A PRIMER OF CONSERVATION BEHAVIOR

Daniel T. Blumstein and Esteban Fernández-Juricic



"Blumstein and Fernández-Juricic are leaders at the interface of animal behavior and conservation biology, and they have provided topical treatment of this exciting new field. Full of current examples and relevant tools, *A Primer of Conservation Behavior* is an accessible resource for students of behavior and conservation. It should also serve as a useful handbook for a wide audience of wildlife managers and behavioral ecologists on how to apply behavioral methods to conservation problems."

-Lisa Angeloni, Colorado State University

"Behavioral conservation biology is a critical part of our toolkit in understanding the resilience of natural systems. How landscapes, communities and populations will be impacted by human activities depends upon how individuals respond. This book shows how behavioral characteristics like habitat specialization and mobility are fundamental for predicting the stability of ecosystems and the sustainability of resource management regimes. Ecologists and conservation biologists will gain a better appreciation for the mechanisms of vulnerability or robustness, and for the importance of realistic assumptions about individuals when modeling responses at higher levels of organization."

—Kerry N. Rabenold, Purdue University



ABOUT THE BOOK

Conservation behavior is the application of knowledge of animal behavior to solve wildlife conservation problems. The goal of this *Primer* is to nurture the development of biologists interested in using specific animal behavior conceptual and methodological tools to aid in solving biological conservation and wildlife management problems. While there are a number of excellent reviews and edited volumes that discuss the integration of behavior and conservation biology, there has been no practical guide fostering integration and showing how to apply these methodologies to issues that would benefit from an animal behavior perspective. This book is broadly aimed at biologists interested in or practicing conservation biology and wildlife management, including undergraduate and graduate students, conservation biologists, ecologists, wildlife managers, zoo personnel, animal behaviorists, and behavioral ecologists.

May 2010 **=** ISBN 978-0-87893-401-0 \$34.95 **=** paper

"I feel this book will be a valuable addition to conservation and wildlife biology literature, offering students and professionals alike a concise and clear introduction to the general principles of animal behavior, behavioral ecology, and ecology, as well as their inclusion into management and conservation actions. The writing is strong and very accessible to a variety of reader backgrounds."

—Daniel R. Stahler,

Yellowstone Wolf Project, National Park Service

"[This primer] touches a broad audience with practical tools that will very likely draw these various disciplines closer in common efforts to understand and conserve wild species and their habitats, and in providing solutions to resolve human-wildlife conflicts...the book is very impressive with respect to the literature reviewed and ideas for application. I know that this text will do well to excite students and broaden perspectives."

—Bradley F. Blackwell, National Wildlife Research Center, US Department of Agriculture

To order, visit us online at www.sinauer.com Phone: 413.549.4300 • Fax: 413.549.1118

CONTENTS

Preface and Acknowledgements

- 1. What is conservation behavior?
- 2. Why behavioral mechanisms matter
- 3. The evolution of behavior and comparative studies
- 4. Assessing food, habitat, and mate preferences
- 5. Understanding habitat selection for conservation and management
- 6. Understanding foraging behavior for conservation and management
- 7. Understanding antipredator behavior for conservation and management

- 8. Acoustic communication and conservation
- 9. Individuality and personalities
- 10. Demographic consequences of sociality
- Demographic consequences of sexual selection and reproductive behavior
- 12. Using behavior to set aside areas for wildlife protection

Afterword

Literature Cited

Index

ABOUT THE AUTHORS

DANIEL T. BLUMSTEIN is a Professor and Chair of the Department of Ecology and Evolutionary Biology at the University of California, Los Angeles. He received his undergraduate degrees in Environmental, Population, and Organismic Biology, and in Environmental Conservation, at the University of Colorado, Boulder. He received his Ph.D. in Animal Behavior at the University of California Davis, and was a postdoctoral fellow at the University of Marburg (Germany), the University of Kansas, and Macquarie University (Australia). He has studied behavior and conservation in Australia, Canada, the Caribbean, Germany, Kenya, New Zealand, Pakistan, Russia, and the United States. He has served on endangered species recovery teams, and is a member of the IUCN Reintroduction Specialist Group and the Conservation Behavior Committee of the Animal Behavior Society. He is a coauthor of Quantifying Behavior the JWatcher Way (published by Sinauer), and An Ecotourist's Guide to Khunjerab National Park (published by the World Wide Fund for Nature–Pakistan). He is a past editor of the journal Animal Behaviour, and is presently an associate editor of The Quarterly Review of Biology. He is on the editorial boards of Behavioral Ecology and Biology Letters. He spends his summers studying marmot behavior and ecology at the Rocky Mountain Biological Laboratory, Gothic, Colorado.

ESTEBAN FERNÁNDEZ-JURICIC is an Associate Professor of Biological Sciences at Purdue University. He got his undergraduate degree at Universidad Nacional de Córdoba, Argentina. He received his Ph.D. in animal ecology at Universidad Complutense de Madrid, Spain. He was a postdoctoral fellow at the University of Oxford (United Kingdom), and the University of Minnesota (USA). Before his current position, he was an Assistant Professor at California State University, Long Beach for almost six years. He has studied behavior and conservation in Argentina, Spain, the United Kingdom, and the United States. He is an associate editor of the *Journal of Applied Ecology* and *Behavioral Ecology and Sociobiology*. He is a member of the Conservation Behavior Committee of the Animal Behavior Society. He is currently interested in the integration of sensory ecology, behavioral ecology, and conservation biology.

Illustration by Gabriela Sincich





Sinauer Associates, Inc., Publishers PO Box 407 23 Plumtree Road Sunderland, MA 01375-0407

www.sinauer.com

U.S. Postage Paid Greenfield, MA Permit No. 183 PRSRT STD

> To order, visit us online at Phone: 413.549.4300 www.sinauer.com Fax: 413.549.1118