

# Surviving the 21st Century



Julian Cribb

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Humanity's Ten Great Challenges  
and How We Can Overcome Them

 Springer

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# Dustjacket Reviews

“Julian Cribb brilliantly introduced the general public to the gigantic threat of global toxification in *Poisoned Planet*. Now he’s done it again, taking on the entire existential threat to civilization. Absolutely everyone with an interest in humanity should read this clear, authoritative, scary book.

- Paul R. Ehrlich, co-author of ‘*The Annihilation of Nature*’. Bing Professor of Population Studies Emeritus; President, Center for Conservation Biology; Department of Biology, Stanford University

“With astonishing breadth of knowledge and acute observational skills, Julian Cribb has given us a book that is a kind of report on the state of life on the planet. At the centre of life on earth, he tell us, is the creature known as homo sapiens – self-deceiver, degrader, destroyer, anything it seems but sapiens. And yet, if we peer through the gloom is that a spark we can just make out, the spark of wisdom?”

- Professor Clive Hamilton, author *Requiem for a Species* and *Earthmasters*

“We’ve come a long way from our hunter/gatherer past, but how assured is our future? In this book, Julian Cribb argues that the continuation of the human story depends on what we do now and in the immediate future.”

- Nobel Laureate Professor Peter Doherty, University of Melbourne

“Cribb has delivered another clear-eyed and expansive look over the problems we face, inspiring in both its scope and scholarship, and again has tempered the sense of doom with well-defined, positive actions for us all, both as a society and as individuals. It is a systemic problem, and he provides the necessary systemic solutions – may they be widely read and acted upon!”

– Dr Mark Stafford Smith, Chair, Science Committee, Future Earth

“An overpopulated, resource depleted and environmentally wounded planet needs our urgent help. Julian Cribb provides timely and thoughtful answers.”

– Major General the Hon. Michael Jeffery AO AC, former Governor-General of Australia

“Only rarely does someone write a “must read” book. This is one of them. Nothing is more important than to truly tackle the massive challenges facing the Earth and humanity itself”.

– Professor David Lindenmayer AO, Australian Research Council Laureate Fellow

“This could be one of the most important books of the 21stC, particularly if enough people read it, understand the message embedded in the content and then act accordingly. This well-written and researched book is more than a catalogue of despair but rather it points out some very obvious actions that could take humanity on a more sustainable journey.”

– Professor Graham Durant, Director, Australian National Science and Technology Centre

“This is the guide for our times, the overlapping hazards we prefer not to think about but must. Here is a magisterial summary that spares no comfort zones but does show what we need to do and, at last, how to do it”.

– Dr Robyn Williams, Science Broadcaster, Australian Broadcasting Corporation

“The structure of this book provides a fascinating device for exploring the great crises of our time, and for facing up to the biggest question: are we capable of dealing with them?”

– Bill McKibben, author of *The End of Nature* (1989) and *Eaarth* (2010)

Today we appear to be facing an increasingly uncertain future and are probably more confused than ever. Julian Cribb's book adds to these feelings but also provides glimmers of hope as he articulates with clarity what our challenges are and how we might confront them.

- Maj Gen John Hartley AO, former Australian Army Land Commander and Director of Defence Intelligence.

“This book concisely summarises the critical challenges facing human society in the twenty-first century, as well as providing helpful advice about the most useful steps individuals can take. It is comprehensive, accurate and measured in its assessments. It is an essential guidebook to help thoughtful people act responsibly.”

- Emeritus Professor Ian Lowe, Environmental scientist, Griffith University

“The material in the book is exceptionally thoroughly researched and referenced; the author is a very distinguished science writer. The book is encyclopedic in scale. Everyone who wishes to be well-informed on the ills of civilization and how they might be solved, should read this book - particularly those in public office.”

- Emeritus Professor Adrian Gibbs, Virologist, Australian National University.

“This erudite and highly readable analysis of the interlinked threats to the future of the human species is absolutely essential reading for all politicians and policy makers, voters and young people everywhere. Cribb shows with absolute clarity that humanity in the 21st-century now faces the greatest test of our collective wisdom in our relatively short history. Grandparents should read the book with particular care.”

- Emeritus Professor Bob Douglas, Epidemiologist, Australian National University

This is an important book. Few others deal with so many confronting problems in an integrated way. Hopefully it will fulfil its aim of helping build the discussion about survival that we have to have.

- Jenny Goldie, past president, Sustainable Population Australia

In his latest book, “Surviving the 21st Century”, Julian Cribb provides a masterful evidence-based account of the ten greatest threats to humanity – and importantly, how to beat them. This ground-breaking and timely treatise goes far beyond simply documenting gloom-and-doom to show how we can collectively achieve solutions to the world’s major challenges.

- Distinguished Professor Terry Hughes, coral reef scientist, James Cook University

*This book is dedicated  
to the memory of the late Professor Tony McMichael  
(1942–2014), author of ‘Planetary Overload’,  
and to Professor Paul R. Ehrlich,  
author of ‘The Population Bomb’.  
They were right.*

*It is also dedicated to my granddaughter Vivienne,  
whose generation must face the daunting challenge  
of restoring our world.*



# Preface

This book is about the future survival prospects of our species, *Homo sapiens*, in the twenty-first century.

It deals with the compound challenge of the ten greatest threats to our existence we humans have faced in the past million years—and what we can sensibly do about them.

It presents fresh evidence, from trusted scientific sources, to shine a light on the nature of the risks our vast numbers and overwhelming demands on the Planet are bringing upon us. It explores our strengths and weaknesses as a species in facing them.

These challenges are now so profound that I am constantly meeting people, all over the world—scientists, grandparents, young people—who are pessimistic, if not despairing, about the future we are leaving to our children, and to their children.

But this isn't simply a book about problems. It's absolutely about solutions. It is about hope—though a hope that is well founded, on fact and science, not simply on belief, ignorance or wishful thinking.

It's about how we humans can arrive at a common, clear insight into the nature of our greatest test—and into our own natures—in order to work together as a species to solve it and prosper.

It's about the very thing we humans have always done best: understand and find co-operative solutions to life-threatening challenges.

In exploring our greatest risks, this book does not pretend to predict the future. That's not possible. It simply presents the best evidence, arguing that a sound awareness of those risks gives us greater influence over our future and the options we have for shaping it. Each chapter concludes with clear advice on what can be done at global level but also what individuals can do

for themselves to make a global difference. Importantly, it seeks to integrate these solutions, instead of trying to solve our problems piecemeal—which only leads to more intractable problems. The book doesn't claim to have all the answers, by any stretch. But it does gather some of the world's clearest thinking about them, as a start. It aims to help build the discussion about survival we have to have.

And it offers a practical way forward, one that can engage every member of our species.

I acknowledge a special debt to the ideas and inspiration of the late Professor Tony McMichael, Professor Paul Ehrlich, Professor Hugh Possingham, Professor Terry Hughes, Professor Will Steffen, Professor Ravi Naidu, Professor Ming Hung Wong, Professor Alon Tal, Professor Bob Douglas, Bill McKibben, Major-General Michael Jeffery, Professor Clive Hamilton, Professor Ian Lowe, Gerda Verburg, Sherestha Saini, Dr. Sean Coffey, Dr. Dennis Hussey, Ian Dunlop, Bill D'Arcy, Peter Day, Dr Mark Stafford-Smith, Dr. Alex Ritchie, Dr. Adrian Gibbs, Dr. Ian Chambers, Richard Heinberg, Professor EO Wilson and David Suzuki.

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