

# Series Preface

## Book Series “Social and Ecological Sustainability in the Galapagos Islands”

When we developed the Galapagos Book Series and selected the initial book topics to launch the Series, we hoped that guest editors and authors would conspire to represent important and fascinating elements of the Galapagos Islands early in the Series. While Book #1, *“Science and Conservation in the Galapagos Islands: Frameworks & Perspectives,”* Stephen J. Walsh and Carlos F. Mena, editors (2013), advocates an interdisciplinary perspective for addressing many of the most compelling challenges facing the Galapagos Islands that extend across the social, terrestrial, and marine subsystems, Book #2, *“Evolution from the Galapagos: Two Centuries after Darwin,”* Gabriel Trueba and Carlos Montufar, editors (2013), advances our understanding of evolution, a key element of life and adaptation in the Galapagos Islands. Now, Book #3, *“The Galapagos Marine Reserve: A Dynamic Social–Ecological System,”* Judith Denkinger and Luis Vinueza (2014), addresses the nature of the coupled human–natural system in the Galapagos Islands and describes some of the key factors that affect social and ecological vulnerability, dynamics, and island sustainability. Further, Book #3 includes chapters that describe the mapping and modeling of fundamental features of the Galapagos Marine Reserve, an assessment of Galapagos fisheries and marine mammals, and the marine environments and processes that inspire us.

It was not until Charles Darwin’s famous visit in 1835, which helped inspire the theory of evolution by natural selection that the Galapagos Archipelago began to receive international recognition. In 1959, the Galapagos National Park was formed, and in 1973, the archipelago was incorporated as the 22nd province of Ecuador. UNESCO designated the Galapagos as a World Heritage Site in 1978, a designation to honor the “magnificent and unique” natural features of the Galapagos and to ensure their conservation for future generations. These islands were further deemed a Biosphere Reserve in 1987, and the Galapagos Marine Reserve was created in 2001. The Marine Reserve was formed as a consequence of the 1998 passage of the *Special Law for Galapagos* by the Ecuadorian

government that was designed to “protect and conserve the marine and terrestrial resources of the Islands.”

Development of the tourism industry has more than tripled the local population in the past 15 years, thereby exerting considerable pressure on the Galapagos National Park and the Marine Reserve. The residential population has grown from approximately 10,000 in 1990 to nearly 30,000 residents today, and international tourism has increased from approximately 40,000 visitors in 1990 to now approaching 200,000. The impacts of the human dimension in the islands have been both direct and indirect, with consequences for the social, terrestrial, and marine subsystems in the Galapagos Islands and their linked effects. Further, the historical exploitation of lobster and sea cucumber, globalization of marine products to a national and international market, and the challenges imposed by industrial fishing outside of the Reserve and illegal fishing and shark-fining outside and inside the Reserve combine to impact the social and ecological vulnerability of the Galapagos Marine Reserve in fundamental ways. In addition, exogenous shocks, such as El Niño events as a disturbance regime on Galapagos corals and marine populations, national and international policies and institutions on regulation and management of the Reserve, and the “pushes” and “pulls” of economic development and population migration, including international tourism, shape and reshape the Galapagos Marine Reserve—its resources, environments, and human uses.

Denkinger and Vinueza (editors) have developed another important book in the Series that contributes a rich and compelling assessment of the Galapagos Islands with a focus on the Galapagos Marine Reserve, fully acknowledging that the Marine Reserve is best studied through the lens of a coupled human–natural systems approach where social and ecological interactions are addressed in a linked and integrative manner. Together with the other books in the Galapagos Series, this book leverages the “frameworks and perspectives” described in Book #1 and the “theoretical and applied contributions” of Book #2 on ecological (and social) adaptation seen in evolution and described by the complex adaptive systems seen in the Galapagos Islands.

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The Galapagos Marine Reserve

A Dynamic Social-Ecological System

Denkinger, J.; Vinuela, L. (Eds.)

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