-scale connectivity conservation by governments, policy makers and practitioners. It is an important development in the conservation management of large, complex natural areas.

Connectivity conservation is not a climate-change adaptation cure-all, but it is a cure that all land managers and policy makers must consider. In our new climate-changed era, species are becoming stressed, some will go extinct, and new ecological assemblages and interactions will form. Connectivity conservation is one of our best strategic response options, and in these uncertain times ahead, we must overcome any potential policy or implementation inertia to help conserve species and our own health and well-being. It is the type of leadership advice that will help conserve species and can provide a better future for the planet.



Gary Tabor
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