Loss of biodiversity is among the greatest problems facing the world today. *Conservation and the Genetics of Populations* gives a comprehensive overview of the essential background, concepts, and tools needed to understand how genetic information can be used to conserve species threatened with extinction, and to manage species of ecological or commercial importance. New molecular techniques, statistical methods, and computer programs, genetic principles, and methods are becoming increasingly useful in the conservation of biological diversity. Using a balance of data and theory, coupled with basic and applied research examples, this book examines genetic and phenotypic variation in natural populations, the principles and mechanisms of evolutionary change, the interpretation of genetic data from natural populations, and how these can be applied to conservation. The book includes examples from plants, animals, and microbes in wild and captive populations.

This second edition contains new chapters on Climate Change and Exploited Populations as well as new sections on genomics, genetic monitoring, emerging diseases, metagenomics, and more. One-third of the references in this edition were published after the first edition.

Each of the 22 chapters and the statistical appendix have a Guest Box written by an expert in that particular topic (including James Crow, Louis Bernatchez, Loren Rieseberg, Rick Shine, and Lisette Waits).

This book is essential for advanced undergraduate and graduate students of conservation genetics, natural resource management, and conservation biology, as well as professional conservation biologists working for wildlife and habitat management agencies.
ABOUT THE AUTHOR

Fred W. Allendorf is a Regents Professor at the University of Montana and a Professorial Research Fellow at Victoria University of Wellington in New Zealand. He has published over 200 articles on the population genetics and conservation of fish, amphibians, mammals, invertebrates, and plants. He is a past President of the American Genetic Association, and has served as Director of the Population Biology Program of the National Science Foundation. He has taught conservation genetics at the University of Montana, University of Oregon, University of Minnesota, University of Western Australia, Victoria University of Wellington, and the US National Conservation Training Center.

Gordon Luikart is an Associate Professor at the Flathead Lake Biological Station of the University of Montana and a Visiting Scientist in the Center for Investigation of Biodiversity and Genetic Resources at the University of Porto, Portugal. He is also an award winning (Bronze Medal) Research Scientist with the Centre National de la Recherche Scientifique at the University Joseph Fourier in Grenoble, France. His research focuses on the conservation and genetics of wild and domestic animals, and includes over 100 publications. He was a Fulbright Scholar at La Trobe University, Melbourne, and he is a member of the IUCN Specialist Group for Caprinae (mountain ungulates) conservation.

Sally N. Aitken is a Professor in the Department of Forest Sciences and Director of the Centre for Forest Conservation Genetics at the University of British Columbia. She studies the population, conservation, ecological genetics, and genomics of forest trees. She received her PhD from the University of California, Berkeley, and she was a faculty member at Oregon State University. She has received the Canadian Forestry Scientific Achievement Award, a Killam Faculty Research Fellowship, and a Killam Teaching Prize. She teaches forest biology, alpine ecology, and conservation genetics, and she is involved in forest genetic conservation initiatives in North America and Europe.

RELATED RESOURCES

Instructor

View Instructor Companion Site

For additional product details, please visit https://www.wiley.com/en-us