

## Principles of International Environmental Law

This new and fully updated edition of *Principles of International Environmental Law* offers a comprehensive and critical account of one of the fastest growing areas of international law: the principles and rules relating to environmental protection.

Introducing the reader to the key foundational principles, governance structures and regulatory techniques, *Principles of International Environmental Law* explores each of the major areas of international environmental regulation through substantive chapters, including climate change, atmospheric protection, oceans and freshwater, biodiversity, chemicals and waste regulation. The ever-increasing overlap with other areas of international law is also explored through examination of the interlinkages between international environmental law and other areas of international regulation, such as trade, human rights, humanitarian law and investment law.

Incorporating the latest developments in treaty and case law for key areas of environmental regulation, this text is an essential reference and textbook for advanced undergraduate and postgraduate students, academics and practitioners of international environmental law.

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# Principles of International Environmental Law

FOURTH EDITION

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## Foreword

It is with pleasure that I write a foreword to this timely exposition and analysis of the system of environmental law as a whole, and as it stands after the Rio Conference. If it seems a little bold to call environmental law a ‘system’, it is assuredly not so bold as it would have been before the publication of Philippe Sands’ important work. A main purpose of academic writing should be to perceive and portray patterns and relations in a body of legal rules so as to make it manageable, teachable, comprehensible and usable. The present work succeeds in doing this to a remarkable degree.

The author’s statement that environmental law has a ‘longer history than some might suggest’ might be thought to border on understatement. When something is taken up as a modish ‘concern’, there is often a strong temptation to think of it as a discovery by a newly enlightened generation. It is, therefore, a useful antidote to be reminded that, of the two pioneering decisions, both still leading and much-cited cases, one was the *Bering Sea* arbitration, of a century ago, and the other, the *Trail Smelter* arbitration, of half a century ago. Nevertheless, the present-day need for law to protect the environment and to preserve resources is of a scale and urgency far beyond the imagining of the early pioneers.

Seeing these questions, however, in a proper historical perspective does help to warn against the dangers of treating environmental law as a specialisation, which can be made a separate study; or, on the other hand, of regarding environmental law – and here I borrow Philippe’s words – as a ‘marginal part of the existing legal order’. A perusal of this book will readily reveal to the reader the fallacy of both of these attitudes. Part I of the book – which is entitled ‘The Legal and Institutional Framework’ – comprises illuminating treatments of such basic subjects of international law as the legal nature of states, international organisations, non-governmental organisations, treaties and other international acts such as resolutions of the General Assembly and other international bodies, EC regulations and directives, the nature and uses of customary law, the general principles of law, and general problems of compliance, implementation and enforcement, and dispute settlement. These pages amply demonstrate that the environmental lawyer has to be equipped with a good basic knowledge of general international law before he can even get properly started on the study of environmental law. Likewise, the general student of international law will, in these pages, find illumination in plenty on these basic questions of general public international law; and indeed also of EC law. He will also find, in the later pages, valuable light upon such difficult questions as ‘sovereignty over natural resources’, the *actio popularis*, ‘standards’ and ‘soft law’; techniques to encourage compliance, such as reporting; the

position in war and armed conflict; general principles of liability and reparation, as well as specifically environmental notions such as the so-called 'polluter pays' principle.

It is in Part II of the book that the author broaches the immense task of setting out, and analysing in some detail, the developing substantive law for the protection of the environment and for the conservation of resources, and of biological diversity. Here, again, when it comes to classifying the areas for purposes of exposition, some of the general headings are familiar to every international lawyer: the atmosphere and outer space; oceans and seas; freshwater resources; hazardous substances and activities; waste; the polar regions; and European Community environmental law. It is in itself a valuable lesson to be able thus to see the shape and dimensions of environmental law as a whole. To establish the boundaries of a subject is an important step towards its intellectual comprehension.

It is a trite observation that environmental problems, though they closely affect municipal laws, are essentially international; and that the main structure of control can therefore be no other than that of international law. Yet one result of this study of environmental law as a whole is to show that the environmental factor has already so infiltrated so many of the traditional areas of public international law that it is no longer possible adequately to study many of the main headings of public international law without taking cognisance of the modifying influence in that particular respect of the principles, laws and regulations of environmental law. There are many instances; one that might not be the first possibility that comes to mind is the law concerning foreign investment. Many readers will remember the controversies of the 1960s and 1970s over the efforts to strike some sort of balance between the principle of national sovereignty over a nation's natural resources, and the competing principles limiting the sovereign rights of expropriation without proper compensation for the foreign investment in those resources. At the present time, this is an area of the law which can no longer be appreciated without adding the considerable factor of the need to protect the environment and therefore the need to limit certain kinds of exploitation, whether foreign or domestic, which cause international waste and harm. The problem of the destruction of tropical rainforests is probably the most dramatic and best known example of a national resource itself becoming an international problem.

Another matter that needs to be thought about is how to make the law of the environment more efficient. The existing principles, laws, case law, regulations, standards, resolutions and so on, already constitute a vast and complicated apparatus of paper and of powers conferred upon certain bodies or persons. When it is considered that the existing law is, however, also seemingly quite inadequate to the problem and that much more may be needed, one is bound to ask questions about how much of the world's resources, wealth, energy and intellect is to be spent on this task of regulation and control. Pollution resulting from an excess of the complication and sheer number of laws, regulations and officials is by no means the least of the threats to our living environment. This book is an important first step towards rationalisation, for it does, by its very able and effective exposition, enable one to see the dimensions of the problem and to get some sort of conspectus of the existing legal apparatus.

Another matter of concern is the need to keep laws and regulations in this area reasonably flexible and open when necessary to changes of direction. Good laws on the environment are driven, or should be driven, by the lessons to be learned from the natural sciences and from technology. But scientists are not by any means always in agreement. It is reasonable to assume, moreover, that the enormous sums spent upon further scientific and technological research

imply that the scene of scientific ‘fact’ is liable to change importantly and even suddenly; for, if not, it is difficult to see what this expensive endeavour is about. For an example of this kind of effect, it is necessary only to mention how new scientific knowledge of the dangers from dioxins have put into a wholly new perspective erstwhile schemes for conserving non-renewable sources of energy using instead the combustion of mixed wastes. We need, therefore, a law of the environment that can change with the changes in the scientific world; otherwise it will quickly and most damagingly be enforcing outmoded science. But to achieve change in international regulations, without thereby merely adding more layers of regulation, is technically by no means an easy task or even always a possible one.

But the matter goes deeper than these preoccupations, important as they are. Humanity is faced with a multifaceted dilemma. There seems to be an urgent need for more and more complex regulation and official intervention; yet this is, in our present system of international law and relations, extremely difficult to bring about in a timely and efficient manner. The fact of the matter surely is that these difficulties reflect the increasingly evident inadequacy of the traditional view of international relations as composed of pluralistic separate sovereignties, existing in a world where pressures of many kinds, not least of scientific and technological skills, almost daily make those separate so-called sovereignties, in practical terms, less independent and more and more interdependent. What is urgently needed is a more general realisation that, in the conditions of the contemporary global situation, the need to create a true international society must be faced. It needs in fact a new vision of international relations and law. This is a matter that takes us beyond the scope of this book. But those who doubt the need for radical changes in our views of, and uses of, international law should read Philippe Sands’ book and then tell us how else some of these problems can be solved. After all, this is not just a question of ameliorating the problems of our civilisation but of our survival.

Sir Robert Jennings QC

Former Judge and President of the International Court of Justice;  
sometime Whewell Professor of International Law in the University of  
Cambridge; Honorary Bencher of Lincoln’s Inn; former President of the  
Institut de Droit International

## Preface and Acknowledgements to the Fourth Edition

In its fourth edition, *Principles of International Environmental Law* affirms the consolidation of international environmental law as a central part of the international legal order. Major treaty regimes cover virtually all environmental issues, with new treaties now in place for mercury pollution (2013 Minamata Mercury Convention) and climate change (2015 Paris Agreement). Case law on environmental and natural resource issues continues to grow, and there is considerable evidence that practitioners and judges are engaging more fully with questions regarding science and expert evidence in factually complex and technical disputes. In the period since the third edition, linkages between international environmental law and other areas of international law have deepened and broadened. This is also reflected in policy instruments, such as the 2015 United Nations Sustainable Development Goals, which bring together issues of development, poverty eradication and disaster management with environmental protection in an international sustainable development agenda for the period up to 2030. However, as we noted in the third edition preface, extensive legal development in the field has not satisfactorily addressed the most pressing environmental problems. With the exception of the ozone treaty regime – hailed as a success for its role in reversing ozone depletion – international environmental law has not provided a solution in the key areas of climate change, marine pollution and biodiversity loss. More than ever, the subject of international environmental law is approaching a critical point: can it deliver real protections, or will its impact be merely marginal or cosmetic?

Like the previous editions, this edition is intended to provide a comprehensive overview of those rules of public international law that have as their object the protection of the environment. We have sought to state the law as of March 2017. Necessarily, given the vast breadth of the subject and the level of detail now available on some specific topics (climate change, oceans, trade, biodiversity are leading examples here), the book's account of the subject area cannot be exhaustive. In this edition, we have sought to improve the book's coverage of important areas such as climate change (with a new chapter which incorporates the latest developments under the Paris Agreement), oceans and fisheries, and biodiversity. In respect of the latter two topics, the book has again benefited from the serious contributions made by the expert and experienced authors of these revised chapters, Ruth MacKenzie (Chapter 10) and Adriana Fabra (Chapter 11), to whom we extend our deep appreciation. We have also strengthened the critical dimension of our analysis of developments in international environmental law, including the case law, which is integrated with the central themes and challenges for the field identified in Chapters 1 (introduction) and 19 (future developments). Finally, we have streamlined content to make

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clearer the connections between different topics (e.g. hazardous substances and wastes in Chapter 12, environmental information and technology transfer in Chapter 15, and trade, investment and intellectual property rights treated collectively in Chapter 18 on international economic law and the environment), and introduced ‘chapter outline’ and ‘further reading’ sections in each chapter to provide guidance to readers on the chapter content, as well as areas for further research.

Like the third edition, this edition is co-authored, by Philippe Sands at University College London and Jacqueline Peel of Melbourne University, Australia. There are many people from London, Melbourne and elsewhere who deserve particular thanks for their assistance with the work for this edition.

In London, we express our thanks to Raj Bavishi, Remi Reichhold, Josh Roberts and Christine Wortmann for their superb and timely research assistance, and to Liz Milner and Louise Rands for admirable administrative support. Thanks also to Dean Hazel Genn and the Faculty of Law at University College London for the continued support, including financial support, to cover the costs of research assistance.

At Melbourne, the book – and particularly the new climate change chapter – benefited enormously from the research assistance offered by Katherine Lake. Also deserving of many thanks are students in the Melbourne Law School’s Library Research Service supervised by Robin Gardiner. Our gratitude and recognition go to Chris Kaias who worked on finding all the latest environmental cases and Stephen Polesel who tracked down numerous treaty developments.

For Chapter 11, on oceans, seas and marine living resources, we wish to acknowledge and offer thanks for the research assistance of Daria Shvets, PhD Researcher at the Faculty of Law, University Pompeu Fabra, in Barcelona.

At Cambridge University Press we would like to thank Finola O’Sullivan, Marta Walkowiak and Caitlin Lisle. As ever, such errors or omissions as might have crept in remain our full responsibility.

We express our deep appreciation to Tom Hammick for permission to reproduce on the cover a copy of his artwork, ‘Two Beds’.

Finally, our greatest thanks are to our families: in Australia, Michael Findlay, Aly and Will; and, in London, Natalia, Katya, Lara and Leo.

Philippe Sands  
University College London

Jacqueline Peel  
Melbourne Law School

31 March 2017

## Preface and Acknowledgements to the Third Edition

This third edition of *Principles of International Environmental Law* provides further confirmation that international environmental law is ‘well established’ and ‘a central part of the international legal order’, as the second edition already recognised. In the intervening decade, our appreciation of the complexity of environmental problems, and their deep interlinkages with other issue areas, particularly in the economic field, has grown. In response, international environmental law has also developed increasing complexity, although largely through the consolidation and expansion of existing regimes rather than through the creation of new instruments. Case law on environmental and natural resource issues continues to be a burgeoning area of international litigation, confronting practitioners and judges with difficult new questions such as how to approach science and expert evidence in factually complex and technical disputes. Despite the myriad of legal developments, the most complex environmental problems facing international law remain some of the most pressing, particularly, climate change, marine pollution and biodiversity loss. In a certain sense, the subject of international environmental law is about to meet the point at which the rubber hits the road: can it deliver real protections, or will its impact be only marginal and cosmetic?

Like the previous editions, this edition is intended to provide a comprehensive overview of those rules of public international law that have as their object the protection of the environment. We have sought to state the law as of July 2011. Necessarily, given the vast breadth of the subject and the level of detail now available on some specific topics (climate change, fisheries, trade, biodiversity are leading examples here), the book’s account of the subject area cannot be exhaustive. We have, however, sought to improve the book’s coverage of key areas such as atmospheric protection and climate change, oceans and fisheries and biodiversity. In respect of the latter two topics, the book has benefited enormously from the serious contributions made by the expert and experienced authors of these revised chapters, Adriana Fabra (Chapter 9) and Ruth MacKenzie (Chapter 10), to whom we extend our deep appreciation. We have also introduced a more critical dimension to our analysis of developments in international environmental law, including the case law, and sought to tie this analysis to central themes or challenges for the field, detailed in Chapter 1. Finally, the book includes a new concluding chapter (Chapter 21) that considers the future directions for and challenges facing international environmental law, matters on which we remain sanguine.



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This edition is co-authored, in contrast to previous editions, with the introduction of Jacqueline Peel of Melbourne University, Australia, who builds on her previous role and now comes on board as a second author.

There are many people from both London and Melbourne who deserve particular thanks for their assistance with the work for this edition.

In London, we express our thanks to Raj Bavishi, Remi Reichhold, Josh Roberts and Christine Wortmann for their superb and timely research assistance, and to Liz Milner and Louise Rands for admirable administrative support. Thanks also to Dean Hazel Genn and the Faculty of Law at University College London for the continued support, including financial support to cover the costs of research assistance.

At Melbourne, the book benefited enormously from the tireless research assistance offered by Emma Cocks. Also deserving of many thanks is the team of students in the Melbourne Law School's Library Research Service supervised by Robin Gardiner. Their extensive efforts to provide updates on legal developments and to track down all the latest relevant treaties warrant our gratitude and recognition: they are Christopher Lum, Cosima McRae, Nahal Zebarjadi, Harvey Liu, Jenny Huynh and Claire Kelly. The Melbourne Law School also provided important support for the project in other ways, most particularly through the provision of seed funding to allow the employment of research assistance.

At Cambridge University Press we would like to thank Finola O'Sullivan and Sinéad Moloney. As ever, such errors or omissions as might have crept in remain our full responsibility.

We express our deep appreciation to Miquel Barceló for permission to reproduce a copy of his etching *Elefandret*, and also to Victoria Comune for her support.

Finally, our greatest thanks are to our families: in Australia, Michael Findlay, Aly and Will; and, in London, Natalia, Katya, Lara and Leo.

Philippe Sands  
University College London

Jacqueline Peel  
Melbourne Law School

30 November 2011

## Preface and Acknowledgements to the Second Edition

The second edition of *Principles of International Environmental Law* indicates that the legal aspects of international environmental issues are of growing intellectual and political interest, and that they have moved beyond the situation I described nearly ten years ago as reflecting ‘an early phase of development’. It is apparent from the new material which this edition treats – new conventions, new secondary instruments, new (or newly recognised) norms of customary law, and a raft of new judicial decisions – that international environmental law is now well established and is a central part of the international legal order. It is also clear that international environmental law has reached new levels of complexity, in particular as it has become increasingly integrated into other social objectives and subject areas, particularly in the economic field. The burgeoning case law, and the increased involvement of practitioners, suggests that it can no longer be said that international environmental law is, as a branch of general public international law, at an early stage of practical development.

Like the first edition, this edition (together with the accompanying volume of international documents for students) is intended to provide a comprehensive overview of those rules of public international law which have as their object the protection of the environment. Those rules have become more numerous and complex, but also more accessible: the advent of the Internet often means that material which was previously difficult to track down – for example, information as to the status, signature and ratification of treaties, and acts and decisions of Conferences of the Parties and subsidiary bodies – is now relatively easy to obtain. But the Internet also increases the danger of becoming overwhelmed by the sheer quantity of material that is now available, a risk which is exacerbated by the very extensive (and growing) secondary literature which is produced every year, only a small proportion of which may really be said to indicate real insights into new developments. This background necessarily means that what is gained on breadth may be lost – at least in some areas – on depth. This comprehensive account cannot address all of the details that now dominate specific areas – trade, fisheries and climate change spring immediately to mind – and the reader will need to refer to more detailed accounts of particular sectors, and the websites of various conventions, to obtain many of the details. Over the past decade, the body of law has again increased dramatically; I have sought to state the law as it was on 1 January 2003.

This second edition has largely been inspired by my endeavours as an academic and practitioner over the last eight years, in particular contact with my academic colleagues at London and New York Universities and professional contact in connection with the various international cases I have been fortunate to be involved in. Again, it is impossible to acknowledge here all the

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sources of input and generous support received since 1995. It is appropriate, however, to acknowledge those colleagues and friends who have exercised particular influence, directly or indirectly. At London University, Matt Craven and Michael Anderson have provided great support, as have many other colleagues at SOAS, together with Richard McCrory, Jane Holder and Jeffrey Jowell at my new home at University College London, with help too from Ray Purdue and Helen Ghosh. At New York University, I could not have wished for greater collegiality and friendship than that offered by Dick Stewart, together with the support offered over many years by Tom Franck, Andy Lowenfeld, Eleanor Fox, Iqbal Ishar, Norman Dorsen, Ben Kingsbury, Radu Popa, Vicki Been and Ricky Revesz, as well as Jane Stewart, and for heaps of administrative support from Jennifer Larmour. At the Project on International Courts and Tribunals, Shep Forman, Ruth MacKenzie, Cesare Romano, Thordis Ingadottir and Noemi Byrd have also provided unstinting support. My former colleagues at FIELD have continued to provide support and assistance, including Jake Werksman, Farhana Yamin, Jurgen Lefevre, Alice Palmer and Beatrice Chaytor.

Many of my students and former students at London and New York Universities have provided long hours of patient assistance. Two colleagues have provided particular support, to whom I extend special thanks and appreciation: Jacqueline Peel, now at the Melbourne University Faculty of Law, who has expended great efforts in assisting with research and in drafting of the highest quality and who, I hope, might become the co-author of this book in its third edition; and Paolo Galizzi, now at Imperial College London, who is co-authoring the student edition of basic documents to accompany this volume. Thanks also go to Valeria Angelini, Lauren Godshall, Ed Grutzmacher, Victoria Hallum, Miles Imwalle, Jimmy Kirby, Lawrence Lee, Bruce Monnington, Lillian Pinzon, Katarina Kompari, Denise Ryan, Anna-Lena Sjolund, Eva Stevens-Boenders and Mimi Yang. Thanks also go to Tim Walsh for electronic wizardry, and – once again – to Louise Rands in deepest Devon for helping to bring the manuscript in on time.

In other places – courts and tribunals and conferences – I have benefited inestimably from the learning and experience offered to me by James Crawford and Pierre-Marie Dupuy, and from Boldizsar Nagy, Vaughan Lowe, Chris Thomas, Laurence Boisson de Chazournes and Adriana Fabra. My colleagues at Matrix Chambers have created an environment which encourages ideas to be generated and tested, supportive of both the environmental law and the international law elements which make up this book and the experience it reflects.

Finally, I would like to thank Finola O’Sullivan and Jennie Rubio at Cambridge University Press. Needless to say, such errors or omissions as might have crept in remain my full responsibility.

For her efforts on a day-to-day basis – and every day – my greatest thanks are to Natalia Schiffrin, for all her help, and for continuing to remind me of what is important in life and what isn’t. And of course this time she has had a little help from Leo, Lara and Katya, each of whom has contributed uniquely over the last eight years.

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## Preface and Acknowledgements to the First Edition

*Principles of International Environmental Law* marks the culmination of that aspect of my professional activities which was triggered by the accident at the Chernobyl nuclear power plant, on 26 April 1986. At that time I was a research fellow at the Research Centre for International Law at Cambridge University, working on international legal aspects of contracts between states and non-state actors, and not involved in environmental issues. With the active support of the Research Centre's Director, Eli Lauterpacht, I began to examine the international legal implications of the Chernobyl accident, which indicated that the legal aspects of international environmental issues were of intellectual and political interest, and still in an early phase of development. This led to several research papers, a book and various matters involving the provision of legal advice on international environmental issues. My interest having been aroused, the implications of environmental issues for public international law provided a rich seam which has sustained me for several years, and resulted in my founding, with James Cameron, what is now the Foundation for International Environmental Law and Development (FIELD). That, in turn, has provided me with the fortunate opportunity to participate in a number of international negotiations, most notably those preparatory to UNCED and the Climate Change Convention, and to develop an international legal practice which is varied, unpredictable, entertaining, often challenging and occasionally frustrating.

This book, together with the accompanying volumes of international documents (Volumes IIA and IIB) and EC documents (Volume III), is intended to provide a comprehensive overview of those rules of public international law which have as their object the protection of the environment. I hope that it will be of some use to lawyer and non-lawyer alike, whether working for government, international organisations, non-governmental organisations and the private sector, or having an academic or other perspective. Its structure and approach reflect my belief that international environmental efforts will remain marginal unless they are addressed in an integrated manner with those international economic endeavours which retain a primary role in international lawmaking and institutional arrangements, and unless the range of actors participating in the development and application of international environmental law continues to expand. In that regard, it is quite clear that international environmental law remains, as a branch of general public international law, at an early stage of practical development, in spite of the large body of instruments and a burgeoning literature. Over the past decade the body of law has increased dramatically, and only the best-equipped researchers will be able to keep up with all developments as they occur. I have sought to state the law as it was on 1 January 1993, although

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the diligent reader will note that on some aspects more recent developments have also been treated.

*Principles of International Environmental Law* therefore marks the culmination of an initial phase of my endeavours as an academic and practitioner. Its roots run deep and wide, and it is impossible to acknowledge here all the sources of input and generous support which I have received over the past several years. It seems to me to be quite appropriate, however, to acknowledge those teachers, colleagues and friends who have exercised particular influence, directly or indirectly.

The fact that I became interested in international law at all is largely due to my first teacher of international law, Robbie Jennings, then in his final year at Cambridge before moving to The Hague: I am hugely grateful for his inspiring encouragement and support ever since, particularly for taking the view that the environment was, even several years ago, properly a subject for consideration in its international legal aspect. Eli Lauterpacht gave me my first professional 'break' and taught me, in particular, the value of a practical approach and the importance of rigour. Even at a distance, Philip Allott constantly reminds me of the need to think about the bigger picture. And lest I should slip, David Kennedy has been a critical inspiration in reminding me that there is another way.

Colleagues at London University (particularly Ian Kennedy at King's College and Peter Slinn at the School of Oriental and African Studies) have provided great support in allowing me the flexibility to combine teaching with practical efforts. I would also like to record my debt to Tom Franck for introducing me to New York University Law School, and to Dean John Sexton for giving me a more regular perch from which to base my forays to the United Nations.

I am tremendously indebted to all my colleagues at FIELD. I would like to thank the Board of Trustees, and especially John Jopling, the Chairman, for allowing me to devote considerable time to this project, as well as Marian Bloom, Frances Connelly, Rona Udall and Roger Wilson for their administrative support. Many FIELD interns provided long hours of patient assistance, and I want especially to thank Carolyn d'Agincourt, Mary Beth Basile and Kiran Kamboj for going way beyond the call of duty during their extended internships, and Joanna Jenkyn-Jones, Hugo Jolliffe and Penny Simpson for helping me to get over the final hurdles more easily. But it is to FIELD's lawyers that I extend especially warm thanks for helping me to fulfil my other obligations and for always being available to provide information and critical insights on those areas in which they are expert. James Cameron is an inspirational friend, colleague and co-founder of FIELD, and I feel fortunate to have found a working partner who is able to provide me with the space and support to get on with my own efforts while reminding me that I also have, in all senses, broader responsibilities. Greg Rose (now at the Australian Department of Foreign Affairs and Trade), Jake Werksman and Farhana Yamin have been outstanding colleagues and friends. Richard Tarasofsky and Mary Weiss, my collaborators on Volumes II and III, assisted also in the preparation of this volume. FIELD's many supporters have also contributed, indirectly but significantly, to the production of this book, and I would like to thank, in particular, Janet Maughan (Ford Foundation), Mike Northrop (Rockefeller Brothers Fund), Ruth Hennig (John Merck Fund) and Marianne Lais Ginsburg (German Marshall Fund) for supporting FIELD's efforts and enabling me to participate in some of the important international legal developments since 1989. At my chambers, I want to thank Ailsa Wall for her magnificent typing efforts, and Paul Cooklin for his accommodation of my rather peripatetic needs.

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For their efforts on a day-to-day basis my deepest gratitude, however, is reserved for two individuals without whose support it is unimaginable that this book could have been completed. Louise Rands has run my office for the past two and a half years with the greatest efficiency, effectiveness and humour anyone could hope to benefit from, maintaining order (and priorities) in the maelstrom of activities and obligations that frequently engulf FIELD's offices. Natalia Schiffrin has been absolutely fabulous in putting up with the demands that the book placed on our daily routine, and reminding me of what is important in life and what isn't.

I must also acknowledge the assistance of numerous other individuals, who enabled me to obtain access to information or to participate in various meetings, in particular: Andronico Adede (Office of Legal Affairs, United Nations); Raymondo Arnaudo and Genevieve Ball (United States Department of State); Dr John Ashe (Permanent Mission of Antigua and Barbuda to the United Nations); Cath Baker, A. M. Forryan and Susan Halls (UK Foreign and Commonwealth Office); Germaine Barikako (OAU); William Berenson (OAS); Giselle Bird (Department of Foreign Affairs and Trade, Australia); Celine Blais (External Affairs and International Trade, Canada); Dan Bodansky (University of Washington School of Law); Laurence Boisson de Chazournes (Institut des Hautes Etudes, Geneva); M. Borel (Departement Federal des Affaires Etrangeres, Switzerland); Jo Butler and Michael Zammit-Cutajar (Climate Change Convention Interim Secretariat); G. de Proost (Ministere des Affaires Etrangeres, Belgium); Juan-Manuel Dias-Pache Pumareda (Ministerio de Asuntes Exteriores, Spain); Dr Emonds (Bundesministerium fur Umwelt, Naturschutz und Reaktorsicherheit, Germany); Philip Evans (Council of the European Communities); Denis Fada (FAO); Dr Antonio Fernandez (International Commission for the Conservation of Atlantic Tunas); Dr Charles Flemming (Permanent Representative of St Lucia to the United Nations); Nigel Fyfe and Paul Keating (New Zealand Ministry of External Affairs and Trade); Dr R. Gambell (International Whaling Commission); John Gavitt (CITES Secretariat); Professor Gunther Handl (Editor, *Yearbook of International Environmental Law*); Beatrice Larre (OECD); Howard Mann (Environment Canada); Norma Munguia (Mexican Embassy, Washington); Lincoln Myers (formerly Minister of Environment, Trinidad and Tobago); Boldizar Nagy (Associate Professor, Eotvos Lorand University); Bernard Noble (Deputy Registrar, International Court of Justice); Manoel Pereyra (ICAO); Amelia Porges (GATT); Marie-Louise Quere-Messing (United Nations); N. Raja Chandran (Ministry of Foreign Affairs, Malaysia); Patrick Reyners (OECD-NEA); Keith Richmond (FAO); Stan Sadowski (Paris/Oslo Commissions); Candice Stevens (OECD); Wouter Sturms (IAEA); Patrick Szell (UK Department of Environment); Dr Alexandre Timoshenko (UNEP); Eduardo Valencia Ospina (Registrar, International Court of Justice); Robert van Lierop (formerly Permanent Representative of Vanuatu to the United Nations); Makareta Waqavonova (South Pacific Forum); and Linda Young (IMO).

Finally, I would like to thank Vaughan Lowe for encouraging me to write this textbook (and the supporting volumes of documents), for providing clear intellectual guidance and support, and for introducing me to Manchester University Press. At the Press, Richard Purslow has been as patient and supportive an editor as one could possibly hope to find, and his colleagues Jane Hammond Foster, Elaine White and Celia Ashcroft have provided enormous assistance. Needless to say, such errors or omissions as might have crept in remain my full responsibility.

Philippe Sands  
 London  
 1 November 1994