

THE IMPACT OF MARINE POLLUTION

Edited by
Douglas J. Cusine and John P. Grant

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POLLUTION, CLIMATE AND CHANGE



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Volume 2

THE IMPACT OF
MARINE POLLUTION



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**EDITED BY DOUGLAS J. CUSINE
AND JOHN P. GRANT**

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INTERNATIONAL INSTRUMENTS

(arranged chronologically and with the popular name italicised)

International Convention for the Prevention of Pollution of the Sea by Oil 1954 (the *1954 Convention*), 1958 U.K.T.S. No. 56; Cmnd. 595; *New Directions in the Law of the Sea*, Vol. II, 557

International Convention on the Limitation of Liability of Owners of Seagoing Ships 1957, 1968 U.K.T.S. No. 52; Cmnd. 3678

Convention on the Territorial Sea and Contiguous Zone 1958, 1965 U.K.T.S. No. 3; Cmnd. 2511; *New Directions in the Law of the Sea*, Vol. I, 1

Convention on the High Seas 1958, 1963 U.K.T.S. No. 5; Cmnd. 1929, *New Directions in the Law of the Sea*, Vol. I, 257

Convention on the Continental Shelf 1958, 1964 U.K.T.S. No. 39; Cmnd. 2422; *New Directions in the Law of the Sea*, Vol. I, 101

International Regulations for Preventing Collisions at Sea 1960, 1966 U.K.T.S. No. 23; Cmnd. 2956; *New Directions in the Law of the Sea*, Vol. II, 509

International Convention for the Safety of Life at Sea 1960 (*SOLAS* 1960), 1965 U.K.T.S. No. 65; Cmnd. 2812

Paris Convention on Third Party Liability in the Field of Nuclear Energy 1960, 1968 U.K.T.S. No. 69; Cmnd. 3755

The 1962 Amendments to the International Convention for the Prevention of Pollution of the Sea by Oil (the *1962 Amendments*), 1967 U.K.T.S. No. 59; Cmnd. 3354; *New Directions in the Law of the Sea*, Vol. II, 567

Brussels Convention on the Liability of Operators of Nuclear Ships 1962, Leg/Conf/C.2/SR 13

Convention Supplementary to the Paris Convention on Third Party Liability in the Field of Nuclear Energy 1963, 1975 U.K.T.S. No. 44; Cmnd. 5948

International Convention on Load Lines 1968, 1968 U.K.T.S. No. 58; Cmnd. 3708

The 1969 Amendments to the International Convention for the Prevention of Pollution of the Sea by Oil (the *1969 Amendments*), 1978 U.K.T.S. No. 21; Cmnd. 7094; *New Directions in the Law of the Sea*, Vol. II, 580

International Convention on Civil Liability for Oil Pollution Damage

International Instruments

- 1969 (CLC), 1975 U.K.T.S. No. 106; Cmnd. 6183; (1970) 9 I.L.M. 45; *New Directions in the Law of the Sea*, Vol. II, 602
- International Convention relating to Intervention on the High Seas in Cases of Oil Pollution Casualties 1969 (*Intervention Convention*), 1975 U.K.T.S. No. 77; Cmnd. 6056; (1970) 9 I.L.M. 25; *New Directions in the Law of the Sea*, Vol. II, 592
- Tanker Owners' Voluntary Agreement concerning Liability for Oil Pollution 1969 (*TOVALOP*), (1969) 8 I.L.M. 497; *New Directions in the Law of the Sea*, Vol. II, 641
- Vienna Convention on the Law of Treaties 1969, (1969) 8 I.L.M. 679
- The 1971 Amendments to the International Convention for the Prevention of Pollution of the Sea by Oil (the *1971 Amendments*), 1972 U.K.T.S. Misc. No. 36; Cmnd. 5071; *New Directions in the Law of the Sea*, Vol. II, 589
- International Convention for the Establishment of an International Fund for Compensation for Oil Pollution Damage 1971 (*Fund Convention*), 1978 U.K.T.S. No. 95; Cmnd. 7383; (1972) 11 I.L.M. 284; *New Directions in the Law of the Sea*, Vol. II, 611
- Convention Relating to Civil Liability in the Field of Maritime Carriage of Nuclear Material 1971, (1972) 11 I.L.M. 277; *New Directions in the Law of the Sea*, Vol. II, 664
- Treaty on the Prohibition of the Emplacement of Nuclear Weapons and Other Weapons of Mass Destruction on the Seabed and Ocean Floor and in the Subsoil 1971, *New Directions in the Law of the Sea*, Vol. I, 288
- Contract Regarding an Interim Supplement to Tanker Liability for Oil Pollution 1971 (*CRISTAL*), (1971) 10 I.L.M. 137; *New Directions in the Law of the Sea*, Vol. II, 646
- Convention on the Prevention of Marine Pollution by Dumping from Ships and Aircraft 1972 (*Oslo Dumping Convention*), 1975 U.K.T.S. No. 106; Cmnd. 6183; (1972) 11 I.L.M. 262
- Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter 1972 (*London Dumping Convention*), 1978 U.K.T.S. No. 43; Cmnd. 6486; (1972) 11 I.L.M. 1291
- Convention on International Regulations for Preventing Collisions at Sea 1972, 1977 U.K.T.S. No. 77; Cmnd. 6962; (1973) 12 I.L.M. 734; *New Directions in the Law of the Sea*, Vol. IV, 245
- International Convention for the Prevention of Pollution from Ships 1973 (*MARPOL*), 1974 U.K.T.S. Misc. No. 26; Cmnd. 5748; (1973) 12 I.L.M. 1319; *New Directions in the Law of the Sea*, Vol. IV, 345
- Protocol to the International Convention relating to Intervention on

International Instruments

the High Seas in Cases of Oil Pollution Casualties 1973, 1975 U.K.T.S. Misc. No. 12; Cmnd. 6038; (1974) 13 I.L.M. 165; *New Directions in the Law of the Sea*, Vol. IV, 451

Convention on the Prevention of Marine Pollution from Land-Based Sources 1974, 1978 U.K.T.S. No. 64; Cmnd. 7251; (1974) 13 I.L.M. 352

International Convention for the Safety of Life at Sea 1974 (*SOLAS* 1974), (1975) 14 I.L.M. 959

Convention on the Protection of the Marine Environment of the Baltic Sea Area 1974 (*Helsinki Convention*), (1974) 13 I.L.M. 546

Offshore Pollution Liability Agreement 1975 (*OPOL*), (1974) 13 I.L.M. 1409 and (1975) 14 I.L.M. 147

Merchant Shipping (Improvement of Standards) Recommendation 1976, (1976) 15 I.L.M. 1293

Barcelona Convention for the Protection of the Mediterranean Sea against Pollution 1976 (*Barcelona Convention*), (1976) 15 I.L.M. 290

I.L.O. Convention on Minimum Standards in Merchant Ships 1976, (1976) 15 I.L.M. 1288.

Informal Composite Negotiating Text 1977 (*ICNT*), U.N. Doc. A./Conf/63/WP/10; (1977) 16 I.L.M. 1108

Convention on Civil Liability for Oil Pollution Damage from Offshore Operations 1976, (1977) 16 I.L.M. 1450

Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological and Toxic Weapons of Mass Destruction 1972, 1976 U.K.T.S. No. 11; Cmnd. 6397; (1972) 11 I.L.M. 309

Protocol to the International Convention for the Prevention of Pollution from Ships 1978, 1978 U.K.T.S. Misc. No. 27; Cmnd. 7347; (1978) 17 I.L.M. 546

Protocol to the International Convention for Safety of Life at Sea 1978, (1978) 17 I.L.M. 579

International Convention on Standards of Training, Certification and Watchkeeping for Seafarers 1978, IMCO Doc. Stw/Conf/13, 5 July 1978



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ABBREVIATIONS AND DEFINITIONS

ACOPS	Advisory Committee on Oil Pollution of the Sea
A.C.	Appeal Cases
A.J.I.L.	American Journal of International Law
All E.R.	All England Law Reports
Art.	Article
barrel	1 Barrel is equivalent to 34.97261 Imperial gallons
B.Y.I.L.	British Yearbook of International Law
CBT	Clean Ballast Tanks
CLC	International Convention on Civil Liability for Oil Pollution Damage
Cmnd.	Command Paper (UK)
COW	Crude Oil Washing
CUEP	Central Unit on Environmental Pollution (UK)
Cur.Leg.Prob.	Current Legal Problems
D.	Dunlop, Court of Session Reports (Scotland)
D.T.I.	Department of Trade and Industry (UK)
dwt	Deadweight. Deadweight is the number of tons (of 2240 lb) required to sink a vessel to her load line. The deadweight therefore includes cargo, bunkers and stores
F.2d.	Federal Reporter, 2nd Series (USA)
F.Supp.	Federal Supplement (USA)
<i>H.C. Deb.</i>	House of Commons Reports (UK)
<i>H.L. Deb.</i>	House of Lords Reports (UK)
HMSO	Her Majesty's Stationery Office
I.B.A.	International Bar Association
I.C.L.Q.	International and Comparative Law Quarterly
I.C.J. Rep.	International Court of Justice Reports
IGS	Inert Gas System
I.L.A.	International Law Association
I.L.C.	International Law Commission
I.L.M.	International Legal Materials
I.L.O.	International Labour Organisation
IMCO	Inter-Governmental Maritime Consultative Organisation
J.B.L.	Journal of Business Law

Abbreviations and Definitions

J.M.L.C.	Journal of Maritime Law and Commerce
L.M.C.L.Q.	Lloyd's Maritime and Commercial Law Quarterly
LOT	Load-on-Top
N.L.J.	New Law Journal
O.J.	Official Journal (European Community)
P.C.I.J.	Permanent Court of International Justice
Q.B.	Queen's Bench Reports (England)
R.I.A.A.	(UN) Reports of International Arbitral Awards
S.	Section
SBT	Segregated Ballast Tanks
Sch.	Schedule
S.C.	Session Cases (Scotland)
S.D.L.R.	San Diego Law Review
S.I.	Statutory Instruments (UK)
S.Rep.	Senate Reports (USA)
tonne	A metric unit of weight equivalent to 0.984207 UK tons (Long Tons) and 1.10231 US tons (Short Tons)
T.I.S.C.	Trade and Industry Sub-Committee, Select Committee of the House of Commons (UK)
ULCC	Ultra Large Crude Carrier
U.K.T.S.	United Kingdom Treaty Series
UN	United Nations
U.S.	United States Supreme Court Reports
U.S.C.	United States Code
U.Tor.L.J.	University of Toronto Law Journal
VLCC	Very Large Crude Carrier
Yale L.J.	Yale Law Journal
Zaö R.V.	Zeitschrift Für Ausländisches öffentliches Recht und Völkerrecht

The following abbreviations are used for the Merchant Shipping Acts:

- the 1894 Act: Merchant Shipping Act 1894
- the 1906 Act: Merchant Shipping Act 1906
- the 1949 Act: Merchant Shipping (Safety Convention) Act 1949
- the 1958 Act: Merchant Shipping (Liability of Shipowners & Others)
Act 1958
- the 1965 Act: Merchant Shipping Act 1965
- the 1971 Act: Merchant Shipping (Oil Pollution) Act 1971
- the 1974 Act: Merchant Shipping Act 1974
- the 1979 Act: Merchant Shipping Act 1979

PREFACE

The genesis of this book was the belief on the part of the editors that books on marine pollution tended to be of two sorts, those giving a general overview of the relevant international and municipal legal provisions, and those concentrating on one aspect, or incident, of marine pollution, often embodying not just legal, but technical and practical, considerations. The former type of book may be of interest only to students and those wishing an outline of the relevant law; the latter type of book may be of interest only to those with an active involvement in the oil industry, the shipping industry, or in governments or international institutions. The editors believe that there is a need to produce under one cover a book that to some extent bridges that gap.

The original intention was for the editors of this volume to produce the entire text themselves. While they might have been able to identify the relevant law, they were conscious that they were unqualified to explain the technical and practical problems of marine pollution and their resolution.

The editors decided, therefore, to invite a number of individuals with expertise in various aspects of marine pollution to contribute chapters to the book. The editors themselves wrote the introduction and chapter (Chapter 1) setting out in broad terms the general legal framework. These are intended to set the scene for the later chapters, and an attempt has been made to refer from them to the more detailed discussion of certain issues later in the book.

One of the notorious problems of collections of essays is that they tend to be piecemeal and unco-ordinated. The editors intended to attempt to make the whole work into a coherent, systematic whole. It soon became clear that this was unnecessary, for the contributions were broadly compatible. Any further attempt by the editors to co-ordinate the contributions would, it was thought, reduce the value of each contribution.

From the outset it was recognised that it would be impossible to include discussion of every aspect of marine pollution. Accordingly, the editors have been selective. As the vast bulk of the international agreements on pollution, which have subsequently been incorporated into municipal law, emerge from the Inter-Governmental Maritime Consult-

ative Organisation, the work of IMCO merited consideration (Chapter 2). Conscious that there is now no dearth of international legislation on pollution, the authors thought it essential to include a contribution on what appears the major area of concern, the enforcement of these international standards (Chapter 3). The role of the oil companies and others as transporters of oil was another obvious area for inclusion (Chapter 4). It was initially thought necessary to include discussion of a number of important incidents, for example the *Torrey Canyon*, *Christos Bitas* and *Amoco Cadiz* incidents, but considerations of space and the realisation that these incidents would be considered in any event by the various contributors led to the conclusion that only the *Ekofisk Bravo* blow-out should be included (Chapter 5), largely to demonstrate the legal regime established for off-shore installations by Norway. Equally obvious, at least to the editors, was the role of insurance (Chapter 6).

While the main thrust of the book is clearly on marine pollution by oil, it was thought wise to include contributions on dumping of wastes at sea, on pollution from land-based sources and on the many problems caused by nuclear ships, nuclear cargo and the dumping of nuclear wastes (Chapters 7, 8 and 9). The editors wished to include some discussion of the legal rules applied in different parts of the world, and Europe and the United States were selected for inclusion (Chapters 10 and 11). However, throughout the book an attempt has been made to deal with the issues arising on an international and comparative basis, for it is abundantly clear that the resolution of most pollution problems cannot be achieved by each State acting on its own.

As this is not intended as a textbook, no table of cases or statutes has been included, but the UK Merchant Shipping Acts are referred to by abbreviations which are listed at the end of the list of Abbreviations and Definitions. A list of international instruments has been compiled to guide the reader to the source of the many international agreements, conventions and declarations that are referred to in the text, and to eliminate duplication of references to sources in the footnotes. The footnotes for each chapter are gathered at the end of the chapter.

The editors extend their gratitude to all the contributors, to Croom Helm, whose enthusiasm at times surpassed that of the editors and whose encouragement and assistance were unstinting; and to Mrs Fiona Chaplain of the University of Aberdeen and Miss Isabel Ballantyne of the University of Glasgow, who rendered the editors' illegible scrawl into typescript. The law is stated as at

1 March 1979 though it has been possible to take account of some later developments.

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J.P. Grant, Glasgow



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INTRODUCTION

The last twelve months will be remembered as the period which witnessed the *Amoco Cadiz*, *Eleni V*, *Christos Bitas*, *Litiopa*, *Andros Patria*, *Eso Bernicia* and many other incidents. I have suggested in Parliament that we tend to practise Government by catastrophe, because policies are formulated only when disasters occur (Lord Ritchie Calder, *ACOPS Annual Report 1979*, p. 2).

In 1978 alone we had the cases of the *Amoco Cadiz*, *Eleni V* and *Christos Bitas*, and it is only a matter of time before similar instances occur yet again (B. Sage, 'Bird Flare' in *Birds* Royal Society for Protection of Birds Magazine (Spring 1979)).

These statements are indicative of attitudes that are not at all uncommon in relation to questions of pollution. It is often stated that pollution is inevitable, incurable, catastrophic and inadequately attended to by governments and commercial concerns. All in all, the impression is given that pollution poses intractable problems, but this alleged intractability may too easily disguise the real issues that fall to be resolved.

Take, for example, the stranding of the *Amoco Cadiz*. The *Amoco Cadiz*, a Very Large Crude Carrier (VLCC) of 228,513 tons deadweight (119,000 gross registered tons), was owned by the Amoco Transport Company, was registered in Liberia and had an Italian crew. The vessel was on charter to an affiliate of Royal Dutch Shell for a voyage from the Arabian Gulf to Rotterdam, via Lyme Bay in the UK where she was to off-load most of her cargo. She was carrying 120,000 tons of light Iranian crude, 100,000 tons of light Arabian crude and several tons of her own fuel oil.

On 16 March 1978, her steering failed off the island of Ushant and she was carried by the current towards the north-west coast of Brittany. After a delayed and ultimately unsuccessful attempt to tow the vessel to sea, she stranded on the rocks off the Breton village of Portsall and nearly all of the oil which she was carrying entered the sea, polluting over 100 miles of the French coastline from Paimpol to Brest.

What, then, are the interests affected by the stranding of the *Amoco Cadiz*? At a State level, both the exporting countries and the importing countries were affected; for example, those countries for whom the

crude oil, once refined, was intended; the United States, as the country where the cargo owner was resident; Liberia, as the flag State. France suffered direct physical and economic damage. Her beaches were polluted, thus seriously affecting the tourist industry which provides a substantial income; the oil damaged or destroyed marine and bird life and local fishing activities, particularly oyster and lobster farming. Furthermore, she had to bear the initial cost of the extensive clean-up operation, which involved 3,000 French troops and many civilians; and French vessels were deployed to spray the sea with detergents over a considerable period, given that the bad weather and the condition of the vessel hampered their efforts. She also provided an initial compensation fund of just over \$1 million.

Immediately affected were the fishermen, hoteliers and residents of Brittany. Less immediately affected must be the consumers of petroleum products, for the loss of 230,000 tons of oil diminished the overall supply and must lead to higher prices, however negligible those increases might be on the price of a gallon of petrol. The crew of the vessel were put at risk and, while no lives were lost, some careers may have been irreparably damaged. The masters of the *Amoco Cadiz* and the tug *Pacific* were arrested and charged with polluting the seas and the French Government blamed the master of the *Amoco Cadiz* for the incident.

Two hundred and thirty thousand tons of oil were lost to the owning company, as was the vessel, a not infrequent occurrence in an incident resulting in extensive oil pollution. As the shipowner, Amoco must have incurred (and presumably will incur in the future) considerable expenses in the stranding, in the subsequent clean-up operation and in the payment of compensation to the victims of the pollution, given the emphasis in the international conventions and the corresponding municipal legislation on the 'polluter-pays' principle. Some of these costs will be covered by insurance or by voluntary schemes within the oil and shipping industries, but in the case of the *Amoco Cadiz*, the available insurance was only \$50m and, although the voluntary schemes would add another \$36m, that leaves an enormous deficit. There have been various, and widely differing, estimates of the total costs involved, but by September 1978 the French Government had raised an action in New York claiming a total of \$1,350m (\$300m for the Government, \$300m for local authorities and \$750m for fishermen, hoteliers, traders, etc.). It has subsequently been estimated that the total costs may amount to \$1,700m. There is thus a considerable amount for Amoco to find, and every claim settled must inevitably be reflected in an increase in the insurance premia which they will pay in the future.

Incidents like the *Amoco Cadiz* stranding attract widespread media coverage, and are the subject of public concern. Put simply, it is in nobody's interest—States, individuals or oil companies—to allow oil to enter the sea. Oil is an expensive (and diminishing) resource. If it escapes into the sea, it can cause damage to the amenity, to fishing grounds and to a tourist industry. Once in the sea, its effects have to be reduced by the use of mechanical lifting devices or dispersants, and these clean-up procedures are costly in terms of labour and equipment. Those who suffer as a result of oil pollution rightly demand that they be compensated at a high level. While the concern to prevent oil pollution may be shared equally, the means of achieving clean seas will, in most instances, be the subject of some degree of dispute between States and individuals on the one hand and the oil companies on the other hand.

However, the sea does not become polluted wholly and solely through accidents involving oil tankers. Off-shore oil extraction can result in immense pollution incidents; the *Ixtoc I* blow-out off Mexico's Yucatan Peninsula spewed oil into the Gulf of Mexico at the rate of 30,000 barrels a day from early June until September 1979, creating the largest single incident of oil pollution in history, and making the *Ekofisk Bravo* blow-out (with a total escape of 140,000 barrels) appear no more than a trickle. Vessels are used to transport wastes to be dumped at sea. Some vessels (not many at present) are powered by nuclear energy, others carry nuclear fuels and wastes; and the dangers inherent in these operations are obvious. A high proportion of the pollution of the marine environment comes from land-based sources, mainly in the form of industrial and domestic wastes put into water-courses. In all these types of marine pollution there are States, individuals and commercial interests which are affected, invariably adversely. In these instances, however, the various interest groups may align themselves differently: it may be in a State's interest, as it perceives it, to encourage wastes to be dumped at sea rather than on land, and to permit the fouling of watercourses with industrial wastes rather than require companies to provide expensive monitoring and treatment facilities. In situations in which a State is less than diligent in its commitment to the protection of the environment, it often falls to individuals, in particular, environmental groups, to provide the stimulus to remedial action.

It would be impossible within the compass of one book to offer definitive answers to the many economic, social, environmental, political and legal issues that surround each instance of marine pollution; but it

is possible to set out some of the major issues, and to identify how States (through concerted or unilateral action) and oil companies respond to dangers to the marine environment.

Any thorough and comprehensive programme to protect the marine environment would involve a number of items, most of which are discussed in subsequent chapters of this book.

- *Ensure that vessels are properly constructed (Chapters 1 and 3), adequately crewed (Chapters 1 and 3) and navigated in accordance with good practice and with national and international regulations (Chapter 1).
- *Given that accidents are to some extent inevitable, ensure that satisfactory arrangements have been made to clean up the damage and to provide compensation for clean-up costs and for those who suffer as a result of oil pollution (Chapters 1, 4 and 6).
- *Eliminate *harmful* discharge of oil through normal tanker operations (Chapter 1).
- *Ensure that the construction, crewing and operation of off-shore installations are such as to prevent *harmful* escapes of oil into the sea, and to provide compensation for clean-up costs and for those who suffer pollution damage (Chapters 1, 5 and 6).
- *Ensure that no *harmful* wastes are dumped at sea (Chapter 7).
- *Ensure that untreated and *harmful* matter is not permitted to pollute the sea from land-based sources (Chapters 8 and 10).
- *Ensure that the strictest standards are imposed upon those who operate nuclear-powered ships, and who carry nuclear fuels and waste (and other dangerous cargoes) (Chapter 9).
- *Ensure international co-operation in combating pollution (Chapters 1 and 2); and ensure that regard is had to the law or practice of other States (Chapters 5, 10 and 11).

While it behoves no one, be they States, companies or individuals, to be complacent about pollution of the marine environment, it serves no useful purpose to fall into the inertia that invariably accompanies pessimism. It is clear that some pollution of the marine environment is inevitable and that some pollution, either because of its scale or its type, may be extremely harmful. However, the problems associated with marine pollution are now well known, and the identification of problems is the first step—indeed the prerequisite—towards resolving them. The risks can be, and have been, minimised. Measures can be, and have been, taken to mitigate the effects of pollution incidents when

they occur. Compensation can be, and has been, made available to those who minimise pollution damage when it occurs and who suffer as a result of pollution. Whether what has been done to date is sufficient is a matter of judgement. Maintaining clean seas, like democracy, may be an issue requiring eternal vigilance.



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Part I:
OIL POLLUTION



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1 THE LEGAL FRAMEWORK

Douglas J. Cusine and John P. Grant

1 INTRODUCTION

The increasing concern within States about the protection of the environment has been matched, if not overtaken, by international concern about the pollution of the seas, particularly by oil. The estimated amount of oil entering the oceans annually is some 3.3m metric tons, of which 1.5m metric tons comes from ships, 1.7m metric tons from on-shore activities (including a massive 1.3m metric tons of discarded lubricants) and 0.08m metric tons from off-shore exploration and exploitation activities. A more detailed analysis of these figures can be seen from Table 1.¹

Table 1: Estimate of Oil Entering the Oceans

Metric Tons per Annum	
Vessels	
Accidental	257,000
Operational/deliberate	
Deballasting and tank washing	
Using Load-on-Top	105,000
Non-Load-on-Top	529,000
Tank washing before maintenance	360,000
Bilge pumping	23,000
Bulk/oil carriers	46,000
Other ships	180,000
Off-shore Operations	
Accidental	80,000
Operational/deliberate	insignificant
Other Sources	
Tanker terminal operations	70,000
Refinery effluents	300,000
Pipelines and handling spillage	40,000
Discarded lubricants	1,300,000
Total	3,290,000

Pollution, by its nature, is not readily subject to the normal jurisdictional rules. If the flag State will not act to punish discharges of oil from vessels of its nationality, the competence of States directly affected by the discharge is restricted to the outer limits of territorial waters. Canada, which was convinced of the inadequacy of these jurisdictional rules, enacted the Canadian Arctic Waters Pollution Prevention Act in 1970,² purporting to require all vessels in a belt of waters extending up to 100 miles from the Canadian coastline to comply with Canadian regulations governing navigation, safety and the dumping of wastes. This statute, which met with protests from the United States and United Kingdom Governments, appears to go beyond what is permissible by existing international law. It is clear, therefore, that pollution of the sea can best be dealt with through international agreement, setting standards for implementation and enforcement by States.³

It is sometimes appropriate in considering international law and municipal law operating within the same field to deal first with international law (both customary law and conventional law) and then to consider the position in municipal law (both at common law and under statute). This approach is not considered wholly appropriate in issues such as marine pollution. Instead, it is proposed to look at customary international law and then the position at common law in the UK in an attempt to demonstrate the ability or otherwise of these sources/systems/regimes to provide a solution to the types of legal problem that invariably arise from an incident causing marine pollution. Thereafter, we shall analyse the international agreements concluded to prevent and to mitigate the consequences of any such incident; and we shall analyse the statutes giving effect to those agreements in one country – the UK. To look at the international agreements and the UK statutes separately would be quite inappropriate, as they are interrelated: the international agreements were by and large concluded through an international institution (IMCO) whose headquarters are in London and to whose work the UK has been a consistent and strong contributor; and the UK legislation that will be considered has by and large been passed to implement these agreements. In short, the international agreements and the UK legislation, while emanating from different sources and having different effects, are closely related, and only by considering them together can any reasonable assessment be made of their terms (for the wording frequently differs) and their relative effectiveness.

Adopting that approach, our first question is therefore: does international law provide any rules of law on pollution in the absence of international agreements? Put another way: are there any customary

rules of law on pollution, rules deriving their force from the common practice of States?⁴ To recast the question yet again in a more practical way: are there any rules of international law which could bind those States that are not parties to some or all of the international agreements?

In one famous international arbitration, the *Trail Smelter Arbitration*,⁵ there appears the following statement: 'no State has the right to use or permit the use of its territory in such a manner as to cause injury or damage . . . in or to the territory of another or the properties or persons therein.' This case concerned fumes, including quantities of sulphur dioxide, emitted from a lead and zinc smelter in Trail, British Columbia, which caused damage in the State of Washington. It is open to doubt how wide the *ratio* of the *Trail Smelter Arbitration* can be extended. On a narrow construction, it might be applicable to nothing more than damage caused in one State by activities carried out in another State. On a broad construction, it might be applicable to any damage caused to a State or its nationals by a vessel subject to the jurisdiction of another State. It is, of course, only on this latter construction that the case is relevant to the question of pollution of the sea by oil.

Some authorities take the view that the broad construction of the *ratio* of the *Trail Smelter Arbitration* is to be preferred.⁶ This view is supported by the decision of the International Court of Justice in the *Corfu Channel Case*, where the Court recognised 'every State's obligation not to allow knowingly its territory to be used for acts contrary to the rights of other States';⁷ by the International Law Commission's statement in 1956 that 'States are bound to refrain from any acts which might adversely affect the use of the high seas by nationals of other States';⁸ and by some of the provisions of the Geneva Convention on the High Seas of 1958, which resulted from the work of the I.L.C. and which are expressly stated as being 'generally declaratory of established principles of international law', requiring the four freedoms of the high seas (navigation, fishing, laying cables and pipelines and overflight) to be exercised subject to other rules of law and to the rights of other States in the high seas, and imposing on all States a general obligation to prevent pollution of the seas.⁹ Further, it can be argued that a broad construction of the *ratio* in the *Trail Smelter Arbitration* is more in accord with the nature of international law, a system that is generally thought to establish, through custom, broad principles of general application, rather than detailed rules to be followed in every particular.

In support of the contention that there is a customary legal regime governing pollution of the seas, reference may be made also to the doctrine of abuse of rights. This doctrine is based on the premiss that a

State is in breach of international law if it exercises a right that it has in such a way as to prejudice other States exercising rights they enjoy. It is a well established principle that the high seas are free and open for the use of all States; that it is, in effect, *res communis*. Yet, each and every State can only exercise the freedoms it has in the high seas, in the words of the Convention on the High Seas, 'with reasonable regard to the interests of other States in their exercise of the freedom of the high seas'.¹⁰

While the doctrine of the abuse of rights has been recognised by the World Court,¹¹ it is still somewhat controversial. Clearly, it can be characterised as a general principle of law, and as such can be a source of international law,¹² and it may be the genesis of a rule of customary law, such as the rule enunciated in the *Trail Smelter Arbitration*.¹³ However, the operation of the doctrine is not free from difficulty. In the words of one scholar:

[t]here is no legal right, however well established, that could not, in some circumstances, be refused recognition on the ground that it had been abused. The doctrine of abuse of rights is therefore an instrument which . . . must be wielded with studied restraint.¹⁴

The assertion that the doctrine fails to be applied in a particular case may be no more than a call for a more exact legal regime, and this may, at one time at least, have been particularly true of the law relating to pollution.

1.1 United Kingdom Common Law

At the municipal level within the UK, there has been only one decision in which the common law on oil pollution has been at issue. In *Esso Petroleum Co. Ltd v. Southport Corporation*¹⁵ the beach at Southport was damaged by oil jettisoned from an oil tanker within territorial waters. A claim for damages alleging nuisance, trespass and negligence was raised by Southport Corporation against the owners of the tanker. The House of Lords took the view that it was unnecessary to consider whether such a claim based on nuisance and trespass was competent, as the oil had been discharged in order to save the lives of the crew. On the question of negligence, it was held that the Corporation had not established the allegations in their pleadings, and the action therefore failed. As a precedent of common law, the case is of limited value.

It would appear that the English principle enunciated in *Rylands v. Fletcher*,¹⁶ and the corresponding Scottish principle, in *Kerr v. Earl of*

Orkney,¹⁷ apply only to the escape of dangerous things from land and that their extension to a discharge of oil by a ship either on the high seas or within territorial waters is probably unwarranted.¹⁸

However, given the present delimitation of the UK continental shelf for jurisdictional purposes,¹⁹ which places the vast majority of the North Sea oilfields appertaining to the UK within the Scottish sector,²⁰ it is apposite to consider the position at common law in Scotland. The decision in *Esso Petroleum Co. Ltd v. Southport Corporation* is not binding in Scotland. Scots law does not attach the same meaning as English law to the terms 'nuisance', 'trespass' and 'negligence', but instead recognises a general principle that no one is entitled to do anything on his own property which will interfere with the natural rights of others (*sic utere tuo ut alienum non laedas*). One particular aspect of this principle is nuisance, for which liability in Scots law is strict. While, normally, nuisance is a continuing infringement of another's rights, there is authority for the view that one incident is sufficient to constitute nuisance,²¹ and so the discharge of oil which subsequently fouls a beach or otherwise damages another person's property could in Scots law amount to a nuisance.

That there are rules of customary international law and of common law concerning pollution is clear. What is equally clear is that those rules are too general or too skeletal or too fragmentary to cope with the pollution problems that arise in practice, and these rules have been, and are being, provided with flesh and made more precise by international agreements, and subsequent municipal legislation. There are now in the order of a dozen major international agreements, not all of which are yet in force. Notwithstanding that, however, the UK Government has implemented most of these conventions and, in many instances, the implementing legislation, or at least part of it, has been brought into force before the convention itself.²²

1.2 Definition of 'Oil'

Pollution of the seas by oil, particularly as a result of the stranding of a large tanker such as the *Amoco Cadiz*, or *Christos Bitas*, probably attracts more press coverage than pollution from any other source, but before dealing with the relevant legal framework, it is important to ask what may seem to some a very simple question: what is oil? The question becomes a little less simplistic when it is put in the form: how is 'oil' defined in the various agreements and statutes on oil pollution?

An examination of the conventions and statutes reveals several different definitions of 'oil'.

In the International Convention on Civil Liability for Oil Pollution Damage (CLC), 'oil' means 'any persistent oil such as crude oil, fuel oil, heavy diesel oil, lubricating oil and whale oil whether carried on board a ship as cargo or in the bunkers of such a ship'.²³ However, although that Convention is implemented by the Merchant Shipping (Oil Pollution) Act 1971, that Act uses the term 'persistent oil'²⁴ but fails to define it.²⁵ However, for the purposes of insurance against damage caused by oil pollution,²⁶ 'persistent oil' is defined in the Oil Pollution (Compulsory Insurance) Regulations 1977,²⁷ to mean any of the following:

- (a) hydrocarbon mineral oil whether crude or distilled, including crude coal tar and the oily residue of tank cleaning operations necessitated by the carriage of any such oils, but excluding those oils which consist wholly of distillate fractions of which more than 50 per cent by volume distill at 340° centigrade when tested by the 'American Society for Testing and Materials Specification D 86/67' in the case of oils derived from petroleum and at 350° centigrade in the case of oils derived from coal tar;
- (b) residual oil, consisting of mineral hydrocarbons comprising the residues of the process of distilling and/or refining crude petroleum and any mixture containing such residual oil;
- (c) whale oil.

That definition is much narrower than that in the CLC. However, there still remains the problem of what meaning is to be given to the term 'persistent oil' as it appears in other sections of the Act. It would be difficult to argue that the definition in the Regulations applies for all purposes, because the opening words of the Regulations are: 'for the purposes of Section 10(1) of the Act'. It is therefore suggested that the courts would look to the definition in the CLC in the absence of guidance in the Act.²⁸

The International Convention for the Establishment of an International Fund for Compensation for Oil Pollution Damage of 1971 (Fund Convention) restricts the term 'oil' to 'persistent hydrocarbon mineral oils',²⁹ which is the general definition in the Merchant Shipping Act 1974.³⁰ However, for the purposes of determining who should make a contribution to the Fund, the word 'oil' is differently defined, but in this connection the definitions in the Fund Convention³¹ and in the 1974 Act³² are the same. Thus far, we have a definition in the CLC