

INTERNATIONAL COURT OF JUSTICE

PLEADINGS, ORAL ARGUMENTS, DOCUMENTS

CASE CONCERNING DELIMITATION
OF THE MARITIME BOUNDARY
IN THE GULF OF MAINE AREA

(CANADA/UNITED STATES OF AMERICA)

VOLUME V

Replies



COUR INTERNATIONALE DE JUSTICE

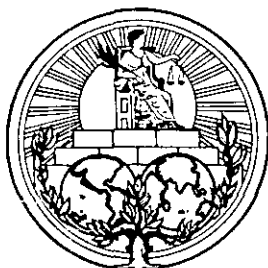
MÉMOIRES, PLAIDOIRIES ET DOCUMENTS

AFFAIRE DE LA DÉLIMITATION
DE LA FRONTIÈRE MARITIME
DANS LA RÉGION DU GOLFE DU MAINE

(CANADA/ÉTATS-UNIS D'AMÉRIQUE)

VOLUME V

Répliques



The case concerning *Delimitation of the Maritime Boundary in the Gulf of Maine Area*, entered on the Court's General List on 25 November 1981 under number 67, was the subject of a Judgment delivered on 12 October 1984 by the Chamber constituted by the Order made by the Court on 20 January 1982 (*Delimitation of the Maritime Boundary in the Gulf of Maine Area, Judgment, I.C.J. Reports 1984, p. 246*).

The pleadings and oral arguments in the case are being published in the following order:

- Volume I. Special Agreement; Memorial of Canada.
- Volume II. Memorial of the United States of America.
- Volume III. Counter-Memorial of Canada.
- Volume IV. Counter-Memorial of the United States of America.
- Volume V. Replies of Canada and the United States of America.
- Volume VI. Commencement of Oral Arguments.
- Volume VII. Conclusion of Oral Arguments; Documents submitted to the Court after closure of the written proceedings; Correspondence.
- Volume VIII. Maps, charts and illustrations.

Canada filed its pleadings both in English and in French. Although Canada has two official languages, only the English text of those documents is reproduced on the ensuing pages of these volumes, as Canada has informed the Registry that the English text should be seen as authoritative for the purposes of interpretation.

Certain pleadings and documents of this edition are reproduced photographically from the original printed text.

In addition to the normal continuous pagination, the Volumes feature on the inner margin of pages a bracketed indication of the original pagination of the Memorials, the Counter-Memorials, the Replies and certain Annexes.

In internal references, bold Roman numerals (in the text or in the margin) are used to refer to Volumes of this edition; if they are immediately followed by a page reference, this relates to the new pagination of the Volume in question. On the other hand, the page numbers which are preceded by a reference to one of the pleadings relate to the original pagination of that document and accordingly refer to the bracketed pagination of the document in question.

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L'affaire de la *Délimitation de la frontière maritime dans la région du golfe du Maine*, inscrite au rôle général de la Cour sous le numéro 67 le 25 novembre 1981, a fait l'objet d'un arrêt rendu le 12 octobre 1984 par la Chambre constituée par ordonnance de la Cour du 20 janvier 1982 (*Délimitation de la frontière maritime dans la région du golfe du Maine, arrêt, C.I.J. Recueil 1984, p. 246*).

Les pièces de procédure écrite et les plaidoiries relatives à cette affaire sont publiées dans l'ordre suivant :

Volume I. Compromis; mémoire du Canada.

Volume II. Mémoire des Etats-Unis d'Amérique.

Volume III. Contre-mémoire du Canada.

Volume IV. Contre-mémoire des Etats-Unis d'Amérique.

Volume V. Répliques du Canada et des Etats-Unis d'Amérique.

Volume VI. Début de la procédure orale.

Volume VII. Suite et fin de la procédure orale; documents présentés à la Cour après la fin de la procédure écrite; correspondance.

Volume VIII. Cartes et illustrations.

Le Canada a déposé ses pièces de procédure écrite en anglais et en français. Bien que le Canada ait deux langues officielles, seul le texte anglais de ses écritures est reproduit dans les volumes ci-dessus, le Canada ayant fait savoir au Greffe que, en cas d'interprétation, c'était le texte anglais qui devait faire foi.

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CONTENTS – TABLE DES MATIÈRES

	<i>Page</i>
Reply of Canada — Réplique du Canada	
INTRODUCTION	3
PART I. AN OVERVIEW	4
Chapter I. General assessment of the United States Counter-Memorial	4
Introduction	4
Section I. The shifts of emphasis in the United States Counter-Memorial appear to be oriented towards a “solution” that is incompatible with the task of the Court	4
Section II. The United States Counter-Memorial relies on the repetition of formulas to support novel arguments whose validity has nowhere been demonstrated by the United States	5
Section III. The United States Counter-Memorial avoids important issues and rebuts arguments Canada has never made	6
Section IV. The United States Counter-Memorial fails to rebut those Canadian arguments it does address	7
Conclusion	8
Chapter II. The identification of issues	9
Introduction	9
Section I. Fundamental concepts of the applicable law	9
The nature of equitable principles and the legal framework within which they must be applied	9
The principle of appurtenance	10
The criteria for identifying relevant circumstances	10
Section II. Continental geography or the geography of the Gulf of Maine area	10
The appropriate geographical framework	10
The equality or inequality of coasts	10
The general configuration of the coasts	10
The effect of particular geographical features	11
The relationship of Georges Bank to the relevant coasts	11
Section III. The alleged “natural boundary”	11
The existence and relevance of alleged seabed and water-column discontinuities	11
Section IV. The significance of the conduct of the Parties	12
Conduct in relation to acquiescence, recognition and estoppel	12
Conduct in relation to a <i>modus vivendi</i> or <i>de facto</i> maritime limit	12
Conduct in relation to indicia of equity	12
Section V. The relevance and reality of southwest Nova Scotia’s dependence on Georges Bank	13
Established fishing patterns and relative dependence	13

	Page
Section VI. The appropriate method and equitable result in the particular geographical circumstances of the Gulf of Maine area	13
Appropriate method	13
Equitable Result	13
Conclusion	13
PART II. THE ISSUES THAT DIVIDE THE PARTIES	14
Chapter I. Fundamental concepts of the applicable law	14
Introduction	14
Section I. The Parties disagree on the nature of equitable principles and on the legal framework within which they must be applied	14
A. Contrary to the allegations in the United States Counter-Memorial, Canada relies upon equitable principles within the law	14
B. The United States disregards both equity and the applicable law	16
1. Equitable principles distinguished from equitable apportionment	16
2. Equitable principles distinguished from monopoly	18
C. Article 6 of the Continental Shelf Convention is applicable both as a binding treaty rule and as the particular expression of a general norm	19
Section II. The Parties disagree on the legal and geographical basis of appurtenance	20
A. The Canadian claim takes account of the legal basis of title	20
1. The relevance of the basis of title	21
2. The distance principle	22
B. The United States claim misconceives the legal basis of title	24
1. Unlimited perpendicularity as the basis of the seaward extension of the coasts	24
2. The myth of the “natural boundary”	28
Section III. The Parties disagree on the need for legal criteria for the identification and balancing-up of the relevant circumstances	30
A. Canada relies upon relevant circumstances that are rooted in the object and purpose of the zones to be delimited	30
1. An established dependence linking the adjacent coasts to the fisheries of the relevant area	30
2. State conduct directly associated with the rights and jurisdiction in issue	32
B. The United States claim of “dominance” relies upon activities not related to the object and purpose of the zones to be delimited	34
Conclusion	35
Chapter II. Continental geography or the geography of the Gulf of Maine area	37
Introduction	37

	<i>Page</i>
Section I. The United States approach lacks an appropriate and consistent geographical framework	38
A. The United States uses macrogeography to refashion the geography of the Gulf of Maine area	38
B. The United States defines the Gulf of Maine area on the basis of its boundary proposal	40
C. The United States defines different “relevant areas” for various “relevant circumstances”	41
Section II. The United States attempt to refashion geography fails in the legally relevant framework of the Gulf of Maine area	43
A. In recognizing that the Gulf of Maine is a deep concavity, the United States invalidates its assertion that the general configuration of the coasts is a straight line	43
B. The relationship of the coasts is predominantly opposite	44
C. Cape Cod and Nantucket are incidental special features, aberrant to the general direction of the coast	46
Section III. The application of the maxim “the land dominates the sea” shows that eastern Georges Bank appertains to the coast of Nova Scotia	49
A. The maxim presupposes the interrelationship and the relevance of physical and human geography	49
B. The maxim does not state that “the land boundary terminus dominates the sea”	52
C. The application of the maxim to the Gulf of Maine area demonstrates that the inner and outer areas are dominated respectively by the coasts that abut them	54
Conclusion	57
Chapter III. The myth of the “natural boundary”	58
Introduction	58
Section I. The United States ignores important geological factors that are incompatible with a “natural boundary” at the Northeast Channel	58
Section II. The United States errs in attempting to portray Georges Bank as an extension of Massachusetts	61
Section III. The United States errs in contending that Canada would not be affected by an oil spill on Georges Bank	64
Section IV. Contrary to United States assertions, Georges Bank is part of a continuous ocean system and falls within the Nova Scotia biogeographic province	65
Section V. The United States greatly exaggerates the importance of the Northeast Channel	69
Section VI. The United States greatly understates the importance of the Bay of Fundy in attempting to magnify the role of the Northeast Channel	71
Section VII. The “natural boundary” in the Gulf of Maine area is an <i>ad hoc</i> conception not found in previous scientific publications on this area	73

	<i>Page</i>
Section VIII. The myth of the “natural boundary” cannot be substantiated on the ground of alleged incompatibility of national fisheries policies	74
Conclusion	76
Chapter IV. The significance of the conduct of the Parties	77
Introduction	77
Section I. The United States has failed to refute Canada’s position respecting acquiescence and estoppel	78
A. The United States had full knowledge of Canada’s public activities in issuing offshore permits; “notoriety” is irrelevant	80
1. The Canadian offshore permit program	80
2. United States knowledge of the Canadian program	80
B. The acquiescence of the United States was clearly and consistently manifested by its conduct	81
1. The principle of acquiescence	81
2. The Canadian contention	82
3. Consistency of United States conduct	83
4. Explicit acceptance by the United States	84
C. The authority of Mr. Hoffman and of the United States Department of the Interior is not in issue	85
1. The authority of Mr. Hoffman	85
2. The authority of the Department of the Interior	87
D. The acquiescence of the United States was of sufficient duration	88
E. Canada was induced to place reliance upon United States acceptance of Canada’s equidistance claim	89
Section II. The United States itself issued geophysical survey permits with reference to the equidistance method	90
A. “Permits” and “northeastern portion of Georges Bank” are terms having different meanings for Canada and the United States	91
B. United States permits were issued with reference to a “BLM line”	92
C. The United States geophysical survey permits have a three-fold significance	95
1. Acquiescence, recognition and estoppel	95
2. <i>A de facto</i> maritime limit	95
3. Indicia of equity	96
Section III. The United States has failed to refute Canada’s position respecting the relevance of the 1979 Agreement on East Coast Fishery Resources	97
Section IV. The United States has failed to refute Canada’s contention that the ICNAF record is one of coastal State partnership	99
A. The ICNAF coastal State concept was used to define States with a coastline adjacent to an ICNAF subarea and to accord such States preferential quotas	100

	<i>Page</i>
B. The status of the United States in relation to ICNAF Sub-area 4 is greatly exaggerated by the United States	102
C. In the last years of ICNAF, the coastal State concept was broadened to include the concept of neighbouring coastal States	103
D. The history of ICNAF illustrates not the alleged “predominant interest” of the United States but the shared interest of the Parties in the Gulf of Maine area	104
Section V. The United States confuses the conduct of the Parties and irrelevant State activities	109
Conclusion	109
Chapter V. The relevance and reality of southwest Nova Scotia’s vital dependence on Georges Bank	110
Introduction	110
Section I. The United States Counter-Memorial miscasts Canada’s position regarding economic dependence; it is the United States and not Canada that relies on extraneous considerations of relative wealth	111
Section II. The United States Counter-Memorial gives an inaccurate view of the relative presence of the Parties in the fishery of Georges Bank	113
Section III. The United States Counter-Memorial gives an inaccurate view of the relative importance of the fishery to the Parties; it errs in its portrayal of the economy of Nova Scotia and of southwest Nova Scotia in particular	116
Section IV. The United States Counter-Memorial does not substantiate its conclusions regarding economic equities	121
Section V. The United States Counter-Memorial does not impugn Canada’s evidence that the Canadian Georges Bank fishery has deep historical roots	122
Conclusion	125
Chapter VI. The appropriate method and equitable result in the particular geographical circumstances of the Gulf of Maine area	127
Introduction	127
Section I. The United States Counter-Memorial miscasts the Canadian view of the equidistance method in the present case	128
A. The United States Counter-Memorial makes unfounded assertions about the status of the equidistance method in the jurisprudence and under the Convention on the Law of the Sea	128
B. The United States Counter-Memorial makes unfounded assertions about the status of the equidistance method in State practice	129
C. The United States Counter-Memorial is silent on the status of the equidistance method under Article 6 of the Continental Shelf Convention	131
Section II. The United States rejection of the Canadian line is founded on an erroneous analysis of State practice and of the geography of the Gulf of Maine area	132

	<i>Page</i>
A. The United States arguments concerning the location of the land boundary and the influence of the back of a deep coastal concavity would divorce the delimitation from the coasts actually abutting the area to be delimited	132
B. The United States Counter-Memorial misconstrues State practice in “geographically similar areas”	136
1. The North Sea	136
2. The Bay of Biscay	138
C. The United States rejection of the Canadian line is based upon a misunderstanding of the effects of concavities and convexities on an equidistance line in the Gulf of Maine area	140
Section III. The United States contentions concerning proportionality are based on a selective refashioning of geography	143
Conclusion	147
PART III. A BALANCING-UP	148
PART IV. SUMMARY OF PRINCIPAL CONCLUSIONS	151
A. The applicable law	151
B. The relevant circumstances	152
C. The nature of the result pursuant to the United States proposal	153
D. The nature of the result pursuant to the Canadian line	153
PART V. SUBMISSION	155
<i>Annexes to the Reply of Canada</i>	
State practice in maritime delimitation by agreement (Vol. I)	
Preface	157
Part I. An analysis of continental shelf and maritime boundary agreements	158
Section I. The misinterpretation of State practice by the United States	158
A. The equidistance method and equidistance lines	158
1. The so-called “non-equidistant boundaries”	158
2. Boundaries that are said to be “equidistant in part”	159
B. The delimitation of the continental shelf boundary in the Bay of Biscay	162
Section II. An analytical table of agreements establishing maritime boundaries	165
A. Introduction	165
1. Type of agreement	165
2. Geographical relationships	165
3. Method of delimitation	166
4. Effect of geographical features	166
B. Analytical table	167
Part II. Continental shelf and maritime boundary agreements	179
Introduction	179
Chronological list of continental shelf and maritime boundary agreements according to date of signature	181

	<i>Page</i>
Alphabetical list of continental shelf and maritime boundary agreements	181
Continental shelf and maritime boundary agreements, together with an illustration of the boundary, in chronological order according to date of signature	182
Certification	212
Supplementary evidence and miscellaneous documents (Vol. II)	
Preface	213
Part I. The human dimension: supplementary socio-economic evidence	214
Introduction	215
Chapter I. Summary of evidence that the disputed fishing grounds are of far greater economic importance to Canada and Nova Scotia than they are to the United States and Massachusetts in terms of employment and gross domestic product	216
Section I. Contribution of the disputed fishing grounds to gross domestic product	217
Section II. Contribution of the disputed fishing grounds to regional employment	219
Chapter II. Summary of evidence that the Canadian line would cause little disturbance to the economic activities of the United States whereas the United States line would obliterate Canada's established economic interest in Georges Bank	221
Chapter III. Summary of evidence that the impact of loss of access to <i>all</i> of Georges Bank on the communities of southwest Nova Scotia would be greater in both relative and absolute terms than the impact of loss of access to <i>part</i> of Georges Bank would be on the communities of eastern Massachusetts	224
Section I. Canada	224
Section II. The United States	226
Chapter IV. Summary of evidence refuting the United States allegation that economic losses created by loss of access to Georges Bank would be offset by alternative employment opportunities in southwest Nova Scotia	229
Section I. Alternative fishing employment	229
Section II. Non-fishing alternative employment	230
A. Forestry	230
B. Agriculture	231
C. Manufacturing	231
D. Tourism	232
E. Offshore oil and gas	232
<i>Technical appendices to Part I</i>	
Appendix 1. The real cost of loss of access to Georges Bank	234
Appendix 2. Southwest Nova Scotia: economic based model, 1971 and 1981	259
Appendix 3. Survey Report — Clark's Harbour community cluster	268
Appendix 4. The small vessel fleet of southwest Nova Scotia	268

	<i>Page</i>
<i>Appendix 5. Growth and diversification</i>	269
<i>Appendix 6. Canadian and United States fishery policies</i>	271
<i>Documentary appendices to Part I</i>	
<i>Documentary Appendix 1. Documents used in the calculation of income and unemployment in Massachusetts (Docs. 1 to 3)</i>	281
<i>Documentary Appendix 2. Excerpt from New England Economic Indicators, Federal Reserve Bank of Boston, Boston, Massachusetts, June 1982, Tables 2 and 3, p. A-5</i>	281
<i>Documentary Appendix 3. Excerpt from The Labour Force, 1980, Statistics Canada, Catalogue No. 71-001, 1980, p. 130</i>	281
<i>Documentary Appendix 4. Excerpt from New England Fishery Management Council, Fishery Management Plan, Final Environmental Impact Statement, Regulatory Impact Review for Atlantic Sea Scallops (Placopecten magellanicus), January 1982, pp. 33 and 36</i>	282
<i>Documentary Appendix 5. Excerpt from 1980 Census of Population, Characteristics of the Population, General Population Characteristics, Massachusetts, Washington, Government Printing Office, June 1982, p. 23 - 7</i>	282
<i>Documentary Appendix 6. Excerpts from Task Force on Atlantic Fisheries, Navigating Troubled Waters, A New Policy for the Atlantic Fisheries, Ottawa, Minister of Supply and Services Canada, December 1982, pp. 24, 57, 95 and 275</i>	282
<i>Documentary Appendix 7. Excerpts from The Economic and Social Base of South Western Nova Scotia, Southwest Nova Scotia Study Team, 1977, pp. 139 and 183-184</i>	282
<i>Documentary Appendix 8. Excerpts from Visitor Travel to Nova Scotia, 1978, Department of Tourism, Province of Nova Scotia, pp. 11-12</i>	283
<i>Documentary Appendix 9. Excerpt from G. A. Mackay, The UK North Sea Experience, report for Mobile Oil Canada Ltd. and DPA Consulting, November 1982, p. 55</i>	283
<i>Documentary Appendix 10. Excerpts from Manufacturing Industries of Canada: National and Provincial Areas, 1980, Statistics Canada, Catalogue No. 31-203, December 1982, pp. 4-5 and 50-51</i>	283
<i>Documentary Appendix 11. Excerpts from Annual Statistical Review of Canadian Fisheries, 1980, Vol. 13, Ottawa, Department of Fisheries and Oceans, pp. 42, 56, 69, 80 and 115</i>	283
<i>Documentary Appendix 12. Excerpts from Northwest Atlantic Fisheries Organization, Statistical Bulletin, Vol. 30, 1980, pp. 224-243</i>	284
<i>Documentary Appendix 13. Excerpts from Annual Statistical Review of Canadian Fisheries, 1978, Vol. 11, Ottawa, Department of Fisheries and Oceans, pp. 42, 51, 64, 74 and 80</i>	284
<i>Documentary Appendix 14. Excerpt from Margaret E. Dewar, Industry in Trouble, Philadelphia, Temple University Press, 1983, p. 68</i>	284
<i>Documentary Appendix 15. "Proposals for Assisting Shipping and Shipyards", Record of Cabinet Decision, 6 September 1961, Ottawa, Privy Council Office, 11 September 1961</i>	284

	<i>Page</i>
<i>Documentary Appendix 16.</i> Excerpts from House Committee on Merchant Marine and Fisheries, "Providing a Program of Assistance for the Construction of Fishing Vessels", House of Representatives, Report No. 770, 86th Congress, 1st Session, 1959, pp. 2-3	285
<i>Documentary Appendix 17.</i> Excerpts from House Committee on Merchant Marine and Fisheries, "Fishing Vessel Construction", House of Representatives, Report No. 1524, 88th Congress, 2nd Session, 1964, pp. 2-3	285
<i>Documentary Appendix 18.</i> Excerpts from Senate Committee on Commerce, "Fishing Vessel Construction Bill", Senate Report No. 481, 88th Congress, 1st Session, 1963, pp. 20-21	285
<i>Documentary Appendix 19.</i> Excerpts from House Committee on Merchant Marine and Fisheries, "Extension of United States Fishing Fleet Improvement Act", House of Representatives, Report No. 394, 91st Congress, 1st Session, 1969, pp. 6-9	286
Part II. The history of the Canadian fisheries: supplementary evidence	287
Introduction	288
Section I. The non-statistical evidence: commentary on Annexes to the United States Counter-Memorial (Volume IV, Annex 7)	288
Section II. The statistical evidence	291
A. The early statistical system: 1869-1930	292
B. The pre-ICNAF statistical era: 1931-1952	294
C. The historical data published by ICNAF in 1952	298
D. The post-1952 period	302
Conclusion	303
<i>Documentary appendices to Part II</i>	
<i>Documentary Appendix 1.</i> Excerpts from <i>Forty-Seventh Annual Report of the Department of Marine and Fisheries, 1913-14, Fisheries</i> , pp. 90-95	305
<i>Documentary Appendix 2.</i> Excerpt from F. W. Wallace, <i>Roving Fisherman. An Autobiography Recounting Personal Experiences in the Commercial Fishing Fleets and Fish Industry of Canada and the United States, 1911-1924</i> , p. 101	312
<i>Documentary Appendix 3.</i> Excerpt from N. Bourne, <i>Scallops and the Offshore Fishery of the Maritimes</i> , p. 22	312
<i>Documentary Appendix 4.</i> Excerpts from <i>Twenty-Ninth Annual Report of the Department of Marine and Fisheries, 1896, Fisheries</i> , pp. 94-95	313
<i>Documentary Appendix 5.</i> Excerpts from <i>Forty-Fourth Annual Report of the Department of Marine and Fisheries, 1910-11, Fisheries</i> , pp. xx-xxi and 126-129	316
<i>Documentary Appendix 6.</i> Excerpts from <i>Fisheries Statistics, 1918</i> , pp. xxvi-xxix and 14-29	316
<i>Documentary Appendix 7.</i> "Resolutions, Meeting of International Committee on Marine Fishery Investigations, Montreal, June 23rd, 1921"	316

	<i>Page</i>
<i>Documentary Appendix 8.</i> Excerpt from minutes of second meeting of International Committee on Marine Fishery Investigations, Boston, 4 November 1921, p. 1	316
<i>Documentary Appendix 9.</i> Letter of 14 February 1922 from A. Johnston, Deputy Minister of Marine and Fisheries, to all "Owners of Bank Fishing Vessels"	317
<i>Documentary Appendix 10.</i> Excerpt from <i>Fifty-Sixth Annual Report of the Fisheries Branch, Department of Marine and Fisheries, for the Year 1922</i> , p. 12	317
<i>Documentary Appendix 11.</i> Letter of 17 March 1923 from W. A. Found, Assistant Deputy Minister of Fisheries, to Ward Fisher, Chief Inspector of Fisheries	317
<i>Documentary Appendix 12.</i> Excerpts from <i>North American Council on Fishery Investigations, Proceedings 1921-1930, No. 1</i> , pp. 8-9 and 19-20	317
<i>Documentary Appendix 13.</i> Examples of statistical reporting forms	318
<i>Documentary Appendix 14.</i> "Memo for Mr. Found — International Co-operation in the Collection of Sea Fisheries Information"	318
<i>Documentary Appendix 15.</i> Example of pre-1931 published Canadian fisheries statistics, <i>Fisheries Statistics of Canada, 1929</i> , Dominion Bureau of Statistics, King's Printer, 1931, pp. 42-47	318
<i>Documentary Appendix 16.</i> "Memo. For Mr. Cowie. <i>Re</i> Fishery Statistics"	318
<i>Documentary Appendix 17.</i> Excerpt from North American Committee on Fishery Investigations, "Minutes of the Ninth Meeting, Held in the McAlpin Hotel, New York, N.Y., on Friday, May 8th, 1925", p. 1	319
<i>Documentary Appendix 18.</i> Examples of post-1930 published Canadian fisheries statistics, Comparative Study, pp. 412-414, and <i>Fisheries Statistics of Canada, 1938</i> , Dominion Bureau of Statistics, King's Printer, 1940, pp. 56-115 and 225	319
<i>Documentary Appendix 19.</i> "Memorandum <i>Re</i> : Appendix A of the Minutes of the 1931 Meeting of the North American Council", pp. 1-2	319
<i>Documentary Appendix 20.</i> Excerpt from M. C. Urquhart and K. A. H. Buckley, eds., <i>Historical Statistics of Canada</i> , Section M, p. 388	319
<i>Documentary Appendix 21.</i> Excerpts from "Memorandum <i>Re</i> Improvement of Fisheries Statistics for Biological Purposes", pp. 1-2	320
<i>Documentary Appendix 22.</i> Excerpt from "Collection of Fisheries Statistics (Landing Statistics)", p. 3	320
<i>Documentary Appendix 23.</i> Excerpt from minutes of "Canadian Atlantic Fisheries Statistics Meeting, St. Andrews, New Brunswick, March 12-15, 1952"	320
<i>Documentary Appendix 24.</i> Excerpt from "Notes <i>Re</i> Statistical Discussions, St. Andrews, N.B., March 13-15, 1952", p. 2	320
<i>Documentary Appendix 25.</i> Excerpt from <i>Fishery Officers Manual, 1948</i> , Part I, Section 15, B, 1 (a)-(d)	321
<i>Documentary Appendix 26.</i> Excerpts from "Memorandum to: A. W. H. Needler, Canadian Adviser. <i>Re</i> : Canadian Statistics for	

	Page
the International Commission for the Northwest Atlantic Fisheries”, pp. 3-4	321
<i>Documentary Appendix 27.</i> Excerpt from “Memorandum for the Deputy-Minister <i>Re</i> Fisheries Intelligence and Statistical Work”, p. 2	321
<i>Documentary Appendix 28.</i> Excerpts from M. A. Graham, <i>The Development of the New Statistical System for the Maritime Provinces</i> , pp. 1-4 and 8-9	321
<i>Documentary Appendix 29.</i> Letter of 28 February 1941 from Dr. A. H. Leim, Director, Atlantic Biological Station, to D. H. Sutherland, Fisheries Research Board of Canada	322
<i>Documentary Appendix 30.</i> Letter of 6 June 1952 from Acting Executive Secretary of ICNAF to Stewart Bates, Canadian Deputy Minister of Fisheries, with attachments	322
<i>Documentary Appendix 31.</i> Excerpts from W. R. Martin and F. D. McCracken, “1947 Landings of Fresh Groundfish by Offshore Vessels at Nova Scotia Ports”, pp. 3-6	322
<i>Documentary Appendix 32.</i> “Corrections and Additions” to <i>International Commission for the Northwest Atlantic Fisheries, Statistical Bulletin, Vol. 2, for the Year 1952</i>	322
<i>Documentary Appendix 33.</i> Excerpts from memorandum from J. N. Lewis to I. S. MacArthur, “ <i>Re: Offshore Landings</i> ”, pp. 2-3	323
<i>Documentary Appendix 34.</i> E. D. Fraser, “To Four District Protection Officers in Nova Scotia and Four District Protection Officers in New Brunswick”	323
<i>Documentary Appendix 35.</i> Excerpts from S. Sinclair, <i>A Statistical Service for the Fisheries of the Maritime Provinces: A Report to the Working Committee of the Interdepartmental Committee on Maritime Fisheries Statistics</i> , pp. 1-4	323
<i>Documentary Appendix 36.</i> Excerpt from <i>A Report concerning the Need for Consolidating Fisheries Statistical Responsibilities in the Maritime Area</i> , p. 4	323
Part III. The conduct of the Parties: supplementary evidence on continental shelf activities	324
Introduction	325
Section I. The contentions in the United States Memorial and Counter-Memorial are misleading and ambiguous	326
Section II. The United States assumed the use of a median line boundary on Georges Bank	328
Section III. The United States permits reflect a median line boundary	329
A. United States Permit E2-69	330
B. United States Permit E1-70	331
C. United States Permit E2-72	332
D. United States Permit E3-75	333
E. United States Permit E16-75	334
F. Comparison of United States permits and Canadian licences	335
Conclusion	335

	Page
<i>Documentary appendices to Part III</i>	
<i>Documentary Appendix 1.</i> Documents pertaining to United States permit E2-69	336
<i>Documentary Appendix 2.</i> Documents pertaining to United States permit E1-70	336
<i>Documentary Appendix 3.</i> Documents pertaining to United States permit E2-72	336
<i>Documentary Appendix 4.</i> Documents pertaining to United States permit E1-74	336
<i>Documentary Appendix 5.</i> Documents pertaining to United States permit E3-75	337
<i>Documentary Appendix 6.</i> Documents pertaining to United States permit E16-75	337
<i>Documentary Appendix 7.</i> Documents pertaining to United States permit E3-67	337
<i>Documentary Appendix 8.</i> Documents pertaining to Canadian exploratory licences 927 and 1283	337
<i>Documentary Appendix 9.</i> Letter of 3 June 1968 from Dr. M. B. Shaefer, Science Adviser, United States Department of the Interior, to R. B. Krueger	337
Part IV. Miscellaneous documents cited in the Reply submitted by Canada	338
<i>Annex 1.</i> Excerpt from H. Lauterpacht, <i>The Development of International Law by the International Court</i> , New York, Frederick A. Praeger, p. 213	338
<i>Annex 2.</i> Excerpt from A. L. W. Munkman, "Adjudication and Adjustment — International Judicial Decision and the Settlement of Territorial and Boundary Disputes", <i>The British Year Book of International Law</i> , Vol. XLVI, 1972-1973, pp. 100-102	338
<i>Annex 3.</i> Excerpts from International Boundary Commission, <i>Joint Report upon the Survey and Demarcation of the Boundary between the United States and Canada from the Source of the St. Croix River in the Atlantic Ocean</i> , Washington, Government Printing Office, 1934 (Docs. 1 and 2)	338
<i>Annex 4.</i> Excerpts from International Boundary Commission, <i>Joint Report upon the Survey and Demarcation of the Boundary between the United States and Canada from the Source of the St. Croix River to the Atlantic Ocean</i> , Washington, Government Printing Office, 1934, pp. 1-18	339
<i>Annex 5.</i> Excerpt from International Boundary Commission Special Report No. 3, 1962, pp. 494-496	339
<i>Annex 6.</i> J. S. Schlee and K. D. Klitgord, "Geologic Setting of the Georges Bank Basin", in P. A. Scholle and C. R. Wenkam, eds., <i>Geological Studies of the COST Nos. G-1 and G-2 Wells, United States North Atlantic Outer Continental Shelf</i> , United States Department of the Interior, Geological Survey Circular 861, Washington, Government Printing Office, 1982, pp. 4-10	339
<i>Annex 7.</i> Excerpt from L. K. Schultz and R. L. Grover, "Geology of Georges Bank Basin", <i>The American Association of Petroleum Geologists Bulletin</i> , Vol. 58, No. 6, Part II, 1974, p. 1164	339

	<i>Page</i>
<i>Annex 8.</i> Excerpt from J. A. Wade, "The Mesozoic-Cenozoic History of the Northeastern Margin of North America", <i>Proceedings of the 10th Annual Offshore Technology Conference, 1978</i> , Vol. 3, p. 1850	340
<i>Annex 9.</i> Excerpt from L. R. Sykes, "Intraplate Seismicity, Reactivation of Preexisting Zones of Weakness, Alkaline Magmatism, and Other Tectonism Postdating Continental Fragmentation", <i>Reviews of Geophysics and Space Physics</i> , Vol. 16, No. 4, 1978, p. 674	340
<i>Annex 10.</i> Excerpts from J. B. Fletcher, M. L. Sbar and L. R. Sykes, "Seismic Trends and Travel-Time Residuals in Eastern North America and Their Tectonic Implications", <i>Geological Society of America Bulletin</i> , Vol. 89, November 1978, Doc. No. 81106, p. 1656 and Figures 1, 2, 3 and 9	340
<i>Annex 11.</i> Excerpt from E. Uchupi, <i>Atlantic Continental Shelf and Slope of the United States — Physiography</i> , United States Department of the Interior, Geological Survey Professional Paper 529-C, Washington, Government Printing Office, 1968, pp. C5 and C28	340
<i>Annex 12.</i> Excerpt from D. A. Greenberg, "A Numerical Model Investigation of Tidal Phenomena in the Bay of Fundy and Gulf of Maine", <i>Marine Geodesy</i> , Vol. 2, No. 2, 1979, p. 172	341
<i>Annex 13.</i> Canadian and United States Diplomatic Notes of 19 June 1974 (Docs. 1 and 2)	342
<i>Annex 14.</i> Excerpt from G. J. Vermeij, <i>Biography and Adaptation: Patterns of Marine Life</i> , Boston, Harvard University Press, 1978, pp. 2-3	344
<i>Annex 15.</i> Excerpt from J. E. Hazel, <i>Atlantic Continental Shelf and Slope of the United States — Ostracode Zoogeography in the Southern Nova Scotian and Northern Virginian Faunal Provinces</i> , United States Department of the Interior, Geological Survey Professional Paper 529-E, Washington, Government Printing Office, 1970, p. E5	344
<i>Annex 16.</i> Statement of Senator George J. Mitchell, Effects on New England of Canadian Tidal Development: Hearing before the Committee on Environment and Public Works, U.S. Senate, 98th Congress, 1st Session, 25 July 1983, Augusta, Maine	344
<i>Annex 17.</i> United States Diplomatic Note of 27 August 1981	345
<i>Annex 18.</i> Excerpt from letter from Hon. Terry Leitzell, Assistant Administrator for Fisheries, NMFS-NOAA, U.S. Department of Commerce to Senator William S. Cohen, 21 December 1979, in <i>Maritime Boundary Settlement Treaty and East Coast Fishery Resources Agreement</i> , "Hearings before the Committee on Foreign Relations, United States Senate", 96th Congress, 2nd Session, 1980, pp. 185-186	346
<i>Annex 19.</i> Excerpt from I. C. MacGibbon, "The Scope of Acquiescence in International Law", <i>The British Year Book of International Law</i> , Vol. XXXI, 1954, pp. 170-171	346
<i>Annex 20.</i> Excerpt from D. H. N. Johnson, "The Case concerning the Temple of Preah Vihear", <i>The International and Comparative Law Quarterly</i> , Vol. 11, 1962, p. 1203	346

	<i>Page</i>
<i>Annex 21.</i> Excerpt from <i>Federal Register</i> , Vol. 47, No. 236, 8 December 1982, pp. 55313-55314	347
<i>Annex 22.</i> Diplomatic correspondence concerning the United States <i>Federal Register</i> Notice of 8 December 1982 (Docs. 1 and 2)	350
<i>Annex 23.</i> Excerpt from <i>Federal Register</i> , Vol. 48, 19 January 1983, p. 2450	353
<i>Annex 24.</i> Documents pertaining to Canadian Exploratory Licence 2414	355
<i>Annex 25.</i> Amendment No. 1697 of 15 April 1980 to Agreement on East Coast Fishery Resources, Executive V, 96th Congress, 1st Session (1979), proposed by Senator Tsongas (for Senator Kennedy, for himself and Senators Chafee, Durkin, Humphrey, Pell, Ribicoff and Weicker)	358
<i>Annex 26.</i> Excerpt from H. L. Keenleyside and G. S. Brown, <i>Canada and the United States: Some Aspects of Their Historical Relations</i> , New York, Alfred A. Knopf, 1952, pp. 214-215	358
<i>Annex 27.</i> ICNAF, Annual Meeting, June 1969, Proceedings No. 11, Appendix I	358
<i>Annex 28.</i> ICNAF, Annual Meeting, June 1970, Proceedings No. 16, Appendix I and Annex I	359
<i>Annex 29.</i> ICNAF, Special Meeting on Herring, January-February 1972, Proceedings No. 3 and Appendices I and II	360
<i>Annex 30.</i> ICNAF, Annual Meeting, June 1972, Commissioners' Documents 72/12 to 72/17	360
<i>Annex 31.</i> ICNAF, Special Commission Meeting, January 1973, Proceedings No. 5	360
<i>Annex 32.</i> ICNAF, Annual Meeting, June 1973, Commissioners' Document 73/13	360
<i>Annex 33.</i> ICNAF, Annual Meeting, June 1971, Proceedings No. 16, Appendix II	361
<i>Annex 34.</i> ICNAF, Special Commission Meeting, January 1973, Proceedings No. 3	361
<i>Annex 35.</i> ICNAF, Annual Meeting, June 1972, Informal Record of Meeting of the <i>Ad Hoc</i> Committee on Quota Allocation	361
<i>Annex 36.</i> ICNAF, Special Commission Meeting, January 1973, Proceedings No. 4, Appendix I	361
<i>Annex 37.</i> ICNAF, Fourth Special Commission Meeting, January 1974, Proceedings No. 3	362
<i>Annex 38.</i> ICNAF, Annual Meeting, June 1974, Proceedings No. 11	362
<i>Annex 39.</i> ICNAF, Fourth Special Commission Meeting, January 1974, Proceedings No. 5	362
<i>Annex 40.</i> ICNAF, Annual Meeting, June 1973, Proceedings No. 10, Appendices VI and VII	362
<i>Annex 41.</i> ICNAF, Annual Meeting, June 1974, Proceedings No. 10	363
<i>Annex 42.</i> ICNAF, Eighth Special Commission Meeting, January 1976, Proceedings No. 8	363
<i>Annex 43.</i> ICNAF, Seventh Special Commission Meeting, September 1975, Proceedings No. 4, Appendix I and Attachments I and 2	363

	<i>Page</i>
<i>Annex 44.</i> ICNAF, Seventh Special Commission Meeting, September 1975, Commissioners' Document 75/IX/40	363
<i>Annex 45.</i> ICNAF, Seventh Special Commission Meeting, September 1975, Commissioners' Document 75/IX/42	364
<i>Annex 46.</i> ICNAF, Seventh Special Commission Meeting, September 1975, Commissioners' Document 75/IX/49 (2nd Revision) and Attachments 1 and 2	364
<i>Annex 47.</i> ICNAF, Seventh Special Commission Meeting, September 1975, Proceedings No. 5	364
<i>Annex 48.</i> ICNAF, Annual Meeting, June 1959, Proceedings No. 10	364
<i>Annex 49.</i> ICNAF, Annual Meeting, June 1969, Proceedings No. 15	365
<i>Annex 50.</i> ICNAF, Annual Meeting, June 1969, Proceedings No. 17	365
<i>Annex 51.</i> ICNAF, Annual Meeting, June 1971, Commissioners' Document 71/17	365
<i>Annex 52.</i> ICNAF, Annual Meeting, June 1971, Commissioners' Document 71/18 and Corrigenda	365
<i>Annex 53.</i> ICNAF, Annual Meeting, June 1975, Commissioners' Document 75/32	366
<i>Annex 54.</i> ICNAF, Annual Meeting, June 1975, Commissioners' Document 75/33	366
<i>Annex 55.</i> ICNAF, Fourth Special Commission Meeting, January 1974, Proceedings No. 6, Appendix I	366
<i>Annex 56.</i> ICNAF, Annual Meeting, June 1975, Proceedings No. 4, Appendix I and Annex 6	366
<i>Annex 57.</i> Excerpt from <i>ICNAF, Annual Proceedings</i> , Vol. 12, for the year 1961-62, Halifax, N.S., 1962, p. 10, para. 3	367
<i>Annex 58.</i> ICNAF, Twelfth Annual Meeting, June 1962, Proceedings No. 13	367
<i>Annex 59.</i> List of scientific papers reporting Canadian research activities related to ICNAF/NAFO Subarea 5	367
<i>Annex 60.</i> Excerpts from Task Force on Atlantic Fisheries, <i>Navigating Troubled Waters, A New Policy for the Atlantic Fisheries</i> , Ottawa, Supply and Services Canada, 1982, pp. 62 and 78	367
<i>Annex 61.</i> Excerpt from <i>Draft Environmental Impact Statement on the Agreement between the United States and Canada on East Coast Fishery Resources</i> , Washington, United States Department of State, April 1980, pp. 7-8	368
<i>Annex 62.</i> Excerpt from <i>National Fisherman</i> , Camden, Maine, May 1980, p. 11	368
<i>Annex 63.</i> Excerpt from Margaret E. Dewar, <i>Industry in Trouble</i> , Philadelphia, Temple University Press, 1984, pp. 183-184	368
<i>Annex 64.</i> Excerpt from <i>National Fisherman</i> , Camden, Maine, July 1980, p. 4	368
<i>Annex 65.</i> <i>OECD Economic Surveys</i> , 1982, Belgium, Luxembourg, p. 65, Table B	369
<i>Annex 66.</i> Excerpt from <i>OECD Economic Surveys</i> , 1980, Federal Republic of Germany, p. 64, Table A	369
<i>Annex 67.</i> Excerpt from <i>Annuaire statistique de la France</i> , 1982,	

	<i>Page</i>
Paris, Institut national de la statistique et des études économiques, 1982, p. 227, Tableau 3.01-1	369
<i>Annex 68.</i> Excerpt from <i>Statistical Abstract of the United States, 1981</i> , Washington, United States Department of Commerce, Bureau of the Census, p. 424, Table 707	369
<i>Annex 69.</i> Excerpt from <i>Japan Statistical Yearbook</i> , Tokyo, Statistics Bureau, Prime Minister's Office, July 1982, p. 539, Table 348	370
<i>Annex 70.</i> Excerpts from <i>Yearbook of Industrial Statistics</i> , 1980 Edition, Vol. 1, General Industrial Statistics, New York, United Nations, 1982, pp. 47, 174, 195, 271, 286 and 553	370
<i>Annex 71.</i> Excerpt from <i>OECD Economic Outlook</i> , Vol. 33, Organisation for Economic Co-operation and Development, July 1983, p. 44, Table 12	370
<i>Annex 72.</i> Excerpt from R. W. Smith, "The Maritime Boundaries of the United States", <i>The Geographical Review</i> , Vol. 71, No. 4, 1981, p. 402	370
Certification	371
 Reply of the United States of America — Réplique des Etats-Unis d'Amérique	
INTRODUCTION	375
PART I. OVERVIEW	376
PART II. THE HISTORY OF THE DISPUTE IN PROPER PERSPECTIVE: CANADA HAS ASSERTED UNREASONABLE AND INEQUITABLE CLAIMS	380
Introduction	380
Chapter I. Many of the disagreements between the Parties in this case arise out of, and reflect, their different attitudes concerning the law of the sea	381
Section 1. The differences between the Parties concerning the law of the sea first surfaced at the 1958 Law of the Sea Conference and have plagued an otherwise generally harmonious bilateral relationship	381
Section 2. The Parties maintained different attitudes concerning the purposes of the Third United Nations Conference on the Law of the Sea	385
Section 3. The United States rejected the 1979 Fisheries Agreement because it was inconsistent with rights accruing to the United States under the 200-nautical-mile resource zone	387
Chapter II. From the Truman Proclamation forward, the United States consistently has maintained that this maritime boundary must be determined by agreement in accordance with equitable principles and that Georges Bank appertains to the United States; Canada's efforts to establish this boundary unilaterally have failed	392
Section 1. The Truman Proclamation established that this boundary would be determined by agreement in accordance with equitable principles	392
Section 2. The 1958 Geneva Convention on the Continental Shelf carried forward the principles of the Truman Proclamation	393

	<i>Page</i>
Section 3. Georges Bank fell within the United States definition of its continental shelf at the time of the Truman Proclamation . . .	395
Section 4. United States actions always have been consistent with the position that Georges Bank appertains to the United States . .	396
Section 5. The line adopted by the United States on 4 November 1976 was a moderate, good-faith negotiating position	400
Section 6. The United States claim in this adjudication is not extravagant and is consistent with prior United States positions and international law	402
Chapter III. Conclusion: in making its claims in the Gulf of Maine area, Canada has set forth lines that are overreaching	405
PART III. THE PARTIES ARE IN FUNDAMENTAL DISAGREEMENT REGARDING THE LAW APPLICABLE TO THIS CASE; CANADA ASKS THE COURT TO RULE ON THE BASIS OF PREVIOUSLY REJECTED LEGAL ARGUMENTS AND RADICALLY TO ALTER ESTABLISHED LAW, WHEREAS THE UNITED STATES ASKS THE COURT TO RULE ON THE BASIS OF ESTABLISHED LAW AS REINFORCED BY RECENT TRENDS	407
Introduction	407
Chapter I. Canada asks the Court to overturn established law	409
Section 1. Canada reintroduces the notion of proximity, seeking to enhance the role of the equidistance method beyond that provided in Article 6 of the Continental Shelf Convention or under customary law	409
A. The Court and arbitral tribunals have rejected proximity as a basis for delimitation	409
B. Canada's reintroduction of the notion of proximity is based upon incorrect assumptions concerning the Third United Nations Conference on the Law of the Sea	410
Section 2. Canada asserts mistakenly that a "profound transformation of the concept of the continental shelf" has taken place in international law	414
A. The legal regime of the continental shelf remains distinct from that of the 200-nautical-mile resource zone	414
B. Canada misreads the Court's Judgments as they concern the principle of natural prolongation	417
Section 3. Canada asserts that the single maritime boundary is to be established in effect upon the basis of an impermissible <i>ex aequo et bono</i> determination by the Court of an equitable share of the resources in the boundary area	421
Section 4. Canada misapplies Article 6 of the Continental Shelf Convention	424
Chapter II. The equitable principles proposed by the United States are applicable in this case	428
Section 1. The first United States principle: the boundary must respect the relationship between the coasts of the Parties and the maritime areas in front of those coasts	428
A. Nonencroachment	429

	<i>Page</i>
B. Proportionality	431
C. Natural prolongation	432
Section 2. The second United States principle: the boundary should facilitate resource conservation and management	432
Section 3. The third United States principle: the boundary should minimize the potential for international disputes	439
Section 4. The fourth United States principle: the boundary must take account of the relevant circumstances in the area	441
PART IV. THE EQUIDISTANT LINE, AS WELL AS CANADA'S LINE, WOULD IGNORE THE RELEVANT CIRCUMSTANCES IN THE GULF OF MAINE AREA, WHEREAS THE METHOD OF APPLYING AN ADJUSTED PERPENDICULAR TO THE GENERAL DIRECTION OF THE COAST TAKES SUCH CIRCUMSTANCES INTO ACCOUNT	442
Introduction	442
Chapter I. Canada misreads or ignores the relevant geographical circumstances in the Gulf of Maine area	443
Section 1. The location of the land boundary in the far northern corner of the Gulf of Maine	443
Section 2. The general direction of the coast in the Gulf of Maine area	444
Section 3. The coastal concavity that is the Gulf of Maine	445
Section 4. The fishing banks and the Northeast Channel	446
Chapter II. The position of the land boundary in the far northern corner of the Gulf of Maine, and the position of the Nova Scotia peninsula, create geographical imbalances in this case	448
Chapter III. In the geographical configuration of the Gulf of Maine area, the equidistant line and Canada's line produce an inequitable solution	452
Section 1. Both the equidistant line and Canada's line are inequitable because they cut off the seaward extension of the United States coast at Maine and New Hampshire	452
Section 2. Canada misapplies the decision of the Court of Arbitration in the <i>Anglo-French Arbitration</i>	456
Section 3. The geographical relationship of the Parties is that of adjacent States; the coasts of the Parties are geographically adjacent in relation to the area seaward of the Gulf of Maine	458
Section 4. <i>State practice does not reflect the use of equidistance in geographical circumstances similar to those in the Gulf of Maine area</i>	460
Section 5. Both the equidistant line and Canada's line disregard the Northeast Channel, the only natural boundary in the marine environment in the Gulf of Maine area	462
A. Bathymetric contours illustrate that the Northeast Channel is the only significant break in the surface of the Continental Shelf in the Gulf of Maine area	463
B. The scientific data confirm the existence of three separate and identifiable oceanographic and ecological regimes in the Gulf of Maine area	464

	<i>Page</i>
C. The Northeast Channel separates most commercially important fish stocks in the Gulf of Maine area	466
Section 6. Both the equidistant line and Canada's line disregard the predominant interest of the United States in Georges Bank	470
A. The history of the fishing activities of the Parties confirms the predominant interest of the United States in Georges Bank	470
B. Agreements concluded by the Parties confirm the predominant interest of the United States in Georges Bank	472
Chapter IV. In the circumstances of this case, a line from the agreed starting point generally perpendicular to the general direction of the coast, but adjusted to preserve the integrity of separate and identifiable fishing banks, is consistent with the Special Agreement and produces an equitable solution	474
Section 1. The perpendicular method and the United States claim are consistent with the Special Agreement	474
A. The starting point	475
B. The triangle	476
C. The "grey area"	477
Section 2. An adjusted perpendicular to the general direction of the coast is an appropriate method for the delimitation of a single maritime boundary in complex geographical circumstances such as those in the Gulf of Maine area	478
Section 3. There are primary and secondary coastal fronts in the Gulf of Maine area	479
Section 4. The perpendicular method is easily adjusted to take account of relevant circumstances	481
Chapter V. Application of the proportionality test to the delimitation of the single maritime boundary in the Gulf of Maine area confirms that, although the adjusted perpendicular line produces an equitable solution, the Canadian line would not	483
Section 1. The area in which the proportionality test is to be applied is not indeterminate, as Canada suggests	483
Section 2. The Bay of Fundy and its coast should not be included in the calculations for the proportionality test	484
Section 3. Geographical considerations should determine the limits of the relevant coasts	486
Section 4. The lengths of the coasts may be measured by straight lines or along the sinuosities of the coasts	487
Section 5. The area landward of the starting point may be disregarded for purposes of the proportionality test	487
Section 6. The seaward limits of the test area may be defined by the 200-nautical-mile limit or by depth contours of the seabed	488
Section 7. Perpendiculars to the general direction of the coast should define the lateral limits of the test area	489
Section 8. The adjusted perpendicular line achieves a proportionate delimitation, whereas the equidistant line and the Canadian line would not	490

	<i>Page</i>
PART V. CONCLUSION	492
SUBMISSIONS	494
<i>Annexes to the Reply of the United States of America</i>	
Documentary annexes to the Reply (Vol. I)	
<i>Annex 1.</i> A. Gotlieb and C. Dalfen, "National Jurisdiction and International Responsibility: New Canadian Approaches to International Law", in 67 <i>American Journal of International Law</i> , 1973, pp. 229-258	497
<i>Annex 2.</i> United States Department of State, <i>Bulletin</i> , Vol. XLVIII, No. 1248, 27 May 1963, pp. 815-817	498
<i>Annex 3.</i> House of Commons of Canada, debate on the Arctic Waters Pollution Prevention Bill, 16 April 1970, pp. 5952-5953	502
<i>Annex 4.</i> Summary of the Note from the United States Department of State to Embassy of Canada, dated 1 November 1967, as reported in a message from the United States Department of State to Embassy of the United States, Ottawa, dated 2 November 1967	503
Note from the Secretary of State to Embassy of Canada, dated 25 April 1969	503
<i>Annex 5.</i> An Act to prevent pollution of areas of the Arctic waters adjacent to the mainland and islands of the Canadian Arctic, <i>Revised Statutes of Canada, 1970</i> , Chap. 2 (1st Supp.) (Arctic Waters Pollution Prevention Act)	505
<i>Annex 6.</i> L. H. J. Legault, "Maritime Claims", in R. St. J. McDonald, G. L. Morris, and D. M. Johnston, eds., <i>Canadian Perspectives on International Law and Organizations</i> , 1974, pp. 377-397	506
<i>Annex 7.</i> Declaration by Canada recognizing as compulsory the jurisdiction of the International Court of Justice, in conformity with Article 36, paragraph 2, of the Statute of the International Court of Justice, New York, 7 April 1970, 724 <i>UNTS</i> 64	528
<i>Annex 8.</i> Note from the Secretary of State to Embassy of Canada, dated 14 April 1970	529
Note No. 105 from Embassy of Canada to the United States Department of State, dated 16 April 1970	529
Note from the Secretary of State to Embassy of Canada, dated 5 May 1970	529
<i>Annex 9.</i> Statement by Ambassador Cadieux, legal discussions concerning implications of Anglo-French Arbitration Award for Canada/USA maritime boundary delimitation in the Gulf of Maine area, Ottawa, 14 October 1977	538
<i>Annex 10.</i> Maritime Boundary Settlement Treaty and East Coast Fishery Resources Agreement: Hearings before the Committee on Foreign Relations, United States Senate, 96th Congress, 2nd Session, pp. 1-9, 18-21 and 74-76 (15-17 April 1980) (Statements of Senator Pell, Senator Cohen, Senator Chafee, Deputy Secretary of State Christopher, and Senator Weicker)	540
<i>Annex 11.</i> Committee on Foreign Relations, United States Senate, 86th Con-	

	<i>Page</i>
gress, 2nd Session, Report on the Conventions of the Law of the Sea, Executive Report No. 5, dated 27 April 1960	540
Hearing before the Committee on Foreign Relations, United States Senate, 86th Congress, 2nd Session, on Executives J, K, L, M and N (The 1958 Law of the Sea Conventions), 20 January 1960, pp. 82-93	540
<i>Annex 12.</i> Department of External Affairs, "Canada/USA Maritime Boundary Delimitation, Gulf of Maine/Georges Bank Area", dated 10 June 1977	541
<i>Annex 13.</i> "Extension of Fisheries Zone", Notes for a statement by the Secretary of State for External Affairs, the Honorable Don Jamieson, in the House of Commons, Ottawa, 19 November 1976	545
<i>Annex 14.</i> D. G. Crosby, <i>Definition of the Continental Shelf: Article 76, L.O.S. Convention — Application to Canadian Offshore</i> , Law of the Sea Institute, <i>Proceedings</i> , Annual Conference, Halifax, 24 June 1982	548
D. Sherwin, "Commentary", in F. T. Christy, Jr., T. A. Clingan, Jr., J. K. Gamble, Jr., H. G. Knight and E. Miles, eds., <i>Law of the Sea Institute, Proceedings</i> , 9th Annual Conference, 6-9 January 1975, pp. 193-197	548
<i>Annex 15.</i> Aide-Mémoire from Embassy of Canada to the United States Department of State, dated 7 March 1983	549
Aide-Mémoire from the United States Department of State to Embassy of Canada, dated 8 April 1983	549
<i>Annex 16.</i> International Hydrographic Bureau, <i>Chart Specifications of the I.H.O.; Section 400, Hydrography and Navigational Aids</i> , 1979, pp. 4-11 and 4-12	551
Canada Hydrographic Service, <i>Symbols and Abbreviations Used on Canadian Nautical Charts</i> , Chart 1, July 1981, p. 18	551
<i>Annex 17.</i> J. A. Gulland, <i>Guidelines for Fishery Management</i> , Food and Agriculture Organization, Indian Ocean Programme, Indian Ocean Fishery Commission, IOFC/DEV/74/36, September 1974, p. 2	551
<i>Annex 18.</i> Aide-Mémoire from Embassy of Canada to the United States Department of State, dated 4 January 1974	552
Aide-Mémoire from the United States Department of State to Embassy of Canada, dated 22 April 1974	552
<i>Annex 19.</i> Figure: Application of the equidistance method giving "half effect" to the southwestern coast of Nova Scotia	555
Analytical annexes to the Reply (Vol. II)	
<i>Annex 20.</i> A critique of the analysis in the Canadian Counter-Memorial of the concept of a stock	557
<i>Annex 21.</i> A critique of the analysis in the Canadian Counter-Memorial of stock divisions in the Gulf of Maine area	564
<i>Annex 22.</i> A critique of the analysis in the Canadian Counter-Memorial of the 12 species that Canada proposes to add to the 16 species identified by the United States as commercially important	578

	<i>Page</i>
<i>Annex 23.</i> A critique of the analysis in the Canadian Counter-Memorial of the distribution of fish species in the Gulf of Maine area . . .	585
<i>Annex 24.</i> A critique of the analysis in the Canadian Counter-Memorial of the distribution of benthos in the Gulf of Maine area	592
<i>Annex 25.</i> A critique of the analysis of the Canadian Counter-Memorial of the physical oceanography of the Gulf of Maine area: temperature and salinity	598
<i>Annex 26.</i> A critique of the analysis in the Canadian Counter-Memorial of the geomorphology in the Gulf of Maine area	604
<i>Annex 27.</i> A critique of the analysis in the Canadian Counter-Memorial of the geology in the Gulf of Maine area	610
<i>Annex 28.</i> A critique of the analysis in the Canadian Counter-Memorial of the historical and recent activities of United States fishermen on Georges Bank	613
<i>Appendix A to Annex 28.</i> Number of United States fishing vessels by major port, tonnage class, and year (1965-1981): Maine, New Hampshire, Massachusetts, Rhode Island, New Jersey, Maryland and Virginia	625
<i>Appendix B to Annex 28.</i> Recent newspaper articles concerning the condition of the Canadian Atlantic fishing industry, and steps being taken by the national and provincial governments to assist that industry	625
<i>Appendix C to Annex 28.</i> The Canadian "lower-coast" argument	626
<i>Annex 29.</i> A critique of the evidence in the Canadian Counter-Memorial regarding Canada's historical fishing activities on Georges Bank	629
<i>Appendix A to Annex 29.</i> <i>The Grace and Ruby</i> , 283 Federal Reporter 475 (District of Massachusetts, 1922)	639
<i>Appendix B to Annex 29.</i> P. C. Jessup, <i>The Law of Territorial Waters and Maritime Jurisdiction</i> , 1927, pp. 242-247	646
<i>Annex 30.</i> A critique of the discussion on the Canadian Counter-Memorial of the defense activities of the Parties in the Gulf of Maine area	654
<i>Appendix A to Annex 30.</i> Declarations adopted by the Meeting of the Foreign Ministers of the American Republics at Panama, 3 October 1939, Charles Bevans, ed., <i>Treaties and Other International Agreements of the United States of America: 1776-1949</i> , Vol. 3, pp. 604-610	656
<i>Appendix B to Annex 30.</i> Telegram from Commander-in-Chief, United States Atlantic Fleet, to Naval Service Headquarters of Canada, dated 24 April 1943	657
<i>Appendix C to Annex 30.</i> "History of Convoy and Routing", Headquarters of the Commander-in-Chief, United States Fleet and Commander, Tenth Fleet, United States Navy Department, Washington D.C., 1939-1945, p. 38	660
<i>Annex 31.</i> A critique of the arguments in the Canadian Counter-Memorial concerning the purported economic dependence of Nova Scotia upon Georges Bank	662
<i>Appendix A to Annex 31.</i> D. F. Francis, "The U.S. View: Free Trade Looms", <i>Atlantic Business</i> , August, 1983, pp. 14-16	668

	<i>Page</i>
<i>Appendix B to Annex 31.</i> R. Surette, "Fishery Costs for New Relationship", <i>Atlantic Business</i> , August, 1983, pp. 25-32	669
<i>Appendix C to Annex 31.</i> W. W. Warner, <i>Distant Water</i> , 1977, pp. 310-313	674
<i>Annex 32.</i> A critique of the analysis in the Canadian Counter-Memorial relating to the significance of Georges Bank to the "small vessel" fleet and the small fish processing plants of Nova Scotia . . .	675
<i>Appendix A to Annex 32.</i> Distribution of the 1980 Georges Bank groundfish catch within southwest Nova Scotia by vessel category (landings in metric tons)	683
<i>Appendix B to Annex 32.</i> Reliance of the fisheries districts of southwest Nova Scotia upon groundfish caught on Georges Bank in 1980 by small vessels (landings in metric tons)	683
<i>Appendix C to Annex 32.</i> Reliance of the fisheries districts of southwest Nova Scotia upon groundfish caught on Georges Bank in 1980 in terms of value (Can. \$ 1980 × 1,000)	683
<i>Appendix D to Annex 32.</i> Nova Scotia inshore, offshore and total landings by district for 1980 (volume in metric tons, value in Can. \$ 1980)	684
<i>Appendix E to Annex 32.</i> "Protest Mounts over 4X Cod Closure", <i>The Sou'wester</i> , 1 August 1983, p. 2	684
<i>Annex 33.</i> A technical description of the limits, distances, and areas used in the proportionality tests depicted at Figures 33 and 35 of the United States Memorial, Figures 24 and 25 of the United States Counter-Memorial, and Figures 2 and 3 of the United States Reply .	685
<i>Annex 34.</i> Technical information associated with the application of the proportionality test in the restricted area limited by the coastlines between Nantucket Island and Cape Sable	690
<i>Annex 35.</i> A discussion of the use of rhumb lines and geodetic lines in this case	704
<i>Annex 36.</i> Certification	707

REPLY OF CANADA

RÉPLIQUE DU CANADA

INTRODUCTION

1. This Reply is filed in accordance with the order of 27 July 1983 issued by the President of the Chamber of the International Court of Justice formed to deal with the case concerning Delimitation of the Maritime Boundary in the Gulf of Maine Area, fixing 12 December 1983 as the time limit for the filing of the Replies of both Parties¹.

2. The purpose of this Reply, in keeping with Article 49, paragraph 3 of the Rules of Court, is to bring out the issues that still divide the Parties, in the light of the written pleadings already submitted. To this end, every effort has been made to focus only on the major issues dividing the Parties and on the most important errors and omissions in the United States Counter-Memorial. The fact that a contention or allegation appearing in that Counter-Memorial is not discussed in the present Reply cannot be construed as an admission by Canada that such contention or allegation is correct or relevant, or that the facts on which it may be based are accurately presented and properly interpreted.

3. Part I of this Reply provides a general assessment of the United States Counter-Memorial and identifies the issues still dividing the Parties. Part II examines these issues with a view to throwing further light on them and placing them in their proper perspective. Part III presents a balancing-up of the relevant circumstances. Part IV provides a summary of principal conclusions. Part V sets out Canada's Submission. In addition, this Reply includes an Annex in two volumes.

¹ *I.C.J. Reports 1983*, pp. 6-7.

PART I: AN OVERVIEW

CHAPTER I

GENERAL ASSESSMENT OF THE UNITED STATES COUNTER-MEMORIAL

Introduction

4. The United States Counter-Memorial appears to be oriented towards a “solution” that bears no relation to law or equity and is incompatible with the task of the Court. It relies on mere repetition to support novel arguments unknown to international law, whose validity has nowhere been demonstrated by the United States. It avoids important issues and leaves Canada’s real contentions largely untreated and entirely unrebutted. Its Annexes are marked by errors and inconsistencies; where they do present scientific facts rather than subjective interpretations, they often support Canada’s views rather than the claims of the United States.

Section I. The Shifts of Emphasis in the United States Counter-Memorial Appear to Be Oriented Towards a “Solution” That Is Incompatible with the Task of the Court

5. Perhaps the most striking feature of the United States Counter-Memorial is that it appears to have all but abandoned the so-called “adjusted perpendicular line”, which is given no substantial treatment whatever. This is not surprising in view of the fact that this line — first proposed in the United States Memorial — has no antecedent in the history of the dispute. Even in the first written pleading of the United States, it was evident that the “adjusted perpendicular line” was intended chiefly to widen the disputed area to the greatest possible extent, given that the underlying United States claim is directed to securing the greatest possible area of Georges Bank.

6. The United States has now reverted to the theme of the Northeast Channel that marked its claim from 1976 to 1982, in order to give still greater emphasis to this superficial feature as an alleged “natural boundary”. At the same time, the United States Counter-Memorial erroneously invokes State practice in the North Sea and the Bay of Biscay to suggest that the use of the equidistance method in the Gulf of Maine area should be limited to the innermost part of the Gulf itself. These shifts of emphasis seem to offer the Northeast Channel as the principal basis for a purported “solution” or “compromise” that would still give the whole of Georges Bank to the United States. This approach is divorced from both equity and law and is incompatible with the task of the Court as defined in its Statute and in the Special Agreement.

Section II. The United States Counter-Memorial Relies on the Repetition of Formulas to Support Novel Arguments Whose Validity Has Nowhere Been Demonstrated by the United States

7. The United States claim rests to a great extent on arguments previously unknown to the law of maritime boundaries. They lay a heavy burden of proof on the United States, which has in no way been discharged. The United States, for instance, makes frequent appeals to the principle that "the land dominates the sea"¹. This principle, of course, is a valid one in its proper context, but the United States attempts to make it serve all ends. Accordingly, the maxim is advanced in defence of the propositions that the location of the land boundary terminus should be a controlling factor in this case; that the seaward extension of the coasts should be on the basis of perpendicularity; and that economic geography is irrelevant. Upon closer examination, it becomes clear that there is a missing link in the chain of reasoning followed by the United States — a missing link, that is, between premise and conclusion, between assertion and demonstration. What is left is a kind of ritualistic appeal to authority in which principles are reduced to simple formulas.

8. Repetition cannot transform mere assertion into hard proof. Despite the repeated references to "primary" and "secondary" coasts in its Memorial and Counter-Memorial, the United States nowhere provides any scientific or legal authority to demonstrate the validity of this notion or to identify its source. Despite repeated references to "separate and identifiable ecological regimes" and to a "natural boundary", the United States nowhere establishes that such concepts have been accepted in science or in law, leaving aside the factual inaccuracies in its presentation of the ecology of the Gulf of Maine area. Repeated and misleading references are also made to the "broad geographical relationship of the Parties as adjacent States", "with Canada to the north and the United States to the south of the common land boundary"; yet the United States again nowhere proves that such geopolitical factors have been received into the law of maritime boundary delimitation and take precedence over the particular geographical situation in the relevant area.

9. The same pattern holds true with other recurring themes. The United States does not substantiate the legal significance it attaches to the "terminus of the land boundary" and to the "protrusion of Nova Scotia south of the land boundary". The United States does not show any legal foundation for its theory of "single-State management" or administrative convenience as a basis of delimitation, quite apart from the factual inaccuracies in its presentation of resource distribution in the Gulf of Maine area. Finally — and again without regard to factual inaccuracies — the United States does not indicate how its reliance on the notion of "dominance" can be reconciled with the legal basis of title to a 200-mile zone of maritime jurisdiction or with the principle of equality within the same order.

¹ *United States Counter-Memorial*, pp. 3-7, para. 7; p. 110, para. 125; p. 183, para. 291; pp. 189-190, paras. 298-300; p. 265, para. 410(b).

10. The United States arguments noted above are radical in their novelty, both in legal and (in some cases) scientific terms. They are crucial to the United States claim, but they also have profound implications going well beyond the present proceedings. Canada submits that they have not been proven and, moreover, that they have been rebutted in the Canadian Counter-Memorial.

11. The Annexes to the United States Counter-Memorial also fail to meet a reasonable standard of proof. Quite apart from their errors and inconsistencies, they often bear no relation to the contentions in the United States Counter-Memorial which they are alleged to support. Indeed, in some cases, they actually contradict such contentions or support Canada's contentions. In yet other cases, there is a total discrepancy between the text of an Annex and the accompanying illustrations. These peculiarities of the Annexes to the United States Counter-Memorial are examined in greater detail in paragraphs 182 to 184, 188, 189, 297, 306 and 307, and in Volume II, Part I, of the Annexes to the present Reply.

Section III. The United States Counter-Memorial Avoids Important Issues and Rebutts Arguments Canada Has Never Made

12. The United States Counter-Memorial is more notable for the issues it avoids than for the issues it addresses. In some instances, it simply maintains a discreet silence on issues that are embarrassing to the United States position. Examples are found in the failure to give substantial treatment to almost all of the most important legal questions that arise in the present case: the significance of the Special Agreement; the scope of Article 6 of the Convention on the Continental Shelf²; the concept of the single maritime boundary³; the evolution of the customary and conventional law of the sea, including the distance principle as the legal basis of title and as a factor relevant to delimitation⁴; and the legal object and purpose of the 200-mile zone. Instead of dealing with these central legal problems, the United States continues to rely on a pastiche of so-called "equitable principles" which, for the most part, flow not from the applicable law but from an arbitrary and inequitable goal.

13. Another way in which the United States seeks to evade the real issues in play is by demolishing straw men of its own devising, while presenting them, quite inaccurately, as contentions advanced by Canada. Examples are found in the Counter-Memorial's assertions that Canada proposes an apportionment *ex aequo et bono* based on distributive justice⁵; that Canada relies on arguments concerning relative national

² With the exception of: *United States Counter-Memorial*, p. 109, footnote 2.

³ With the exception of: *United States Counter-Memorial*, p. 109, para. 122.

⁴ With the exception of: *United States Counter-Memorial*, pp. 140-141, para. 205.

⁵ *United States Counter-Memorial*, pp. 113-124, paras. 136-158.

wealth⁶; that Canada posits the equidistance method as a matter of juristic inevitability⁷; and that Canada takes the position that the 1979 Agreement on East Coast Fishery Resources has created binding legal obligations⁸. These inaccurate representations of Canada's position arise from a persistent refusal to make essential distinctions: between a decision *ex aequo et bono* and an equitable result; between relative wealth and economic dependence (or contingent prospects of resource exploitation and actual exploitation); between equidistance as an absolute rule and proximity as an important factor; and, finally, between binding obligations and evidence of conduct. The failure to make such vital distinctions goes to the heart of the United States presentation.

Section IV. The United States Counter-Memorial Fails to Rebut Those Canadian Arguments It Does Address

14. The United States Counter-Memorial does, of course, essay a *rebuttal of certain arguments* actually made by Canada. Thus, it attempts to deny the consequences of United States conduct with regard to the Gulf of Maine area, and especially United States acquiescence in and recognition of the use of the equidistance method in this area from at least 1965 to 1969. It also seeks to belittle the vital economic dependence of southwest Nova Scotia on the fishery resources of Georges Bank.

15. In addition, the United States tries to rebut the Canadian case by introducing certain new arguments in its Counter-Memorial. *First*, it makes further attempts to refashion geography and reorder nature, by ascribing to Maine and New Hampshire the status of an independent nation-State⁹ in order to compare their situation, quite inappropriately, with that of the Federal Republic of Germany in the North Sea, and by speculating, quite pointlessly, about the environmental consequences for the Gulf of Maine area if the Northeast Channel did not exist¹⁰. *Secondly*, it appeals to two isolated and misinterpreted examples of State practice in the North Sea and the Bay of Biscay, and misapplies them to the quite different circumstances of the Gulf of Maine area¹¹. *Thirdly*, it puts forward the startling thesis that alleged incompatibilities of fisheries management policies should be a barrier to equitable delimitation¹². *Fourthly*, it asserts, in clear contradiction of the facts, that Canada would not be affected by marine pollution incidents on Georges Bank¹³.

⁶ *United States Counter-Memorial*, pp. 125-137, paras. 159 and 161-191.

⁷ *United States Counter-Memorial*, pp. 137-149, paras. 192-224.

⁸ *United States Counter-Memorial*, pp. 151-154, paras. 225-234.

(112) ⁹ *United States Counter-Memorial*, pp. 227-228, paras. 377-380; Figure 28.

¹⁰ *United States Counter-Memorial, Marine Environment Annex*, Vol. I, Part A, Annex 1, Chap. III.

(112)-(118) ¹¹ *United States Counter-Memorial*, pp. 226-262, paras. 374-407, Figures 28-39.

¹² *United States Counter-Memorial*, pp. 222-224, paras. 359-368.

¹³ *United States Counter-Memorial*, pp. 225-226, paras. 369-373.

16. These rebuttal arguments and new arguments introduced in the United States Counter-Memorial are without substance. The present Reply will give them such further treatment as may be required to demonstrate this conclusively.

Conclusion

17. The United States has failed to address essential issues and has made assertion serve for evidence and formulas for principles. It has allowed its "shadow claim" to a Northeast Channel line to show through the device of the "adjusted perpendicular line". At the same time, through a series of inappropriate analogies with quite different boundaries, it has suggested that equidistance might be acceptable in the innermost part of the Gulf — but not, paradoxically, in the seaward areas where the relationship of the coasts is most markedly opposite. The United States claim, with or without the shifts in emphasis in the United States Counter-Memorial, remains founded on a *mélange* of improvised concepts and misconceived principles of maritime boundary delimitation, all far removed from the objective of an equitable result.

CHAPTER II

THE IDENTIFICATION OF ISSUES

Introduction

18. Article 49, paragraph 2 of the Rules of Court requires that the Reply be directed to bringing out the issues that still divide the Parties. The following paragraphs identify these issues as seen by Canada at the present stage of the proceedings. The issues are stated as a series of questions under six broad headings, namely: (i) the fundamental concepts of the applicable law; (ii) continental geography or the geography of the Gulf of Maine area; (iii) the alleged "natural boundary"; (iv) the significance of the conduct of the Parties; (v) the relevance and reality of southwest Nova Scotia's dependence on Georges Bank; and (vi) the correlation of an appropriate method with an equitable result in the particular geographical circumstances of this case.

19. The questions raised below are not, of course, exhaustive of the differences between the Parties. They are stated in summary fashion and naturally they cannot take into account contentions that may be advanced in the United States Reply. Accordingly, Canada reserves the right to add to or otherwise amend its presentation of the outstanding issues during the course of the oral proceedings.

Section I. Fundamental Concepts of the Applicable Law

The Nature of Equitable Principles and the Legal Framework within Which They Must Be Applied

20. Should equitable principles be identified and applied within the framework of the applicable law, including the 1958 Convention on the Continental Shelf and the sources of law respecting the exclusive economic zone or the 200-mile fishing zone, in the light of their appropriateness for achieving an equitable result in the particular circumstances of each case? In addition, is Article 6 of the Convention applicable in this case as a binding treaty rule in relation to the continental shelf or as a particular expression of a general norm in the determination of the single maritime boundary?

Or should equitable principles (i) be identified and applied without reference to the applicable law and the internal principles of the legal system giving rise to the zones to be delimited, and (ii) have a universal *a priori* validity independent of the relevant circumstances of each case and of the result to be achieved? And is Article 6 of the Continental Shelf Convention inapplicable as a treaty rule or as a particular expression of a general norm?

The Principle of Appurtenance

21. Is appurtenance founded on proximity and adjacency, having regard to the distance principle as the legal basis of title and to the principle of equality within the same order?

Or is appurtenance founded on a geometrical conception of the "seaward extension" of the coasts perpendicular to a continentally determined general direction, without regard to the principle of equality within the same order?

The Criteria for Identifying Relevant Circumstances

22. Do the nature and purpose of the zones to be delimited provide the appropriate objective criteria for identifying and balancing up the relevant circumstances?

Or should relevant circumstances be identified and balanced up without reference to any objective criteria?

**Section II. Continental Geography or the Geography
of the Gulf of Maine Area**

The Appropriate Geographical Framework

23. Should the geographical circumstances be assessed in the particular framework of the Gulf of Maine area?

Or should the geographical circumstances be assessed in a continental framework?

The Equality or Inequality of Coasts

24. Does the law of maritime boundaries reject any hierarchical distinction of "primary" and "secondary" coasts as being inconsistent with the principle of equality within the same order and with the concept of a constant and uniform distance from the coast as the legal basis of title?

Or does the law recognize a distinction between "primary" and "secondary" coasts on the basis of their orientation relative to a continentally determined general direction?

The General Configuration of the Coasts

25. Is the geographical relationship of the Parties relative to the area to be delimited predominantly one of oppositeness, reflecting the changing coastal directions of a multi-sided concavity?

Or is this relationship one of adjacency, determined on the basis of a single coastal direction?

The Effect of Particular Geographical Features

26. Are Cape Cod and Nantucket Island incidental special features aberrant to the general configuration of the coast that would have a disproportionate effect if used in determining the course of a boundary line; that is, are they special circumstances?

Or are these features consistent with the general configuration of the coast of the Gulf of Maine area and are they therefore to be used in determining the course of the boundary line?

The Relationship of Georges Bank to the Relevant Coasts

27. Does Georges Bank appertain geographically to the abutting coasts of Nova Scotia and Massachusetts on the basis of proximity and adjacency as confirmed by the evidence of genuine physical and human links?

Or does Georges Bank appertain geographically to the coasts of Maine and New Hampshire on the basis of a geometrical conception of the "seaward extension" of the "primary" coast?

Section III. The Alleged "Natural Boundary"

The Existence and Relevance of Alleged Seabed and Water-Column Discontinuities

28. Should the requirement for an equitable result determined on the basis of equitable principles within the law take precedence over any alleged "natural boundary"?

Or can an alleged "natural boundary" dispense with the need to achieve an equitable result determined on the basis of equitable principles within the law?

29. Does the existence of a single natural prolongation in the Gulf of Maine area, as recognized by both Parties, refute any thesis that the Northeast Channel constitutes a "natural boundary"?

Or can the Northeast Channel be viewed as a "natural boundary" even if it does not divide two separate continental shelves?

30. Is the oceanographic system of the Gulf of Maine area essentially continuous, and is this question legally relevant to the determination of the single maritime boundary?

Or can the oceanographic system of the area be divided into "three separate and identifiable ecological regimes" that determine the single maritime boundary dividing the continental shelf and 200-mile fishing zones or economic zones of the Parties?

Section IV. The Significance of the Conduct of the Parties

Conduct in Relation to Acquiescence, Recognition and Estoppel

31. Does the absence of protest by the United States, in the face of Canada's prolonged exercise of continental shelf jurisdiction up to an equidistance line in the Gulf of Maine area, constitute acquiescence in or recognition of an equidistance boundary in this area? In addition, does this conduct of the United States raise an estoppel in favour of Canada?

Or does this conduct of the United States not constitute such acquiescence or recognition, or raise an estoppel in favour of Canada?

Conduct in Relation to a Modus Vivendi or De Facto Maritime Limit

32. Does the prolonged observance of an equidistance line by Canada and of a very similar equidistance line by the United States (the "BLM line" described in this Reply), as well as the observance of these lines by several dozen oil companies with interests in the Gulf of Maine area, demonstrate the existence of a *modus vivendi* or *de facto* maritime limit?

Or is this observance of an equidistance line irrelevant in relation to any *modus vivendi* or *de facto* maritime limit?

Conduct in Relation to Indicia of Equity

33. Does the conduct of the Parties in relation to continental shelf activities, the negotiation and signature of the 1979 Agreement on East Coast Fishery Resources, their adherence to the International Convention for the Northwest Atlantic Fisheries, and their participation in the Commission established thereunder, constitute evidence of the mutual interest of the Parties in Georges Bank and provide indicia of what the Parties themselves have considered equitable?

Or are any or all of these activities irrelevant as indicia of equity?

34. Are State activities legally *irrelevant* to the determination of the single maritime boundary when they are unrelated to the subject matter of the zones to be delimited and took place before such zones were contemplated, and thus cannot provide indicia of what the Parties themselves have considered equitable?

Or can such State activities provide the basis for determining an equitable result?

**Section V. The Relevance and Reality of Southwest Nova Scotia's
Dependence on Georges Bank**

Established Fishing Patterns and Relative Dependence

35. Are the established fishing patterns of the Parties on Georges Bank, and the relative economic dependence of their coastal communities thereon, relevant to the determination of the single maritime boundary?

Or are these factors indistinguishable from considerations of relative national wealth and the sharing-out or apportionment of resources?

**Section VI. The Appropriate Method and Equitable Result in the
Particular Geographical Circumstances of the
Gulf of Maine Area**

Appropriate Method

36. Is the method appropriate to achieving an equitable result in the particular geographical circumstances of this case one that reflects the general configuration of the coasts abutting the area to be delimited?

Or is the appropriate method one based on a hypothetical general direction of the east coast of North America?

Equitable Result

37. Should proportionality as a test of equity in this case be applied in a manner that takes account of the general configuration of the coast bordering the Gulf of Maine area?

Or can this test be applied in a manner that ignores major coastal features forming part of the Gulf of Maine area in the view of both Parties?

Conclusion

38. The identification of issues assumes a special importance in "a case of first impression". Those identified above are central to the present proceedings and have been fully discussed in the Canadian pleadings to date. They are further examined in Part II of this Reply, against the background of the United States Counter-Memorial.

PART II. THE ISSUES THAT DIVIDE THE PARTIES

CHAPTER I

FUNDAMENTAL CONCEPTS OF THE APPLICABLE LAW

Introduction

39. Three major issues respecting the law of maritime boundaries continue to divide the Parties at this stage:

First, with respect to the basic legal rules, the Parties agree on the fundamental norm of equitable principles, but they disagree profoundly on the nature of these principles and on the framework within which they must be applied in order to produce an equitable result within the law. Although the United States has conceded the relevance and applicability of the equidistance-special circumstances rule in Article 6 of the Convention on the Continental Shelf, it seeks to disregard the rule in its approach to the present case.

Secondly, the Parties have radically different views on the legal and geographical principles of appurtenance. Canada accords an important though by no means absolute role to proximity, having regard to the equidistance-special circumstances rule, the distance principle as the basis of title to a 200-mile zone, and the principle of equality within the same order. The United States relies upon a macrogeographical and geometrical conception of appurtenance, based upon perpendicularity as the criterion of the seaward extension of the coasts and upon discrimination between so-called "primary" and "secondary" coasts.

Thirdly, the United States pleadings indicate a total lack of any legal criteria for the identification and balancing-up of the relevant circumstances. For Canada, relevant circumstances must be associated with the subject matter of the zones to be delimited; and the object and purpose of these zones serve as a measure of relevance and weight.

In addition, the Parties are divided on the nature of acquiescence, recognition and estoppel and the application of these doctrines to the present case. This latter issue will be dealt with in Chapter IV, at paragraphs 206 to 247.

Section I. The Parties Disagree on the Nature of Equitable Principles and on the Legal Framework within Which They Must Be Applied

A. CONTRARY TO THE ALLEGATIONS IN THE UNITED STATES COUNTER-MEMORIAL, CANADA RELIES UPON EQUITABLE PRINCIPLES WITHIN THE LAW

40. The United States miscasts the Canadian view of equitable principles and of an equitable result. Thus, the United States Counter-Memorial devotes an entire chapter to an attack on a proposition that

Canada has never put forward: namely, that it is the function of the Court to make an equitable apportionment of the Gulf of Maine area and its resources through an exercise in distributive justice, without regard to the equitable principles previously identified by the Court¹.

41. Canada has not dispensed with the need to identify and to apply equitable principles. Rather, Canada has taken due note of the Court's admonition that it is futile to interpret equitable principles in the abstract, apart from the equitable character of the solution they produce. The Court stated in the *Tunisia-Libya Continental Shelf* case that "[t]he principles to be indicated by the Court have to be selected according to their appropriateness for reaching an equitable result²". It stressed the predominance of the result, whose equitable character can be assessed only in relation to the relevant circumstances of each individual case. The Court has also held that what is required is the application of "considerations lying not outside but within the rules³". As was noted in the Canadian Counter-Memorial, the Court put the point very clearly in the *Fisheries Jurisdiction* cases when it said:

"It is not a matter of finding simply an equitable solution, but *an equitable solution derived from the applicable law*⁴." [*Italics added.*]

42. These views of the Court have been taken into account in the Canadian pleadings. Thus, the Canadian Counter-Memorial articulated five propositions that are fundamental to the application of equitable principles within the law. For the convenience of the Court they are repeated here.

- (a) Equitable principles must be identified (a) and applied on the basis of the applicable law.
- (b) The boundary should respect the basis of coastal State title.
- (c) The boundary should respect the basic purposes of the rights and jurisdiction in issue.
- (d) The boundary should take account of legally relevant circumstances.
- (e) The result of the application of equitable principles must itself be equitable in the light of all the relevant circumstances⁵.

Propositions (a) and (e) are dealt with in Section I of this chapter. Proposition (b) is dealt with in Section II. Propositions (c) and (d) are dealt with in Section III.

¹ *United States Counter-Memorial*, p. 112, para. 132; pp. 113-124, paras. 136-158.

² *I.C.J. Reports 1982*, pp. 59-60, para. 70.

³ *I.C.J. Reports 1969*, p. 48, para. 88.

⁴ *I.C.J. Reports 1974*, p. 33, para. 78; p. 202, para. 69; *Canadian Counter-Memorial*, p. 227, para. 546.

⁵ *Canadian Counter-Memorial*, p. 227, para. 545.

43. In the context of the above general legal considerations, the Canadian Counter-Memorial identified three principles that will lead to an equitable result in accordance with international law in the present case. These principles have been put forward not as a system of universal rules, but as principles that are appropriate in the light of the relevant circumstances. For the convenience of the Court they too are repeated here.

- (a) In the geographical and other circumstances of this case, the boundary should leave to each Party the areas of the sea that are closest to its coast, provided that due account is taken of the distorting effects of particular geographical features in the relevant area.
- (b) The boundary should allow for the maintenance of established patterns of fishing that are of vital importance to coastal communities within the relevant area.
- (c) The boundary should respect the indicia of what the Parties themselves have considered equitable as revealed by their conduct⁶.

These three principles are solidly grounded in the applicable law and the relevant circumstances of the present case. They have nothing to do with the notion of equitable apportionment or with a decision *ex aequo et bono*.

B. THE UNITED STATES DISREGARDS BOTH EQUITY AND THE APPLICABLE LAW

44. The United States has misconceived the nature of equitable principles in at least two different respects. In the first place, it sets up an opposition between law and equity that runs counter to the whole philosophy of the fundamental norm. It does so by taking the equity out of equitable principles: for equity in this context is to be understood in accordance with its ordinary, commonsense meaning. In the second place, having disposed of equity by depriving it of its real content and its ordinary meaning, the United States dispenses with the applicable law. It does so by ignoring the treaty law between the Parties, the legal basis of title and the legal nature of the rights and jurisdiction in issue.

1. *Equitable Principles Distinguished from Equitable Apportionment*

45. The United States Counter-Memorial fails to make the elementary but vital distinction between an equitable result within the law and an equitable apportionment *ex aequo et bono*. There is nothing elusive about the distinction. The fundamental norm of equitable principles *within the law* requires the application of equity in order to secure an equitable result, but it also requires that equity be applied in the light of

⁶ *Canadian Counter-Memorial*, pp. 252-253, para. 608.

the relevant rules and principles of international law. An equitable division is a decision *ex aequo et bono* if it is effected without regard to the applicable law; but an equitable division that takes account of and reflects the applicable law is not only admissible, it is *required* by the fundamental norm and the Court's ruling that "[t]he result of the application of equitable principles must [itself] be equitable".

46. The United States Counter-Memorial objects to the importance Canada attaches to the balancing-up of relevant circumstances, on the grounds that this suggests a decision *ex aequo et bono*. Canada, accordingly, is obliged to point out that the balancing process is not a Canadian invention but rather an integral part of the application of equitable principles, as emphasized by the Court itself, notably in the *North Sea Continental Shelf* cases. On that occasion, the Court stated that it was the "balancing-up" of all the "considerations" or "factors"⁷ that would produce a "reasonable result" in keeping with equitable principles⁸. More recently, in distinguishing the application of equitable principles from a decision *ex aequo et bono* in the *Tunisia-Libya Continental Shelf* case, the Court re-stated the law very clearly and simply:

"The task of the Court in the present case is quite different: it is bound to apply equitable principles as part of international law, and to *balance up* the various considerations which it regards as relevant in order to produce an equitable result¹⁰." [*Italics added.*]

47. The United States Counter-Memorial also errs in denying the relevance of established economic dependence and in linking this factor as well to a decision *ex aequo et bono*. The United States deliberately confounds the two very different concepts of economic dependence and relative national wealth, in order to include economic dependence among the extraneous general economic considerations that were dismissed as irrelevant by the Court in the *Tunisia-Libya Continental Shelf* case¹¹. Canada's point is not that economic dependence can refashion geography, but rather that *geography can fashion the economy* of a State or region; not that economic dependence can override or substitute for the legal basis of appurtenance, but rather that it can provide guidelines to an equitable solution in an area of overlap where the legal basis of title allows more than one State to assert a claim. Far from being rejected in the *Tunisia-Libya Continental Shelf* case, these factors are central to an equitable solution, as clearly distinguished from a decision *ex aequo et bono*.

48. In the words of Sir Hersch Lauterpacht, "adjudication *ex aequo et bono* amounts to an avowed creation of new legal relations

⁷ *I.C.J. Reports 1982*, pp. 59-60, para. 70.

⁸ *I.C.J. Reports 1969*, pp. 50-51, paras. 93-94.

⁹ *I.C.J. Reports 1969*, p. 49, para. 90.

¹⁰ *I.C.J. Reports 1982*, p. 60, para. 71.

¹¹ *I.C.J. Reports 1982*, pp. 77-78, paras. 106-107.

between the parties¹²". Herein precisely lies the difference between Canada and the United States in the present proceedings. Canada seeks confirmation of the existing legal relations between the Parties, in particular those relations created by Article 6 of the Convention on the Continental Shelf and by the conduct of the Parties themselves. The United States, on the other hand, attempts to avoid the consequences of these existing legal relations in denying the relevance of Article 6 and the relevance of conduct directly linked to the dispute. The United States, moreover, seeks to create *new legal relations* — and indeed new geographical relations — between the Parties on the basis of macrogeography and geopolitics, "dominance", administrative convenience and yet other theories having no roots in the law in force between the Parties, while at the same time rejecting any consideration of economic factors that go to the very nature and purpose of the zones to be delimited.

2. *Equitable Principles Distinguished from Monopoly*

49. Two of the "equitable principles" relied upon by the United States — that the boundary should facilitate conservation and management of resources, and that it should minimize the potential for disputes — are purely *ad hoc* inventions with no basis in the law, and have been introduced here for the sole purpose of rationalizing the United States claim to the entirety of Georges Bank. They rest on the premise that the objective of "single-State management" would be ill-served by a boundary across Georges Bank, because such a line would allegedly divide more fish stocks than a line to the east of the Bank. Even if the factual assumptions of the United States argument were accurate — which, of course, is far from being the case — the principles it invokes would remain little more than considerations of administrative convenience with no basis in the law.

50. The conservation of transboundary resources and the avoidance of disputes are precepts of international cooperation that presuppose the existence of common interests, and that simply beg the question of the area in which each coastal State may validly assert a title. There are at least three separate reasons why these considerations as formulated by the United States have no place in the law of delimitation. *First*, they have no logical connection with the basis upon which international law attributes coastal State title to offshore zones. *Secondly*, they misconceive the object and purpose of the zones whose delimitation is in issue. *Thirdly*, they cannot be considered equitable principles because they point in the direction of inequality and monopoly — and this is precisely the end to which they are directed in the United States pleadings. It is one thing to hold that an equitable apportionment of resources is

¹² H. Lauterpacht: *The Development of International Law by the International Court*. New York, Frederick A. Praeger, 1958, p. 213. *Reply, Annexes*, Vol. II, Part IV, Annex 1.

not in itself a rule of delimitation, but quite another to suggest rules that are designed to guarantee exactly the opposite result.

51. It is not only a distortion but a basic error of principle to confuse coastal State management with "single-State management" as the United States has used that term. The Convention on the Law of the Sea and the formative stages of the development of the exclusive economic zone concept show clearly that bilateral or regional cooperation between coastal States has always been envisaged as an integral and indispensable aspect of the new régime of coastal State management¹³. It could hardly have been otherwise in view of the mobility of fishery resources in all parts of the world.

52. The United States aversion to the concept of transboundary resources has a new characterization in the United States Counter-Memorial. It is described as "the tragedy of the commons¹⁴". There is, in fact, no similarity between a true commons like the high seas and an area divided by a line between two States, each of them endowed with exclusive authority on its own side of the line. Bilateral cooperation where each of two States has full authority on its own side of the line is not only feasible and effective in a way that international management of the fishery resources of the high seas was not; it is also legally required.

53. Conservation and dispute avoidance are not principles of delimitation but operational factors to be taken into account by States in the management of transboundary resources. The Canadian Counter-Memorial has shown that cooperation is the solution that international law prescribes for the management of shared natural resources, and not the drawing of a boundary in a vain attempt to eliminate the need for such cooperation¹⁵. The concept of single-State management, as applied by the United States and rationalized in its list of "equitable principles", is simply a pretext for monopoly. It is neither an equitable principle nor a basis of coastal State title.

C. ARTICLE 6 OF THE CONTINENTAL SHELF CONVENTION IS APPLICABLE BOTH AS A BINDING TREATY RULE AND AS THE PARTICULAR EXPRESSION OF A GENERAL NORM

54. The United States Memorial barely mentioned Article 6 of the Convention on the Continental Shelf, although its relevance and its application to the Parties were conceded. In the United States Counter-Memorial, Article 6 has disappeared from view altogether — apart from a footnote¹⁶ — notwithstanding its obvious importance as the sole explicit rule of positive law that is applicable in this case. This provision

¹³ *Canadian Counter-Memorial*, pp. 209-218, paras. 507-520.

¹⁴ *United States Counter-Memorial*, p. 218, para. 352.

¹⁵ *Canadian Counter-Memorial*, pp. 205-219, paras. 497-524.

¹⁶ *United States Memorial*, p. 101, para. 165; *United States Counter-Memorial*, p. 109, footnote 2.

is directly relevant to the continental shelf as a component of the single maritime boundary; moreover, as a particular expression of a general norm¹⁷, and one that fully reflects the distance principle as the basis of title to a 200-mile zone, the combined equidistance-special circumstances rule in Article 6 is also relevant to the boundary in its entirety.

55. The Canadian Counter-Memorial has set out in full the Canadian position on the effect of the equidistance-special circumstances rule¹⁸. This rule operates within the framework of the fundamental norm of equitable principles. Accordingly, it requires that the equidistance method is to be used in those cases where it produces an equitable result; if it does not, an abatement or variation should be tried; or an entirely different method may be used if the circumstances so require. In Canada's submission, the equidistance-special circumstances rule has obligatory force in the present case by virtue of Article 6 of the Convention on the Continental Shelf.

56. The position of the United States on Article 6 is deeply inconsistent. The United States builds its attack on proximity by taking certain observations in the *North Sea Continental Shelf* cases out of their original context¹⁹; but it disregards the fact that much of the reasoning in that judgment was devoted to the initial ruling that Article 6 was not applicable. On the other hand, the United States ignores the precedent where Article 6 has been applied — the Atlantic region in the *Anglo-French Continental Shelf* award. The United States has shown no reason why Article 6 is inapplicable to a single maritime boundary that simultaneously delimits both the continental shelf and the water column, and its reliance on continental shelf considerations suggests the opposite conclusion. The United States has also failed to substantiate its assertion that the combined rule in Article 6 is inconsistent with the provisions of Articles 74 and 83 of the United Nations Convention on the Law of the Sea. Indeed the United States Counter-Memorial cites with approval a passage from the judgment in the *Tunisia-Libya Continental Shelf* case where the Court appears to have arrived at precisely the opposite conclusion²⁰.

Section II. The Parties Disagree on the Legal and Geographical Basis of Appurtenance

A. THE CANADIAN CLAIM TAKES ACCOUNT OF THE LEGAL BASIS OF TITLE

57. The United States contends that the issue of title to maritime areas is entirely distinct from the issue of the delimitation of those

¹⁷ *Anglo-French Continental Shelf* award, pp. 48-49, para. 70.

¹⁸ *Canadian Counter-Memorial*, pp. 228-229, paras. 547-551.

¹⁹ *United States Counter-Memorial*, pp. 137-139, paras. 194-200.

²⁰ *United States Counter-Memorial*, p. 144, para. 212; *I.C.J. Reports 1982*, pp. 78-79, para. 109.

areas²¹. Canada holds the contrary view. The basis of title provides an indispensable standard of reference in interpreting and applying the general rules of delimitation, and it ensures that these rules maintain a genuinely juridical character. In the present case, the distance principle represents the legal basis of title in respect of both the continental shelf and 200-mile fishing zones that are to be delimited by a single maritime boundary.

1. The Relevance of the Basis of Title

58. Delimitation is by definition a process of determining in precisely what maritime space, and within precisely what limits, each of two opposite or adjacent coastal States may validly assert a title. A delimitation that pays no heed to the legal basis of title is a delimitation divorced from legal standards; it is an apportionment of shares rather than a delimitation as such, within the meaning the Court has given that term. In the *North Sea Continental Shelf* cases, the Court said that delimitation is essentially a process of "drawing a boundary line between areas which already appertain to one or other of the States affected²²", and not of awarding shares in a previously undelimited area. The issue of title is crucial to this distinction.

59. Contrary to the assertion in the United States Counter-Memorial, the legal basis of title was central to the reasoning of the Court in the *North Sea Continental Shelf* cases. The Court translated natural prolongation, as the basis of title to the continental shelf at that time, into the key principle of continental shelf delimitation under customary law. The correlation of title with delimitation is explicit and unequivocal: because natural prolongation was said to confer the "*ipso jure* title" of a coastal State to the continental shelf, it was treated as decisive in the evaluation of competing claims in the delimitation process. It is precisely for this reason that the Court held that unless an area constituted the "most natural" prolongation of a State's territory, it could not be regarded as appertaining to that State in the face of a competing claim²³. Non-encroachment itself is a concept that has no meaning apart from a basis of title that permits an identification to be made of the areas that must be regarded as appertaining to one or the other of the two coastal States, and upon which no encroachment should be allowed. In challenging the relevance of title, the United States has chosen to ignore the central principles of the reasoning of the Court in the *North Sea Continental Shelf* cases.

²¹ *United States Counter-Memorial*, pp. 137-138, para. 195; p. 139, para. 199; pp. 140-141, para. 205.

²² *I.C.J. Reports 1969*, pp. 22-23, para. 20.

²³ *I.C.J. Reports 1969*, p. 31, para. 43. The Court also stated that: "the continental shelf of any state must be the natural prolongation of its land territory and must not encroach upon what is the natural prolongation of the territory of another state." *I.C.J. Reports 1969*, p. 46-47, para. 85.

60. While the Court has made the basis of title a central consideration in the law of delimitation, it has been careful to avoid a rigid or mechanical equation between the two issues. Because the issue of delimitation properly arises within a "marginal area"²⁴ of overlap where more than one State can theoretically assert a claim, considerations of title cannot eliminate the need to examine a broader range of equitable principles²⁵. But the basis of title is indispensable in identifying where the marginal area really lies. Even more important, it provides an objective standard — although not an exclusive one — for determining which State has the stronger claim in any portion of that marginal area.

61. The present case differs fundamentally from the *North Sea Continental Shelf* cases in that natural prolongation is not the basis of title to a 200-mile economic zone. But the underlying principle — that the legal basis of appurtenance, whatever its nature, should be taken into account — can readily be adapted to the modified circumstances of the new law of the sea.

2. The Distance Principle

62. Canada's position on the distance principle and its relevance to delimitation has been fully discussed in the Canadian Counter-Memorial²⁶. If understood correctly, the distance principle means that adjacency within a distance of 200 miles from the coast is the sole basis of title to a 200-mile fishing zone or exclusive economic zone; it must be given appropriate weight if title is to be respected in the delimitation of such zones.

63. The distance principle calls for consideration in connection with the continental shelf as well. One of the principal reasons for convening the Third United Nations Conference on the Law of the Sea was that, once the obsolescence of the exploitability test had become apparent, a more precise formula for the definition of continental shelf rights became essential. Natural prolongation could serve as a conceptual point of departure, but could contribute little to the need for precision. Article 76 of the new Convention on the Law of the Sea, combining the distance principle with natural prolongation in a single formula, is the solution the Conference has provided for this problem.

64. In the *Tunisia-Libya Continental Shelf* case, the Court observed that Article 76 of the Convention on the Law of the Sea provides that distance measured on the surface of the sea is, in certain circumstances, the basis of title to continental shelf rights. It characterized this development as the "trend towards the distance principle"²⁷. The

²⁴ *I.C.J. Reports* 1969, pp. 22-23, para. 20; *I.C.J. Reports* 1982, pp. 58-59, para. 69.

²⁵ *I.C.J. Reports* 1969, p. 32, para. 46; *I.C.J. Reports* 1982, pp. 46-47, para. 44.

²⁶ *Canadian Counter-Memorial*, pp. 230-242, paras. 555-578.

²⁷ *I.C.J. Reports* 1982, pp. 48-49, para. 48.

criteria in Article 76 of the convention are no longer a matter of controversy, and the use of the distance principle in the definition of continental shelf rights has been widely accepted — and accepted by Canada and the United States in particular. Moreover, the new doctrine of the exclusive economic zone, governed solely by the common denominator of the distance principle, comprises the seabed and the subsoil within 200 miles of the coast in its integrated jurisdiction²⁸.

65. The United States Counter-Memorial argues that the distance principle applies only to the outer limit of coastal State jurisdiction. It insists that distance “is associated with title under international law rather than with delimitation²⁹”, as if the two could be so easily dissociated in the context of a delimitation to be carried out in accordance with legal principles and rules. In this, the United States simply disregards both the principles of the *North Sea Continental Shelf* cases³⁰ and the passages in the *Tunisia-Libya Continental Shelf* case³¹ in which the Court discussed the general basis of title as a question relevant to delimitation, as well as the potential relevance of the distance principle. If the application of equitable principles is to remain within a genuinely legal framework, there cannot be a divorce between the basis of title and the rules of delimitation.

66. The distance principle strengthens the role of relative proximity to the coast as a factor in the law of delimitation. The central ruling of the Court in the *North Sea Continental Shelf* cases was that where natural prolongation was the sole basis of title, each party should receive “as much as possible” of its natural prolongation without encroachment on that of another State³². The same general approach can easily be transposed, and far more easily applied, to maritime zones where distance from the coast serves as the basis of title. In these situations, each party should generally receive as much as possible of its 200-mile entitlement without encroachment on the corresponding entitlement of the other party. The equidistance method most precisely reflects this requirement.

67. As was stated in the Canadian Counter-Memorial, proximity is a factor and not a method³³; but it is a factor that is most aptly served by equidistance in a broad variety of geographical situations. In this regard, where the application of equidistance is geographically appropri-

²⁸ The United States accepted the 200-mile criterion in relation to the seabed in President Reagan's recent proclamation on the exclusive economic zone of the United States. For the text of this proclamation, see *Canadian Counter-Memorial, Annexes*, Vol. IV, Annex 1.

²⁹ *United States Counter-Memorial*, pp. 140-141, para. 205.

³⁰ See discussion in paras. 58-61.

³¹ *I.C.J. Reports 1982*, pp. 45-49, paras. 42-48.

³² *I.C.J. Reports 1969*, p. 53, para. 101(C)(1)(*dispositif*).

³³ *Canadian Counter-Memorial*, pp. 231-232, para. 559.

ate, it parallels and reflects the equality and uniformity of entitlement that serves as the basis upon which title is defined by the distance principle.

B. THE UNITED STATES CLAIM MISCONCEIVES THE LEGAL BASIS OF TITLE

68. For the United States, perpendicularity is far more than a possible method of delimitation. The central tenet of its argument is that the boundary must respect the seaward extension of the coastal fronts of the Parties — “extension” being conceived in strictly perpendicular terms and “coastal fronts” being defined on a continental scale. Although perpendicularity is not a term the United States has used to describe the seaward extension of the coasts and the legal basis of title, the United States description of how the concept is intended to operate shows that this is intended to be its practical effect. At the same time, the United States puts forward the thesis of a “natural boundary” that is divorced from any view of the legal basis of title, including the United States notion of perpendicularity.

1. Unlimited Perpendicularity as the Basis of the Seaward Extension of the Coasts

69. The United States scheme of coastal fronts and perpendicular extensions is said to be justified by the general proposition that the boundary should respect the relationship between the coasts of the Parties and the maritime areas “in front of” those coasts³⁴. As depicted by the United States, the extent of the maritime area “in front of” a coast — which constitutes the seaward extension of that coast for an unlimited distance out to sea — is defined in terms of lines perpendicular to a continentally determined general direction of the coast. The seaward extension of the coast is not only limited to the area so defined, but is deemed to comprise the totality of that area³⁵. The United States theory excludes the possibility of the seaward extension of another coast projecting into the area in question, no matter how long that coast may be or how much greater its proximity.

70. It is this conception that forms the basis of the United States position that all of the disputed area outside the Gulf of Maine is within the seaward extension of Maine, and not within that of the more proximate coasts of Nova Scotia and Massachusetts. It is this conception, moreover, that underlies the United States argument that the Canadian line fails to respect the “coastal fronts” of the Parties and, more specifically, that it cuts off the “seaward extension” of Maine and New Hampshire³⁶. Although the United States denies any connection between title

³⁴ *United States Counter-Memorial*, pp. 183-193, paras. 291-302.

(37) ³⁵ *United States Counter-Memorial*, pp. 183-189, paras. 292-298; Figure 23.

³⁶ *United States Counter-Memorial*, pp. 184-189, paras. 296-298.

and delimitation, its notion of the perpendicular extension of a coastal front serves as a substitute for the basis of title in the United States system. The approach is unsound for a number of reasons, especially because of its purely geometrical character, which disregards geographical realities by eliminating considerations of scale, relative proximity and the actual configuration of the coast.

71. The Court never used the expression "in front of" the coast, on which the United States builds so much of its argument, as a description of the general basis of appurtenance. The phrase occurs in the passage of the *North Sea Continental Shelf* cases that dealt with the cut-off effect³⁷. When the Court noted that there are situations where equidistance would cause the line to "swing out laterally" across another State's coastal front, it clearly had in mind adjacent coasts in an essentially lateral alignment. Closeness to the coast was an essential element of the Court's description of the cut-off effect, evident both in the language used — "areas situated *directly* before that front", "zones situées *juste* devant sa façade maritime³⁸" — and in the cross-reference to paragraph 8 of the judgment, where the Court had emphasized the relatively short distance from the German coast at which the two equidistance lines converged³⁹. [*Italics added.*] The phrase "in front of" is one of a number whose use in the development of the continental shelf doctrine had been noted by the Court, which observed that all of them were terms "of a somewhat imprecise character", with "considerable fluidity of meaning⁴⁰". Neither the phrase itself, nor any other connoting the idea of a perpendicular extension, is found in the *dispositif* or in the summary of basic principles in paragraph 85 of the judgment. The United States has built its entire conception of entitlement upon a single phrase, taken out of its legal and geographical context and transformed from a vague description of physical location into a complete ideology of maritime boundary delimitation.

72. The Court spoke of the "extension" or continuation of the land territory under the sea in the context of natural prolongation⁴¹. It did not equate this principle with the idea of a perpendicular extension of coastal fronts or suggest that any single geometrical formulation of the principle would have a general validity, or even be possible. Where the coasts are laterally aligned, a scheme of perpendicularity often serves as an accurate depiction of the seaward extensions of the coast. However, where the geography is irregular, with rounded configurations and multiple changes in the direction of the coast, this approach mistakes form for substance⁴².

³⁷ *I.C.J. Reports 1969*, p. 31, para. 44.

³⁸ *I.C.J. Reports 1969*, pp. 31-32, para. 44.

³⁹ *I.C.J. Reports 1969*, pp. 17-18, para. 8.

⁴⁰ *I.C.J. Reports 1969*, p. 30, para. 41.

⁴¹ *I.C.J. Reports 1969*, p. 31, para. 43.

⁴² *Anglo-French Continental Shelf* award, p. 110, para. 234.

73. Where the distance principle is the basis of title, as in the present case, the inappropriateness of the United States conception becomes most obvious and pronounced. The most fundamental characteristic of the distance principle is that the maritime zone of a coastal State extends outward in every direction within the prescribed distance from the coast. This forms the basis of what Canada referred to in its Counter-Memorial as the radial projection of the coasts⁴³. In this framework, *no single direction is legally preferred*. The United States version of the seaward extension of the coasts cannot be reconciled with the distance principle as a basis of title, because it implies that an extension at right angles to a continentally determined coastal front is legally preferred to an extension in any other direction.

74. When the land boundary is situated in a deep coastal concavity, the conception of a seaward extension based on perpendicularity is almost always inappropriate, whatever the basis of title. This is because the oppositeness implied by this configuration creates converging frontal extensions within the concavity, stating rather than solving the problem of delimitation within that area. When the perpendicular extensions emerge from the zone of convergence created by the concavity, they almost always lie off another coast that is quite distinct from, and far closer than, the coastal front that is alleged to generate the extension [Figure 1]. The logic of a scheme of appurtenance that systematically attaches a maritime area to the more distant coast (often far more distant) is manifestly unsound. It detaches the delimitation of the seaward areas from the coasts that actually abut those areas, and accordingly it violates the basis of title either within a framework of natural prolongation or under the distance principle.

75. These difficulties are clearly apparent in the manner in which the United States has applied its scheme to the Gulf of Maine area. Figure 31 of its Memorial, which has resurfaced as Figure 23 of its Counter-Memorial, shows the absurdities and inequities that result from the United States conception of the seaward extension of the coast. At its greatest extension, the arrow that describes the projection of eastern Maine is almost twice as far from the coast of Maine as from that of Nova Scotia. The colour-coding (pink for the United States and blue for Canada) helps to illustrate the unsoundness of this interpretation of geography. The United States scheme places the Canadian territorial sea a few miles off Cape Sable within the United States extension (pink), even though these waters are not only Canadian but also over 100 nautical miles from the United States; and it *must* produce this result if a scheme of perpendicularity is to be maintained in this complex geographical situation. The United States is forced to this extreme position for the simple reason that once the Canadian coast is allowed to *begin* projecting in the direction of Georges Bank, there is no conceivable reason why it should not project as far in that direction as the corresponding portions of the United States coast.

⁴³ *Canadian Counter-Memorial*, pp. 62-63, paras. 151-152; pp. 233-237, paras. 564-568; Figures 15 and 41.

76. The United States contention that Maine and New Hampshire are entitled to a perpendicular extension "seaward to the limits of coastal-State jurisdiction"⁴⁴ is therefore unfounded in law. The claim fails in the light of the greater proximity of Nova Scotia in much of the area in question. It also fails, of course, because Maine and New Hampshire are not independent States, and there is no basis in international law for attributing particular entitlements to the political subdivisions of a sovereign State. The United States proposition, in any event, is a variant of the "sector" theory advanced in the *North Sea Continental Shelf* cases⁴⁵, in the sense that it implies a guaranteed extension to a given point on the map for the coasts of both Maine-New Hampshire and Massachusetts, whatever the geographical and other circumstances. That theory depended on the doctrine of the just and equitable share, and was, of course, rejected by the Court.

77. But the repeated suggestion in the United States Counter-Memorial that Canada seeks to deny a seaward extension to the coasts of Maine and New Hampshire is clearly misleading. On the contrary, the Canadian claim accords these coasts an ample seaward extension, comprising a greater area within the Gulf of Maine than is left to Canada⁴⁶. Indeed, paragraph 355 and *Figure 35* will show that the argument that the Maine and New Hampshire coasts are being wrongly denied their seaward extension is inconsistent with the position of the United States throughout the course of the dispute until the Memorials were filed in September 1982. What Canada contests is not that the coasts of Maine and New Hampshire should have a full seaward extension; it is the entirely different proposition that these coasts should have an *unlimited* seaward extension, based on perpendicularity, into areas that are closer and much more closely related to the Nova Scotia landmass.

78. Perpendicularity, in Canada's view, has never been and is not now a basis of title. The appropriateness of its use, either as a method of delimitation or as a mode of conceptualizing the geography, is wholly dependent on the geographical circumstances of the relevant area. If the perpendicular extension of coastal fronts were a basic principle of appurtenance, as the United States suggests, perpendicularity would necessarily acquire a special status as a method of delimitation; for only in this way could the scheme of perpendicular extensions envisaged by the United States be respected. The net result would be the creation of a "perpendicularity-special circumstances" rule to serve in the place of the equidistance-special circumstances rule heretofore known to the law. The Canadian Counter-Memorial has shown that there is no basis in the law or in State practice for such a view, and that perpendicularity is in fact an infrequent method of delimiting offshore areas⁴⁷.

⁴⁴ *United States Counter-Memorial*, p. 189, para. 298.

⁴⁵ *I.C.J. Reports 1969*, pp. 20-23, paras. 15-20.

⁴⁶ *Canadian Memorial*, p. 153, footnote 86. See also *Reply*, Chap. VI, footnote 23.

⁴⁷ *Canadian Counter-Memorial*, pp. 265-273, paras. 633-644.

79. The plain fact is that a scheme of perpendicularity cannot be applied to an area where two of the relevant coasts (forming part of a series) are virtually at right angles to each other. The position of Nova Scotia, as well as its importance and extent, therefore rule out this approach *ab initio* in the Gulf of Maine area. This insuperable difficulty requires the United States to improvise a whole series of make-shift contrivances in an effort to keep its basic scheme intact. *First*, the reliance on macrogeography is essential if the configuration of Nova Scotia is to be deprived of its normal and proper effect. *Secondly*, the terminal point of the existing international boundary must influence the course of the entire maritime boundary — not *in spite of the fact that it lies well to the north of the Nova Scotia landmass* and therefore fails to reflect the position and importance of that area, but precisely *because of that fact*. *Thirdly*, the southwest coast of Nova Scotia must be reduced to the status of a “secondary” coast for exactly the same reason. All of these devices are essential if the coasts of the Parties are to be depicted as laterally aligned, adjacent coasts of a configuration where a scheme of perpendicularity could plausibly be applied either as a basis of appurtenance or as a method of delimitation. All of them have as their single purpose the elimination of the effect of the Nova Scotia coasts that abut the relevant area. The entire structure of the United States argument, in short, is aimed at refashioning the geography of the relevant area.

2. The Myth of the “Natural Boundary”

80. The United States alleges that the Northeast Channel “helps to create and to define a natural boundary” in the Gulf of Maine area⁴⁸. Canada has already demonstrated that there is no scientific basis for this argument⁴⁹, and paragraphs 162 to 200 of the present Reply provide further evidence to this effect. The issue addressed here is the relationship between the United States theory and the legal basis of title.

81. Canada’s position on the concept of the “natural boundary” as a matter of law is set out in the Canadian Memorial⁵⁰ and Counter-Memorial⁵¹. It need only be noted here that a “natural boundary” was at least a hypothetical possibility when *natural prolongation* represented the legal basis of title, in circumstances where the delimitation of the continental shelf involved an area that exhibited “such a marked disruption or discontinuance of the sea-bed as to constitute an indisputable indication of the limits of two separate continental shelves, or two separate natural prolongations⁵²”. In the present case, the Parties agree that the seabed in the Gulf of Maine area is part of a single, continuous continental shelf:

⁴⁸ *United States Counter-Memorial*, pp. 198 and 203, para. 315.

⁴⁹ *Canadian Counter-Memorial*, pp. 68-99, paras. 168-245; *Canadian Counter-Memorial, Annexes*, Vol. I.

⁵⁰ *Canadian Memorial*, pp. 130-131, paras. 306-310; p. 183, para. 428(d).

⁵¹ *Canadian Counter-Memorial*, pp. 221-225, paras. 529-538.

⁵² *I.C.J. Reports 1982*, p. 57, para. 66.

in other words, that there is *no* “natural boundary” dividing two separate natural prolongations⁵³. This fact alone is sufficient to dispose of the United States thesis.

82. In addition, however, it must again be emphasized that the boundary in this case is a single maritime boundary dividing, in effect, the 200-mile exclusive economic zones of the Parties. In these circumstances, a “natural boundary” becomes an even more implausible concept in both fact and law; for such a boundary would have to be “natural”, *first*, in terms of the seabed — which the Parties agree it is not — and *secondly*, in terms of the water column as well, in complete defiance of the essential continuity that characterizes ocean systems. *Thirdly*, such a boundary would also have to take account of the distance principle as the legal basis of title, which it clearly cannot do. And *fourthly*, it would have to be consistent with an equitable result, whereas in fact it has been advanced to produce a result as far removed from equity as possible.

83. The concept of the natural boundary has fared poorly both in the jurisprudence respecting the continental shelf and in State practice. The Norwegian Trough was ignored in establishing maritime boundaries in the North Sea. The *Anglo-French Continental Shelf* award held that the Hurd Deep-Hurd Deep Fault zone was simply “a fact of nature”; its use for purposes of delimitation “would run counter to the whole tendency of State practice on the continental shelf in recent years⁵⁴”. In the *Tunisia-Libya Continental Shelf* case, both parties founded their respective positions on the physical characteristics of the seabed and subsoil; and both positions were emphatically rejected by the Court⁵⁵.

84. The judgment in the *Tunisia-Libya Continental Shelf* case noted the possibility — but only as a hypothetical possibility — that a structure not amounting to an interruption of the shelf might in certain circumstances be taken into account in determining the course of a continental shelf boundary⁵⁶. It made clear, however, that the appropriateness of such use would be wholly dependent upon whether the result so obtained was in itself equitable. A geomorphological feature could figure only “as one of several circumstances considered to be the elements of an equitable solution⁵⁷”; in other words, as a means and not as an end in itself. This, in the final analysis, is the fatal flaw in the United States proposal that the Northeast Channel should function as a natural boundary. The solution is utterly devoid of equity. It disregards both the relationship of the offshore area to the coastal geography, and thus the maxim that the land dominates the sea, and the other relevant

⁵³ *Canadian Counter-Memorial*, p. 27, para. 60.

⁵⁴ *Anglo-French Continental Shelf* award, p. 63, para. 107.

⁵⁵ *I.C.J. Reports 1982*, pp. 53-54, para. 61; p. 58, paras. 67-68.

⁵⁶ *I.C.J. Reports 1982*, p. 58, para. 68; p. 64, para. 80.

⁵⁷ *I.C.J. Reports 1982*, p. 58, para. 68.

circumstances that must be taken into account as the elements of an equitable solution. The United States concept must fail because it is neither an equitable principle nor a manifestation of the legal basis of title.

Section III. The Parties Disagree on the Need for Legal Criteria for the Identification and Balancing-Up of the Relevant Circumstances

A. CANADA RELIES UPON RELEVANT CIRCUMSTANCES THAT ARE ROOTED IN THE OBJECT AND PURPOSE OF THE ZONES TO BE DELIMITED

85. The surest guide to the right solution in law, to the extent that the law itself fails to spell out the answer in precise and detailed terms, lies in the object and purpose of the legal rule or régime that governs the case. The notion of equitable principles is especially closely associated with the goal of fidelity to the object and purpose of the régime. Professor Reuter has identified a respect for "la finalité", the object and purpose of a legal rule, as one of the principal ways in which equity makes its presence felt in international law⁵⁸. Similarly, the law of treaties requires the object and purpose of a treaty to be taken into account in its interpretation. For Canada, accordingly, the relevant circumstances in the present case must be associated with the subject matter of the zones to be delimited. The United States, on the other hand, offers no legal criteria of relevance and puts forward a claim of "dominance" based on extraneous State activities.

1. An Established Dependence Linking the Adjacent Coasts to the Fisheries of the Relevant Area

86. The Canadian Counter-Memorial has shown that the development of international law respecting 200-mile fishing zones or exclusive economic zones was associated from the outset with a single dominant purpose⁵⁹. This purpose is an economic one, based upon a recognition of the special dependence of coastal States upon the resources of their coasts, and its main object is to secure for present and future generations of coastal State populations the primary benefit of the maritime resources of their adjacent waters. The progress of the international negotiations and State practice that led to this recognition was accompanied and encouraged by the jurisprudence of the Court. The *Fisheries* case, and to a far greater extent the *Fisheries Jurisdiction* cases of 1974, accorded legal significance to the economic dependence of coastal populations or communities upon the fisheries of their adjacent waters.

87. Although the *Fisheries Jurisdiction* cases were not concerned with delimitation as such, the determination of the Court with regard to

⁵⁸ P. Reuter: "Quelques réflexions sur l'équité en droit international." *Revue belge de droit international*, Vol. 15, 1980, pp. 165-186.

⁵⁹ *Canadian Counter-Memorial*, pp. 191-193, paras. 460-463.

equitable principles in those cases is directly relevant to the present case. The Court can surely look to its judgments in closely associated fields to determine what principles are equitable, and what solutions may properly be regarded as derived from the applicable law. Indeed, the Court drew a parallel with the *North Sea Continental Shelf* cases in the passage of the *Fisheries Jurisdiction* cases dealing with the notion of an equitable solution derived from the applicable law⁶⁰.

88. More generally, the United States discussion of the manner in which the relevant jurisprudence has dealt with economic factors is not only in error; at times it is wholly at odds with the language the courts actually used. There is, for example, no evidence whatever that the reference in the *North Sea Continental Shelf* cases to the relevance of natural resources "so far as known or readily ascertainable⁶¹" was intended to be limited to the issue of the unity of deposits, which, the Court noted, were frequently *divided* in State practice⁶². Similarly, the reference to the potential relevance of the presence of oil wells in the *Tunisia-Libya Continental Shelf* case is found in a passage of the judgment dealing with economic factors⁶³; the context demonstrates that it was not, contrary to the United States contention, cited by the Court as evidence of the conduct of the parties.

89. In the *Fisheries* case, the Court invoked the "vital needs" of the population and the "reality and importance" of certain economic interests; long usage was referred to as evidence attesting these characteristics, and not as the essence of the interests as such⁶⁴. Finally, the

⁶⁰ *I.C.J. Reports 1974*, p. 33, para. 78; p. 202, para. 69.

⁶¹ *I.C.J. Reports 1969*, pp. 53-54, para. 101(D)(2)(*dispositif*).

⁶² *I.C.J. Reports 1969*, pp. 51-52, para. 97; p. 52, para. 99.

⁶³ *I.C.J. Reports 1982*, pp. 77-78, paras. 106-107.

⁶⁴ *I.C.J. Reports 1951*, pp. 128, 133 and 142:

"In these barren regions the inhabitants of the coastal zone derive their livelihood essentially from fishing.

Such are the realities which must be borne in mind in appraising the validity of the United Kingdom contention that the limits of the Norwegian fisheries zone laid down in the 1935 Decree are contrary to international law.

Finally, there is one consideration not to be overlooked, the scope of which extends beyond purely geographic factors: that of certain *economic interests peculiar to a region, the reality and importance* of which are clearly evidenced by a long usage. [*Italics added.*]

Such rights, founded on the vital needs of the population and attested by very ancient and peaceful usage, may legitimately be taken into account in drawing a line which, moreover, appears to the Court to have been kept within the bounds of what is moderate and reasonable."

For discussions of economic dependence as an equitable principle, see: C. Wilfred Jenks: *The Prospects of International Adjudication*. London, Oceana Publications, 1965, pp. 327-328; V. D. Degan: *L'Equité et le Droit international*. La Haye, Martinus Nijhoff, 1970, p. 225; S. Rosenne: *The Law and Practice of the International Court*. Leyden, A. W. Sijthoff, 1965, Vol. 2, pp. 605-606.

importance which the *Grisbadarna* award accorded to economic dependence upon the fishing banks in question is surely manifest, contrary to the view held by the United States: the tribunal expressly referred to the "greater importance" of the fishery to the Swedish inhabitants of Koster⁶⁵. Indeed, a well-known study based upon a broad survey of adjudications and arbitrations dealing with boundaries, both maritime and terrestrial, has concluded that established economic interests have dominated the general international law of maritime claims, and that "[a]ctual exploitation of the resources of the disputed area is probably the most decisive consideration⁶⁶".

90. Canada attaches importance to a specific category of economic circumstances in the present case: the established economic dependence of the inhabitants of the geographically adjacent coasts upon the resources of the relevant area. Canada does not rely on extraneous considerations of relative national wealth or poverty (although such considerations are often implicit in the evidence adduced by the United States⁶⁷); nor does it rely upon prospective or contingent economic interests similar to those that might be represented by a hydrocarbon discovery in the context of a case centred on the continental shelf.

91. The issue here is economic dependence as an established fact, and as an *expression and consequence of the physical geography*. This economic dependence links the geographically adjacent coasts to resources located squarely in the area in dispute, in contrast to the situation considered in the *Tunisia-Libya Continental Shelf* case⁶⁸. In further contrast, of course, this is a case where fishery resources are directly in issue, and central to the dispute, and it is these resources that form the basis of the economic dependence invoked by Canada. It is a known dependence upon the known resources of the disputed area; and the jurisprudence has recognized the relevance to delimitation of the natural resources of the area, "so far as known or readily ascertainable".

92. In sum, the attempt by the United States to exclude the contemporary fishery from the relevant circumstances is not supported by the jurisprudence. Nor can it be reconciled with the object and purpose of the new régime to be delimited by the single maritime boundary.

2. State Conduct Directly Associated with the Rights and Jurisdiction in Issue

93. The *Tunisia-Libya Continental Shelf* case stressed the importance of equitable considerations arising during the history of the

⁶⁵ J. B. Scott, ed.: *The Hague Court Reports*. New York, Oxford University Press, 1916, p. 131.

⁶⁶ A. L. W. Munkman: "Adjudication and Adjustment — International Judicial Decision and the Settlement of Territorial and Boundary Disputes." *The British Year Book of International Law*, Vol. 46, 1972-1973, p. 101. *Reply. Annexes*, Vol. II, Part IV, Annex 2.

⁶⁷ *Canadian Counter-Memorial*, pp. 115-118, paras. 286-294.

⁶⁸ *Canadian Memorial*, pp. 132-134, paras. 313-319.

dispute and in the course of events leading up to the dispute⁶⁹. Indeed, the two paragraphs of the *dispositif* dealing with the inner sector of the boundary make it clear that the conduct of the parties was the decisive consideration for that portion of the delimitation⁷⁰. This was so even though the Court emphasized that it had not made a finding of an agreement — even a tacit agreement — or a ruling based on estoppel or a similar ground. Rather, the Court saw in the relevant conduct of the parties an indication of what the parties themselves might have considered an equitable result during the course of the evolution of the dispute⁷¹.

94. Against this background, the United States contention that the 1979 Agreement on East Coast Fishery Resources is irrelevant and inadmissible because it was ultimately left unratified by the United States Senate⁷² seems to miss the point altogether. The significance of the agreement is obviously not that it is or may yet become a treaty in force. Rather, its negotiation constitutes both evidence and a recognition of the nature, the extent and the legitimacy of Canada's interest — contemporary and historical — in the fisheries of Georges Bank. What the United States position comes down to is that the Court must disregard the history of the dispute. This is a novel and almost unprecedented position that clearly runs against the grain of the jurisprudence. One part of the history of the dispute is made inadmissible by Article V, paragraph 1, of the Special Agreement: any proposals directed to a maritime boundaries settlement or responses thereto. The argument that the 1979 Agreement on East Coast Fishery Resources should also be made inadmissible because it would “penalize the United States for engaging in good-faith negotiations⁷³” is a clear attempt to amend the Special Agreement by broadening the terms of Article V.

95. That the negotiation of the 1979 fisheries agreement formed an integral part, and indeed the central component, of the boundary negotiations is unquestioned. The United States attempt to assimilate the agreement — signed by the Secretary of State and strongly endorsed by the President — to a “without prejudice” proposal in the course of negotiations is simply a misuse of language and of legal categories.

96. The United States position on this issue is profoundly inconsistent with the broad — and generally excessively broad — position it has taken on the relevant circumstances respecting almost every other issue. On the one hand, it holds that such extraneous issues as a wartime operational agreement between military authorities, or cartographical and navigational services undertaken as high seas activities long before extended coastal State jurisdiction was even contemplated, are relevant

⁶⁹ *I.C.J. Reports 1982*, pp. 70-71, paras. 93-96; pp. 83-84, paras. 117-118.

⁷⁰ *I.C.J. Reports 1982*, pp. 92-94, paras. 133(C)(1) and 133(C)(2).

⁷¹ *I.C.J. Reports 1982*, p. 84, para. 118.

⁷² *United States Counter-Memorial*, p. 7, para. 8; pp. 151-154, paras. 225-233.

⁷³ *United States Counter-Memorial*, p. 210, para. 330.

to the equities of this dispute. On the other hand, it urges that a signed agreement negotiated as an essential aspect of the same dispute, and designed for the purpose of protecting established fisheries in the disputed area, is legally irrelevant and inadmissible. If the history of the dispute and the recognition of established interests are to be taken into account, in conformity with the jurisprudence of the Court, the 1979 Agreement on East Coast Fishery Resources must figure as a relevant circumstance of considerable importance.

B. THE UNITED STATES CLAIM OF "DOMINANCE" RELIES
UPON ACTIVITIES NOT RELATED TO THE OBJECT AND
PURPOSE OF THE ZONES TO BE DELIMITED

97. The United States relies upon an historical record which, in its view, discloses a "predominant" United States interest on Georges Bank and "complete dominance" over the Gulf of Maine area in general. It attempts to sustain this assertion, on the one hand, by factual exaggerations and distortions and by a geographical frame of reference that merges the entire New England coastal area with the portion of Georges Bank claimed by Canada. On the other hand, it builds its claim of general "dominance" by dispensing with legal criteria of relevance and weight — by aggregating a variety of high seas activities, extraneous by virtue of their subject matter or the legal context of the era when they took place, or both. As the Canadian Counter-Memorial stated: "This admixture of irrelevant areas and irrelevant activities creates a hopelessly confused and distorted image of the historical record, which exaggerates the United States role beyond any semblance of authenticity⁷⁴".

98. The Canadian Counter-Memorial and the Annexes thereto have dealt fully with both the factual inaccuracy and the legal irrelevance of many of the State activities invoked by the United States — cartography and marine scientific research, navigation and defence, and search and rescue⁷⁵. The United States concedes that none of these activities can vest it with an historic title, but fails to offer a substantive explanation of why they should be taken into account at all⁷⁶. Canada's view, in summary form, is that they are legally irrelevant on three separate grounds. *First*, they took place for the most part at a time when extended coastal State jurisdiction was entirely un contemplated, and the principles of intertemporal law consequently rule out their consideration. *Secondly*, most of these activities are even today unrelated to the subject matter of the zones to be delimited and remain in the category of high seas freedoms that may be exercised in common with other nations. *Thirdly*, they do not and cannot provide indicia of what the Parties themselves have considered an equitable result.

⁷⁴ *Canadian Counter-Memorial*, p. 143, para. 359.

⁷⁵ *Canadian Counter-Memorial*, pp. 142-187, paras. 356-456.

⁷⁶ *United States Counter-Memorial*, p. 83, paras. 103-106.

99. The dominance thesis fails when confronted with Canadian continental shelf activities and the long-term oil and gas permits that Canada alone has issued in what has become the disputed area. The dominance thesis fails again when confronted with the modern Canadian fishery on Georges Bank, where Canadian fishermen take almost 85 percent of the total catch by value in the disputed area⁷⁷. Moreover, although the Parties are deeply divided on the history of the fishery, even the United States is prepared to recognize that the Canadian fishery was established on Georges Bank "16 years" before the first boundary negotiations were held in 1970, and that it became significant in "the early 1960s"⁷⁸.

100. The dominance thesis, unfounded as it is in fact, is also built upon legal quicksand. The criteria of relevance and weight implicit in the United States thesis are in many cases the exact opposite of what common sense would suggest. The United States holds that contemporary fishing patterns and the economic dependence associated with these patterns are irrelevant because they might conceivably be impermanent (although the evidence clearly shows their stability⁷⁹). Yet it argues at the same time that the obsolete fisheries of early historical times, whose impermanence has been a known fact for generations, are of vital importance. It submits that operational practices totally unrelated to fisheries or to the continental shelf should be taken into account. At the same time, however, it contends that an agreement directly related to the fisheries of the boundary area, and negotiated in contemplation of the 200-mile era, must be excluded from consideration. Examples such as these underscore the vital necessity of selecting and weighing the relevant circumstances in terms of the real function and purpose of the zones to be divided by the single maritime boundary in issue.

Conclusion

101. The Canadian position is based upon equity within the law. It takes account of the conventional law, the basis of title, and the principle of equality within the same order, and applies them to achieve an equitable solution in the light of the relevant circumstances of the case.

102. The United States position, on the other hand, is a composite of improvised concepts and misconceived principles of maritime boundary delimitation. The United States pays no heed to the equidistance-special circumstances rule of Article 6 of the Convention on the Continental Shelf. It suggests that delimitation can be divorced from the basis of title in international law, notwithstanding the close association of the two issues that lies at the core of the reasoning of the *North Sea*

⁷⁷ *Canadian Counter-Memorial*, p. 104, para. 254; Figure 27.

⁷⁸ *United States Counter-Memorial*, p. 207, para. 322.

⁷⁹ *United States Counter-Memorial*, p. 126, paras. 163-164; pp. 136-137, para. 191.

Continental Shelf cases. Its conception of the geographical relationships substitutes cartographical impressionism for the functionalism that characterizes the nature and purpose of the maritime zones to be delimited. It seeks to exclude the central developments in the history of the dispute from the relevant circumstances, despite the significance such factors were accorded in the *Tunisia-Libya Continental Shelf* case. It disagrees with the conception of equitable principles set out in that same judgment. Repeatedly, in these and other ways, the United States directly challenges the principles of the jurisprudence and the reasoning of the Court.

103. Beyond the many specific issues that divide the Parties there lies a more fundamental difference of approach. If the norm of equitable principles is to be more than "abstract justice" or equity outside the law, these principles must reflect the legal nature of the zones to be delimited: their object and purpose and the basis of entitlement. The Canadian position takes these considerations into account, while the United States position is almost entirely divorced from them.

104. The United States appears to forget that the law of the sea forms an integral part of the law of maritime boundary delimitation. This is a crucial point, for the issues that divide the Parties must be examined in the light of the internal principles of the legal system giving rise to the zones to be delimited, as advocated by Canada, and not, as advocated by the United States, in the light of "principles" that are largely external to that legal system. This done, there can be no question of denying the existence of Nova Scotia on macrogeographical or geopolitical grounds; no assertion of a "natural boundary" on new-found "ecological" grounds; no pretended right of "dominance" on the basis of eighteenth-century cartography, or military arrangements, or cooperation in search and rescue activities; and, finally, no claim to monopoly on the basis of administrative convenience and the alleged incompatibility of fisheries management policies. These are the untenable propositions underlying the United States claim, as demonstrated in the Canadian Counter-Memorial⁸⁰. When they have been disposed of in the light of the fundamental concepts of the applicable law, the search for an equitable result can then proceed to the identification and balancing-up of truly relevant circumstances.

⁸⁰ *Canadian Counter-Memorial*, p. 7, para. 16, where these untenable propositions of the United States are set out as follows:

- (a) that Nova Scotia does not exist;
- (b) that nature itself has fixed a maritime boundary in the Gulf of Maine area;
- (c) that the United States has an inherent or acquired right of 'dominance' over the Gulf of Maine area;
- (d) that administrative convenience or managerial expediency requires that all the resources of Georges Bank should be allocated to the United States."

CHAPTER II

CONTINENTAL GEOGRAPHY OR THE GEOGRAPHY OF
THE GULF OF MAINE AREA

Introduction

105. The most fundamental issue that divides the Parties in respect of the geographical circumstances is that of an *appropriate geographical framework*. Such a framework provides an indispensable criterion for distinguishing between relevant and irrelevant circumstances, as well as for establishing the appropriate scale to assess the relative importance of geographical features, their relation to each other, and their proportionate or disproportionate effects upon a given delimitation.

106. While the United States pleadings lack an appropriate and consistent geographical framework, the entire structure of the United States argument rests on the implicit assumption that the North American continent is the geographical framework for the case. This permits the United States to shift the various "relevant areas" it uses to identify the geographical and other relevant circumstances, adjusting the limits of each area with a view to producing the desired result.

107. This macrogeographical approach is devoid of any legal basis. In the framework of the Gulf of Maine area it is readily apparent that the general direction of the land boundary is north-south; that the territories of the Parties are aligned in an east-west relationship; that both coasts undergo several changes in general direction in order to form the deep concavity that is the Gulf of Maine¹; and that there is no geographical basis for a hierarchical distinction of "primary" and "secondary" coasts. In the framework of the Gulf of Maine area, it is also apparent that Nova Scotia and the Bay of Fundy are major geographical features that establish the general direction of the coast on the eastern side of the Gulf, while Cape Cod and Nantucket Island are incidental special features that depart radically from the general direction of the New England coast. Logic alone suggests that there must be a considerable degree of oppositeness between the coasts that form the sides of a deep concavity and that it is impossible to draw a perpendicular to opposite or concave coasts.

108. The Parties agree that the Gulf of Maine area comprises two geographical areas, divided by a hypothetical closing line between Cape Sable and Nantucket Island. While jurisdiction over concave sea areas is generally extended from the coasts that border these areas,

¹ The United States pleadings refer to the Gulf of Maine as a "large concavity", "concavity", "the coastal concavity that is the Gulf of Maine", "deep coastal concavity" and "deep coastal concavity such as the Gulf of Maine". See *United States Memorial*, p. 19, para. 25; p. 173, para. 286; p. 174, para. 290; *United States Counter-Memorial*, pp. 22-23, para. 29; p. 24, para. 31; p. 183, para. 291; p. 184, para. 294; pp. 226-227, para. 375; pp. 261-262, para. 404; p. 265, para. 410(a).

jurisdiction over open sea areas is generally extended from the — often convex — portions of the coast that abut them. The United States, however, ignores this distinction in arguing that the outer area, which lies off the coastal wings of the Gulf of Maine, is appurtenant to the relatively remote coasts at the “back of the Gulf”.

109. The United States adduces no factual evidence in support of this contention. It relies instead on a geometrical formula and on a newly invented distinction between “primary” and “secondary” coasts. But in ignoring all the evidence that shows that Georges Bank is most strongly linked in physical and human terms to the coastal wings of Nova Scotia and Massachusetts that abut the outer area, the United States divorces the applicable law from the relevant facts. These facts demonstrate that Georges Bank is geographically appurtenant to the coasts to which it is most proximate, and that the eastern half of Georges Bank, the area under Canadian claim, is appurtenant to the coast of Nova Scotia.

Section I. The United States Approach Lacks an Appropriate and Consistent Geographical Framework

110. Three major differences divide the Parties on the concept and use of a “relevant area” in this case.

- (a) Canada has identified as relevant only those geographical circumstances found within the Gulf of Maine area, whereas the United States treats as relevant — and indeed as determinative — macrogeographical factors derived from a continental framework;
- (b) Canada has defined the Gulf of Maine area by reference to the Special Agreement, to common usage, and to recognized geographical and legal criteria, whereas the United States has defined the area by reference to its own boundary proposal; and
- (c) Canada has used the concept of the relevant area to identify the relevant circumstances in this case, whereas the United States arbitrarily employs different areas to identify different categories of allegedly relevant circumstances.

A. THE UNITED STATES USES MACROGEOGRAPHY TO REFASHION THE GEOGRAPHY OF THE GULF OF MAINE AREA

111. The United States interpretation of the geographical circumstances in this case rests on the implicit assumption that the relevant area is the North American continent. The United States method and line are based on the following sequence of arguments, each of which can be explained only in terms of a continental frame of reference:

- (a) that there is a single general direction of the coasts in the Gulf of Maine area, which conforms to the general northeastern direction of the Atlantic coast of North America from Newfoundland to Florida;

² *United States Counter-Memorial*, pp. 183-184, para. 292; pp. 261-262, para. 404.

- (b) that the coasts aligned parallel to this single general direction are "primary" coasts and that all others are "secondary" coasts;
- (c) that State jurisdiction extends from the coast into the sea in one direction only, that direction being perpendicular to the single general direction of the Atlantic coast of North America;
- (d) that the general direction of the relevant part of the land boundary is east-west and the juxtaposition of the relevant territories of the Parties is north-south;
- (e) that because the southwest coast of Nova Scotia is, *first*, "aberrant" to the single general direction of the Atlantic coast of North America and, *secondly*, a "protrusion" south of the international boundary terminus, it should be ignored in the delimitation in deference to the "primary" coast of Maine; and
- (f) that, for the purposes of delimitation, the deep concavity that is the Gulf of Maine should be ignored and the boundary determined by reference to the hypothetical single general direction of the coasts.

112. If the land boundary is relevant at all in this case, it is because its general north-south direction creates an east-west juxtaposition of the two countries *in the relevant area*³. Having focused on the single point of the boundary's intersection with the coast, however, the United States then shifts its attention to the macrogeographical relationship of the Parties. In so doing, the United States abandons the geography of the relevant area in favour of the legally irrelevant geography of the remote continental hinterland. The assertion that the "broad geographical relationship of the Parties" (i.e., the transcontinental relationship) is "north-south"⁴, is on purely factual grounds a substantial oversimplification of the macrogeographical realities. What is more important, however, is that it ignores the only portion of the land boundary that might be considered legally relevant: the lengthy north-south boundary that divides the territory of the Parties north of the Gulf of Maine area, and that intersects the coast within that area⁵. [Figure 2 compares the scale of the Gulf of Maine area with that of the western Mediterranean and demonstrates the inappropriateness of a geographical framework that encompasses a vastly more extensive continental area.]

113. The argument that the southwest coast of Nova Scotia is "aberrant to the general geographical relationship between the Parties"

³ *Canadian Memorial*, p. 21, para. 18; pp. 29-31, paras. 36-43; *Canadian Counter-Memorial*, pp. 35-36, paras. 81-86.

⁴ *United States Memorial*, pp. 3-4, para. 11; p. 11, para. 20; p. 169, para. 280; p. 174, para. 289; *United States Counter-Memorial*, p. 14, para. 19; pp. 22-23, para. 29.

⁵ The length of the Canada-United States land boundary dividing New Brunswick and Maine, measured by a straight line from the mouth of the St. Croix River to the tripoint of the New Brunswick-Québec-Maine boundary is 294 kilometres. This part of the Canada-United States boundary is approximately equal to the combined length of the Franco-Italian and Franco-Swiss boundaries from the Ligurian Sea to Geneva (291 kilometres when measured by a straight line). See *Figure 2*.

⁶ *United States Counter-Memorial*, pp. 3-4, para. 7; pp. 190-193, para. 301.

(which is the reason for its relegation to the status of a "secondary" coast) is based upon a similar misconception of the relevant geography. It appears in yet another version in the companion argument that Nova Scotia should be discounted because its coast extends "south of the international boundary terminus". In both cases, the point is that Nova Scotia should be given less than full effect because its configuration departs from certain continental (and transcontinental) trends as viewed by the United States. On the one hand, Nova Scotia's southerly limit is said to offend the alleged "north-south" relationship of the Parties on a transcontinental scale; on the other hand, the direction of its southwest coast is said to violate the alleged general direction of the entire Atlantic seaboard. Both arguments amount to a refusal to give effect to the geography of the Gulf of Maine area as it actually exists, and to refashion geography instead. The configuration of the Nova Scotia coast, which together with the coast of southeastern New England creates the Gulf of Maine, could only be considered "aberrant" if Nova Scotia were an incidental feature. Its geographical scale alone makes nonsense of that assumption [Figure 3], as does the fact that its coast is a major defining feature of the Gulf of Maine and therefore of the relevant area.

114. Every major concavity or convexity implies major changes in the direction of the coasts. If the United States concept of "secondary" coasts were sound, it would follow that the sides of every concavity or convexity would have to be discounted, no matter what the scale of the feature. The whole notion of a legal inequality in the status of coasts — the notion of "primary" and "secondary" coasts with unequal offshore entitlements — was ruled out by the principle of equality within the same order enunciated by the Court in the *North Sea Continental Shelf* cases⁸.

B. THE UNITED STATES DEFINES THE GULF OF MAINE AREA ON THE BASIS OF ITS BOUNDARY PROPOSAL

115. The United States Memorial defined the Gulf of Maine area or the "relevant area" as the "coasts and geographical features from Nantucket Island to Cape Canso, *on both sides of the international boundary terminus*, and the marine areas seaward from these coasts to the limits of coastal State maritime jurisdiction". [*Italics added.*] The United States confirms this definition of the "relevant area" in its Counter-Memorial⁹, but nowhere does it provide any explanation or justification for the area selected. The United States appears to assume that this definition of the Gulf of Maine area is self-evident, even though

⁷ *United States Memorial*, pp. 3-4, para. 11; pp. 173-174, paras. 288-289; p. 214, Submission B(1)(e); *United States Counter-Memorial*, pp. 3-4, para. 7; p. 24, para. 31; pp. 190-193, para. 301; p. 270, Submission B(1)(e).

⁸ *I.C.J. Reports 1969*, pp. 49-50, para. 91.

⁹ *United States Memorial*, p. 19, para. 25.

¹⁰ *United States Counter-Memorial*, p. 13, para. 16 and footnote 2.

it has no basis in common usage or in recognized geographical and legal criteria¹¹.

116. While the Parties agree that the Gulf of Maine area encompasses *all* the waters and coasts comprising the concavity landward of a line between Cape Sable and Nantucket Island, including the Bay of Fundy, they disagree as to what parts of the coasts abutting the Atlantic Ocean on either side of the Gulf are relevant to the delimitation. Canada treats the Gulf of Maine itself as the axis upon which the geographical frame is balanced, and therefore regards the relevant coasts as extending both northeast and southwest of the entrance to the Gulf. In the absence of natural defining features, Canada uses criteria of human geography — established fishing links to the area to be delimited — to set the approximate limits of the relevant coasts at Lunenburg, Nova Scotia, and Newport, Rhode Island¹².

117. The United States extends the “relevant area” in *one* direction only, that is, along the coast of Nova Scotia to Cape Canso at the northeastern extremity of the peninsula, some 232 nautical miles northeast of the entrance to the Gulf of Maine at Cape Sable. While the United States gives no explanation or rationale for this definition, it is possible to infer one by examining the lateral limits of this area in conjunction with the seaward extension of the United States boundary proposal¹³. This seaward extension is approximately midway between the limits of the “relevant area” defined by means of lines perpendicular to the alleged general direction of the coast and projected from Nantucket Island and Cape Canso [Figure 4]. The United States thus appears to have defined the Gulf of Maine area by reference to its boundary proposal, rather than by common usage and by the application of recognized geographical and legal criteria to the region identified in the Special Agreement.

C. THE UNITED STATES DEFINES DIFFERENT “RELEVANT AREAS” FOR VARIOUS “RELEVANT CIRCUMSTANCES”

118. The United States contends that the purpose of identifying a relevant area is “to determine the circumstances that are relevant to the delimitation”, and that the identification of such an area involves a determination of all the geographical features that are “the situs of relevant resources or activities¹⁴”.

119. In the process of identifying and analysing the relevant circumstances, however, the United States ignores the Nantucket Island to

¹¹ See *Canadian Counter-Memorial*, pp. 30-33, paras. 69-76.

¹² See *Canadian Memorial*, p. 27, para. 32; p. 34, para. 53; p. 36, paras. 62-63; pp. 146-147, paras. 353-354; *Canadian Counter-Memorial*, p. 33, paras. 74-75; p. 58, para. 141.

¹³ *United States Memorial*, p. 185, para. 304; Figure 34.

¹⁴ *United States Memorial*, p. 145, para. 258.

Cape Canso frame of reference it has identified as the Gulf of Maine area — “the ‘relevant area’ for determining the relevant circumstances in this case¹⁵” — and shifts the geographical frame of reference for each set of circumstances under consideration. Thus, in determining the general direction of the coasts, the United States takes into account the east coast of North America from Newfoundland to Florida¹⁶. In determining the direction of the land boundary and the juxtaposition of the territories of the Parties, the United States focuses on a transcontinental boundary extending 6,416 kilometres from the Atlantic to the Pacific (while ignoring the boundary from the Pacific to the Arctic¹⁷). In applying the proportionality test, the United States excludes the Bay of Fundy and the coasts of Nova Scotia from Halifax to Cape Canso, despite the fact that these areas are specifically identified in the United States pleadings as forming part of the relevant area¹⁸ [Figure 5].

120. In analysing the relative fishing patterns of the Parties, the United States shifts its ground again, using for this purpose the statistics collected for ICNAF subareas 5Y, 5Ze and 5Zw, despite the fact that the whole of subarea 5Zw lies *outside* the “relevant area” as defined by the United States¹⁹ [Figure 5]. At the same time, the United States *excludes* fishery statistics from ICNAF subareas 4X and 4W which lie immediately off the Nova Scotia coast, despite the fact that the whole of 4X and 96 percent of 4W are *within* the “relevant area” as defined by the United States.

121. In assessing the relative performance of the Parties in initiating fisheries conservation and management measures within ICNAF, the United States shifts its ground yet again, using for this purpose ICNAF subareas 5Y, 5Ze, 5Zw, 6A, 6B and 6C, stretching from south of Cape Hatteras to the eastern end of Georges Bank²⁰ [Figure 5]. But again the United States excludes subareas 4X and 4W.

122. The same arbitrary and shifting geographical frame of reference is apparent in the United States identification and assessment of other allegedly relevant circumstances. This “gerrymandering” shows that the United States has no geographical framework for its assessment of the relevant circumstances in this case. The Gulf of Maine area or

¹⁵ *United States Memorial*, p. 19, para. 25 and footnote 2; *United States Counter-Memorial*, p. 13, para. 16 and footnote 2.

¹⁶ *United States Memorial*, pp. 11-12, para. 21 and p. 11, footnote 2; p. 170, para. 283 and footnote 7; Figure 26; *United States Counter-Memorial*, p. 17, para. 20 and footnote 1; Figure 3.

¹⁷ *United States Memorial*, p. 11, para. 20.

¹⁸ *United States Memorial*, p. 19, para. 25; pp. 192-201, paras. 312-313; p. 201, footnote 1; Figures 34 and 35; *United States Counter-Memorial*, pp. 196-197, paras. 309-311; Figures 24 and 25.

¹⁹ *United States Memorial*, pp. 49-50, para. 81; p. 54, Table A and footnote 2; p. 55, paras. 84-85; *United States Counter-Memorial*, p. 55, Table A; p. 71, Table B.

²⁰ *United States Counter-Memorial, ICNAF Annex*, Vol. II, Annex 3, p. 22, paras. 30 and 32; pp. 31-32, para. 54; p. 34, paras. 60-62 and Table A; p. 37, para. 72.

(32)

(95)

(40) (41)

(110) (111)

formal "relevant area" is extended northeastwards along the coast of Nova Scotia — well beyond the limits of any reasonable definition — but truncated to the southwest at Nantucket Island. The United States thus excludes the Atlantic-facing coasts of Massachusetts and Rhode Island from the relevant area, despite the fact that, as the United States is at pains to point out, these areas have a long-established relationship with the fishery resources of Georges Bank²¹. But when the object is to demonstrate the "dominance" or "predominant interest" of the United States, the statistical balance is weighted in favour of the United States by shifting the "Gulf of Maine area" southwestward to beyond Cape Hatteras, and excluding the area to the east of Georges Bank.

123. Finally, disregarding the existence of the Great South Channel, as well as every geographical and scientific definition of Georges Bank, the United States defines this Bank as extending eastward from Nantucket Shoals²². By placing the limits of the Gulf of Maine area far to the northeast, while extending the definition of Georges Bank to the southwest, the United States manages to situate the geographical feature that constitutes the object of the dispute at the southwestern extremity of the "relevant area".

Section II. The United States Attempt to Refashion Geography Fails in the Legally Relevant Framework of the Gulf of Maine Area

A. IN RECOGNIZING THAT THE GULF OF MAINE IS A DEEP CONCAVITY, THE UNITED STATES INVALIDATES ITS ASSERTION THAT THE GENERAL CONFIGURATION OF THE COASTS IS A STRAIGHT LINE

124. A geographical circumstance of fundamental importance in the United States Memorial, constituting the essential basis and rationale for the United States method and line, is that the general direction of the coasts of the Parties in the Gulf of Maine area follows a straight line. The United States alleges in its Submissions that this is the general direction of the coasts "both within the Gulf of Maine and seaward of the Gulf"²³.

125. Although the Submissions in the United States Counter-Memorial continue to adhere to the contention that the general direction of the coasts follows a straight line — or, more precisely, a series of a parallel lines — the United States Counter-Memorial nevertheless adopts a fundamentally different view of the general direction of the coasts in the Gulf of Maine area. The straight coast has all but vanished

²¹ *United States Memorial*, pp. 41-46, paras. 60-77; *United States Memorial, Documentary Annexes*, Vol. II, Annexes 12-14 and 17-19; *United States Counter-Memorial*, p. 25, para. 34.

²² *United States Memorial*, p. 23, para. 32.

²³ *United States Memorial*, p. 213, Submission B(1)(b); *United States Counter-Memorial*, p. 270, Submission B(1)(b).

and in its place has appeared a "deep concavity" with a semi-circular general configuration²⁴. This focus on the semi-circular concavity is reinforced by the extensive reliance upon analogies to the North Sea and the Bay of Biscay, neither of which could conceivably be represented as having a single coastal direction. The change in the United States view of the general configuration of the coasts could hardly be more fundamental, for the United States has moved from the position that the general coastal configuration follows a straight line — that it *never* changes direction — to the position that it is semi-circular — that it *constantly* changes direction.

126. The geographical conception revealed in the semi-circular model is simplified by omitting important features and areas recognized by both Parties as forming part of the Gulf of Maine area. This simplified model presented by the United States, nevertheless, provides a useful test for assessing the reasonableness of the United States boundary proposal. *Figure 6* demonstrates the unreasonableness of the result achieved by such a line in the area within the Gulf.

B. THE RELATIONSHIP OF THE COASTS IS PREDOMINANTLY OPPOSITE

127. Although the United States places great emphasis on the fact that the Gulf of Maine is a deep concavity bordered by Canada and the United States, it continues to insist that the Parties have adjacent coasts in the Gulf of Maine area. This analysis defies the rules of logic and of nature, for every concavity implies some degree of oppositeness between the coasts that form its sides. The United States position rests largely on a selective analysis of *the continental relationship of the two States*²⁵; but, as the jurisprudence makes clear, it is "the actual relation of the two coasts to [the] particular area" to be delimited that is material²⁶.

128. The contention in the United States Counter-Memorial that the coasts within the Gulf are adjacent rests on two propositions: *first*, that the Parties share a common land boundary along a relatively straight coast, and *secondly*, that the coasts of Nova Scotia and Maine are adjacent because they are "not opposite each other"²⁷. The second

(108)

²⁴ *United States Counter-Memorial*, pp. 22-23, para. 29; p. 24, para. 31 and footnote 1; pp. 226-227, para. 375; p. 183, para. 291; p. 184, para. 294; p. 189, para. 297; pp. 261-262, paras. 403-404; Figure 21.

²⁵ *United States Memorial*, p. 169, paras. 280-281.

²⁶ *Anglo-French Continental Shelf award*, pp. 112-113, para. 240.

²⁷ *United States Counter-Memorial*, p. 21, para. 26:

"States that share a common land boundary along a relatively straight coastline, such as that extending in the interior area from Cape Ann to the Chignecto Isthmus, are adjacent States. Moreover, even though the southwestern-facing coast of the Nova Scotia peninsula is aligned at virtually a right angle to the coast of the state of Maine, the situation in the interior area is still adjacent, since those coasts are not opposite each other."

statement is simply a tautology and adds nothing to the argument²⁸. The first statement ignores the existence of Nova Scotia, but the United States Memorial has already recognized that the coast of Nova Scotia lies opposite the coasts of both Maine and Massachusetts in acknowledging “[t]he location of the Nova Scotia peninsula *opposite* the international boundary terminus and the curvature of the New England coast²⁹”. [*Italics added.*]

129. There are two fundamental flaws in the treatment of oppositeness and adjacency in the United States Counter-Memorial. *First*, it examines only the relationship of the coasts of New Brunswick and Nova Scotia to the coast of Maine, omitting any analysis of the relationship between the coasts of Nova Scotia and Massachusetts which, of course, is perfectly opposite. *Secondly*, the United States examines only the relation of the coasts *to each other*, rather than the relation of the coasts to each other *vis-à-vis the area to be delimited*. The relation of the coasts to each other, divorced from their relation to the area to be delimited, is of little legal or practical significance to the question of delimitation. To illustrate this point, it is only necessary to examine the geographical situation in the Atlantic region in the *Anglo-French Continental Shelf* award. The coasts of Finistère and Cornwall are obviously opposite each other. But, as the Court of Arbitration pointed out, it is not their relation to each other that is material, but rather their “geographical relation to each other *vis-à-vis the continental shelf to be delimited*”³⁰. Thus, in a statement cited in the United States Counter-Memorial, the Court of Arbitration noted that in the Atlantic region the geographical situation is one of two coasts that are laterally related *vis-à-vis the “continental shelf which extends from them a great distance seawards into the Atlantic Ocean*”³¹. [*Italics added.*] The Court of Arbitration did not suggest that the coasts of Finistère and Cornwall are laterally related *vis-à-vis the shelf directly between them, or vis-à-vis that part of the Atlantic region lying a relatively short distance seaward*.

130. In the Canadian Counter-Memorial’s mathematical analysis of the opposite or adjacent relationship of two coasts relative to a sea area that lies off rather than between them, it was pointed out that “[t]he further out to sea one moves the point from which the relative angle [to the two coasts] is subtended, the more acute the angle and the more the element of adjacency predominates³²”. This point may be

²⁸ The statement that the coast of southwest Nova Scotia is at a right angle to the coast of Maine conveys an incomplete picture of geography. While the Nova Scotia coast from Digby to Yarmouth has the general configuration of an arc, its general direction may be represented in simplified form by a straight line from Digby to Yarmouth (or Cape Forchu). Such a line has a predominantly opposite relationship with any line representing the general direction of the coast of eastern Maine.

²⁹ *United States Memorial*, p. 174, para. 290.

³⁰ *Anglo-French Continental Shelf* award, p. 110, para. 233.

³¹ *Anglo-French Continental Shelf* award, p. 113, para. 241.

³² *Canadian Counter-Memorial*, p. 48, para. 112; Figure 10.

demonstrated by the application of the mathematical analysis to the Atlantic region off the United Kingdom and France. It can be seen in (158) *Figure 7* that the element of adjacency predominates in the greater part of the Atlantic region discussed in the *Anglo-French Continental Shelf* award, where the continental shelf extends "a great distance seawards" from the coasts.

131. The application of the mathematical model to the basepoints used to determine the Canadian equidistance line in the Gulf of Maine area shows that the relationship of the coasts (on which these basepoints are situated) *to each other vis-à-vis the area to be delimited* is predominantly opposite throughout most of the boundary area [*Figure 8*]. It is for this reason that the United States objection that an equidistance line may become inequitable as the boundary is extended seaward³³ is not applicable here. In situations of adjacency, where a single basepoint controls the course of the line both in areas close to shore and far out to sea, the effect of a geographical feature, though initially proportionate, is progressively magnified as the line moves seaward. This does not arise in situations exhibiting a substantial degree of oppositeness, where a sequence of basepoints systematically reflects the changing configuration of the coast. It is not even remotely evident in the *Gulf of Maine* area, where a progression of basepoints controls the line, and where the basepoints used in the *Georges Bank* area are 119 nautical miles from each of two *opposite* coasts at the point where they first take effect. There is no question here of a progressive magnification of a feature that first exerts its effect in an area close to shore.

C. CAPE COD AND NANTUCKET ARE INCIDENTAL SPECIAL FEATURES, ABERRANT TO THE GENERAL DIRECTION OF THE COAST

132. The United States Counter-Memorial argues that Cape Cod, Nantucket Island and Martha's Vineyard "have played important roles in the history of the United States" and "have a long and historic association with *Georges Bank*³⁴". This contention is supported, *inter alia*, by the following factual assertions:

"The Pilgrims, regarded as New England's first permanent European settlers, landed on Cape Cod near Provincetown, before eventually settling at Plymouth. Nantucket Island was once the center of the world-wide whaling industry. Provincetown, at the tip of Cape Cod, was one of the leading fishing ports in Massachusetts during the 19th century³⁵."

(31) ³³ *United States Memorial*, pp. 150 and 159, para. 271; *Figure 25*; *United States Counter-Memorial*, p. 184, para. 294; p. 256, para. 400.

³⁴ *United States Counter-Memorial*, p. 25, para. 34.

³⁵ *United States Counter-Memorial*, p. 25, footnote 3.

133. Canada does not dispute the accuracy of these assertions; but they have nothing to do with the delimitation of the continental shelf or 200-mile fishing zone (or exclusive economic zone) in the present case. As Canada has demonstrated elsewhere, it is the contemporary rather than the long-past history of the fishery that is relevant to the determination of a single maritime boundary³⁶. The United States makes no assertions and presents no evidence concerning the *present* association of Cape Cod and Nantucket with Georges Bank. Canada, for its part, reaffirms that "fishing from Cape Cod ports on the eastern part of Georges Bank — the area under Canadian claim — has been sporadic and is insignificant in the economy of Cape Cod"³⁷. More generally, whatever may have been the situation during the nineteenth century, the association of Cape Cod and Nantucket with Georges Bank in modern times has been minimal³⁸.

134. The United States does not address the real issue: the proportionate or disproportionate effect of Cape Cod and Nantucket upon the course of an equidistance line. It complains that "Canada's line pretends that Cape Cod, Nantucket Island, and Martha's Vineyard do not exist"³⁹ and then seeks to obscure the issue by engaging in inappropriate and misleading comparisons between Cape Cod and Nova Scotia⁴⁰. It argues that "Cape Cod has less effect on an equidistant line than does the protrusion south of the land boundary of the Nova Scotia peninsula"⁴¹.

135. Canada rejects as meaningless and irrelevant any comparison between Nova Scotia and Cape Cod, and *a fortiori*, any such comparison based on that part of Nova Scotia that "protrudes south of the land boundary". The entire Province of Nova Scotia lies southeast of the line through Cape Ann and the northern coast of Chignecto Bay, which, according to the United States, represents the general direction of the coasts in the Gulf of Maine area. Since the general direction of the coasts, and not the situation of the land boundary terminus, is the appropriate criterion against which to judge the proportionate or disproportionate effects of particular geographical features, *the whole of Nova Scotia* — rather than that part which lies "south of the land boundary" — must be regarded as a "protrusion" in relation to the general direction of the coasts *as defined by the United States*.

136. The relative merits of the treatment that Canada and the United States accord to Cape Cod/Nantucket and to Nova Scotia, by

³⁶ *Canadian Counter-Memorial*, pp. 128-130, paras. 329-331; pp. 247-248, paras. 594-597.

³⁷ *Canadian Counter-Memorial*, p. 56, para. 136.

³⁸ See *Canadian Counter-Memorial*, pp. 55-56, paras. 131-137.

³⁹ *United States Counter-Memorial*, p. 25, para. 34.

⁴⁰ *United States Counter-Memorial*, p. 25, footnotes 2 and 3.

⁴¹ *United States Counter-Memorial*, p. 25, footnote 2.

virtue of their respective lines, must be judged by criteria of geographical scale. If, as the United States implies, the relevant area is the North American continent, and if the coast has a single southwest-to-northeast general direction, then Nova Scotia may conceivably be regarded as "aberrant" to the general direction of the coast. If, however, the relevant area is the Gulf of Maine area — even as defined by the United States — then Nova Scotia must be regarded as an essential part of the geography. Together with other major features, Nova Scotia forms the Gulf of Maine itself and defines the general direction of its coasts. In this geographical framework — the legally relevant framework — it is Cape Cod and Nantucket Island that are incidental special features, aberrant to the general direction of the coasts. They do not affect the essential geography of the region or the general configuration of its coasts.

137. While the United States presents statistics comparing Cape Cod, Nantucket and Martha's Vineyard to the Scilly Islands, the Kerkennah Islands and the Channel Islands⁴², it does *not* compare the area of Cape Cod and its offlying islands with Nova Scotia. Since the land area of Nova Scotia is 55,491 square kilometres, while that of Cape Cod and its offlying islands is only 1,447 square kilometres, Nova Scotia is 38.4 times larger than Cape Cod. The great extent of Nova Scotia's landmass is in itself sufficient to dispel the notion that it is an aberrant protrusion or incidental special feature.

138. The ratio of Nova Scotia's land area to the sea area it attracts (on the basis of an equidistance boundary), compared to the ratio of Cape Cod and Nantucket's land area relative to the sea area they attract (on the basis of an equidistance boundary), demonstrates that while Nova Scotia has an effect upon the course of an equidistance line that is not disproportionate to its landmass, Cape Cod and Nantucket Island have an influence altogether disproportionate to their landmass⁴³ [Figure 9]. It is these features, and not Nova Scotia, that constitute special circumstances whose disproportionate effect upon an equidistance line needs to be discounted in order to achieve an equitable result.

⁴² *United States Counter-Memorial*, p. 25, footnote 2.

⁴³ The land area of the Nova Scotia peninsula is 45,197 square kilometres (13,177 square nautical miles); it attracts to Canada a sea area of 10,960 square nautical miles within 200 nautical miles of both Canada and the United States. The ratio of the land area of peninsular Nova Scotia to the sea area it attracts to Canada is 1:0.8. While Cape Cod and Nantucket comprise a total land area of only 1,187 square kilometres (346 square nautical miles), they would attract to the United States a sea area of 2,906 square nautical miles within 200 nautical miles of both States. The ratio of the land area of these features to the sea area they attract to the United States is 1:8.4. *Canadian Counter-Memorial*, p. 296, paras. 707-708.

Section III. The Application of the Maxim "The Land Dominates the Sea" Shows That Eastern Georges Bank Appertains to the Coast of Nova Scotia

139. The Parties agree that the sovereign rights and jurisdiction to be exercised over the maritime areas in issue in this case flow from the maxim that "the land dominates the sea"⁴⁴. The United States Counter-Memorial alleges that this maxim supports three of its major propositions in this case, namely:

- (a) that factors of human geography are irrelevant to the determination of a single maritime boundary⁴⁵;
- (b) that the location of the international boundary terminus at the back of a deep coastal concavity should have a decisive influence on the course of the boundary throughout the area to be delimited⁴⁶; and
- (c) that in the open ocean seaward of a deep coastal concavity, the perpendicular "seaward extension" of the "primary" coast at the back of the concavity should prevail over the seaward extension of the more proximate "secondary" coasts on either side of the concavity and of its mouth⁴⁷.

The United States does not explain how the maxim supports these arguments or how it is inconsistent with the Canadian position in the present proceedings.

A. THE MAXIM PRESUPPOSES THE INTERRELATIONSHIP AND THE RELEVANCE OF PHYSICAL AND HUMAN GEOGRAPHY

140. It would appear that the United States Counter-Memorial construes the maxim that the land dominates the sea as expressing a natural or physical hierarchy. This view betrays a fundamental misinterpretation of the maxim that the land dominates the sea, and a misconception of the nature of maritime jurisdiction. For the maxim does not express or rely upon any natural or physical hierarchy between land and sea; it expresses axiomatically the principle that the rights and jurisdiction that a State may exercise over the waters or seabed off its coast are an incident of its sovereignty over the adjacent land⁴⁸. Seen in this light, it is evident that the maxim is equally applicable to the 200-mile fishing

⁴⁴ *Canadian Counter-Memorial*, p. 231, para. 556; *United States Counter-Memorial*, pp. 3-4 and 7, para. 7; p. 23, para. 30 and footnote 2; p. 183, para. 291; pp. 189-190, paras. 298-299.

⁴⁵ *United States Counter-Memorial*, pp. 189-190, para. 299.

⁴⁶ *United States Counter-Memorial*, p. 183, para. 291; pp. 226-227, para. 375; pp. 261-262, paras. 404; p. 262, para. 407.

⁴⁷ *United States Counter-Memorial*, p. 189, para. 298; p. 190, para. 300.

⁴⁸ See the *Grisbadarna* award. J. B. Scott, ed.: *The Hague Court Reports*. New York, Oxford University Press, 1916, p. 127; *Fisheries* case, *I.C.J. Reports 1951*, p. 133; *North Sea Continental Shelf* cases, *I.C.J. Reports 1969*, p. 51, para. 96; *Tunisia-Libya Continental Shelf* case, *I.C.J. Reports 1982*, p. 61, para. 73.

zone and exclusive economic zone and to the continental shelf, for the *central notion of the interdependence* of the terrestrial and maritime areas is common to all forms of State jurisdiction in or under the sea. The "domination" of the land, therefore, is merely a function of the fact that it is from the land domain — the seat of political power and base of economic activity — that States extend political control, legal jurisdiction and economic enterprise into the seas off their coasts.

141. As Canada has explained, considerations of political and socio-economic geography do not displace the physical geography but assist in its interpretation⁴⁹. Human geography is relevant because it is directly related to the subject matter of the case. Furthermore, human geography is, in large measure, an expression and a consequence of physical geography, showing the close linkages that exist between portions of the adjacent coasts and the disputed area. The only argument the United States has advanced against its consideration is that it is "novel" and "unprecedented"⁵⁰. Even if the argument were novel, this should occasion no surprise: this is the first judicial delimitation of extended maritime zones where a fishery conducted from the adjacent coastal areas has been directly in issue⁵¹.

142. Canada has at no point suggested that the human geography of the relevant area should be used in a manner that is inconsistent with the physical geography. Rather, the Canadian pleadings have argued that the facts of human geography indicate the particular coasts from which the fishery is actually carried out and thus serve to confirm and reinforce the implications that may be drawn independently from physical geography. The coasts of the inner Gulf of Maine, including those of Maine and the Bay of Fundy, are relevant to the inner area primarily because they physically border that area, but also because it is from these coasts that the resources of the inner area are exploited. The coastal wings of Nova Scotia and Massachusetts must control the delimitation of the outer area primarily because they are the geographically abutting and most proximate coasts, but also because it is from these coasts that the Georges Bank fishery is mainly carried out. In each case, the human geography is a reflection of, and not a derogation from, physical geography.

143. Notwithstanding its reservations concerning the relevance of human geography, the only assertions made by the United States of links of *any kind* between Georges Bank and Maine and New Hampshire

⁴⁹ *Canadian Counter-Memorial*, p. 64, para. 157. See also J. I. Charney: "The Delimitation of Lateral Seaward Boundaries Between States in a Domestic Context." *American Journal of International Law*, Vol. 75, 1981, pp. 66-67.

⁵⁰ *United States Counter-Memorial*, p. 23, footnote 2; pp. 189-190, para. 299.

⁵¹ In cases involving the lateral or seaward delimitation of territorial or internal waters where jurisdiction over fisheries was at issue, international courts have given considerable weight to factors of human geography. See the *Grisbadarna* case, pp. 130-131; and the *Fisheries* case, *I.C.J. Reports 1951*, pp. 127-128 and 133.

relate to fishing patterns. The United States alleges that “[t]he Canadian Memorial, in numerous instances, asserts that fishermen from the states of Maine and New Hampshire do not fish on Georges Bank⁵²”. But none of the statements from the Canadian Memorial quoted by the United States advances this assertion; they simply point out that fishing from Maine, New Hampshire and New Brunswick on Georges Bank is “insignificant”, or words to that effect⁵³. These Canadian statements are borne out by official United States statistics. These show that only 0.4 percent of the value of the Georges Bank catch is landed in ports in Maine and New Hampshire, while 89.1 percent of the catch from the Bank is landed in ports on the coastal wings of the Gulf of Maine area: 62.1 percent in southwest Nova Scotia and 27 percent in Massachusetts-Rhode Island. The fishery conducted from Canadian ports on the Bay of Fundy, including those in New Brunswick, accounts for 10.5 percent of the total value of the Georges Bank catch [Figure 10]. The reverse pattern prevails in the inner area, where 73.5 percent of the value of the catch is landed in ports on the innermost arc of the Gulf: 46.3 percent in ports on the Maine and New Hampshire coast and 27.2 percent in ports on the Bay of Fundy. By comparison, 26.5 percent of the fishery in the inner area is conducted from ports on the coastal wings of the Gulf: 16.6 percent from ports in southwest Nova Scotia and 9.9 percent from ports in Massachusetts-Rhode Island⁵⁴ [Figure 11].

144. The United States contends that “Canada argues that coastal areas that do not depend economically upon an offshore area may be ignored in delimitation⁵⁵”. This is not how Canada has stated or applied its arguments. The coasts of Maine and New Hampshire, in particular, have been given full effect both in constructing the Canadian line and in applying proportionality tests based on coastal lengths; and so too has the coast of Massachusetts. It is the United States, and not Canada, that has ignored major stretches of coastline by excluding the Bay of Fundy from consideration in its proportionality test. It is the United States, moreover, and not Canada, that has ignored the presence of a major landmass by treating Nova Scotia as if it did not exist.

145. The United States opposes consideration of human geography not with an argument but with a simple recital of the maxim that the land dominates the sea; but in fact the maxim points in exactly the

⁵² *United States Counter-Memorial*, p. 66, para. 82.

⁵³ *United States Counter-Memorial*, p. 66, footnote 2.

⁵⁴ Statistics were compiled using unpublished data from the Canadian Department of Fisheries and Oceans and computer printouts from the United States Department of Commerce, National Marine Fisheries Service, Data Management and Statistics Division deposited with the Registrar with Canada's Reply. For the statistical compilation, the coastal wing of Nova Scotia has been taken as comprising Yarmouth, Shelburne, Queen's and Lunenburg counties, i.e., approximately from Cape St. Marys to Lunenburg; the United States coastal wing has been taken as comprising the whole of Massachusetts and Rhode Island.

⁵⁵ *United States Counter-Memorial*, pp. 189-190, para. 299.

opposite direction. Its real meaning is that human control and human interests, both political and economic, provide the basis for the sovereign rights of a State in the maritime areas off its coast. Contrary to the argument of the United States, the principle that the land dominates the sea gives strong support to the consideration of human geography in the delimitation process.

B. THE MAXIM DOES NOT STATE THAT "THE LAND BOUNDARY TERMINUS DOMINATES THE SEA"

146. In the *Tunisia-Libya Continental Shelf case*, there was no agreement on the starting point of the continental shelf boundary to be delimited. Both parties, however, had recognized the relevance of the terminus of the land boundary at Ras Ajdir. In the absence of any agreed maritime boundary that could have provided a starting point for the delimitation of the continental shelf, the Court identified Ras Ajdir, *faute de mieux*, as "a basic point of reference"⁵⁶. The circumstances in the present case are completely different. The Parties have agreed on a starting point for the single maritime boundary at Point "A", 38.9 nautical miles south-southwest of the terminal point of the existing international boundary in Grand Manan Channel. By implication, moreover, they have also necessarily agreed on a general south-southwesterly course for the maritime boundary that will eventually link the existing international boundary to Point "A"⁵⁷.

147. It must be made clear at the outset that the terminal point of the *land* boundary is at the mouth of the St. Croix River at 45°04'27".978N 67°05'42".417W. Thereafter, the international boundary is a *maritime* boundary, extending 21.9 nautical miles through Passamaquoddy Bay to its terminus in Grand Manan Channel at 44°46'35".346N 66°54'11".253W [Figure 12]⁵⁸. The United States, while recognizing the distinction between the terrestrial and maritime

⁵⁶ *I.C.J. Reports* 1982, p. 66, para. 85.

⁵⁷ See *Canadian Counter-Memorial*, pp. 36-37, paras. 87-88; pp. 273 and 275, para. 647.

⁵⁸ The terminus of the land boundary at the mouth of the St. Croix River was fixed in the "Declaration of the Commissioners Under the Fifth Article of the Treaty of 1794" (the "Jay Treaty") at latitude 45°05'05"N, longitude 67°12'30"W. See International Boundary Commission: *Joint Report upon the Survey and Demarcation of the Boundary between the United States and Canada from the Source of the St. Croix River to the Atlantic Ocean*. Washington, Government Printing Office, 1934, Appendix I, p. 145; Appendix II, pp. 162-163. The existing maritime boundary from the mouth of the St. Croix River, through Passamaquoddy Bay, to the international boundary terminus in Grand Manan Channel was fixed by bilateral Commissions established under the Treaties of Washington of 1908, 1910 and 1925. The coordinates set out in para. 147 of this Reply are rendered in the 1927 North American Datum. See International Boundary Commission Special Report No. 3, 1962, pp. 494-496. *Reply, Annexes*, Vol. II, Part IV, Annexes 3-5.

portions of the international boundary⁵⁹, nevertheless uses the terms "international boundary" and "land boundary" interchangeably, confusing the two in such a way as to suggest a wholly erroneous analogy with the *Tunisia-Libya Continental Shelf* case, where the land boundary terminus necessarily played a significant role for reasons that do not apply in the present case.

148. The United States offers no legal reason why the terminal point of the "land boundary" should control the course of the maritime boundary in areas beyond its immediate vicinity, in a situation where other coastal areas occupy a position of much greater proximity as the maritime boundary moves seaward. The terminal points of both the land boundary and the existing maritime boundary are already at a considerable distance from the starting point of the future maritime boundary at Point "A", and beyond Point "A" they become increasingly remote. The contention that the terminal point of the land boundary should control the direction of the line in these circumstances is an obvious attempt to overcome the effect of the coasts that actually border the area being delimited both within and beyond the Gulf. To paraphrase the *Anglo-French Continental Shelf* award, the United States approach detaches the delimitation almost completely from the abutting coasts.

149. Only where the coasts are laterally aligned can the terminal point of the land boundary be systematically reflected in the seaward course of the maritime boundary. The location of the terminus at the back of a deep coastal concavity means that the immediately adjacent coastal area is of significance to the innermost segment of the maritime boundary, but not further out to sea where different coasts abut the area to be delimited. If the changing configuration of the coasts is to be reflected as the line moves seaward, the coasts that form the sides of the concavity, as well as the outer coasts adjoining the concavity, must progressively move into a controlling position.

150. This point is well illustrated by the existing maritime boundary in the Gulf of Maine area. The Parties did not allow the land boundary terminus to control the course of the existing maritime boundary beyond the immediate vicinity of the land boundary. The only way to draw a boundary in the complex geographical situation in Passamaquoddy Bay and Grand Manan Channel was to relate it to the most proximate coasts as it proceeded seaward between the opposite coasts of the Parties. It is precisely because the land boundary terminus reaches the sea within "a deep concavity" — i.e., Passamaquoddy Bay — that a boundary perpendicular to the coasts actually abutting the terminal point, or to some hypothetical general direction of the coasts, is a technical impossibility. The perpendicular line proposed by the United States would produce an even more radical refashioning of political geography if projected from the international land boundary terminus at the mouth

⁵⁹ *United States Memorial*, pp. 170 and 173, para. 284.

of the St. Croix River than it would if projected from the international maritime boundary terminus in Grand Manan Channel, as shown in (32) (160) Figure 26 of the United States Memorial [Figure 12].

151. As a corollary of its proposition that the terminal point of the "land boundary" is relevant to the course of the single maritime boundary in its entirety, the United States argues that Nova Scotia should be discounted because its coast "protrudes" south of the international boundary terminus. The suggestion that the latitude (but, paradoxically, not the longitude) of the international boundary terminus should be decisive is perplexing. While this suggestion seems to depend upon a geopolitical approach founded upon the popular legend of Canada as "the great white North", the United States has not given any indication as to why the latitude of the international boundary terminus should have any relevance in a delimitation in accordance with equitable principles.

C. THE APPLICATION OF THE MAXIM TO THE GULF OF MAINE AREA DEMONSTRATES THAT THE INNER AND OUTER AREAS ARE DOMINATED RESPECTIVELY BY THE COASTS THAT ABUT THEM

152. Because the coast forms the boundary between land and sea, its configuration is decisive in determining both the seaward and lateral limits of the maritime areas within which coastal States may exercise jurisdiction:

"... the principle is applied that the land dominates the sea; it is consequently necessary to examine closely the geographical configuration of the coastlines of the countries whose continental shelves are to be delimited. This is one of the reasons why the Court does not consider that markedly pronounced configurations can be ignored⁶⁰ . . ."

153. During the seventeenth and eighteenth centuries, the limits of coastal State jurisdiction were considered to be coincidental with the extent of political dominion measured by the range of human vision or the range of a cannon shot⁶¹. It was therefore natural to think in terms of extending jurisdiction over open sea areas from strategic salients or convex portions of the coast. While the coasts bordering a concave configuration obviously dominate the sea area *within* the concavity, it would make no sense strategically to seek to extend dominion over the area seaward of the concavity from the coasts at the back of the concavity. This essentially strategic conception, which is a function of the interplay between political institutions and physical geography, underlies much of the development of the law of maritime jurisdiction, including, in par-

⁶⁰ *I.C.J. Reports 1969*, p. 51, para. 96.

⁶¹ D. P. O'Connell: *The International Law of the Sea*, Vol. I. Oxford, Clarendon Press, 1982, pp. 124-129.

ticular, the rules relating to the closure of bays, the drawing of straight baselines and the seaward delimitation of the territorial sea and the 200-mile exclusive economic zone. The most common method of establishing the seaward limits of the territorial sea and of the 200-mile zone — the arcs of circle method — can be explained only in terms of the notion that jurisdiction over marine areas lying seaward of a deep concavity extends from the convex coasts that project into the sea on either side of the concavity.

154. Both Parties recognize that an important consequence of the existence of “the deep concavity that is the Gulf of Maine” is that the relevant area is comprised of two components, namely an inner or interior area lying within the concavity, and an outer or exterior area lying seaward of the concavity. They further agree that a hypothetical line between Cape Sable and Nantucket Island divides these two areas⁶².

155. In an extensive area comprised of two or more sectors, both geographical logic and the applicable law demand that a delimitation be effected by reference to the land that dominates the sea in each sector⁶³. The soundness of this approach is confirmed by the geographical and legal framework used by the Court of Arbitration in the *Anglo-French Continental Shelf* award, and by this Court in the *Tunisia-Libya Continental Shelf* case. The Court, in the latter case, dealt with the area “as divided into two sectors”, because “the proper appreciation and taking into account of the ‘relevant circumstances which characterize the area’ call for the area close to the coasts of the Parties to be treated differently from the areas further offshore⁶⁴”.

156. In the *Anglo-French Continental Shelf* award, the Court of Arbitration distinguished between the Channel region, on the one hand, where the area to be delimited lay *within* the coasts of the parties, and the Atlantic region, on the other hand, where the area to be delimited

(76) ⁶² *Canadian Counter-Memorial*, p. 50, para. 120; p. 297, para. 713; Figures 12 and 51; *United States Memorial*, p. 19, footnote 2; p. 173, para. 285; *United States Counter-Memorial*, p. 13, footnote 2; p. 21, footnote 2; p. 22, footnote 1; p. 184, para. 294; Figures 21, 36 and 38.

(108) (117) ⁶³ An analogy from a related area of the law of the sea supports the geographical and legal logic of this approach. The criterion for determining whether an indentation constitutes a bay, in law, is the ratio of its penetration inland to its width. Article 7(2) of the 1958 Convention on the Territorial Sea and Contiguous Zone states:

“An indentation shall not . . . be regarded as a bay unless its area is as large as, or larger than, that of the semi-circle whose diameter is a line drawn across the mouth of the indentation.”

The rationale for this test lies in the fact that it indicates whether the indentation is sufficiently pronounced to justify treating the waters within the indentation as integrally related to the land that encloses them, and hence according them a different legal status from the waters outside the indentation. See D. P. O’Connell: *The International Law of the Sea*, Vol. 1, pp. 353-354, 384 and 390-406. The application of the semi-circle test to the Gulf of Maine area shows that, while the area within the Gulf is dominated by the coasts that border it, the outer area is dominated by the coastal wings of Nova Scotia and Massachusetts that actually abut it [see *Figure 6*].

⁶⁴ *I.C.J. Reports 1982*, p. 82, para. 114.

lay off their coasts. A fundamental premise of the award was that each area must be delimited by reference to the coasts that physically abut it:

“... the method of delimitation which [the Court] adopts for the Atlantic region must be one that has relation to the coasts of the Parties *actually abutting on the continental shelf of the region*⁶⁵.” [Italics added.]

157. The Court of Arbitration defined the abutting coasts as including the “comparatively short” coasts of the peninsular areas of Finistère and Cornwall, and the offlying islands of Ushant and the Scillies⁶⁶. The selection of these coasts was clearly based on their proximity to the Atlantic region. The idea that the identification of the controlling coasts should be based upon a perpendicular or “frontal” relationship to the boundary area was specifically rejected: even though neither of the Cornwall coasts “faces” toward the outer Atlantic region, the Court of Arbitration held that to deny that the United Kingdom possesses a frontage upon the region “is to mistake form for substance⁶⁷” [Figure 13]. In the present case, the immediately abutting coastal areas — the coastal wings of Nova Scotia and Massachusetts — are considerably more extensive than the peninsular areas identified as the legally relevant coasts in the Atlantic region off the United Kingdom and France⁶⁸.

158. The Court of Arbitration firmly rejected the view that the delimitation of the Atlantic region should be based upon the coasts of the Channel lying behind that region. It did so in two distinct senses. *First*, it held that the delimitation could not be effected on the basis of the *general direction* of the coasts within the Channel — the *lignes de lissage* advanced by France — because such a method “detaches the delimitation almost completely from the coasts which actually abut on the continental shelf of the Atlantic region” and thus “does not appear to the Court to be one that is compatible with the legal regime of the continental shelf⁶⁹”. *Secondly*, it held that the delimitation in the Atlantic region could not be based upon the *length* of the coasts within the Channel. The difficulties inherent in the use of the Channel coasts could not be removed:

“... by invoking an alleged principle of proportionality by reference to length of coastlines; *for the use of the Channel, rather than the Atlantic, coastlines is still left unexplained*⁷⁰.” [Italics added.]

The United States contention that equidistance errs by reflecting the position of the most proximate coasts, and not the back of a deep coastal

⁶⁵ *Anglo-French Continental Shelf* award, p. 116, para. 248.

⁶⁶ *Anglo-French Continental Shelf* award, p. 110, para. 233; p. 116, para. 248.

⁶⁷ *Anglo-French Continental Shelf* award, p. 110, para. 234.

(56) ⁶⁸ See *Canadian Counter-Memorial*, p. 60, Figure 14.

⁶⁹ *Anglo-French Continental Shelf* award, p. 115, para. 246.

⁷⁰ *Anglo-French Continental Shelf* award, p. 115, para. 246.

concavity, disregards the principle that the boundary should be controlled by the immediately abutting coasts. It is based on a false hierarchy of "primary" and "secondary" coasts that the United States has invented out of the whole cloth, with no reference whatever to international law.

159. Apart from the assertion that fishermen from Maine and New Hampshire fish on Georges Bank, the United States offers no factual evidence of any kind of link between the Bank and the Maine and New Hampshire coasts⁷¹. Indeed, the United States assertion that Georges Bank forms part of the seaward extension of the coasts at the back of the Gulf appears to rest wholly on a geometrical formula that has nothing to do with the discipline of geography or with the particular geographical facts characterizing the area.

Conclusion

160. The United States dismisses the method used by Canada to delineate the course of the boundary in the Gulf of Maine area as a "geometrical" method that produces an "artificial" boundary. But whereas Canada uses a geometrical method to reflect and translate into an equitable delimitation the geographical circumstances of the Gulf of Maine area, the United States seeks to *substitute* geometry for geography in establishing the circumstances relevant to the delimitation. For the United States contention that Georges Bank is the extension of the coasts of Maine and New Hampshire is based on the geometrical principle of perpendicularity and on a distinction between "primary" and "secondary" coasts unfounded in geography or in law.

161. The United States does not support its contention by a single piece of evidence demonstrating significant geographical links between Georges Bank and the coasts at the back of the Gulf of Maine. All the evidence, including many of the factual assertions in the United States pleadings, shows that Georges Bank is most directly linked in physical and in human terms to the land areas to which it is most proximate: the opposite and essentially symmetrical coastal wings of Nova Scotia and Massachusetts that abut the outer area. A delimitation taking account of the relevant geographical circumstances must reflect the fact that eastern Georges Bank, the area under Canadian claim, is geographically appurtenant to the coast of southwest Nova Scotia.

⁷¹ For an analysis of the physical and human links between Georges Bank and the coastal wings of southwest Nova Scotia and Massachusetts, and of the absence of such links between the Bank and the coasts abutting the innermost sector of the Gulf, see *Canadian Memorial*, p. 27, paras. 29 and 32; p. 29, para. 35; pp. 34-36, paras. 52-63; pp. 59-81; paras. 110-124. *Canadian Counter-Memorial*, pp. 63-66, paras. 154-162; pp. 68-81, paras. 168-199; pp. 108-109, paras. 263-270.

CHAPTER III

THE MYTH OF THE "NATURAL BOUNDARY"

Introduction

162. The Canadian Memorial and Counter-Memorial have already shown that the myth of the "natural boundary" as presented by the United States has no basis in law or fact. Paragraphs 80 to 84 of this Reply provide further confirmation of the legal irrelevance of the United States thesis regarding the Northeast Channel. This superficial feature of the seabed in effect becomes the *only* "relevant circumstance" in the Gulf of Maine area under the United States approach, despite the agreement of the Parties on the essential unity of the continental shelf in this area. A delimitation effected on this basis would be a delimitation divorced from coastal geography, from all the truly relevant circumstances, from the legal basis of title, and from the principle of equality within the same order — in short, from equitable principles within the law.

163. This chapter shows that the United States Counter-Memorial fails to provide any factual support for the United States view of the Northeast Channel as a "natural boundary". This view remains incompatible with important geological, geomorphological and oceanographic factors; it rests on exaggeration, speculation and mistaken appeals to environmental risks — which are common to both Parties, in any event — and to differing but not incompatible national fisheries policies. In fact, the sea cannot be divided into three "separate and identifiable ecological regimes", and the so-called discontinuities described by the United States have no basis in science.

Section I. The United States Ignores Important Geological Factors That Are Incompatible with a "Natural Boundary" at the Northeast Channel

164. Canada and the United States agree on the essential continuity and integrity of the Atlantic continental margin as it appears today, "without discontinuities that might identify separate natural prolongations¹". The United States, however, goes on to assert that "[t]he principal differences between the Parties lie in their characterizations of the relative significance of certain geomorphological features in the Gulf of Maine area² . . .". In fact, this is not the case: the issues separating the Parties on this score are wider than the United States suggests.

165. Canada does not propose to advance a "natural boundary" theory to counter the one put forward by the United States. Canada submits, however, that there are geological discontinuities in the continental

¹ *Canadian Counter-Memorial*, p. 68, para. 168.

² *United States Counter-Memorial*, p. 27, para. 35.

shelf of the Gulf of Maine area that are as important as, or even more important than, the alleged "break" represented by the Northeast Channel. The United States Counter-Memorial itself makes practically no mention of geological factors, despite the full treatment accorded to them in the Canadian Memorial. The United States, however, has submitted an Annex with its Counter-Memorial in order to explain its "technical differences" with Canada in respect of geology³.

166. In dealing first with the matter of basement rocks, the United States asserts that "it is impossible to assign any direction to the extension of the basement rocks beneath Georges Bank and the Nova Scotia landmass"⁴. This assertion is erroneous. In fact, the extension of basement rocks in the Gulf of Maine area can be delineated from a combination of multichannel seismic reflection data and gravity, aeromagnetic and field observations. *Figure 14* is a composite illustration based on the work of United States and Canadian geologists⁵. It shows the consistency in basement trends on the Nova Scotia landmass with those that extend across the Northeast Channel and beneath Georges Bank. These basement trend lines extend in a southwesterly direction from Nova Scotia up to the area of the Great South Channel area. They cut transversely across the so-called "natural boundary" that is alleged to exist at the Northeast Channel. In the Great South Channel area and to the west, however, the basement trend lines change direction and run in a more northerly direction.

167. The trend lines shown in *Figure 14* help to confirm the geological opinion that the basement structure known as the Meguma Group extends in a southwesterly direction from the Nova Scotia landmass and from the Bay of Fundy into the Gulf of Maine area⁶. These

³ *United States Counter-Memorial*, p. 27, footnote 4; *United States Counter-Memorial, Analytical Annexes*, Vol. IV, Annex 5.

⁴ *United States Counter-Memorial, Analytical Annexes*, Vol. IV, Annex 5, p. 16, para. 20.

⁵ See J. S. Schlee and K. D. Klitgord: "Geologic Setting of the Georges Bank Basin", in P. A. Scholle and C. R. Wenkam, eds.: *Geological Studies of the COST Nos. G-1 and G-2 Wells, United States North Atlantic Outer Continental Shelf*. United States Department of the Interior, Geological Survey Circular 861. Washington, Government Printing Office, 1982; *Reply, Annexes*, Vol. II, Part IV, Annex 6; J. D. Keppie: *Geological Map of the Province of Nova Scotia*. Halifax Department of Mines and Energy, 1979.

⁶ See also L. K. Schultz and R. L. Grover: "Geology of Georges Bank Basin." *The American Association of Petroleum Geologists Bulletin*, Vol. 58, No. 6, Part II, 1974, p. 1159, at p. 1164:

"Basement rocks [beneath Georges Bank Basin] probably consist of Cambrian-Ordovician slate, quartzite and argillite similar to the Meguma Group of Nova Scotia ..."

Reply, Annexes, Vol. II, Part IV, Annex 7; J. A. Wade: "The Mesozoic-Cenozoic History of the Northeastern Margin of North America." *Proceedings of the 10th Annual Offshore Technology Conference*, Vol. 3, 1978, p. 1850:

"[Georges Bank] basin overlies a folded and faulted basement complex which is probably composed of metasedimentary rocks correlative to the Cambro-Ordovician Meguma Group of southwestern Nova Scotia."

Reply, Annexes, Vol. II, Part IV, Annex 8.

trends, in short, demonstrate the existence of geological affinities between Georges Bank and the Canadian landmass to the north and northeast, contrary to United States assertions. Of equal importance, they refute United States contentions about the existence of a "natural boundary" at the Northeast Channel.

58 168. The other, equally salient feature of the geology of the Gulf of Maine area is the southwestward projection of the Scotian Basin, the subsurface sedimentary structure that extends from the Scotian Shelf beneath the Northeast Channel to the eastern half of Georges Bank (see Figure 16 in the Canadian Counter-Memorial). This thick, potentially hydrocarbon-bearing portion of the sedimentary wedge is further evidence of the geological affinities — and the absence of discontinuity — between Georges Bank and the Scotian Shelf to the northeast. While the United States Counter-Memorial seeks to deny that the Scotian Basin extends beneath the eastern part of Georges Bank, this extension, and its partial separation from Georges Bank Basin (underlying western Georges Bank) by the Yarmouth Arch, is confirmed in the published works of United States and Canadian scientists⁷. If a "natural boundary" is one that avoids dividing resources, then the Canadian line is far more "natural" than the United States claim in relation to the hydrocarbon potential of the Scotian Basin, for the latter cuts through the Basin while the former does not⁸.

169. The United States also denies the relevance of the New England Seamount Chain and the attendant belt of high seismic activity in the vicinity of the Great South Channel⁹. Nevertheless, two pertinent and incontrovertible facts remain. *First*, a major basement fracture zone is aligned with the New England Seamount Chain, running

⁷ See L. K. Schultz and R. L. Grover: "Geology of Georges Bank Basin"; J. A. Grow: "Structure of the Atlantic Continental Margin of the United States", in *Geology of Passive Continental Margins: History, Structure and Sedimentologic Record (With Special Emphasis on the Atlantic Margin)*. American Association of Petroleum Geologists Eastern Section Meeting and Atlantic Margin Energy Conference, Education Course Note Series No. 19, 1981; J. A. Wade: "The Mesozoic-Cenozoic History of the Northeastern Margin of North America", p. 1850.

⁸ Other geological phenomena have been ignored by the United States, such as the Mid-Bank Divide that geologists have identified beneath the middle of Georges Bank, separating an eastern and western "wedge" of younger sediments. *Canadian Counter-Memorial, Annexes*, Vol. I, pp. 7-8, para. 17 and Figure 3.

⁹ *United States Counter-Memorial, Analytical Annexes*, Vol. IV, Annex 5, p. 21, paras. 28-29.

perpendicular to the shelf edge seaward of the Great South Channel area¹⁰. This fracture zone represents a *major structural boundary* in this region of the Atlantic continental margin¹¹. *Secondly*, for reasons related to the existence of the fracture zone, there is a major, and geologically significant, offsetting of the East Coast Magnetic Anomaly seaward of the Great South Channel in the vicinity of the seamounts and the seismic trend line¹² [Figure 14]. These facts reveal that if any natural *geological* boundary were to be postulated, it would lie at the southwestern limit of Georges Bank and not at the Northeast Channel.

Section II. The United States Errs in Attempting to Portray Georges Bank as an Extension of Massachusetts

170. A curious inconsistency marks the United States view of Georges Bank and its relation to the coasts. On the one hand, the United States attempts to portray Georges Bank as the seaward extension of Maine in legal terms. On the other hand, it attempts to portray the Bank as the seaward extension of Massachusetts in physiographic terms. Thus, the United States reduces the Great South Channel to total insignificance, despite its recognized and crucial importance as a channel for navigation, as a component of the biological and oceanographic "transi-

¹⁰ The United States argues that "there is no evidence to support a belt of seismicity connecting the White Mountains to the New England Seamounts" [*United States Counter-Memorial, Analytical Annexes*, Vol. IV, Annex 5, p. 21, paras. 28-29]. However, respected United States authorities state that "[s]ome of the best evidence for the concentration of seismic activity, particularly the occurrence of large shocks within continents near the ends of major transform faults, comes from . . . offshore Massachusetts near the end of the New England seamount chain". L. R. Sykes: "Intraplate Seismicity, Reactivation of Preexisting Zones of Weakness, Alkaline Magmatism, and Other Tectonism Postdating Continental Fragmentation." *Reviews of Geophysics and Space Physics*, Vol. 16, No. 4, 1978, p. 674. *Reply, Annexes*, Vol. II, Part IV, Annex 9. This author shows a solid line of seismicity running from the New England Seamount Chain, through the western end of Georges Bank and onshore as far north as Québec. This same seismic trend line through western Georges Bank is also shown by J. B. Fletcher, M. L. Sbar and L. R. Sykes: "Seismic trends and travel-time residuals in eastern North America and their tectonic implications." *Geological Society of America Bulletin*, Vol. 89, Doc. 81106, 1978, pp. 1656 and Figures 1, 2, 3 and 9. *Reply, Annexes*, Vol. II, Part IV, Annex 10 contains a reproduction of these seismic trend lines.

¹¹ J. B. Fletcher, M. L. Sbar and L. R. Sykes: "Seismic trends and travel-time residuals in eastern North America and their tectonic implications", p. 1656:

"The Boston-Ottawa seismic zone appears to be nearly spatially coincident with Mesozoic alkalic igneous rocks of the White Mountain Magma Series and the Monteregian Hills. These rocks are similar in age to the New England (Kelvin) Seamounts, a major transform fault across which magnetic lineations of Mesozoic age in the western Atlantic change strike and appear to be offset. *The Boston-Ottawa seismic zone, the Mesozoic igneous rocks, and the seamount chain appear to define a major tectonic zone about 2,000 km long.*" [*Italics added.*]

Reply, Annexes, Vol. II, Part IV, Annex 10.

¹² The East Coast Magnetic Anomaly is a linear trend of high magnetic intensity running parallel to the shelf edge from Nova Scotia to Florida, probably related to the transition from continental to oceanic crust. *Canadian Memorial*, p. 44, para. 78.

tion zone" in the area off Cape Cod, and as the feature defining the western limit of Georges Bank.

171. The United States Counter-Memorial insists that Georges Bank is not a "topographic island" or a "detached bank"¹³. Through the selective use of bathymetry in its illustrations, the United States attempts to convey the impression that the Northeast Channel cuts across the entire breadth of the continental shelf while the Great South Channel does not. Figure 3 of the Canadian Counter-Memorial shows that any feature of the shelf can be emphasized or made to disappear, depending on the contour intervals depicted. Therefore, in order to convey an accurate impression of the continental shelf in the Gulf of Maine area, Canada's illustrations have used contours that reflect all the seabed features of the Gulf. These features comprise the basins in the inner area and the shallow banks and channels in the outer area, including the Great South Channel, Georges Bank and the Northeast Channel. The bathymetry used in the Canadian Counter-Memorial and Reply also closely resembles a 1974 "bathymetric map" issued by the American Geographical Society that depicts Georges Bank as a *semi-detached* bank defined by channels to its east and west [Figure 15]. It is quite clear that in this objective view of the Gulf of Maine area, Georges Bank is not seen as an extension of Massachusetts or of Maine.

172. To enhance its claim that Georges Bank is an appendage of Massachusetts, the United States Counter-Memorial repeats the misleading suggestion that the Atlantic Coastal Plain extends only as far as the Northeast Channel¹⁴. Canada has already pointed out that the submerged Atlantic Coastal Plain constitutes the continental margin of eastern North America from Baffin Island in the Arctic to the southern United States¹⁵. Canada has also pointed out that official United States publications recognize that within the Atlantic Coastal Plain, the East Coast Shelf and Georges Bank constitute distinct physiographic provinces, "separated" by the Great South Channel¹⁶.

173. The United States Counter-Memorial also divides the North American continental shelf into a "non-glaciated shelf province" stretching south of New York and a "glaciated shelf province" stretching north of New York¹⁷; further, it posits a discontinuity in sediment types at the

¹³ *United States Counter-Memorial*, p. 29, para. 41.

¹⁴ *United States Counter-Memorial*, pp. 29-30, paras. 41-44.

¹⁵ *Canadian Counter-Memorial*, pp. 71-72, para. 178.

¹⁶ E. Uchupi: *Atlantic Continental Shelf and Slope of the United States — Physiography*. United States Department of the Interior, Geological Survey Professional Paper 529-C. Washington, Government Printing Office, 1968, pp. C3, C5 and C11 where it is stated: "Great South Channel, separating East Coast Shelf from Georges Bank, is another erosional feature on the Shelf." *Canadian Memorial*, pp. 37-38, para. 67 and Figure 13; *Canadian Counter-Memorial*, p. 71, para. 177.

¹⁷ *United States Counter-Memorial, Analytical Annexes*, Vol. IV, Annex 5, p. 4, para. 4.

Northeast Channel in an effort to substantiate an alleged geomorphological difference between Georges Bank and the Scotian Shelf¹⁸. In fact, New York is the southernmost extent of North American glaciation on land, but most glaciation on the continental shelf stopped in the vicinity of the Great South Channel, except for a narrow strip along the coast from Cape Cod to Long Island¹⁹. Thus, to the extent that glaciation can be used to identify a geomorphological discontinuity on the North American continental shelf, this discontinuity would be found in the vicinity of the Great South Channel and not in the vicinity of New York. Moreover, the boundary of a glacial "subprovince" does not occur at the Northeast Channel. If any exists, it would cut obliquely across Georges Bank, as shown in Volume I of the Annexes to the Canadian Counter-Memorial.

174. Southwest of the Great South Channel, the continental shelf is a smooth unglaciated plain²⁰. North and east of the Great South Channel, glaciers produced a series of basins that occur along the inner part of the Shelf from the Gulf of Maine Basin to Newfoundland, and a series of broad, shallow banks that occur along the outer edge of the shelf from Georges Bank to Newfoundland. Canada, therefore, agrees with the United States that the Gulf of Maine Basin is geomorphologically similar to at least part of the Scotian Shelf. However, it is the *inner part* of the Scotian Shelf to which the Gulf of Maine Basin is analogous. Georges Bank, on the other hand, is analogous to the banks that are strung out along the *outer part* of the Scotian Shelf all the way to Newfoundland²¹. In this basin-bank system that stretches from Newfoundland to the Great South Channel, the Northeast Channel pales into geomorphological insignificance.

175. The distribution and form of glacial sediments show the affinities between the Scotian Shelf and Georges Bank. Waves and currents generated by winds and tides constitute the two most important forces that fashion surface sediment forms. Tidally-dominated bedforms occur in the Bay of Fundy, on Georges Bank and on Browns Bank, while sediments to the north of Browns Bank and to the south of the Great South Channel, are storm-dominated²². This fact illustrates the single

¹⁸ *United States Counter-Memorial, Analytical Annexes*, Vol. IV, Annex 5, pp. 4-5, paras. 5-10.

¹⁹ *Canadian Counter-Memorial, Annexes*, Vol. I, pp. 5-7, paras. 13-16.

²⁰ *Canadian Counter-Memorial*, p. 71, para. 177.

²¹ Uchupi refers to this basin-bank system. See E. Uchupi: *Atlantic Continental Slope of the United States — Physiography*. United States Department of the Interior, Geological Survey Professional Paper 529-C, 1968, pp. C5 and C28 where it is stated:

"The topographic features of the continental shelf, slope, and rise are inter-related and can be grouped from north to south into three distinct regions or zones. In the first, from Nova Scotia to the Nantucket Shoals area, the position normally occupied by a gently seaward-sloping continental shelf, contains (1) the Gulf of Maine, and (2) several large shallow banks, namely Georges, Browns, LaHave, and Emerald Banks."

Reply, Annexes, Vol. II, Part IV, Annex 11.

²² *Canadian Counter-Memorial, Annexes*, Vol. I, pp. 10-17, paras. 21-30 and Figures 4-8.

integrated tidal régime connecting the Bay of Fundy and Georges Bank²³.

176. In summary, the basin-bank system produced by glaciation, together with sediment distribution and form, show that the United States Counter-Memorial errs in arguing that the seabed of Georges Bank "differs substantially" from that of the Gulf of Maine Basin and the Scotian Shelf²⁴. Moreover, the facts indicate that if there is a geomorphological boundary in the Gulf of Maine area, it is in the vicinity of the Great South Channel, where there is a change from glaciated to non-glaciated sediments, a change from tidally-dominated to storm-dominated bedforms, and an end to the basin-bank system that characterizes the continental shelf from Newfoundland down to the Great South Channel.

Section III. The United States Errs in Contending That Canada Would Not Be Affected by an Oil Spill on Georges Bank

177. The United States Counter-Memorial argues that since all Georges Bank resources would be affected by an oil-well blowout or an oil spill on the northeastern portion of the Bank, it follows that the Bank in its entirety should be awarded to the United States. As an adjunct to this proposition, the United States claims that "it is unlikely that hydrocarbon development on the northeastern portion of Georges Bank would threaten significantly the marine resources of the Scotian Shelf or the Canadian coast²⁵". Yet the environmental risk analysis contained in the Annexes to the United States Counter-Memorial (Volume I, Part A, Annex 1) is fundamentally flawed. Leaving aside the scientific deficiencies of the United States argument, however, it must be stressed at the outset that it rests on the quite unjustifiable *legal* assumption that the whole of Georges Bank appertains to the United States, for if part of the Bank were Canadian it follows that Canada's Georges Bank resources

²³ A study by Greenberg has shown that there is a single tidal current system encompassing the Bay of Fundy, Browns Bank, the Northeast Channel and Georges Bank. Although cited by the United States [*Counter-Memorial, Marine Environment Annex*, Vol. I, Part A, Annex 1, p. 63, footnote 1]. Greenberg does not support the United States view that the Northeast Channel "shapes" the marine environment of the Gulf of Maine. The following citation shows that Greenberg provides evidence of the interrelationship of tides throughout the Gulf of Maine area:

"In the Gulf of Maine the kinetic energy is greater than the potential energy, and is concentrated in a wide band from around the Nantucket area, through Georges Bank, across the Fundian Channel, and into the Bay of Fundy. There are *local maxima* at either end of Georges Bank and at the entrance to the Bay of Fundy."
[*Italics added.*]

D. A. Greenberg: "A Numerical Model Investigation of Tidal Phenomena in the Bay of Fundy and Gulf of Maine." *Marine Geodesy*, Vol. 2, No. 2, 1979, p. 172. *Reply, Annexes*, Vol. II, Part IV, Annex 12.

²⁴ *United States Counter-Memorial, Analytical Annexes*, Vol. IV, Annex 5, p. 4, para. 5.

²⁵ *United States Counter-Memorial*, p. 45, para. 57.

would face the same environmental risk. In this respect, Canada's only reply to the circular argument of the United States must be *adhuc sub iudice lis est*.

178. Canada's objection to the United States view of environmental risks, however, goes much further. The fatal scientific defect in the United States analysis is that it concerns itself only with *oil in the water column*. The United States ignores the fact that by far the greater bulk of oil released by an oil-well blowout or by a tanker spill rests on the *surface* of the water: only a small fraction is dissolved in the water column²⁶. Models of trajectory and oil spill fates demonstrate that, owing to wind and current action, the great mass of any oil spill on *either* the northeastern or southwestern part of Georges Bank will pass *to the Scotian Shelf and to the Canadian coastline*²⁷ [Figure 16]. The United States argument on this point is therefore incomplete and misleading. The chances are that Canada will suffer the effects of an oil spill or oil-well blowout anywhere on Georges Bank to a much greater degree than the United States, and official United States studies have recognized this fact²⁸. Moreover, Canada and the United States have recognized the common threat that oil spills in the Gulf of Maine area would pose to their coasts. In 1974, by an exchange of diplomatic notes, the Parties established an oil spill contingency plan that delimits areas within which they would exercise their respective responsibilities for pollution control and clean-up²⁹. The line dividing these areas follows longitude 67°28'W [Figure 17].

Section IV. Contrary to United States Assertions, Georges Bank Is Part of a Continuous Ocean System and Falls within the Nova Scotia Biogeographic Province

179. The sea, it need hardly be said, is a fluid environment: a dynamic, not static, medium. Its fundamental characteristics are its openness and relative uniformity. Unlike the land, the sea is not marked by geographically fixed discontinuities or boundaries. Changes in water properties that do exist are gradual and highly variable in location.

²⁶ The proportion of oil on the sea surface is about *10 times greater than oil in the water column*. See Table 5 in M. L. Spaulding, S. B. Saila, E. Lorda, H. Walker, E. Anderson and J. C. Swanson: "Oil-Spill Fishery Impact Assessment Model: Application to Selected Georges Bank Fish Species." *Estuarine, Coastal and Shelf Science*, Vol. 16, 1983, pp. 511-541.

²⁷ D. J. Lawrence and R. W. Trites: "Surface Oil Spill Trajectory Modelling for Georges and Browns Banks." *Canadian Technical Report of Hydrography and Ocean Sciences*, No. 29, 1983.

²⁸ The results of this recent Canadian study are consistent with the United States study by Spaulding *et al.* referred to in footnote 26. Similar results are also shown in the trajectory models contained in the United States Environmental Assessments for Outer Continental Shelf Lease Sale No. 42. See *Canadian Counter-Memorial*, p. 77, para. 190.

²⁹ Canadian diplomatic note FLA 362, 19 June 1974. United States diplomatic note 106, 19 June 1974. See *Reply, Annexes*, Vol. II, Part IV, Annex 13.

Horizontal differences in surface temperatures of only 1° Celsius, for example, may be found across tens or hundreds of kilometres, and the day-to-day location of temperature gradients varies widely³⁰. Only inordinate distortions of scale and serious oversimplifications can sustain any hypothesis of "natural boundaries" in the water column.

180. The Canadian Counter-Memorial has shown that there is continuity in the oceanographic system and in fish distributions from northeast to southwest in the Gulf of Maine area³¹. To the extent that a discontinuity can be defined, it is in the vicinity of the Cape Cod-Nantucket Shoals-Great South Channel area. Georges Bank itself is characterized predominantly by northern or boreal species, and so falls within the Nova Scotia biogeographic province. This province extends from Newfoundland to the coastal area of Cape Cod, where a transition occurs from northern, cold-water plant and animal species to the southern, warm-water species that typify the Virginian biogeographic province and the Mid-Atlantic Bight. The United States Counter-Memorial argues that "[i]n alleging that there is some species break or division in the vicinity of Nantucket Shoals or Long Island, Canada misinterprets the work of current biogeographers³²". In fact, it is the United States that has misinterpreted the scientific literature. Canada has not been able to find scientific studies of the Gulf of Maine area that support the suggestion that the Northeast Channel is a biogeographic boundary³³.

³⁰ An example of the vast scale of day-to-day variability in surface temperature gradients is provided by Smith and Petrie. They show the variability between shelf and slope water off the Scotian Shelf occurs over a distance of 150 kilometres. P. C. Smith and B. D. Petrie: "Low-Frequency Circulation at the Edge of the Scotian Shelf." *Journal of Physical Oceanography*, Vol. 12, 1982, pp. 28-46.

³¹ *Canadian Counter-Memorial*, pp. 79-98, paras. 192-242 and Figures 20-22 and 24. See also *Canadian Counter-Memorial, Annexes*, Vol. I, Chaps. II-IV.

³² *United States Counter-Memorial*, p. 39, para. 48.

³³ None of the scientific papers cited in the United States Counter-Memorial and its Annexes in support of the theory of a natural boundary at the Northeast Channel even mentions the Northeast Channel as a biogeographic *feature*, let alone as a natural *boundary*. What they show is that Cape Cod is the significant biogeographic feature in the Gulf of Maine area. See D. R. Franz and A. S. Merrill: "The Origins and Determinants of Distribution of Molluscan Faunal Groups on the Shallow Continental Shelf of the Northwest Atlantic." *Malacologia*, Vol. 19, No. 2, 1980, p. 227; D. R. Franz, E. K. Worley and A. S. Merrill: "Distribution Patterns of Common Seastars of the Middle Atlantic Continental Shelf of the Northwest Atlantic (Gulf of Maine to Cape Hatteras)." *Biology Bulletin*, Vol. 60, 1981, p. 394; E. L. Bousfield and M. L. H. Thomas: "Postglacial Changes in the Distribution of Littoral Marine Invertebrates in the Canadian Atlantic Region", in *Proceedings of the Nova Scotia Institute of Science*, Vol. 27, Supp. 3, 1975, pp. 47-60. The only paper Canada has found that even suggests any kind of a biogeographic separation at the Northeast Channel refers to only one small crustacean group — ostracodes. Yet, even this study places greater emphasis on Cape Cod as a biogeographic feature: J. E. Hazel: *Atlantic Continental Shelf and Slope of the United States — Ostracode Zoogeography in The Southern Nova Scotian And Northern Virginian Faunal Provinces*. United States Department of the Interior, Geological Survey Professional Paper 529-E. Washington, Government Printing Office, 1970.

181. The United States argument that there is a fixed biogeographic boundary that runs along the northern edge of Georges Bank (at approximately 42°N) is directly contradicted by numerous reports and publications, including several publications of the United States Government³⁴. All of these documents conclude that Georges Bank is boreal in its affinities, and that a *transition* from cold- to warm-water characteristics occurs in the vicinity of Cape Cod and not at the Northeast Channel. The tenor of these various studies is well stated in a report by Bigelow and Schroeder, published by the United States Department of the Interior, and given prominence in the United States Counter-Memorial:

“The general oceanography of [the Gulf of Maine] area has been the subject of another report, but it may not be amiss to point out that *the temperature of the Gulf and its fauna are boreal*, and that its southern and western boundaries are the northern limit to common occurrence of many southern species of fishes and of invertebrates³⁵.” [*Italics added.*]

182. Notwithstanding evidence of the kind cited above, the Annexes to the United States Counter-Memorial (Volume IV, Annex 7) contend that even the complex of Atlantic coast *species* — as well as stocks — can be segregated in accordance with “separate and identifiable oceanographic regimes³⁶”. The thrust of the United States analysis, again, is to present Georges Bank as a warm-water bank. Canada has already provided irrefutable evidence to the contrary. For example, Figure 33 in Volume I of the Annexes to the Canadian Counter-Memorial shows that the great bulk — over 95 percent — of the average annual commercial catch in ICNAF/NAFO subdivision 5Ze, from 1962 to 1980, consisted of northern and widely distributed species. Southern

³⁴ A recent United States Government publication on amphipods found on Georges Bank reveals that the dominant species are boreal. See J. J. Dickinson and R. L. Wigley: *Distribution of Gammaridean Amphipoda (Crustacea) on Georges Bank*. Washington, U.S. Department of Commerce, National Oceanic and Atmospheric Administration Technical Report, NMFS SSRF-746, 1981. A United States Government study of ostracodes shows that only eight Georges Bank species have Virginian affiliations while 43 have boreal affiliations. See J. E. Hazel: *Atlantic Continental Shelf and Slope of the United States — Ostracode Zoogeography in The Southern Nova Scotian And Northern Virginian Faunal Provinces*. A recent major work on biogeography, contrary to United States assertions regarding the Northeast Channel, concludes that the “cold-temperate North Atlantic province” extends from “Newfoundland and Gulf of St. Lawrence to Cape Cod, Massachusetts”. See G. J. Vermeij: *Biogeography and Adaptation: Patterns of Marine Life*. Boston, Harvard University Press, 1978, pp. 2-3. *Reply, Annexes*, Vol. II, Part IV, Annex 14.

³⁵ H. B. Bigelow and W. C. Schroeder: “Fishes of the Gulf of Maine.” *Fishery Bulletin of the Fish and Wildlife Service*, Vol. 53, No. 74. Washington, Government Printing Office, 1953. *United States Counter-Memorial, Marine Environment Annex*, Vol. I, Part A, Annex 1, Appendix L. The “western boundary” referred to by Bigelow and Schroeder is 70°W longitude, which cuts across Cape Cod and Nantucket Shoals. It is clear that they considered Georges Bank to be part of the Gulf of Maine and therefore within the boreal province.

³⁶ *United States Counter-Memorial, Marine Environment Annex*, Vol. I, Part A, Annex 1, p. 75, para. 52.

species only begin to dominate the commercial catch as one moves away from Georges Bank to the southwest. Moreover, on close examination, the five fish species distribution figures contained in the Annexes to the United States Counter-Memorial (Volume I, Part A, Annex 1) offered as evidence of the existence of natural boundary at the Northeast Channel in fact reinforce Canada's point about continuity and about the existence of a *species* transition zone in the Great South Channel area rather than at the Northeast Channel³⁷.

183. Canada strongly disagrees with the United States thesis that fish *stocks* can be segregated into "ecological regimes" or divided by a "natural boundary" at the Northeast Channel. The Canadian Counter-Memorial has shown why the United States Memorial erred in dividing the stocks of 12 out of 16 commercial species at the Northeast Channel³⁸. The United States Counter-Memorial repeats this error by relying excessively on spawning locations to identify stocks³⁹. It is crucial to recall that any given stock is located at a particular spawning location for only a few weeks of each year of adult life. Thus, spawning location has no necessary bearing on the distributional range or migratory habits of the stock throughout the rest of the year or during the life cycle as a whole. Consequently, the numerous figures contained in the Annexes to the United States Counter-Memorial (Volume I, Part A, Annex 1), showing various spawning grounds and areas of larval abundance, to the extent that they might be proven scientifically accurate, cannot be used to support the argument that stocks are divided by the Northeast Channel throughout the year or throughout their life cycle. As Canada has already shown, many stocks of fish intermingle and migrate throughout the Gulf of Maine area, irrespective of their spawning grounds.

184. In sum, the extensive factual material contained in Volume I of the Annexes to Canada's Counter-Memorial and in numerous scientific authorities, including official United States publications, demonstrates that Georges Bank is a cold-water bank with greater biological affinities to Canada than to the United States.

³⁷ *United States Counter-Memorial, Marine Environment Annex, Vol. I, Part A, Annex 1*, pp. 79-89. Figure 24 clearly shows a distribution of species throughout the entire Gulf of Maine area. Figure 25 shows species that range southwestward from the Scotian Shelf across the Northeast Channel to the northeastern part of Georges Bank and within the Gulf of Maine. Figure 26 shows that the important commercial species of cod, haddock and pollock have no distributional break at the Northeast Channel, but range from northeast to southwest before tapering off southwest of the Great South Channel. Figure 27 also shows the species transition zone in the Great South Channel area. See *Canadian Counter-Memorial, Annexes, Vol. I*, pp. 66-67, para. 107 and the study by J. B. Colton *et al.* cited therein.

³⁸ *Canadian Counter-Memorial, Annexes, Vol. I*, pp. 72 ff, paras. 119 ff.

³⁹ *United States Counter-Memorial, Marine Environment Annex, Vol. I, Part A, Annex 1*, pp. 88 ff, paras. 65 ff.

Section V. The United States Greatly Exaggerates the Importance of the Northeast Channel

185. The United States Memorial exaggerated beyond recognition the geomorphological and oceanographic importance of the Northeast Channel. The United States Counter-Memorial carries this process further and speculates about what the marine environment in the Gulf of Maine area would be like in the absence of the Northeast Channel⁴⁰. This exercise can have no relevance in law.

186. The United States Counter-Memorial claims that the Northeast Channel "determines" the circulation pattern and the physical characteristics of the waters of the Gulf of Maine Basin and of Georges Bank⁴¹. The fact is that the oceanography of the Gulf of Maine area is determined by factors and processes that operate both locally and on a vast geographical scale; the Northeast Channel is simply one of the features that *contribute* to determining the oceanography of the Gulf of Maine.

187. As evidence of the alleged controlling role of the Northeast Channel, the United States Counter-Memorial asserts that 60 to 70 per cent of the annual inflow of water into the Gulf of Maine Basin enters through the Northeast Channel⁴². The authority cited for this statement, however, nowhere mentions this percentage and never compares the flow through the Northeast Channel to the total inflow into the Gulf of Maine Basin⁴³. The United States assertion, accordingly, is incorrect or unsubstantiated, or both⁴⁴. Moreover, in making this assertion, the United States overlooks one of the most salient features of the large-scale water movements that dominate the Gulf of Maine area. It is the colder and less saline waters from the Canadian coastal areas to the north, carried by the Labrador and Nova Scotia currents, that pass

⁴⁰ *United States Counter-Memorial*, pp. 40 and 43, para. 51; pp. 203-204, para. 316; *United States Counter-Memorial, Marine Environment Annex*, Vol. I, Part A, Annex I, pp. 167 ff.

⁴¹ *United States Counter-Memorial*, pp. 43-44, paras. 52-54.

⁴² *United States Counter-Memorial*, p. 43, para. 52.

⁴³ S. R. Ramp, R. J. Schlitz and W. R. Wright: "Northeast Channel Flow and the Georges Bank Nutrient Budget." Paper prepared for presentation at the International Council for the Exploration of the Seas (ICES), 1980. *United States Counter-Memorial, Marine Environment Annex*, Vol. I, Part A, Annex I, pp. 23 and 27, para. 12 and footnote 5.

⁴⁴ It is also directly contradicted by several reports that conclude that the greatest share of inflow into the Gulf of Maine comes from the Scotian Shelf and not from the Northeast Channel. See C. N. Flagg, B. A. Magnell, D. Frye, J. J. Cura, S. E. McDowell and R. I. Scarlet: *Interpretation of the Physical Oceanography of Georges Bank. Final Report*. Washington, U.S. Department of the Interior, 1982; T. S. Hopkins and N. Garfield: "Gulf of Maine Intermediate Water." *Journal of Marine Research*, Vol. 37, No. 1, 1979, p. 103; W. S. Brown and R. C. Beardsley: "Winter Circulation in the Western Gulf of Maine: Part 1: Cooling and Water Mass Formation." *Journal of Physical Oceanography*, Vol. 8, No. 2, 1978, p. 265.

across Georges Bank and create thermal conditions appropriate for the Bank's predominantly northern plant and animal species⁴⁵. And it is this combination of factors that links Georges Bank to the chain of offshore banks extending from the Scotian Shelf to the Great South Channel.

188. In a further attempt to counter the fact that the marine environment on Georges Bank is largely the product of northern forces, the United States Counter-Memorial alleges that "[t]he infusion of water through the Northeast Channel into the Gulf of Maine Basin has a *profound effect* on the temperature, salinity and vertical mixing of the waters in the Basin⁴⁶". [*Italics added.*] In support of this erroneous proposition, the Annexes to the United States Counter-Memorial (Volume I, Part A, Annex 1) contain a series of illustrations that show water-column temperature, salinity and density along the eastern North American coast at different seasons of the year, in a series of superimposed grids⁴⁷. Yet these figures hardly can be said to demonstrate the existence of "separate and identifiable ecological regimes". Rather, they show that the oceanographic régime on Georges Bank is part and parcel of a northeast to southwest *continuum*. They support the Canadian view that there is a progressive modification of the waters of the Gulf of Maine area in their southwestward course along the Scotian Shelf to Georges Bank and beyond, and that the significant differentiation is between shelf water and warmer slope water further offshore.

189. Perhaps the most striking use of exaggeration in the United States Counter-Memorial is found in Figure 26, which purports to depict the seafloor of the Gulf of Maine area. The United States does not indicate what vertical exaggeration has been used in the preparation of this figure⁴⁸. According to Canada's analysis, the seafloor topography has

⁴⁵ The United States also attempts to minimize the impact of fresh-water discharges from Canadian rivers on the Gulf of Maine. Contrary to United States assertions, fresh water has an important impact on the marine environment in the Gulf of Maine. See D. F. Bumpus: "Sources of Water Contributed to the Bay of Fundy by Surface Circulation." *Journal of the Fisheries Research Board of Canada*, Vol. 17, No. 2, 1960, pp. 181-197. Moreover, the United States is incorrect in claiming that only one-third of fresh-water discharge comes from the Bay of Fundy and Nova Scotia. In making its calculations [*United States Counter-Memorial, Marine Environment Annex*, Vol. 1, Part A, Annex 1, pp. 23 and 27, para. 12], the United States did not include the 30 percent originating from the Saint John River drainage basin and has neglected as well the other rivers draining into the Bay of Fundy, which together with the Saint John River account for over 50 percent of the fresh-water discharge into the Gulf of Maine. See *Canadian Counter-Memorial, Annexes*, Vol. I, Chap. II; *Hydrological Atlas of Canada*. Ottawa, Department of Energy, Mines and Resources, 1978, plate 22; and C. D. Bue: *Streamflow from the United States into the Atlantic Ocean During 1931-60*. United States Geological Survey Water-Supply Paper 1899-I. Washington, Government Printing Office, 1970, pp. 1-136.

⁴⁶ *United States Counter-Memorial*, pp. 43-44, para. 54.

⁴⁷ *United States Counter-Memorial, Marine Environment Annex*, Vol. 1, Part A, Annex 1, Figures 12-14.

⁴⁸ *United States Counter-Memorial*, p. 205, Figure 26. Indeed, the United States never indicates the degree of vertical exaggeration used in any of its figures.

been exaggerated *400 times*; at the same time, the seaward "face" of the continental margin has been cut off to show only a small part of this escarpment-like feature and so place superficial features on the shelf-top into greater relief.

190. In reality, of course, the seafloor of the Gulf of Maine area presents a very different picture. Figure 17 of the Canadian Counter-Memorial showed two computer-generated perspectives produced from bathymetric contours taken from existing United States and Canadian charts⁴⁹. As is evident, even when the seafloor relief is exaggerated five times, the Northeast Channel is barely perceptible. Without any vertical exaggeration whatever, the continental shelf — and indeed the entire continental margin — would be seen as practically featureless. It is this latter image, of course, that most closely approximates reality when considering the geomorphology of so vast an offshore area. Regardless of the repeated United States contentions about the Northeast Channel, the fact is that if the ocean were drained, the entire continental shelf from northeast to southwest would not differ appreciably from a Dutch landscape and would show no evidence of a "natural boundary".

Section VI. The United States Greatly Understates the Importance of the Bay of Fundy in Attempting to Magnify the Role of the Northeast Channel

191. In its efforts to magnify the role of the Northeast Channel, the United States Counter-Memorial asserts that it has "profound effects on the marine environment of the Gulf of Maine Basin and Georges Bank, which, contrary to Canada's assertions, the Bay of Fundy does not"⁵⁰. Canada has already demonstrated the vital importance of the Bay of Fundy in shaping the tidal régime and the oceanographic conditions of the Gulf of Maine area⁵¹. The view of the importance of the Bay of Fundy reflected in the United States Counter-Memorial differs radically from views expressed in recent United States Senate hearings and in a recent diplomatic note from the United States concerning the environmental impact of Canadian tidal power projects in the Bay of Fundy.

⁴⁹ *Canadian Counter-Memorial*, pp. 72-73, para. 180.

⁵⁰ *United States Counter-Memorial*, p. 38, para. 46, footnote 5.

⁵¹ *Canadian Memorial*, p. 50, para. 92; *Canadian Counter-Memorial*, p. 76, paras. 186-187. The link between the Bay of Fundy and the outer Gulf of Maine area is both oceanographic and geological. The same band of basement rocks (the Avalon Platform) extends from the Bay of Fundy throughout much of the Gulf of Maine area. See *Canadian Memorial*, p. 43, Figure 14. There also exists a sediment continuity from the Bay of Fundy southward to Georges Bank. See J. E. Hazel: *Atlantic Continental Shelf and Slope of the United States — Ostracode Zoogeography in The Southern Nova Scotian And Northern Virginian Faunal Provinces*. United States Department of the Interior, Geological Survey Professional Paper 529-E. Washington, Government Printing Office, 1970, p. E5, Figure 3. *Reply, Annexes*, Vol. II, Part IV, Annex 15.

192. In specially scheduled hearings on this matter by the United States Senate Committee on Environment and Public Works, the Chairman stated:

"Concerns have been raised . . . that tidal power projects in the Bay of Fundy could have adverse effects on the New England Coast from the Gulf of Maine to Boston Harbour. Some studies suggest that the Minas Basin project, which is being actively considered for construction in Nova Scotia, would change the tidal range in Portland [Maine] by nearly a foot. This could have serious implications for our coastal environment, increasing storm damage to coastal roads and buildings and altering fisheries and shellfish production⁵²."

Similar concerns were voiced in the diplomatic note referred to above. In that note, the State Department made the following comment:

"It is the Department's concern that these proposals, if they are to be implemented with resultant tidal flow impediment, would have pronounced effects on the entire Gulf of Maine, hundreds of kilometers removed from the actual dam sites. This is because the proposed dams will enhance the natural tidal resonance of both the Bay of Fundy and Gulf of Maine⁵³."

It can be seen from these United States sources that the Bay of Fundy is an integral and critical part of the Gulf of Maine area. Its importance is an accepted fact that does not require demonstration by imaginative "scenarios" about the consequences of its possible disappearance⁵⁴.

⁵² Statement of Senator George J. Mitchell, United States Senate, Committee on Environment and Public Works. "Field Hearing: Effects on New England of Canadian Tidal Development." Augusta, Maine, 25 July 1983. *Reply, Annexes*, Vol. II, Part IV, Annex 16.

⁵³ United States diplomatic note, 27 August 1981. *Reply, Annexes*, Vol. II, Part IV, Annex 17.

⁵⁴ Moreover, the United States claim that the physical oceanography of the Gulf of Maine area would be radically altered if the Northeast Channel did not exist is not documented. To appraise the validity of the United States assertions, Canada used a computer model to investigate the nature of the tidal régime in the Gulf of Maine area under altered bathymetric conditions. The results demonstrate strikingly that the Bay of Fundy plays a far more important role in determining the tides and currents in the Gulf of Maine area than does the Northeast Channel. The effect of blocking the Northeast Channel by a barrage of 44 kilometres by 88 kilometres, and 70 metres deep, would be a reduction of tidal amplitude of only 7-9 percent and a delay of high and low water times of only about 10-15 minutes. By contrast, blocking the Bay of Fundy would result in enormous changes in tidal amplitude, including a 34 percent increase at Boston and a 13 percent decrease at Yarmouth, and a delay in high and low water times of as much as 2.4 hours. The computer model used in these calculations is an adaption of the model discussed in D. A. Greenberg: "A Numerical Model Investigation of Tidal Phenomena in the Bay of Fundy and Gulf of Maine." *Marine Geodesy*, Vol. 2, No. 2, 1979, p. 161; and D. A. Greenberg: "Modelling the Mean Barotropic Circulation in the Bay of Fundy and Gulf of Maine." *Journal of Physical Oceanography*, Vol. 13, No. 5, 1983, p. 886.

**Section VII. The "Natural Boundary" in the Gulf of Maine Area
Is an *Ad Hoc* Conception Not Found in Previous
Scientific Publications on This Area**

193. The United States tortures the notion of "ecosystems" and "ecological regimes" in an effort to prop up its speculations regarding natural boundaries in the sea. Almost any region or area can be chosen for treatment as an "ecological regime" or "ecosystem". Individual parts of Georges Bank itself might be considered to constitute "ecological regimes". Alternatively, a researcher might choose to examine a larger unit, such as the entire east coast of North America, as an "ecological regime". The choice of unit that constitutes the so-called régime is left entirely to the discretion of the examiner. The area that the United States refers to as comprising "three separate and identifiable ecological regimes" could equally well be examined as one régime or as 20 separate régimes, depending on the level of organization chosen for the investigation. Statistical units 5Zeh and 5Zen in subdivision 5Ze of the Northwest Atlantic Fisheries Organization (NAFO) could just as legitimately or illegitimately be described as "ecological regimes" as the three "regimes" proposed by the United States. Similarly, the line that divides statistical units 5Zeh and 5Zen from statistical units 5Zej and 5Zem could just as legitimately or illegitimately be presented as a "natural boundary" as the line that separates subdivision 5Ze from subdivision 5Zw, or the line that separates subarea 5 from subarea 4 [Figure 18].

(164)

194. Perhaps the best description of the problems inherent in identifying "ecological regimes" in the waters of the sea is provided in the following passage from the United States Counter-Memorial, where a particular kind of measurement is rejected because it "*unavoidably requires that assumptions be made, parameters chosen, and data selected . . .*" and because the factors concerned, even if they could be measured accurately, "*are variable and unpredictable*⁵⁵". [Italics added.] The United States in this passage is expressing its reluctance to attempt a measurement of economic dependence. That reluctance, however, would more properly apply to the task of identifying "ecological regimes" that indicate a "natural boundary" for a marine environment whose complexities still largely escape man's understanding.

195. Quite apart from the scientific difficulties associated with the very concept of an "ecological regime", it is notable that the United States has not been able to cite any scientific work on the Gulf of Maine area — published before the institution of these proceedings — that describes three "separate and identifiable ecological regimes" in this

⁵⁵ *United States Counter-Memorial*, p. 215, para. 342.

area. Nor has the United States been able to cite any scientific work that describes the Northeast Channel as a "natural boundary"⁵⁶.

**Section VIII. The Myth of the "Natural Boundary" Cannot Be
Substantiated on the Ground of Alleged Incompatibility
of National Fisheries Policies**

196. The United States Counter-Memorial brings a new dimension to the thesis of "single-State management" or administrative convenience advanced in the United States Memorial: namely, that the United States must obtain all of Georges Bank because the fisheries policies of the Parties are incompatible⁵⁷. This attempt to provide some legal underpinning for the myth of the "natural boundary" must surely fail. For if "peaceful coexistence" in the field of fisheries can only be obtained at the price of monopoly and isolationism, there can be no possibility of achieving an equitable result. Indeed, the very concept of transboundary resources of any kind must disappear if the United States view is to prevail.

197. Fortunately, this bias against cooperation in the management of transboundary resources is not reflected in North American experience, as has been shown in the Canadian Counter-Memorial⁵⁸. Nor are the differences between the fisheries policies of the Parties as great as the United States Counter-Memorial now suggests. In a formal reply to a Congressional inquiry, the head of the National Marine Fisheries Service described the Canadian-United States fisheries relationship in the following terms in 1979:

"Question 1(b). Identify any incompatibilities which exist between Canada's approach to and practice of fishery management and U.S. activities in the field.

Response. We are unable to offer examples of clearly defined incompatibilities between the United States and Canada regarding principles of fishery management. As a result of our mutual dependence on similar species in the Northwest Atlantic, both countries have shared past efforts within the framework of international management regimes to promote conservation and management of fish stocks on a rational basis. The past participation of both the United States and Canada in the International Commission for the

⁵⁶ A computer search has revealed no scientific papers that describe a break between "ecological regimes", "ecological systems", "ecological communities", "plankton communities", "benthic communities", "ecological models", or that suggest that a "natural boundary" exists at the Northeast Channel. Two standard scientific data banks were used for this search: *Biosis Previews*. Philadelphia, Biosciences Information Service, 1977-1983; and *Oceanic Abstracts*. Bethesda, Maryland, Cambridge Scientific Abstracts, 1964-1983.

⁵⁷ *United States Counter-Memorial*, pp. 222-224, paras. 359-365.

⁵⁸ *Canadian Counter-Memorial*, pp. 174-177, paras. 423-430.

Northwest Atlantic Fisheries (ICNAF), and their continued participation in a number of other international fishery commissions reflect a similar approach to fisheries issues. Both countries attempt to manage fisheries on the basis of optimum yield concepts. Furthermore, Canada's biological objectives are essentially similar to our own as are the scientific tools employed to conduct stock assessments and to analyze impacts of various management options⁵⁹.
[*Italics added.*]

198. Leaving aside the deficiencies of the United States Counter-Memorial's portrayal of fisheries relations between the Parties, it must be recalled that the 200-mile fishing zone is still a new phenomenon for both countries. Management policies are still evolving. The United States itself has noted that there have already been changes in some of its management policies during the brief period since the creation of its 200-mile zone; and it is upon these changes that the United States relies in support of its hypothesis of conflict⁶⁰. No doubt there will be further revisions in the future. None of these policies has an entrenched status in either the United States or Canada; they are pragmatic and flexible practices that are open to change at any time. Canada had no difficulty in subscribing to a code of basic management standards derived from the United States *Fisheries Conservation and Management Act* of 1976 for the purposes of the 1979 Agreement on East Coast Fishery Resources (Article X)⁶¹. Despite the changes in administrative practices alluded to by the United States, the same set of basic principles continues to form part of United States fisheries legislation in unaltered form. It would clearly be unwise to attach any weight to speculation about how "conflict" might conceivably develop in future years; such exercises are based on conjecture and hypothesis alone — and they are in any case irrelevant in law.

199. It must also be emphasized that United States arguments of administrative convenience and incompatibility of fisheries policies, while used to support the United States thesis of the "natural boundary", themselves depend on that same thesis; the arguments, in other words, are circular. While Georges Bank is an area of concentrated biological abundance, the fish that are found there do not represent a "common pool" as alleged by the United States⁶². Even the so-called "Georges Bank herring stock" is given this label only because it spawns on Georges Bank and *not* because it is restricted to the Bank.

⁵⁹ Letter from Mr. Terry Leitzell to United States Senator Cohen, 21 December 1979, giving answers to questions from Senator Cohen relating to the United States-Canadian Fisheries Agreement, in *Maritime Boundary Settlement Treaty and East Coast Fishery Resources Agreement*: "Hearings Before the Committee on Foreign Relations United States Senate", 96th Congress, 2nd sess., 1980, pp. 185-186. *Reply, Annexes*, Vol. II, Part IV, Annex 18.

⁶⁰ *United States Counter-Memorial*, p. 223, para. 364 and footnote 2.

⁶¹ *Canadian Memorial, Annexes*, Vol. I, Annex 20.

⁶² *United States Counter-Memorial*, pp. 218-219, paras. 352-354.

Present management units in the Gulf of Maine area do *not* correspond to biological stock units. The fisheries management policy of the United States, moreover, is *not* based on stocks or even single species but essentially on mesh size alone. Finally, and perhaps most important, the relations of the Parties in the field of fisheries are no more amenable to a policy of isolationism than are their relations overall.

Conclusion

200. No single line can provide a "natural boundary" for the continental shelf and water column resources of the Gulf of Maine area. Both the unity and complexity of the area are incompatible with such a concept. *Environmental risks from a pollution incident on Georges Bank* — although much greater for Canada — are common to both Parties, and the only solution to problems of conservation and management of transboundary resources, here as elsewhere, is to be found in cooperation. The single maritime boundary in the present proceedings must be defined by the application of equitable principles. The Canadian line satisfies these principles and respects the affinities between Georges Bank and other Canadian offshore areas to the north and northeast.

CHAPTER IV
THE SIGNIFICANCE OF THE CONDUCT
OF THE PARTIES

Introduction

201. The Canadian Memorial demonstrated that the United States has acquiesced in and recognized the Canadian equidistance line and that its conduct has created an estoppel in favour of Canada. The United States Counter-Memorial attempts to rebut this position by erroneous interpretations of both the facts and the law. The United States does not deny having had full knowledge of Canada's public activities in issuing offshore permits in the 1960s, and the United States assertion that Canada's claim lacked "notoriety" is both incorrect and irrelevant. The acquiescence of the United States, contrary to the assertions in its Counter-Memorial, was clearly and consistently manifested by its conduct: tacitly, by its failure to protest Canada's offshore permits up to an equidistance line on Georges Bank; explicitly, by its acceptance of Canada's use of an equidistance line in official communications from the Department of the Interior. The authority of Mr. Hoffman and the Department of the Interior is not in issue: in relation to tacit acquiescence, authority is irrelevant; in relation to explicit acceptance of Canada's use of the equidistance method, the Department of the Interior had sufficient authority to confirm such acceptance by reference to the United States' own adherence to the equidistance method, for, as recent events have confirmed, the Department of the Interior is responsible for the continental shelf policy of the United States. The acquiescence of the United States, moreover, was of sufficient duration; indeed, international law requires not a substantial passage of time to *establish* acquiescence but rather prompt action to *prevent* a situation of acquiescence from arising. Finally, although Canada was in fact "disarmed" by the acquiescence of the United States, the less rigid form of estoppel in any event does not require the element of detrimental reliance.

202. The United States itself issued geophysical survey permits authorizing exploration in the Gulf of Maine area in the 1960s and early 1970s on the basis of the equidistance method. The United States appears to have issued these permits with reference to a "BLM line" (named for the Bureau of Land Management in the United States Department of the Interior). This line was a strict equidistance line, lying slightly to the northeast of the strict equidistance line used by Canada at the time. The United States geophysical survey permits and the BLM line have a three-fold significance. *First*, they support Canada's claims of acquiescence and estoppel (although the United States erroneously attempts to present them as evidence of conduct inconsistent with such acquiescence). *Secondly*, they provide indicia of what the Parties themselves viewed as an equitable delimitation and acted upon as such. And *thirdly*, together with Canada's equidistance line, they reflect a tacit *modus vivendi* or *de facto* maritime limit of the

type to which the Court attached considerable importance in the *Tunisia-Libya Continental Shelf* case.

203. The United States Counter-Memorial also attempts to bar consideration of the indicia of equity provided by the 1979 Agreement on East Coast Fishery Resources. This attempt cannot be sustained in the light of the provisions of the Special Agreement and the requirement that all the relevant circumstances must be taken into account. The 1979 fisheries agreement is an integral part of the history of the dispute and provides the best objective evidence of what the Parties themselves considered an equitable solution in relation to fisheries.

204. The United States Counter-Memorial also fails to refute the clear evidence that Canada's status as a coastal State in relation to Georges Bank was recognized in the express terms of the International Convention for the Northwest Atlantic Fisheries, and in quota allocations determined by the Commission established thereunder. Instead, the United States has attempted to argue that the ICNAF record illustrates the "predominant interest" of the United States, and to this end it has adopted an irrelevant and biased geographical frame of reference. When accurately depicted, Canada's record within ICNAF remains more than commensurate with Canada's boundary claim.

205. Both Canada and the United States attach importance to the conduct of the Parties as a relevant circumstance in this case. Canada has relied upon conduct directly associated with the rights and jurisdiction in issue: namely, conduct in relation to the mineral resources of the continental shelf in the Gulf of Maine area, to the negotiation and signature of the 1979 Agreement on East Coast Fishery Resources, and to activities within the framework of the International Convention for the Northwest Atlantic Fisheries. The United States, on the other hand, has relied largely upon conduct in no way associated with the rights and jurisdiction that will be affected by this delimitation. Thus, it has invoked such irrelevant activities as air traffic control and air defence zones; wartime convoys; cooperative arrangements for search and rescue purposes; eighteenth- and nineteenth-century cartographic activities; and so on. Canada reaffirms its position that these activities — quite apart from the inaccuracies in their presentation by the United States — are extraneous to the legal régime in issue and cannot be taken into account.

Section I. The United States Has Failed to Refute Canada's Position Respecting Acquiescence and Estoppel

206. In its Memorial and Counter-Memorial, Canada has demonstrated all the requisite elements of State conduct by both Parties, during the 1960s, to establish that the United States acquiesced in and recognized the use of the equidistance method in the Gulf of Maine area and the exercise of Canadian continental shelf jurisdiction on

Georges Bank up to a median or equidistance line¹. The conduct of the United States has created an estoppel in favour of Canada, and the single maritime boundary to be determined by the Court should be compatible with the rights that vested in Canada during this period.

207. Canada has shown that its issuance of permits up to the median line was a manifestly public activity; that the United States Department of the Interior and the Department of State were on notice both of the Canadian claim and of the permits themselves; and that, rather than offering any protest, the United States merely questioned the precise "location" of the equidistance line. Indeed, as is evident from official correspondence, the United States Bureau of Land Management ("BLM"), in fulfilling its responsibilities with regard to United States continental shelf policy, was itself assuming the application of a median line in the Gulf of Maine area — and apparently even a specific line known as the "BLM line" (discussed in paragraphs 237 to 242).

208. The criticism of Canada's position in the United States Counter-Memorial is misconceived. It fails to distinguish between the legal elements of acquiescence and those of estoppel, and it attempts to suggest omissions in Canada's legal presentation by inventing non-existent "essential aspects" or "requirements" of the law. While making factual admissions that confirm the Canadian position, the United States nonetheless seeks to give patently implausible interpretations to the facts, investing them with a burden that they simply cannot bear.

209. In attempting to rebut Canada's presentation, the United States relies upon five main arguments, as follows:

- (a) that Canada's issuance of offshore permits lacked "notoriety" and constituted unilateral acts that cannot support claims of acquiescence and estoppel;
- (b) that there was no clear conduct by the United States to establish acceptance of Canada's exercise of jurisdiction on the basis of an equidistance line;
- (c) that the official upon whose conduct the claims of acquiescence and estoppel are founded must have the authority to bind the State;
- (d) that the acquiescence of the United States was not of sufficient duration; and
- (e) that Canada did not rely to its detriment upon the acquiescence of the United States².

¹ *Canadian Memorial*, pp. 159-180, paras. 385-427; *Canadian Counter-Memorial*, pp. 142-155, paras. 356-381.

² *United States Counter-Memorial*, p. 155, para. 236. The *United States Counter-Memorial*, p. 179, para. 287, also argues that "Canada's claim of acquiescence ignores the fisheries and other dimensions of this case". This argument is without merit for a number of reasons. *First*, the Canadian Memorial and Counter-Memorial have shown, and this Reply confirms, that the Canadian line represents an equitable result that takes account of all the relevant circumstances. And *secondly*, as was demonstrated in the Canadian Counter-Memorial, the 1979 Agreement on East Coast Fishery Resources demonstrates that the fisheries dimension of this case is consistent with an equidistance boundary.

The following subsections will show the lack of foundation of each of these arguments.

A. THE UNITED STATES HAD FULL KNOWLEDGE OF CANADA'S
PUBLIC ACTIVITIES IN ISSUING OFFSHORE PERMITS;
"NOTORIETY" IS IRRELEVANT

1. The Canadian Offshore Permit Program

210. Contrary to the suggestion made in the United States Counter-Memorial³, Canada has never argued that a State can establish an international boundary by purely unilateral acts, regardless of the legal position of its neighbour. The legal relevance of Canada's offshore permit program from 1964 onward lies elsewhere: that is, in the fact that the program involved the *exercise of Canada's sovereign rights* in the context of the legal principles relating to the continental shelf. Since the rights of the coastal State "exist *ipso facto* and *ab initio*, by virtue of its sovereignty over the land"⁴, they do not require to be constituted by any express declaration, proclamation or legislation, notwithstanding United States assertions to the contrary⁵.

211. The Canadian offshore permits provide evidence — together with other evidence in the form of documents and maps — of the Canadian Government's adoption and adherence to a particular delimitation of the continental shelf as between the Parties. There is no ambiguity in this evidence and never was. The question that must be addressed here is whether the United States was aware that Canada was exercising its sovereign rights up to an equidistance boundary on Georges Bank.

2. United States Knowledge of the Canadian Program

212. The United States Counter-Memorial does not dispute Canada's issuance of the relevant offshore permits; does not deny that at least by early 1965 the United States Government was in possession of official maps showing the location of these permits; and does not deny the receipt of official Canadian communications regarding the permits⁶.

³ *United States Counter-Memorial*, p. 156, para. 237; pp. 173-175, paras. 272-273. The quotation from a Canadian Government document in para. 272 is taken out of context and misconstrued. It refers to the development of the law of the continental shelf, not to maritime boundary questions, and is misused by the United States to suggest that Canada agrees that the exercise of continental shelf rights requires a prior proclamation. It may be noted that the document in question also pointed out that:

"Canada's jurisdictional claims to minerals of the juridical continental shelf have been asserted by the issuance and administration of Canada oil and gas permits covering extensive areas of the continental shelf and slope, and portions of the rise, by the supervision and regulatory control of all mineral resource activities in this region (Figure 5), as well as by declarations in Parliament, at the United Nations, and in other forums."

⁴ *North Sea Continental Shelf cases*, *I.C.J. Reports 1969*, p. 22, para. 19.

⁵ *United States Counter-Memorial*, pp. 173-175, paras. 272-273.

⁶ *United States Counter-Memorial*, pp. 171-172, paras. 268-269; p. 177, para. 282.

Moreover, the United States does not disavow the correspondence its agencies entered into with Canadian officials regarding the Canadian permits and regarding the equidistance line within which Canada was exercising its jurisdiction. Rather, the United States Counter-Memorial simply asserts that Canada's offshore permit program somehow lacked "notoriety".

213. This alleged requirement of "notoriety" adds nothing to the normal legal requirement of "public activity", and the Canadian program was by its very nature a manifestly public activity. In any event, the United States Counter-Memorial admits that the Government of the United States had knowledge of the Canadian permits and their legal implications as early as April 1965⁹. The official correspondence provides irrefutable evidence of this fact. Not only the United States Government but also state governments and interested companies and individuals were well aware of Canada's permits and Canada's use of an equidistance line¹⁰.

B. THE ACQUIESCENCE OF THE UNITED STATES WAS CLEARLY AND CONSISTENTLY MANIFESTED BY ITS CONDUCT

1. *The Principle of Acquiescence*

214. The essence of the principle of acquiescence is one government's knowledge (actual or constructive) of the conduct or assertion of rights of the other government concerned, and its failure to protest that

⁷ *United States Counter-Memorial*, p. 173, para. 271.

⁸ While the *United States Counter-Memorial*, p. 156, para. 238, relies upon Professor MacGibbon's classic article "The Scope of Acquiescence in International Law" [*The British Year Book of International Law*, Vol. XXXI, 1954, p. 143], the context shows that Professor MacGibbon is explaining that the acquiescing State cannot be held to have consented to anything beyond the precise situation about which it had knowledge or ought to have had knowledge. Moreover, on pp. 176-182, MacGibbon states that formal notification of claims is *not* required and that notice may be constructive, especially in the case of legislation and public acts. Canada's activities in granting permits on the continental shelf were even more public than those considered sufficient to establish acquiescence in the *Island of Palmas* case. Contrary to the allegations in the *United States Counter-Memorial*, p. 157, para. 239, the Court applied the doctrine of constructive notice in both the *Fisheries* case [*I.C.J. Reports 1951*, pp. 138-139] and in the *Temple of Preah Vihear* case. The United States misstates the facts in the *Temple of Preah Vihear* case: Thailand had nothing to do with the preparation of the map, but merely accepted the results of the work of the French surveyors and cartographers. Contrary to the assertion of the United States, the line on the map did not represent Cambodian claims; it resulted from a mistake by the cartographers. Finally, the decision of the Court was expressly based upon the failure of the Thai authorities to protest the mistake when the map was first received in 1908 [*I.C.J. Reports 1962*, pp. 20-23].

⁹ *United States Counter-Memorial*, pp. 171-172, para. 268.

¹⁰ See paras. 234-242, and Massachusetts Special Legislative Committee to Study the Marine Boundaries of the Commonwealth, Record of hearing on 31 July 1968, pp. 17-18.

conduct or assertion of rights¹¹. Acquiescence, then, is mere silence or inaction where a reaction — a prompt, clear and unambiguous protest — is called for. There is no question of a transaction or quasi-treaty. The knowledge, coupled with silence, is taken to be a *tacit* acceptance. There is no question of authority to bind, because it is not the statement of a particular official but the inaction of the *government* itself that constitutes acquiescence and acceptance. The result of such acquiescence is, of course, that a State is later precluded from denying or going back upon its previous acceptance of the situation in question¹².

2. The Canadian Contention

215. Canada's real contention — as distinct from the one attributed to it by the United States — is a limited and unexceptionable one: that the United States, by its conduct, communicated its acceptance of an open and known legal position held by Canada when it failed to protest in the face of public activities affecting the legal rights of the Parties and the legal relations between them. As a matter of fact, the United States Government, from at least April 1965, had full knowledge of the Canadian permit program and of Canada's use of the equidistance method of delimitation for this purpose, and refrained from reserving its rights in this matter until 5 November 1969¹³ (and did not actually disa-

¹¹ H. Lauterpacht: "Sovereignty over Submarine Areas." *The British Year Book of International Law*, Vol. XXVII, 1950, pp. 395-398, quoted in *Canadian Memorial*, pp. 172-173, para. 413. I. C. MacGibbon has discussed this principle in two important works: "Some Observations on the Part of Protest in International Law." *The British Year Book of International Law*, Vol. XXX, 1953, p. 293 and "The Scope of Acquiescence in International Law." *The British Year Book of International Law*, Vol. XXXI, 1954, p. 143. In the latter article he states at pp. 170-171:

"Whether silence is to be interpreted as amounting to acquiescence depends primarily on the circumstances in which the silence is observed. . . . It is difficult to believe that States will remain silent without good reason in the face of acts in derogation of their rights if they have even the vestige of a justification for retention of the rights in question. It is a matter of observable fact that the formulation of notes of protest is a constantly recurring feature of the diplomatic practice of States. What is remarkable is their frequency and the variety of the subject-matters with which they deal. The very plethora of notes of protest, while tending to vitiate facile or optimistic generalizations concerning their legal effect, serves to characterize as noteworthy a failure to utilize this adaptable instrument in situations where its use would normally be expected. *The formulation of a protest would appear to be almost an instinctive defence mechanism, and this circumstance has led tribunals to scrutinize with a certain degree of scepticism the reasons advanced by a party to excuse its failure to protest in appropriate circumstances.*" [*Italics added.*]

Reply, Annexes, Vol. II, Part IV, Annex 19.

¹² This is the principle of preclusion, the "less rigid" form of estoppel [*Canadian Memorial*, p. 177, paras. 420-422] that formed the basis of the decisions of the Court in the following cases: *Case concerning the Arbitral Award made by the King of Spain on 23 December 1906*, *I.C.J. Reports 1960*, p. 213 and individual opinion of Sir Percy Spender, p. 219; *Temple of Preah Vihear case*, *I.C.J. Reports 1962*, pp. 30-33 and individual opinion of Vice-President Alfaro, pp. 39-42.

¹³ United States aide-mémoire of 5 November 1969. *Canadian Memorial, Annexes*, Vol. III, Annex 13.

vow equidistance or lay claim to eastern Georges Bank until 16 October 1974¹⁴). As a matter of law, this constitutes acquiescence.

3. Consistency of United States Conduct

216. The factual material adduced to support the United States assertion of conduct inconsistent with Canada's claim is either evidence to the contrary or evidence of nothing pertinent to the issue. As Canada demonstrated in its Counter-Memorial, the idea that the Truman Proclamation of 1945 involved a boundary claim or a statement of delimitations with other States is refuted by the text of the proclamation itself and its accompanying documents¹⁵. The United States attempt to take clear indications (by the United States Department of the Interior) that a median line was appropriate, and transform them into a statement of protest against Canada's use of such a line, similarly requires no other rebuttal than the texts of the letters themselves¹⁶. (The United States in this instance assumes that Mr. Hoffman of the Department of the Interior could have the authority to "protest" but not the authority to accept Canada's claim, forgetting at the same time the United States' own argument that there was no Canadian "claim" to protest in the first instance.)

217. As a matter of fact, it must be recalled, the first reservation of rights on the part of the United States Government was contained in its aide-mémoire of 5 November 1969¹⁷. The United States explicitly recognized this in its diplomatic note of 20 May 1976¹⁸.

218. In a further attempt to show conduct inconsistent with acquiescence, the United States Counter-Memorial makes imprecise allegations apparently designed to foster the impression that the United States was issuing exploratory permits for the "northeastern part" of Georges Bank in the 1960s¹⁹. This proposition cannot be retained in view of the fact that the State Department, as late as 5 November 1969, formally assured the Canadian Government that with regard to the "northern portion of the Georges Bank . . . the United States has refrained from authorizing mineral exploration or exploitation in the area²⁰".

¹⁴ United States diplomatic note no. 216 of 16 October 1974. *Canadian Memorial, Annexes*, Vol. III, Annex 21.

¹⁵ *Canadian Counter-Memorial*, p. 160, para. 392. Compare *United States Counter-Memorial*, p. 176, para. 279. For the text of the Truman Proclamation, see *United States Memorial, Annexes*, Vol. I, Annex 3.

¹⁶ *United States Counter-Memorial*, p. 175, paras. 274-275. For complete texts, see letters of 1 April 1965 and 14 May 1965 from L. T. Hoffman, United States Department of the Interior, Bureau of Land Management, to Canadian Department of Northern Affairs and National Resources. *Canadian Memorial, Annexes*, Vol. III, Annexes 1 and 4.

¹⁷ *Canadian Memorial, Annexes*, Vol. III, Annex 13.

¹⁸ *Canadian Memorial, Annexes*, Vol. III, Annex 32.

¹⁹ *United States Counter-Memorial*, p. 176, para. 280.

²⁰ United States aide-mémoire of 5 November 1969. *Canadian Memorial, Annexes*, Vol. III, Annex 13.

Apart from this formal assurance to Canada from the United States, it must be emphasized that the United States Interior Department, at the relevant time, took the position that United States geophysical survey permits *do not constitute assertions of jurisdiction* over the areas in question²¹.

219. In fact, careful study of the geophysical survey permits issued by the United States reveals a very different situation than that described by the United States. Far from showing conduct inconsistent with Canada's claims of acquiescence and estoppel, they provide *confirming* evidence of United States acquiescence in Canada's use of the equidistance method, and evidence that the United States itself adhered to a median line in the Gulf of Maine area in the 1960s and into the 1970s. This evidence is reviewed in paragraphs 234 to 242.

4. *Explicit Acceptance by the United States*

220. The Court need not rely upon tacit acceptance alone in the present case, since the United States gave clear and repeated indications to Canada that the United States considered a median or equidistance line to be an appropriate and equitable boundary in the Gulf of Maine area. In its letter dated 1 April 1965, the United States Department of the Interior (the agency responsible for the United States offshore program) expressed its interest in identifying the offshore permits issued by Canada "with reference to the median line as defined in Article 6 of the Convention on the Continental Shelf"²². The Interior Department then repeated its concern about "the location of a median line" in its letter dated 14 May 1965, and in the same letter questioned only "the elements positioning a median line" as employed by Canada²³. These letters clearly show that the United States *accepted* Canada's use of the equidistance method.

²¹ As has been observed by a senior Interior Department official, the authorization of offshore exploratory activities (even those involving drilling) "does not necessarily imply that the Department of the Interior has asserted jurisdiction over the resources of the sea bottom in this region". This official further explained:

"As our Solicitor's Office has pointed out, the Secretary of Interior, in addition to the Outer Continental Shelf Lands Act, is authorized and directed by law to regulate the activities of the citizens of the United States for purpose of protecting the environment, and protecting living organisms in the sea, even on the high seas. . . . Thus, even though the Outer Continental Shelf Lands Act was involved with the granting of these permits, it is the opinion of our Solicitor that it does not automatically imply, because of the other responsibilities of the Department of the Interior, that this becomes automatically an assertion of jurisdiction over the mineral resources of the sea bottom in these regions under the International Convention on the Continental Shelf."

Letter of 3 June 1968 from M. B. Schaefer, Science Adviser, United States Department of the Interior, to R. B. Krueger. Cited in R. Krueger *et al.*: *Study of the Outer Continental Shelf Lands of the United States*. California, Nossaman, Waters, Scott, Krueger and Riordan, 1968, p. 20. *Reply, Annexes*, Vol. II, Part III, Documentary Appendix 9.

²² Letter of 1 April 1965, *Canadian Memorial, Annexes*, Vol. III, Annex 1.

²³ Letter of 14 May 1965, *Canadian Memorial, Annexes*, Vol. III, Annex 4.

C. THE AUTHORITY OF MR. HOFFMAN AND OF THE UNITED STATES
DEPARTMENT OF THE INTERIOR IS NOT IN ISSUE

1. *The Authority of Mr. Hoffman*

221. The United States Counter-Memorial errs in alleging that the official upon whose conduct claims of acquiescence and estoppel are made must have authority to bind the State²⁴. This "requirement" is an invention in relation to the law of acquiescence, and a misstatement in relation to the law of estoppel²⁵. Acquiescence in this case flows from the conduct of the United States Government — from its failure to protest when it should have done so — and *not* from the authority of any particular official.

222. With respect to the explicit acceptance or recognition of Canada's use of the equidistance method in its permit program, Mr. Hoffman was clearly writing on behalf of the United States Department of the Interior. In the *Temple of Preah Vihear* case, the Court stated that the acts and words of even junior officials acting within their mandate would engage the good faith of their governments and preclude those governments from subsequently changing their positions²⁶. Generally, courts and tribunals have not been concerned with the status of

²⁴ *United States Counter-Memorial*, pp. 158-162, paras. 243-251.

²⁵ In the case of estoppel or preclusion it has always been clear that authority can be implied and that international courts and tribunals will accept the idea of "apparent" authority. See the passage from Professor Bowett quoted in the *United States Counter-Memorial*, p. 158, para. 243. The United States omits the rest of the passage in which he cites the *Salvador Commercial Co.* case and the *Russian Indemnity* case, in both of which minor officials were considered to have appropriate authority.

²⁶ *I.C.J. Reports 1962*, pp. 24-25. Professor D. H. N. Johnson has commented on the question of the acts of junior officials with respect to "the principle of preclusion" as elaborated in the *Temple of Preah Vihear* case:

"This principle is now seen to be an extremely significant one in international law, clearly a rule of substance and not merely of procedure. The effect of this decision of the Court, following upon other decisions (*e.g.*, *Fisheries* case, *Ambatielos* case, and case concerning the *Arbitral Award made by the King of Spain on December 23, 1906*) should be to place governments more than ever on their guard, particularly as to the acts and omissions of their officials, *not necessarily always officials of the highest rank*. As Vice-President Alfaro said: 'The primary foundation of this principle is the good faith that must prevail in international relations, inasmuch as inconsistency of conduct or opinion on the part of a State to the prejudice of another is incompatible with good faith.'" [*Italics added.*]

"The Case concerning the *Temple of Preah Vihear*." *The International and Comparative Law Quarterly*, Vol. 11, 1962, p. 1203. *Reply, Annexes*, Vol. II, Part IV, Annex 20. Philippe Cahier has made similar comments in: "Le comportement des Etats comme source de droits et d'obligations." *Recueil d'études de droit international en hommage à Paul Guggenheim*. Genève, 1968, pp. 237-244.

officials, and have based their decisions upon the importance of good faith and stability in relations between States²⁷.

223. At the very outset of his letter of 1 April 1965, Mr. Hoffman cited the responsibility of the Bureau of Land Management (as a unit of the Department of the Interior) for "mineral leasing" on the continental shelf of the United States²⁸. He later stressed that his inquiries were intended "solely in the interest of seeing if there is a basis for disagreement as to the location of a median line separating our respective jurisdictions on the Outer Continental Shelf". If there was in fact a dispute, then the Bureau of Land Management had "no authority to enter into any formal discussion of the location of a median line". If, on the other hand, there was "a simple misunderstanding . . . of the elements positioning a median line", the matter could then "*be amicably determined without resort to high authority*"²⁹. [*Italics added.*]

224. Mr. Hoffman's letters, in brief, must be viewed from a number of perspectives. *First*, they provide evidence — if evidence were needed — of United States knowledge of the Canadian offshore permit program and of Canada's use of an equidistance line; and in this respect the question of his authority is irrelevant. *Secondly*, they provide evidence of the line contemplated by the United States itself in relation to its own offshore mineral leasing program, actual or projected; and in this respect his authority has not been denied by the United States. *Thirdly*, as confirmed by the subsequent conduct of the United States until 5 November 1969 (and perhaps later), they provide evidence of the fact that there was no dispute between Canada and the United States regarding the assumption of both Parties that a median line boundary was appropriate; the only questions remaining to be settled concerned the "location of" or "elements positioning" the median line, since each side had drawn its own line (as will be seen in the discussion of United States geophysical survey permits in paragraphs 234 to 242). In this latter

²⁷ The *United States Counter-Memorial*, pp. 161-162, para. 252; p. 162, footnote 1, points out that Canada cited the *Case concerning the Arbitral Award made by the King of Spain on 23 December 1906, I.C.J. Reports 1960*, p. 192, as a decision based upon acceptance or recognition by conduct, and complains that the Canadian Memorial did not discuss the nature of the case. While Canada agrees with the summary of the case in the United States Counter-Memorial, it must be emphasized that the Court did not even discuss the status of officials. Furthermore, none of the comments in the *United States Counter-Memorial* [pp. 159-160, paras. 244-247] about the *Russian Indemnity* case contradicts the Canadian view, nor is anything in the *Yukon Lumber* case incompatible with the Canadian position. As to the quotation in the *United States Counter-Memorial*, p. 161, para. 248, from the article in *The International Regulation of Frontier Disputes*, edited by E. Luard, concerning the *Argentine-Chile Frontier* case [International Law Reports, Vol. 38, 1969, p. 10], a close reading of the case will show that the diplomatic note in question was considered to be of no significance because it was sent when both parties were confused about the geography of the area and about their own claims, as well as about each others' position.

²⁸ Letter of 1 April 1965. *Canadian Memorial, Annexes*, Vol. III, Annex 1.

²⁹ Letter of 14 May 1965. *Canadian Memorial, Annexes*, Vol. III, Annex 4.

respect, Mr. Hoffman's authority as a technical expert on the "elements positioning" a median line has never been challenged.

2. *The Authority of the Department of the Interior*

225. In addition to questioning Mr. Hoffman's authority, the United States Memorial disclaims the authority of the Department of the Interior: "As Canada is well aware", the United States argues, "the Department of the Interior does not represent the United States in the conduct of foreign relations³⁰". Canada, of course, has never contended that the Department of the Interior has such authority. That Department, however, has the authority to state the policy of the United States on matters pertaining to the "Outer Continental Shelf". In its communications with Canadian authorities, the Department of the Interior was acting well within its mandate which, by statute, includes the exercise of United States jurisdiction over mineral exploration and exploitation on the "Outer Continental Shelf" off the United States coast³¹. The policy role of the Department of the Interior is significant in the light of its explicit acceptance of Canadian jurisdiction in the Gulf of Maine area, up to an equidistance line determined pursuant to Article 6 of the Convention on the Continental Shelf. It is also significant in the light of the Interior Department's own issuance of geophysical survey permits in this area by reference, apparently, to such an equidistance line.

226. The authority of the Interior Department has been clearly demonstrated in recent events. On 8 December 1982, it was the Interior Department rather than the State Department that published a "Notice of Jurisdiction" in the United States *Federal Register* asserting United States jurisdiction for leasing and otherwise regulating the recovery of polymetallic sulfides on the continental shelf and seabed off the Pacific coast. The notice declared the jurisdiction of the Department of the Interior to extend:

"... to the subsoil and seabed of all submerged lands underlying waters seaward of the territorial sea, to and including all subsoil and seabed underlying superjacent waters which admit of the exploitation of the natural resources of such submarine areas³²."

227. Canada protested this assertion by diplomatic note³³. At about the same time, the United States Interior Department — again, *not* the State Department — published a "Clarification" on 19 January

³⁰ *United States Counter-Memorial*, pp. 175-176, para. 277.

³¹ Outer Continental Shelf Lands Act, 43 United States Code, secs. 1331 *et seq.*

³² Outer Continental Shelf, Notice of Jurisdiction of the Department of the Interior Relating to Minerals Other Than Oil, Gas, and Sulphur. United States *Federal Register*, Vol. 47, 8 December 1982, p. 55313. *Reply, Annexes*, Vol. II, Part IV, Annex 21.

³³ Canadian diplomatic note no. 021 of 17 January 1983. This note was subsequently published in the United States *Congressional Record*, Vol. 129, daily edition, 3 May 1983, p. H2597. *Reply, Annexes*, Vol. II, Part IV, Annex 22.

1983, also in the *Federal Register*³⁴. This clarification specified that, pending a study on the limits of United States continental shelf jurisdiction, *nothing in the previous Interior Department notice should be construed to apply to areas beyond the 200-mile limit*. Whether or not it may be labelled a formal change in United States foreign policy, the Interior Department's extension of jurisdiction was clearly a departure from prior declared legal positions of the United States; and it clearly declared the authority of the Interior Department over the continental shelf, both domestically and in the context of *defining the extent of United States continental shelf claims in relation to other States*. Significantly, the State Department did not take the position, in response to Canada's diplomatic note, that the Interior Department's declaration had no legal force and effect either domestically or internationally.

228. Against this background, it can be seen that the Department of the Interior went much less far in its 1965 letters to Canada than it did in its recent notice of jurisdiction concerning polymetallic sulfides. The Interior Department's letters did not purport to state any *new* United States policy, foreign or otherwise. Rather, they sought clarification of Canadian policies to determine if they were compatible or reconcilable with *existing* United States continental shelf policies — in particular with the United States view of the limits of its continental shelf.

D. THE ACQUIESCENCE OF THE UNITED STATES WAS OF SUFFICIENT DURATION

229. The United States assertion that acquiescence "requires passage of a substantial period of time" represents yet another invention³⁵. The "burden of time", so to speak, rests not on the State that claims acquiescence but on the State whose responsibility it is to protest unacceptable conduct affecting its rights³⁶. None of the authorities cited in the United States Counter-Memorial actually formulates the condition of the passage of a "substantial period of time" *in relation to acquies-*

³⁴ Outer Continental Shelf, Notice of Jurisdiction of the Department of the Interior Relating to Minerals Other Than Oil, Gas, and Sulphur. United States *Federal Register*, Vol. 48, 19 January 1983, p. 2450. *Reply, Annexes*, Vol. II, Part IV, Annex 23.

³⁵ *United States Counter-Memorial*, p. 163, para. 254.

³⁶ The Canadian protest note concerning the United States *Federal Register* notice on polymetallic sulfides was presented within six weeks after the publication of the Notice.

*cence and estoppel*³⁷. Canada affirms the pertinence and accuracy of the judicial authority cited in its Memorial for the view that failure to protest "even in the short run" is sufficient to establish acquiescence³⁸.

230. Canada further affirms that a period of five years (or more) — given the importance of continental shelf rights to both Parties and given the nature of their bureaucracies and systems of communication — is a substantial period of time indeed: only slightly less than the time it took for the continental shelf doctrine to take root in customary law after the Truman Proclamation of 1945. If the requirement alleged by the United States actually existed, it would be more than satisfied in the present case.

E. CANADA WAS INDUCED TO PLACE RELIANCE UPON UNITED STATES ACCEPTANCE OF CANADA'S EQUIDISTANCE CLAIM

231. The points raised in the United States Counter-Memorial on the question of "detrimental reliance" are irrelevant. *First*, contrary to the United States allegation, the element of reliance by Canada exists in relation to Canadian permits issued before and after the time when United States acquiescence became apparent; for these permits could be — and were — varied and extended in time³⁹. *Secondly*, as to Canada's

³⁷ The paragraphs from Sperduti, Oppenheim (Lauterpacht), MacGibbon and O'Connell, cited in the *United States Counter-Memorial*, pp. 162-164, paras. 252-257, do not deal with acquiescence and estoppel at all, but with the different doctrine of prescription. Indeed, O'Connell quotes a passage from the *Island of Palmas* case that proves that a substantial period of time is *not* required for acquiescence to be established. In that passage Judge Huber stated that the question of time was relevant only to constructive notice:

"... apart from the consideration that the manifestations of sovereignty over a small and distant island, inhabited only by natives, cannot be expected to be frequent, it is *not necessary that the display of sovereignty should go back to a very far distant period. It may suffice that such display existed in 1898, and had already existed as continuous and peaceful before that date long enough to enable any Power who might have considered herself as possessing sovereignty over the island, or having a claim to sovereignty, to have, according to local conditions, a reasonable possibility for ascertaining the existence of a state of things contrary to her real or alleged rights.*" (*Italics added.*)

Reports of International Arbitral Awards, (U.N. Series), Vol. II, p. 867. It should be noted that the significant acts of sovereignty began in 1895, only *three* years before the critical date of 1898. The fact that a dispute might take 50 to 60 years to come to court is irrelevant. In the *Fisheries* case, the Court noted that when France learned of the Norwegian Decrees it reacted "at once" [*I.C.J. Reports 1951*, p. 139]. In the *Temple of Preah Vihear* case, the Court found acquiescence in Thailand's failure to react "within a reasonable period" of receiving the map in 1908 [*I.C.J. Reports 1962*, p. 23]. In the *Minquiers and Ecrêhos* case, the Court considered that French activities with respect to the islands were not sufficient to demonstrate sovereignty not because of the length of time (which was not even mentioned) but because of the *insubstantial nature* of those acts [*I.C.J. Reports 1953*, p. 66]. See also J. P. Cot: "L'arrêt de la C.I.J. dans l'affaire du temple de Préah Vihear." *Annuaire français de Droit international*, 1962, p. 237.

³⁸ *Canadian Memorial*, pp. 173-174, para. 414.

³⁹ *Canadian Memorial*, p. 99, para. 222; *Canadian Counter-Memorial*, pp. 143-144, para. 361; *Canadian Counter-Memorial, Annexes*, Vol. III, Chap. I, p. 6, para. 11.

alleged failure to protest United States geophysical survey permits, the United States Government itself *had formally assured Canada that there were no activities to protest*⁴⁰ — and indeed there were none during the period of acquiescence (with one possible exception where Canada did protest⁴¹).

232. The best evidence that Canada was “disarmed” by the acquiescence of the United States may, in fact, be provided by the fact that Canada now finds itself a Party to the present proceedings, facing a United States claim to an “adjusted perpendicular line” that was preceded in 1976 by an equally untenable claim to a “Northeast Channel line”. If Canada had known in 1965 that the United States, some five years later, would disavow an equidistance boundary in the Gulf of Maine area, a treaty fixing the “exact location of the boundary” would have immediately become a matter of urgent priority. Canada, however, was assured that there was no dispute with the United States regarding the applicability of the median line as the continental shelf boundary in the Gulf of Maine area, and “disarmed” itself accordingly.

233. Canada, in any event, need not rest its case on detrimental reliance, for the “less rigid” form of estoppel — “the principle” itself — does not require such reliance⁴². The authorities are clear: once having acquiesced in and recognized an equidistance line in the Gulf of Maine area, the United States is precluded from denying the validity of such a boundary⁴³.

Section II. The United States Itself Issued Geophysical Survey Permits with Reference to the Equidistance Method

234. A close review of the United States geophysical permits issued during the 1960s and 1970s not only fails to demonstrate a United States claim to the northeastern portion of Georges Bank; in fact, it proves just the contrary. These permits provide clear evidence that the United States Department of the Interior — in issuing the permits —

⁴⁰ Letter of 14 May 1965; United States aide-mémoire of 5 November 1969. *Canadian Memorial, Annexes*, Vol. III, Annexes 4 and 13.

⁴¹ This possible exception is United States permit E2-68, issued to Exploration Surveys Inc., discussed in *Canadian Memorial*, p. 98, para. 219; *Canadian Counter-Memorial*, p. 148, para. 370; *Reply, Annexes*, Vol. II, Part III, pp. 542-543, para. 7.

⁴² “The principle” refers to “preclusion” or the “less rigid” form of estoppel, as defined by Vice-President Alfaro in the *Temple of Preah Vihear* case: “This principle, as I understand it, is that a State party to an international litigation is bound by its previous acts or attitude when they are in contradiction with its claims in the litigation.” See *Canadian Memorial*, p. 177, para. 420 and footnote 29. See also comment by D. H. N. Johnson quoted at p. 93, footnote 26. In the *Temple of Preah Vihear* case there was no detrimental reliance required, for contrary to the United States allegations, the Court based its decision on Thailand’s failure to react upon first receiving the map. *I.C.J. Reports 1962*, pp. 23 and 32-33. See also Christian Dominicé: “A propos du principe de l’estoppel en droit des gens.” *Recueil d’études de droit international en hommage à Paul Guggenheim*, pp. 356-357, 362 and 363.

⁴³ *Case Concerning the Arbitral Award made by the King of Spain on 23 December 1906*, *I.C.J. Reports 1960*, p. 213; *Temple of Preah Vihear case*, *I.C.J. Reports 1962*, p. 32.

and more than three dozen United States oil companies — in applying for them — all assumed that *an equidistance boundary was appropriate in the Gulf of Maine area and for Georges Bank in particular, and acted upon that assumption*. The history of the conduct of the United States in issuing geophysical permits in the Gulf of Maine area, as Canada has been able to piece it together, is found in Volume II, Part III, of the Annexes to this Reply, and is summarized below.

A. "PERMITS" AND "NORTHEASTERN PORTION OF GEORGES BANK"
ARE TERMS HAVING DIFFERENT MEANINGS FOR CANADA AND
THE UNITED STATES

235. As a preliminary matter, however, it is well to recall the difference between the claims being advanced by the Parties with respect to their conduct in relation to the continental shelf — a difference that is made somewhat confusing because of differences in terminology. In its Memorial and Counter-Memorial, Canada put forward claims of acquiescence and estoppel based upon the failure of the United States to protest Canada's issuance of offshore "permits" conferring the prospect of exclusive production rights⁴⁴. In response, the United States contended that its conduct was inconsistent with acquiescence because it had asserted jurisdiction over the northeastern portion of Georges Bank by issuing certain geophysical survey "permits" granting *temporary* authority to do seismic or other geophysical research in vast areas of the high seas in the North Atlantic⁴⁵. These United States "permits" are similar to what in the Canadian system are called exploratory "licences"; they bear little or no resemblance to Canada's "permits", the closest analogue to which in the United States system is the offshore "lease"⁴⁶. It should thus be apparent that the exercises of jurisdiction and the types of legal instruments upon which Canada and the United States rely differ fundamentally, although both refer to their respective instruments as "permits".

236. In its Counter-Memorial at least, the United States has also employed confusing and imprecise terminology with respect to the area covered by its permits. The United States claims that Figure 13 of its Counter-Memorial shows "[t]he area of coverage of the seismic data collected on the northeastern portion of Georges Bank and on nearby areas⁴⁷". Figure 13 of its Counter-Memorial depicts the "*northeastern portion*" of the Bank and "nearby areas" as *anything northeast of the*

⁴⁴ *Canadian Memorial*, p. 134, para. 321; p. 159, para. 387; p. 177, para. 419; p. 180, para. 427; p. 183, para. 428; *Canadian Counter-Memorial*, pp. 154-155, paras. 380-381; p. 187, para. 456; pp. 292-293, para. 698; p. 303, para. 725; pp. 307-310, para. 729.

⁴⁵ *United States Counter-Memorial*, p. 171, para. 267; p. 176, para. 280.

⁴⁶ A comparison of the Canadian and United States regulatory régimes governing the disposition and administration of interests in oil and gas is contained in *Canadian Counter-Memorial, Annexes*, Vol. III, Chap. I.

⁴⁷ *United States Counter-Memorial*, pp. 78-79, para. 101.

*Great South Channel*⁴⁸. It is clear, accordingly, that the United States equates the "northeastern portion" with the *whole* of Georges Bank for purposes of United States permits. In fact, however, the northeastern (or eastern) portion of Georges Bank corresponds approximately to the area claimed by Canada (or to ICNAF statistical units 5Zej and 5Zem, as the United States explicitly recognizes in Table B immediately preceding Figure 13 in its Counter-Memorial⁴⁹). When Georges Bank and its northeastern portion are accurately defined, it may be seen that the permits relied upon by the United States did not extend into the area claimed by Canada *at all* (with one possible exception⁵⁰) during the relevant period.

B. UNITED STATES PERMITS WERE ISSUED WITH REFERENCE TO A "BLM LINE"

237. Chevron Oil Company was an early leader in offshore exploratory work on Georges Bank. United States permit E3-67, which Chevron Oil Company applied for and received in 1967 (as chairman of a consortium of eight major oil companies), pertained to an area with a northeastern boundary at a line crossing Georges Bank slightly to the southwest of the equidistance line. Meanwhile, Chevron Standard Limited (The California Standard Company) had already undertaken seismic exploration on the eastern side of the equidistance line under Canadian exploratory licence 927, issued in 1965⁵¹. The areas covered by this permit and this licence are depicted together in *Figure 19*.

238. In 1969, Chevron Oil Company, acting as agent for Digicon Incorporated, and acting in collaboration this time with some 26 other oil companies, applied for and received United States permit E2-69 (later continued as permit E1-70). This permit apparently assumed the application of an equidistance boundary, although documentation pertaining to E2-69, dated 14 November 1969, mentions that "[p]ortions of two of the lines extend *to the Canadian side of the BLM line*⁵²". [*Italics added.*] ("BLM", it may be recalled, is the United States acronym for the Bureau of Land Management in the Department of the Interior.) In the same year, Chevron Standard Limited applied for and obtained

⁴⁸ *United States Counter-Memorial*, p. 81, Figure 13.

⁴⁹ *United States Counter-Memorial*, p. 71, Table B, footnote 2.

⁵⁰ This possible exception is United States permit E2-68, issued to Exploration Surveys Inc., discussed in *Canadian Memorial*, p. 98, para. 219; *Canadian Counter-Memorial*, p. 148, para. 370; *Reply, Annexes*, Vol. II, Part III, pp. 542-543, para. 7.

⁵¹ For further information on United States permit E3-67 and Canadian licence 927, see *Reply, Annexes*, Vol. II, Part III, p. 561, para. 26 and Documentary Appendices 7 and 8.

⁵² *Reply, Annexes*, Vol. II, Part III, Documentary Appendix 1.

exploratory licence 1283 from Canada⁵³, and was authorized to conduct surveys using an equidistance or median line as the southwestern boundary of the area of the proposed seismic program [Figure 20].

166 239. The "BLM line" appears to Canada to have been precisely what one would deduce from the BLM correspondence of April and May 1965: namely, a variation of a strict equidistance line, lying slightly to the northeast of the equidistance line used by Canada at the time. The BLM equidistance line and its Canadian counterpart are depicted in 167 Figure 21. The BLM line seems to have been constructed geometrically from basepoints on the coasts, but making no allowance for scale distortion on a Mercator projection. This explains its divergence from the Canadian line — the "simple misunderstanding" noted by Mr. Hoffman⁵⁴.

240. United States permit E2-72, issued in 1972, may be the first United States permit (with one possible exception⁵⁵) that covered any substantial portion of northeastern Georges Bank. This 1972 permit does appear to cover all of Georges Bank — and only Georges Bank. However, the oil companies concerned with the 1972 survey seem to have considered part of Georges Bank to be "Canadian". Prior to the completion of the survey, the question arose of adding 380 miles of survey lines to the program, within the original survey area. After objections were received from companies with entities operating in Canadian areas, the extension was divided into two parts: 246 miles in "U.S." areas and 134 miles in "Canadian" areas. A ballot was circulated among the companies participating in the joint survey under E2-72, and 28 oil companies expressed a willingness to participate in the "U.S." extension, while 25 became participants in the "Canadian" extension. Since most of the oil companies involved in this survey also participated in the 1969 East Coast Joint Survey, where reference was made to the BLM line, it is logical to conclude that the companies were using an equidistance line to separate "U.S." areas from "Canadian" areas. In any event, the oil companies did use an approximate equidistance line slightly to the northeast of Canada's equidistance line as their assumed boundary, and they submitted maps to the United States Government reflecting that assumption — apparently without dissent from United States officials⁵⁶.

⁵³ For further information on United States permits E2-69, E1-70 and Canadian licence 1283, see *Reply, Annexes*, Vol. II, Part III, pp. 547-550, paras. 14-16; p. 561, para. 27 and Documentary Appendices 1, 2 and 8.

⁵⁴ Letter of 14 May 1965 from L. T. Hoffman, United States Department of the Interior, Bureau of Land Management, to D. G. Crosby, Canadian Department of Northern Affairs and National Resources. *Canadian Memorial, Annexes*, Vol. III, Annex 4. For further information on the "BLM line", see *Reply, Annexes*, Vol. II, Part III, p. 548, para. 15.

⁵⁵ This possible exception is United States permit E2-68, issued to Exploration Surveys Inc., discussed in *Canadian Memorial*, p. 98, para. 219; *Canadian Counter-Memorial*, p. 148, para. 370; *Reply, Annexes*, Vol. II, Part III, pp. 542-543, para. 7.

⁵⁶ For further information on United States permit E2-72, see *Reply, Annexes*, Vol. II, Part III, pp. 550-553, paras. 17-20 and Documentary Appendix 3.

241. Further evidence of the presumption of an equidistance boundary on Georges Bank is also afforded by United States permit E3-75, issued in 1975. The United States, in Volume II, Annex 40 of the Annexes to its Memorial, cites this permit as having resulted in the greatest number of line miles surveyed on the northeastern portion of Georges Bank, i.e., 4,400 miles. Digicon Geophysical Corporation, acting for some 35 oil companies, initially requested a survey area up to approximately the median line (as utilized for permit E2-72) on Georges Bank (as shown on the map filed with the Court on 20 January 1983 by the United States Agent⁵⁷). Digicon, however, later requested or was encouraged to request an "extended area" covering the remaining part of the Bank⁵⁸. At the same time, while Digicon was thus acting under a United States permit, Digicon also obtained Canadian exploratory licence 2414 and received authorization to conduct the same program as that submitted to the United States for the "extended area" [Figure 22]. Approximately 3,200 line miles of work on the northeastern portion of Georges Bank was done under the Canadian licence⁵⁹.

242. The foregoing examination of the United States geophysical survey permits issued in the 1960s and 1970s confirms that, contrary to its allegations⁶⁰, the United States did not authorize geophysical surveys on the true northeastern portion of Georges Bank during the relevant period. The United States has invoked its geophysical survey permits in an effort to demonstrate conduct inconsistent with acquiescence in the Canadian claim⁶¹. This evidence, however, confirms Canada's assertions and not those of the United States. The important points to note are simply that:

- (a) during the 1960s, Canada — with the full knowledge of the United States — was issuing long-term permits covering the northeastern portion of Georges Bank, while the United States had no equivalent leases in the area; and
- (b) as regards the issuance by the United States in the 1960s and early 1970s of temporary geophysical survey permits covering only the southwestern portion of Georges Bank (with one possible exception⁶²), both the United States Bureau of Land Management

⁵⁷ See attachments to the letter of 20 January 1983 from the Agent for the United States to the Registrar of the Court. See also *Reply, Annexes*, Vol. II, Part III, p. 546, Figure 1.

⁵⁸ For further information on United States permit E3-75, see *Reply, Annexes*, Vol. II, Part III, pp. 545-547, para. 12; pp. 553-556, paras. 21-23, and Documentary Appendix 5.

⁵⁹ *Reply, Annexes*, Vol. II, Part IV, Annex 24.

⁶⁰ *United States Counter-Memorial*, p. 78, paras. 101-102.

⁶¹ This possible exception is United States permit E2-68, issued to Exploration Surveys Inc., discussed in *Canadian Memorial*, p. 98, para. 219; *Canadian Counter-Memorial*, p. 148, para. 370; *Reply, Annexes*, Vol. II, Part III, pp. 542-543, para. 7.

⁶² This possible exception is United States permit E2-68, issued to Exploration Surveys Inc., discussed in *Canadian Memorial*, p. 98, para. 219; *Canadian Counter-Memorial*, p. 148, para. 370; *Reply, Annexes*, Vol. II, Part III, pp. 542-543, para. 7.

and several dozen oil companies acted on the assumption that a median line boundary would apply on Georges Bank.

C. THE UNITED STATES GEOPHYSICAL SURVEY PERMITS HAVE A THREE-FOLD SIGNIFICANCE

1. Acquiescence, Recognition and Estoppel

243. In relation to Canada's position on acquiescence and estoppel, the United States geophysical survey permits provide direct evidence that the United States conduct from 1965 to 1972 or later was consistent with its tacit acquiescence in Canada's use of an equidistance line. Moreover, they provide confirming evidence of the United States' explicit acceptance of Canada's use of an equidistance line in the Department of the Interior's letters of April and May 1965.

2. A De Facto Maritime Limit

244. Even if it did not indisputably confirm (as it does) Canada's claims regarding acquiescence and estoppel, the United States presumption of an equidistance boundary — and apparently of a specific equidistance line known as the BLM line — would still be of great significance in this case. Insofar as Canada and the United States were, from the early or mid-1960s through 1972 or later, both authorizing geophysical surveys based upon the presumption of an equidistance line, the conduct of the Parties during that period reflected a tacit *modus vivendi* or a *de facto* maritime limit.

245. Both of these factors were deemed significant by the Court in the *Tunisia-Libya Continental Shelf* case. The Court found that the line of delimitation established in 1919 by the Italian authorities in Libya, with its attendant "buffer zone", did "have a bearing upon the questions with which it is concerned", because it marked a "*modus vivendi*" between the parties⁶³. While concluding that "the evidence of the existence of such a *modus vivendi*, resting only on the silence and lack of protest on the side of the French authorities responsible for the external relations of Tunisia, falls short of proving the existence of a recognized boundary between the two Parties", the Court nevertheless held that:

"... in view of the absence of agreed and clearly specified maritime boundaries, the respect for the tacit *modus vivendi* ... could warrant its acceptance as a historical justification for the choice of the method for the delimitation of the continental shelf between the two States⁶⁴..."

⁶³ *I.C.J. Reports* 1982, p. 70, paras. 93-94.

⁶⁴ *I.C.J. Reports* 1982, pp. 70-71, para. 95.

In the present case, although Canada and the United States lacked an "agreed and clearly specified" boundary, they both for some years respected equidistance lines that were only a few miles apart (owing to technical differences in their construction⁶⁵).

246. Canada's claims with regard to United States acceptance of an equidistance boundary in this case, moreover, do not rest only upon tacit acceptance, but also upon actual use of an equidistance line by both Parties. In this context, the BLM line resembles the 26° line, "which had been followed by the two Parties in the granting of concessions for the exploration and exploitation of mineral resources during the period 1964-1972" in the *Tunisia-Libya Continental Shelf* case⁶⁶. The 26° line lay in the same position as the earlier *modus vivendi* line or *de facto* maritime limit. The Court explained that:

"This line of adjoining concessions, which was tacitly respected for a number of years, and which approximately corresponds furthermore to the line perpendicular to the coast at the frontier point which had in the past been observed as a *de facto* maritime limit, does appear to the Court to constitute a circumstance of great relevance for the delimitation⁶⁷."

The equidistance line or lines observed by Canada and the United States for offshore exploration during the early 1960s until 1972 or later were respected both by the Parties themselves and by several dozen oil companies with interests in the Gulf of Maine area⁶⁸.

3. *Indicia of Equity*

247. The United States geophysical permits also provide additional evidence — over and above United States conduct in relation to Canada's use of an equidistance line — of the nature of an equitable delimitation in the Gulf of Maine area as seen by the United States. As was noted in the Canadian Memorial, the position of the Canadian Government in relation to acquiescence, recognition and estoppel is without prejudice to the role of the conduct of the Parties as one of the relevant circumstances for the purposes of establishing the single maritime boundary in this case⁶⁹. Canada reaffirms its submission that the conduct of the United States in relation to both Parties' use of the equidistance method in the Gulf of Maine area provides "indicia . . . of the line or lines which the Parties themselves may have considered equitable or

⁶⁵ Letters of 1 April 1965 and 14 May 1965. *Canadian Memorial, Annexes*, Vol. III, Annexes 1 and 4. For further information on the United States "BLM" line, see *Reply, Annexes*, Vol. II, Part III, p. 548, para. 15.

⁶⁶ *I.C.J. Reports* 1982, p. 66, para. 86.

⁶⁷ *I.C.J. Reports* 1982, p. 71, para. 96.

⁶⁸ See paras. 237-242.

⁶⁹ *Canadian Memorial*, p. 160, para. 390.

acted upon as such", quite apart from any consideration of acquiescence and estoppel⁷⁰. [*Italics added.*]

Section III. The United States Has Failed to Refute Canada's Position Respecting the Relevance of the 1979 Agreement on East Coast Fishery Resources

248. The Canadian Memorial and Counter-Memorial have demonstrated that, in the parallel negotiation, conclusion and signature of the Special Agreement and the 1979 Agreement on East Coast Fishery Resources, the United States recognized (i) Canada's traditional participation in the fisheries of Georges Bank; (ii) Canada's status as a coastal State in relation to Georges Bank — i.e., as a State entitled to extend its jurisdiction to a part of the Bank in accordance with international law; and (iii) Canada's economic interest in the living resources of Georges Bank⁷¹.

249. In response, the United States Counter-Memorial argues, *first*, that an unratified treaty creates no legal obligations or rights and thus cannot be invoked to the prejudice of a signatory, and *secondly*, that such a treaty constitutes a negotiating offer or offer of settlement and is not permissible evidence in a subsequent adjudication⁷².

250. On the first objection offered by the United States, it is only necessary to say that Canada has not argued that the 1979 agreement created binding obligations. Canada would note, however, that the United States contention regarding the legal effect of an unratified treaty is wrong in law⁷³. More to the point, Canada's argument has been — and remains — that the 1979 agreement is relevant because it provides the best objective evidence of what the Parties themselves considered an equitable solution in the fisheries dimension, i.e., what they

⁷⁰ *Tunisia-Libya Continental Shelf case, I.C.J. Reports 1982*, p. 84, para. 118.

⁷¹ *Canadian Memorial*, pp. 109-115, paras. 253-276; pp. 135-136, paras. 323-325; *Canadian Counter-Memorial*, pp. 155-160, paras. 382-391; p. 187, para. 456; pp. 300-301, paras. 719-722.

⁷² *United States Counter-Memorial*, p. 7, para. 8; pp. 151-154, paras. 225-234; pp. 210-214, paras. 330-339.

⁷³ Conventional and customary law have recognized the duty of States to refrain from acts that would defeat the object and purpose of a treaty during the period between signature and ratification. This principle is codified in Article 18 of the *Vienna Convention on the Law of Treaties*. See also Lord A. McNair: *The Law of Treaties*. Oxford, Clarendon Press, 1961, p. 199, where he writes:

"... States which have signed a treaty requiring ratification have thereby placed certain limitations upon their freedom of action during the period which precedes its entry into force."

Thus, at least during the period before the 1979 Agreement on East Coast Fishery Resources was withdrawn from the Senate by President Reagan, the United States was under a duty to refrain from acts that would defeat its object and purpose — for example, to refrain from over-exploitation of the fishery resources in question.

considered to be equitable fisheries entitlements or allocations⁷⁴. Indeed, the agreement was expressly described as being "fair to both Parties" by the President of the United States⁷⁵. The amendment proposed in 1980 by Senator Kennedy and several other New England Senators would not have altered the catch entitlements or shares set out in the agreement. Instead, it would have limited the duration of the agreement and established a different western limit for the area in which Canada would have exercised primary management responsibility for scallops⁷⁶ [Figure 23].

251. On the second objection offered by the United States, the Special Agreement itself defines what evidence or arguments shall be excluded in the present proceedings. As was noted in paragraph 94 of this Reply, the Special Agreement provides that neither Party "shall introduce into evidence or argument, or publicly disclose in any manner, . . . proposals directed to a maritime boundaries settlement, or responses thereto"⁷⁷. The 1979 Agreement on East Coast Fishery Resources was not a boundary proposal but a signed fisheries treaty, and by its very nature was a public document that would necessarily be "publicly disclosed".

252. Quite apart from this provision of the Special Agreement, the 1979 fisheries agreement is an integral part of the history of the dispute. Further, it is an integral part of the negotiating history of the Special Agreement. It demonstrates to the Court that the Parties have fulfilled their obligation to negotiate before instituting these proceedings, and it assists the Court in interpreting the Special Agreement and in discharging the request put to the Court by the Parties themselves. The United States assertion that the fisheries agreement constitutes impermissible evidence would deprive the Court of its power to consider a fundamental relevant circumstance — the conduct of the Parties — which played so important a role, for instance, in the *Tunisia-Libya Continental Shelf* case⁷⁸ — simply because that conduct ultimately came to be reflected in a signed but unratified treaty. Under the United States

⁷⁴ The 1979 East Coast Fishery Resources Agreement established catch "entitlements" or allocations for some 13 species of particular interest to the Parties. The text of the agreement is reproduced in *Canadian Memorial, Annexes, Vol. I, Annex 20*. The catch allocations are set out in Annexes A and B to the agreement. In a prepared statement delivered before a congressional committee, the United States special negotiator, Mr. Lloyd Cutler stated that "the entitlement shares established by the Agreement are fair and equitably balanced". See *Canadian Memorial, Annexes, Vol. II, Annex 44*.

⁷⁵ Message of 3 May 1979 from the President of the United States to the Senate of the United States Transmitting the Maritime Boundary Settlement Treaty and the Agreement on East Coast Fishery Resources, 96th Congress, 1st Session. *Canadian Memorial, Annexes, Vol. II, Annex 43*.

⁷⁶ Amendment No. 1697 of 15 April 1980 to Agreement on East Coast Fishery Resources. Ex. V, 96th Congress, 1st sess. (1979), proposed by Senator Tsongas (speaking for himself and Senators Kennedy, Chafee, Durkin, Humphrey, Pell, Ribocoff and Weicker). *Reply, Annexes, Vol. II, Part IV, Annex 25*.

⁷⁷ Special Agreement, Article V. *Canadian Memorial, p. 5*.

⁷⁸ *I.C.J. Reports 1982*, pp. 83-84, paras. 117-118.

approach, in other words, *assertions* regarding conduct would be admissible, but *positive proof* of conduct would not.

253. In brief, the United States contention regarding the admissibility of the evidence provided by the 1979 Agreement on East Coast Fishery Resources is wrong *in fact*; for the agreement was not an offer of settlement, it was the fisheries settlement itself, and its want of ratification did not transform it into a mere offer, but rather prevented the execution of the settlement. The United States contention is equally wrong *in law*; for international tribunals have indeed taken unratified treaties and other manifestations of conduct into consideration⁷⁹. Finally, and above all, the United States contention is wrong *in equity*; for the 1979 fisheries agreement is a relevant circumstance, and the application of equitable principles requires that account be taken of *all* the relevant circumstances.

Section IV. The United States Has Failed to Refute Canada's Contention That the ICNAF Record Is One of Coastal State Partnership

254. The Canadian Memorial and Counter-Memorial have demonstrated that the United States and the International Commission for the Northwest Atlantic Fisheries (ICNAF) explicitly and consistently recognized Canada as a coastal State in relation to Georges Bank, both in respect of Canada's membership in the ICNAF panel responsible for Georges Bank (Panel 5) and in Canada's preferential treatment in the allocation of national quotas for Georges Bank stocks⁸⁰. In response, the United States Counter-Memorial argues that the ICNAF coastal State concept was used only to distinguish between North American and distant-water fleets; that the United States, for its part, was treated as a coastal State in relation to ICNAF subarea 4 to the northwest to the same extent that Canada was considered a coastal State in relation to

⁷⁹ Evidence of the negotiation of the Treaty of Peace of 1783 was accepted as relevant in applying its provisions regarding the St. Croix River: *The St. Croix River Arbitration*, in J. B. Moore, ed.: *History and Digest of the International Arbitrations to which the United States has been a Party*, Vol. 1. Washington, Government Printing Office, 1898, pp. 1-46. Proposals made by the parties during the work of the boundary commissions of 1898-1899 and proceedings of a conference in 1902 were considered as the basis of the final boundary settlement by the arbitrator: *The Island of Timor case between the Netherlands and Portugal*, in J. B. Scott, ed.: *The Hague Court Reports*, New York, Oxford University Press, 1916, pp. 354-386. The tribunal considered evidence of documents and correspondence dating from the period of negotiations between the parties regarding the Treaties of 1783 and 1818, and it referred to the "Proposed Treaty of 1806" (also known as the "unratified Pinckney Treaty of 1806"). *The North Atlantic Coast Fisheries case between Great Britain and the United States*, in J. B. Scott, ed.: *The Hague Court Reports*, pp. 141-225. See also H. L. Keenleyside and G. S. Brown: *Canada and the United States: Some Aspects of Their Historical Relations*. New York, Alfred A. Knopf, 1952, pp. 214-215. *Reply, Annexes*, Vol. II, Part IV, Annex 26.

⁸⁰ *Canadian Memorial*, pp. 89-90, paras. 197-199; *Canadian Counter-Memorial*, pp. 165-167, paras. 407-409; pp. 174-175, para. 425.

subarea 5; and that the history of ICNAF illustrates the "predominant interest" of the United States in Georges Bank⁸¹. Each of these points is dealt with below.

A. THE ICNAF COASTAL STATE CONCEPT WAS USED TO DEFINE STATES WITH A COASTLINE ADJACENT TO AN ICNAF SUBAREA AND TO ACCORD SUCH STATES PREFERENTIAL QUOTAS

255. The United States is in error in its contention that "... the ICNAF coastal-State concept was used only in a regional sense, to distinguish North American from distant-water fleets⁸²". The coastal State concept, in fact, was used to define States with a coastline adjacent to an ICNAF subarea, as a criterion for establishing membership in the ICNAF panel for that subarea. (These panels were committees established to review and provide recommendations to the Commission regarding the application of the Convention to individual subareas.) Eventually, the coastal State concept came to be used to determine preferential quota allocations for stocks in certain ICNAF subareas, divisions and subdivisions.

256. Representation on ICNAF panels was determined "... on the basis of *current substantial exploitation* in the sub-area concerned ... except that each Contracting Government with *coastline adjacent to a sub-area* shall have the right of representation on the Panel for the sub-area⁸³". [*Italics added.*] In the preparatory conference leading to ICNAF's formation, Canada stated clearly that its membership in Panel 5 was based both on exploitation in and contiguity to subarea 5, of which Georges Bank forms a part, and the United States and ICNAF supported Canada's membership in that panel⁸⁴. Throughout the life of ICNAF, and until the present proceedings, the United States never challenged Canada's coastal State status in relation to Georges Bank and never denied the simple geographical fact that Canada has a coastline adjacent to the Bank. This recognition of Canada's status, in the express terms of a regional convention, is obviously incompatible with the United States claim to the whole of Georges Bank.

257. Beginning in 1972, ICNAF established annual, nationally-allocated catch quotas for a number of stocks in the convention area. Allocations were made taking into account a series of guidelines developed by the Commission's Standing Committee on Regulatory Measures (STACREM) and complementary formulas proposed mainly by Canada

⁸¹ *United States Counter-Memorial*, p. 75, paras. 92 and 96.

⁸² *United States Counter-Memorial*, p. 75, para. 92.

⁸³ *Canadian Memorial, Annexes*, Vol. I, Annex 1, art. IV(2), p. 58.

⁸⁴ *Canadian Counter-Memorial*, pp. 165-166, para. 407; pp. 166-167, para. 409.

and the United States⁸⁵. The criteria included historical performance and "special needs", and provided that a portion of each quota would be reserved for the coastal State or States. Although Commission recommendations for national shares often strayed from the STACREM guidelines and from proposals made by Canada and the United States, they almost always reflected the principle of preferential shares for the coastal State or States. In determining allocations for stocks on Georges Bank subject to Canadian fisheries, Canada, the United States and ICNAF consistently and explicitly identified Canada as a coastal State⁸⁶.

⁸⁵ ICNAF, Annual Meeting, June 1969, Proceedings No. 11, Appendix I. See *Reply, Annexes*, Vol. II, Part IV, Annex 27. The United States initially proposed reservation of a 25 percent share of quotas for special circumstances, 80 percent of which would be allotted to the coastal State. Canada, interpreting the STACREM guidelines, initially proposed allocation on the basis of a "40:40:10:10" formula (40 percent on the basis of performance during the most recent three years, 40 percent on the basis of performance during the most recent seven years, 10 percent for the coastal State, and 10 percent for new entrants and non-member countries). Canada later proposed adjusting the formula by deducting coastal State catches outside the Convention Area from the quotas before applying the "40:40:10:10" equation. Subsequently, Canada proposed deducting the total estimated catch by the coastal State (regardless of where it was harvested) and dividing the remainder of the quota among the non-coastal States on the basis of a "45:45:10" formula. See ICNAF, Annual Meeting, June 1970, Proceedings No. 16, Annex I; ICNAF, Special Meeting on Herring, January-February 1972, Proceedings No. 3, para. 5 and Appendix I; ICNAF, Annual Meeting, June 1972, Commissioners' Documents 72/12 to 72/17; ICNAF, Special Commission Meeting, January 1973, Proceedings No. 5, para. 3; ICNAF, Annual Meeting, June 1973, Commissioners' Document 73/13. *Reply, Annexes*, Vol. II, Part IV, Annexes 28-32.

⁸⁶ In 1971, during preliminary discussions of quota allocation in subarea 5, Canada called attention "... to her status as a coastal country in relation to Subarea 5 haddock". In 1972, during negotiation of ICNAF's first nationally allocated quotas (herring in portions of subareas 4 and 5), the United States proposed that a combined 20,000 mt share of the Georges Bank herring quota be reserved for Canada and the United States "... with relative coastal preference to be determined". For 1973, allocations for subarea 5/statistical area 6 mackerel were "... proposed on the basis of a 10% coastal state preference shared by Canada and USA ...". For division 5Z cod in 1973, the United States and Canada received portions of their allocations on the basis of coastal State preference. The 1973 United States proposal for effort reduction in subarea 5/statistical area 6 exempted both Canada and the United States because "Canada and USA are coastal fishing nations ...". For subarea 5/statistical area 6 mackerel for the 1974 season, Canada and the United States indicated that their agreement "... would be under reservation of their rights as coastal states". In the negotiation of an overall catch limit for each nation in subarea 5/statistical area 6 for 1975, after it had been noted "... that allowance had been made for the coastal state preference of Canada and the USA ...", the United States delegate "... stressed that shares requested by the coastal states were linked to their capacity ...". See ICNAF, Annual Meeting, June 1971, Proceedings No. 16, Appendix II; ICNAF, Special Meeting on Herring, January-February 1972, Proceedings No. 3, Appendix II, para. 2; ICNAF, Special Commission Meeting, January 1973, Proceedings No. 3, para. 9 a); ICNAF, Annual Meeting, June 1972, Informal Record of Meetings of the *ad hoc* Committee on Quota Allocation, para. 14; ICNAF, Special Commission Meeting, January 1973, Proceedings No. 4, Appendix I, p. 4; ICNAF, Fourth Special Commission Meeting, January 1974, Proceedings No. 3, paras. 12 and 14; ICNAF, Annual Meeting, June 1974, Proceedings No. 11, paras. 11 and 19. *Reply, Annexes*, Vol. II, Part IV, Annexes 29, 33-38.

B. THE STATUS OF THE UNITED STATES IN RELATION TO ICNAF
SUBAREA 4 IS GREATLY EXAGGERATED BY THE UNITED STATES

258. The United States Counter-Memorial is misleading in its account of United States coastal State status in ICNAF subarea 4⁸⁷. Canada does not deny that the United States was an original member of Panel 4, having previously fished in subarea 4 and having some coastline adjacent to a small part of that subarea. However, it is an unwarranted exaggeration to equate United States status in subarea 4 with Canada's coastal State status in subarea 5.

259. From the beginning of quota regulations in 1972, Canada's coastal State status for Georges Bank stocks was never contested. In contrast, the United States was not considered a coastal State for subarea 4 in 1972, 1973 and 1974, the first three years in which national quotas were prescribed⁸⁸. Moreover, when the United States claimed coastal State status in subarea 4 for the 1976 season, Canada contested the magnitude of its claim⁸⁹.

⁸⁷ *United States Counter-Memorial*, p. 75, paras. 92 and 94; *United States Counter-Memorial, ICNAF Annex*, Vol. II, p. 2, para. 5.

⁸⁸ In the first year of quota allocation (1972), the United States received no allocation for the single subarea 4 stock considered (division 4Xa-4Wb herring). The United States received its first allocation for this quota for the 1974 season, and coastal State preference was not cited as the basis for the allocation. For 1973, the United States received an allocation for subarea 4 cod (subdivision 4VSW). Although its share was somewhat higher than justified by historic performance, it was allocated on the basis of "special needs" (along with 11 other countries), whereas Canada's augmented share was explicitly based on "coastal state preference". For 1974, the United States received allocations for subarea 4 redfish and flounders slightly higher than would have been justified by historic performance, but coastal State status was not cited as the basis for the allocations. On the other hand, Canada proposed that its 1974 allocations be based on receiving a 10 percent preferential bonus and came close to achieving this objective for most subarea 4 stocks. See ICNAF, Special Meeting on Herring, January-February 1972, Proceedings No. 3, Appendix I; ICNAF, Fourth Special Commission Meeting, January 1974, Proceedings No. 5, para. 25; ICNAF, Annual Meeting, June 1972, Informal Record of Meetings of the *ad hoc* Committee on Quota Allocation, para. 10; ICNAF, Annual Meeting, June 1973, Proceedings No. 10, Appendices VI and VIII; ICNAF, Annual Meeting, June 1973, Commissioners' Document 73/13. *Reply, Annexes*, Vol. II, Part IV, Annexes 29, 32, 35, 39 and 40.

⁸⁹ The United States claimed preferential treatment for allocations on the basis of coastal State status for the first time for the 1975 season (division 4X cod). For 1976, Canada disputed the magnitude of the United States request for an allocation of division 4Xa-4Wb herring stock. The Canadian delegate stated: "... Canada as the coastal state should be allocated all but a small by-catch allowance ...". See ICNAF, Annual Meeting, June 1974, Proceedings No. 10, para. 6; ICNAF, Eighth Special Commission Meeting, January 1976, Proceedings No. 8, para. 8. *Reply, Annexes*, Vol. II, Part IV, Annexes 41-42.

C. IN THE LAST YEARS OF ICNAF, THE COASTAL STATE CONCEPT WAS BROADENED TO INCLUDE THE CONCEPT OF NEIGHBOURING COASTAL STATES

260. In 1976, on the eve of the extension of Canadian and United States fisheries jurisdiction to 200 miles, the coastal State concept was broadened considerably. Anticipating the new régime, under which it was expected that Canadian and United States fishermen would continue, under bilateral agreements, to fish in the other country's expanded fishing zone, both Parties took measures to ensure that reciprocal fishing opportunities would be preserved. Thus, while calling for a substantial reduction in fishing effort in ICNAF subareas 2, 3 and 4, Canada supported an exemption for the United States fishery with respect to the southwest portion of subarea 4, on the basis of a broadened notion of coastal State status⁹⁰. (Canada proposed a similar exemption for French vessels in subareas 3 and 4 in view of its treaty arrangements with France vis-à-vis the French islands of St. Pierre and Miquelon, off Newfoundland.) The United States, in turn, supported a high overall catch limit for Canada throughout subarea 5 and statistical area 6, whereas major reductions were agreed for distant-water fleets⁹¹.

261. These measures were consistent with the position Canada was promoting (without complete success) in the United Nations Conference on the Law of the Sea with respect to the right of neighbouring coastal States to grant each other preferential treatment in the allocation of allowable catches surplus to the harvesting capacity of the coastal State. Hence, in the latter years of ICNAF, the coastal State concept took on a different character than it had in the early years of the ICNAF régime. Its scope was expanded in an effort to ensure reciprocal fishing privileges for neighbouring coastal States in the new era of the 200-mile limit. Only at this time was the concept used in the regional sense attributed to it in the United States Counter-Memorial⁹², that is, to distinguish between North American and distant-water fleets.

262. The Canadian effort to maintain bilateral reciprocal fishing opportunities following the extension of fisheries jurisdiction was eventually frustrated by the United States' failure to respect the overriding objective of the interim reciprocal fisheries agreement negotiated by the Parties on the eve of their extensions of jurisdiction to 200 miles and renewed by them thereafter. As was explained in the Canadian Memorial⁹³, the first such interim agreement was implemented in order to preserve existing fishing patterns. However, following its entry into

⁹⁰ ICNAF, Seventh Special Commission Meeting, September 1975, Proceedings No. 4, Appendix I; ICNAF, Seventh Special Commission Meeting, September 1975, Commissioners' Documents 75/IX/40, 75/IX/42 and 75/IX/49 (2nd Revision). *Reply, Annexes*, Vol. II, Part IV, Annexes 43-46.

⁹¹ ICNAF, Seventh Special Commission Meeting, September 1975, Proceedings No. 5, para. 5. *Reply, Annexes*, Vol. II, Part IV, Annex 47.

⁹² *United States Counter-Memorial*, p. 75, para. 92.

⁹³ *Canadian Memorial*, pp. 102-104, paras. 231-237.

force in July 1977, there was a radical increase in United States fishing effort on Georges Bank, which posed a serious threat to the future health of the fishery. In view of the regulatory vacuum that existed in the New England fishery at the time, as well as the indications by the United States that the situation would not change in the near future, Canada had no alternative but to discontinue, for the time being, its provisional implementation of the 1979 renewal agreement for reciprocal fishing. The United States, in turn, closed its 200-mile zone to Canadian fishermen. Both Parties, of course, expected reciprocal fishing off each other's coast to resume with the entry into force of the 1979 Agreement on East Coast Fishery Resources. That prospect obviously disappeared when the United States failed to ratify the 1979 agreement. This situation is characterized by the United States as a "unilateral expulsion . . . of United States fisherman [*sic*] from waters off the coast of Canada"⁹⁴, when in fact the cessation of reciprocal fishing for *both Parties* was precipitated by United States activities.

D. THE HISTORY OF ICNAF ILLUSTRATES NOT THE ALLEGED "PREDOMINANT INTEREST" OF THE UNITED STATES BUT THE SHARED INTEREST OF THE PARTIES IN THE GULF OF MAINE AREA

263. The United States relies upon fisheries research, conservation, management and enforcement activities in the years preceding the extension of coastal State jurisdiction, in order to support its claim of a "predominant interest" in the Gulf of Maine area⁹⁵. Although these activities were closely related to the subject matter of what later became the 200-mile fishing zones of the Parties, it must be recalled that they were multilateral undertakings in support of a common high seas fishery. Their use in prejudicing a subsequent claim of jurisdiction would be contrary to the letter and the spirit of the treaty under which they were conducted. But Canada's principal objection to the use the United States has made of this material is factual rather than legal.

264. Contrary to the arguments now put forward by the United States (which are strikingly inconsistent with the views it expressed at the material times⁹⁶), the relationship of the Parties in ICNAF and in its

⁹⁴ *United States Counter-Memorial*, p. 73, para. 87.

⁹⁵ *United States Counter-Memorial*, p. 75, paras. 93 and 96.

⁹⁶ The United States valued Canadian participation in Panel 5. For example, in 1959, when doubts had been expressed regarding the effectiveness of mesh regulations in subarea 5, the United States spokesman for the Panel stated that:

" . . . he had been working with the Panel for nearly ten years and with the mesh regulation since its inception. With this background of experience he pointed out that the scientists of both member countries were working in unison to solve the problems of the Panel and that he felt considerable confidence in their competence eventually to solve these problems. The Chairman [G. R. Clark of Canada] remarked that he concurred heartily in this opinion, and that the outstanding co-operation of the scientists from the two countries might well serve as an example for the rest of the Commission."

See ICNAF, Annual Meeting, June 1959, Proceedings No. 10, para. 8. *Reply, Annexes*, Vol. II, Part IV, Annex 48.

predecessor, the North American Council for Fisheries Investigations (NACFI), in the management of Georges Bank fisheries and other fisheries of the Gulf of Maine area, was one of partnership and not of "dominance". It is only through a selective approach to the evidence and the use of a biased geographical frame of reference that the United States can purport to substantiate the contrary view.

265. In the spirit of cooperation that characterized Canada-United States fisheries relations, both Parties played active and mutually supportive roles in developing the ICNAF conservation and management program, including the program with respect to the resources of Georges Bank. Canada and the United States cooperated on an equal footing in dealing with all major issues concerning the Georges Bank fisheries in ICNAF⁹⁷. The joint efforts of the Parties with respect to scientific research, conservation, management and enforcement in the Georges Bank area are detailed in the Canadian Counter-Memorial⁹⁸.

266. The United States account of the activities of the Parties leading up to the foundation of ICNAF, and of their later activities within the ICNAF framework⁹⁹, omits a number of important Canadian contributions. For example, the United States neglects to acknowledge Canada's initiative in the creation of NACFI, the forerunner of ICNAF¹⁰⁰. The United States fails to mention that the highly innovative ICNAF Scheme of Joint International Enforcement stemmed from a Canadian-sponsored amendment to the ICNAF Convention¹⁰¹, and that Canada actively participated in the technical development of the

⁹⁷ Examples of cooperative efforts by the Parties include development of subarea 5 mesh regulations; development of the ICNAF Protocol Relating to Panel Membership; appraisal of quota allocation procedures; a submission regarding conservation requirements for herring in the Convention Area; and proposals for herring and mackerel size limits. With respect to the most important stocks on Georges Bank that are of interest to the Parties, Canada was first to propose conservation action for scallops, cod and herring, whereas the United States made the first proposals for haddock and yellowtail quotas. Following these initial steps, the Parties worked in close cooperation to elaborate the ICNAF quota scheme for Georges Bank until the United States withdrew from ICNAF at the end of 1976. See *Canadian Counter-Memorial*, pp. 174-175, paras. 423-426. See also ICNAF, Annual Meeting, June 1969, Proceedings No. 15, paras. 3-4 and Proceedings No. 17, para. 5; ICNAF, Annual Meeting, June 1971, Commissioners' Documents 71/17 and 71/18; ICNAF, Annual Meeting, June 1975, Commissioners' Documents 75/32 and 75/33. *Reply, Annexes*, Vol. II, Part IV, Annexes 49-54.

⁹⁸ *Canadian Counter-Memorial*, pp. 172-173, para. 419; pp. 174-175, paras. 424-425; p. 177, para. 429.

⁹⁹ *United States Counter-Memorial*, p. 75, paras. 93-96; *United States Counter-Memorial, ICNAF Annex*, Vol. II, p. 1, para. 2; pp. 4-9, paras. 10-13; pp. 19-40, paras. 23-77.

¹⁰⁰ *Canadian Counter-Memorial*, pp. 164-165, paras. 404-406.

¹⁰¹ *Canadian Counter-Memorial*, p. 177, para. 429.

scheme¹⁰². The United States also fails to mention — presumably because Canada was the leader in its development — the ICNAF program of cooperative scientific assessment and research, perhaps the Commission's most notable achievement and the basis for sophisticated research programs currently in use in Canada and the United States¹⁰³. Similarly, the United States claims responsibility for the Protocol Relating to Panel Membership and Regulatory Measures, even though the Protocol was, in fact, based on submissions from both Canada and the United States¹⁰⁴. Canada was also largely responsible for developing ICNAF's much-lauded statistical system¹⁰⁵. And it was a Canadian chairman of the Commission that launched ICNAF's initiative to develop conservation measures going beyond simple mesh regulations

¹⁰² Canada participated actively in the work of ICNAF's Standing Committee for International Control throughout the committee's existence and made a number of important proposals for the overall structure of the scheme. For example, in 1974 Canada proposed a revised scheme of Joint International Enforcement. The United States and Canada frequently cooperated and played mutually supportive roles in the committee's work. An example is the joint Canada-United States proposal for cumulative catch record. See generally, ICNAF, Annual Meetings, 1972 to 1976, Proceedings; ICNAF, Fourth Special Commission Meeting, January 1974, Proceedings No. 6, Appendix I; ICNAF, Annual Meeting, June 1975, Proceedings No. 4, Appendix I and Annex 6. *Reply, Annexes*, Vol. II, Part IV, Annexes 55-56.

¹⁰³ Canada provided the chairman for the commission's Standing Committee on Research and Statistics during the organization's critical first three years, and for a total of nine years from the commission's first meeting in 1951 until the United States withdrew from ICNAF at the end of 1976. United States representatives held the position for a total of only three years. During the same period, Canadians chaired about one-third (approximately twice as many as did United States representatives) of all the recorded meetings of ICNAF scientific sub-committees and working groups. Moreover, Canadians were prominent in major initiatives relating to the Convention Area as a whole. For example, Canadians co-authored the first comprehensive reviews of conservation problems throughout the convention area: R. J. Beverton and V. M. Hodder: "Report of the Working Group on fishery assessment in relation to regulation problems." Supplement to *ICNAF, Annual Proceedings*, Vol. 11, for the year 1960-61. Dartmouth, N.S., 1962; W. Templeman and J. Gulland: "Review of possible conservation actions for the ICNAF area." *ICNAF, Annual Proceedings*, Vol. 15, for the year 1964-65, Part 4. Dartmouth, N.S., 1965, pp. 47-56. In addition, W. C. MacKenzie, a Canadian, chaired a multi-disciplinary group that prepared a comprehensive report assessing the biological and economic consequences of conservation actions: "Report of the Working Group on Joint Biological and Economic Assessment of Conservation Actions." *ICNAF, Annual Proceedings*, Vol. 17, for the year 1966-67, Part 4. Dartmouth, N.S., 1968, pp. 48-84.

¹⁰⁴ ICNAF, Annual Meeting, June 1969, Proceedings No. 15, paras. 3-4 and Proceedings No. 17, para. 5. *Reply, Annexes*, Vol. II, Part IV, Annexes 49-50.

¹⁰⁵ Dr. W. R. Martin of Canada, the Commission's first Executive Secretary (1951-1952), and an active participant in ICNAF for several years thereafter, spearheaded the development of ICNAF's statistical system. Moreover, from the first year of its formation in 1954, and until 1976, Canadians chaired the ICNAF subcommittee dealing with statistics 15 times. A United States representative held the post for three years.

controlling the size of fish captured¹⁰⁶. These are only a few of Canada's major initiatives within ICNAF, but they are sufficient to rebut the United States claim of overall "dominance".

267. Even more significant than the omissions in the United States Counter-Memorial, however, is the biased depiction of the facts in the Counter-Memorial's comparison of the activities of the Parties within ICNAF. The United States account refers to activities conducted throughout subarea 5 and statistical area 6¹⁰⁷, a vast area extending from the international boundary southward to Cape Hatteras. Canada's claim incorporates approximately 7 percent of this area (excluding statistical area 6d). The balance of the Canadian claim is in subarea 4 [Figure 24]. There is little objective value in comparing the activities of the Parties using the biased geographical frame of reference adopted by the United States. Nevertheless, as discussed in paragraph 204, the record of Canadian activities even within this framework is entirely consistent with Canada's geographical situation and its economic interest in the area.

268. The United States description of *management* activities throughout subarea 5 and statistical area 6 is not helpful in assessing Canadian conduct in the area properly relevant to this delimitation¹⁰⁸. It was not in Canada's interest to participate in management schemes for most of the wider area referred to by the United States. Canada's participation in management activities was limited to those stocks that were subject to Canadian fishing on Georges Bank, and Canada acted in concert with the United States in proposing regulations for this fishery¹⁰⁹.

269. The United States misconstrues the extent of Canadian *research* activities in subarea 5 and statistical area 6 by limiting its review to studies submitted to the Commission¹¹⁰. Canada carried out substantial research in this area with respect to a number of important species that were *not* regulated by ICNAF, such as herring in the Commission's earlier years and lobster, swordfish and tuna throughout the Commission's existence. Volume II, Part IV, Annex 59 of the Annexes to this Reply lists some of the scientific papers reporting these Canadian research activities. Canada's participation in management and research in subarea 5 and statistical area 6 was always fully commensurate with the extent of its interest and of its present claim to a portion of the area.

¹⁰⁶ *ICNAF, Annual Proceedings*, Vol. 12, for the year 1961-62, Halifax, N.S., 1962, p. 10, para. 3; *ICNAF, Twelfth Annual Meeting*, June 1962, Proceedings No. 13, p. 2. *Reply, Annexes*, Vol. II, Part IV, Annexes 57-58.

¹⁰⁷ *United States Counter-Memorial, ICNAF Annex*, Vol. II, Annex 3, p. 22, paras. 30 and 32; p. 26, para. 43; pp. 31-32, para. 54; p. 34, paras. 61-62 and Table A; p. 37, para. 72; Tables B1-B25.

¹⁰⁸ *United States Counter-Memorial, ICNAF Annex*, Vol. II, Annex 3, pp. 31-32, para. 54; p. 34, paras. 61-62 and Table A; Tables B1-B25.

¹⁰⁹ See p. 113, footnote 97.

¹¹⁰ *United States Memorial*, pp. 72-73, para. 128; *United States Counter-Memorial, ICNAF Annex*, Vol. II, Annex 3, pp. 35-37, paras. 63-72; Tables B1-B25.

270. The United States version of the record of *enforcement* activities in subarea 5 and statistical area 6 is also biased. It is inappropriate to use data on vessel boardings, as the United States has done¹¹¹, to compare the activities of the Parties under the Scheme of Joint International Enforcement. United States boardings were primarily related to enforcement of its domestic lobster program, as reflected in the concentration of activity along the 100-fathom contour of Georges Bank¹¹². Canada, on the other hand, was mainly responsible for the international patrol of the Haddock Closed Area established by ICNAF¹¹³. Naturally, there were substantially fewer Canadian boardings, since Canada was monitoring an area from which vessels were excluded.

271. The United States comparison of *quota allocations* for Canada and the United States is disingenuous¹¹⁴. It is not surprising that Canada received fewer and lower quota allocations than did the United States in subarea 5 and statistical area 6, since the United States fishery extended *throughout* that area, while Canada's fishery encompassed only a very small portion of the same area¹¹⁵. Moreover, the comparison is further seriously biased in that scallops, a Georges Bank resource of great importance to Canada, were *never subject to* quota management. Nevertheless, for quotas relating to directed fisheries by Canada, Canadian allocations were entirely consistent with Canada's performance vis-à-vis the United States and with Canada's position as a coastal State in the area.

272. It is clear, on a review of all the facts, that the relationship between Canada and the United States within ICNAF was that of coastal State partners with a shared interest in the Gulf of Maine area. Canada and the United States both enjoyed coastal State status in relation to subarea 5 throughout the period of their joint membership in the Commission. This partnership was manifested in the conduct of the Parties with respect to management, research, enforcement and quota allocations for the Georges Bank fisheries. The selective and biased evidence

¹¹¹ *United States Counter-Memorial, ICNAF Annex, Vol. II, Annex 3, p. 39, para. 75; p. 40, para. 77; p. 41, Figure 4; p. 43, Figure 5.*

¹¹² *Canadian Counter-Memorial, pp. 175-176, para. 427; United States Counter-Memorial, ICNAF Annex, Vol. II, Annex 3, p. 41, Figure 4; p. 43, Figure 5.*

¹¹³ *Canadian Counter-Memorial, p. 175, para. 426.*

¹¹⁴ *United States Counter-Memorial, ICNAF Annex, Vol. II, Annex 3, p. 34, paras. 61-62 and Table A.*

¹¹⁵ In 1972, the first year of quota allocations, Canada and the United States received small shares of the Georges Bank herring quota (less than 5 percent). However, Canada's share was larger than that of the United States. Canada also received a 20 percent share of the division 5Y herring quota in that year. In 1973, Canada received 11 percent of the quota for all cod in an area extending from Georges Bank to Cape Cod. Both Canada and the United States received small shares of the subarea 5/statistical area 6 mackerel quota, with the Canadian share only 15 percent less than that of the United States. In 1975, Canada received a 20 percent share of all subarea 5 haddock. Over the years, Canada received small allocations for a number of other species (such as yellowtail flounders), mainly to cover by-catch in the directed fisheries mentioned above. See generally, *ICNAF, Annual Reports*, for the years 1972-1976. Dartmouth, N.S., 1973-1976.

presented by the United States cannot alter the record of Canadian activity, which is more than proportionate to the small part of subarea 5 claimed by Canada.

Section V. The United States Confuses the Conduct of the Parties and Irrelevant State Activities

273. The United States Counter-Memorial gives a brief recapitulation of a series of activities, other than those related to fisheries and the continental shelf, that the United States considers relevant to this case. The Canadian Counter-Memorial and this Reply have explained why Canada considers these matters to be legally irrelevant: they are unrelated to the subject matter of the zones to be delimited, and most of the activities referred to by the United States took place before coastal State jurisdiction beyond the territorial sea had been contemplated. As a factual matter, the Canadian Counter-Memorial, and especially Volume III of the Annexes to that pleading, have shown that when the evidence is considered in its totality, the patterns of conduct relied upon by the United States never existed.

274. The United States concedes that these alleged activities cannot vest it with an historic title, but says that they reflect a "mutual understanding" of the Parties' respective responsibilities and a "pattern of conduct" inconsistent with the Canadian claim¹¹⁶. In fact, they reflect neither, both because the historical record fails to support the United States position and because the activities invoked by the United States are extraneous to the legal régime in issue.

275. Canada reaffirms its position that legally relevant State activities must be related to the subject matter of the zones to be delimited, and that they must have arisen in the legal context of the sovereign rights and exclusive jurisdiction that coastal States may now exercise in areas beyond the territorial sea. Other activities relied upon by the United States are irrelevant.

Conclusion

276. The United States seeks to exclude central elements of the history of the dispute, while relying upon conduct unrelated to the history of the dispute in support of a claim of "dominance" that is not in keeping with the facts or with equitable principles. The United States boundary claim remains barred by virtue of the doctrines of acquiescence and estoppel. The equitable nature of the Canadian line stands confirmed by the conduct of the Parties that is directly related to the history of the dispute and the rights and jurisdiction in issue, in particular the continental shelf activities of both Parties; the existence of a *modus vivendi* or *de facto* maritime limit at least from 1965 to 1972; the 1979 Agreement on East Coast Fishery Resources; and the recognition of Canada's status as a coastal State in relation to Georges Bank within the context of the International Convention for the Northwest Atlantic Fisheries.

¹¹⁶ *United States Counter-Memorial*, p. 83, para. 106.

CHAPTER V

THE RELEVANCE AND REALITY OF SOUTHWEST NOVA
SCOTIA'S VITAL DEPENDENCE ON GEORGES BANK

Introduction

277. A central issue in this case concerns the maintenance of established fishing patterns in keeping with the relative economic dependence of Canadian and United States coastal communities on the fishery resources of Georges Bank. While constructing major elements of its case upon an erroneous view of fish distributions in the Gulf of Maine area, the United States nevertheless seeks to deny the relevance of economic factors directly related to the distribution and utilization of these resources. The Canadian Memorial and Counter-Memorial have demonstrated the importance of the human dimension in the law applicable to the delimitation of maritime zones whose primary object and purpose are rooted in economic considerations, and paragraphs 85 to 92 of this Reply have provided further confirmation of Canada's view.

278. The United States Counter-Memorial conjures with fishery statistics but avoids the significant and relevant economic comparisons because these would demonstrate the lack of equity in the United States claim. Instead, the United States Counter-Memorial and its Annexes (Volume III, Annex 4), (inaccurately entitled "a factual analysis of the socio-economic arguments in the Canadian Memorial") seek to avoid the issue by contrasting Nova Scotia's economic conditions with those of remote countries and peoples that have no bearing whatever on the present case¹. The aim of the United States, evidently, is to establish that southwest Nova Scotia is a relatively wealthy region when viewed in global terms. Since Canada does not rely on arguments of relative wealth — whether in relation to the United States or to the world at large — the effort devoted to making this point is entirely wasted.

279. Canada makes no appeal to relative wealth. Canada submits, on the contrary, that the relevant economic circumstances are those which during the relevant period linked the coastal populations of each Party with the maritime area to be delimited. Care was taken in the Canadian Memorial and Counter-Memorial to contrast the *presence* of the two Parties in the area during the relevant period, the degree of *dependence* (if any) that each Party had developed in relation to these patterns of economic activity, and the adverse *impact* (if any) that each Party could expect to suffer as a result of the other Party's claim. Canada has demonstrated that the Canadian line, which leaves over half of Georges Bank to the United States, would minimize disturbance of the existing fisheries of both Parties on Georges Bank. The United States line, on the other hand, would obliterate Canada's established

¹ *United States Counter-Memorial, Socio-Economic Annex*, Vol. III, Annex 4, pp. 35-42, paras. 44-54; Appendix F.

economic interests on Georges Bank and severely damage the fishing industry of southwest Nova Scotia, and with it the economic and social fabric of that region, while securing only marginal benefits to the relatively deep and diversified economy of eastern Massachusetts. Canada has also demonstrated that other areas of New England and Atlantic Canada would not be significantly affected in economic terms by either the Canadian line or the United States line.

280. In these circumstances, it was submitted, equity favours the Canadian line — itself the product of a balancing-up of relevant economic, geographical and other circumstances — over the United States line. Nothing said in the United States Counter-Memorial rebuts or qualifies these central points. To the extent that other matters marginal to these central points are canvassed in the United States Counter-Memorial, the following sections will correct any misapprehension as to the facts that may now exist.

**Section I. The United States Counter-Memorial Miscasts
Canada's Position Regarding Economic Dependence;
It Is the United States and Not Canada That Relies
on Extraneous Considerations of Relative Wealth**

281. The United States Counter-Memorial argues that Canada's reliance on economic dependence would undermine the peaceful settlement of disputes because, if this consideration were held legally relevant, the "richer" of two States allegedly would never be prepared to submit to *third-party settlement*². Equally, of course, it could be argued that all "relevant circumstances" should be excluded from consideration because, upon examination, they would tend to favour the position of one party over the other, and thus discourage the disadvantaged party from submitting its claim to the scrutiny of impartial adjudication. In reality, the peaceful settlement of disputes would be seriously prejudiced if States were given to understand that certain relevant circumstances would *not* be taken into consideration, just as it would be prejudiced by encouraging extreme boundary claims of the kind advanced by the United States, or by encouraging extreme propositions such as the rejection *ab initio* of any claim that might result in the division of a fishing bank. International adjudication in these circumstances would aggravate the very disputes it was meant to resolve.

282. As was already noted in paragraphs 45 to 48, the United States miscasts the Canadian position by failing to make the simple but essential distinction between economic dependence and relative wealth, between actual exploitation and contingent prospects of exploitation of the resources of the disputed area. Yet, notwithstanding its protestations that relative wealth is not a relevant circumstance, the United States Counter-Memorial, like the United States Memorial, makes frequent

² *United States Counter-Memorial*, p. 215, para. 342 and footnote 2.

appeals to this extraneous consideration³. At one point, for example, the United States Counter-Memorial pleads relative national poverty in resources, as follows:

“The traditional fish stocks along the United States east coast are fully utilized. In contrast to the alternatives available to Nova Scotia fishermen, there is no place for displaced New England fishermen to go⁴.”

Quite apart from the factual inaccuracy of this assertion (the United States Memorial refers to the great flexibility of its fleet to convert to other fisheries and resort to alternative fishing grounds in the period from 1969 to 1978⁵), the presence or absence of fishing grounds outside the relevant area is not a circumstance that ought to be considered in a boundary delimitation. What ought to be considered, in Canada's submission, is a comparison of the established economic interests and the associated economic dependence of the Parties vis-à-vis the area to be delimited.

283. The United States Counter-Memorial seeks to confuse the legally relevant economic factors of presence and dependence in relation to the disputed area, with the legally inadmissible factor of relative national wealth. For example: the United States notes that a Canadian Government task force recently found that fishermen in southwest Nova Scotia are among the most prosperous fishermen in Atlantic Canada⁶. This fact, without more, would be irrelevant. The task force goes on to point out (as the United States does not) that this comparative prosperity is owed in large part to southwest Nova Scotia's continuing access to Georges Bank. The report of the task force not only affirms the direct functional links between Nova Scotia and Georges Bank but measures in concrete terms the value of those links. Without Georges Bank, the prosperity of fishermen in southwest Nova Scotia in comparison with the economic situation of fishermen in the rest of Atlantic Canada would quickly disappear⁷. Thus placed in context, the analysis of the task force becomes relevant.

284. Elsewhere in its Counter-Memorial the United States accepts the distinction between economic dependence and relative

³ *United States Counter-Memorial*, pp. 214-217, paras. 340-348; *United States Counter-Memorial, Socio-Economic Annex*, Vol. III, Annex 4, pp. 35-42, paras. 44-54; Appendix F. The United States Memorial made numerous submissions based essentially on the relative wealth of the two countries. The irrelevance of those contentions was dealt with in Canada's Counter-Memorial. See *Canadian Counter-Memorial*, pp. 115-118, paras. 286-294.

⁴ *United States Counter-Memorial*, p. 216, para. 347.

⁵ *United States Memorial*, p. 50, para. 83.

⁶ *United States Counter-Memorial, Socio-Economic Annex*, Vol. III, Annex 4, p. 36, para. 45 and footnote 3.

⁷ Task Force on Atlantic Fisheries: *Navigating Troubled Waters, A New Policy for the Atlantic Fisheries*. Ottawa, Supply and Services Canada, 1982, pp. 62 and 78. *Reply, Annexes*, Vol. II, Part IV, Annex 66.

national wealth. In relation to Maine and New Hampshire, for example, the United States does its best to establish economic links between these areas and the Georges Bank fishery⁸, even though no significant economic links exist. The United States' own fishery statistics show that less than 1 percent of the catch of Maine and New Hampshire is taken from Georges Bank⁹, while the percentage of their catch from the area actually in dispute is practically non-existent [Figure 10]. Canadian fishermen from as far north as Cape Breton Island catch more fish in the disputed area of Georges Bank than do the fishermen from Maine and New Hampshire¹⁰.

285. In most respects, however, the United States Counter-Memorial altogether ignores any test of relevance for economic factors. Thus, for example, the purported "Standard of Living Comparisons" in Annex 4 of the Annexes to the United States Counter-Memorial (Volume III, Appendix F), are entirely devoted to considerations of "relative national wealth". In this connection, the United States is careful to avoid any comparison of Nova Scotia with Massachusetts, which of course is the only relevant comparison — if such comparisons are to be made at all.

Section II. The United States Counter-Memorial Gives an Inaccurate View of the Relative Presence of the Parties in the Fishery of Georges Bank

286. The elaborate concern with which the United States Counter-Memorial treats the precise measurement of Canada's *presence* in the Georges Bank fishery shows that the United States itself regards such presence as a relevant circumstance of major dimensions. But the United States, in an effort to play down Canada's presence, makes highly selective and inconsistent use of the data.

287. The United States attempts to inflate the importance of its own presence on Georges Bank by using catch data from the whole of ICNAF sub-division 5Ze, of which only 27 percent lies within the disputed area. Catch data from this larger area, of course, are irrelevant to

⁸ The United States presents irrelevant material in support of its contention that fishermen from Maine and New Hampshire fish on Georges Bank, by listing fishing vessels that harvest on Georges Bank *and/or* Jordan Basin. Since the latter fishing area is only 40 nautical miles from the Maine coast and entirely in undisputed United States waters, it is not surprising that vessels from Maine should fish there. It is, however, irrelevant to the dispute. *United States Counter-Memorial, Documentary Annexes*, Vol. V, Annex 25. As to the four Maine fleets that allegedly fish on Georges Bank, no evidence has been introduced to support this contention by the United States.

⁹ From 1969 to 1978, Maine and New Hampshire harvested 0.4 percent of the value of the Georges Bank catch.

¹⁰ In 1978, Canadian fishermen from Canso and Cape Breton Island landed 4,807 metric tons from the disputed portion of Georges Bank. In the same year 2,455 metric tons from this area were landed in Maine and New Hampshire.

the present proceedings¹¹. For the years prior to 1967, the United States actually includes statistics regarding its catches from as far south as Long Island, some 200 nautical miles from any part of Georges Bank claimed by Canada. The distortion of the relevant catch area is aggravated by the United States misleading use of net (meat) weight for scallops and gross (round) weight for all other species, in an attempt to discount the scallop catch, which is of primary importance to Canada.

(139) (140) The cumulative effect of these distortions is evident in Figures 1 and 2 of the Annexes to the United States Counter-Memorial (Volume III, (170) Annex 4). By way of contrast, Canada has prepared *Figure 25*, which is based on the best available catch data for the years in question and which shows the actual state of affairs in relation to the area in dispute.

288. In Canada's view, of course, comparisons of catch weight tell only a small part of the story. A kilogram of lobster or scallops has greater economic significance than a kilogram of dogfish or menhaden. Economic analysis must ultimately concern itself with *value*, not kilograms, yet the United States Counter-Memorial never translates its (171) weight comparisons into terms of economic value. *Figure 26* shows the reason for this omission. Between 1969 and 1978, Canada harvested 73.1 percent of the total value of the catch *from the whole of Georges Bank*. During the same period, Canada harvested 84.2 percent of the total value of the catch *from the area of the Bank under Canadian claim*.

289. The United States rejects the appropriateness of the period from 1969 to 1978 as a basis of comparison of the United States and Canadian fisheries because, in the United States view, Canadian harvesting efforts were unduly successful in those years¹². This position is contradicted by the United States' own acceptance of the period from 1969 to 1978 as the basis for the calculation of many of the entitlements under the 1979 Agreement on East Coast Fishery Resources.

290. The United States now protests that this period is not representative of historic fishing patterns, but is contradicted by its own Environmental Impact Statement on the 1979 fisheries agreement, which noted that the entitlements set out in that agreement "preserve historical fishing patterns¹³", a conclusion that is amply supported by the evidence

(66) ¹¹ In 1967, ICNAF divided Division 5Z into subdivisions 5Ze and 5Zw along longitude 70°W, intersecting the outer arm of Cape Cod and Nantucket Island. This longitudinal line does not, as the United States alleges, "break down catch statistics between Georges Bank (5ZE) and the Nantucket Shoals Area (5ZW)" [*United States Counter-Memorial*, p. 55, Table A]. In fact, Nantucket Shoals and the Great South Channel are included within subarea 5Ze along with Georges Bank. Subarea 5Ze is, in turn, divided into six statistical units. Georges Bank is covered by only four of these: 5Zej, 5Zem, 5Zeh and 5Zen. Nantucket Shoals and the Great South Channel are covered by statistical units 5Zeg and 5Zeo. See *Canadian Counter-Memorial*, p. 102, Figure 25.

¹² *United States Counter-Memorial*, p. 54, para. 71.

¹³ *Draft Environmental Impact Statement on the Agreement Between the United States and Canada on East Coast Fishery Resources*. United States Department of State, Washington, Government Printing Office, April 1980, pp. 7-8. *Reply, Annexes*, Vol. II, Part IV, Annex 61.

contained in Volume II of the Annexes to the Canadian Counter-Memorial. As explained in paragraphs 308 to 313 and in Volume II, Part II of the Annexes to this Reply, the United States is mistaken in alleging that Canada's fishery on Georges Bank did not attain significance until the 1950s.

291. Despite the fact that prior to 1964 no statistical data were collected to measure Canadian fishing activities in the four ICNAF statistical units that together approximately comprise Georges Bank, the United States argues that the relevant period within which to assess the fishing activities of the Parties is not 1969 to 1978 but 1940 to 1981¹⁴. With respect to the period prior to 1964, Canada submits that *unrecorded* activity cannot logically or fairly be characterised as *no* activity. Since 1978, moreover, the relative fishing activities of the Parties have been distorted by the fact that the United States has refrained from imposing effective conservation regulations on its fishermen on Georges Bank¹⁵. Post-1978 catch statistics, therefore, are artificial. The United States should not now benefit from its own failure to take appropriate steps to manage its fishery, particularly since post-1978 catches do not reflect the contemporary interests of the Parties in either relative or absolute terms. In any event, whether the value of the catch from the disputed area is averaged over the years from 1969 to 1978 as Canada

¹⁴ *United States Counter-Memorial, Socio-Economic Annex, Vol. III, Annex 4, p. 4, para. 8.*

¹⁵ There were no restrictions on the United States scallop fleet until 1982. As a result, large vessels moved into the area from the south, harvesting even immature scallops and quickly reducing the economic life of the beds. Even United States fishermen complained: "Wait 'til this summer, . . . They'll wipe us right out with all those boats from down South . . .". [*National Fisherman*, Camden, Maine, May 1980, p. 11.]

Although regulations did exist for groundfish the United States did nothing to enforce them and National Marine Fisheries Service officials "estimated that at least 75 percent of landings came from areas ordered closed to fishing". [M. E. Dewar: *Industry in Trouble*. Philadelphia, Temple University Press, 1983, pp. 183-184.] The situation was aptly described in the United States publication *National Fisherman*:

"Complaints from domestic fishermen about the illegal fishery were answered by helpless pleas from NMFS for vessels or patrol planes and by claims of no funds from the Coast Guard, which was in the middle of its budget battle between the Carter Administration and Congress.

Complaints from Canadian scallopers, observing the illegal harvest in the portion of Georges Bank claimed both by the U.S. and Canadians, got better results.

Officials in Nova Scotia called Canadian fisheries officials in Ottawa; Ottawa called Washington; Washington called the NMFS regional office in Gloucester and Coast Guard headquarters in Boston; and planes and the cutter Unimak were dispatched to keep a better eye on things.

How good an eye? Not very, say the fishermen who are trying to eke out a living without breaking the rules. Some fishing gear was seized and numerous citations were issued to fishermen inside the closed area in late April and early May, but those working legally generally agree the effort failed to significantly reduce the flow of fish from the closed area." [*National Fisherman*, Camden, Maine, July 1980, p. 4.]

See *Reply, Annexes, Vol. II, Part IV, Annexes 62-64.*

suggests, or from 1978 to 1981 as the United States suggests¹⁶, or from 1964 to 1981 *as existing statistics permit*, the result in each case is to demonstrate that Canada's presence on Georges Bank is the most important one [Figure 26].

(171)

292. The significance of the catch data need not be belaboured, nor do the statistics need to be finely weighed down to the last fish. Even the United States view of the data corroborates a sufficient Canadian presence in the Georges Bank fishery over a sufficiently long period of time to make clear the inequitable nature of the United States claim to the whole of Georges Bank and its resources. Canada's traditional participation in the fishery throughout the *whole* of Georges Bank has been far more than commensurate to that portion of the Bank now claimed by Canada. The Canadian line is the only one advanced in these proceedings that is consistent with the relative presence of the Parties in the fishery of Georges Bank, and that would minimize economic disruption for adjacent coastal populations.

Section III. The United States Counter-Memorial Gives an Inaccurate View of the Relative Importance of the Fishery to the Parties; It Errs in Its Portrayal of the Economy of Nova Scotia and of Southwest Nova Scotia in Particular

293. The United States Counter-Memorial and its Annexes (Volume III, Annex 4) refrain from making any meaningful comparison of the relative economic dependence of the Parties on Georges Bank, and play down the importance of the Georges Bank fishery to Nova Scotia to a degree that is not in keeping with the economic realities.

294. The United States attempts to portray Canada's Georges Bank fishery as an artificial creation of Canadian Government policy rather than the product of genuine economic forces, but this contention (even if it were relevant) ignores the following well-documented facts: *first*, such Canadian Government subsidies as did exist from time to time during the relevant period did not help the Canadian offshore fishery in general or the Georges Bank fishery in particular, but promoted the inshore fishery at their expense¹⁷; *secondly*, Canadian Government policies that provided temporary financial assistance to the fishing industry at times when landings were reduced through overfishing by other fleets, and when prices were temporarily low, neither harmed, nor were likely to harm, the United States fisheries, according to determinations made on several occasions by the International Trade Commission (the United States Government body responsible for making such determinations¹⁸);

¹⁶ Canadian fishermen harvested 59.2 percent of the value of the Georges Bank catch in the period 1978 to 1981.

¹⁷ See *Reply, Annexes*, Vol. II, Part I, Appendix 6, pp. 155-158, paras. 3-13 and Documentary Appendix 15.

¹⁸ *Canadian Counter-Memorial*, p. 113, para. 281; *Canadian Counter-Memorial, Annexes*, Vol. IV, Annex 39.

and *thirdly*, the United States Government itself has actively intervened in support of the United States fishermen throughout the life of the Georges Bank fishery, by the imposition of tariff and non-tariff barriers, and by implementing grant, loan and subsidy programs¹⁹.

295. As to the economic dependence of Nova Scotia on Georges Bank, Volume II, Part I of the Annexes to this Reply shows that in terms of *employment* Georges Bank sustains approximately 3,600 full-time jobs in an area where there are few, if any, alternative job opportunities. The precise loss of employment that would be caused by loss of access to the disputed fishing grounds would depend on the number of people who chose to migrate from the region in response to the deterioration in economic conditions. It is likely that the drop in employment would drive up regional *unemployment* by 50 percent²⁰. A significant out-migration, of course, would be disastrous for the coastal communities concerned. The United States Counter-Memorial, in dealing with possible job losses in the United States, does not place these alleged losses in the context of the Massachusetts economy. Accordingly, it is appropriate to point out here that, with or without their present Georges Bank fleets, the communities of Boston, Gloucester and New Bedford would continue to prosper²¹. Assuming, however, that all jobs at risk are in fact lost as a result of the boundary delimitation, the relevant comparison for the Court to make is between the loss of 3,600 jobs in a regional employment base of 47,000 jobs in southwest Nova Scotia (approximately 8 percent of the work force) and the possible loss of 1,500 jobs in a regional employment base of 1,780,300 jobs in eastern Massachusetts (0.08 percent of the work force). In terms of employment, Canada's dependence on the disputed fishing grounds is thus 100 times greater than that of the United States.

296. The United States Counter-Memorial employs unrealistic and arbitrary calculations in its attempts to minimize the number of Nova Scotians dependent for their livelihood on the fishery of Georges Bank²². The assumption that the average fisherman spends 220 days per year at sea²³, for example, takes no account of crew rotation practices prevalent in the offshore fishery, or of the frequently hostile weather conditions that limit the number of days in which the near-shore fishery can operate²⁴.

¹⁹ *Reply, Annexes*, Vol. II, Part I, Appendix 6, pp. 159-164, paras. 14-23.

²⁰ *Reply, Annexes*, Vol. II, Part I, Appendix 1, pp. 34-35, paras. 3-6; p. 41, paras. 9-11.

²¹ *Canadian Counter-Memorial*, pp. 119-120, para. 300; p. 292, para. 697.

²² *United States Counter-Memorial, Socio-Economic Annex*, Vol. III, Annex 4, pp. 12-14, paras. 11-17; Appendix B.

²³ *United States Counter-Memorial, Socio-Economic Annex*, Vol. III, Annex 4, Appendix B, sec. 2, p. 13, Table 1-1980, footnote 4; p. 14, Table 1-1979, footnote 4; p. 15, Table 1-1978, footnote 4; p. 16, Table 1-1977, footnote 4.

²⁴ Fishermen work an average of 12 to 16 hours per day while at sea, which means that a 220-day year would be equal to 1.5 full-time equivalent man-years. For a complete explanation, see *Reply, Annexes*, Vol. II, Part I, Appendix 1, p. 34, para. 4 and footnote 7.

297. Notwithstanding the disagreement on some aspects of these calculations, however, the United States was obliged to concede in its Counter-Memorial (Volume III, Annex 4, Appendix B) that the disputed portion of Georges Bank *supports more jobs and generates more value in Canada* than it does in the United States²⁵. Canada and the United States thus agree on relative impact even if they cannot agree on the absolute number of jobs at risk. The degree of economic dependence of southwest Nova Scotia on the fishery of Georges Bank that is conceded by the United States, while less than its real extent, nonetheless represents a dependence of major significance when compared with (172) other national and regional economies [Figure 27].

298. Although the United States suggests that any impact from the loss of access to Georges Bank would be offset by alternative employment opportunities in Nova Scotia for both vessels and fishermen, the source of this alternative employment is not identified²⁶. As is demonstrated in Volume II, Part I of the Annexes to this Reply, the alternative opportunities suggested in general terms by the United States are illusory²⁷. Even if they did exist, of course, they would not justify the United States claim to the whole of Georges Bank, nor the exclusion of Canadian fishermen from their present activities on the Bank.

299. Using 1980 data, Canada estimates that the contraction of fishing industry operations resulting from loss of access to Georges Bank would produce a direct decline of some \$64 million in Nova Scotia's Gross Domestic Product (GDP)²⁸. The impact of this loss would be concentrated in southwest Nova Scotia, where the corresponding contribution to GDP originates at present. As the initial shock worked its way through the economic system, a further drop in GDP of \$82 million could be expected²⁹. Thus, the total decline in GDP that would result from loss of access to Georges Bank would be in the order of \$146 million. If the whole of this decline were concentrated in southwest Nova Scotia, it would represent a decline in regional GDP of 17 percent. In terms of income dependence, the relevant comparison to make is between a loss of \$146 million in a regional GDP of \$860 million in southwest Nova Scotia against a possible loss of U.S.\$58 million in a regional GDP of U.S.\$51,500 million in eastern Massachusetts (0.1 percent). In practice, all of the loss will not likely be concentrated in the regional economies, and the analysis presented by Canada in Volume II, Part I of the Annexes to this Reply takes into account the possible diffusion of the

²⁵ *United States Counter-Memorial, Socio-Economic Annex*, Vol. III, Annex 4, Appendix B, pp. 2-3, Tables 1 and 2.

²⁶ *United States Counter-Memorial, Socio-Economic Annex*, Vol. III, Annex 4, pp. 42-46, paras. 55-68.

(182) ²⁷ *Reply, Annexes*, Vol. II, Part I, pp. 21-25, paras. 36-49; p. 26, Figure 6.

²⁸ *Reply, Annexes*, Vol. II, Part I, p. 7, para. 9; Appendix 1, p. 32, Table 1; pp. 36-40, paras. 7-8, Tables 4-10.

²⁹ *Reply, Annexes*, Vol. II, Part I, p. 7, para. 10; Appendix 1, p. 41, Table 1, para. 9.

impact through the broader economy. Nevertheless, in income terms, Canada's dependence on the fishing grounds of northeastern Georges Bank is approximately 170 times greater than that of the United States.

300. The United States seeks to divert attention from these economic realities, *first* by understating the facts in relation to Nova Scotia, *secondly* by failing to state the facts in relation to Massachusetts, and *thirdly* by attempting to put such facts as are stated in a totally inappropriate context. For example, the United States attempts to belittle the importance of Canadian fishing on Georges Bank by measuring its (*understated*) economic value against the entire national economy of Canada, while avoiding a similar comparison of the importance of United States fishing in the disputed area to the United States national economy. Such a comparison, of course, would show that the impact of United States fishing in the area could scarcely be detected in the United States economy³⁰. The United States justifies its insistence on "national" rather than regional economies by invoking the *Fisheries* and *Fisheries Jurisdiction* cases. Yet, in the *Fisheries* case, the Court emphasized, as an equitable consideration, the importance of "economic interests peculiar to a region"³¹. [*Italics added.*] And in the *Fisheries Jurisdiction (United Kingdom v. Iceland)* case, the Court emphasized, as a decisive factor to be taken into account, the "economic dependence . . . of whole communities"³². [*Italics added.*]

301. The United States Counter-Memorial tries to minimize the importance of "basic sector" employment to the economy as a whole³³. The Canadian Memorial pointed out that the basic economic sector can be compared to the foundation on which the rest of the economy is supported. The United States Counter-Memorial suggests that the economic superstructure could exist independently of this foundation, as if the people of Nova Scotia could all make a living by taking in each other's laundry after the "basic economy" had collapsed.

302. The Canadian Memorial used a sectoral approach in describing the importance of the fishery for two reasons: *first*, to convey the essential point that the basic sector of any economy generates the exports that provide the foundation for economic growth and development, and *secondly*, to demonstrate the crucial importance of the fishing industry to the vitality of the basic sector of Nova Scotia's economy. The United States denigrates the relative contribution of the fishery to the economy of Nova Scotia without acknowledging that its contribution is *greater* in proportional terms than the contribution of iron and steel to

³⁰ *Reply, Annexes*, Vol. II, Part I, p. 7, paras. 11-12; Appendix 1, p. 33, Table 2.

³¹ *I.C.J. Reports 1951*, p. 133.

³² *I.C.J. Reports 1974*, p. 29, para. 66; pp. 197-198, para. 58.

³³ *United States Counter-Memorial, Socio-Economic Annex*, Vol. III, Annex 4, p. 11, para. 10.

the German or Belgian economy, or wine to the French economy³⁴. Forestry is also a very prominent economic sector in Canada, and is internationally recognized as such, and yet forestry contributes only 0.7 percent of employment and 0.8 percent of GDP to the national economy. (The reason for the importance of these "basic" sectors in driving the economy, of course, is the "multiplier effect" described in Canada's Memorial and Counter-Memorial, and analysed in some detail in ⁽¹⁷²⁾ Volume II, Part I of the Annexes to this Reply.) [Figure 27.]

303. The United States Counter-Memorial attempts to isolate the economic damage that would be created by loss of access to Georges Bank to five major ports where the offshore fleet is based³⁵. The United States apparently assumes that the small vessel fleet scattered in ports along the coast of southwest Nova Scotia never fishes on Georges Bank, notwithstanding its close proximity and the data Canada has presented to the contrary. The United States also appears to assume that an "off-shore" fisherman's home is necessarily in the port where his ship anchors (instead of in the less expensive dormitory communities outside the main ports); that a fisherman's spending power stops at the municipal boundary; and, finally, that the boat builders and suppliers of all types of services to the Canadian fishing effort on Georges Bank are similarly confined to five main ports. These assumptions on the part of the United States are wrong. The Canadian Counter-Memorial and Volume II, Part I of the Annexes to this Reply demonstrate the pervasive economic impact of the offshore fishery *throughout* southwest Nova Scotia³⁶.

³⁴ It is instructive to compare the relevant importance of major industries in other countries in 1978:

	Percentage of GDP
Iron and steel, Germany	2.6
Iron and steel, Belgium	1.4
Wine, France	0.6
Automobiles, Japan	2.3
Automobiles, United States	2.6
Forestry, Canada	0.8

These comparisons underscore the importance that must be attached to basic sector activities. Even the United States would find it difficult to dismiss the above-noted industries as economically insignificant. *OECD Economic Surveys*, 1982, Belgium, Luxembourg, p. 65, Table B. *OECD Economic Surveys*, 1980, Federal Republic of Germany, p. 64, Table A. *Annuaire Statistique de la France*, 1982. Paris, Institut national de la statistique et des études économiques, 1982, p. 227, Tableau 3.01-1. *Statistical Abstract of the United States*, 1981. United States Department of Commerce, Bureau of the Census, p. 424, Table 707. *Japan, Statistical Yearbook*. Tokyo, Statistics Bureau, Prime Minister's Office, July 1982, p. 539, Table 348. *Yearbook of Industrial Statistics*, 1980 Edition, Vol. 1, General Industrial Statistics. New York, United Nations, 1982, pp. 47, 174, 195, 271, 286 and 553. See *Reply, Annexes*, Vol. II, Part IV, Annexes 65-70; *United States Counter-Memorial, Socio-Economic Annex*, Vol. III, Annex 4, Appendix A, Table 2. Employment figures, by sector, have been used to approximate Massachusetts state GDP, by sector. See *Reply, Annexes*, Vol. II, Part I, Appendix 1, p. 49, Table 20.

³⁵ *United States Counter-Memorial, Socio-Economic Annex*, Vol. III, Annex 4, pp. 25-26, para. 25.

³⁶ *Canadian Counter-Memorial*, pp. 121-124, paras. 304-317; *Reply, Annexes*, Vol. II, Part I, pp. 15-17, paras. 21-29.

304. In the "economic analysis" offered in its Counter-Memorial and supporting Annexes, the United States presents data on a provincial and state basis rather than on the basis of the regional economy. Such a change in scale does not affect the overall result. *Figure 28* compares the relative dependence of Nova Scotia and Massachusetts on income derived from fishing activities on Georges Bank. Nor is the overall result changed if relative dependence is re-calculated using the understated and erroneous estimates appearing in the United States Counter-Memorial and its Annexes (Volume III, Annex 4)³⁷. The United States data are used not because they are considered accurate but rather to show that the United States cannot produce evidence to put its claim in an equitable light. *Figure 28* makes clear why the Canadian line would minimize any disturbance to the settled economic patterns of the Parties, while the United States line would grievously damage the economy of southwest Nova Scotia and produce only marginal benefits for Massachusetts.

305. The United States Counter-Memorial attempts to dismiss as inconsequential the economic impact and social costs for southwest Nova Scotia arising from a loss of access to Georges Bank³⁸. It is therefore instructive to compare the magnitude of the economic decline that would be suffered by southwest Nova Scotia with the decline in GDP actually suffered by OECD countries during the recent economic recession. The very real hardships faced by western industrialized nations, such as the United States, were generated by percentage changes in GDP ranging from just +1.9 percent to -1.0 percent³⁹. The decline in regional GDP faced by southwest Nova Scotia resulting from loss of access to Georges Bank would be in excess of 10 percent. The disruption to communities and economic activities would be proportionately more severe. And it would be permanent.

Section IV. The United States Counter-Memorial Does Not Substantiate Its Conclusions Regarding Economic Equities

306. Having presented in the Annexes to its Counter-Memorial (Volume III, Annex 4) an "economic analysis" that avoids addressing most of the relevant economic considerations, the United States asserts that this "analysis leads to the conclusion that, even if economic

³⁷ The ratio of relative dependence, Nova Scotia to Massachusetts, calculated using the United States data, is 17:1. *United States Counter-Memorial, Socio-Economic Annex, Vol. III, Annex 4, Appendix B, pp. 2-3, Tables 1 and 2.*

³⁸ *United States Counter-Memorial*, p. 215, para. 344.

³⁹ In 1981, growth of United States GNP slowed to +1.9 percent, while the aggregate GNP/GDP of all European OECD countries declined by only -0.8 percent. In 1982, United States GNP decreased by -0.9 percent, while the GNP-GDP of the European OECD countries declined by -0.1 percent. *OECD Economic Outlook*, Vol. 33, Organisation for Economic Co-operation and Development, July 1983, p. 44, Table 12. See *Reply, Annexes, Vol. II, Part IV, Annex 71.*

dependence and relative wealth were legally relevant, the adjusted perpendicular line proposed by the United States is a more equitable solution than any boundary crossing Georges Bank⁴⁰".

307. The purported analysis does no such thing. The conclusion stated in the United States Counter-Memorial is not even hinted at — much less supported — by Annex 4, Volume III of the Annexes to the United States Counter-Memorial, which at no point undertakes a comparison of the economic impact of the United States line on Canada with the economic impact of the Canadian line on the United States. Equity requires a weighing of the relevant circumstances and not a selective argument about only one side of the balance sheet. An equitable solution should produce a boundary crossing Georges Bank. The United States Counter-Memorial presents no economic data or argument to suggest a contrary conclusion.

Section V. The United States Counter-Memorial Does Not Impugn Canada's Evidence That the Canadian Georges Bank Fishery Has Deep Historical Roots

308. The United States Counter-Memorial does not refute the Canadian Memorial's presentation of the history of the Canadian fishery on Georges Bank. In response to the unequivocal evidence of Canada's historical fishery on Georges Bank as presented in the Canadian Memorial⁴¹, the United States merely cites the fact that it is not mentioned in a 1945 article on the Canadian fishing industry⁴². This isolated and minor point in no way supports the United States claim that "[i]t can only be assumed that this leading reporter on Canadian fisheries was unaware of any Canadian fishing activity on Georges Bank prior to 1945⁴³". On the contrary, the reporter to whom this quotation refers, F. W. Wallace, is cited in the Canadian Memorial with reference to his 1914 description of the exploitation of Georges Bank by Digby fishing vessels⁴⁴. Indeed, it is likely that Mr. Wallace wrote the 1916 report quoted in the Canadian Memorial that refers to Canadian offshore fishing efforts on Georges Bank⁴⁵. These articles, written at the time of the events they describe, are more cogent evidence of Canadian fishing on Georges Bank than the 1945 article referred to in the United States Counter-Memorial, which was written mostly from memory some 30 years after the events had passed. As stated in the "Foreword" to the 1945 article, Mr. Wallace admitted that "[s]ince printed or written

⁴⁰ *United States Counter-Memorial*, p. 215, para. 343.

⁴¹ *Canadian Memorial*, pp. 83-88, paras. 179-194.

⁴² *United States Counter-Memorial*, pp. 52-53, para. 66.

⁴³ *United States Counter-Memorial*, pp. 52-53, para. 66.

⁴⁴ *Canadian Memorial*, pp. 84-85, para. 184.

⁴⁵ *Canadian Memorial*, pp. 84-85, para. 184.

records are fragmentary, or difficult to secure without lengthy research . . ." it had been necessary for him ". . . to rely to a considerable extent upon memory . . ." for which he made ". . . no claims to infallibility⁴⁶".

309. The Annexes to the United States Counter-Memorial (Volume IV, Annex 7) contain a paragraph-by-paragraph commentary on the history of the Canadian fishery as presented in the Canadian Memorial. This commentary, which is reviewed in detail in Volume II, Part II of the Annexes to this Reply, in no way controverts the direct evidence relied upon by Canada to support its assertions concerning the history of the Georges Bank fishery. It is no answer to call into question the accuracy of newspaper reports and Canadian Government documents⁴⁷. Moreover, the passages quoted in the United States commentary confirm Canada's contentions with respect to the early Canadian swordfish and scallop fisheries⁴⁸. Volume II of the Annexes to the Canadian Counter-Memorial, entitled "A History of the Canadian Fisheries in the Georges Bank Area", reviews in detail the development of the Canadian fishery from its inception in the nineteenth century. This incontrovertible evidence refutes the United States allegation that Canada had no fishery on Georges Bank until the 1950s and that the United States fishery in that area was an exclusive one until that time⁴⁹.

310. The United States attempts to buttress its historical assertions with a statistical graph, reproduced as Figure 8 of its Counter-Memorial, purporting to quantify Canadian and United States groundfish catches by ICNAF subareas for the period 1893 to 1950⁵⁰. The value of this graph depends, of course, upon the accuracy and comprehensiveness of the statistical data on which it is based. The evidence offered by the United States in support of the graph consists entirely of two reports produced by the ICNAF Secretariat in 1952⁵¹, which provide retrospective statistical information on landings of groundfish by all countries fishing in the convention area. These reports are based on sources that *do not measure Canadian catches by area of capture*. Rather, the sources report *landings made at ports adjacent to particular ICNAF subareas*. Hence they provide no basis whatever for a historical comparison of Canadian and United States fish catches from any particular area. Moreover, the ICNAF reports themselves provide no breakdown by

⁴⁶ *United States Counter-Memorial, Analytical Annexes*, Vol. IV, Annex 7, Appendix A, p. 3.

⁴⁷ *United States Counter-Memorial, Analytical Annexes*, Vol. IV, Annex 7, p. 10, para. 15; p. 14, para. 22.

⁴⁸ *United States Counter-Memorial, Analytical Annexes*, Vol. IV, Annex 7, p. 13, para. 21; pp. 17-19, para. 24.

⁴⁹ *United States Memorial*, p. 41, paras. 60-61; p. 49, para. 79; p. 81, para. 133; *United States Counter-Memorial*, pp. 47-48, para. 59; p. 51, para. 63; p. 53, paras. 67-68.

⁵⁰ *United States Counter-Memorial*, p. 49, Figure 8.

⁵¹ *ICNAF, Second Annual Report, for the year 1951-52*, Part 4. St. Andrews, N.B., 1952; *ICNAF, Statistical Bulletin, Vol. 2, for the year 1952*, Part 1. Halifax, N.S., 1954.

ICNAF subarea for pre-1933 catches⁵². The United States assertions concerning this early period, therefore, have no basis in fact. Part II, Volume II of the Annexes to this Reply contains a detailed analysis of the statistical data underlying the ICNAF reports and demonstrates that they do not support the conclusions drawn by the United States⁵³.

311. Several other historical issues raised in the United States Counter-Memorial are dealt with elsewhere in this Reply⁵⁴ or in earlier Canadian pleadings⁵⁵, and need not be pursued in depth at this point. It is sufficient to refer briefly to these issues at this time.

312. The United States again reverts to the legally unprecedented position that statistical areas established under multilateral fisheries agreements are relevant to the delimitation of boundaries⁵⁶, an issue that was dealt with fully in the Canadian Counter-Memorial⁵⁷. The United States seeks to demonstrate the historical importance of the eastern portion of Georges Bank to the United States⁵⁸, overlooking not only the recent statistical evidence⁵⁹, but incontrovertible historical evidence that United States haddock catches — the most important groundfish species — were historically concentrated at the western end of Georges Bank. The United States Counter-Memorial cites isolated examples of historical fishing on Georges Bank from the State of Maine⁶⁰ — none of them really suggesting that as a proportion of the total Maine fishery, or as a proportion of the total United States fishery on Georges Bank, this fishing activity surpassed the negligible levels it has exhibited in recent times⁶¹. The United States depiction of the evolution of the Georges Bank scallop fishery⁶², showing Canadian catches beginning only in 1954, distorts the true historical picture, since it relies on purely

⁵² Furthermore, the table for redfish does not provide a breakdown by subarea until 1936. The graph depicting cod catches, however, appears to, make the assumption that Canadian catches prior to 1933 were taken in subarea 4. No evidence or reasons are offered for this assumption, which appears to be no more than a conjectural effort by the ICNAF statistician to complete the record. *ICNAF, Second Annual Report, for the year 1951-52, Part 4*, pp. 41, 49, 53, 57, 62 and 65; *ICNAF, Statistical Bulletin, Vol. 2, for the year 1952, Part 1*, pp. 10-12. See also *Reply, Annexes, Vol. II, Part II*, pp. 291-292, para. 27; pp. 293-294, para. 30.

⁵³ *Reply, Annexes, Vol. II, Part II*, pp. 290-294, paras. 25-31.

⁵⁴ *Reply*, paras. 97-98; *Reply, Annexes, Vol. II, Part II*, pp. 279-282, paras. 2-9.

⁵⁵ *Canadian Counter-Memorial*, pp. 167-171, paras. 410-415; pp. 178-187, paras. 431-455; *Canadian Counter-Memorial, Annexes, Vol. III, Chaps. III-V*, pp. 23-46, paras. 68-121.

⁵⁶ *United States Counter-Memorial*, p. 83, para. 105; p. 85, Figure 14; p. 87, Figure 15.

⁵⁷ *Canadian Counter-Memorial*, pp. 167-171, paras. 410-415.

⁵⁸ *United States Counter-Memorial*, pp. 63-66, paras. 77-81.

⁵⁹ See *Reply*, para. 288.

⁶⁰ *United States Counter-Memorial*, pp. 66-73, paras. 83-86.

⁶¹ *Reply*, para. 284.

⁶² *United States Counter-Memorial*, p. 61, Figure 10; *United States Counter-Memorial, Documentary Annexes, Vol. V, Annex 20*.

conjectural extrapolations from ICNAF data beginning in 1954⁶³, and overlooks readily available evidence of Canadian scallop catches dating back to at least 1951⁶⁴. Finally, in contending that Canada entered the herring fishery "in the wake of the Soviet Union⁶⁵", the United States appears to forget that it was a Canadian scientific initiative that opened up the fishery to commercial exploitation⁶⁶.

313. Leaving aside the errors in the history of the Georges Bank fishery as presented in the United States Counter-Memorial, nothing can disguise the contemporary reality: that Canada and the United States have broadly equal interests in the fishery of Georges Bank as a whole; that Canada's presence on the eastern portion of the Bank is the leading one; and that in terms of the established economic interests of the inhabitants of the geographically adjacent coasts, Georges Bank has acquired a vital importance for Canada that is without counterpart in the United States.

Conclusion

314. The economic arguments presented in Canada's Memorial, and carried forward and reinforced in Canada's Counter-Memorial, are neither answered nor diminished by the United States Counter-Memorial and its Annexes. On the contrary, the United States concedes Canada's major participation as a coastal State in the contemporary fishery of Georges Bank and further concedes that — whether measured in relative or absolute terms — more jobs and more income are created in Canada by this Canadian fishery than are created in the United States by the corresponding United States fishery. The prospective losses, accordingly, must also be much greater for Canada, especially in the context of the narrowly-based economy of southwest Nova Scotia. The United States also concedes that the Canadian line would leave the greater part of Georges Bank within United States jurisdiction, and does not deny that the Canadian line, accordingly, would cause little disturbance to settled economic activities. Nor does the United States deny that such disturbance as may occur as a result of the Canadian line would be readily absorbed by the economy of New England. Taken together, these concessions are fatal to the United States "economic analysis" and indeed to the United States claim to a monopoly of Georges Bank.

⁶³ *United States Counter-Memorial, Documentary Annexes*, Vol. V, Annex 20, source note.

⁶⁴ See, for example, L. M. Dickie: "Large Boat Fishery," *Annual Report and Investigators' Summaries, 1956*. Fisheries Research Board of Canada, Biological Station, St. Andrews, N.B., pp. 40-41; J. F. Caddy: "Spatial Model for an Exploited Shellfish Population, and its Application to the Georges Bank Scallop Fishery." *Journal of the Fisheries Research Board of Canada*, Vol. 32, No. 8, August 1975, pp. 1305-1328.

⁶⁵ *United States Counter-Memorial*, pp. 53-54, para. 69.

⁶⁶ *Canadian Counter-Memorial*, pp. 171-172, para. 417.

315. The United States Counter-Memorial and its Annexes (Volume II, Annex 7) do not detract from the Canadian presentation on the history of the Canadian fishery on Georges Bank, which was outlined in the Canadian Memorial and Counter-Memorial and reviewed in detail in Volume II of the Annexes to the Canadian Counter-Memorial. Moreover, the United States version of the history of this fishery is based upon alleged evidence that has no probative value in terms of the contentions that the United States is attempting to advance. What emerges from a review of all of the pleadings submitted by the Parties is that Canada's Georges Bank fishery has deep historical roots and that this fishery has developed from the nineteenth century to attain its current leading position in that area.

CHAPTER VI

THE APPROPRIATE METHOD AND EQUITABLE RESULT IN
THE PARTICULAR GEOGRAPHICAL CIRCUMSTANCES
OF THE GULF OF MAINE AREA

Introduction

316. The United States Counter-Memorial seeks to discredit the method of delimitation used by Canada with arguments that miscast the Canadian position, that misinterpret the applicable law, and that both misinterpret and misapply State practice. Here as elsewhere, the United States refutes positions that Canada does not hold. Thus, the United States Counter-Memorial alleges that Canada puts the equidistance method forward as necessarily required or preferred by the applicable law. The United States Counter-Memorial, in criticizing Canada's description of State practice in maritime boundary delimitation gives an erroneous picture of such practice. Through its silence on Article 6 of the Convention on the Continental Shelf, the United States Counter-Memorial ignores the treaty law that is binding on the Parties in the present delimitation and that confers on the equidistance method an obligatory force unless another line is justified by special circumstances.

317. The United States rejection of the Canadian line is based on the view that when a land boundary is situated "within a deep coastal concavity", the equidistance method produces an inequitable result because it cuts off the "primary" coast at the back of the concavity from its "seaward extension" into the open sea area beyond the concavity. The United States, in effect, argues that the *furthest* land dominates the sea at the expense of the *nearest* land, which is to say that one land area dominates the other.

318. The United States seeks to support its contentions by appeals to examples of State practice in what it alleges are two "geographically similar areas". But the areas, when examined, turn out to be significantly different in terms of both physical and political geography. These instances of State practice therefore provide no guidance as to the appropriate method in the particular geographical circumstances of the present case.

319. The United States assertion that the Canadian line produces an inequitable result in the Gulf of Maine area is founded, *first*, on a mistaken view of the effects of concavities and convexities on the course of an equidistance line, and *secondly*, on a selective and incomplete view of the geographical situation in the Gulf of Maine area. When analysed in the context of the actual geographical situation, it is evident that the *Canadian line* — *driven by roughly offsetting geographical configurations on the coasts of the two Parties* — affords equal treatment to corresponding portions of either coast and avoids cutting off either coast from sea areas appurtenant to it.

320. The United States seeks to demonstrate the allegedly disproportionate effect of the Canadian line by excluding from its proportionality calculations the very same Bay of Fundy coastline that it uses to establish the eastern limit of its test area. But the reasons advanced in the United States Counter-Memorial for the exclusion of the Bay of Fundy are contradicted by the inclusion of corresponding sea areas and coasts in the proportionality tests on which the United States relies. Moreover, the exclusion of the Bay of Fundy from the proportionality test is incompatible with the jurisprudence of the Court. When the actual geography of the Gulf of Maine area is taken into account, it is clear that the Canadian line satisfies the test of proportionality, whether expressed in terms of the relative lengths of the coasts of the Parties or in terms of the relative effects of particular geographical features on the course of an equidistance line.

Section I. The United States Counter-Memorial Miscasts the Canadian View of the Equidistance Method in the Present Case

321. The United States Counter-Memorial ascribes to Canada the view that the equidistance method is “inherently more equitable than any other”¹. Canada, it is said, ignores the fact that this view was rejected in the *North Sea Continental Shelf* cases and instead relies upon developments in the law of the sea, including the emergence of the 200-mile exclusive economic zone and State practice.

A. THE UNITED STATES COUNTER-MEMORIAL MAKES UNFOUNDED ASSERTIONS ABOUT THE STATUS OF THE EQUIDISTANCE METHOD IN THE JURISPRUDENCE AND UNDER THE CONVENTION ON THE LAW OF THE SEA

322. That Canada does not regard the equidistance method as “inherent”, or required, or preferred in law, is in fact admitted in the United States Counter-Memorial², which nevertheless proceeds to rebut this proposition as though Canada *did* adhere to it. In doing so, the United States misinterprets the way in which the equidistance method is dealt with in the jurisprudence and fails to elucidate accurately the way in which the Court treated both proximity and equidistance in the *North Sea Continental Shelf* cases. What the Court rejected in those cases was the “idea of absolute proximity” and the notion of inherency, the “fundamentalist” position that would have made equidistance both universal and compulsory, without regard to equitable principles or an equitable result³. The Court, however, clearly did not reject the role of proximity as an important factor and an important test, and it affirmed the value of equidistance as a method of delimitation. In brief, Canada’s position on equidistance is wholly consistent with the views expressed by the

¹ *United States Counter-Memorial*, p. 137, para. 192.

² *United States Counter-Memorial*, p. 137, para. 192.

³ *I.C.J. Reports 1969*, pp. 30-31, paras. 41-42.

Court in 1969⁴ and with subsequent adjudications that have endorsed those views.

323. The *United States Counter-Memorial* also questions the status of the equidistance method in the delimitation of 200-mile zones on the ground that the new Convention on the Law of the Sea (the delimitation provisions of which the United States has specifically declined to recognize as generally applicable under customary international law) makes no mention of this method⁴. This fact is explained — as the United States account itself makes apparent⁵ — by the adoption of the principle of “consensus” as the operating rule of the Third United Nations Conference on the Law of the Sea, and by the avoidance of voting on specific provisions except as a deadlock-breaking mechanism to be used as a last resort. Under the consensus principle, a formula that omitted any reference to “equidistance” or “equitable principles” proved to be the only way of reconciling conflicting views on delimitation. What is most significant in the negotiating history recounted by the United States is that at no point was it even suggested that any other method than equidistance — including perpendicularity — had sufficient general validity to be included in the text.

B. THE UNITED STATES COUNTER-MEMORIAL MAKES UNFOUNDED ASSERTIONS ABOUT THE STATUS OF THE EQUIDISTANCE METHOD IN STATE PRACTICE

324. The *United States Counter-Memorial* alleges that Canada regards State practice as according the equidistance method a legally required or preferred status in law⁶. Again, the Canadian arguments are miscast, but the *United States Counter-Memorial* goes yet further and tries to show that in fact the equidistance method has little support in State practice⁷.

325. The United States argument about the place of the equidistance method in State practice is based on practice relating only to a particular application of that method; that is, the drawing of boundaries that are strict or simplified equidistance lines. It is quite common in maritime boundary delimitations for States to simplify an equidistance line, but these “simplifications” are not limited to the modest adjustments contemplated in the *United States Counter-Memorial*. Indeed, the very first continental shelf boundary ever negotiated — between Venezuela and Trinidad in the Gulf of Paria — is a single straight line which exactly balances the areas between it and the true equidistance

⁴ *United States Counter-Memorial*, p. 144, para. 212.

⁵ *United States Counter-Memorial*, pp. 141-144, paras. 206-212.

⁶ *United States Counter-Memorial*, p. 137, paras. 192-193.

⁷ *United States Counter-Memorial*, pp. 145-146, para. 217.

line, so that each country loses and gains the same area⁸. In other words the parties to the Gulf of Paria agreement established a line that was not an equidistance line but that nevertheless had its origins in the equidistance method. Yet to the United States, the Gulf of Paria agreement has nothing to do with equidistance⁹.

326. The United States fails to recognize that a modified or adjusted equidistance line is as much an application of the equidistance method as what the United States terms a strict or simplified equidistant line. Hence, the United States arguments that purportedly contradict the Canadian position are in fact irrelevant to the basic contention in the Canadian Memorial that "the equidistance method produces an equitable result in the majority of cases"¹⁰.

327. The Canadian Memorial noted that "[o]ut of 94 known maritime boundaries settled by agreement, 66 of them — almost 71 percent of the total — utilize the equidistance principle or a modification thereof for all or part of the boundary"¹¹. The United States attempts to rebut this proposition, but in doing so it misconstrues what was actually done in many boundary delimitations¹² and only succeeds in showing

⁸ *Reply, Annexes*, Vol. I, Part I, p. 10, para. 3. A former member of the United Kingdom Foreign Office has written, "as in the Treaty of 6 February 1942 between Venezuela and the United Kingdom relating to the submarine areas of the Gulf of Paria, it is likely that the median line will be taken as the starting-point for any negotiations about the boundary of the continental shelf". J. A. C. Gutteridge: "The 1958 Geneva Convention on the Continental Shelf." *British Yearbook of International Law*, Vol. XXXV, 1959, p. 120.

⁹ The United States includes the agreement between Venezuela and the United Kingdom relating to the Gulf of Paria in the list of continental shelf or maritime boundaries that do not incorporate equidistance lines. *United States Counter-Memorial, Analytical Annexes*, Vol. IV, Annex 8, Chap. 2, sec. 2, pp. 16-17.

¹⁰ *Canadian Memorial*, p. 151, para. 362. The United States position stands in marked contrast to that of S. P. Jagota who, after a study of 75 agreements delimiting maritime boundaries, concluded in his lectures to the Hague Academy of International Law that "in a large majority of cases States have been satisfied that the median or equidistance line leads to an equitable solution or result", S. P. Jagota: "Maritime Boundary." *Recueil des Cours*, Vol. 171, 1981, Part II, p. 131.

¹¹ *Canadian Memorial*, p. 151, para. 362. The total of 94 boundaries settled by agreement was compiled by counting each signed delimitation agreement separately. Where there was more than one boundary area in a single agreement, as for example in the Mexico-United States agreement covering the Pacific Ocean and the Gulf of Mexico, each boundary area was counted separately. The United States criticized this approach because "several agreements might apply to the same boundary". [*United States Counter-Memorial*, p. 145, footnote 3.] However, many existing agreements delimit only part of the boundary area, and a number of the examples advanced by the United States refer to boundaries that do not extend to the full extent of coastal State jurisdiction. In its list of boundaries that do not incorporate equidistance lines [*United States Counter-Memorial, Analytical Annexes*, Vol. IV, Annex 8, Chap. II, sec. 1, pp. 15-16], the United States counts a single boundary between France and Venezuela twice. The United States also criticizes Canada for including agreements that are not yet in force. In fact, the exclusion of these agreements makes little difference. Almost 71 percent of the agreements in force use the equidistance method or a modification thereof for all or part of the boundary.

¹² See *Reply, Annexes*, Vol. I, Part I, pp. 9-14, paras. 1-14.

that more than 70 percent of 82 boundaries referred to have utilized the equidistance method for the whole or part of their course¹³. Rather than contradicting the Canadian position, the United States presentation confirms and reinforces it.

328. The United States treatment of the way in which the equidistance method is applied, and its failure to recognize the various uses of that method in State practice, is at odds with its own documented practice. The negotiation of the boundary agreement with Cuba has been described by a United States official as follows:

“During the technical discussions, comparable artificial ‘construction lines’ were drawn along the southern Florida coastline. An equidistant line was then calculated by use of the Cuban straight baselines and the artificial construction lines of the United States. Another equidistant line was calculated by use of the relevant base points on the low-water line of the coasts of the two countries. A third line was then created between those two lines, which was not equidistant, but which divided equally the area between them. The final boundary represented a negotiated settlement based on equitable principles¹⁴.”

These comments illustrate the great utility of the equidistance method in the negotiation of maritime boundaries in accordance with equitable principles. As in the Gulf of Paria agreement, an equidistance line provided a touchstone or reference point for the actual construction of the United States-Cuba line.

329. State practice, therefore, demonstrates unequivocally that States have used equidistance far more than any other method, and in that sense it is “preferred” in fact. Moreover, where practice is so consistent and widespread, it indicates that States view the equidistance method as producing an equitable result in the great majority of cases. This was the point made in the Canadian Memorial and it is not gainsaid by the United States Counter-Memorial.

C. THE UNITED STATES COUNTER-MEMORIAL IS SILENT ON THE STATUS OF THE EQUIDISTANCE METHOD UNDER ARTICLE 6 OF THE CONTINENTAL SHELF CONVENTION

330. There is one respect in which equidistance is required and preferred in law. Article 6 of the 1958 Convention on the Continental

¹³ This figure is derived by treating all of the agreed boundaries mentioned in the *United States Counter-Memorial, Analytical Annexes*, Vol. IV, Annex 8, Chap. II, secs. 2 and 3, as boundaries that “utilize the equidistance principle or a modification thereof for all or part of the boundary”. If agreements that are not yet in force are included, there are 92 boundaries, over 66 percent of which have utilized the equidistance method.

¹⁴ R. W. Smith: “The Maritime Boundaries of the United States.” *The Geographical Review*, Vol. 71, No. 4, 1981, p. 402. *Reply, Annexes*, Vol. II, Part IV, Annex 72.

Shelf¹⁵ requires States, in the absence of agreement and special circumstances, to delimit their continental shelf boundaries on the basis of equidistance:

“... under Article 6 the equidistance principle ultimately possesses an obligatory force which it does not have in the same measure under the rules of customary law; for Article 6 makes the application of the equidistance principle a matter of treaty obligation for Parties to the Convention¹⁶.”

While the United States agrees that Canada and the United States are parties to the Convention on the Continental Shelf and that Article 6 is “relevant to this proceeding as a source of principles and rules for delimitation of the continental shelf”¹⁷, it nevertheless avoids addressing the status of the equidistance method in this case as a binding principle of conventional law. Canada affirms the position taken in its Memorial and Counter-Memorial that the “equidistance-special circumstances rule” of Article 6 is applicable to this case as a particular expression of the fundamental norm of delimitation and, moreover, that it has obligatory force to the extent that the delimitation of a single maritime boundary in the present case involves the delimitation of the continental shelf¹⁸.

Section II. The United States Rejection of the Canadian Line Is Founded on an Erroneous Analysis of State Practice and of the Geography of the Gulf of Maine Area

A. THE UNITED STATES ARGUMENTS CONCERNING THE LOCATION OF THE LAND BOUNDARY AND THE INFLUENCE OF THE BACK OF A DEEP COASTAL CONCAVITY WOULD DIVORCE THE DELIMITATION FROM THE COASTS ACTUALLY ABUTTING THE AREA TO BE DELIMITED

331. The equidistance method, according to the United States, prevents the innermost portions of a deep coastal concavity from control-

¹⁵ Article 6 states:

“1. Where the same continental shelf is adjacent to the territories of two or more States whose coasts are opposite each other, the boundary of the continental shelf appertaining to such States shall be determined by agreement between them. In the absence of agreement, and unless another boundary line is justified by special circumstances, the boundary is the median line, every point of which is equidistant from the nearest points of the baselines from which the breadth of the territorial sea of each State is measured.

2. Where the same continental shelf is adjacent to the territories of two adjacent States, the boundary of the continental shelf shall be determined by agreement between them. In the absence of agreement, and unless another boundary line is justified by special circumstances, the boundary shall be determined by application of the principle of equidistance from the nearest points of the baselines from which the breadth of the territorial sea of each State is measured.”

¹⁶ *Anglo-French Continental Shelf award*, p. 48, para. 70.

¹⁷ *United States Memorial*, p. 101, para. 165.

¹⁸ *Canadian Memorial*, p. 120, paras. 281-282; *Canadian Counter-Memorial*, pp. 228-229, paras. 547-551.

(108) ling the course of the line *outside* the concavity¹⁹. Figure 21 of the United States Counter-Memorial is intended to demonstrate this point. In paragraphs 69 to 78 of this Reply, it was pointed out that this view simply represents another version of the United States argument concerning perpendicular extensions of "primary" coasts. For the "back" of a deep three-sided or multi-sided concavity can project itself into the outer area only if the effect of the more proximate coasts that form the opposite sides of the concavity are given a "secondary" status and discounted in drawing the boundary. In arguing that "Canada's line does not take into account the location of the land boundary between the Parties within a deep coastal concavity, in the far northern corner of the Gulf of Maine²⁰", the United States is, in effect, contending that an equidistance line inside a concavity will always produce inequity unless the land boundary lies precisely in the centre of the back of the concavity, dividing the "primary" coast into segments of equal length²¹. For only when that special requirement is satisfied will the geographical circumstances at the back of the Gulf of Maine mirror the geographical situation of the coastal wings, which, under the equidistance method, control the course of the line in the outer area.

332. In fact, the very device used by the United States to illustrate its point demonstrates that the argument is ill-founded. The semi-circle test, analogous to the rule for defining bays, indicates whether the coasts of a concavity are related to the waters outside as well as to those within it²². Figure 21 of the United States Counter-Memorial demonstrates, therefore, that the Gulf of Maine is a deep coastal concavity, with the coasts in the inner area related to the waters of the inner area. The outer area, by contrast, is dominated not by the coasts at the back of the concavity, but by the coastal wings that actually abut the outer area. Figure 21 of the United States Counter-Memorial shows, moreover, that regardless of the position of the land boundary, or of the agreed point of commencement of the maritime boundary, an equidistance line systematically divides the waters *within* the concavity in proportion to the length of the coastlines, a result that is

(108) (108) ¹⁹ *United States Counter-Memorial*, pp. 183-193, paras. 291-302, Figures 21 and 22; see in particular p. 184, para. 294.

²⁰ *United States Counter-Memorial*, p. 183, para. 291.

²¹ *United States Memorial*, p. 173, para. 285.

²² See *Reply*, Chap. II, p. 61, footnote 63.

inevitable because it is equally achieved by the only conceivable application of the perpendicular method to a semi-circular concavity²³ [Figure 29].

333. Beyond the closing line of the concavity, the equidistance line reflects the greater proximity of the two "sides" of the concavity and the balance and symmetry of the coastal wings formed by these two "sides" together with the coasts facing the open sea on either side of the mouth of the concavity. The failure of the back of the concavity to control the line is justified by its comparative remoteness from the outer area. Figure 21 of the United States Counter-Memorial shows that the influence that the back of a concavity exerts upon a delimitation in the outer area is a function of the relative dimensions of the concavity. When the concavity is deep — that is, when its depth is equal to or greater than the radius of the semi-circle having as its diameter the width of the concavity at its mouth — the back of the concavity will *not* control the course of the line in the outer area. However, when the concavity is shallower than the semi-circle, the "tri-point", equidistant from the two coastal wings and the back, moves outside the closing line, and accordingly the back of the concavity will influence the course of the line in the outer area. Thus, it is not because the coasts of Maine and New Hampshire have been "used up" in determining the line in the inner area that they have no influence in the outer area²⁴. They have no influence in the outer area for the very reason that the Gulf of Maine is, as the United States asserts, a deep coastal concavity and that the Maine and New Hampshire coasts, accordingly, are too remote from the outer area to determine the course of the line there.

²³ This conception of the Gulf of Maine as a semicircular concavity ignores the Bay of Fundy. If *both* the Bay of Fundy and the Gulf of Maine were treated as "closed" for the purposes of a proportionality test, the Canadian line more than satisfies the test. For the calculations set out below, the Bay of Fundy was "closed" and the length of the Canadian coastline measured by the straight line from the international boundary terminus to Cape Sable shown in Figures 24 and 25 of the United States Counter-Memorial, the length of the United States coastline on the Gulf of Maine was measured by the straight lines shown in Figure 51 of the Canadian Counter-Memorial, and the Gulf of Maine was "closed" by a line from Cape Sable to Nantucket Island.

Coastline lengths

Canada	100 nautical miles
United States	286 nautical miles

Coastline Ratios

Canada:United States	26:74
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Total Sea Area 25,210 square nautical miles

Sea areas divided by the Canadian line

Canada	5,408 square nautical miles
United States	19,802 square nautical miles

Areal Ratios

Canada:United States	21:79
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²⁴ *United States Counter-Memorial*, pp. 184 and 189, paras. 296-297. The United States erroneously attributes to Canada the argument that the Maine and New Hampshire coasts have no influence on the outer area because they have been "used up" in the inner area. The references to the Canadian Memorial (paras. 340 and 353), on which the United States relies, do not make this argument.

334. The contentions of the United States on the proper effect of the "back of the Gulf", and of the location of land boundaries within coastal concavities, are not supported by State practice in analogous geographical situations. The Gulf of Venice [Figure 30] is similar to the Gulf of Maine area; it is an embayment, a "deep coastal concavity" surrounded by coasts on three sides, opening onto a broader sea. Moreover, it contains an elongated sea area to one side — the Gulf of Trieste — that can be likened to the Bay of Fundy.

335. In the Gulf of Venice, the land boundary between Italy and Yugoslavia terminates on the eastern coast of the Gulf of Trieste, with the result that the "back of the Gulf" is constituted wholly by Italian coastline [Figure 30]. According to the reasoning of the United States, the coast at the "back of the Gulf" projects seaward beyond the Gulf; hence a boundary based on equidistance outside the Gulf would be inequitable because it would deprive the northern coast at the back of the Gulf of its seaward extension.

336. The boundary in the Gulf of Venice does not appear to have been influenced by such considerations. From its commencement at the outer limit of the territorial sea, the boundary is an equidistance line through the Gulf of Venice and out into the Adriatic Sea. Full weight is given to the coasts of both parties within the Gulf of Venice itself and beyond²⁵. The United States argument that equidistance produces a cut-off effect in relation to the coast at the "back of a Gulf", and that the seaward extension of the coast at the "back" projects through and beyond the Gulf, apparently was not perceived as having any merit in this example of State practice.

337. A parallel may also be drawn with the delimitation between Sweden, Norway and Denmark in the Skagerrak²⁶. According to the United States lexicon, the coast of Sweden at the "back" of the Skagerrak, being roughly aligned with a hypothetical general direction of the west coast of Europe, would be a "primary" coast, and the opposite coasts of Norway and Denmark would be "secondary". Yet, in the inner area of the Skagerrak, an equidistance line has been drawn from the "primary" coast of Sweden and the "secondary" coast of Norway. Moreover, the boundary continues seaward into the North Sea as an equidistance line governed by the "secondary" Norwegian and Danish coasts. The "primary" Swedish coast at the back of the concavity does not control the delimitation in the outer area.

²⁵ Some adjustments, necessitated by the presence of small islands in the boundary area, were made to the boundary line as it proceeded through the Adriatic Sea: see *Reply, Annexes*, Vol. I, Part II, p. 146, Figure 17.

²⁶ See *Reply, Annexes*, Vol. I, Part II, p. 130, Figure 14, and p. 156, Figure 19.

B. THE UNITED STATES COUNTER-MEMORIAL MISCONSTRUES STATE PRACTICE IN "GEOGRAPHICALLY SIMILAR AREAS"

338. An erroneous perception of the geography of the Gulf of Maine area has led the United States to invoke State practice in areas it regards as "geographically similar": that is, areas where "the location of the land boundary in relation to a deep coastal concavity would cause an equidistant line to encroach upon the extension of the coastal front of one of the States²⁷". But the areas said by the United States to be geographically similar — the North Sea and the Bay of Biscay — differ fundamentally from the Gulf of Maine area, and the United States has misconstrued significant aspects of these delimitations. Analogies with delimitations in other coastal concavities are of no relevance unless they display a similarity with the Gulf of Maine in terms of both political and physical geography.

339. In any event, the United States has isolated only two examples from a substantial body of State practice, and has given excessive significance to them. The United States contends that these two examples "may illuminate the equitable principles that apply in the case before the Court²⁸". In Canada's view, however, these isolated and readily distinguished examples call to mind the admonition of Judge *ad hoc* Jiménez de Aréchaga in his separate opinion in the *Tunisia-Libya Continental Shelf* case, to the effect that principles adopted in "special agreements accepted by the Parties . . . are not imposed by the general rules of international law which the Court is called upon to identify²⁹ . . .".

1. *The North Sea*

340. The Netherlands-Federal Republic of Germany-Denmark boundary area in the North Sea does not provide an adequate parallel to

²⁷ *United States Counter-Memorial*, pp. 226-227, para. 375. Ironically, the examples of State practice in allegedly similar geographical situations dealt with by the United States demonstrate a point not brought out in the United States Counter-Memorial. This is the complete irrelevance of the perpendicular method to either of the delimitations in question. In neither instance was the perpendicular method adopted, and in neither case could a perpendicular be constructed to any conceivable "general direction of the coast" in the area to be delimited. The suggestion by the United States that the closing line from Cabo Ortegal to Pointe du Raz "represents the general direction of the coast in the vicinity of the Bay of Biscay" [*United States Counter-Memorial*, pp. 255-256, para. 396] must be based upon some hypothetical macrogeographical general direction of the coasts.

²⁸ *United States Counter-Memorial*, p. 226, para. 374.

²⁹ *I.C.J. Reports 1982*, p. 130, para. 99. This caution against seeking to derive general principles from individual examples of State practice applies *a fortiori* to attempts to derive rules or principles from the *absence* of State practice as the United States tries to do. Thus, the United States argues that since only 25 percent of potential maritime boundaries have been delimited, it is possible to conclude that the equidistance method has been used in less than 8 percent of "the maritime boundary situations". *United States Counter-Memorial*, pp. 145-146, para. 217.

the Gulf of Maine area, *first*, because its physical geography is dissimilar — the concavity is two-sided rather than multi-sided — and *secondly*, because its political geography bears no comparison with the Gulf of Maine area at all. Indeed, the judgment of the Court in the *North Sea Continental Shelf* cases stressed the fact that the inequity wrought by the equidistance method in that area was occasioned by the existence of *three States*, with the German coast having a recessive or concave configuration in relation to the moderately convex coasts of Denmark and the Netherlands on either side:

“It will be observed that neither of the [equidistance] lines in question, taken by itself, would produce this [inequitable and disproportionate cut-off] effect, but only both of them together³⁰ . . .”

Thus, the United States can only draw a parallel between the North Sea and the Gulf of Maine by viewing Massachusetts and Maine-New Hampshire as separate nation-States. This only highlights the lack of similarity between the Gulf of Maine and the North Sea areas.

341. But even if the North Sea had not involved three States, the parallel would be defective, for in focusing on the concavity of its own coast, the United States has overlooked the fact that Canada possesses a considerably more pronounced concave feature. A true analogy would have to take into account the concavity on the Canadian side as well as the concavity on the United States side. In a hypothetical situation where one or more States fronted on the innermost sector of the Gulf of Maine, while other States fronted on the convex portions of the coastal wings of Nova Scotia and Massachusetts, the State most prejudiced by the application of the equidistance method would be the State with a coastline on the Bay of Fundy³¹.

342. An equally significant distinction between the North Sea and the Gulf of Maine area is that the land boundary in the Gulf of Maine area is situated deep within the interior of the concavity, or, as

³⁰ *I.C.J. Reports 1969*, p. 17, para. 7. See also *I.C.J. Reports 1969*, pp. 17-18, para. 8 and pp. 49-50, para. 91, where the Court states:

“But in the present case there are three States whose North Sea coastlines are in fact comparable in length and which, therefore, have been given broadly equal treatment by nature except that the configuration of one of the coastlines would, if the equidistance method is used, deny to one of these States treatment equal or comparable to that given the other two.”

Judge Padilla Nervo in his Separate Opinion said, “if these lines were taken separately and in isolation there would be no problem: it is the *simultaneous* existence of both lines, if constructed throughout on equidistance principles, that leads to an inequitable result . . . It is the existence of the three coasts with Germany in the middle (and its coastal configuration) which creates the problem”. *I.C.J. Reports 1969*, p. 89. See also the Separate Opinion of President Bustamante y Rivero, *I.C.J. Reports 1969*, pp. 61-62.

³¹ See *Canadian Counter-Memorial*, pp. 49-50, paras. 118-119.

the United States repeatedly though erroneously asserts, "in the far corner" of the concavity³². Contrary to the assertions of the United States, the land boundaries between the Federal Republic of Germany and its neighbours do not reach the sea "in a corner of a large coastal concavity³³", but rather on both flanks of a two-sided, approximately right-angled concavity [Figure 31B]. It was this location of the land boundaries at both ends of the right-angled concavity in the German coast that caused the two equidistance lines to converge at a relatively short distance from the recessive German coast, producing the cut-off effect which the Court considered inequitable. As can be seen in Figure 31A, the application of the perpendicular method advocated by the United States would have produced the same cut-off effect as the equidistance method. This demonstrates the very special nature of the circumstances prevailing in the North Sea, as a result of a *particular conjunction of physical and political geography*.

343. A glance at the map shows that if the land boundary had been located in the innermost corner of the concavity on the North Sea coast, the equidistance method would have produced a perfectly reasonable result [Figures 31C and 31D]. Under such conditions — a function of the relation of the land boundary to the coastal configuration — the effects of the two-sided concavity and the relatively convex coasts on either side are shared more or less equally. Neither the concavity nor the convexity on one coast unduly deflects the course of the equidistance line, because the effects of both are balanced by the corresponding features on the other coast. A comparison of the North Sea and Gulf of Maine areas shows that, even on the basis of the United States view of geography — that is, ignoring the Bay of Fundy — the equidistance line produces an equitable result in the Gulf of Maine area [Figure 32].

2. The Bay of Biscay

344. The United States assertion that the Bay of Biscay is geographically similar to the Gulf of Maine rests on the contention that "[i]n both cases, the concavity is roughly three-sided³⁴". Such a position is dependent upon the exclusion of the Bay of Fundy, for only by ignoring the Bay of Fundy is the United States able to contend that the international boundary in the Gulf of Maine "reaches the sea in the far corner of a large coastal concavity³⁵", and that the Spanish coast on the Bay of Biscay is longer than the Canadian coast on the Gulf of Maine.

³² *United States Memorial*, p. 19, para. 25; pp. 170 and 173, paras. 284-285; *United States Counter-Memorial*, pp. 3-4 and 7, para. 7; p. 14, para. 17; p. 23, para. 30; pp. 183-184, paras. 290-292; pp. 226-227, para. 375; p. 245, para. 388; p. 262, para. 407.

³³ *United States Counter-Memorial*, p. 262, para. 407.

³⁴ *United States Counter-Memorial*, p. 245, para. 388.

³⁵ *United States Counter-Memorial*, p. 245, para. 388.

345. The United States also asserts that "in the Bay of Biscay, there are no geomorphological features of a significance equivalent to that of the Northeast Channel³⁶ . . .". This proposition is at odds with the facts. Close to the coast in the Bay of Biscay lies the Cap Breton Canyon, a geomorphological feature considerably more pronounced than the Northeast Channel³⁷. Moreover, the United States assertion and the absence of bathymetric contours on the numerous maps of the Bay of Biscay in its Counter-Memorial mask the fact that among the most important characteristics of the Bay of Biscay area are, *first*, the great depths to which the seabed descends and, *secondly*, the marked difference in the width of the French and Spanish continental shelves. In implying that the geomorphology of the Gulf of Maine area is more significant than that of the Bay of Biscay, the United States disregards the fact that it was precisely the physical structure of the seabed that dominated the negotiations between France and Spain and provided the essential rationale for the boundary.

346. The United States Counter-Memorial implies that the rationale for the delimitation of the Bay of Biscay was found in coastal geography. But a different explanation of the Bay of Biscay line is given in the article (annexed to the United States Counter-Memorial) by Professor José Luis de Azcárraga. This adviser to the Spanish delegation in the boundary negotiations wrote as follows:

"Accordingly, the line joining points R and T, which is seemingly unfair to our interests, is virtually the median line equidistant between the isobath curves at equal depths. The special circumstances of France's obvious advantage [*sic*] shelf size . . . dominated the negotiations³⁸."

347. An examination of the boundary in the Bay of Biscay shows that the parties used an equidistance line to Point R at the foot of the continental slope, some 3,600 metres in depth. The line crosses over and (178) *ignores* the Cap Breton Canyon [Figure 33]. An equidistance line seaward of Point R would *ascend* the French continental slope, a result that is avoided by the change in direction of the line at Point R. The line then crosses the 4,500-metre isobath at right angles and proceeds seaward in a straight line intersecting the hypothetical closing line at Point T, *where it is equidistant from the 4,500-metre isobath on the French and Spanish seafloor*. The line effects a roughly equal division of the sea floor beyond the 4,500-metre isobath³⁹.

³⁶ *United States Counter-Memorial*, p. 245, para. 389.

³⁷ The Cap Breton Canyon varies in depth from 236 to 1,330 metres. Where it is crossed by the Franco-Spanish continental shelf boundary, the Canyon has a depth of 820 metres and a width of 5½ nautical miles. The Northeast Channel has a depth of about 250 metres and varies in width from 20 to 25 nautical miles. For a comparative portrayal of the two features, see *Canadian Counter-Memorial*, p. 74, Figure 18.

(60) ³⁸ J. L. de Azcárraga: "España Suscribe, con Francia e Italia, Dos Convenios sobre Delimitacion de sus Plataformas Submarinas Comunes." *Revista española de derecho internacional*, Vol. XXVIII, pp. 131-138. Reproduced and translated in *United States Counter-Memorial, Analytical Annexes*, Vol. IV, Annex 10, Appendix A, p. 4.

³⁹ The delimitation in the Bay of Biscay is analysed in more detail in *Reply, Annexes*, Vol. I, Part 1, pp. 13-16, paras. 15-22.

348. The United States sees in the Bay of Biscay delimitation a rejection of the equidistance method because an equidistance line was used for only 44 percent of the distance from the land boundary to the closing line⁴⁰. *Figure 33B*, however, shows that an equidistance line was used to the end of the common continental shelf and slope, and that even beyond that point the equidistance principle was employed, for the boundary from Point R to Point T is a straight line joining a point equidistant from the coasts and a point equidistant from isobathic contours. The very different configuration of the continental shelf in the Gulf of Maine area is demonstrated by the fact that depths equivalent to those at Point R are only found well to seaward of the terminus of the Canadian line. The seaward limit of Georges Bank lies at a depth equivalent to Point Q3 in the Bay of Biscay delimitation [*Figure 33A*].

349. The United States considers that the Bay of Biscay delimitation reinforces the importance of proportionality. It also states that “perhaps [the] most important point relevant to the delimitation of the Gulf of Maine area concerns the manner in which the Bay of Biscay boundary respects the coastal fronts of France and Spain⁴¹”. The Bay of Biscay boundary is said to “exemplify the principle that a boundary should not cut off the seaward extension of the parties’ coastal fronts”, and to “illustrate the manner in which coastal fronts should be extended in situations where the land boundary meets the sea within a deep coastal concavity⁴²”. But all this presupposes that the delimitation seaward of Point R was based on the configuration of the coast — a presumption clearly at odds with the explanation provided by Professor de Azcárraga.

350. In short, the United States seeks to use this single instance of State practice in the delimitation of the continental shelf, where the nature of the seabed itself decisively influenced the line agreed to by the parties, to draw conclusions about the determination of a single maritime boundary in the Gulf of Maine area, where the delimitation of the water column is of critical significance, and where the seabed bears no resemblance to that in the Bay of Biscay. The parallel fails both in terms of its alleged geographical similarity and in terms of the “illumination”⁴³ that it is meant to provide.

C. THE UNITED STATES REJECTION OF THE CANADIAN LINE IS
BASED UPON A MISUNDERSTANDING OF THE EFFECTS OF
CONCAVITIES AND CONVEXITIES ON AN EQUIDISTANCE LINE
IN THE GULF OF MAINE AREA

351. The United States argument that the Canadian line is inappropriate is founded on the view that an equidistance line will always

⁴⁰ *United States Counter-Memorial*, pp. 245-246, para. 391.

⁴¹ *United States Counter-Memorial*, p. 255, para. 394.

⁴² *United States Counter-Memorial*, pp. 261-262, para. 404.

⁴³ *United States Counter-Memorial*, p. 226, para. 374.

produce inequity when the land boundary reaches the sea "within a deep coastal concavity"⁴⁴. This view is based on a misconception of the effect of concavities and convexities upon an equidistance line, and of the way in which the Canadian line responds to the geography of the Gulf of Maine area.

352. In the case of a delimitation between a long recessive coast and a shorter convex coast (which is how the United States erroneously characterizes the United States and Canadian coasts), an equidistance line will tend to swing in front of the recessive coast. This geographical perspective and the cut-off effect it produces are illustrated in Figure 25 of the United States Memorial and *Figure 34A* of this Reply. Although in *Figure 34A* the cut-off in the area immediately off coasts YX and XS is shared equally by the two coastal States, as the line progresses seaward segment ZY of the longer coast continues to be cut off.

353. This simple model does not at all resemble the actual geographical situation in the Gulf of Maine area, for it ignores the fact that there is a third side to the coastal concavity constituted by the eastwardfacing, convex coast of southern Maine, New Hampshire and Massachusetts. The addition of this third side fundamentally alters the geographical perspective, turning what would otherwise be a two-sided, right-angled indentation, similar to that in the North Sea cases, into a three-sided, well defined gulf. By turning the equidistance line at Point T out to sea, away from the long recessive coast at the back of the gulf, coast RW eliminates the cut-off of coast WY [*Figure 34B*]. The length of coast YX equals the length of coast XS, and the equidistance line bisects the angle formed by these coasts. Any cut-off is therefore shared equally. The *equal* treatment of two coasts of *equal* length cannot result in one coast cutting off the other, unless it is assumed that the coasts are *unequal* on the basis of some geographical or legal thesis of "primary" and "secondary" coasts. *Figure 34B* demonstrates that there is no cut-off of the United States coast that is not equally shared by Canada, even if the coast of the Bay of Fundy were to be ignored, as the United States proposes without justification⁴⁵.

354. The model in *Figure 34B*, however, does not represent the actual geography of the Gulf of Maine area, precisely because it omits the Bay of Fundy. Once this feature is added [*Figure 34C*], it is evident that the real length of the Canadian coast from the international boundary terminus to Cape Sable (when measured according to its general direction) is some 298 nautical miles, almost three times the length of

⁴⁴ *United States Counter-Memorial*, pp. 183-184, paras. 291-292 and 294; p. 189, para. 297; pp. 226-227, paras. 375-376; p. 262, para. 407.

⁴⁵ From the western entrance to Penobscot Bay immediately opposite Matinicus Rock (the last basepoint on the Maine coast used to construct the Canadian line), to the international boundary terminus, the length of the United States coast, measured by means of a straight line, is 103 nautical miles. From Cape Sable to the international boundary terminus, the length of the Canadian coast, measured by a straight line, is 100 nautical miles.

the corresponding United States coastline from the international boundary terminus to the western entrance of Penobscot Bay⁴⁶. The United States, accordingly, suffers no inequity from an equidistance line within the Gulf of Maine; the reasonable nature of the Canadian line is manifest.

355. In any event, the contention that the Canadian line cuts off the United States coast from sea areas appurtenant to it is incompatible with the conduct of the United States. Both the 1976 Northeast Channel line and the 1974 "lobster line" (used by the United States to enforce its claims to jurisdiction over the living organisms of the continental shelf)⁴⁷ swing "in front of" the United States coast, approaching far closer to the coast of Maine than does the Canadian line [Figure 35]. These lines, which established the limits within which the United States claimed jurisdiction over the continental shelf for a period of eight years, make nonsense of the argument, advanced for the first time in the present proceedings, that the Canadian line cuts off the coast of Maine from its seaward extension.

356. If the Canadian line does not produce an inequitable cut-off effect of the coast of Maine within the Gulf, it cannot suddenly produce such an effect outside the Gulf. In the outer area, the equidistance line is controlled by the opposite and essentially symmetrical coastal wings of Nova Scotia and Massachusetts that actually abut the area to be delimited, rather than by the remote coasts at the back of the "deep coastal concavity"⁴⁸. At the northern edge of Georges Bank, the line changes from a *southwesterly* to a *southeasterly* direction, turning back towards the Canadian coast in response to the convex coastal wing of Massachusetts. However, if Cape Cod were to be used as a controlling coast, the change in direction of the line would occur at a point significantly further to the north and east⁴⁹ [Figures 34D and 34E]. It is these incidental

⁴⁶ The Canadian coast has been measured by means of straight lines from the international boundary terminus to Cape Maringouin, Cape Maringouin to Cape Split, Cape Split to Digby, Digby to Cape St. Marys and Cape St. Marys to Cape Sable. See *Canadian Counter-Memorial*, Figure 7; pp. 56-58, paras. 138-140 and footnotes 82-86.

⁴⁷ *United States Memorial*, pp. 84-85, paras. 144-145; p. 87, Figure 16.

⁴⁸ The line emerges from the Gulf near the midpoint between the coastal wings. This result is consistent with the delimitations in the Gulf of Venice [Figure 30] and in the Skagerrak [see *Reply, Annexes*, Vol. I, p. 130, Figure 14] where the boundary emerged from a concavity into a more open sea area at the midpoint between the coastal wings, regardless of the positioning of the land boundary within the concavity. This result is also consistent with the delimitation between Norway and the Soviet Union in the Varangerfjord, where even though the length of the Norwegian coast bordering the concavity is 3.7 times the length of the Soviet coast, the boundary intersects the midpoint of the hypothetical closing line drawn between the coastal wings at the mouth of the concavity. *Reply, Annexes*, Vol. I, Part II, p. 78, Figure 4.

⁴⁹ The change in direction of the Canadian line occurs at turning point 50, the "tripoint" between the coasts of Nova Scotia, Massachusetts and Maine, which is controlled by basepoints on rocks off Seal Island, at the eastern entrance to the Cape Cod Canal, and on Matinicus Rock. If Cape Cod itself were given full effect, the line would change direction 21.5 nautical miles to the northeast at a point two nautical miles seaward of turning point 49. See *Canadian Memorial*, p. 144, para. 348; Figures 32 and 33; and Chart 4003E in the pocket.

special features protruding from the United States coastal wing, in the absence of any corresponding features on the Canadian coastal wing, that have a disproportionate effect on an equidistance line in the Gulf of Maine area, cutting off Nova Scotia from sea areas naturally appertaining to it on the basis of adjacency, proximity, and genuine links.

357. The symmetry of the coastal wings vis-à-vis the outer area is a function not only of the configuration of the coasts, but also of the physical and human links between these coasts and Georges Bank. The Canadian line therefore produces a balanced, reasonable and equitable result in the light of *all* the relevant geographical circumstances⁵⁰.

Section III. The United States Contentions Concerning Proportionality Are Based on a Selective Refashioning of Geography

358. The United States arguments for excluding the coast of the Bay of Fundy from calculations of proportionality are incompatible with other aspects of the United States case and, moreover, are internally inconsistent. The Canadian Counter-Memorial has demonstrated the contradictions in the United States position on the relevance of the Bay of Fundy⁵¹. The United States specifically identifies the Fundy coast as a major geographical feature forming part of the Gulf of Maine area⁵², gives it a central role in its method of delimitation⁵³, and uses it to establish the eastern limit of the area within which it applies its proportionality test⁵⁴. But then the United States proceeds to exclude the very same coast from its calculations of proportionality.

359. The United States Counter-Memorial advances three arguments against the inclusion of the Bay of Fundy in a proportionality test,

⁵⁰ For a detailed description of the construction of the Canadian line and an analysis of the manner in which it reflects the coastal geography of the Gulf of Maine area, see *Canadian Memorial*, pp. 136-147, paras. 327-356; pp. 156-157, paras. 376-379; *Canadian Counter-Memorial*, pp. 286-290, paras. 683-692.

⁵¹ *Canadian Counter-Memorial*, pp. 51-53, paras. 124-125; pp. 281-282, paras. 668-671. In its Counter-Memorial the United States argues that the Bay of Fundy is not regarded as part of the Gulf of Maine by the International Hydrographic Organization, *United States Counter-Memorial*, p. 14, footnote 2; p. 195, footnote 4. In fact the evidence submitted in support of this proposition [*United States Counter-Memorial, Documentary Annexes*, Vol. V, Annex 11] does not provide a definition of the Gulf of Maine, but only of the Bay of Fundy.

⁵² *United States Memorial*, p. 19, para. 25.

⁵³ The United States line is drawn perpendicular to what is allegedly "the general direction of the North American coast in the vicinity of the land boundary": "In the interior of the Gulf, the coast in the vicinity of the international boundary terminus forms a straight line from Cape Ann, Massachusetts to the Chignecto Isthmus, along a bearing of 54.5°." Thus, 42 percent of the length of the baseline from which the "adjusted perpendicular line" is constructed lies within the Bay of Fundy. *United States Memorial*, p. 170, para. 283; Figures 26 and 27.

⁵⁴ *United States Memorial*, p. 192, para. 312; *United States Counter-Memorial*, p. 196, para. 309.

of which the first two are essentially different formulations of the same point⁵⁵. The United States contends, *first*, that this area should be excluded from consideration because the Bay of Fundy is not being delimited in this case, and *secondly*, that jurisdiction within the Bay of Fundy is not contested. In fact, the same propositions are equally true of most of the area enclosed in the United States proportionality tests — Browns Bank; the whole of the western half of the Gulf of Maine and of Georges Bank; and the area off the Atlantic coast of Nova Scotia north-east of Cape Sable. All are equally areas of undisputed jurisdiction in which no question of delimitation arises. Yet the United States has included them in its test. The same objection, raised by one of the parties in the *Tunisia-Libya Continental Shelf* case, was rejected by the Court in the following terms:

“The question raised by Tunisia: ‘how could the equitable character of a delimitation of the continental shelf be determined by reference to the degree of proportionality between areas which are not the subject of that delimitation?’ is beside the point; since it is a question of proportionality, the only absolute requirement of equity is that one should compare like with like⁵⁶.”

360. The *third* argument advanced by the United States is that the coastlines of the Bay of Fundy do not face the area being delimited⁵⁷. Again, however, the United States casts doubt on its own criteria. The United States has included in its proportionality test area the Atlantic coast of Nova Scotia from Cape Sable to a point east of Halifax, as well as the coast of western Maine from Penobscot Bay to Cape Elizabeth. None of this coastline “faces” the area being delimited, except in the obvious (but important) sense that it abuts or faces onto the “relevant area”. But this is no less true of the Bay of Fundy and its coasts, which have been identified by both Parties as forming part of the area relevant to this delimitation.

361. Not only is the United States argument self-contradictory; it is unsupported by legal principle or precedent. It is, of course, true that the coasts of the Bay of Fundy face each other — as do the sides of any bay or gulf of substantial depth or penetration. It cannot be said to follow that all concavities, whatever their scale and depth, are to be treated as closed in applying the proportionality test. On the contrary, when the scale and configuration of a bay or gulf are such that it forms one of the essential features of the area, as does the Bay of Fundy⁵⁸, its coasts and waters should be taken into account in any proportionality test.

362. The use of a straight line to measure the coastline according to its general direction for purposes of the proportionality test was “one method” suggested by the Court in the *North Sea Continental Shelf*

⁵⁵ *United States Counter-Memorial*, p. 195, para. 307.

⁵⁶ *I.C.J. Reports 1982*, p. 76, para. 104.

⁵⁷ *United States Counter-Memorial*, p. 195, para. 307.

⁵⁸ See *Canadian Counter-Memorial*, pp. 53-54, paras. 126-130; Figure 13.

cases⁵⁹. But the intent was not to refashion geography, as the United States seeks to do with a closing line across the Bay of Fundy, but rather to give a truer expression to dominant trends by simplifying the coastal configuration through the elimination of irregularities and incidental deviations. The straight line method was suggested by the Court as a means of establishing a "necessary balance" between States with straight coasts, and those with markedly concave or convex coasts, so as to reduce very irregular coastlines to their "truer proportions"⁶⁰. Since the purpose of such a line is to measure the coast "according to its general direction", a single line may be used if the coast has a single general direction; but if it has one or more major changes in direction, a series of lines corresponding to the number of such changes must be drawn.

363. In practice, this means that minor coastal irregularities or shallow concavities may be straightened out, provided that this does not represent an excessive departure from the general direction of the coast within the concavity. But a gulf or bay whose coasts are extensive and diverge significantly from the direction of surrounding coasts must be represented by a series of straight lines. The United States closing line across the Bay of Fundy is almost at right angles to two Canadian coastlines, each more than 100 nautical miles in length; thus, it manifestly disregards the actual general direction of the Canadian coast. By substituting a closing line of 51 nautical miles for an actual coastline of 249 nautical miles (when measured according to its general direction) the United States reduces the length of the Canadian coastline in the Bay of Fundy by 80 percent. This in turn reduces the Canadian coastline within the Gulf of Maine from 298 nautical miles to 100 nautical miles, that is, by 67 percent⁶¹. The United States proportionality test, therefore, measures nothing more than the length of its own artificial lines.

364. The United States approach is incompatible with the manner in which the Court applied the proportionality test in the *Tunisia-Libya Continental Shelf* case. The Court measured the coast both following its sinuosities and by a series of straight lines. In measuring the Tunisian coast under the latter method, the Court drew two straight lines to the *innermost point of the Gulf of Gabes* — thus measuring the Tunisian coast within the concavity according to its general direction⁶². It cannot be suggested that the coast of the inner portion of the Gulf of Gabes (west of Jerba and the Kerkennahs) "faces" toward the area being delimited, in the sense implied in the United States argument regarding the Bay of Fundy. Judicial support for the United States position would have required a line across the Gulf of Gabes drawn from Ras Ajdir (or Jerba or the Zarzis peninsula) to Ras Kaboudia. That the

⁵⁹ *I.C.J. Reports 1969*, p. 52, para. 98.

⁶⁰ *I.C.J. Reports 1969*, p. 52, para. 98.

⁶¹ These calculations are based upon straight lines connecting points where there is a major change in the coastal direction. See p. 158, footnote 46.

⁶² *I.C.J. Reports 1982*, p. 91, para. 131.

Court took the opposite approach in the only case in which it has actually applied a proportionality test shows the United States position to be untenable. For, as the Court stated:

“... the element of proportionality is related to lengths of the coasts of the States concerned, not to straight baselines drawn around those coasts⁶³.”

365. The arbitrary tests used in the United States Memorial have now been supplemented in the United States Counter-Memorial by a test based on the 1000-fathom contour⁶⁴, a seaward limit that has no relation to the history of the dispute, to the Special Agreement, or to the applicable law in the present case. The United States contends that this limit is “reasonable”, without explaining why, and that it “rebutts the Canadian suggestion that the outer limit is indeterminate⁶⁵”, without explaining the basis on which the 1000-fathom contour constitutes a limit to the area to be delimited. This new test, like the one presented in the United States Memorial, uses the coast of the Bay of Fundy to establish the eastern limit of the test area, but excludes that same coast from its proportionality calculations. Canada has been unable to verify the calculations given for this proportionality test. According to Canada’s calculations, even the arbitrary test proposed by the United States shows that the Canadian line meets the test of a “reasonable degree of proportionality” by reference to the parameters accepted by the Court in applying the proportionality test in the *Tunisia-Libya Continental Shelf* case⁶⁶.

366. In contrast to the arbitrary tests presented by the United States, the Canadian Counter-Memorial has presented tests of proportionality in the Gulf of Maine area based on geographical criteria set out

⁶³ *I.C.J. Reports 1982*, p. 76, para. 104.

(110) (111) ⁶⁴ *United States Counter-Memorial*, Figures 24 and 25.

⁶⁵ *United States Counter-Memorial*, p. 197, para. 311.

⁶⁶ According to Canada’s calculations, the sea areas beyond the low-water mark contained in the United States proportionality test (i.e., excluding the Bay of Fundy) total 63,469 square nautical miles. The Canadian line would allocate 33,440 square nautical miles to Canada and 30,029 square nautical miles to the United States, in a ratio of 52.7:47.3. This compares with coastal front ratios of Canada:United States 43.4:56.6. Thus, under the United States proportionality test, the difference between the coastal front ratios and the sea area ratios is 9.3 percent. In the proportionality test applied by the Court in the *Tunisia-Libya Continental Shelf* case, the difference between the coastline ratios (31:69) and the ratios of the seabed areas below the low water mark appertaining to each State following the method indicated by the Court (40:60), was 9 percent. *I.C.J. Reports 1982*, p. 91, para. 131. If the United States had used the 200-fathom contour, instead of the 1000-fathom contour, as the seaward limit of its test area, the total sea area of 57,747 square nautical miles would be divided by the Canadian line so as to allocate to Canada 28,648 square nautical miles, and to the United States 29,099 square nautical miles, a ratio of 49.6:50.4. The difference between the coastal front ratios (43.4:56.6) and the sea area ratios would then be 6.3 percent.

in works cited in the United States Memorial and on legal criteria identified in the Special Agreement and in the jurisprudence of the Court⁶⁷. These tests indicate the proportionate and equitable character of the result produced by the Canadian line.

367. In its consideration of proportionality, the United States continues to overlook the proportionate or disproportionate effects that particular geographical features can have on the course of an equidistance line. Canada has applied this test of proportionality to the features alleged by either Party to have an inequitable effect on the course of an equidistance line, and has demonstrated that Cape Cod and Nantucket Island have an effect altogether disproportionate to their size and their real links to the area to be delimited⁶⁸.

Conclusion

368. The Canadian line emerges from the application of a method of delimitation that is founded in the jurisprudence and State practice of maritime boundaries, in the treaty relations of the Parties, in the diplomatic history of their jurisdictional claims, and in their conduct relating to the continental shelf in the Gulf of Maine area. But the Canadian line finds its justification not in the application of a particular method, but in its faithful reflection of the actual geographical relationship of the Parties in the area to be delimited. It effects a proportionate division of maritime space when assessed against both the relative lengths of the coasts of the Parties and the relative effects of particular geographical features on the course of an equidistance line.

⁶⁷ *Canadian Counter-Memorial*, pp. 296-300, paras. 711-718; Figures 51 and 52. Canada maintains its reservations concerning the applicability of a proportionality test, in the form of a comparison of relative coastal lengths and sea areas, to the open-ended area seaward of the Gulf of Maine. *Canadian Memorial*, pp. 153-155, paras. 370-374; *Canadian Counter-Memorial*, pp. 202-205, paras. 487-495; pp. 296-297, para. 711. The application of this form of proportionality test to the Gulf of Maine itself demonstrates that the Canadian line achieves a proportionate and equitable result, even if the Bay of Fundy is omitted from the test area as the United States unjustifiably proposes. See p. 146, footnote 23.

⁶⁸ See *Reply*, para. 138 and *Figure 9*. See also *Canadian Counter-Memorial*, pp. 295-296, paras. 705-710.

PART III. A BALANCING-UP

369. In applying the fundamental norm of maritime delimitation, the Court has made it clear that the result is paramount: equitable principles have to be identified according to their appropriateness for reaching an equitable or reasonable result. It follows that this test of utility must also be applied in identifying, weighing and "balancing up" the relevant circumstances within the framework of the applicable law.

370. It is clear from the jurisprudence that the configuration of the coasts in the relevant area is the starting point for an equitable delimitation, and the test of proportionality in its several forms may be viewed as a means of judging whether the geographical situation has been taken into account in a reasonable way. The primary importance of the conduct of the Parties *directly related to the rights and jurisdiction* in issue is also beyond challenge, for the Court has ascribed a particular weight to such evidence of what the Parties themselves have considered equitable. Similarly, the actual exploitation of the resources of the disputed area is a consideration that goes to the heart of a reasonable solution that balances the interests of the Parties within the framework of the applicable law, having regard to the Parties' mutual recognition of established economic interests, as evidenced by their conduct, and having regard also to the nature and purpose of the rights and jurisdiction in issue.

371. The admitted unity of the continental shelf in the Gulf of Maine area is a central consideration in that it dispenses with the need to identify the natural prolongation; it would do so, of course, even if this case involved a pure continental shelf delimitation rather than the delimitation of 200-mile zones where the distance principle provides the legal basis of title. Seabed features, accordingly, may be taken into consideration only to the extent that such consideration would contribute to satisfying equitable principles and to determining the solution that is equitable in the light of all the relevant circumstances. These features cannot provide a basis for contradicting such a solution. No feature of the seabed in the Gulf of Maine area warrants being taken into consideration to satisfy equitable principles; even if any were relevant, they could not erode the combined effect of the relevant circumstances in this case.

372. The oceanographic system in the Gulf of Maine area, like the *continental shelf*, is characterized by an essential unity and by particular affinities to the northeast. On balance, it too is an objectively neutral factor. The concentration of fishery resources on Georges Bank, however, is directly related to the maintenance of established patterns of fishing, the critical economic dependence of Nova Scotia on these resources, and the nature and purpose of the rights and jurisdiction in issue; hence, it must be a vital consideration in terms of reaching an equitable result.

373. Certain factors, of course, cannot be part of the balancing-up process because they are wrong in fact or irrelevant in law, or both. United States arguments relating to macrogeography, to "primary" and "secondary" coasts, to "dominance" and State activities unrelated to the subject matter of the zones to be delimited, to "ecological regimes" and a "natural boundary", and to "single-State management" or administrative convenience, all fall into this category. All the factors that are relevant point to the same conclusion, namely, the fair and reasonable character of the delimitation achieved by the Canadian line [*Figure 36*]. Thus:

- The Canadian line emanates from the applicable law, including the treaty obligations of the Parties under Article 6 of the Convention on the Continental Shelf. The "adjusted perpendicular line" proposed by the United States in 1982, like the Northeast Channel line it advanced in 1976, disregards the applicable law.
- The Canadian line emanates from the particular geographical situation in the Gulf of Maine area, reflecting the general configuration of the coasts and respecting the legal basis of title and the principle of equality within the same order. The "adjusted perpendicular line", like the Northeast Channel line, disregards the particular geographical situation in the Gulf of Maine area; it rests on a continental-scale geographical framework, on a geometrical conception of appurtenance, on a false distinction between "primary" and "secondary coasts", and on the unfounded thesis of a "natural boundary".
- The Canadian line emanates from the history of the dispute and from the conduct of both Parties directly related to the rights and jurisdiction in issue. The "adjusted perpendicular line", like the Northeast Channel line, runs directly counter to the relevant conduct of the Parties and rests instead on the unfounded thesis of "dominance", based on activities that bear no relation to the rights and jurisdiction in issue.
- The Canadian line emanates from the established interests of both Parties in relation to the continental shelf, as evidenced by the extant hydrocarbon permits issued by Canada. The "adjusted perpendicular line", like the Northeast Channel line, would seriously disrupt these established interests.
- The Canadian line accommodates the mutually recognized established fishing patterns of both Parties in a fair and realistic manner, in keeping with the nature and purpose of the maritime zones in question, and taking account of the relative importance of the fisheries concerned to Canadian and United States coastal communities in the Gulf of Maine area. The "adjusted perpendicular line", like the Northeast Channel line, represents a monopolistic claim to the whole of Georges Bank that would obliterate these established patterns for Nova Scotia, in total disregard of the critical economic dependence of southwest Nova Scotia on the fisheries of the Bank.

- The Canadian line is consistent with the essential unity of the continental shelf and of the oceanographic system of the Gulf of Maine area, while effecting an equitable result in respect of the fishing grounds of Georges Bank. The “adjusted perpendicular line”, like the Northeast Channel line, disregards this essential unity and would divide the area on the basis of the unfounded thesis of “three separate and identifiable ecological regimes”.
- The Canadian line satisfies all the tests of equity relevant to the delimitation of a single maritime boundary, including the test of proportionality in its several forms. The “adjusted perpendicular line”, like the Northeast Channel line, fails to meet any test of equity and relies on an arbitrary and unreasonable application of the test of proportionality.
- The Canadian line leaves the conservation of resources to coastal State management and to bilateral cooperation as required, in keeping with established principles of international law. The “adjusted perpendicular line”, like the Northeast Channel line, relies on the unfounded thesis of “single-State management” or administrative convenience, and on a wholly unrealistic rejection of the obligation to cooperate in the conservation of transboundary resources, disregarding, *inter alia*, the practical impossibility of finding a single line to accommodate the varied resources of the water column and of the continental shelf.
- Finally, the Canadian line leaves the avoidance of disputes to the long tradition of good neighbourliness between Canada and the United States. The “adjusted perpendicular line”, like the Northeast Channel line, relies on the unfounded thesis of “dispute minimization” as a principle of delimitation, and on a wholly unrealistic rejection of the obligation to minimize disputes on any other basis than monopoly.

374. An equitable and reasonable result is the hallmark of a delimitation in keeping with the fundamental norm of maritime boundary law. The outlines of such a result were clear to both Parties at least as early as 1965 and in the following years, when both Parties accepted the application of the equidistance method and made use of very similar equidistance lines in relation to continental shelf activities in the Gulf of Maine area. They were clear to both Parties in terms of fisheries interests in 1979, when they negotiated and signed the Agreement on East Coast Fishery Resources. They remain clear today. At no time has there been a change of relevant circumstances that would give this equitable and reasonable character to some markedly different result.

PART IV. SUMMARY OF PRINCIPAL CONCLUSIONS

375. The principal conclusions advanced in the Canadian pleadings are summarized in the following paragraphs. They retain those set out in the Canadian Counter-Memorial and include one additional conclusion (printed in bold face in sub-paragraph 4(b) of Section B below) that is based on material introduced in this Reply.

A. THE APPLICABLE LAW

1. The single maritime boundary between the Parties in the Gulf of Maine area shall be determined on the basis of the applicable law in accordance with equitable principles, taking account of all the relevant circumstances, in order to achieve an equitable result.

2. The law applicable to the determination of the single maritime boundary in the present case includes the following:

- (a) The fundamental norm set out in paragraph 1 above;
- (b) Article 6 of the 1958 Convention on the Continental Shelf;
- (c) The rules concerning the basis of title to the maritime zones to be delimited, including (i) the use of the distance principle as the sole basis of coastal State rights in a 200-mile fishing zone or exclusive economic zone and as a sufficient basis of title in respect of the continental shelf within 200 miles, and (ii) the principle of equality within the same order and the related principle of non-encroachment;
- (d) Criteria relating to the purpose and nature of the sovereign rights and jurisdiction to be exercised in these maritime zones; and
- (e) Such other rules and principles of conventional or customary international law as may be relevant, in particular those concerning acquiescence, recognition and estoppel.

3. In the light of all the foregoing, the following principles will produce an equitable result in view of the relevant circumstances in the present case:

- (a) The principle that the single maritime boundary should leave to each Party those areas of the sea that are closest to its coast, provided that due account is taken of the distorting effects of incidental special features not in keeping with the general configuration of the coast in the relevant area;
- (b) The principle that the single maritime boundary should allow for the maintenance of established patterns of fishing that are of vital importance to coastal communities within the relevant area; and
- (c) The principle that the single maritime boundary should respect the indicia of what the Parties themselves have considered equitable as revealed by their conduct.

B. THE RELEVANT CIRCUMSTANCES

1. The relevant *geographical* circumstances are limited to those found in the Gulf of Maine area. They include:

- (a) The proximity of Georges Bank to the coasts of Nova Scotia and Massachusetts that abut the outer part of the Gulf of Maine area, in terms of both physical and human geography; and, in particular, the closer proximity to Canada of the area under Canadian claim;
- (b) The overall balance in the configuration, length and predominantly opposite relationship of the coasts of the Parties to each other relative to the area to be delimited; and
- (c) The distorting and disproportionate effect upon the course of an equidistance line of the exceptional protrusion of Cape Cod and Nantucket Island, when superadded to the general protrusion of the coast of Massachusetts.

2. The relevant *geological, geomorphological and oceanographic* circumstances include:

- (a) The essential unity and continuity of the continental shelf of the Atlantic coast of North America, and its particular affinities to the northeast in the Gulf of Maine area;
- (b) The essential unity and continuity of the oceanographic system of the Gulf of Maine area, and its particular affinities to the northeast; and
- (c) The concentration of fishery resources in the waters over Georges Bank, and their particular affinities to the northeast.

3. The relevant *economic* circumstances include:

- (a) The strong Canadian presence in the fishery of Georges Bank and the established and vitally important economic dependence of Canadian coastal communities in the relevant area upon the fishery resources of the Bank; and
- (b) The lack of any comparable dependence on the part of United States coastal communities.

4. The relevant circumstances pertaining to the *conduct of the Parties* include:

- (a) The United States recognition of and acquiescence in both (i) Canada's exercise of sovereign rights in respect of the mineral resources of Georges Bank from 1964 to 1969, and (ii) Canada's use of an equidistance line for this purpose from 1965 to 1969;
- (b) The existence of a *modus vivendi* or *de facto* maritime limit based on the Canadian equidistance line and the United States "BLM line" and respected by both Parties and by numerous oil companies from 1965 to 1972, at least;

- (c) The offshore oil and gas exploratory permits issued by Canada in respect of the area claimed by Canada, and the absence of any similar instruments issued by the United States with respect to this area;
- (d) The parallel negotiation, conclusion and signature by the Parties of the Special Agreement and the 1979 Agreement on East Coast Fishery Resources, recognizing Canada's traditional participation in the fisheries of Georges Bank, its status as a coastal State in relation thereto, its economic interest in the living resources of the area, and the potential for bilateral cooperation in their conservation and management;
- (e) The United States recognition of Canada's interests as a coastal State in relation to Georges Bank under the International Convention for the Northwest Atlantic Fisheries, from 1949 to 1977;
- (f) The regional tradition of cooperation between Canada and the United States in the conservation and management of fishery resources of mutual concern; and
- (g) The conduct of the United States with regard to other maritime boundaries.

C. THE NATURE OF THE RESULT PURSUANT TO THE UNITED STATES PROPOSAL

1. Neither the 1976 Northeast Channel line nor the 1982 so-called "adjusted perpendicular line" is based on the applicable law, neither is in accordance with equitable principles, and neither takes account of the relevant circumstances; both are founded exclusively on the objective of securing for the United States the whole or the largest possible part of Georges Bank, the principal area in dispute in the present case.

2. Both the Northeast Channel line and the "adjusted perpendicular line" are manifestly inequitable and unreasonable; they would allocate a totally disproportionate part of the area and its resources, including the whole of Georges Bank, to the United States; they encroach upon maritime space appertaining to Canada; and they fail to meet every applicable test for a single maritime boundary.

3. The "adjusted perpendicular line", moreover, is barred by reason of the United States acquiescence in and recognition of Canada's equidistance claim in the period from 1965 to 1969, as well as its continued acquiescence in and recognition of Canada's claim to the area between Georges Bank and the "adjusted perpendicular line" in the period from 1969 to 1982.

D. THE NATURE OF THE RESULT PURSUANT TO THE CANADIAN LINE

1. The Canadian line is based on the applicable law and produces a result that is in accordance with equitable principles and takes account

of both the geographical and non-geographical relevant circumstances in the Gulf of Maine area, without encroachment upon areas appertaining to the United States.

2. The Canadian line meets every applicable test for a single maritime boundary; it represents an equitable and proportionate result and it reflects in a reasonable way the parity of interest of the Parties in relation to the Gulf of Maine area and to Georges Bank in particular.

3. Canada's application of the equidistance method, adjusted to correct and compensate for the distorting and disproportionate effect of Cape Cod and its offlying islands, is appropriate in the light of all the relevant circumstances; any other method that might be employed to determine the single maritime boundary in the Gulf of Maine area, if applied in accordance with equitable principles, would necessarily produce a similar line.

4. The conduct of the United States from 1965 to 1969 constitutes acquiescence in or recognition of the use of the equidistance method in the Gulf of Maine area and the exercise of Canadian jurisdiction on Georges Bank, and creates an estoppel in favour of Canada; the single maritime boundary to be determined by the Court should be compatible with the rights that vested in Canada during this period.

PART V. SUBMISSION

In view of the facts and arguments set out in the Canadian Memorial, the Canadian Counter-Memorial and in this Reply,

May it please the Court, rejecting all contrary claims and Submissions set forth in the United States Memorial and Counter-Memorial,

To declare and adjudge that:

The course of the single maritime boundary referred to in the Special Agreement concluded by Canada and the United States on 29 March 1979 is defined by geodetic lines connecting the following geographical coordinates of points:

44°11'12"N	67°16'46"W
44°08'51"N	67°16'20"W
43°59'12"N	67°14'34"W
43°49'49"N	67°12'30"W
43°49'29"N	67°12'43"W
43°37'33"N	67°12'24"W
43°03'58"N	67°23'55"W
42°54'44"N	67°28'35"W
42°20'37"N	67°45'36"W
41°56'42"N	67°51'29"W
41°22'07"N	67°29'09"W
40°05'36"N	66°41'59"W

12 December 1983

L. H. Legault, Q.C.
Agent for the Government
of Canada

ANNEXES TO THE REPLY OF CANADA

Volume I

STATE PRACTICE IN MARITIME DELIMITATION BY AGREEMENT

PREFACE

This Annex, which is divided into two Parts, is submitted in support of Part II, Chapter VI, of Canada's Reply.

Part I of this Annex provides an analysis of continental shelf and maritime boundary agreements to rebut the contentions in the United States Counter-Memorial about the use of the equidistance method in maritime delimitation, and to provide an accurate account of the delimitation of the continental shelf boundary in the Bay of Biscay. In addition, it contains an analytical table of agreements establishing maritime boundaries.

Part II of this Annex provides a comprehensive record of State practice in the delimitation of maritime boundaries by agreement beyond the outer limits of the territorial sea, and includes a copy of every agreement mentioned and an illustration of each boundary.

PART I. AN ANALYSIS OF CONTINENTAL SHELF AND MARITIME BOUNDARY AGREEMENTS

Section I. The Misinterpretation of State Practice by the United States

A. THE EQUIDISTANCE METHOD AND EQUIDISTANCE LINES

1. In the Annexes to its Counter-Memorial (Volume IV, Annex 8), the United States comments on the agreements listed in the Canadian Memorial as examples of the application of the equidistance method or examples of the application of some other method¹. On the basis of its own assessment of State practice, the United States drew up a list of boundaries divided into three categories: boundaries that do not incorporate equidistance lines, boundaries that incorporate equidistance lines only in part, and boundaries that are wholly equidistance lines or simplified equidistance lines². It is clear from Annex 8 that the United States has misconceived both the nature of State practice in the delimitation of maritime boundaries, and the relevance of that practice to the present case. This is evident not only in the confusion between the *method* of drawing a boundary and the *line* that results from the application of that method, but also in the interpretation that the United States places upon many of the agreements delimiting the continental shelf or other maritime zones. Moreover, the United States includes, as evidence of State practice, boundaries that were drawn not as a result of negotiation by States but by judicial or arbitral decision³.

1. The So-Called "Non-Equidistant Boundaries"

2. The United States list of boundaries in force that "do not incorporate equidistant lines" includes three boundaries that were in fact delimited on the basis of the equidistance method, although in each case the boundary itself is a modified equidistance line. In two of these cases — the boundary between the United Kingdom and the Federal Republic of Germany⁴, and that between Venezuela and the Dominican Republic⁵ — the method was equidistance but the basepoint for the measurement of equidistance was on the coast of a third State. In each case, the choice of such a basepoint was rendered necessary because one of the States involved had effected an earlier delimitation with the third State concerned on the basis of a method other than equidistance. This meant that part of the area to be delimited was not equidistant between the two States. The equidistance method was maintained, however, by using the coast of the third State as a basepoint for the line.

¹ *United States Counter-Memorial, Analytical Annexes*, Vol. IV, Annex 8, Chap. I.

² *United States Counter-Memorial, Analytical Annexes*, Vol. IV, Annex 8, Chap. II.

³ These are the boundaries between Tunisia and Libya, Sharjah and Dubai, and part of the boundary between the United Kingdom and France, all of which resulted from judicial or arbitral decisions.

⁴ See Part II, Figure 31.

⁵ See Part II, Figure 73.

3. The third boundary erroneously included in United States Annex 8 as allegedly providing no support for equidistance is that between Trinidad and Tobago and Venezuela. It has been shown in the Canadian Reply that the exclusion of this boundary from those based on the equidistance method highlights the United States' misconception of the application of that method. The boundary was derived by drawing a line that exchanged equal areas of maritime space between the parties in relation to an equidistance line⁶.

4. The United States also excludes the boundary between Iran and the United Arab Emirates⁷ from those that incorporate equidistance lines. Nevertheless, that agreement was based upon the equidistance *method*, although islands were disregarded as basepoints and the Iranian island of Sirri was given only a 12-mile territorial sea. The deviation from a strict equidistance line in this case was in fact relatively minor.

2. Boundaries That Are Said to be "Equidistant in Part"

5. The United States list of "boundaries that incorporate equidistant lines only in part"⁸ also implies that these boundaries do not provide any support for the equidistance method. Thus, in attempting to rebut Canada's arguments about the equidistance method, the United States has included these boundaries with the non-equidistance boundaries⁹. In fact practically all of the boundaries included in this category result from the application of the equidistance *method*. In most cases the boundary line is a modified equidistance line and the degree of modification, and the reason for such modification, can be precisely ascertained. Moreover, in several instances the variation from strict equidistance is considerably less than the United States pretends, as the following paragraphs make clear.

6. The United States asserts that 75 percent of the Argentina-Uruguay boundary follows the thalweg of the Rio de la Plata, and that the remaining 25 percent of the boundary "may also follow the perpendicular bisector"¹⁰. In fact, the "75 percent" of the boundary referred to is behind the common baseline from which the parties measure their ter-

⁶ The view that the Gulf of Paria agreement involved a modification of equidistance has been expressed by the British naval hydrographer Commander P. B. Beazley: "Maritime Boundaries." *International Hydrographic Review*, Vol. LIX, No. 1, 1982, p. 155, and by a former member of the British Foreign Office, J. A. C. Gutteridge: "The 1958 Geneva Convention on the Continental Shelf." *British Yearbook of International Law*, Vol. 35, 1959, p. 120.

⁷ See Part II, Figure 46.

⁸ *United States Counter-Memorial, Analytical Annexes*, Vol. IV, Annex 8, Chap. II, sec. 2.

⁹ The United States' contention "that only a minority of the boundaries in force — 37 percent — are based exclusively upon a strict application of the equidistance method" (*United States Counter-Memorial*, p. 145, para. 217) is derived from treating only the boundaries included in *United States Counter-Memorial, Analytical Annexes*, Vol. IV, Annex 8, Chap. III, sec. 3, as strict applications of the equidistance method. The boundaries listed in Annex 8, Chap. II, secs. 1 and 2 are apparently not seen by the United States as providing any support for the equidistance method.

¹⁰ *United States Counter-Memorial, Analytical Annexes*, Vol. IV, Annex 8, Chap. I, sec. 1, p. 1.

ritorial sea and the boundary beyond that baseline is, according to the agreement establishing it, "defined as an equidistant line drawn according to the method of the adjacent coasts"¹¹. Similarly, the United States asserts that the boundaries between Costa Rica and Panama, both in the Pacific and in the Caribbean, are perpendicular to the general direction of the coast, ignoring the fact that the agreement between the two countries *expressly incorporates the equidistance method* for the delimitation of these boundaries¹². The variation from equidistance can be explained by the fact that islands were disregarded as basepoints and that an attempt was made in the Caribbean and the Pacific to join up with the Colombia-Panama-Costa Rica trijunction points where the Colombia-Panama boundaries were not equidistant¹³.

7. The United States analysis of the Finland-USSR boundary is defective because the United States fails to acknowledge that the boundary originates as a boundary through territorial waters. Established initially in 1940 and confirmed in the 1947 Treaty of Peace between Finland and the Soviet Union, the boundary, beyond the territorial sea of the two States, follows the centre line of a high-seas corridor between territorial waters¹⁴. After leaving the area covered by the two earlier treaties, the boundary¹⁵ is an equidistance line, simplified to take account of islands. In 1967, the boundary was extended a further 47 miles, again utilizing the equidistance method¹⁶. Thus, the total boundary beyond the territorial sea is 181.4 nautical miles in length, of which 164.3 nautical miles follow an equidistance line.

8. Several of the boundaries which, according to the United States, provide no support for the equidistance method are boundaries where equidistance has been modified to take account of islands adjacent to the coast. This is true of the agreements between Greece and Italy¹⁷, Iran and Oman¹⁸, Iran and Qatar¹⁹, Iran and Saudi Arabia²⁰, Italy and Tunisia²¹ and Italy and Yugoslavia²². In these cases, islands were either disregarded or given partial effect. The United States has also misconstrued the application of the equidistance method in the boundary between Indonesia and Malaysia in the Malacca Strait, where in 1969 the boundary was constructed as an equidistance line between straight baselines²³, and extended in 1971 by a modified equidistance line to a

¹¹ See Part II, Agreement No. 39, Figure 39.

¹² See Part II, Agreement No. 77, Figures 77A and 77B.

¹³ See Part II, Figures 55A and 55B.

¹⁴ This corridor results from the fact that although the USSR claims a 12-mile territorial sea, it did not implement that claim to its full extent in this area. Finland claims only a 4-mile territorial sea.

¹⁵ From Points 8 to 21, see Part II, Figure 10.

¹⁶ See Part II, Figure 16.

¹⁷ See Part II, Figure 60.

¹⁸ See Part II, Figure 44.

¹⁹ See Part II, Figure 24.

²⁰ See Part II, Figure 20.

²¹ See Part II, Figure 30.

²² See Part II, Figure 17.

²³ See Part II, Figure 25A.

common trijunction point, which effected an exchange of approximately equal areas in relation to an equidistance line²⁴.

9. The United States view of what was done in the Japan-Korea delimitation relies on incorrect calculations of distances given in *Limits in the Seas*²⁵. The distances between points 3, 4 and 11 and Japanese territory — reported as 60.2, 52.5 and 24.1 miles respectively — are in fact 46.7, 47 and 19.2 miles. The equidistance method has been employed throughout the whole of the boundary²⁶.

10. The India-Thailand boundary is also based on equidistance. Like the boundaries between the United Kingdom and the Federal Republic of Germany, and between Venezuela and the Dominican Republic, this boundary utilized a basepoint (between turning points 1 and 2) on the coast of a third State²⁷. In this case, too, the need to choose a basepoint on a third State resulted from the fact that one of the parties (Thailand) had established a boundary with a third State (Indonesia) according to a method other than equidistance. The problem this posed for the India-Thailand delimitation was resolved by selecting basepoints on the Indonesian coast in order to reach an equidistance tri-point.

11. The assumption by the United States that a boundary has been delimited in accordance with the equidistance *method* only if it results in an equidistance *line* is further illustrated by the inclusion of the Colombia-Panama boundary in the Caribbean Sea in the United States list of boundaries that incorporate equidistance lines only in part. This boundary, in fact, provides an interesting example of the way in which the equidistance method can be modified. The step-like configuration of the boundary beyond turning point G follows parallels of latitude and meridians of longitude in a way that is intimately related to and derived from an equidistance line²⁸. The boundary provided for an equal exchange of areas in relation to a modified equidistance line drawn to give half-effect to the Colombian Albuquerque and Southeast Cays, and full effect to the islands of San Andreas and Providencia, while disregarding Roncador, whose sovereignty is unresolved. The line is, in effect, a modified equidistance boundary.

12. The most surprising inclusions in the United States list of the agreements that allegedly provide little support for the equidistance method are agreements concluded by the United States itself. The agreement with Cuba is a classic example of a modified equidistance bound-

²⁴ See Part II, Figure 33.

²⁵ *Limits in the Seas*, No. 75, United States Department of State, Bureau of Intelligence and Research, Office of the Geographer, 1977.

²⁶ See Part II, Figure 42A. No boundary has been established in the joint development area (Figure 42B).

²⁷ See Part II, Figure 68.

²⁸ See Part II, Figure 55A.

ary²⁹, and the boundary between the United States and Venezuela is a further example of the use of the equidistance method with a basepoint on the coast of a third State³⁰. As in similar delimitations, this approach was made necessary because one of the parties (Venezuela) had effected a non-equidistant delimitation with a third State. Both agreements demonstrate the use of the equidistance method in State practice; they do not provide support for the United States' contentions in the present case.

13. The United States is as unsuccessful in explaining the Canadian delimitation with Denmark as it is in explaining its own delimitations. It suggests that "methods other than equidistance were used to delimit over one third of the 1449 nautical mile boundary³¹". In fact, the boundary is based on equidistance, measured between straight baselines³² and taking account of the distorting effect of off-lying islands, or modified to effect an equal allocation of continental shelf areas to both parties.

14. By focusing on boundaries that are "strict or simplified equidistant lines throughout the whole of the boundary", the United States has distorted State practice in the use of the equidistance *method*. The correct view of State practice in the delimitation of maritime boundaries is that regardless of the final result the equidistance method generally plays a central role in the process of reaching an agreed line. Logic alone suggests that an equidistance line should be the starting point for negotiations, for it provides a point of reference by which the fairness or equity of a delimitation may be measured. State practice confirms that this logic is compelling, since no matter how they are categorized, approximately 70 percent of the boundaries settled by agreement so far have been based on the equidistance method, modified for the particular circumstances of the area in question.

B. THE DELIMITATION OF THE CONTINENTAL SHELF BOUNDARY IN THE BAY OF BISCAY

15. The United States has contended that the delimitation between France and Spain in the Bay of Biscay provides guidance for

²⁹ See Part II, Figure 62. The explanation given by a United States official of the relationship of this boundary to equidistance is as follows:

"During the technical discussions, comparable artificial "construction lines" were drawn along the southern Florida coastline. An equidistant line was then calculated by use of the Cuban straight baselines and the artificial construction lines of the United States. Another equidistant line was calculated by use of the relevant basepoints on the low-water line of the coasts of the two countries. A third line was then created between those two lines, which was not equidistant, but which divided equally the area between them. The final boundary represented a negotiated settlement based on equitable principles."

Robert W. Smith: "The Maritime Boundaries of the United States". *The Geographical Review*, Vol. 71, No. 4, 1981, p. 402.

³⁰ See Part II, Figure 65.

³¹ *United States Counter-Memorial, Analytical Annexes*, Vol. IV, Annex 8, Chap. I, sec. 1, p. 3.

³² See Part II, Figure 40. Straight baselines officially promulgated by Denmark, and hypothetical Canadian straight baselines, were used in this delimitation.

the present case because the Bay allegedly is an area "that geographically is most like the Gulf of Maine area³³". The United States notes that from Point Q (the outer limit of the territorial seas and contiguous zones of the two States) to Point R the boundary is an equidistance line, but concludes that "the boundary between Point R and Point T apparently was based on a proportionality calculation³⁴" taken from lines drawn to "simplify" the coastlines.

16. In Canada's view, the United States description of the method of delimitation adopted in the Bay of Biscay is incomplete. By concentrating on proportionality calculations determined on the basis of coastal lengths, the United States has obscured other significant factors. Seaward of Point R the location of the boundary can be explained by reference to the relationship of the continental shelves of the two States rather than by reference to the coastal geography.

17. That the method of delimiting the boundary was related to the topography of the seabed was pointed out by Professor José Luis de Azcárraga, an adviser to the Spanish delegation in the Bay of Biscay negotiations, in an article annexed to the United States Counter-Memorial³⁵. As Professor de Azcárraga said, the special circumstances of France's larger continental shelf "dominated the negotiations". And a glance at *Figure A* shows that while the continental shelf of France is broad, that of Spain is extremely narrow in this area.

18. From Point Q to Point R, the boundary in the Bay of Biscay is a strict equidistance line drawn from basepoints on the coasts of the two States. This segment of the boundary extends to the foot of the continental slope at a depth of 3,600 metres, crossing successive bathymetric contours at right angles. If the boundary had continued from Point R as an equidistance line drawn from the coasts, it would have cut across the French continental slope at an oblique angle, because seaward of Point R the French continental shelf broadens and, consequently, the seabed contours undergo a change in orientation. Reflecting this change in the configuration of the French continental shelf, the direction of the line changes at Point R, after which it crosses the 4,500-metre isobath at right angles and proceeds seaward in a straight line until it intersects the closing line at a point (T) equidistant from the 4,500-metre isobath on the French and Spanish continental slopes. This line effects a roughly equal division of the area between the parties beyond the 4,500-metre isobath³⁶.

19. The result of this delimitation, as Professor de Azcárraga has said, is that "the line joining Points R and T . . . is virtually the median

³³ *United States Counter-Memorial*, p. 245, para. 388.

³⁴ *United States Counter-Memorial, Analytical Annexes*, Vol. IV, Annex 10, p. 5, para. 5.

³⁵ J. L. de Azcárraga: "España Suscribe, con Francia e Italia, Dos Convenios sobre Delimitacion de sus Plataformas Submarinas Comunes". *Revista española de derecho internacional*, Vol. XXVIII, pp. 131-138. Reproduced and translated in *United States Counter-Memorial, Analytical Annexes*, Vol. IV, Annex 10, Appendix A.

³⁶ The area appertaining to France is approximately 4,838 square nautical miles, and the area appertaining to Spain is approximately 5,121 square nautical miles.

line equidistant between the isobath curves at equal depths³⁷". The United States takes this to mean that "at Point T on the closing line, the boundary is roughly the same distance from the 100-fathom depth contours off the respective coasts of the Parties³⁸", but this is incorrect, as a glance at the figure referred to by the United States will demonstrate³⁹. The last contour common to the continental slopes of both States is at 4,500 metres, and Point T is equidistant from it.

20. Proportionality tests may well have confirmed the equity of the line, but this does not mean that proportionality constituted the *method* of delimitation in the Bay of Biscay, or that the rationale for the delimitation lay in the fact that the French coastline was longer than the coastline of Spain. The discovery of manganese nodules within the vicinity of Point T had served to focus the attention of the two States on the seabed itself, and the boundary line was designed to effect a roughly equal division of the abyssal sea floor beyond the 4,500-metre isobath.

21. The Bay of Biscay delimitation is instructive in two important respects. *First*, the Parties utilized the equidistance method out to the foot of the continental slope. In other words, the boundary is an equidistance line where there is a common shelf and slope; it is only where that common shelf and slope come to an end that an alternative method was chosen. *Secondly*, although thereafter the Parties departed from an equidistance line drawn from basepoints on the coasts, the equidistance principle nevertheless retained a role in the delimitation of the seabed beyond the common continental shelf and slope. The boundary in this second area is a geodetic line joining two equidistant points; Point R is equidistant from the coasts and Point T is equidistant from isobathic contours.

22. The seabed topography in the Bay of Biscay differs substantially from the Gulf of Maine area, which is an area of geological continuity comprising a single, continuous continental shelf. *Figure B* demonstrates the application of the Bay of Biscay method to equivalent depths in the Gulf of Maine. As can be seen, the equivalent of Point R at 3,600 metres is beyond the Canadian line, and the equivalent of Point T at 5,000 metres goes beyond any area conceivably relevant to the present delimitation. The outer edge of Georges Bank at the 200-metre contour would coincide approximately with Point Q3 on the France-Spain line. Rather than citing a precedent relevant to the present case, the United States has proposed one that, if applicable at all, could only be applied in the seaward extension of the boundary contemplated in Article VII of the Special Agreement.

³⁷ *United States Counter-Memorial, Analytical Annexes*, Vol. IV, Annex 10, Appendix A, p. 4.

³⁸ *United States Counter-Memorial, Analytical Annexes*, Vol. IV, Annex 10, p. 5, para. 8.

³⁹ *United States Counter-Memorial, Analytical Annexes*, Vol. IV, Annex 10, Figure 2.

Section II. An Analytical Table of Agreements Establishing Maritime Boundaries

A. INTRODUCTION

23. The table at page 21 of this Annex provides an analysis of the agreements concluded by States for the delimitation of maritime boundaries beyond the outer limits of the territorial sea. The agreements are arranged in chronological order, but where one agreement covers two or more boundary areas, then each boundary area is dealt with separately. The agreements have been classified according to type, to the geographical relationship of the parties, to the method of delimitation adopted, and to the effect that particular geographical features have on the boundary. Explanatory notes have been provided for each agreement or boundary area.

1. Type of Agreement

24. The agreements are classified according to whether they delimit only the continental shelf or jurisdiction in the water column as well. In conformity with the terminology used in Part II of this Annex, the latter boundaries are designated "maritime boundaries". Some of these boundaries were initially established as maritime boundaries dividing both the continental shelf and the water column; others were originally established as continental shelf boundaries and applied to the water column by subsequent agreement.

2. Geographical Relationships

25. The agreements are divided into three categories reflecting the geographical relationship of the coasts: opposite, adjacent, and mixed opposite and adjacent coasts. The distinction between each category is determined on the basis of the actual relationship of the coasts of the parties throughout the course of the boundary delimited by the agreement. In the Canadian Counter-Memorial, it was demonstrated that the relationship of any particular point in the ocean to the coasts of two States can be determined mathematically by the degree to which the angle formed by the juncture of two lines from the coasts to the point of intersection varies from 0° to 180° ⁴⁰. Where the angle is predominantly between 0° and 90° , the relationship between the two coasts and any particular point in the ocean is one of adjacency. Where the angle is predominantly between 90° and 180° , the relationship between the two coasts and the point in the ocean is one of oppositeness.

26. This analysis has been applied in determining the coastal relationship in the Analytical Table. Where the angle formed by lines from the coast to the boundary is predominantly between 0° and 90° , the relationship of the coasts is designated as one of adjacency. Where the angle formed by lines from the coast to the boundary is predomi-

(51) - (53) ⁴⁰ Canadian Counter-Memorial, pp. 45-48, paras. 109-112; Figures 8, 9 and 10.

nantly between 90° and 180°, the relationship of the coasts is designated as one of oppositeness. Where, as occurs in many situations, the relationship of the coasts of the parties exhibits elements of both oppositeness and adjacency, it has been so designated. Such a relationship occurs, for example, where two States have adjacent coasts by virtue of a common land frontier at the point of commencement of the maritime boundary, but where an element of oppositeness is introduced by offlying islands or by a radical change in the direction of the coasts⁴¹.

3. Method of Delimitation

27. The agreements have been divided into three categories: strict or simplified equidistance, modified equidistance, and non-equidistance.

28. The first category, that of "strict or simplified equidistance", includes those agreements where the parties have drawn an equidistance line strictly utilizing all proximate basepoints, or where they have "simplified" the line so drawn by reducing the number of turning points and effecting minor exchanges of areas.

29. The second category, "modified equidistance", includes those boundaries that have their origin in the equidistance method, although the actual line, modified to take account of particular circumstances, involves a greater deviation from strict equidistance than do "simplified" equidistance lines. Where it is patent — or where it can be demonstrated — that a boundary which is not a strict or simplified equidistance line has been derived from the equidistance method, then the agreement has been included in this category.

30. The third category consists of those boundaries where the parties have, explicitly or otherwise, adopted a method of delimitation other than equidistance.

4. Effect of Geographical Features

31. Under this heading, the agreements are divided according to the impact that particular geographical features have on the boundary. Thus, the Analytical Table indicates whether full or partial effect is given to islands, whether partial effect is given to islands in the boundary area, whether islands have been completely disregarded, and whether a basepoint on the coast of a third State has been used for the construction of the boundary line.

⁴¹ See for example the boundary between the United States and Mexico in the Pacific Ocean. Part II, Figure 67B.

Figure Number	AGREEMENTS IN CHRONOLOGICAL ORDER ACCORDING TO DATE OF SIGNATURE	TYPE OF AGREEMENT		GEOGRAPHICAL RELATIONSHIP			METHOD OF DELIMITATION			EFFECT OF GEOGRAPHICAL FEATURES					REMARKS
		Continental Shelf Boundary	Maritime Boundary	Opposite Coasts	Adjacent Coasts	Opposite and Adjacent Coasts	Equidistance Strict or Simplified	Modified Equidistance	Non-Equidistance	Full Effect To Islands	Partial Effect To Islands	Partial Effect To Islands In Boundary Area	Islands Disregarded	Basepoints On Third State	
1	Trinidad & Tobago/ Venezuela 26 February 1942	X		X				X		X					The boundary effects an equal exchange of areas in relation to a true equidistance line.
2	Chile/Peru 18 August 1952		X		X				X						The boundary follows the parallel of 18°23'03" south latitude.
3	Peru/Ecuador 18 August 1952		X		X				X						The boundary follows the parallel of 03°23'33.96" south latitude.
4	Norway/ Union of Soviet Socialist Republics 15 February 1957	X				X			X						The boundary is 24¼ miles in length*. For approximately half its length the boundary delimits the territorial sea.
5	Saudi Arabia/ Bahrain 22 February 1958	X				X		X			X				Selective equidistance between random basepoints on both coastlines.
6	Senegal/ Guinea Bissau 26 April 1960		X		X				X						The boundary follows an azimuth of 240° through the territorial sea and contiguous zone to the limit of the continental shelf.
7	Netherlands/ Federal Republic of Germany 1 December 1964	X			X		X			X					The boundary is a 26-mile extension from the Ems estuary.
8	Sharjah/ Umm al Qaiwain Undated 1964	X				X		X				X			The boundary, which follows the angular bisector of lines drawn to terminal points of adjacent land frontiers, illustrates a different form of the equidistance method. After 1970, the boundary was amended to follow the outer limit of the territorial sea extending from the island of Abu Musa.
9	Norway/ United Kingdom 10 March 1965	X		X			X			X					The boundary is 359 miles in length. It commences at the Norway/Denmark/U.K. tripoint and terminates at the 100-fathom contour. The Norwegian Trench was disregarded.

*All references to miles are 10 nautical miles

Figure Number	AGREEMENTS IN CHRONOLOGICAL ORDER ACCORDING TO DATE OF SIGNATURE	TYPE OF AGREEMENT		GEOGRAPHICAL RELATIONSHIP			METHOD OF DELIMITATION			EFFECT OF GEOGRAPHICAL FEATURES					REMARKS	
		Continental Shelf Boundary	Maritime Boundary	Opposite Coasts	Adjacent Coasts	Opposite and Adjacent Coasts	Equidistance Strict or Simplified	Modified Equidistance	Non-Equidistance	Full Effect	To Islands	Partial Effect To Islands	Partial Effect To Islands In Boundary Area	Islands Disregarded		On Third State Basepoints
10	Finland/ Union of Soviet Socialist Republics (Gulf of Finland) 20 May 1965	X		X			X				X					Within the territorial sea the boundary has been determined by the 1940 treaty and the 1947 Treaty of Peace. Beyond the territorial sea the boundary is equidistant.
11	Denmark/ Federal Republic of Germany (North Sea) 9 June 1965	X			X		X				X					The boundary commences at the outer limit of the territorial sea and extends in a straight line for 26 miles.
12	Denmark/ Federal Republic of Germany (Baltic Sea) 9 June 1965	X		X			X				X					The boundary is 65 miles in length and has been derived from straight baselines in addition to the normal baselines.
13	Netherlands/ United Kingdom 6 October 1965 Amended 25 November 1971	X				X					X					The boundary is a simplified equidistance line 255 miles in length.
14	Denmark/Norway (North Sea) 8 December 1965 Amended 24 April 1968	X				X					X					The boundary is 255 miles in length commencing at the Norway/Denmark/Sweden tripoint. The Norwegian Trench was disregarded.
15	United Kingdom/ Denmark 3 March 1966 Amended 25 November 1971	X		X			X									The boundary is an arc of a great circle 16 miles in length.
16	Finland/ Union of Soviet Socialist Republics (Baltic Sea and Gulf of Finland ext.) 5 May 1967	X		X							X					The boundary is an extension of the boundary established in the 1965 agreement and is 45 miles in length.

Figure Number	AGREEMENTS IN CHRONOLOGICAL ORDER ACCORDING TO DATE OF SIGNATURE	Continental Shelf Boundary			Maritime Boundary	(Opposite Coasts)		Adjacent Coasts		(Opposite and Adjacent Coasts)	Equidistance or Strict or Simplified	Modified Equidistance	Non-Equidistance	Full Effect To Islands	Partial Effect To Islands	Partial Effect To Islands In Boundary Area	Islands Disregarded	Basepoints On Third State	REMARKS
		Continental Shelf Boundary	Maritime Boundary	(Opposite Coasts)		Adjacent Coasts													
17	Italy/Yugoslavia 8 January 1968	X		X							X					X			Near-shore islands given full effect. Selective treatment for offshore islands. Pelagosa group given partial effect.
18	Abu Dhabi/Dubai 18 February 1968	X		X								X							The boundary has been displaced 10 kilometres southwest from the land boundary terminus.
19	Sweden/Norway 24 July 1968	X					X			X				X					The boundary has been simplified resulting in an exchange of equal areas between the parties. The Norwegian French was disregarded.
20	Saudi Arabia/Iran 24 October 1968	X		X							X				X				Excluding both the adjustment to follow the outer limit of the territorial sea in the vicinity of Farzi, and the area surrounding the Feridoon oilfield, the boundary reflects an equal exchange of areas in relation to the equidistance line.
21	Poland/ German Democratic Republic 29 October 1968	X								X	X			X					G.D.R. straight baselines have been disregarded for purposes of delimitation.
22	Qatar/Abu Dhabi 30 March 1969	X								X			X		X				Turning points A, B and D are equidistant, point C is non-equidistant. The island of Dayyinah has been awarded a 3-mile territorial sea.
23	Poland/ Union of Soviet Socialist Republics 28 August 1969	X								X	X								The boundary is 7 1/2 miles in length and terminates 3 miles short of the Poland/Sweden/USSR tripoint.
24	Iran/Qatar 20 September 1969	X		X								X							The boundary is 130 miles in length and disregards Iranian, Qatari and Abu Dhabi islands as basepoints.
25 and B	Malaysia/Indonesia (Malacca Strait, Western South China Sea) 27 October 1969	X		X							X			X					The first and second segments of the boundary are 399 and 310 miles in length, respectively. Straight baselines have been utilized for purposes of delimitation.

Figure Number	AGREEMENTS IN CHRONOLOGICAL ORDER ACCORDING TO DATE OF SIGNATURE	TYPE OF AGREEMENT		GEOGRAPHICAL RELATIONSHIP			METHOD OF DELIMITATION			EFFECT OF GEOGRAPHICAL FEATURES					REMARKS
		Continental Shelf Boundary	Maritime Boundary	Opposite Coasts	Adjacent Coasts	Opposite and Adjacent Coasts	Equidistance Strict or Simplified	Modified Equidistance	Non-Equidistance	Full Effect To Islands	Partial Effect To Islands	Partial Effect To Islands In Boundary Area	Islands Disregarded	Basepoints On Third State	
25 C	Malaysia/Indonesia (Eastern South China Sea) 27 October 1969	X				X			X		X				The Indonesian Natuna island group has been given partial effect.
26	Federal Republic of Germany/Denmark 28 January 1971	X			X				X						The boundary is 169 miles in length, and was negotiated on the basis of the judgment of the Court in the <i>North Sea Continental Shelf</i> cases.
27	Netherlands/Federal Republic of Germany 28 January 1971	X			X				X						The agreement was negotiated on the basis of the judgment of the Court in the <i>North Sea Continental Shelf</i> cases. The boundary is 151 miles in length.
28 A and B	Australia/Indonesia (Timor and Arafura Seas) 18 May 1971	X				X	X			X					In the Arafura Sea two segments combine to form a boundary 506 miles in length, which terminates at the 100-fathom contour.
28 C	Australia/Indonesia (Pacific Ocean) 18 May 1971	X			X		X								The boundary segment in the Pacific Ocean is 30 miles in length. It became a maritime boundary by virtue of article 7 of the 1973 agreement. (No. 38)
29	Iran/Bahrain 17 June 1971	X		X				X		X			X	X	Points 1 and 4 are non-equidistant between Iran and Bahrain but coincide with point 1 of the Saudi Arabia/Iran and point 2 of the Qatar/Iran boundaries.
30	Italy/Tunisia 20 August 1971	X		X				X		X		X			The Italian Islands of Pantellaria, Linosa and Lampedusa were awarded 13 miles and Lampione 12 miles of territorial sea and shelf.
31	Federal Republic of Germany/United Kingdom 25 November 1971	X		X				X		X				X	The boundary is controlled by basepoints on the Danish and Netherlands coasts.

Figure Number	AGREEMENTS IN CHRONOLOGICAL ORDER ACCORDING TO DATE OF SIGNATURE	TYPE OF AGREEMENT		GEOGRAPHICAL RELATIONSHIP			METHOD OF DELIMITATION			EFFECT OF GEOGRAPHICAL FEATURES					REMARKS
		Continental Shelf Boundary	Maritime Boundary	Opposite Coasts	Adjacent Coasts	Opposite and Adjacent Coasts	Equidistance Strict or Simplified	Modified Equidistance	Non-Equidistance	Full Effect To Islands	Partial Effect To Islands	Partial Effect To Islands In Boundary Area	Islands Disregarded	Basepoints On Third State	
32	Thailand/Indonesia 17 December 1971	X		X					X						The boundary is 114 miles in length commencing at the Indonesia/Thailand/Malaysia Common Point. The boundary was completed by the agreement of 11 December 1975. (No. 49)
33	Malaysia/Indonesia (Malacca Strait ext.) 21 December 1971	X		X					X						The boundary is 35½ miles in length. It is an extension of the 1969 boundary to the Malaysia/Thailand/Indonesia Common Point.
34	Malaysia/Thailand (Andaman Sea) 21 December 1971	X				X			X						The boundary commences at the Malaysia/Thailand/Indonesia Common Point and extends inshore for a distance of 90 miles.
35	Uruguay/Brazil 21 July 1972		X		X				X						The boundary is a rhumb line approximately perpendicular to the coast as represented by a line joining Cabo Polonio to Albardao.
36 A and B	Finland/Sweden 29 September 1972	X		X				X		X					The agreement states that the boundary shall in principle be a median line taking account of special circumstances.
37	Australia/Indonesia (Timor and Arafura Seas ext.) 9 October 1972	X		X					X						The boundary follows the continental slope bordering the Timor Trench.
38	Australia/Indonesia (Arafura Sea ext.) 26 January 1973		X		X		X			X					The boundary is an extension of the 1971 line to the land boundary terminus.
39	Argentina/Uruguay 19 November 1973		X			X	X								The boundary is an equidistance line constructed from the common baseline from which the territorial sea is measured.
40	Denmark/Canada 17 December 1973	X		X				X			X				The modified portion of the boundary effects an exchange of equal areas between the parties.

Figure Number	AGREEMENTS IN CHRONOLOGICAL ORDER ACCORDING TO DATE OF SIGNATURE	TYPE OF AGREEMENT		GEOGRAPHICAL RELATIONSHIP			METHOD OF DELIMITATION			EFFECT OF GEOGRAPHICAL FEATURES					REMARKS
		Continental Shelf Boundary	Maritime Boundary	Opposite Coasts	Adjacent Coasts	Opposite and Adjacent Coasts	Equidistance Strict or Simplified	Modified Equidistance	Non-Equidistance	Full Effect To Islands	Partial Effect To Islands	Partial Effect To Islands In Boundary Area	Islands Disregarded	Basepoints On Third State	
41	Spain/France 29 January 1974	X				X	X		X						Two methods were used. The boundary is equidistant for 39% of its length to the foot of the continental slope. The Cap Breton Trench was disregarded.
42 A	Japan/Korea 5 February 1974	X		X			X			X					The boundary is 264 miles in length. The island of Tsu Shima, which lies closer to Korea than to Japan, has been given full effect as a basepoint.
42 B	Japan/Korea 5 February 1974			X											This figure illustrates only the joint development zone which lies between the hypothetical equidistance line and the <i>Okinawa Trench</i> .
43	Italy/Spain 19 February 1974	X		X			X		X						The boundary consists of nine geodesic lines connecting turning points and is 137 miles in length.
44	Iran/Oman 25 July 1974	X		X				X		X					Umm al Fayarin has been disregarded as a basepoint for turning point 18 but given half-effect for turning point 19.
45	India/Indonesia 8 August 1974	X		X			X		X						The first of two agreements. The boundary is 47½ miles in length.
46	Iran/ United Arab Emirates 13 August 1974	X		X				X			X	X			The equidistance line has been modified between turning points 3 and 4 to follow the outer limit of the territorial sea measured from the island of Sirri.
47	Senegal/Gambia 4 June 1975		X		X				X						The northern boundary follows the parallel of 13°35'36" north latitude and the southern boundary follows the parallel of 13°03'27" north latitude.
48	Colombia/Ecuador 23 August 1975		X		X				X						The agreement established a 10-mile wide fisheries buffer zone on either side of the boundary, which follows the parallel of 01°27'24" north latitude.

Figure Number	AGREEMENTS IN CHRONOLOGICAL ORDER ACCORDING TO DATE OF SIGNATURE	TYPE OF AGREEMENT		GEOGRAPHICAL RELATIONSHIP			METHOD OF DELIMITATION			EFFECT OF GEOGRAPHICAL FEATURES					REMARKS
		Continental Shelf Boundary	Maritime Boundary	Opposite Coasts	Adjacent Coasts	Opposite and Adjacent Coasts	Equidistance Strict or Simplified	Modified Equidistance	Non-Equidistance	Full Effect To Islands	Partial Effect To Islands	Partial Effect To Islands In Boundary Area	Islands Disregarded	Basepoints On Third State	
49	Indonesia/Thailand (Andaman Sea ext.) 11 December 1975*	X		X					X						This portion of the boundary is an extension of that established in the 1971 agreement. (No. 32)
50	Portugal/Spain 12 February 1976*	X			X				X						The northern boundary follows the parallel of 41°51'57" north latitude and the southern boundary follows the meridian of 07°23'48" west longitude.
51	India/Sri Lanka 23 March 1976		X			X	X			X					In the Indian Ocean the boundary is 292 miles in length and terminates at the India/Sri Lanka/Maldives tripoint. The Bay of Bengal boundary is 214 miles in length.
52	Mauritania/Morocco 14 April 1976*	X			X				X						The boundary follows the 24th parallel of north latitude.
53	Kenya/Tanzania 9 July 1976		X			X			X						The boundary divides the 50-mile territorial sea claimed by Tanzania from the 200-mile E.E.Z. claimed by Kenya.
54	Cuba/Mexico 26 July 1976		X			X	X			X					The boundary is 350 miles in length and extends from the Gulf of Mexico to the Cuba/Mexico/Honduras tripoint.
55A	Colombia/Panama (Caribbean Sea) 20 November 1976		X			X		X			X				The equidistant portion of the boundary is 229 miles in length. Thereafter the boundary is a modified equidistance line giving half effect to cays.
55B	Colombia/Panama (Pacific Ocean) 20 November 1976		X			X	X		X						Two methods were used. The boundary is equidistant for 39% of its length. The remaining 61% follows the parallel of 5° north latitude.
56	India/Maldives 28 December 1976		X			X	X			X					The boundary commences at the India/Sri Lanka/Maldives tripoint and is 496 miles in length.

*Not yet in force

Figure Number	AGREEMENTS IN CHRONOLOGICAL ORDER ACCORDING TO DATE OF SIGNATURE	TYPE OF AGREEMENT		GEOGRAPHICAL RELATIONSHIP			METHOD OF DELIMITATION			EFFECT OF GEOGRAPHICAL FEATURES					REMARKS
		Continental Shelf Boundary	Maritime Boundary	Opposite Coasts	Adjacent Coasts	Opposite and Adjacent Coasts	Equidistance Strict or Simplified	Modified Equidistance	Non-Equidistance	Full Effect To Islands	Partial Effect To Islands	Partial Effect To Islands In Boundary Area	Islands Disregarded	Basepoints On Third State	
57	India/Indonesia 14 January 1977	X				X	X			X					The agreement extends the boundary northeastward and southwestward for a total length of 296 miles.
58	United States of America/ Union of Soviet Socialist Republics January/February 1977		X	X					X						In 1977 the two States agreed to utilize the line established by the 1867 Treaty of Washington as their maritime boundary.
59	Colombia/Costa Rica 17 March 1977*		X	X					X						Albuquerque Cays appear to have been given full effect for purposes of delimitation. The meridian of 82°14' west conflicts with the terms of the Colombia-Nicaragua Treaty of 1930.
60	Italy/Greece 24 May 1977	X		X				X			X				The boundary has been modified to give partial effect to small Greek islands.
61	Haiti/Cuba 27 October 1977		X	X				X					X		Navassa, a small island under U.S. sovereignty, has been disregarded as a basepoint in the construction of the median line. The Cayman Trench was disregarded.
62	United States of America/Cuba 16 December 1977*		X	X				X		X					The boundary is a compromise equidistance line based on two equidistance lines constructed respectively between normal baselines and straight baselines.
63	Colombia/ Dominican Republic 13 January 1978		X	X			X			X					The boundary has a minimum length of 103 miles.
64	Colombia/Haiti 17 February 1978		X	X				X					X		The boundary utilizes the equidistance method but denies <i>Morant Cays</i> status as a basepoint for Jamaica.

*Not yet in force

Figure Number	AGREEMENTS IN CHRONOLOGICAL ORDER ACCORDING TO DATE OF SIGNATURE	TYPE OF AGREEMENT		GEOGRAPHICAL RELATIONSHIP			METHOD OF DELIMITATION			EFFECT OF GEOGRAPHICAL FEATURES					REMARKS
		Continental Shelf Boundary	Maritime Boundary	Opposite Coasts	Adjacent Coasts	Opposite and Adjacent Coasts	Equidistance Strict or Simplified	Modified Equidistance	Non-Equidistance	Full Effect To Islands	Partial Effect To Islands	Partial Effect To Islands In Boundary Area	Islands Disregarded	Basepoints On Third State	
65	Venezuela/ United States of America 28 March 1978		X	X			X			X				X	65% of the boundary is equidistant between Venezuela and U.S.A. islands. The Netherlands islands of Curacao and Bonaire have been utilized by Venezuela as basepoints for the remaining 35%. The Muertos Trough was disregarded.
66A	Venezuela/Netherlands (Aruba, Curacao, Bonaire) 30 March 1978		X			X				X					Points 1 and 13 are equidistant between the Netherlands Antilles and the Dominican Republic and have been utilized by Venezuela in a later agreement with the Dominican Republic. (No. 73)
66B	Venezuela/Netherlands (Saba/Aves Island) 30 March 1978		X	X			X			X					Aves Island, which cannot sustain human habitation without external support, has been given full effect as a basepoint.
67A	United States of America/Mexico (Caribbean Sea) 4 May 1978*		X			X	X			X					Arrecife Alacran, an extensive reef containing five islets situated 66 miles off the Yucatan peninsula, has been given full effect as a basepoint. The Sigsbee Deep was disregarded.
67B	United States of America/Mexico (Pacific Ocean) 4 May 1978*		X			X	X			X					The boundary is 270 miles in length and has been simplified by reducing the turning points from thirteen to three. Equal exchanges of areas resulted from the simplification.
68	India/Thailand 22 June 1978	X		X						X				X	The boundary is equidistant between India and Indonesia from turning point 1 to 2, and between India and Thailand between points 2 to 8. The boundary disregards a submarine depression between India and the boundary.
69	Sweden/ German Democratic Republic 22 June 1978		X	X			X			X					The boundary terminates to the east and to the west at the Denmark/Sweden/G.D.R. tripoints.

*Not yet in force

Figure Number	AGREEMENTS IN CHRONOLOGICAL ORDER ACCORDING TO DATE OF SIGNATURE	TYPE OF AGREEMENT		GEOGRAPHICAL RELATIONSHIP			METHOD OF DELIMITATION			EFFECT OF GEOGRAPHICAL FEATURES					REMARKS
		Continental Shelf Boundary	Maritime Boundary	Opposite Coasts	Adjacent Coasts	Opposite and Adjacent Coasts	Equidistance Strict or Simplified	Modified Equidistance	Non-Equidistance	Full Effect To Islands	Partial Effect To Islands	Partial Effect To Islands In Boundary Area	Islands Disregarded	Basepoints On Third State	
70	Turkey/ Union of Soviet Socialist Republics 23 June 1978	X				X	X								The boundary is 448 miles in length and terminates 30 miles short of the USSR/Turkey/Romania tripoint.
71	Australia/ Papua New Guinea 18 December 1978*		X	X					X						The equidistance method has been utilized for the first three points in the Arafura Sea. Thereafter the boundary is non-equidistant.
72	Norway/ United Kingdom 22 December 1978	X				X	X			X					The boundary is an extension of the 1965 boundary, 142 miles in length, terminating at the U.K./Denmark/Norway tripoint.
73	Venezuela/ Dominican Republic 3 March 1979		X	X				X		X				X	The boundary comprises two segments. Venezuela has utilized Curacao on the east and Aruba on the west as basepoints for determining the boundary.
74	Denmark (Faeroes) /Norway 15 June 1979		X	X			X			X					The boundary is 33 miles in length and extends from the U.K./Denmark/Norway tripoint to a point 200 miles from Denmark and Norway.
75	Malaysia/Thailand (Gulf of Thailand) 24 October 1979	X			X				X						The boundary is 90 miles in length and terminates at the Indonesia/Malaysia/Thailand Common Point.
76	France/Tonga 11 January 1980		X			X	X								The agreement stipulates that the delimitation be in accordance with the equidistance method and in conformity with the application of fair principles.
77A	Costa Rica/Panama (Caribbean Sea) 2 February 1980		X		X			X					X		In accordance with the agreement, the boundary is a "median line whose points are all equidistant from the points nearest the base from which the width of the territorial sea of each State is measured".

*Not yet in force

Figure Number	AGREEMENTS IN CHRONOLOGICAL ORDER ACCORDING TO DATE OF SIGNATURE	TYPE OF AGREEMENT		GEOGRAPHICAL RELATIONSHIP			METHOD OF DELIMITATION			EFFECT OF GEOGRAPHICAL FEATURES					REMARKS
		Continental Shelf Boundary	Maritime Boundary	Opposite Coasts	Adjacent Coasts	Opposite and Adjacent Coasts	Equidistance Strict or Simplified	Modified Equidistance	Non-Equidistance	Full Effect To Islands	Partial Effect To Islands	Partial Effect To Islands In Boundary Area	Islands Disregarded	Basepoints On Third State	
77B	Costa Rica/Panama (Pacific Ocean) 2 February 1980		X		X			X					X		In accordance with the agreement, the boundary is a "median line whose points are all equidistant from the points of land nearest to the base from which the width of the territorial sea of each State is measured".
78	Mauritius/France 2 April 1980		X			X	X								The boundary is 362 miles in length and extends from the Reunion/Tromelin/Mauritius tripoint to a point 200 miles from Mauritius and Reunion.
79	United States of America/ Cook Islands 11 June 1980		X	X			X								Rose Island and Suvorov Island are uninhabited but have been given full effect as basepoints.
80	Venezuela/France 17 July 1980		X	X					X						The boundary is constituted by the meridian of 62°48'50" west longitude. It has been assumed that the boundary is formed of two segments to allow for delimitation with Dominica. The Grenada Basin was disregarded.
81	Burma/Thailand 25 July 1980		X			X	X			X					The boundary terminates short of the Burma/Thailand/India tripoint.
82	Tokelau/ United States of America 2 December 1980		X			X	X								The boundary, 318 miles in length, has been simplified by reducing the number of turning points from 22 to 8. Virtually no exchange of areas was involved.
83	Indonesia/ Papua New Guinea 13 December 1980	X				X	X			X					The boundary is an extension of the 1971 boundary to 200 miles from the baselines from which the territorial sea is measured.
84	France/Brazil 30 January 1981		X		X			X		X					The outer limit of the boundary is not specified. The boundary to 200 miles effects an exchange of areas of approximate equivalence.

Figure Number	AGREEMENTS IN CHRONOLOGICAL ORDER ACCORDING TO DATE OF SIGNATURE	TYPE OF AGREEMENT		GEOGRAPHICAL RELATIONSHIP			METHOD OF DELIMITATION			EFFECT OF GEOGRAPHICAL FEATURES					REMARKS
		Continental Shelf Boundary	Maritime Boundary	Opposite Coasts	Adjacent Coasts	Opposite and Adjacent Coasts	Equidistance Strict or Simplified	Modified Equidistance	Non-Equidistance	Full Effect To Islands	Partial Effect To Islands	Partial Effect To Islands In Boundary Area	Islands Disregarded	Basepoints On Third State	
85	St. Lucia/France 4 March 1981		X			X	X								The boundary commences at the St. Lucia/France/Venezuela tripoint and terminates at the St. Lucia/France/Barbados tripoint.
86	Norway/Iceland 22 October 1981	X		X				X							Where the distance between Iceland and Jan Mayen is less than 400 nautical miles, the continental shelf boundary is constituted by the outer limit of the Icelandic E.E.Z. A submarine depression between the Jan Mayen Ridge and Iceland was disregarded.
87 A	France/Australia (Coral Sea) 4 January 1982		X			X		X	X						The boundary is non-equidistant between turning points R18 and R19, where the boundary traverses Lord Howe Rise beyond 200 miles from the coasts of the parties.
87 B	France/Australia (Indian Ocean) 4 January 1982		X			X	X								The line delimits the boundary between the French E.E.Z. and the Australian 200-mile fishing zone.
88	France/United Kingdom 24 June 1982	X		X			X								Permanent harbour works and low-tide elevations within 12 miles of the coasts of the parties were utilized as basepoints.

PART II. CONTINENTAL SHELF AND MARITIME BOUNDARY AGREEMENTS

Introduction

This Part provides a comprehensive record of State practice in the conclusion of agreements for the delimitation of maritime boundaries beyond the outer limits of the territorial sea¹. A distinction has been made between boundaries that apply only to the continental shelf, and boundaries that also apply to jurisdiction over the superjacent water column. The latter boundaries are designated as "maritime boundaries".

Each agreement is accompanied by an illustration of the boundary, prepared on the basis of the information provided in the agreement or in official charts attached thereto.

Where the boundary differs from an equidistance line to an extent that would be apparent on the illustration, a hypothetical equidistance line has been shown. These hypothetical lines have been constructed strictly according to the equidistance method except in the following cases. In the illustrations of the boundaries between Abu Dhabi and Dubai², Abu Dhabi and Qatar³, Costa Rica and Panama⁴, and Sharjah and Umm al Qaiwain⁵, islands have been ignored in the construction of the hypothetical equidistance line in order to be consistent with the practice of those States. Similarly, in the illustration of the boundary between Colombia and Panama (Caribbean Sea)⁶, half effect only was given to the uninhabited Albuquerque and Southeast Cays, and the disputed Roncador and Northwest Rocks were disregarded as basepoints in the construction of the hypothetical equidistance line. In the illustration of the boundary between Sweden and Finland⁷, the hypothetical equidistance line has been constructed from the straight baselines used by the parties in the delimitation of their territorial sea.

Additional information, such as the location of the territorial sea boundary, the existence of a joint resource exploitation area, straight baselines from which the boundary has been drawn, or depth contours, has also been provided where appropriate. Although the scale on the maps may differ, parallels of latitude and meridians of longitude have been shown on each map as an indication of scale.

Each agreement is identified by date of signature, date of ratification where applicable, source of the text, and where it is known, the jurisdiction asserted by each of the Parties in respect of the superjacent waters. Generally a single source is provided for the text of each agreement. Many agreements have been obtained directly from the govern-

¹ For the purposes of this Annex, the territorial sea is taken to extend no more than 12 nautical miles in breadth.

² Figure 18.

³ Figure 22.

⁴ Figures 77A and 77B.

⁵ Figure 8.

⁶ Figure 55A.

⁷ Figures 36A and 36B.

ments concerned and no published source has been located. Translations from the original language have been provided by the Office of the Secretary of State, Government of Canada. The agreements between France and Spain and Colombia and Haiti are provided in the French language only.

The following sources have been used for published agreements:

Atlante dei Confini Sottomarini (Atlas of the Seabed Boundaries) edited by Benedetto Conforti and Giampiero Francalanci, 1979	Atlas of the Seabed Boundaries
International Legal Materials	I.L.M.
League of Nations Treaty Series	L.N.T.S.
<i>Limits in the Seas</i> , United States Department of State, Bureau of Intelligence and Research, Office of the Geographer	Limits in the Seas
<i>New Directions in the Law of the Sea</i> , edited by Nordquist <i>et al.</i> , 10 vols.	New Directions
Treaties and Other International Agreements of the United States of America 1776 — 1949, Bevans ed.	T.I.A.S. (Bevans)
United Nations Legislative Series	ST/LEG/SER.B
United Nations Treaty Series	U.N.T.S.

**CHRONOLOGICAL LIST OF CONTINENTAL SHELF
AND MARITIME BOUNDARY AGREEMENTS
ACCORDING TO DATE OF SIGNATURE**

[Not reproduced]

**ALPHABETICAL LIST OF CONTINENTAL SHELF AND
MARITIME BOUNDARY AGREEMENTS**

[Not reproduced]

**CONTINENTAL SHELF AND MARITIME BOUNDARY
AGREEMENTS, TOGETHER WITH AN ILLUSTRATION OF THE
BOUNDARY, IN CHRONOLOGICAL ORDER ACCORDING
TO DATE OF SIGNATURE**

Agreement 1

**CONTINENTAL SHELF BOUNDARY AGREEMENT BETWEEN THE UNITED KINGDOM
ON BEHALF OF TRINIDAD AND TOBAGO AND VENEZUELA**

Date of signature: 26 February 1942
Date of ratification: 22 September 1942
Source: 205 *LNTS* 122

[Not reproduced]

Agreement 2

**MARITIME BOUNDARY AGREEMENT BETWEEN CHILE AND PERU BY JOINT
DECLARATION ON THE MARITIME ZONE**

Date of signature: 18 August 1952
Date of ratification: Chile 23 September 1954
Peru 6 May 1955
Source: *Limits in the Seas*, No. 86

[Not reproduced]

Agreement 3

**MARITIME BOUNDARY AGREEMENT BETWEEN PERU AND ECUADOR BY JOINT
DECLARATION ON THE MARITIME ZONE**

Date of signature: 18 August 1952
Date of ratification: Peru 6 May 1955
Ecuador 7 February 1975
Source: *Limits in the Seas*, No. 88

[Not reproduced]

Agreement 4**CONTINENTAL SHELF BOUNDARY AGREEMENT BETWEEN NORWAY AND THE UNION
OF SOVIET SOCIALIST REPUBLICS**

Date of signature: 15 February 1957

Date of ratification: 24 April 1957

**PROTOCOL RELATING TO THE DIVISION OF THE CONTINENTAL SHELF IN THE
VARANGERFJORD**

Date of signature: 29 November 1957

Date of ratification: 17 March 1958

*Source: Limits in the Seas, No. 17**[Not reproduced]*

Agreement 5**CONTINENTAL SHELF BOUNDARY AGREEMENT BETWEEN SAUDI ARABIA AND
BAHRAIN**

Date of signature: 22 February 1958

Date of ratification: In force on signature

*Source: ST/LEG/SER.B/16, p. 409**[Not reproduced]*

Agreement 6**MARITIME BOUNDARY AGREEMENT BETWEEN SENEGAL AND GUINEA-BISSAU**

Date of signature: 26 April 1960

Date of ratification: In force on signature

*Source: Limits in the Seas, No. 68**[Not reproduced]*

Agreement 7

CONTINENTAL SHELF BOUNDARY AGREEMENT BETWEEN THE NETHERLANDS AND
THE FEDERAL REPUBLIC OF GERMANY

Date of signature: 1 December 1964
Date of ratification: 18 September 1965
Source: 550 UNTS 123

[Not reproduced]

Agreement 8

CONTINENTAL SHELF BOUNDARY AGREEMENT BETWEEN SHARJAH AND
UMM AL QAIWAIN

Date of signature: Undated 1964
Date of ratification: In force on signature
*Source: United States Counter-Memorial, Deposited Materials,
Vol. 31, Doc. No. 158*

[Not reproduced]

Agreement 9

CONTINENTAL SHELF BOUNDARY AGREEMENT BETWEEN NORWAY AND THE UNITED
KINGDOM

Date of signature: 10 March 1965
Date of ratification: 29 June 1965
Source: 551 UNTS 214

[Not reproduced]

Agreement 10

CONTINENTAL SHELF BOUNDARY AGREEMENT BETWEEN FINLAND AND THE UNION
OF SOVIET SOCIALIST REPUBLICS

Date of signature: 20 May 1965
Date of ratification: 25 May 1966
Source: 566 UNTS 37

[Not reproduced]

Agreement 11

CONTINENTAL SHELF BOUNDARY AGREEMENT BETWEEN DENMARK AND THE
FEDERAL REPUBLIC OF GERMANY (NORTH SEA)

Date of signature: 9 June 1965
Date of ratification: 27 May 1966
Source: 570 UNTS 91

[Not reproduced]

Agreement 12

CONTINENTAL SHELF BOUNDARY AGREEMENT BETWEEN DENMARK AND THE
FEDERAL REPUBLIC OF GERMANY (BALTIC SEA)

Date of signature: 9 June 1965
Date of ratification: 7 June 1977
Source: 570 UNTS 91; and Government of Denmark

[Not reproduced]

Agreement 13

CONTINENTAL SHELF BOUNDARY AGREEMENT BETWEEN THE NETHERLANDS AND
THE UNITED KINGDOM

Date of signature: 6 October 1965
Date of ratification: 23 December 1966
Source: 595 UNTS 113

AMENDING PROTOCOL

Date of signature: 25 November 1971
Date of ratification: 7 December 1972
Source: ST/LEG/SER.B/16, p. 430

[Not reproduced]

Agreement 14

CONTINENTAL SHELF BOUNDARY AGREEMENT BETWEEN DENMARK AND NORWAY
(NORTH SEA)

Date of signature: 8 December 1965
Date of ratification: 22 June 1966
Source: 634 UNTS 71

AMENDING AGREEMENT

Date of signature: 24 April 1968
Date of ratification: In force on signature
Source: ST/LEG/SER.B/16, p. 412

[Not reproduced]

Agreement 15**CONTINENTAL SHELF BOUNDARY AGREEMENT BETWEEN THE UNITED KINGDOM
AND DENMARK**

Date of signature: 3 March 1966
Date of ratification: 6 February 1967
Source: 592 UNTS 209

AMENDING AGREEMENT

Date of signature: 25 November 1971
Date of ratification: 7 December 1972
Source: ST/LEG/SER.B/16, p. 431

[Not reproduced]

Agreement 16**CONTINENTAL SHELF BOUNDARY AGREEMENT BETWEEN FINLAND AND THE UNION
OF SOVIET SOCIALIST REPUBLICS (BALTIC SEA)**

Date of signature: 5 May 1967
Date of ratification: 15 March 1968
Source: 640 UNTS 111

[Not reproduced]

Agreement 17**CONTINENTAL SHELF BOUNDARY AGREEMENT BETWEEN ITALY AND YUGOSLAVIA**

Date of signature: 8 January 1968
Date of ratification: 21 January 1970
Source: Limits in the Seas, No. 9

[Not reproduced]

Agreement 18**CONTINENTAL SHELF BOUNDARY AGREEMENT BETWEEN ABU DHABI AND DUBAI**

Date of signature: 18 February 1968
Date of ratification: In force on signature
Source: *New Directions*, Vol. V, p. 214

[Not reproduced]

Agreement 19**CONTINENTAL SHELF BOUNDARY AGREEMENT BETWEEN SWEDEN AND NORWAY**

Date of signature: 24 July 1968
Date of ratification: 18 March 1969
Source: ST/LEG/SER.B/16, p. 413

[Not reproduced]

Agreement 20**CONTINENTAL SHELF BOUNDARY AGREEMENT BETWEEN SAUDI ARABIA AND IRAN**

Date of signature: 24 October 1968
Date of ratification: 29 January 1969
Source: 696 UNTS 189

[Not reproduced]

Agreement 21

**CONTINENTAL SHELF BOUNDARY AGREEMENT BETWEEN POLAND AND THE GERMAN
DEMOCRATIC REPUBLIC**

Date of signature: 29 October 1968

Date of ratification: 16 April 1969

Source: 768 UNTS 253

[Not reproduced]

Agreement 22

CONTINENTAL SHELF BOUNDARY AGREEMENT BETWEEN QATAR AND ABU DHABI

Date of signature: 30 March 1969

Date of ratification: In force on signature

Source: ST/LEG/SER.B/16, p. 403

[Not reproduced]

Agreement 23

**CONTINENTAL SHELF BOUNDARY AGREEMENT BETWEEN POLAND AND THE UNION
OF SOVIET SOCIALIST REPUBLICS**

Date of signature: 28 August 1969

Date of ratification: 13 May 1970

Source: 769 UNTS 75

[Not reproduced]

Agreement 24**CONTINENTAL SHELF BOUNDARY AGREEMENT BETWEEN IRAN AND QATAR**

Date of signature: 20 September 1969

Date of ratification: 10 May 1970

Source: 787 UNTS 165

[Not reproduced]

Agreement 25**CONTINENTAL SHELF BOUNDARY AGREEMENT BETWEEN MALAYSIA AND INDONESIA
(MALACCA STRAIT AND SOUTH CHINA SEA)**

Date of signature: 27 October 1969

Date of ratification: 7 November 1969

Source: ST/LEG/SER.B/16, p. 417

[Not reproduced]

Agreement 26**CONTINENTAL SHELF BOUNDARY AGREEMENT BETWEEN THE FEDERAL REPUBLIC OF
GERMANY AND DENMARK (NORTH SEA)**

Date of signature: 28 January 1971

Date of ratification: 7 December 1972

Source: ST/LEG/SER.B/16, p. 424

[Not reproduced]

Agreement 27

**CONTINENTAL SHELF BOUNDARY AGREEMENT BETWEEN THE NETHERLANDS AND
THE FEDERAL REPUBLIC OF GERMANY**

Date of signature: 28 January 1971
Date of ratification: 7 December 1972
Source: ST/LEG/SER.B/16, p. 419

[Not reproduced]

Agreement 28

**CONTINENTAL SHELF BOUNDARY AGREEMENT BETWEEN AUSTRALIA AND
INDONESIA (ARAFURA SEA AND PACIFIC OCEAN)**

Date of signature: 18 May 1971
Date of ratification: 8 November 1973
Source: *New Directions*, Vol. IV, p. 91

[Not reproduced]

Agreement 29

CONTINENTAL SHELF BOUNDARY AGREEMENT BETWEEN IRAN AND BAHRAIN

Date of signature: 17 June 1971
Date of ratification: 14 May 1972
Source: 826 UNTS 227

[Not reproduced]

Agreement 30**CONTINENTAL SHELF BOUNDARY AGREEMENT BETWEEN ITALY AND TUNISIA**

Date of signature: 20 August 1971
Date of ratification: 6 December 1978
Source: *Limits in the Seas*, No. 89

[Not reproduced]

Agreement 31**CONTINENTAL SHELF BOUNDARY AGREEMENT BETWEEN THE FEDERAL REPUBLIC OF GERMANY AND THE UNITED KINGDOM**

Date of signature: 25 November 1971
Date of ratification: 7 December 1972
Source: 880 UNTS 185

[Not reproduced]

Agreement 32**CONTINENTAL SHELF BOUNDARY AGREEMENT BETWEEN THAILAND AND INDONESIA**

Date of signature: 17 December 1971
Date of ratification: 16 July 1972
Source: ST/LEG/SER.B/18, p. 437

[Not reproduced]

Agreement 33**CONTINENTAL SHELF BOUNDARY AGREEMENT BETWEEN MALAYSIA AND INDONESIA
(MALACCA STRAIT EXT.)**

Date of signature: 21 December 1971

Date of ratification: 16 July 1972

Source: ST/LEG/SER.B/18, p. 429

[Not reproduced]

Agreement 34**CONTINENTAL SHELF BOUNDARY AGREEMENT BETWEEN MALAYSIA AND THAILAND
(ANDAMAN SEA)**

Date of signature: 21 December 1971

Date of ratification: 16 July 1972

Source: ST/LEG/SER.B/18, p. 429

[Not reproduced]

Agreement 35**MARITIME BOUNDARY AGREEMENT BETWEEN URUGUAY AND BRAZIL**

Date of signature: 21 July 1972

Date of ratification: 12 June 1975

Source: *Limits in the Seas*, No. 73*[Not reproduced]*

Agreement 36

CONTINENTAL SHELF BOUNDARY AGREEMENT BETWEEN FINLAND AND SWEDEN

Date of signature: 29 September 1972

Date of ratification: 15 January 1973

Source: ST/LEG/SER.B/18, p. 439

[Not reproduced]

Agreement 37

CONTINENTAL SHELF BOUNDARY AGREEMENT BETWEEN AUSTRALIA AND
INDONESIA (TIMOR AND ARAFURA SEAS EXT.)

Date of signature: 9 October 1972

Date of ratification: 8 November 1973

Source: ST/LEG/SER.B/18, p. 441

[Not reproduced]

Agreement 38

MARITIME BOUNDARY AGREEMENT BETWEEN AUSTRALIA AND INDONESIA
(ARAFURA SEA EXT.)

Date of signature: 26 January 1973

Date of ratification: 26 November 1974

Source: ST/LEG/SER.B/18, p. 444

[Not reproduced]

Agreement 39

MARITIME BOUNDARY AGREEMENT BETWEEN ARGENTINA AND URUGUAY

Date of signature: 19 November 1973
Date of ratification: 12 February 1974
Source: Government of Argentina

[Not reproduced]

Agreement 40

CONTINENTAL SHELF BOUNDARY AGREEMENT BETWEEN DENMARK AND CANADA

Date of signature: 17 December 1973
Date of ratification: 13 March 1974
Source: ST/LEG/SER.B/18, p. 447

[Not reproduced]

Agreement 41

CONTINENTAL SHELF BOUNDARY AGREEMENT BETWEEN SPAIN AND FRANCE

Date of signature: 29 January 1974
Date of ratification: 5 April 1975
Source: ST/LEG/SER.B/19, p. 445

[Not reproduced]

Agreement 42

CONTINENTAL SHELF BOUNDARY AGREEMENT AND AN AGREEMENT TO ESTABLISH
A JOINT DEVELOPMENT ZONE BETWEEN JAPAN AND THE REPUBLIC OF KOREA

Date of signature: 5 February 1974

Date of ratification: 22 June 1978

Source: Government of Japan

[Not reproduced]

Agreement 43

CONTINENTAL SHELF BOUNDARY AGREEMENT BETWEEN ITALY AND SPAIN

Date of signature: 19 February 1974

Date of ratification: 16 November 1978

Source: *Limits in the Seas*, No. 90

[Not reproduced]

Agreement 44

CONTINENTAL SHELF BOUNDARY AGREEMENT BETWEEN IRAN AND OMAN

Date of signature: 25 July 1974

Date of ratification: 28 May 1975

Source: ST/LEG/SER.B/19, p. 450

[Not reproduced]

Agreement 45

CONTINENTAL SHELF BOUNDARY AGREEMENT BETWEEN INDIA AND INDONESIA

Date of signature: 8 August 1974
Date of ratification: 17 December 1974
Source: *Limits in the Seas*, No. 62

[Not reproduced]

Agreement 46

**CONTINENTAL SHELF BOUNDARY AGREEMENT BETWEEN IRAN AND THE
UNITED ARAB EMIRATES**

Date of signature: 13 August 1974
Date of ratification: Not yet ratified
Source: *Limits in the Seas*, No. 63

[Not reproduced]

Agreement 47

**MARITIME BOUNDARY AGREEMENT BETWEEN SENEGAL AND GAMBIA
(NORTH AND SOUTH)**

Date of signature: 4 June 1975
Date of ratification: 27 August 1976
Source: *Limits in the Seas*, No. 85

[Not reproduced]

Agreement 48**MARITIME BOUNDARY AGREEMENT BETWEEN COLOMBIA AND ECUADOR**

Date of signature: 23 August 1975
Date of ratification: 22 December 1975
Source: ST/LEG/SER.B/19, p. 398

[Not reproduced]

Agreement 49**CONTINENTAL SHELF BOUNDARY AGREEMENT BETWEEN INDONESIA AND THAILAND**

Date of signature: 11 December 1975
Date of ratification: 18 February 1978
Source: Office of the Geographer, United States Department of State

[Not reproduced]

Agreement 50**CONTINENTAL SHELF BOUNDARY AGREEMENT BETWEEN PORTUGAL AND SPAIN
(NORTH AND SOUTH)**

Date of signature: 12 February 1976
Date of ratification: Not yet ratified
Source: Government of Spain

[Not reproduced]

Agreement 51

**MARITIME BOUNDARY AGREEMENT BETWEEN INDIA AND SRI LANKA
(BAY OF BENGAL AND INDIAN OCEAN)**

Date of signature: 23 March 1976

Date of ratification: 10 May 1976

SUPPLEMENTARY AGREEMENT

Date of signature: 22 November 1976

Date of ratification: 5 February 1977

Source: ST/LEG/SER.B/19, p. 402

[Not reproduced]

Agreement 52

**CONTINENTAL SHELF BOUNDARY AGREEMENT BETWEEN MAURITANIA AND
MOROCCO**

Date of signature: 14 April 1976

Date of ratification: Not yet ratified

Source: Government of Morocco

[Not reproduced]

Agreement 53

MARITIME BOUNDARY AGREEMENT BETWEEN KENYA AND TANZANIA

Date of signature: 9 July 1976

Date of ratification: In force on signature

Source: *Limits in the Seas*, No. 92

[Not reproduced]

Agreement 54**MARITIME BOUNDARY AGREEMENT BETWEEN CUBA AND MEXICO**

Date of signature: 26 July 1976

Date of ratification: In force on signature

Source: Government of Mexico

[Not reproduced]

Agreement 55**MARITIME BOUNDARY AGREEMENT BETWEEN COLOMBIA AND PANAMA
(CARIBBEAN SEA AND PACIFIC OCEAN)**

Date of signature: 20 November 1976

Date of ratification: 30 November 1977

Source: *Limits in the Seas*, No. 79

[Not reproduced]

Agreement 56**MARITIME BOUNDARY AGREEMENT BETWEEN INDIA AND MALDIVES**

Date of signature: 28 December 1976

Date of ratification: 8 June 1978

Source: *Limits in the Seas*, No. 78

[Not reproduced]

Agreement 57

CONTINENTAL SHELF BOUNDARY AGREEMENT BETWEEN INDIA AND INDONESIA

Date of signature: 14 January 1977
Date of ratification: 15 August 1977
Source: Government of India

[Not reproduced]

Agreement 58

**MARITIME BOUNDARY AGREEMENT BETWEEN THE UNITED STATES OF AMERICA AND
THE UNION OF SOVIET SOCIALIST REPUBLICS**

Date of signature: January-February 1977
Date of ratification: In force on signature
Source: 11 TIAS (Bevans) 1216; M. B. Feldman and D. Colson, "The Maritime
Boundaries of the United States", *American Journal of International Law*,
Vol. 75, No. 4, 1981, pp. 729-730

[Not reproduced]

Agreement 59

MARITIME BOUNDARY AGREEMENT BETWEEN COLOMBIA AND COSTA RICA

Date of signature: 17 March 1977
Date of ratification: Not yet ratified
Source: Government of Colombia

[Not reproduced]

Agreement 60**CONTINENTAL SHELF BOUNDARY AGREEMENT BETWEEN ITALY AND GREECE**

Date of signature: 24 May 1977
Date of ratification: 12 November 1982
Source: Government of Greece

[Not reproduced]

Agreement 61**MARITIME BOUNDARY AGREEMENT BETWEEN HAITI AND CUBA**

Date of signature: 27 October 1977
Date of ratification: 6 January 1978
Source: *New Directions*, Vol. VIII, p. 69

[Not reproduced]

Agreement 62**MARITIME BOUNDARY AGREEMENT BETWEEN THE UNITED STATES OF AMERICA AND
CUBA**

Date of signature: 16 December 1977
Date of ratification: Not yet ratified
Source: Office of the Geographer, United States Department of State

[Not reproduced]

Agreement 63

**MARITIME BOUNDARY AGREEMENT BETWEEN COLOMBIA AND THE DOMINICAN
REPUBLIC**

Date of signature: 13 January 1978
Date of ratification: 15 February 1979
Source: Government of Colombia

[Not reproduced]

Agreement 64

MARITIME BOUNDARY AGREEMENT BETWEEN COLOMBIA AND HAITI

Date of signature: 17 February 1978
Date of ratification: 16 February 1979
Source: Government of Colombia

[Not reproduced]

Agreement 65

**MARITIME BOUNDARY AGREEMENT BETWEEN VENEZUELA AND THE UNITED STATES
OF AMERICA**

Date of signature: 28 March 1978
Date of ratification: 24 November 1980
Source: Office of the Geographer, United States Department of State

[Not reproduced]

Agreement 66

MARITIME BOUNDARY AGREEMENT BETWEEN VENEZUELA AND THE NETHERLANDS
(ARUBA, CURAÇAO, BONAIRE, SABA, AVES ISLAND)

Date of signature: 30 March 1978
Date of ratification: 15 December 1978
Source: Government of the Netherlands

[Not reproduced]

Agreement 67

MARITIME BOUNDARY AGREEMENT BETWEEN THE UNITED STATES OF AMERICA AND
MEXICO (CARIBBEAN SEA AND PACIFIC OCEAN)

Date of signature: 4 May 1978
Date of ratification: Not yet ratified
Source: Office of the Geographer, United States Department of State

[Not reproduced]

Agreement 68

CONTINENTAL SHELF BOUNDARY AGREEMENT BETWEEN INDIA AND THAILAND

Date of signature: 22 June 1978
Date of ratification: 15 December 1978
Source: Government of India

[Not reproduced]

Agreement 69

**MARITIME BOUNDARY AGREEMENT BETWEEN SWEDEN AND THE GERMAN
DEMOCRATIC REPUBLIC**

Date of signature: 22 June 1978
Date of ratification: 20 December 1978
Source: Government of Sweden

[Not reproduced]

Agreement 70

**CONTINENTAL SHELF BOUNDARY AGREEMENT BETWEEN TURKEY AND THE UNION
OF SOVIET SOCIALIST REPUBLICS**

Date of signature: 23 June 1978
Date of ratification: 15 May 1981
Source: Government of Turkey

[Not reproduced]

Agreement 71

MARITIME BOUNDARY AGREEMENT BETWEEN AUSTRALIA AND PAPUA NEW GUINEA

Date of signature: 18 December 1978
Date of ratification: Not yet ratified
Source: Government of Australia

[Not reproduced]

Agreement 72

PROTOCOL SUPPLEMENTARY TO THE CONTINENTAL SHELF BOUNDARY AGREEMENT
OF 10 MARCH 1965 BETWEEN NORWAY AND THE UNITED KINGDOM

Date of signature: 22 December 1978
Date of ratification: 20 February 1980
Source: *Atlas of the Seabed Boundaries*, p. 30

[Not reproduced]

Agreement 73

MARITIME BOUNDARY AGREEMENT BETWEEN VENEZUELA AND THE DOMINICAN
REPUBLIC

Date of signature: 3 March 1979
Date of ratification: 15 January 1982
Source: Government of Venezuela

[Not reproduced]

Agreement 74

MARITIME BOUNDARY AGREEMENT BETWEEN DENMARK AND NORWAY (FAEROES)

Date of signature: 15 June 1979
Date of ratification: 3 June 1980
Source: Government of Denmark

[Not reproduced]

Agreement 75**CONTINENTAL SHELF BOUNDARY AGREEMENT BETWEEN MALAYSIA AND THAILAND
(GULF OF THAILAND)**

Date of signature: 24 October 1979

Date of ratification: 15 July 1982

**MEMORANDUM OF UNDERSTANDING ON THE ESTABLISHMENT OF A JOINT
AUTHORITY FOR THE EXPLOITATION OF THE RESOURCES OF THE SEABED**

Date of signature: 21 February 1979

Date of ratification: 24 October 1979

Source: Government of Malaysia

[Not reproduced]

Agreement 76**MARITIME BOUNDARY AGREEMENT BETWEEN FRANCE AND TONGA**

Date of signature: 11 January 1980

Date of ratification: In force on signature

Source: Government of France

The geographical co-ordinates of points for this maritime boundary are not yet available and the boundary depicted in Figure 76 is hypothetical.

[Not reproduced]

Agreement 77**MARITIME BOUNDARY AGREEMENT BETWEEN COSTA RICA AND PANAMA
(CARIBBEAN SEA AND PACIFIC OCEAN)**

Date of signature: 2 February 1980

Date of ratification: 11 February 1982

Source: Office of the Geographer, United States Department of State

[Not reproduced]

Agreement 78**MARITIME BOUNDARY AGREEMENT BETWEEN MAURITIUS AND FRANCE**

Date of signature: 2 April 1980
Date of ratification: In force on signature
Source: Government of France

[Not reproduced]

Agreement 79**MARITIME BOUNDARY AGREEMENT BETWEEN THE UNITED STATES OF AMERICA AND
THE COOK ISLANDS**

Date of signature: 11 June 1980
Date of ratification: 8 September 1983
Source: Government of New Zealand

[Not reproduced]

Agreement 80**MARITIME BOUNDARY AGREEMENT BETWEEN VENEZUELA AND FRANCE**

Date of signature: 17 July 1980
Date of ratification: 28 January 1983
Source: Government of Venezuela

[Not reproduced]

Agreement 81

MARITIME BOUNDARY AGREEMENT BETWEEN BURMA AND THAILAND

Date of signature: 25 July 1980
Date of ratification: 12 April 1982
Source: Government of Thailand

[Not reproduced]

Agreement 82

**TREATY BETWEEN NEW ZEALAND AND THE UNITED STATES OF AMERICA ON THE
DELIMITATION OF THE MARITIME BOUNDARY BETWEEN TOKELAU AND THE UNITED
STATES OF AMERICA**

Date of signature: 2 December 1980
Date of ratification: 3 September 1983
Source: Government of New Zealand

[Not reproduced]

Agreement 83

**CONTINENTAL SHELF BOUNDARY AGREEMENT BETWEEN INDONESIA AND PAPUA
NEW GUINEA (PACIFIC OCEAN EXT.)**

Date of signature: 13 December 1980
Date of ratification: 10 July 1982
Source: Government of Australia

[Not reproduced]

Agreement 84**MARITIME BOUNDARY AGREEMENT BETWEEN FRANCE AND BRAZIL**

Date of signature: 30 January 1981
Date of ratification: Not yet ratified
Source: Government of Brazil

[Not reproduced]

Agreement 85**MARITIME BOUNDARY AGREEMENT BETWEEN ST. LUCIA AND FRANCE**

Date of signature: 4 March 1981
Date of ratification: In force on signature
Source: Government of St. Lucia

[Not reproduced]

Agreement 86**CONTINENTAL SHELF BOUNDARY AGREEMENT BETWEEN NORWAY AND ICELAND**

Date of signature: 22 October 1981
Date of ratification: 2 June 1982
Source: Government of Norway

[Not reproduced]

Agreement 87

**MARITIME BOUNDARY AGREEMENT BETWEEN FRANCE AND AUSTRALIA (CORAL SEA
AND INDIAN OCEAN)**

Date of signature: 4 January 1982
Date of ratification: 9 January 1983
Source: Government of Australia

[Not reproduced]

Agreement 88

**CONTINENTAL SHELF BOUNDARY AGREEMENT BETWEEN FRANCE AND THE UNITED
KINGDOM**

Date of signature: 24 June 1982
Date of ratification: 4 February 1983
**Source: Government of the United Kingdom of Great Britain and Northern
Ireland**

[Not reproduced]

CERTIFICATION

I, the undersigned, L. H. Legault, Q.C., Agent for Canada, hereby certify that the copy of each Agreement contained in Volume I of the Annexes to the Reply Submitted by Canada is an accurate copy of the text of the Agreement available to the Government of Canada, whether prepared by photographic means or by transcription.

(Signed) L. H. LEGAULT, Q.C.

Volume II

SUPPLEMENTARY EVIDENCE AND MISCELLANEOUS DOCUMENTS

PREFACE

Part I of this Annex is submitted in support of Part II, Chapter V of the Reply Submitted by Canada. It presents supplementary statistical evidence of the economic dependence of southwest Nova Scotia on Georges Bank and demonstrates the absence of any comparable dependence in the United States.

Part II of this Annex is also submitted in support of Part II, Chapter V of the Reply Submitted by Canada. It presents supplementary evidence of the non-statistical and statistical history of the Canadian fisheries in the Georges Bank area and demonstrates that the Canadian fisheries in that area have deep historical roots.

Part III of this Annex is submitted in support of Part II, Chapter IV of the Reply Submitted by Canada. It responds to — and demonstrates the erroneous assumptions of — certain arguments made by the United States concerning United States geophysical survey permits.

Part IV of this Annex reproduces miscellaneous documents cited in *support of contentions made in the Reply Submitted by Canada.*

**PART I. THE HUMAN DIMENSION:
SUPPLEMENTARY SOCIO-ECONOMIC EVIDENCE**

INTRODUCTION

1. Much evidence has been presented in the Canadian Memorial and Counter-Memorial respecting the important contribution made by the Georges Bank fishery to Nova Scotia, and in particular to southwest Nova Scotia, which is the closest landfall to the disputed fishing grounds on Georges Bank. The benefits of this fishery are widely distributed throughout the regional economy of Nova Scotia. The United States, in the Annexes to its Counter-Memorial (Volume III, Annex 4, Appendix B), concedes that the dependence of Nova Scotia on the disputed fishing grounds is greater than that of New England; nevertheless, elsewhere in its Counter-Memorial, the United States endeavours to dismiss as unimportant the economic impact which the United States line, if adopted, would have on Nova Scotia. Accordingly, this Part presents further statistical evidence of the economic dependence of Nova Scotia upon Georges Bank, and the lack of any comparable dependence on the part of New England in general and Massachusetts in particular.

2. The body of this Part summarizes and places in context the evidence presented in the technical appendices. Appendix 1 presents a detailed analysis of the consequences of the United States line for the economy of Nova Scotia. Appendix 2 reproduces an economic base model for southwest Nova Scotia for 1971 and 1981, which both explains and calculates the "multiplier" effect by which the initial economic shock of loss of access to Georges Bank would be magnified as it works its way through the regional economy. Appendix 3 examines the dependence of the small communities of southwest Nova Scotia on the resources of Georges Bank, focusing on the Clark's Harbour area. Appendix 4 records the relevant activity of the small vessel fleet of southwest Nova Scotia on the disputed fishing grounds. Appendix 5 outlines the growth and diversification of the fish processing industry in southwest Nova Scotia in reliance on continuing access to Georges Bank. Appendix 6 reviews Canadian and United States fisheries policies and government assistance to the fishing industry.

CHAPTER I

SUMMARY OF EVIDENCE THAT THE DISPUTED FISHING GROUNDS
ARE OF FAR GREATER ECONOMIC IMPORTANCE TO CANADA AND
NOVA SCOTIA THAN THEY ARE TO THE UNITED STATES AND
MASSACHUSETTS IN TERMS OF EMPLOYMENT AND
GROSS DOMESTIC PRODUCT

3. Canada and the United States agree that employment and income (gross domestic product or GDP) are appropriate measures for expressing the significance of fishing activity in its economic dimension¹. With respect to the factor of non-disturbance of established economic interests, the United States has conceded in the Annexes to its Counter-Memorial (Volume III, Annex 4, Appendix B), that more jobs and more income are created in Canada by the Canadian fishery on Georges Bank than are created in the United States by the corresponding United States fishery. This concession is made in absolute terms.

4. Equally important, however, is the *relatively* greater dependency of Nova Scotia on Georges Bank compared with the relative lack of economic dependence on the disputed fishing grounds on the part of the United States and, in particular, Massachusetts. This difference arises from the contrasting structure of the two economies, and the much greater social and economic importance attached to the fishing industry in the five counties of Nova Scotia than in the nine counties of eastern Massachusetts.

5. Appendix I to this Part provides further evidence in support of the contentions in Canada's Counter-Memorial that the regional economy of southwest Nova Scotia, in comparison with Massachusetts, is rural and one-dimensional. Southwest Nova Scotia is not as disadvantaged as some other areas of Atlantic Canada, where average unemployment rates are 3 to 4 percentage points higher than the rate for Canada as a whole, and personal income per capita is some 20 to 35 percent lower than the national average². But southwest Nova Scotia has a relatively small population and a narrow economic base. Its communities depend heavily on financial transfers from the federal government to maintain a standard of health, education and general government services comparable to that enjoyed in the more prosperous regions of the country. The fishing industry is an important element in the regional economy in general, and in some areas is the sole source of employment and income. Southwest Nova Scotia accounts for the largest portion of the value of fish landings in Nova Scotia and for the highest proportion of individuals dependent on the fishery for their livelihood [Figures 1 and 2]. To the extent that southwest Nova Scotia enjoys a marginally higher standard of living than that prevailing in Atlantic Canada generally, this situation is owed to its continued access to the fishing grounds of Georges Bank.

(181)

¹ *United States Counter-Memorial, Socio-Economic Annex*, Vol. III, Annex 4, p. 11, para. 10.

² *Canadian Memorial, Annexes*, Vol. IV, sec. 1, Tables A-1 and A-2.

6. Eastern Massachusetts, in contrast, has a broadly based economy powered by a strong manufacturing sector. Its rate of unemployment is generally lower than the United States average, and its wages are generally higher³. The fishing industry is a small and declining element in its diversified economy, and therefore fluctuations in the value of its fishery are of less significance to its population.

7. To assess the relative importance of the Georges Bank fishery to the economies of Nova Scotia and Massachusetts, the Parties have agreed that two criteria are of paramount interest⁴:

- (a) the contribution of the disputed fishing grounds to gross domestic product; and
- (b) the contribution of the disputed fishing grounds to employment.

The analysis in the following sections uses Canada's economic estimates in relation to southwest Nova Scotia and the United States economic estimates in relation to New England.

Section I. Contribution of the Disputed Fishing Grounds to Gross Domestic Product

8. The United States Counter-Memorial asserts that southwest Nova Scotia fishermen in general receive higher incomes than fishermen elsewhere in the province⁵. In fact, this is true in large part because the Georges Bank fishery yields higher than average returns to labour and capital when compared with other major fisheries of the Atlantic Region. Three factors account for this:

- (a) the principal species harvested, the sea scallop, commands a market price significantly higher per unit of weight than other species;
- (b) the sea scallop can be harvested and processed with greater efficiency than other species, thus providing processors with higher returns; and
- (c) the traditional groundfish species (cod and haddock) are of greater than average size and of higher quality than the same species caught in most other areas to the north.

³ The unemployment rate in Massachusetts, 1980 was 5.6 percent while that of the United States was 7.1 percent. Per capita person income in Massachusetts, 1980 was U.S.\$10,039 compared to the national average of U.S.\$9,480. *Employment and Earnings*, United States Department of Labor, Bureau of Labor Statistics, Vol. 29, No. 12, Washington, Government Printing Office, December 1982, p. 6. *Survey of Current Business*, United States Department of Commerce, Bureau of Economic Analysis, Vol. 62, No. 8, Washington, Government Printing Office, August 1982, p. 57. *Statistical Abstract of the United States, 1981*, United States Department of Commerce, Bureau of the Census, p. 392. See Documentary Appendix 1, Documents 1-3.

⁴ *United States Counter-Memorial, Socio-Economic Annex*, Vol. III, Annex 4, pp. 12-19, paras. 11-20.

⁵ *United States Counter-Memorial, Socio-Economic Annex*, Vol. III, Annex 4, p. 36, para. 45, footnote 3.

9. The analysis set out in Appendix 1 to this Part demonstrates that the contraction of fishing industry operations in Nova Scotia that would result from loss of access to Georges Bank would produce a direct decline in GDP of \$64 million annually⁶.

10. For the reasons set out in Canada's Counter-Memorial, the profitable Georges Bank fishery is able to support a substantial segment of the offshore fleet and related infrastructure, and also serves as an important source of revenue for the small vessel fleet. The "ripple effect" of a decline in the Georges Bank fleet would multiply the initial reduction in GDP as the downturn worked its way through the economic system. Canada estimates this further drop in GDP at \$82 million annually⁷. If the total drop of \$146 million was concentrated in southwest Nova Scotia, it would represent a decline of 17 percent of the annual regional GDP of southwest Nova Scotia [Figure 3].

11. The United States, on the other hand, claims that its Georges Bank fishery contributes a total of approximately U.S.\$58 million to the New England economy⁸. This represents 0.1 percent of the regional economy of eastern Massachusetts. The United States does not emphasize this relatively insignificant drop in GDP: *first*, because this income "loss" is likely recoverable from the large part of Georges Bank that would be left within undisputed United States jurisdiction; and *secondly*, because the United States does not suggest that a decline in GDP of this magnitude (even if it occurred) would have any significant impact on the economic vitality of Massachusetts.

12. In making its assessment of relative economic dependence, therefore, the Court is invited to weigh a loss of \$146 million in a regional GDP of \$860 million in southwest Nova Scotia, against a loss of U.S.\$58 million in a regional GDP of U.S.\$51,500 million in eastern Massachusetts⁹. Expressed in terms of income, therefore, Canada's dependence on the disputed fishing grounds is approximately 150 times greater than that of the United States.

⁶ Appendix 1, Table 1, p. 32. Data from 1980, the latest year for which information is available on most variables under consideration, are used throughout Part I of this Annex.

⁷ Appendix 1, sec. I, Table 1, p. 32.

⁸ Appendix 1, Table 2, p. 33.

⁹ The nine counties of eastern Massachusetts account for 79 percent of the total state payroll in 1980. It is therefore assumed that these counties account for 79 percent of state GDP. Massachusetts GDP in 1980 was U.S.\$65,154 million. Therefore the GDP of eastern Massachusetts is estimated to be U.S.\$51,500 million. *County Business Patterns, 1980, Massachusetts*, United States Department of Commerce, Bureau of the Census, CBP-80-23, March 1982, Table 1E, p. 21. (Hereinafter cited as *County Business Patterns, 1980, Massachusetts*.) Due to the number of references to this document, excerpts have not been appended to this Volume. The document has been deposited in full with Canada's Reply. *New England Economic Indicators*, Federal Reserve Bank of Boston, Boston, Massachusetts, June 1982, p. A-5. See Documentary Appendix 2.

Section II. Contribution of the Disputed Fishing Grounds to Regional Employment

13. A second useful comparison is to measure the number of jobs put at risk by the respective claims of the Parties. Appendix 1 to this Part demonstrates that the loss of access to Georges Bank would result in the permanent disappearance of approximately 2,250 full-time jobs in direct fishing activity in Nova Scotia, 1,550 in fish harvesting and 700 in fish processing¹⁰. The loss of these jobs would be confined to southwest Nova Scotia. Manufacturing supply and service companies whose operations depend in whole or in part on the fishing industry would also be adversely affected as fishing activity declined. The reasons for this "multiplier" effect are outlined in Appendix 2. This wider impact would ultimately result in further losses of employment. Canada estimates these further losses at about 1,350 full-time jobs¹¹. Thus, the total permanent loss of employment arising from loss of access to Georges Bank would be in the range of 3,600 full-time jobs. This represents 8 percent of the employed work force in southwest Nova Scotia¹².

14. The United States has estimated that the northeastern portion of Georges Bank supports 430 jobs in fish harvesting and 453 jobs in fish processing in New England. The United States asserts that these jobs, in turn, indirectly support another 617 jobs¹³. Thus total employment claimed by the United States to be directly or indirectly supported by its fishery on the northeastern portion of Georges Bank is 1,500 jobs. This represents 0.08 percent of the regional work force of eastern Massachusetts¹⁴. But, in fact, the United States does not claim that even these jobs would necessarily be at risk if the Court adopted the single maritime boundary proposed by Canada, because more than half of the fishing grounds of Georges Bank would remain within undisputed United States jurisdiction. (Under the United States definition of Georges Bank, the area within undisputed United States jurisdiction is considerably greater still.)

15. In assessing the relative economic dependence of the Parties on the disputed fishing grounds, therefore, the Court is invited to weigh the loss of 3,600 jobs in a regional employment base of 47,000 jobs in southwest Nova Scotia, against the possible loss of 1,500 jobs in a regional employment base of 1,780,300 jobs in eastern Massachusetts. In employment terms, accordingly, Canada's dependence on the disputed fishing grounds is 100 times greater than that of the United States.

16. On the basis of the income and employment analysis set out in Appendix 1, it is clear that Canada has a far greater economic

¹⁰ Appendix 1, sec. II, pp. 34-35, paras. 3-6.

¹¹ Appendix 1, sec. I, Table 1, p. 32.

¹² *The Labour Force, 1980*, Statistics Canada, Catalogue 71-001, 1980, Table 110, p. 130. See Documentary Appendix 3.

¹³ *United States Counter-Memorial, Socio-Economic Annex*, Vol. III, Annex 4, Appendix B, Introduction, Table 2, p. 3.

¹⁴ *County Business Patterns, 1980, Massachusetts*, Table 1E, p. 21.

dependence on the disputed fishing grounds than does the United States. This conclusion holds true whether dependence is measured in absolute terms, i.e., the total contribution made by the disputed fishery to the economy of each of the Parties, or in relative terms, i.e., the importance of this contribution in relation to the respective economies of the Parties.

CHAPTER II

**SUMMARY OF EVIDENCE THAT THE CANADIAN LINE WOULD CAUSE
LITTLE DISTURBANCE TO THE ECONOMIC ACTIVITIES OF THE
UNITED STATES WHEREAS THE UNITED STATES LINE
WOULD OBLITERATE CANADA'S ESTABLISHED ECONOMIC INTEREST
IN GEORGES BANK**

17. The Canadian line would leave the relevant New England ports with fishing grounds on Georges Bank whose long-term yields greatly exceed the traditional level of fishing effort from these same ports. In the period from 1969 to 1978, on the whole of Georges Bank, United States fishermen caught an annual average of \$16.1 million of fish¹⁵. The Canadian line would leave, within United States jurisdiction, fishing grounds on Georges Bank having long-term annual yields of \$48.6 million, thus allowing for a 200 percent increase in United States fishing effort in fishing grounds on Georges Bank to the south and west of the Canadian line¹⁶. The effect of the line proposed by the United States is, of course, to leave Canada with no fishery whatsoever on Georges Bank (see Tables 1 and 2).

18. United States catches *northeast* of the Canadian line, in the period from 1969 to 1978, averaged \$9.7 million annually. Canadian catches *southwest* of the United States adjusted perpendicular line averaged \$39.8 million annually during the same period¹⁷. Measured in these terms, the magnitude of Canada's dependence on the disputed area is 300 percent greater than that of the United States, even before taking into account the relatively greater impact each dollar of loss would have in Nova Scotia as compared with Massachusetts.

19. In its Counter-Memorial, the United States has claimed that Massachusetts fishermen have no other fishing grounds to which they could switch their operations¹⁸. This is not the case. To begin with, the United States would retain more than half of Georges Bank within its jurisdiction following confirmation of the Canadian line; moreover, in recent history, the Massachusetts fleet has demonstrated conclusively that fishing grounds south and west of Georges Bank are adequate for its needs. In the mid-1960s, the Massachusetts fleet voluntarily shifted its activities away from Georges Bank for a number of economic reasons that were not associated with this dispute in any way. These reasons are outlined in the New England Fishery Management Council's Scallop Management Plan¹⁹:

¹⁵ Based on average annual landings valued at 1978 Canadian prices.

¹⁶ Appendix I, Tables 22 and 26.

¹⁷ Northwest Atlantic Fisheries Organization, unprocessed computer tapes. Relevant extracts or printouts from these tapes may be made available to the Agent for the United States or to the Court upon request.

¹⁸ *United States Counter-Memorial*, p. 216, para. 347.

¹⁹ *New England Fishery Management Council, Fishery Management Plan, Final Environmental Impact Statement, Regulatory Review for Atlantic Sea Scallops* (*Placopecten magellanicus*). January 1982, pp. 33 and 36. See Documentary Appendix 4.

- (a) the discovery of more productive scallop beds in the Great South Channel and Mid-Atlantic areas, which offered New England fishermen the double advantage of higher catches per unit of effort and lower operating costs owing to their greater proximity to New England ports;
- (b) prices for finfish rose more rapidly than scallop prices in the early 1960s, causing many vessel owners to switch to other operations (many New England vessels are multi-purpose and easily converted to other uses);
- (c) increased competition from Canadian fishermen who, operating on the same economic principles that caused their United States counterparts to move to more productive grounds, saw eastern Georges Bank as offering a promising fishery relative to other areas.

20. The United States itself refers to the period from 1965 to 1978 as demonstrating the flexibility and adaptability of the Massachusetts fleet²⁰. It is to be presumed that these qualities have endured and that the Canadian line would impose no real hardships on the United States.

TABLE 1

Georges Bank: Estimated Yield and Percentages of Total Biomass to the East and West of the Canadian Line

Species	Yield in 5Ze ¹ (mt)	Total Biomass in 5Ze East of the Canadian Line ² (%)	Yield in 5Ze Available East of the Canadian Line (mt)	Yield on Georges Bank West of the Canadian Line (mt)
Scallops	9,000	73	6,570	1,569
Cod	33,250	39	12,968	7,422
Haddock	42,000	49	20,580	8,653
Pollock	6,800	20	1,360	2,700
Cusk	1,200	21	252	427
Silver Hake	50,000	18	9,000	21,508
Red Hake	25,000	22	5,500	13,336
White Hake	2,000	10	200	847
Redfish	4,800	4	192	2,017
Herring	87,200	26	22,672	26,830
Mackerel	102,000	28	28,560	46,598
Yellowtail Flounder	7,000	40	2,800	2,218
Other Groundfish	10,000	29	2,900	3,452
Argentine	5,000	77	3,850	71
Illex Squid	20,588	12	2,471	7,922
Loligo Squid	6,471	15	971	2,615
Offshore Lobster	1,200	29	348	321

¹ Based on resource forecasts and biological estimates.

² Calculated from M. Pennington: "Efficient Estimators of Abundance, for Fish and Plankton Surveys." *Biometrics*, Vol. 39, 1983.

²⁰ *United States Memorial*, p. 50, para. 83.

TABLE 2
Canadian and United States Total Landed Values from Georges Bank, 1969-1978
Compared to What They Might Attain on Georges Bank on Either Side of the Canadian Line

Species	Canadian Landed Values From GB 1969-1978 (\$)	Canadian Potential Landed Values SZej, SZem (\$)	Increase (Decrease) (%)	U.S. Landed Values From GB 1969-1978 (\$)	U.S. Potential Landed Values SZeh, SZen (\$)	Increase (Decrease) (%)
Scallops	31,873,114	31,522,860	(1)	3,406,580	7,528,062	121
Cod	1,053,342	3,605,104	242	1,895,960	2,063,316	9
Haddock	1,052,595	8,334,900	692	1,916,055	3,504,465	83
Pollock	371,484	208,080	(44)	196,605	413,100	110
Cusk	68,880	30,240	(56)	12,360	51,240	315
Silver Hake	—	3,129,840	—	855,142	7,479,622	775
Red Hake	—	1,561,505	—	2,839	3,786,224	133,265
White Hake	13,640	24,800	82	28,644	105,028	267
Redfish	25,870	38,208	48	246,561	401,383	63
Herring	359,100	4,285,008	1,093	—	5,070,870	—
Mackerel	4,427	6,654,480	150,216	233	10,857,334	4,659,700
Yellowtail Flounder	12,663	562,800	4,344	2,549,685	445,818	(83)
Other Groundfish	59,725	1,903,328	3,087	2,880,588	2,265,616	(21)
Argentine	—	577,500	—	—	10,650	—
Illex Squid	2,331	822,843	35,200	8,658	2,638,026	30,369
Loligo Squid	—	323,343	—	—	870,795	—
Offshore Lobster	537,280	1,168,584	118	2,065,170	1,077,918	(48)
Total	35,434,451	64,753,423	83	16,065,080	48,569,467	202

CHAPTER III

**SUMMARY OF EVIDENCE THAT THE IMPACT OF LOSS OF ACCESS
TO ALL OF GEORGES BANK ON THE COMMUNITIES OF SOUTHWEST
NOVA SCOTIA WOULD BE GREATER IN BOTH RELATIVE AND ABSOLUTE
TERMS THAN THE IMPACT OF LOSS OF ACCESS TO PART OF
GEORGES BANK WOULD BE ON THE COMMUNITIES OF
EASTERN MASSACHUSETTS**

Section I. Canada

21. The United States contends that the loss of the Georges Bank fishery would be "significant" in only five communities of southwest Nova Scotia²¹. The impact, in reality, would be felt throughout southwest Nova Scotia. It is true that the five communities of Lunenburg, Riverport, Saulnierville, Liverpool and Yarmouth are heavily dependent upon Georges Bank and would suffer serious and continuing financial damage as a result of loss of access. Smaller communities throughout the region, however, are also dependent on Georges Bank, as Appendix 3 to this Part demonstrates. The economic shock they would sustain would weigh heavily on the social and cultural well-being of the entire population.

⑬ 22. Figures 27 and 28 of the Canadian Memorial illustrated the concentration of landings of finfish, scallops and lobster in southwest Nova Scotia. Figures 29 and 30 of the Canadian Memorial illustrated another aspect of this concentration by showing the extensive network of processing plants in southwest Nova Scotia closest to Georges Bank. These smaller processing plants do not rely for their raw fish on the offshore fleet that generally operates out of the five principal ports identified by the United States. The mainstay of their activities is the "small vessel" fleet. As explained in Canada's Memorial and Counter-Memorial, many of these small vessels regularly fish Georges Bank, so that loss of access to the disputed fishing grounds would significantly damage the small communities closest to Georges Bank. Appendix 4 to this Part presents further evidence of the activities of the small vessel fleet on Georges Bank.

23. The same small communities that provide the home ports for the small vessel fleet also supply the men to crew the large offshore vessels and are supported to a substantial degree by the income thus generated. This is an additional element of their dependence on Georges Bank, over and above the activities of the small vessel fleet that represent their economic backbone.

24. Central Port Mouton is an example of a community not acknowledged by the United States to be vulnerable to damage as a result of loss of access to Georges Bank. Yet, in 1978, 36.7 percent of the value of Central Port Mouton's landings came from Georges Bank²².

²¹ *United States Counter-Memorial, Socio-Economic Annex*, Vol. III, Annex 4, pp. 25-26, paras. 25-26.

²² *Canadian Memorial*, Table 5, p. 76, para. 156.

The community's fish plant began operations 35 years ago, employing three people in saltfish production. Following a decade of slow growth, the company concerned became actively involved in the Georges Bank scallop fishery. Scallops made an important contribution to the overall profitability of the company and provided the basis for the considerable expansion of harvesting and processing capacity it experienced during the 1960s. The company now produces a full range of groundfish, pelagic and shellfish products. In addition to the fish supplied by its own fleet of eight offshore vessels, the company buys fish from about 100 independent inshore fishermen from Port Hebert to Western Head. In all, some 400 people rely on this company for a livelihood: 200 in fish processing, 100 on the company's vessels and 100 or so as inshore fishermen. Over the past decade, the Georges Bank scallop fishery has accounted for 61.4 percent of the company's gross revenues²³. In most years, the company makes no profit from its groundfish operations. Were it not for the Georges Bank scallop fishery, the plant would have closed. If the plant now had to be closed as a result of loss of access to Georges Bank, the loss of employment and income would not be limited to that generated by the scallop fishery alone, but would also extend to all aspects of the company's operations.

25. Another example of the pervasive economic influence of Georges Bank in southwest Nova Scotia may be found in Saulnierville. The fish plant in Saulnierville began as a family business in 1946, producing herring products for the export market. The company concerned became active in the scallop fishery in the late 1950s and built on its initial success to become one of Nova Scotia's largest independent harvesting and processing companies. In addition to its main facilities in Saulnierville, the company owns and operates seven other plants, four in southwest Nova Scotia, one in Prince Edward Island and two in Quebec. It is also the exclusive buyer of groundfish from three other plants in southwest Nova Scotia. Although it relies principally on its own fleet of 17 offshore vessels for its source of raw fish, the company purchases from independent inshore fishermen as well. It produces a full range of fresh, frozen and cured groundfish, pelagic and shellfish products, and it provides direct employment for about 1,000 people, only 300 of whom are directly involved in the Georges Bank scallop fishery. This company acknowledges that it has grown to its present size largely on the strength of Georges Bank scallop revenues²⁴. The profitability it now enjoys depends, to a substantial degree, on its continued success in this scallop fishery. A loss of access to Georges Banks would probably spell ruin for this company and its affiliated enterprises, and would result in the loss of livelihood for all its employees. The hardships would not be confined to Saulnierville but would also directly affect another 10 or so small communities in southwest Nova Scotia in which the company either carries on business or depends upon for its manpower requirements.

²³ Based on interviews and confidential financial records of C. W. McLeod Fisheries Ltd.

²⁴ Based on interviews and confidential financial records of Comeau's Seafoods Limited.

26. Yet another example of community dependence on Georges Bank is provided by the group of settlements known as Clark's Harbour. Clark's Harbour (which, of course, was not included by the United States in its list of five ports that would be damaged by loss of access to Georges Bank) consists of 20 communities with a total population of 8,500, of which approximately 3,400 are dependents. Four thousand people are employed; 72 percent are in fishing or fish processing jobs and an additional 5 percent are in fishery-related jobs such as shipbuilding and boat repair²⁵.

27. In 1978, Clark's Harbour received an estimated 20.2 percent of its groundfish landings from Georges Bank²⁶. The interdependence of these communities, as demonstrated in Table 5 of Appendix 3, causes the economic benefits of these landings to be distributed throughout the community cluster. The impact of the loss of these landings would be significant to all of the communities in Clark's Harbour. It would increase the already unacceptably high unemployment rate of the area, and rob the local population of any degree of economic security in the future.

28. From the evidence presented by Canada in its earlier pleadings and in this Part, the following conclusions are obvious. In most communities of southwest Nova Scotia, the fishing industry provides the main source of employment and income. The Georges Bank fishery is a key component of this industry. Continued access to Georges Bank is vital to the fishery, and therefore vital to the economic livelihood of these communities. While it is true that the five leading ports identified by the United States have most at stake in purely financial terms, any analysis of the dependence of southwest Nova Scotia would be incomplete without taking into account the smaller communities along the coast that have come to rely on continued access to the fishing grounds now in dispute.

29. The evidence presented in Appendix 3 to this Part is illustrative of the dependence of the smaller communities of southwest Nova Scotia on Georges Bank. These communities have no counterparts in the fishing ports of eastern Massachusetts.

Section II. The United States

30. The United States fishing vessels that engage in the Georges Bank fishery are concentrated in ports within 60 miles of Boston, a metropolitan area of 2.8 million people²⁷. None of these ports exhibits comparable dependence on the disputed fishery grounds of Georges Bank: *first*, because none of these ports relies on the fishing industry to a comparable degree; *secondly*, because these ports are neither as small nor as

²⁵ Appendix 3, Table 2, p. 131.

²⁶ Appendix 3, Table 6, p. 136.

²⁷ 1980 *Census of Population, Characteristics of the Population, General Population Characteristics, Massachusetts*. United States Department of Commerce, Bureau of the Census, Vol. 21, Chap. B, Part 23. Washington, Government Printing Office, June 1982, Table 14, p. 23-7. See Documentary Appendix 5.

isolated as their counterparts in southwest Nova Scotia; and *thirdly*, because the population of these fishing ports has ready access to alternative jobs in the diversified economy of the United States eastern seaboard. But even if a significant dependence existed (which Canada denies), the minor adjustments in fishing activities that would be necessary because of the *Canadian line* would be easily accommodated within the existing Massachusetts economy.

31. In eastern Massachusetts, particularly the Boston-dominated counties, the service sector itself accounted for 1 million jobs in 1980, 69 percent of total regional employment²⁸. Fish harvesting accounts for less than 1,000 jobs, being merely 0.07 percent of regional employment, and its contribution to total regional employment has been steadily declining since World War II²⁹.

32. Further south, the Cape Cod counties of Barnstable, Nantucket, and Dukes exhibit significantly different employment patterns. The predominant focus in these counties is on tourism. They have significantly higher proportions of total employment in the "hotels and other lodging places" sector than any of the other counties³⁰. Retail trade and tourism in 1980 accounted for 16,000 jobs, or 40 percent of the total in the three counties³¹. Commercial fishing accounted for few jobs, and apparently none of these jobs was in any significant way related to the *Georges Bank fishery*³².

33. Still further south, Bristol County, in which the important fishing port of New Bedford is located, is heavily oriented toward manufacturing, with 77,000 jobs (47 percent of its total employment) accounted for by that sector. Fishing and fish processing account for about 2,500 jobs, being 1.5 percent of county employment and much of this employment is dependent upon imports of frozen fish³³. Employment in Plymouth County is dominated by retail trade, manufacturing, and services with few jobs in the fishing industry³⁴.

34. It is evident, therefore, that the secondary (manufacturing) and tertiary (service) sectors are dominant in eastern Massachusetts. There is little reliance on primary industry activity in general or fishing activity in particular. Only 0.2 percent of total employment is accounted for by the agriculture services/forestry/fisheries sector, in which wages are generally lower³⁵. This situation stands in stark contrast with south-

²⁸ *County Business Patterns, 1980, Massachusetts*. Table 2, pp. 34-40, 51-59, 60-66 and 71-79.

²⁹ *County Business Patterns, 1980, Massachusetts*. Table 2, pp. 34-40, 51-59, 60-66 and 71-79.

³⁰ *County Business Patterns, 1980, Massachusetts*. Table 2, pp. 22-79.

³¹ *County Business Patterns, 1980, Massachusetts*. Table 2, pp. 22-24, 33-34 and 59-60.

³² *Canadian Counter-Memorial*, p. 56, para. 136 and footnote 81.

³³ *County Business Patterns, 1980, Massachusetts*, pp. 27-33.

³⁴ *County Business Patterns, 1980, Massachusetts*, pp. 66-71.

³⁵ *County Business Patterns, 1980, Massachusetts*, pp. 22, 27, 33, 34, 51, 59, 60, 66 and 71.

west Nova Scotia, where 13 percent of total employment is accounted for by these primary industries³⁶.

35. The obvious conclusion is that the economic impact of loss of access to *all* of Georges Bank in the communities of southwest Nova Scotia would be greater in both relative and absolute terms than the impact of the loss of access to *part* of Georges Bank would be in the communities of eastern Massachusetts. In summary, the community impact of the Canadian line in eastern Massachusetts would be negligible, whereas the impact of the United States line on the communities of southwest Nova Scotia would be serious, immediate and inequitable.

³⁶ Appendix 1, Table 18, p. 47.

CHAPTER IV

SUMMARY OF EVIDENCE REFUTING THE UNITED STATES ALLEGATION THAT ECONOMIC LOSSES CREATED BY LOSS OF ACCESS TO GEORGES BANK WOULD BE OFFSET BY ALTERNATIVE EMPLOYMENT OPPORTUNITIES IN SOUTHWEST NOVA SCOTIA

36. The United States alleges, without any supporting analysis, that even if more jobs and income would be lost in Nova Scotia (as a result of the United States line) than in Massachusetts (as a result of the Canadian line), those engaged in the Georges Bank fishery and its related businesses would find other job opportunities in southwest Nova Scotia³⁷. This allegation is patently unsupportable. Nova Scotia suffers chronic unemployment. If viable employment opportunities did exist in the fishing industry, or in any other industry in Nova Scotia, they would have already been exploited.

Section I. Alternative Fishing Employment

37. *In contrast with Massachusetts, Nova Scotia lacks fishing alternatives for the fishermen and plant workers that are dependent on Georges Bank for their livelihood. The United States readily concedes that scallop resources available to Canada on the Scotian Shelf and elsewhere are insignificant when compared with those of Georges Bank. Estimates based on 1981 fishing patterns suggest that, at most, three of the 77 scallop vessels presently operating in the disputed area could be accommodated in areas other than Georges Bank³⁸. Since catch per unit of effort would be lower on the Scotian Shelf and elsewhere, this vestigial offshore scallop fleet of three vessels would be, at best, a marginal presence, rather than a generator of high incomes and profits.*

38. Diverting the remaining vessels to groundfish would be impossible. The groundfish stock in subarea 4 is already under severe pressure. The Kirby Task Force Report, cited by the United States as an authoritative study, states that there is already excessive harvesting capacity in all areas except off the northeast coast of Newfoundland and Labrador³⁹. Unallocated resources consist of less attractive species like redfish and pollock and are concentrated on the northeastern Scotian Shelf. Groundfish in the northern fishing grounds are out of reach for the small scallop vessels, and even the larger scallop vessels could not battle the northern ice conditions. Loss of access to Georges Bank would therefore mean that 97 percent of the scallop fleet now active on Georges Bank would have to be scrapped.

³⁷ *United States Counter-Memorial, Socio-Economic Annex*, Vol. III, Annex 4, pp. 43-46, paras. 57-68. Contrary to the United States allegation, in 1982 all 77 Canadian offshore scallop vessels were in operation.

³⁸ In 1981, 97 percent of Canadian scallop landings came from Georges Bank. *Certeris paribus* 3 percent of the offshore scallop fleet (three vessels) could be deployed elsewhere. Appendix 1, Table 13, p. 43.

³⁹ Task Force on Atlantic Fisheries: *Navigating Troubled Waters, A New Policy for the Atlantic Fisheries*. Ottawa, Supply and Services Canada, 1983, Table 2.4, p. 24. See Documentary Appendix 6.

39. Relocation of the smaller groundfish vessels of less than 65 feet in length would be impossible. Small boat fishermen would be forced out of the fishing industry owing to existing overcapacity in the near shore fishery. This would be particularly detrimental to southwest Nova Scotia because the area contains the highest proportion of full-time fishermen (i.e., those dependent upon the fishery for 100 percent of their income) in Nova Scotia [Figure 1]. Since conversion or relocation to another fishery would not be feasible, fishermen would have to look to other alternative employment. In southwest Nova Scotia, however, non-fishing employment alternatives are equally unavailable.

40. Generating non-fishing employment by the creation of new manufacturing enterprises directed at national and international markets, as is suggested somewhat fancifully by the United States in its Counter-Memorial⁴⁰, is not a serious possibility for southwest Nova Scotia. Lack of capital, raw materials and service infrastructure, and the costs of transporting finished products to the major population centres in central Canada or elsewhere, render the suggestion impracticable, as experience has demonstrated⁴¹. Where governments have on occasion assisted the establishment of such enterprises, as in the case of the Michelin tire plant in Bridgewater, Nova Scotia, the United States has been in the forefront of those objecting to the marketing of their products on the grounds of "unfair competition"⁴².

Section II. Non-Fishing Alternative Employment

A. FORESTRY

41. The quality of southwest Nova Scotia's forest resources is poor. This fact has been well-documented and is illustrated in maps published for purposes unrelated to this dispute by the Canada Land Inventory. Figure 4 reveals that the majority of land in southwest Nova Scotia is rated as having "moderately severe limitations" or "severe limitations" to the growth of commercial forests. Secondary activity based on forestry resources is largely limited to products produced for local use, such as building supplies, small fishing boats and lobster traps⁴³. Alternative

⁴⁰ *United States Counter-Memorial, Socio-Economic Annex*, Vol. III, Annex 4, p. 46, para. 68.

⁴¹ South Western Nova Scotia Study Team: *The Economic and Social Base of South Western Nova Scotia*, A Study Prepared for the Nova Scotia Department of Municipal Affairs, Community Planning Division, May 1977, pp. 183-184. See Documentary Appendix 7.

⁴² R. V. Guido and M. F. Morrone: "The Michelin Decision: A Possible New Direction for U.S. Countervailing Duty Law", in J. H. Jackson, ed.: *Legal Problems of International Economic Relations Cases, Materials and Text on the National and International Regulation of Transnational Economic Relations*, St. Paul, University of Michigan, 1977, pp. 789-801. *Canadian Counter-Memorial, Annexes*, Vol. IV, Annex 44.

⁴³ South Western Nova Scotia Study Team: *The Economic and Social Base of South Western Nova Scotia*, A Study Prepared for the Nova Scotia Department of Municipal Affairs, Community Planning Division, May 1977, p. 139. See Documentary Appendix 7.

employment opportunities for displaced fishermen in the forestry sector are virtually non-existent.

B. AGRICULTURE

42. A poor resource base and lack of market proximity also explain why there is little potential for agricultural development in southwest Nova Scotia. *Figure 5* shows Nova Scotia's poor soil capability for agriculture. Most of southwest Nova Scotia is categorized as having "no capability" for crops or permanent pasture. Other areas are classified as having "severe" or "moderately severe" limitations that restrict the range of crops or require special conservation practices. An additional constraint on the agricultural resource base of southwest Nova Scotia is the climate. The region is characterized by a short, cool growing season and inadequate sunlight. Thus, southwest Nova Scotia's agricultural sector also offers little hope of alternative employment opportunities for displaced fishermen.

C. MANUFACTURING

43. The United States suggests that displaced fishermen would be able to find jobs in the manufacturing industry in southwest Nova Scotia. But modern methods of manufacturing — technological development characterized by economies of scale in mass production, market orientation, and highly complex and technical production processes — have left this region in a severely disadvantaged position.

44. Existing manufacturing activity in southwest Nova Scotia is predominantly resource-oriented. The majority of all establishments with 25 or more employees are fish processing/wholesaling enterprises, and many of the others are suppliers to the fishing industry. Apart from the Michelin tire plant in Bridgewater, the only other manufacturing establishments in the region are pulp and paper or wood products firms, a textile plant, a few handicraft establishments and some printing and publishing enterprises⁴⁴.

45. The Michelin tire plant, which is not locally resource-based, is a large facility catering to national and international markets. The plant would not exist in the area without substantial assistance from the government. It is unlikely that other large-scale manufacturing of this type could be established in the region without government assistance. The limited size of the local and regional market, the high cost of transporting finished products from southwest Nova Scotia to national and international markets, and the absence of local labour with the appropriate professional and technical skills required to sustain modern, large-

⁴⁴ *Nova Scotia Directory of Manufacturers, 1979-1980*. Halifax, Department of Development, March 1980, pp. Tan. 5-6 and 14-19; *Canadian Counter-Memorial, Annexes*, Vol. IV, Annex 54.

182 scale manufacturing enterprises, are elements that inhibit such development. However, as *Figure 6* demonstrates, diverse employment opportunities exist in the eastern Massachusetts manufacturing sector.

D. TOURISM

46. Tourism is a basic industry that may provide some alternative employment opportunities for displaced fishermen and plant workers, notwithstanding such local disadvantages as cold waters for swimming and foggy weather. Southwest Nova Scotia's coastal scenery and picturesque fishing communities are classic tourist attractions. As well, numerous small harbours provide suitable moorings for recreational boats.

47. On the other hand, a major impediment to the development of tourism in southwest Nova Scotia is its remote location relative to the major tourist flows to the rest of the province. There are only six major surface entry points to the province: four by car ferry (Digby, Yarmouth, Caribou, and North Sydney), and two by highway (Amherst and Tignish). The majority of road travellers enter the province on the Trans-Canada Highway at Amherst, far away from southwest Nova Scotia, and they can visit the province's major tourist attractions, such as Louisbourg in Cape Breton and Halifax in central Nova Scotia, without passing through the southwestern portion of the province at all⁴⁵.

E. OFFSHORE OIL AND GAS

48. The United States contends that the offshore oil and gas industry in Nova Scotia is on the verge of tremendous expansion⁴⁶. This contention is based on a misunderstanding of the relevant data. The Venture field (which is now the subject of exploratory activity) is outside the relevant area and is serviced from Halifax and the Cabot Strait area rather than the ports whose boats fish the northeastern portion of Georges Bank.

49. If the Venture field is developed, there is no question that a number of full-time jobs would be created. However, most of these jobs will have a short lifespan and will exist only for the four or five year development period. Further, a majority of these jobs will require persons with considerable technical skill and direct experience in offshore gas production. Displaced fishermen are unlikely to possess these qualifications. It is estimated that after 15 years of operation only 44 percent of workers currently engaged in east coast offshore exploration activity

⁴⁵ *Visitor Travel to Nova Scotia, 1978*. Department of Tourism, Province of Nova Scotia, 1978, pp. 11-12. See Documentary Appendix 8.

⁴⁶ *United States Counter-Memorial, Socio-Economic Annex*. Vol. III, Annex 4, p. 44, para. 60.

are Nova Scotians⁴⁷. In the North Sea, where many oil and gas fields have commenced production in the past decade, few fishermen made the transition from fishing to oil drilling, notwithstanding the considerable decline in fishing industry employment in relevant European coastal States. A 1980 survey of some 2,000 crew members on 225 supply vessels operating in the United Kingdom showed that only 85 originally worked in the fishing industry⁴⁸. There is no reason to believe that the employment prospects for unemployed fishermen in southwest Nova Scotia would be any different.

50: The conclusion to be drawn from this analysis is that there is no basis for the United States suggestion that the economic dislocation to southwest Nova Scotia resulting from a loss of access to Georges Bank could be absorbed by other economic activities in that region. This fanciful hypothesis is mere empty assertion that cannot withstand serious examination.

⁴⁷ Canada Oil and Gas Lands Administration, unpublished data aggregated from *Canada Benefit Plans*, August 1983.

⁴⁸ G. A. Mackay: *The UK North Sea Experience*, A Report for Mobile Oil Canada Ltd., and DPA Consulting, November 1982, p. 55, para. 7.24. See Documentary Appendix 9.

Appendix 1

THE REAL COST OF LOSS OF ACCESS TO GEORGES BANK

INTRODUCTION

1. This Appendix provides estimates of the direct and indirect employment and GDP generated by fishing activities on Georges Bank. It is divided into four sections. Section I presents summary tables showing the relative importance to Canada and the United States of the employment and GDP generated by the fishing activities of the Parties on the northeast portion of Georges Bank. Section II sets out the approach used by Canada in estimating direct employment and GDP so generated, and outlines some of the errors committed by the United States in preparing its estimates of the contribution of Georges Bank to these measures of economic activity. The basis for Canada's estimates of indirect and induced employment and GDP generated by fishing on Georges Bank is outlined in Section III. Section IV contains supplementary statistical tables.

Section I. The Relative Importance to Canada and the United States of Employment and GDP Generated by Fishing Activities on the Northeast Portion of Georges Bank

2. The estimates prepared by Canada use 1980 data to ensure direct comparability with the United States own estimates of employment and GDP arising from its fishing activities on Georges Bank. Although that year lies outside the period Canada considers relevant for the present proceedings, the estimates of Canadian employment and GDP arising from fishing on Georges Bank would vary little over the past two decades, regardless of the year chosen for the analysis. The choice of 1980 as a base year, however, does lead to unrepresentative and unduly favourable results in the case of the United States. This is clear from the landings data shown in Table 27 of this Appendix, which reflect very little United States fishing activity on the northeastern part of Georges Bank prior to 1980.

TABLE 1

**Total Direct and Indirect Employment and GDP¹ Generated by
Canadian Fishing on the Northeast Portion of Georges Bank, 1980**

	Absolute Value	Proportion of Total Economy		
		Southwest Nova Scotia	Nova Scotia	Canada
		Percent		
Employment (persons)²				
Fish Harvesting	1,546	3.3	0.6	0.017
Fish Processing	702	1.5	0.3	0.008
Indirect	<u>1,350³</u>	<u>2.9⁴</u>	<u>0.5</u>	<u>0.014</u>
Total	3,598	7.7	1.3	0.039
Value Added (\$'000)				
Fish Harvesting	33.9	3.9	0.5	0.013
Fish Processing	29.8	3.5	0.5	0.011
Indirect	<u>82.2³</u>	<u>4.8⁵</u>	<u>1.3</u>	<u>0.030</u>
Total	145.9	12.2	2.3	0.054

¹ GDP is measured in terms of value added throughout Part I of this Annex.

² Employment is measured in full-time-equivalent man-years throughout Part I of this Annex.

³ Absolute values for indirect employment and GDP are calculated using the multiplier provided by the United States in *United States Counter-Memorial, Socio-Economic Annex*, Vol. III, Annex 4, Appendix B, p. 47, para. 16, footnote 2.

⁴ A single employment multiplier value is not strictly relevant owing to the sensitivity of migration to changes in economic activity. See sec. III, para. 10 of this Appendix.

⁵ Given the openness of the regional economy, the full impact of the indirect and induced effects would not be confined to southwest Nova Scotia. The figure shown assumes that only 50 percent of multiplier effects would be felt locally.

Source: The direct contributions of fish harvesting and fish processing are reported in Table 4 of this Appendix. Indirect employment and GDP are calculated in sec. III of this Appendix. Proportion of total economy is computed from totals set out in sec. IV, Table 18 of this Appendix. Figures may not add due to rounding.

TABLE 2

Total Direct and Indirect Employment and GDP Generated by United States Fishing on the Northeast Portion of Georges Bank, 1980

	Absolute Value	Proportion of Total Economy		
		Eastern Massachusetts	Massachusetts	United States
		Percent		
Employment (persons)				
Fish Harvesting	429.9	0.024	0.019	0.0004
Fish Processing	452.9	0.025	0.020	0.0005
Indirect	617.1	0.035	0.027	0.0006
Total	1,499.9	0.084	0.065	0.0015
Value Added (U.S.\$'000)				
Fish Harvesting	20,521	0.040	0.031	0.0008
Fish Processing	13,442	0.026	0.021	0.0005
Indirect	23,774	0.023 ¹	0.036	0.0009
Total	57,737	0.089	0.089	0.0022

¹ Assumes, as in Table 1, that 50 percent of the multiplier effects would be felt locally.

Source: Absolute values for direct and indirect employment and GDP are abstracted from the *United States Counter-Memorial, Socio-Economic Annex*, Vol. III, Appendix B, Introduction, Table 2, p. 3. The proportion of total economy is computed from totals set out in Table 7 of this Appendix.

TABLE 3

A Comparison of the Relative Importance of the Northeast Portion of Georges Bank to Canada and the United States Based on the Fishing Activities of the Parties, 1980

	Proportion of Total Economy ¹	Ratio of Relative Importance ²
Employment		
Southwest Nova Scotia	7.6553	90.9
Eastern Massachusetts	0.0842	1.0
Canada	0.0390	26.0
United States	0.0015	1.0
Nova Scotia	1.3200	20.3
Massachusetts	0.0650	1.0
Value Added		
Southwest Nova Scotia	12.1950	137.0
Eastern Massachusetts	0.0890	1.0
Canada	0.0540	24.5
United States	0.0022	1.0
Nova Scotia	2.2870	25.7
Massachusetts	0.0890	1.0

¹ From Tables 1 and 2 of this Appendix.

² The ratio of relative importance is derived by dividing the proportion of total economy for Canada, Nova Scotia and southwest Nova Scotia, by the corresponding figure for the United States, Massachusetts and eastern Massachusetts.

Section II. Employment and GDP Generated Directly in Canada by Fishing on Georges Bank

A. EMPLOYMENT GENERATED IN FISH HARVESTING

3. Canada estimates employment in fish harvesting generated by Georges Bank at about 1,500 full-time-equivalent man-years¹. The approach used to derive this estimate is consistent with Canada's approach to measuring fisheries employment generally², and is consistent with the method used by the United States to estimate total fisheries employment in Nova Scotia³. In this approach, the effort generated by each full-time fisherman is equal to a full-time-equivalent man-year. By definition, a full-time fisherman is one who spends all or most of his working time in the fishery, thereby earning all or most of his income from fishing⁴. Because they work year-round, all fishermen on offshore scallop vessels and groundfish trawlers fall into this category⁵.

4. The United States estimates Canadian employment generated by Georges Bank at 591 full-time-equivalent man-years, nearly one-third of Canada's estimate⁶. The approach followed by the United States in reaching this estimate relies on an incorrect perception of the fishery. When applied to fish harvesting, the concept of a full-time-equivalent man-year cannot be meaningfully defined simply in terms of time and certainly not in the abstract as a fixed number of days spent at sea⁷. The fishery is not a wage-paying industry and fishermen are not employees who work according to a fixed set of conditions. One of the chief characteristics of the fishery is its uncertainty. Fishermen fish subject to weather, sea and climatic conditions, and also subject to the condition of the resource. In Canada, the working year of a full-time fisherman may comprise fewer than 100 days. In the official statistics, however, he is considered a full-time fisherman because he relies on the fishery for all or most of his income, and his time in the fishery is considered a full-time-equivalent man-year⁸.

¹ See Table 8 of this Appendix.

² *Canadian Memorial, Annexes*, Vol. IV, sec. I, para. 15.

³ *United States Counter-Memorial, Socio-Economic Annex*, Vol. III, Annex 4, Appendix A, Table 1.

⁴ See Table 11 of this Appendix.

⁵ Northwest Atlantic Fisheries Organization, *Statistical Bulletin*, Vol. 30, 1980, Table 5. See Documentary Appendix 12.

⁶ *United States Counter-Memorial, Socio-Economic Annex*, Vol. III, Annex 4, pp. 12-13, para. 14.

⁷ In deriving its estimate of full-time-equivalent man-years, the United States defines a full-time fisherman as one who "is absent from port on an average of 220 [sic] per year" (*United States Counter-Memorial, Socio-Economic Annex*, Vol. III, Appendix B, sec. 2, Table 1-1980, p. 13, footnote 4). This definition is attributed to the Kirby Task Force on Atlantic Fisheries. No such definition appears in the Task Force report. But even if this simplistic definition was used, the fact that fishermen work an average of 12 to 16 hours per day while at sea means that a 220-day year would be equal to at least 1.5 full-time-equivalent man-years (assuming an average man-year of 1,950 hours). The United States definition is also deficient because it ignores on-land preparation time (vessel and gear maintenance, etc.).

⁸ *Canadian Memorial, Annexes*, Vol. IV, sec. I, para. 15.

5. The United States approach to measuring Canada's Georges Bank fisheries employment is not only flawed conceptually, but is inconsistent with the approach used by the United States to estimate employment generally in the fishery⁹. The United States Counter-Memorial estimated Nova Scotia employment in fish harvesting at 6,904 full-time-equivalent man-years. This estimate relies on the income-based definition of employment used in Canada's official statistical publications. However, in order to estimate employment generated by Georges Bank, the United States switches to its specially contrived time-based definition and derives a figure of 591 full-time-equivalent man-years. That this is a substantial underestimate is confirmed when it is considered in relation to fish landings. Since the late 1960s, Georges Bank has accounted for over 22 percent of Nova Scotia's average annual landings by volume¹⁰. The United States approach to estimating Georges Bank employment leads to the implausible result that 22 percent of total landings are accounted for by a mere 8 percent of total Nova Scotia employment in fish harvesting. Canada's estimate of 1,550 full-time-equivalent man-years, equal to about 20 percent of total fisheries employment, conforms closely with the historical proportion of Nova Scotia landings accounted for by Georges Bank.

B. EMPLOYMENT GENERATED IN FISH PROCESSING

6. Canada and the United States are in general agreement on the appropriate method for determining employment in fish processing arising from Georges Bank landings¹¹. However, the United States relies on inappropriate labour-output coefficients, in relation to Canada, to produce a considerable underestimate of the contribution of Georges Bank to Canadian employment¹². When correct coefficients are used, analysis shows that in 1980 Georges Bank generated 702 full-time-equivalent man-years of employment in Nova Scotia, not 487.8 as suggested by the United States¹³.

⁹ Contrast the methods used to estimate employment in the *United States Counter-Memorial, Socio-Economic Annex*, Vol. III, Appendix A, Table 1 and those used in Appendix B, sec. 2, Table 1.

¹⁰ See Table 16 of this Appendix.

¹¹ *Canadian Memorial, Annexes*, Vol. IV, paras. 20 and 21, *United States Counter-Memorial, Socio-Economic Annex*, Vol. III, Appendix B, sec. 2, Table 3.

¹² The United States relies on unsupported assumptions to derive its labour-output coefficients (see *United States Counter-Memorial, Socio-Economic Annex*, Vol. III, Appendix B, sec. 2, Table 3, footnote 2), whereas the Canadian coefficients are based on industry estimates (see *Canadian Memorial, Annexes*, Vol. IV, sec. I, paras. 20-22).

¹³ *United States Counter-Memorial, Socio-Economic Annex*, Vol. III, pp. 12-13, para. 14. See Table 9 of this Appendix.

C. GROSS DOMESTIC PRODUCT GENERATED IN THE FISHING INDUSTRY

7. In 1980, Canada's Georges Bank fishery contributed \$63.7 million to gross domestic product. Fish harvesting accounted for \$33.9 million¹⁴, or 53 percent of this total, while fish processing contributed \$29.8 million, or 47 percent¹⁵.

8. The United States estimates GDP generated in 1980 by Canadian fishing on the northeastern portion of Georges Bank at \$46.7 million¹⁶. This estimate is about 25 percent lower than Canada's. The approach used by the United States to estimate GDP from fish harvesting is correct, and Canada agrees with the estimate. A problem arises, however, with regard to the United States estimate of GDP from fish processing. Although the approach taken by the United States to estimate GDP from fish processing is essentially correct, the United States incorrectly assumes that value added per man-hour is uniform for all species¹⁷. Value added per man-hour in scallop processing is some 10 times greater than for other species. A correction for this error (and minor computational errors) more than doubles the United States estimate of GDP originating in fish processing from \$12.8 to \$29.8 million in 1980.

TABLE 4

Direct Employment and GDP Generated by Canadian Fishing on Georges Bank, by Species Group, 1980

Species	Employment (persons)		GDP (\$'000)	
	Harvesting	Processing	Harvesting	Processing
Groundfish	217.0	623.5	5,508	5,353
Scallops	1,309.0	69.6	27,756	14,276
Lobsters	20.0	3.2	543	80
Others	—	5.7	57	140
Total	1,546.0	702.0	33,864	29,849

Source: Employment estimates are from sec. II, Tables 8 and 9 of this Appendix. Harvesting value added is from the *United States Counter-Memorial, Socio-Economic Annex*, Vol. III, Appendix B, sec. 2, Table 2-1980, p. 17. Processing value added is from sec. II, Table 10 of this Appendix.

¹⁴ *United States Counter-Memorial, Socio-Economic Annex*, Vol. III, Appendix B, sec. 2, Table 2-1980, p. 17.

¹⁵ See Table 10 of this Appendix.

¹⁶ *United States Counter-Memorial, Socio-Economic Annex*, Vol. III, Appendix B, sec. 2, Table 2-1980, and Table 3, pp. 17 and 21.

¹⁷ *United States Counter-Memorial, Socio-Economic Annex*, Vol. III, Appendix B, sec. 2, Table 3, p. 21, footnote 4.

TABLE 5

**Direct Employment and GDP Generated by Canadian Fishing on
Georges Bank as a Proportion of the Fishing Industry, 1980**

	Absolute Value	Proportion of the Fishing Industry		
		Southwest Nova Scotia	Nova Scotia	Canada
		Percent		
Employment (persons)				
Fish Harvesting	1,546	39.1	22.4	11.0
Fish Processing	<u>702</u>	19.1	11.0	2.8
Total	2,248	29.4	16.9	5.7
Value Added (\$'000)				
Fish Harvesting	33,864	42.2	21.5	6.7
Fish Processing	<u>29,849</u>	27.7	16.9	5.0
Total	63,713	33.9	19.1	5.8

Source: Absolute values are from Table 1 of this Appendix. Industry totals for computing proportions are from Table 6 of this Appendix.

TABLE 6

Canadian Employment and GDP — Absolute Totals, 1980

	Fish Harvesting	Fish Processing	All Sectors
Total Employment (persons)			
Southwest Nova Scotia	3,957 ¹	3,685 ²	47,000 ³
Nova Scotia	6,904 ¹	6,399 ⁴	273,328 ⁵
Canada	14,100 ¹	25,508 ⁴	9,354,200 ⁵
Total Value Added (\$'000)			
Southwest Nova Scotia	80,200 ⁶	107,600 ⁶	859,400 ⁶
Nova Scotia	157,800 ⁷	176,331 ⁵	6,380,600 ⁷
Canada	502,800 ⁵	597,799 ⁵	269,601,200 ⁷

¹ From sec. IV, Table 18 of this Appendix.

² Estimates of man-hours paid in fish processing are not available at the sub-provincial level for all counties owing to confidentiality of data. The estimates used here are derived by applying the ratio of provincial GDP to southwest Nova Scotia GDP in fish processing (excluding scallops) to provincial fish processing employment. This ratio (58 percent), corresponds closely to the region's share of provincial processing capacity (just over 60 percent), and the region's share of provincial groundfish landings (56 percent).

³ *The Labour Force, 1980*, Statistics Canada, Catalogue No. 71-001, 1980, p. 130. See Documentary Appendix 3.

⁴ *Manufacturing Industries of Canada: national and provincial areas, 1980*, Statistics Canada, Catalogue No. 31-203, December 1982, Table 3, pp. 4-5, and Table 19, pp. 50-51. See Documentary Appendix 10.

⁵ *United States Counter-Memorial, Socio-Economic Annex*, Vol. III, Annex 4, Appendix B, sec. 1, Table 2a, p. 9.

⁶ From Table 18 of this Appendix.

⁷ *United States Counter-Memorial, Socio-Economic Annex*, Vol. III, Annex 4, Appendix A, Table 2.

TABLE 7
United States Employment and GDP — Absolute Totals

	Total Employment (persons)	Total GDP (millions of 1980 U.S.\$)
Eastern Massachusetts	1,780,314 ¹	51,500 ⁴
Massachusetts	2,291,609 ²	65,154 ⁵
United States	99,303,000 ³	2,633,100 ⁶

¹ *County Business Patterns, 1980, Massachusetts*, p. 21.

² *County Business Patterns, 1980, Massachusetts*, p. 21.

³ *Employment and Earnings*, United States Department of Labor, Bureau of Labor Statistics, Table A-1, p. 6. See Documentary Appendix 1, Document 1.

⁴ *New England Economic Indicators*, Federal Reserve Bank of Boston, Boston, Massachusetts, June 1982, p. A-5. See Documentary Appendix 2.

⁵ *New England Economic Indicators*, p. A-5.

⁶ *Survey of Current Business*, United States Department of Commerce, Bureau of Economic Analysis, Tables 1.1-1.2, p. 4. See Documentary Appendix 1, Document 2.

TABLE 8
**Direct Employment Generated in Canada by Fish Harvesting on
Georges Bank, Full-time-Equivalent Man-years¹, 1980**

Species	Tonnage Class				Total
	0-24.9 GRT	25-49.9 GRT	50-149.9 GRT	150+ GRT	
Scallops ²	—	—	136	1,173	1,309
Groundfish ³	34	31	20	132	217
Lobster ⁴	—	—	16 ²	4 ²	20
	34	31	172	1,309	1,546

¹ See *Canadian Memorial, Annexes*, Vol. IV, para. 15, for an explanation of the method used to estimate full-time-equivalent man-years. The United States relies on the same approach. *United States Counter-Memorial, Socio-Economic Annex*, Vol. III, Appendix A, Table 1.

² Offshore scallop fishermen are full-time fishermen and their effort is equivalent to a full-time-equivalent man-year. The Georges Bank resource sustains the Nova Scotia scallop fleet. See Table 13 of this Appendix. With an average crew of 17, the fleet of 77 vessels provides full employment for 1,309 men.

³ The number of full-time-equivalent man-years generated by the groundfish fishery on Georges Bank is derived as follows:

Tonnage Class	Total Fishermen	Employment Full-time Equivalents	Georges Bank Share of Landings (%)	Georges Bank Employment Full-time Equivalents
0-150 GRT ^a	1,723 ^b	862 ^c	9.9 ^d	85.3
150+ GRT ^e	952	952	15.0 ^d	131.5

^a Fishermen active on Georges Bank in the 0-24.9 GRT vessels classes are classified as part-time fishermen.

^b Total part-time fishermen in Nova Scotia, 1980. See Table 11 of this Appendix.

^c See Table 11 of this Appendix.

^d See Table 14 of this Appendix.

^e Fishermen in the 150+ GRT vessel classes are classified as full-time fishermen.

⁴ Offshore lobster fishermen are classified as full-time fishermen and their effort is equivalent to a full-time-equivalent man-year. In 1980, there were eight vessels active, with an average crew of seven men. In 1980, Georges Bank accounted for 35 percent of landings. See Table 14 of this Appendix.

TABLE 9

**Direct Employment in Processing Generated by the
Georges Bank Fishery, 1980**

Species	Total Landings ¹ (mt)	Processing Man-hours per tonne ²	Total Man-hours	Full-time- Equivalent Man-years ³
Groundfish	24,940	48.75	1,215,825	623.5
Scallops	43,334	26.00	135,746	69.6
Lobster	194	32.50	6,305	3.2
Other Species	<u>228</u>	48.75	<u>11,115</u>	<u>5.7</u>
	68,696		1,368,991	702.0

¹ Northwest Atlantic Fisheries Organization *Statistical Bulletin*, Vol. 30, 1980, Table 5. See Documentary Appendix 12.

² See *Canadian Memorial, Annexes*, Vol. IV, sec. I, paras. 20-21, for labour-output coefficients. These coefficients relate to production employees only. The man-hour figure for scallops is for meat-weight. The conversion factor from landed to meat weights is 8.3.

³ An average full-time employee in the fish processing industry works a 37.5 hours per week or 1,950 hours per year. *Annual Statistical Review of Canadian Fisheries, 1980*, Vol. 13, Ottawa, Department of Fisheries and Oceans, Table 76, p. 115. See Documentary Appendix 11.

TABLE 10
Georges Bank Contribution to GDP
Originating in the Canadian Fishing Industry, 1980

Species	Georges Bank Landings ¹ (mt)	Processing Employment ² (man-hours)	Value Added per Man-hour ³ (\$)	Total Value Added (\$)
Groundfish	24,940	1,437,588	10.68	15,353,440
Scallops	43,334	160,453	88.97	14,275,503
Lobster	194	7,452	10.68	79,587
Other	228	13,117	10.68	140,090
Total				29,848,620

¹ See Table 9 of this Appendix.

² Processing employment includes both production and administrative employees, since both are included in the calculation of value-added per man-hour. Administrative man-hours by species are determined on a pro rata basis according to the share of total processing man-hours accounted for by each species.

	Species		
	Scallops ^a	Other	Total
Total Man-hours ^a	239,455	14,517,145	14,756,600
Wages	1,114,211	67,797,789	68,594,000
Cost of Fuel and Electricity	225,968	7,733,032	7,959,000
Cost of Materials and Supplies and Goods for Resale	67,057,952	486,202,048	553,260,000
Value of Shipments and Other Revenue	88,361,280	646,478,720	734,840,000
Value Added ^b	21,303,328	155,027,672	176,331,000
Value Added per Man-hour	88.97	10.68	11.95

^a Scallop processing man-hours are estimated by applying the labour-output coefficient for scallops to total Nova Scotia landings in 1980 and adding to this figure the share of administrative employment attributable to scallops. Total man-hours for the fishing industry as well as other aggregate industry information appearing in this Table are taken from *Manufacturing Industries of Canada: national and provincial areas, 1980*, Statistics Canada, Catalogue No. 31-203, Table 19, p. 50. Data for "other" species (groundfish, crustaceans, pelagics) are the difference between total industry data and the data for scallop processing. See Documentary Appendix 10.

^b Value added is calculated net of inventory adjustments in the case of the "other" and total industry figures.

^c Estimates of scallop processing costs are based on information supplied by Nova Scotia fish processing companies. The value of scallop shipments is estimated by applying the average market price (f.o.b. plant) to 1980 landings. The difference between 1980 landings and 1980 sales is insignificant for this overall calculation.

Section III. Indirect Employment and GDP Generated in Canada by Fishing on Georges Bank

A. NATIONAL AND PROVINCIAL CONTEXTS

9. The employment and income generated by fishing on Georges Bank extend beyond the direct activities of the fishing industry itself. Further employment and income are generated indirectly by the sale of goods and services to the fishing industry, and are induced when personal income generated directly and indirectly is re-spent in the economy. Canada and the United States are in agreement that input-output analysis is an appropriate method for measuring the magnitude of indirect and induced effects in a provincial context¹⁸. Canada and the United States are also in agreement regarding the specific input-output relationships that apply¹⁹.

B. REGIONAL CONTEXT

10. The wider economic implications in terms of employment loss in southwest Nova Scotia arising from loss of access to Georges Bank are estimated using an economic base model of the region²⁰. An economic base model divides a regional economy into two sectors: the basic sector and the non-basic sector. The model operates on the assumption that the basic sector serves export markets while the non-basic sector serves only the local market. A change in spending on goods and services produced by the basic sector changes the level of income and employment in the basic sector. The income change leads to a change in demand for, and production of, non-basic goods and services. As a result, the incomes of residents employed in the non-basic sector also change. Through successive rounds of spending changes, the region will achieve a new economic equilibrium characterized by higher or lower income and employment levels, depending on the direction of the initial change in basic sector activity.

11. The economic base model employment multipliers (1981) for southwest Nova Scotia range from 1.20 to 2.18. The size of the multiplier depends on the magnitude of migration induced by the economic shock involved. The multiplier of 2.18 is associated with loss of access to Georges Bank.

Section IV. Supplementary Economic and Fisheries Data

12. This section consists of statistical tables containing the information necessary to derive the estimates of employment and GDP for Canada, and the information necessary to place the fishing activities of the Parties in the proper economic context.

¹⁸ *Canadian Memorial*, pp. 79-80, para. 167; *United States Counter-Memorial, Socio-Economic Annex*, Vol. III, Appendix B, sec. 5, pp. 47-48, para. 16.

¹⁹ *United States Counter-Memorial, Socio-Economic Annex*, Vol. III, Appendix B, sec. 5, pp. 47-48, para. 16.

²⁰ It is not feasible to develop an input-output model at the sub-regional level. Hence, an economic base model (see Appendix 2 to Part I of this Annex) was developed to estimate the indirect and induced effects of the loss of Georges Bank to southwest Nova Scotia.

A. SUPPLEMENTARY DATA USED TO DERIVE EMPLOYMENT AND GDP

TABLE 11

Estimate of Fishing Effort in Primary Fishing in Nova Scotia, 1980

Classification ¹	Number of Fishermen	Conversion Factor	Man-years in Fishing
Full-time ²	5,519	1.000	5,519
Part-time	1,723	0.500	862
Occasional	<u>4,190</u>	0.125	<u>524</u>
Total	11,432		6,905

¹ Based on percent of total income earned from fishing.

Full-time: 76-100 percent of income

Part-time: 26-75 percent of income

Occasional: 0-25 percent of income

² A conversion factor of 1.000 is used for full-time fishermen because most fishermen in this category have little or no supplementary sources of employment income. See Task Force on Atlantic Fisheries, *Navigating Troubled Waters, A New Policy for the Atlantic Fisheries*, p. 57. See Documentary Appendix 6.

Source: *Annual Statistical Review of Canadian Fisheries, 1980*, Vol. 13, Table 78, p. 116.

TABLE 12

Estimate of Fishing Effort
in Primary Fishing in Southwest Nova Scotia, 1980

Classification ¹	Number of Fishermen	Conversion Factor	Man-years in Fishing
Full-time ²	3,452	1.000	3,452
Part-time	609	0.500	304
Occasional	<u>1,608</u>	0.125	<u>201</u>
Total	5,669		3,957

¹ Based on percent of total income earned from fishing.

Full-time: 76-100 percent of income

Part-time: 26-75 percent of income

Occasional: 0-25 percent of income

² A conversion factor of 1.000 is used for full-time fishermen because most fishermen in this category have little or no supplementary sources of employment income. See Task Force on Atlantic Fisheries, *Navigating Troubled Waters, A New Policy for the Atlantic Fisheries*, p. 57. See Documentary Appendix 6.

Source: Canada Department of Fisheries and Oceans, unpublished data.

TABLE 13
Nova Scotia Offshore Scallop Landings from NAFO
Division 4X and Subdivision 5Zc
(Round Weight)

Year	Total Landings (mt)	Georges Bank		Browns Bank		German Bank	
		(mt)	(%)	(mt)	(%)	(mt)	(%)
1964	51,469	49,153	95.5	1,595	3.1	721	1.4
1965	37,204	36,802	99.4	222	.6	—	—
1966	41,355	40,487	97.9	868	2.1	—	—
1967	41,658	41,658	100.0	—	—	—	—
1968	41,074	40,006	97.4	493	1.2	575	1.4
1969	37,062	35,839	96.7	778	2.1	445	1.2
1970	34,142	34,005	99.6	137	0.4	—	—
1971	32,664	32,436	99.3	98	0.3	131	0.4
1972	33,673	33,673	100.0	—	—	—	—
1973	27,156	27,075	99.7	81	0.3	—	—
1974	50,937	50,937	100.0	—	—	—	—
1975	61,536	61,536	100.0	—	—	—	—
1976	71,180	66,981	94.1	4,200	5.9	—	—
1977	108,334	107,684	99.4	650	0.6	—	—
1978	101,372	101,169	99.1	203	0.2	—	—
1979	78,709	76,426	97.1	866	1.1	1,417	1.8
1980	55,843	43,334	77.6	2,066	3.7	10,443	18.7
1981	68,565	66,508	97.0	137	.2	1,920	2.8
Average	54,107	52,539	97.1	688	1.3	870	1.6

Source: Canada Department of Fisheries and Oceans, unpublished data.

TABLE 14
Georges Bank Groundfish and Lobster Landings as a Proportion of
Nova Scotia Landings by Species and Tonnage Class, 1980
(Round Weight)

Tonnage Class	Groundfish Landings		
	Total Nova Scotia ¹ (mt)	Georges Bank ² (mt)	Total (%)
0- 24.9	62,984	2,476	3.9
25- 49.9		2,267	3.6
50-149.9		1,522	2.4
150+		18,675	13.8
Tonnage Class	Lobster Landings		
	Total Nova Scotia ³ (mt)	Georges Bank ² (mt)	Total (%)
0- 24.9	5,933	—	—
25- 49.9	—	—	—
50-150	319	157	49.2
150+	234	37	15.8

¹ From Table 15 of this Appendix. This figure excludes landings from exclusively inshore vessels in the 0-24.9 GRT vessel class other than Georges Bank landings. Most of the 6,500 vessels in the 0-24.9 GRT class fish exclusively inshore and the fishermen are classified as occasional.

² *United States Counter-Memorial, Socio-Economic Annex*, Vol. III, Appendix E, Table 6.

³ From Table 15 of this Appendix.

TABLE 15
Nova Scotia Catch by Species and Tonnage Class
(Round Weight)

Species	Year	0-24.9 GRT (mt)	25-49.9 GRT (mt)	50-149.9 GRT (mt)	150+ GRT (mt)	Total (mt)
Groundfish	1977	35,137	17,915	19,505	91,482	164,039
	1978	44,110	21,761	23,430	115,809	205,110
	1979	52,659	24,660	29,461	124,153	230,933
	1980	65,944	26,729	33,779	135,248	261,700
Sea Scallops	1977	1,218	4,880	16,550	91,695	114,343
	1978	642	3,641	14,818	87,300	106,401
	1979	501	3,271	12,670	69,534	85,976
	1980	674	3,648	9,496	51,523	65,341
Lobster	1977	6,123	—	379	224	6,726
	1978	5,498	—	375	284	6,157
	1979	6,768	—	339	238	7,345
	1980	5,933	—	319	234	6,486
Other	1977	49,666	6,762	20,526	32,584	109,538
	1978	35,873	6,546	19,836	61,873	124,128
	1979	39,687	5,238	13,711	35,366	94,002
	1980	41,601	4,607	15,094	41,963	103,265
Total	1977	92,144	29,557	56,960	215,985	394,646
	1978	86,123	31,948	58,459	265,266	441,796
	1979	99,615	33,169	56,181	229,291	418,256
	1980	114,152	34,984	58,688	228,968	436,792

Source: *Annual Statistical Review of Canadian Fisheries, 1978*, Vol. 11, Table 32, p. 51 and Table 45, p. 64. *Annual Statistical Review of Canadian Fisheries, 1980*, Vol. 13, Table 41, p. 56 and Table 54, p. 69. See Documentary Appendices 11 and 13.

TABLE 16

**Total Nova Scotia Landings — All ICNAF/NAFO Areas vs.
Nova Scotia Landings from Georges Bank, 1964-1981
(Round Weight)**

Year	Total All ICNAF/NAFO (^{'000} mt)	Georges Bank ¹ (^{'000} mt)	Total (%)
1964	309.7	73.9	23.9
1965	354.2	67.8	19.1
1966	404.4	82.1	20.3
1967	380.7	73.1	19.2
1968	429.0	77.3	18.0
1969	364.8	52.2	14.3
1970	320.8	41.9	13.1
1971	347.6	53.0	15.2
1972	338.3	39.3	11.6
1973	328.0	39.5	12.0
1974	344.5	56.6	16.4
1975	356.5	70.0	19.6
1976	367.9	73.7	20.0
1977	407.1	121.1	29.7
1978	444.9	125.8	28.3
1979	421.2	91.2	21.7
1980	436.8	68.4	15.7
1981	467.5	84.3	18.0

¹ Refers to statistical unit-areas 5Zej, 5Zem, 5Zeh and 5Zen.

Source: *Annual Statistical Review of Canadian Fisheries, 1955-1976*, Vol. 9. Canada Department of Fisheries and Oceans, Table 16, p. 51; *Annual Statistical Review of Canadian Fisheries, 1978*, Vol. 11, Table 22, p. 41; *Canadian Counter-Memorial, Annexes*, Vol. IV, Annexes 45 and 46; *Annual Statistical Review of Canadian Fisheries, 1980*, Vol. 13, Table 23, p. 42. See Documentary Appendix 13.

TABLE 17

**Georges Bank Landings as a Proportion of Total Landings in Southwest
Nova Scotia, 1964-1981
(Round Weight)**

Year	Total Southwest Nova Scotia Landings ('000 mt)	Georges Bank ¹ Landings ('000 mt)	Southwest Nova Scotia (%)
1964	183.0	73.9	40.4
1965	214.5	67.8	31.6
1966	263.8	82.1	31.1
1967	275.3	73.1	26.6
1968	319.4	77.3	24.2
1969	256.5	52.2	20.4
1970	224.5	41.9	18.7
1971	200.8	53.0	26.4
1972	224.9	39.3	17.5
1973	213.5	39.5	18.5
1974	246.3	56.6	23.0
1975	251.5	70.0	27.8
1976	250.3	73.7	29.4
1977	294.1	121.1	41.2
1978	307.2	125.8	41.1
1979	269.0	91.2	33.9
1980	272.7	68.4	25.1
1981	309.3	84.3	27.3

¹ Refers to statistical unit-areas 5Zej, 5Zem, 5Zeh and 5Zen.

Source: Canada Department of Fisheries and Oceans, unpublished data.

B. SUPPLEMENTARY DATA USED TO DETERMINE THE RELATIVE ECONOMIC IMPORTANCE
OF THE GEORGES BANK FISHERY TO CANADA AND THE UNITED STATES

TABLE 18

Employment and Gross Domestic Product (GDP), Canada¹, Nova Scotia¹ and Southwest Nova Scotia²

	Primary					Manufacturing and Construction			Services						Other	Total	
	Forestry	Mining	Fishing	Agriculture	Sub-total	Manufacturing	Construction	Sub-total	Trans., Comm. and Other Utilities	Trade	Fin. Ins. and Real Estate	Other Services	Public Administrative	Sub-total			
Employment ('000)																	
Canada, 1980	68.7	170.2	14.1	477.0	730.0	1,851.5	455.6	2,307.1	842.7	1,555.4	517.1	2,766.4	635.5	6,317.1	—	9,354.2	
Nova Scotia, 1980	3.017	4.968	6.904	7.0	21.889	41.231	13.055	54.290	24.616	46.865	12.272	86.713	26.684	197.150	—	273.328	
Southwest Nova Scotia, 1981	.780	.080	3.785	1.325	5.970	13.870	3.475	17.345	2.850	9.035	1.350	11.095	3.335	27.685	1.710	52.710	
GDP (\$000,000)																	
Canada, 1980	2,099.1	19,330.5	630.7	8,873.6	30,933.9	55,706.5	15,332.2	71,038.7	32,877.1	29,216.3	33,553.2	51,968.8	20,013.2	167,628.6	—	269,601.2	
Nova Scotia, 1980	27.0	120.0	157.8	108.7	413.5	1,015.2	399.6	1,414.8	750.7	849.2	842.6	1,146.8	963.0	4,552.3	—	6,380.6	
Southwest Nova Scotia, 1980	4.5	1.5	80.2	17.0	103.2	243.3	57.3	300.6	73.0	120.2	71.2	118.7	72.5	455.6		859.4	

¹ United States Counter-Memorial, Socio-Economic Annex, Vol. III, Appendix A, Tables 1 and 2.

² See Table 19 of this Appendix.

TABLE 19
Derivation of Southwest Nova Scotia Gross Domestic Product¹

	Nova Scotia 1980 GDP ² (\$'000,000)	Nova Scotia Labour Force ³ ('000)	GDP/NSLF	Southwest Nova Scotia Labour Force ³ ('000)	Southwest Nova Scotia 1980 GDP (\$'000,000)
Agriculture	108.7	8,510	.0128	1,325	17.0
Forestry	27.0	4,735	.0057	780	4.5
Fishing	157.8	7,445	.0212	3,785	80.2
Mining	120.0	6,525	.0184	80	1.5
Fish Processing	176.3	12,405	NA ⁴	7,015	107.6
Other Manufacturing	838.9	42,340	.0198	6,855	135.7
Construction	399.6	24,180	.0165	3,475	57.3
Trans. and Comm.	750.7	29,365	.0256	2,850	73.0
Trade	849.2	63,630	.0133	9,035	120.2
Fin. Ins.	842.6	16,000	.0527	1,350	71.2
Comm. Bus.	1,146.8	106,885	.0107	11,095	118.7
Public Admin.	963.0	44,575	.0216	3,355	72.5
Other	—	11,835	—	1,710	—
Total	6,380.6	378,430	NA ⁴	52,710	859.4

¹ Estimates of GDP at the sub-provincial level are not available from official statistical publications. This estimate of southwest Nova Scotia GDP is derived by "sharing-out" provincial GDP according to sector labour force figures. Labour force and not employment figures were used because these are the only data available at the sub-provincial level.

² *United States Counter-Memorial, Socio-Economic Annex, Vol. III, Appendix A, Table 2.*

³ Statistics Canada, *1981 Census of Canada*, unpublished, special tabulation.

⁴ NA = not applicable.

TABLE 20

Employment and Gross Domestic Product, United States and Massachusetts

	Primary					Manufacturing and Construction			Services					Other	Total	
	Forestry	Mining	Fishing	Agriculture	Sub-total	Manufacturing	Construction	Sub-total	Trans., Comm. and Other Utilities	Trade	Fin. Ins. and Real Estate	Other Services	Public Administrative			Sub-total
Employment¹																
United States ²	—	1.012	—	1.149	2,550	19,719	4,074	23,793	4,903	17,134	4,949	16,266	16,305	59,557	—	85,900
Massachusetts ³	.114	1.277	3,706	4,261	9,358	697,193	87,224	784,417	116,476	568,612	160,418	640,438	—	1,485,944	11,890	2,291,609
GDP (Billions of 1972 U.S.\$)																
United States ²	—	21.6	—	34.2	60.7	351.2	53.3	404.5	140.8	243.2	237.9	189.0	177.3	988.2	—	1,453.4
Massachusetts ⁴	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	37.945

¹ United States figures are in '000,000; Massachusetts figures are in '000.

² *Survey of Current Business*, 1982, United States Department of Commerce, Bureau of Economic Analysis, p. 4. See Documentary Appendix 1, Document 2.

³ *County Business Patterns, 1980, Massachusetts*, Table 1B, pp. 3-14.

⁴ *New England Economic Indicators*, Federal Reserve Bank of Boston, Boston, Massachusetts, June 1982, p. A-5. See Documentary Appendix 2.

TABLE 21
Labour Force by Sector, 1980

	Southwest Nova Scotia		Eastern Massachusetts ¹	
	(persons)	(%)	(persons)	(%)
Fishing	3,785	7.2	3,706	0.2
Other Primary	2,185	4.1	4,398	0.2
TOTAL PRIMARY	5,970	11.3	8,104	0.5
Fish Processing	7,015	13.3	3,878	0.2
Other Manufacturing	6,855	13.0	499,426	28.1
Construction	3,475	6.6	69,522	3.9
TOTAL SECONDARY	17,345	32.9	572,826	32.2
TOTAL TERTIARY	27,685	52.5	1,187,101	66.7
Other	1,710	3.2	12,283	0.7
TOTAL LABOUR FORCE	52,710	100.0	1,780,314	100.0

¹ Comprehensive labour force data at the industry or sector level are not readily available for individual counties. This is not expected to produce any significant bias in the distribution shown.

Source: *County Business Patterns, 1980, Massachusetts*, United States Department of Commerce, Bureau of the Census, March, 1982 and Table 18 of this Appendix.

C. SUPPLEMENTARY DATA USED TO SUBSTANTIATE CANADA'S LEADING
POSITION IN FISHING ACTIVITIES ON GEORGES BANK

TABLE 22

Volume of Canadian and United States Landings (All Species)
from Georges Bank¹, 1964-1981

Year	Canada		United States	
	(mt)	(%)	(mt)	(%)
1964	73,860	43.1	97,434	56.9
1965	67,075	45.4	80,643	54.6
1966	82,085	54.4	68,900	45.6
1967	73,136	58.9	50,971	41.4
1968	77,303	64.0	43,390	36.0
1969	52,203	51.8	48,536	48.2
1970	41,857	48.5	44,517	51.5
1971	53,020	56.0	41,674	44.1
1972	39,272	52.1	36,057	47.9
1973	39,519	52.6	35,600	47.4
1974	56,655	61.8	35,015	38.2
1975	70,004	66.0	36,049	34.0
1976	73,660	71.8	28,876	28.2
1977	121,056	72.8	45,266	27.2
1978	125,852	67.6	60,278	32.4
1979	91,162	56.4	70,331	43.6
1980	68,377	47.9	74,230	52.1
1981	84,320	46.5	96,911	53.5

¹ Refers to statistical unit areas 5Zej, 5Zem, 5Zeh and 5Zen.

Source: Canada Department of Fisheries and Oceans, unpublished data. United States Department of Commerce, National Marine Fisheries Service, Data Management and Statistics Division, computer printouts.

TABLE 23
Value¹ of Canadian and United States Landings (All Species)
from Georges Bank², 1964-1981

Year	Canada		United States	
	(\$'000)	(%)	(\$'000)	(%)
1964	9,721	49.2	10,031	50.8
1965	9,849	54.3	8,286	45.7
1966	10,170	59.4	6,956	40.6
1967	11,135	67.6	5,336	32.4
1968	14,761	74.8	4,971	25.2
1969	11,796	62.1	7,199	37.9
1970	11,729	64.7	6,399	35.3
1971	11,507	64.2	6,419	35.8
1972	15,794	72.1	6,115	27.9
1973	15,835	74.1	5,543	25.9
1974	19,327	72.6	7,306	27.4
1975	25,645	75.8	8,188	24.2
1976	35,589	80.3	8,704	19.7
1977	45,079	78.0	12,745	22.0
1978	66,899	71.4	26,734	28.6
1979	68,532	64.2	38,236	35.8
1980	51,340	51.9	47,676	48.1
1981	78,664	52.7	70,478	47.3

¹ Landed values calculated using prices set out in Table 26.

² Refers to statistical unit area 5Zej, 5Zem, 5Zeh and 5Zen.

Source: Canada Department of Fisheries and Oceans, unpublished data. United States Department of Commerce, National Marine Fisheries Service. Data Management and Statistics Division, computer printouts.

TABLE 24
Volume of Canadian and United States Scallop Landings
from Georges Bank¹, 1964-1981

Year	Canada		United States	
	(mt)	(%)	(mt)	(%)
1964	49,153	56.7	37,582	43.3
1965	36,802	81.3	8,491	18.7
1966	40,487	89.2	4,880	10.8
1967	41,658	85.2	7,238	14.8
1968	40,006	90.4	4,266	9.6
1969	35,839	80.9	8,466	19.1
1970	34,005	85.9	5,569	14.0
1971	32,436	87.8	4,515	12.2
1972	33,673	91.4	3,154	8.6
1973	27,075	90.6	2,814	9.4
1974	50,937	95.1	2,598	4.9
1975	61,536	95.7	2,772	4.3
1976	66,981	96.3	2,606	3.7
1977	107,684	92.1	9,230	7.9
1978	101,169	85.5	17,198	14.5
1979	76,426	73.3	27,797	26.7
1980	43,334	60.9	27,855	39.1
1981	66,508	60.9	42,770	39.1

¹ Refers to statistical unit area 5Zej, 5Zem, 5Zeh and 5Zen.

Source: Canada Department of Fisheries and Oceans, unpublished data. United States Department of Commerce, National Marine Fisheries Service. Data Management and Statistics Division, computer printouts.

TABLE 25

**Value¹ of Canadian and United States Scallop Landings
from Georges Bank², 1964-1981**

Year	Canada		United States	
	(\$'000)	(%)	(\$'000)	(%)
1964	5,750	56.7	4,398	43.3
1965	5,374	85.2	930	14.8
1966	4,415	89.2	532	10.8
1967	6,500	89.6	756	10.4
1968	9,404	90.3	1,007	9.7
1969	8,450	80.9	1,996	19.1
1970	9,850	85.9	1,613	14.1
1971	10,084	87.8	1,404	12.2
1972	14,688	91.6	1,341	8.4
1973	13,860	92.6	1,112	7.4
1974	17,980	95.1	917	4.9
1975	23,540	95.7	1,060	4.3
1976	33,823	96.9	1,088	3.1
1977	41,227	92.2	3,503	7.8
1978	58,481	85.5	9,941	14.5
1979	63,277	73.3	23,014	26.7
1980	41,643	60.9	26,767	39.1
1981	72,958	58.7	51,334	41.3

¹ Landed values calculated using prices set out in Table 26.

² Refers to statistical unit area 5Zej, 5Zem, 5Zeh and 5Zen.

Source: Canada Department of Fisheries and Oceans, unpublished data. United States Department of Commerce, National Marine Fisheries Service, Data Management and Statistics Division, computer printouts.

TABLE 26
Average Annual Price of Offshore Catch by Species — Nova Scotia¹, 1964-1981
(\$/Metric Ton)

	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
American Plaice	—	—	—	—	—	98	114	115	116	144	170	169	185	208	241	276	321	337
Atlantic Halibut	—	—	—	—	—	528	651	612	665	1,083	695	859	1,018	998	1,123	1,183	1,802	1,296
Cod	88	92	101	98	104	102	95	102	116	139	185	189	194	227	278	291	288	279
Cusk	86	106	81	36	47	39	46	53	68	93	104	112	108	102	120	138	150	151
Haddock	114	122	130	135	144	152	186	190	214	288	340	344	355	367	405	425	399	362
Herring	—	—	—	29	26	22	25	32	37	44	71	39	63	110	189	206	301	125
Lobster	—	—	—	—	—	1,728	1,997	1,761	2,383	2,582	2,603	2,844	3,199	3,185	3,358	3,587	3,764	4,023
Mackerel	—	—	—	—	—	112	134	141	133	181	178	134	191	135	233	246	292	260
Pollock	54	67	73	73	58	53	57	70	81	91	123	127	125	130	153	181	185	186
Redfish	71	67	73	62	61	64	71	79	91	111	112	119	124	148	199	215	202	185
Scallops	117	146	109	156	235	236	290	311	425	395	353	383	417	380	578	828	961	1,097
Skates	—	—	24	52	143	148	202	116	104	24	47	40	37	56	33	—	—	—
Swordfish	575	787	746	1,209	1,774	1,271	1,012	—	—	194	—	414	1,611	1,846	1,969	—	2,235	2,275
Squid	—	—	—	—	—	—	184	203	—	—	—	—	191	213	333	—	—	—
White Hake	—	60	73	44	59	43	46	50	76	109	103	156	166	101	1,244	132	139	141
Winter Flounder	80	81	95	94	91	55	110	116	119	145	129	153	173	172	229	299	322	325
Witch	—	—	—	—	—	118	132	132	134	164	191	192	199	228	258	321	393	358
Yellowtail Flounder	78	68	67	61	74	95	106	104	98	106	23	120	135	157	201	240	253	229
Angler	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Red Hake	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Silver Hake	—	—	—	—	—	—	—	—	—	—	11	9	—	—	—	—	238	—
Summer Flounder	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Wolfish	64	—	65	64	64	—	—	—	—	—	—	—	—	—	—	—	—	—

¹ Prices shown are for Lunenburg.

Source: Canada Department of Fisheries and Oceans, unpublished data.

TABLE 27

**Volume of Canadian and United States Landings, All Species from the
Northeastern Peak of Georges Bank¹, 1964-1981
(Round Weight)**

Year	Canada		United States		Total
	(mt)	(%)	(mt)	(%)	(mt)
1964	73,860	58.5	52,351	41.5	126,211
1965	67,075	62.7	39,903	37.3	106,978
1966	82,085	75.1	27,228	24.9	109,313
1967	72,782	74.6	24,764	25.4	97,546
1968	76,880	76.1	24,204	23.9	101,084
1969	34,045	53.1	30,079	46.9	64,124
1970	41,857	66.9	20,676	33.1	62,533
1971	52,919	74.2	18,441	25.8	71,360
1972	36,340	71.8	14,298	28.2	50,638
1973	37,859	71.8	14,894	28.2	52,753
1974	56,616	77.9	16,088	22.1	72,704
1975	69,992	80.6	16,821	19.4	86,813
1976	73,647	85.9	12,119	14.1	85,766
1977	120,974	86.1	19,538	13.9	140,512
1978	125,794	81.0	29,564	19.0	155,358
1979	91,158	73.0	33,710	27.0	124,868
1980	68,300	66.5	34,429	33.5	102,729
1981	84,199	55.1	68,662	44.9	152,861

¹ Refers to statistical unit areas 5Zej and 5Zem.

Source: Canada Department of Fisheries and Oceans, unpublished data. United States Department of Commerce, National Marine Fisheries Service, Data Management and Statistics Division, computer printouts.

Appendix 2

SOUTHWEST NOVA SCOTIA: ECONOMIC BASE MODEL, 1971 AND 1981

[Pp. 59-104, 113-124 not reproduced]

TABLE A.2A

Final Allocations, Basic and Non-Basic Sectors, 1981

Industry	Resident Exp. Lbr. Force	Final Alloc. Code	Sector Allocation	
			Basic	Non-basic
AGRICULTURE	1,325		150	1,175
Farms	1,260	LQ	142	1,118
Services Incd. to Agriculture	65	LQ	8	57
FORESTRY	780		780	—
Logging	645	E	645	—
Forestry Services	135	E	135	—
FISHING AND TRAPPING	3,785		3,752	33
Fishing	3,720	ALQE	3,688	32
Fishery Services	65	ALQE	64	1
MINES, QUARRIES AND OIL WELLS	80		80	—
Misc. Metal Mines	5	E	5	—
Crude Petroleum & Natural Gas	20	E	20	—
Gypsum Mines	10	E	10	—
Contract Drilling for Petroleum	25	E	25	—
Other Contract Drilling	5	E	5	—
Misc. Serv. Incd. to Mining	15	E	15	—
MANUFACTURING	13,870		12,003	1,867
FOOD AND BEVERAGE	7,375		7,124	251
Meat & Poultry Products	5	LQ	—	5
Fish Products	7,015	ALQE	6,955	60
Fruit & Vegetable Processing	30	N	18	12
Dairy Products	55	N	22	33
Flour & Breakfast Cereal Product	5	N	5	—
Bakery Products	135	N	71	64
Misc. Food Industries	40	N	26	14
Beverage Industries	90	N	27	63
RUBBER AND PLASTICS PRODUCTS	1,765		1,631	134
Rubber Products Industries	1,550	LQ	1,488	62
Plastics Fabricating	215	LQ	143	72
LEATHER	10		10	—
Shoe Factories	5	N	5	—
Lug., Hbag & Sm. Lgoods Mfgr.	5	N	5	—
TEXTILE	615		525	90
Cotton Yarn & Cloth Mills	505	LQ	488	17
Man-made Fibre, Yarn & Cloth	25	N	25	—
Cordage & Twine Industries	5	LQ	4	1
Canvas, Cotton & Jute Bags	10	LQ	3	7
Misc. Textile Industries	70	LQ	5	65
KNITTING MILLS	30		16	14
Knitting Mills (Expt. Hosiery)	30	LQ	16	14

TABLE A.2A

Final Allocations, Basic and Non-Basic Sectors, 1981 (Continued)

Industry	Resident Exp. Lbr. Force	Final Alloc. Code	Sector Allocation	
			Basic	Non-basic
CLOTHING	35		—	35
Men's Clothing Industries	15	LQ	—	15
Women's Clothing Industries	5	LQ	—	5
Misc. Clothing Industries	15	LQ	—	15
WOOD	780		281	499
Sawmills, Planing & Shingle	620	LQ	246	374
Sash, Door & Other Millwork	115	LQ	11	104
Wooden Box Factories	20	E	20	—
Coffin & Casket Industry	5	LQ	4	1
Misc. Wood Industries	20	LQ	—	20
FURNITURE AND FIXTURES	140		37	103
Household Furniture Mfr.	95	LQ	—	95
Office Furniture Manufacturers	5	N	5	—
Misc. Furniture & Fixtures	40	LQ	32	8
PAPER AND ALLIED	1,000		904	96
Pulp & Paper Mills	985	ALQE	889	96
Paper Box & Bag Manufacturers	10	N	10	—
Miscellaneous Paper Converters	5	N	5	—
PRINTING, PUBLISHING AND ALLIED	360		119	241
Commercial Printing	75	N	15	60
Platemake, Typeset & Trade Binding	35	LQ	30	5
Publishing Only	35	LQ	5	30
Publishing & Printing	215	LQ	69	146
PRIMARY METAL	20		20	—
Iron & Steel Mills	5	N	5	—
Iron Foundries	5	N	5	—
Smelting & Refining	10	N	10	—
METAL FABRICATING	130		25	105
Ornamental & Architectural Metal	5	LQ	—	5
Metal Stamping Pressing	20	LQ	—	20
Wire & Wire Products Mfgr.	15	N	15	—
Machine Shops	85	LQ	10	75
Misc. Metal Fabricating	5	LQ	—	5
MACHINERY	390		212	178
Agricultural Implement Industry	5	N	5	—
Misc. Machinery & Equipment	355	LQ	177	178
Comm. Refrigeration & Air Cond.	5	N	5	—
Motor Vehicle Manufacturers	25	N	25	—

TABLE A.2A

Final Allocations, Basic and Non-Basic Sectors, 1981 (Continued)

Industry	Resident Exp. Lbr. Force	Final Alloc. Code	Sector Allocation	
			Basic	Non-basic
TRANSPORTATION EQUIPMENT	795		795	—
Truck Body & Trailer Manufacturer	5	N	5	—
Shipbuilding & Repair	535	E	535	—
Boatbuilding & Repair	255	E	255	—
ELECTRICAL PRODUCTS	35		14	21
Communications Equip. Mfgr.	35	N	14	21
NON-METALLIC MINERAL PRODUCTS	130		76	54
Clay Products Manufacturers	15	LQ	7	8
Stone Products Mfgr.	10	LQ	9	1
Concrete Products Mfgr.	20	LQ	9	11
Ready-mix Concrete Mfgr.	60	LQ	36	24
Glass & Glass Products Mfgrs.	10	LQ	—	10
Misc. Non-metallic Minerals	15	N	15	—
PETROLEUM AND COAL PRODUCTS	50		47	3
Petroleum Refineries	45	N	45	—
Misc. Petroleum & Coal Products	5	LQ	2	3
CHEMICAL AND CHEMICAL PRODUCTS	130		130	—
Plastics & Synthetic Resins Mfgr.	5	N	5	—
Paint & Varnish Manufacturers	5	N	5	—
Soap & Cleaning Compounds Mfgrs.	10	N	10	—
Toilet Preparations Mfgr.	5	N	5	—
Industrial Chemicals Mfgr.	10	N	10	—
Misc. Chemicals Mfgr.	95	E	95	—
MISCELLANEOUS MANUFACTURING	80		37	43
Scientific & Professional Equip.	20	N	12	8
Jewellery & Silverware	5	LQ	—	5
Sporting Goods & Toy Industries	30	N	25	5
Misc. Manufacturing Ind. Nes	25	LQ	—	25
CONSTRUCTION	3,475		131	3,344
Building Construction	815	ALQP	89	726
Highway, Bridge & Street Const	500	ALQP	6	494
Other Construction	260	ALQP	36	224
Special Trade Contractors	1,900	ALQP	—	1,900
TRANSP. COMM. AND OTHER UTILITIES	2,850		512	2,338

TABLE A.2A

Final Allocations, Basic and Non-Basic Sectors, 1981 (Continued)

Industry	Resident Exp. Lbr. Force	Final Alloc. Code	Sector Allocation	
			Basic	Non-basic
TRANSPORTATION	1,720		477	1,243
Air Transport	20	ALQ	—	20
Serv. Incd. to Air Transport	25	ALQ	—	25
Railway Transport	165	ALQ	—	165
Water Transport	320	E	320	—
Serv. Incd. to Water Transport	70	E	70	—
Moving & Storage	20	ALQ	—	20
Other Truck Transport	440	ALQ	—	440
Bus Trans., Interurban & Rural	45	ALQ	8	37
Urban Transit Systems	10	N	10	—
Taxicab Operations	140	ALQ	11	129
Highway & Bridge Maintenance	405	ALQP	58	347
Misc. Serv. Incd. to Transport	25	ALQ	—	25
Other Transportation	35	ALQ	—	35
STORAGE	5		—	5
Other Storage & Warehousing	5	ALQ	—	5
COMMUNICATION	795		27	768
Radio & TV Broadcasting	100	ALQ	—	100
Telephone Systems	325	ALQ	—	325
Telegraph & Cable Systems	60	ALQ	27	33
Post Office	310	ALQ	—	310
ELECTRIC POWER, GAS AND WATER	330		8	322
Electric Power	260	ALQ	—	260
Water Systems	5	ALQ	—	5
Other Utilities	65	ALQ	8	57
TRADE	9,035		1,881	7,154
WHOLESALE	2,335		929	1,406
Wsalers of Petroleum Products	245	ALQ	105	140
Wsalers of Paper Products	15	ALQ	—	15
Wsalers of General Merchandise	110	ALQ	85	25
Wsalers of Food	980	ALQ	708	272
Wsalers of Tobacco Products	5	ALQ	—	5
Wsalers of Drugs & Toilet Prep.	5	ALQ	—	5
Wsalers of Apparel & Dry Goods	25	ALQ	—	25
Wsalers of Hhold Furn. & Fur.	25	ALQ	—	25
Wsalers of Motor Vhcle Acc.	170	ALQ	—	170
Wsalers of Elect. Mach. Equip.	45	ALQ	—	45
Wsalers of Farm. Mach. Equip.	20	ALQ	—	20
Wsalers of Mach. Equip. Nes	80	ALQ	—	80
Wsalers of Hdwr. Plum. & Ht. Equip.	60	ALQ	—	60
Wsalers of Metal Nes	20	ALQ	—	20
Wsalers of Lumb. & Build. Mat.	315	ALQ	31	284
Wsalers of Scrap & Waste Mat.	40	ALQ	—	40
Wholesalers Nes	175	ALQ	—	175

TABLE A.2A

Final Allocations, Basic and Non-Basic Sectors, 1981 (Continued)

Industry	Resident Exp. Lbr. Force	Final Alloc. Code	Sector Allocation	
			Basic	Non-basic
RETAIL	6,700		952	5,748
Food Stores	1,535	ALQ	335	1,200
General Merchandise Stores	1,300	ALQ	—	1,300
Tire, Battery & Access. Stores	150	ALQ	—	150
Gasoline Service Stations	515	ALQ	139	376
Motor Vehicle Dealers	635	ALQ	210	425
Motor Vehicle Repair Shops	435	ALQ	6	429
Shoe Stores	45	ALQ	—	45
Men's Clothing Stores	40	ALQ	—	40
Women's Clothing Stores	145	ALQ	—	145
Clothing & Dry Goods Store Nes	200	ALQ	29	171
Hardware Stores	130	ALQ	—	130
Hhld. Furn. & Appl. Stores	410	ALQ	116	294
Radio TV & Elec. Appl. Repair	35	ALQ	—	35
Drug Stores	340	ALQ	96	244
Book & Stationery Stores	40	ALQ	—	40
Florists Shops	60	ALQ	—	60
Jewellery Stores	110	ALQ	15	95
Watch & Jewellery Repair Shops	5	ALQ	—	5
Liquor Wine & Beer Stores	90	ALQ	6	84
Retail Stores Nes	480	ALQ	—	480
FINANCE, INSURANCE AND REAL ESTATE	1,350		33	1,317
FINANCE	830		33	797
Banks & Othr Deposit Accp. Est	685	ALQ	—	685
Other Credit Agencies	120	ALQ	33	87
Security Brokers & Dealers	5	ALQ	—	5
Investment & Holding Companies	20	ALQ	—	20
INSURANCE AND REAL ESTATE	520		—	520
Insurance Carriers	90	ALQ	—	90
Insurance & Real Estate Agency	285	ALQ	—	285
Real Estate Operators	145	ALQ	—	145
COMMUNITY, BUS. & PERSL. SERV.	11,095		962	10,133

TABLE A.2A

Final Allocations, Basic and Non-Basic Sectors, 1981 (Continued)

Industry	Resident Exp. Lbr. Force	Final Alloc. Code	Sector Allocation	
			Basic	Non-basic
EDUCATION AND RELATED	2,855		94	2,761
Kindergartens & Nursery				
School	40	C	—	40
Elementary & Secondary				
Schools	2,330	C	—	2,330
School of Art & Perf. Art	35	ALQ	—	35
Voc. Ctre Trade & Bus.				
Schools	55	ALQ	13	42
Post Sec. Non-univ. Inst.	5	ALQ	—	5
Universities & Colleges	175	ALQ	—	175
Libr. Museum & Othr				
Repository	200	ALQ	81	119
Education & Related Serv.	15	ALQ	—	15
HEALTH, WELFARE AND				
 RELIGIOUS ORG.	3,575		—	3,575
Hospitals	1,810	ALQ	—	1,810
Related Health Care Inst.	380	C	—	380
Offices of Physician &				
Surgeon	270	ALQ	—	270
Offices of Para-med Personnel	35	ALQ	—	35
Offices of Dentists	100	ALQ	—	100
Diagnostic & Therap. Serv.				
Nes	25	ALQ	—	25
Welfare Organizations	670	C	—	670
Religious Organizations	285	C	—	285
AMUSEMENT AND				
 RECREATION				
 SERVICES	335		34	301
Motion Picture Theatres	55	LQ	22	33
Motion Picture Prod. & Dist.	10	LQ	—	10
Bowling Alleys & Billiard Plr.	30	LQ	8	22
Golf & Country Clubs	50	LQ	3	47
Theatrical & Othr Staged				
Entert.	25	LQ	1	24
Misc. Amuse. & Recreation				
Serv.	165	LQ	—	165
SERVICES TO BUSINESS				
 MANAGEMENT	655		—	655
Empl. Agencies & Persl Supplr	10	ALQ	—	10
Computer Services	5	ALQ	—	5
Security & Investigation Serv.	60	ALQ	—	60
Offices of Accountants	105	ALQ	—	105
Advertising Serv.	10	ALQ	—	10
Offices of Architects	5	ALQ	—	5
Engineering & Scientific Serv.	140	ALQ	—	140
Offices of Lawyers & Notaries	215	ALQ	—	215
Offices of Mangt. & Bus.				
Consl.	35	ALQ	—	35
Misc. Serv. to Bus. Mangt.	70	ALQ	—	70

TABLE A.2A

Final Allocations, Basic and Non-Basic Sectors, 1981 (Concluded)

Industry	Resident Exp. Lbr. Force	Final Alloc. Code	Sector Allocation	
			Basic	Non-basic
PERSONAL SERVICE	840		14	826
Shoe Repair Shops	5	ALQ	—	5
Barber & Beauty Shops	285	ALQ	1	284
Private Households	335	C	—	335
Laundry Clean & Pressing	70	ALQ	—	70
Self-serv. Laund. & Dry Cleaner	25	ALQ	13	12
Funeral Services	65	C	—	65
Misc. Personal Services	55	ALQ	—	55
ACCOMMODATION AND FOOD SERVICE	2,325		820	1,505
Hotels & Motels	805	E	805	—
Lodging Houses & Resid. Clubs	10	LQ	3	7
Camp Grounds & Trailer Parks	50	LQ	12	38
Restaurants Caterers & Taverns	1,460	LQ	—	1,460
MISCELLANEOUS SERVICES	510		—	510
Labour Organ. & Trade Assoc.	50	ALQ	—	50
Photographic Services Nes	30	ALQ	—	30
Automobile & Truck Rental	20	ALQ	—	20
Machinery & Equip. Rental	10	ALQ	—	10
Blacksmiths & Welding Shops	40	ALQ	—	40
Misc. Repair Shops	45	ALQ	—	45
Serv. to Buildings & Dwellers	55	ALQ	—	55
Misc. Services Nes	260	ALQ	—	260
PUBLIC ADMINISTRATION AND DEFENCE	3,355		1,231	2,124
Defence Services	1,035	E	1,035	—
Other Federal Administration	855	ALQO	196	659
Provincial Administration	770	ALQH	—	770
Local Administration	695	C	—	695
UNSPECIFIED OR UNDEFINED	1,710	R	721	989
TOTAL	52,710		22,236	30,474

Final Allocation Codes for Tables A.2 and A.2A

- N = Assigned to Basic Sector because of workers working outside the region.
- C = Assigned to Non-Basic Sector because output of industry is consumed in region.
- E = Assigned to Basic Sector because of specialized nature of production.
- R = Allocation based on the ratio of Basic and Non-Basic Sectors in all other industries.
- LQ = Allocated based on initial allocation.
- ALQ = Allocated based on region-national location quotient.
- ALQP = Allocated based on region-provincial location quotient.
- ALQE = Allocated based on region-national less exports location quotient.
- ALQO = Allocated based on region-national excluding Ottawa-Hull and southwest Nova Scotia location quotient.
- ALQH = Allocated based on region-provincial excluding Halifax and southwest Nova Scotia location quotient.
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Appendix 3

SURVEY REPORT — CLARK'S HARBOUR COMMUNITY CLUSTER

[Not reproduced]

Appendix 4

THE SMALL VESSEL FLEET OF SOUTHWEST NOVA SCOTIA

[Not reproduced]

Appendix 5

GROWTH AND DIVERSIFICATION

INTRODUCTION

1. This Appendix presents the relationships between landed prices, market prices and processing costs for scallops and groundfish. These data form part of the refutation of the United States contention that Canada has exaggerated the contribution of fishing on Georges Bank to the economy of southwest Nova Scotia¹.

2. The United States alleges that fishing on Georges Bank makes a significant contribution to only the economies of five ports². Part I of this Annex has proven this to be false for a number of well-documented reasons³. This Appendix demonstrates that Canada's participation in the Georges Bank fishery has been sufficiently profitable to allow companies engaged in scalloping on Georges Bank to grow and diversify at a rate that would have been impossible without access to this resource.

The Relationship Between Landed Prices, Market Prices and Processing Costs

3. Scallops are sold by fishermen to processors in a form that requires little further processing before being marketed. Scallop processing is limited to washing, freezing and packaging. Groundfish, on the other hand, requires considerable processing before going to market. This relatively labour-intensive activity includes sorting, washing, filleting, packaging and freezing. Processing costs per unit of weight are substantially higher for groundfish than for scallops. With a greater absolute difference between landed and market prices and a smaller processing cost per unit of weight, the returns to the processor are substantially higher for scallops than for groundfish.

4. Data on the landed prices, market prices and processing costs for scallops and groundfish are shown in Table 1 for the years 1977 to 1980. These data show that, in 1978, processors earned profits on both scallops and groundfish, although scallop profits were substantially higher per unit of weight. However, in 1980, with adverse market conditions and rising costs, the market price received for groundfish products fell below the overall cost of production (landed price plus processing costs). Scallop prices remained buoyant and processing costs low, thereby continuing to generate profits for processing companies. For companies engaged in both scallop and groundfish production, groundfish losses were wholly or partially offset by scallop revenues.

¹ *United States Counter-Memorial, Socio-Economic Annex*, Vol. III, Annex 4, pp. 20-29, paras. 21-27.

² *United States Counter-Memorial, Socio-Economic Annex*, Vol. III, Annex 4, pp. 25-26, para. 25.

³ See Part I, pp. 15-17, paras. 21-29.

TABLE 1

**Market Prices, Landed Prices And Processing Costs:
Groundfish And Scallops, Nova Scotia, 1977-1980¹**

	1977	1978	1979	1980
Groundfish				
Market Price	1.97	2.18	2.33	2.28
Landed Price	0.74	0.96	0.97	1.04
Processing Cost ²				
Labour	0.54	0.63	0.69	0.74
Materials	0.08	0.09	0.10	0.11
Overhead	0.38	0.44	0.48	0.52
Total Cost	1.74	2.02	2.24	2.41
Net Revenue ³	0.23	0.16	0.09	(0.13)
Scallops				
Market Price	4.89	8.07	8.85	11.34
Landed Price	3.13	4.83	6.91	8.09
Processing Cost ⁴				
Labour	0.21	0.26	0.28	0.30
Materials	0.09	0.10	0.11	0.13
Overhead	0.07	0.09	0.10	0.11
Total Cost	<u>3.50</u>	<u>5.29</u>	<u>7.39</u>	<u>8.64</u>
Net Revenue ³	1.39	2.78	1.46	2.70

¹ All landed and market prices are annual averages for Nova Scotia. Prices are drawn from *Annual Statistical Review of Canadian Fisheries, 1978*, Vol. 11, Table 23, p. 42; Table 52, p. 74; *Annual Statistical Review of Canadian Fisheries, 1980*, Vol. 13, Table 24, p. 42; Table 62, p. 80. See Documentary Appendices 11 and 13.

² Groundfish processing costs are based on data from the Task Force on Atlantic Fisheries: *Navigating Troubled Waters, A New Policy for the Atlantic Fisheries*, Table 5.15, p. 95 and p. 275. See Documentary Appendix 6.

³ Net revenue refers to the difference between market price and the sum of landed price and processing costs.

⁴ Scallop processing costs are derived from data supplied by processing companies. Costs for 1980 range from \$0.35/Kg to \$0.53/Kg. For this analysis, the higher figure is used.

Appendix 6

CANADIAN AND UNITED STATES FISHERIES POLICIES

Section I. Canadian Fisheries Policies

Introduction

1. The purpose of this Appendix is twofold: *first*, to refute the United States allegation that Canadian fishing activity on Georges Bank is uniquely a result of government policies¹; and *secondly*, to correct the erroneous suggestion that the United States fishing industry did not benefit from financial assistance².

2. The United States contention regarding government policies is two-pronged: the first part of the argument alleges that Canadian vessels fish on Georges Bank because they receive financial assistance; the second part of the argument alleges that Canadian vessels fish on Georges Bank because the Government of Canada prevents them from fishing elsewhere. Both contentions are patently wrong and are attempts to disguise the simple fact that economics, i.e., supply and demand for certain fish products, determines where fishing activity occurs.

A. GOVERNMENT ASSISTANCE TO FISHERIES IN CANADA

3. As in the case of all other industrialized countries³, Canada renders financial assistance of various kinds to its fishing industry. Like the provision of roads and airports, it is a standard obligation of governments to provide infrastructure, such as breakwaters and docking facilities, to assist the fishing industry.

4. In Canada, the acknowledged social need to maintain a large labour-intensive inshore fisheries sector means that financial assistance has been provided to improve the incomes of this sector⁴. This aid has little bearing on the offshore fishery of Georges Bank, and the United States has not taken issue with such assistance⁵.

¹ *United States Counter-Memorial, Socio-Economic Annex*, Vol. III, Annex 4, pp. 33-35, paras. 36-43.

² *United States Counter-Memorial, Socio-Economic Annex*, Vol. III, Annex 4, pp. 33-35, paras. 36-43.

³ See the following publications of the Organisation for Economic Cooperation and Development: *Financial Support to the Fishing Industry of OECD Member Countries*. Paris, OECD, 1965; *Financial Support to the Fishing Industry of OECD Member Countries*. Paris, OECD, 1971; *Financial Support to the Fishing Industry of OECD Member Countries*. Paris, OECD, 1980.

⁴ The Groundfish Bridging Program and its successor, the Groundfish Temporary Assistance Program, were designed to provide price support at a time of disastrous temporary weakness in groundfish markets. These programs were in effect from 1974 to 1977.

⁵ The United States supports its contentions regarding groundfish price supports with an article on scallop stock assessment which it does not annex. See *United States Counter-Memorial, Socio-Economic Annex*, Vol. III, Annex 4, Appendix D, p. 3, footnote 6.

5. The United States does take issue with the use in Canada of vessel-construction subsidies, stating:

“... *due in large measure to the vessel-construction subsidy program* of the Canadian government, by 1964, the new and expanding Canadian scallop fleet on Georges Bank was taking about one-half of the scallops from the Bank⁶”. [*Italics added.*]

This is an unusual argument for the United States to advance in light of the vessel-construction subsidy programs that were in operation in the United States at the same time. The *Fishing Fleet Improvement Act* provided vessel-construction subsidies of up to 50 percent of the cost of construction⁷. The main beneficiary of this program was the New Bedford scallop fleet⁸.

6. Furthermore, the United States has based its allegation, for the period prior to 1961, on an article which says that subsidies might have been a consideration in the expansion of Canada's Georges Bank scallop fleet⁹. The United States fails to point out that in the immediately preceding paragraph the authors conclude that:

“The expansion of the offshore [Canadian scallop] fleet in itself suggests the profitability of the fishery. There were apparent advantages in exploiting more intensively the high-unit value scallop fishery on the readily accessible Georges Bank scallop grounds. The scallop resource was quite unlike the low-unit value product (groundfish) traditionally landed in the Provinces. It would also appear that the differential between ex-vessel prices — usually from 5¢ to 10¢ a pound lower in Canada — was such that costs in Canada were sufficiently low to justify such an expansion¹⁰.”

The authors, accordingly, agree with Canada that economics determine where fishing takes place.

7. The Canadian legislation which the United States has objected to was established to “provide assistance to Canadian shipping and shipyards¹¹” and not to the fishing industry. The objective is to lower the price of Canadian-built vessels so that they are competitive with vessels from foreign shipyards. Canadian customs records show that vessels have continually been imported into Nova Scotia. This is proof that vessel

⁶ *United States Counter-Memorial*, pp. 59-60, para. 74.

⁷ Margaret E. Dewar: *Industry in Trouble*. Philadelphia, Temple University Press, 1983, p. 68. See Documentary Appendix 14.

⁸ Margaret E. Dewar: *Industry in Trouble*. Philadelphia, Temple University Press, 1983, p. 68. See Documentary Appendix 14.

⁹ R. M. Doherty, G. P. Draheim, D. J. White and C. L. Vaughn: “Sea Scallop Industry of Canada.” *Commercial Fisheries Review*, Vol. 25, No. 7, July 1963, p. 12. *United States Memorial, Documentary Annexes*, Vol. II, Annex 21.

¹⁰ *United States Memorial, Documentary Annexes*, Vol. II, Annex 21, p. 12.

¹¹ “Proposals for Assisting Shipping and Shipyards.” *Record of Cabinet Decision*, 6 September 1961. Ottawa, Privy Council Office, September 1961. See Documentary Appendix 15.

subsidies have not given Canadian fishermen any advantage that they would not have had with free access to foreign shipyards. It is now felt that, in many instances when a subsidy is given to boat-buyers, the vessel price rises and the subsidy is passed on to the boatbuilder¹².

**B. CANADIAN FISHERIES POLICIES HAVE PREVENTED THE
OVER-EXPLOITATION OF GEORGES BANK
BY CANADIAN FISHERMEN**

8. The United States contends that Canada has solidified its position on Georges Bank due to its inflexible fisheries policy, which allegedly does not allow the offshore scallop fleet to exploit other species in inshore areas or in resource-rich areas off Newfoundland. It further contends that the Nova Scotia offshore groundfish fleet, due to a conflict between Nova Scotia and Newfoundland, has been forced to fish on banks to the south and west, i.e., on Georges Bank. These contentions reflect the United States incomprehension of the Canadian fishing industry.

9. It has already been demonstrated that the operations of Canadian offshore vessels were restricted by the Government of Canada before the mid-1950s¹³. After these restrictions were relaxed, Canada's Georges Bank fishery quickly expanded. Canada, because of its dependence on fishing resources, has limited entry into the offshore scallop fishery, and indeed into all fisheries. As a result, Canada has prevented its 150 groundfish trawlers from being diverted to scalloping when scallops have been abundant. Canada has also acted responsibly in prohibiting the use of factory-freezer trawlers on Georges Bank.

10. Beginning in the late 1960s, Canada recognized that, if fisheries were to be managed in accordance with economic objectives, limited entry was necessary. Since Canada's offshore fleets had acquired economic advantages (e.g., economies of scale) by specializing in certain fisheries, and because ICNAF regulations were already on a species-by-species basis, Canada instituted limited entry for species groups (offshore scallops 1973, groundfish 1973). This was the first tentative step towards rationalizing the Canadian fishing industry in relation to economic objectives and preparing Canada for extended fisheries jurisdiction.

11. Since 1977 the Nova Scotia trawler fleet, as a result of Canada's Atlantic Groundfish Plans, has been encouraged to fish the northern groundfish stock to the north and east rather than to the south

¹² See D. M. Baker: *The Fishing Vessel Assistance Program in Nova Scotia, Historical Perspective and Economic Analysis*, unpublished thesis, Kingston, Queen's University, March 1983.

¹³ *Canadian Memorial*, p. 86, para. 188.

and west as the United States suggests. In 1977, Canada instituted quotas and other controls in the offshore groundfish fisheries following the extension of jurisdiction to 200 miles. At this time, it faced the following problems:

- (a) The Gulf of St. Lawrence redfish stock was depleted and the inshore and offshore fleets based in the Gulf had excess harvesting capacity in relation to the resource. As a result, "outside" (non-Gulf of St. Lawrence) trawlers of Newfoundland and Nova Scotia were diverted as much as possible out of the Gulf.
- (b) Displacement of the outside trawler fleet from the Gulf of St. Lawrence caused problems for the processing plants in the south coast of Newfoundland and the Sydney Bight area of Nova Scotia. These plants relied on obsolete side trawlers and low-powered stern trawlers which had been heavily dependent on Gulf of St. Lawrence redfish. Not only were these trawlers cut off from this redfish stock, they now faced competition for other stocks on their doorstep and did not have the seaworthiness to be diverted to more distant banks. As a result, the side trawlers and low-powered stern trawlers were given preferential allocations on the eastern Scotian Shelf and the south coast of Newfoundland.
- (c) Giving preferential treatment to these older trawlers in the area of the entrance to the Gulf of St. Lawrence caused problems for the higher powered stern trawlers that sailed chiefly from Riverport, Lunenburg and Canso in Nova Scotia. Resources were scarce in the Scotian Shelf/Georges Bank areas at that time, so that these trawlers had to find opportunities on the Grand Banks and to the north, where they had never traditionally fished. The only stocks in these areas that were not fully exploited at this time were cod and redfish off Labrador.

12. In subsequent years, the groundfish plans followed the initial pattern set in 1977, with marginal adjustments being made on the basis of the following criteria:

- (a) adjacency to resource;
- (b) relative dependence of coastal communities and the various fleet sectors; and
- (c) economic efficiency and fleet mobility.

13. Canada's management system minimizes the element of instability in the fisheries, and as a result, Canada's economic dependence on the Georges Bank fishery has increased over time. With the present United States open-access system, stocks are often depleted, thus leading to greater instability. The importance of the New England fishing industry has decreased over time, and although the United States has attempted to create the illusion that its increased 1977-1981 activity is part of a historical cycle, it is merely an aberration.

Section II. United States Fisheries Policies

Introduction

14. In its Counter-Memorial, the United States has continued to suggest that the United States fishing industry has not benefited from financial assistance¹⁴. In fact, there have been a number of United States federal assistance programs specifically directed to the fishing industry, and numerous other federal and state programs which may and do provide financial assistance to the fishing industry. Some of the programs provide assistance for fishing vessel construction or renovation, some benefit fish processors, and others indirectly assist the fishing industry by improving public on-shore facilities. This section will identify many of these sources of assistance to the fishing industry in the United States.

A. FEDERAL GOVERNMENT ASSISTANCE TO THE FISHING INDUSTRY IN THE UNITED STATES

15. There are a number of United States federal financial assistance programs specifically designed to benefit the fishing industry. Since the United States was particularly critical of the Canadian vessel-construction subsidy program, it is of particular interest here to note that the United States Government had a comparable program designed to meet similar needs. On 12 June 1960, the United States Congress passed a fishing vessel Subsidy Act, the stated purpose of which was “[t]o provide a program of assistance to correct inequities in the construction of fishing vessels and to enable the fishing industry of the United States to regain a favorable economic status¹⁵ . . .”. In fact, the Act was intended primarily to enhance the status of the New England fishing industry. As is stated in the Report of the House Committee on Merchant Marine and Fisheries summarizing the “need for the legislation”:

“At the present time, the New England fishery is in dire straits by reason of the fact that imports of frozen fish fillets at prices below the cost of production have caused severe losses. . .

The New England industry is forced to compete not only with the lower wage costs of its competitors in Canada, Iceland, Britain, and elsewhere, but with the lower cost of vessel construction in those countries¹⁶.”

¹⁴ *United States Counter-Memorial*, pp. 59-60, para. 74.

¹⁵ *United States Subsidy Act*, Public Law 86-516, 74 United States Statutes at Large 212, 1960 (codified at 46 United States Code, sec. 1401, as amended in 1964 and 1970, and subsequently deleted).

¹⁶ House Committee on Merchant Marine and Fisheries, “Providing a Program of Assistance for the Construction of Fishing Vessels”, House of Representatives, Report No. 770, 86th Congress, 1st Session, 1959, p. 3. See Documentary Appendix 16. See also “Providing a Program of Assistance for the Construction of Fishing Vessels”, House of Representatives, Report No. 1589, 86th Congress, 2nd Session, 1960.

Moreover, at least during its early years, the Subsidy Act turned out to be of benefit *only* to the New England fishing industry, as also observed by the House Committee on Merchant Marine and Fisheries:

“Section 4 of the 1960 act restricted subsidy to vessels to be operated in a fishery suffering injury from which escape clause relief was recommended by the Tariff Commission but denied by superior authority. *The practical effect of this provision was to limit the application of the act to the New England ground-fish fishery*”¹⁷ . . .” [*Italics added.*]

16. The House Committee later noted, in relation to the Subsidy Act, that “the program has probably provided more incentive for the construction of privately owned fishing vessels than any other single factor affecting the industry”, and that 400 to 500 new vessels had been constructed from private funds as a result of the operation of the Subsidy Act in the 1960s¹⁸. At least for the next two-year period, 1971 and 1972, \$20,000,000 per fiscal year were then authorized to carry out the purposes of the Act.

17. The United States Counter-Memorial particularly complained about Canadian vessel subsidies insofar as they aided the Canadian scallop fleet on Georges Bank. In this connection, it is interesting to note that, according to the Committee on Merchant Marine and Fisheries of the United States House of Representatives, the United States scallop industry on Georges Bank benefited enormously from the Subsidy Act. After its first four years of operation when it assisted only the New England groundfish industry, as mentioned above, the Subsidy Act was amended, and the New Bedford scallop industry became a major — or *the* major — beneficiary; 10 New Bedford vessels were built in four years under the 1964 amendments to the Subsidy Act, with the result that in 1968 “[t]he catch of scallops by subsidized vessels amounts to approximately 21 percent of the total catch of domestic vessels¹⁹”.

18. There are a number of other federal assistance programs designed to enhance the status of the United States fishing industry. Five of these, all administered by the National Marine Fisheries Service (NMFS) of the National Oceanic and Atmospheric Administration

¹⁷ House Committee on Merchant Marine and Fisheries, “Fishing Vessel Construction”, House of Representatives, Report No. 1524, 88th Congress, 2nd Session, 1964, p. 2. See also Senate Committee on Commerce, “Fishing Vessel Construction Bill”, Senate Report No. 481, 88th Congress, 1st Session, 1963, p. 21. See Documentary Appendices 17 and 18.

¹⁸ House Committee on Merchant Marine and Fisheries, “Extension of United States Fishing Fleet Improvement Act”, House of Representatives, Report No. 394, 91st Congress, 1st Session, 1969, p. 8. See Documentary Appendix 19. See also Senate Committee on Commerce, “United States Fishing Fleet Improvement Act”, Senate Report No. 888, 91st Congress, 2nd Session, 1970.

¹⁹ House Committee on Merchant Marine and Fisheries, “Extension of United States Fishing Fleet Improvement Act”, House of Representatives, Report No. 394, 91st Congress, 1st Session, 1969, p. 7. See Documentary Appendix 19.

(NOAA), which is part of the Department of Commerce, are especially important:

- (a) The Fishing Vessel Obligation Guarantee Program²⁰ provides guarantees of up to 87½ percent of the actual cost or depreciated actual cost of a fishing vessel. The program provides a vessel purchaser or owner with loan terms of longer than usual maturities (up to 25 years), at lower interest rates, in larger amounts and on more flexible financing terms than the typical fishing vessel owner could expect to obtain in a purely commercial setting.
- (b) The Fishing Vessel Capital Construction Fund²¹ affords the fishing industry an extraordinary, and seemingly unique, type of financial assistance in the form of deferral of federal taxes. Under this program, a vessel owner or operator can use pre-tax dollars rather than after-tax dollars to construct a new vessel, buy a used vessel or reconstruct a vessel — effectively an interest-free loan of tax monies.
- (c) The Fisheries Loan Fund Program²² uses a revolving fund to make loans for financing or refinancing the cost of purchasing, constructing, equipping, maintaining, repairing or operating new or used commercial fishing vessels or gear. The revolving fund was increased from \$10 million to \$20 million in 1958.
- (d) Under the Fishermen's Protective Act²³, a Fishermen's Protective Fund is created, the broad purpose of which is to provide for reimbursement of losses and costs incurred as the result of seizure of a United States fishing vessel by a foreign government on the basis of jurisdictional claims not recognized by the United States. In 1977, a new Fishing Vessel and Gear Compensation Fund²⁴ was added to the Fishermen's Protective Act, to provide compensation to the owners or operators of United States fishing vessels for vessel damage attributable to foreign vessels, and for gear damage attributable to foreign or United States vessels and to acts of God.
- (e) Another recent source which provides benefits to the United States fishing industry is the Fishermen's Contingency Fund²⁵. The purpose of this fund is to compensate commercial fishermen for actual and consequential damages, including loss of profits, owing to damage to or loss of vessels and equipment resulting from incidents associated with oil and gas exploration, development and production activities on the continental shelf.

²⁰ The predecessor of the present program was authorized by the United States Ship Mortgage Act of 1920, 46 United States Code, secs. 911 *et seq.* The Fishing Vessel Obligation Guarantee Program is now authorized under Title XI of the Merchant Marine Act of 1936, 46 United States Code, secs. 1271 *et seq.* (as amended).

²¹ Fishing Vessel Capital Construction Fund, 46 United States Code, secs. 1177 *et seq.*

²² Fisheries Loan Fund Program, 16 United States Code, sec. 742(c).

²³ Fishermen's Protective Act, 22 United States Code, secs. 1971 *et seq.*

²⁴ Fishing Vessel and Gear Compensation Fund, 22 United States Code, sec. 1980(f).

²⁵ Fishermen's Contingency Fund, 43 United States Code, secs. 1841 *et seq.*

19. In addition to the above National Marine Fisheries Service programs, there are several other significant sources of financial assistance to the United States fishing industry. They include, among others, the following:

- (a) The Economic Development Administration within the Department of Commerce has a number of programs from which fishermen and fish processors may obtain financial assistance. These include Business Development Loans (which can provide up to 65 percent of a project's cost) and grants under Title IX of the Public Works and Economic Development Act²⁶. Title IX is also available for assistance for acquisition or improvement of harbour infrastructure and other public on-shore facilities, and Title I of the Public Works and Economic Development Act offers additional assistance for on-shore facilities.
- (b) The fishing industry, including both fishermen and fish processors, is also eligible for financial aid under three separate programs of the *Small Business Administrations (SBA)*: *direct loans and loan guarantees* under Section 7a of the SBA Act²⁷; *Local Community Development loans and loan guarantees* under Section 502 of the same Act²⁸; and *loans and loan guarantees* under the Disaster and Economic Injury Program²⁹. In addition, there may be other SBA programs, such as Economic Opportunity loans for small businesses, for which members of the fishing industry are eligible.
- (c) The Farmers Home Administration (FmHA) within the Department of Agriculture also provides financial assistance to the fishing industry. Such assistance may be in the form of FmHA guarantees for loans (up to 90 percent of principal and interest) to businesses and industries or direct loans to public bodies. Assistance may also be afforded to the fishing industry through the Farm Credit System in the form of Production Credit Association loans³⁰ (of up to 75 percent of value). The Southeastern New England Production Credit Association has been a major lender to fishermen in Massachusetts³¹; and it may come through the Farmers Credit System Banks for Cooperatives program³².
- (d) The Trade Adjustment Fund³³ of the Department of Commerce provides a number of forms of financial assistance to communities that qualify under the Public Works and Economic Development Program, mentioned earlier. It also provides loan guarantees for

²⁶ Public Works and Economic Development Act, 42 United States Code, secs. 3121 *et seq.*

²⁷ Small Business Act, 15 United States Code, sec. 636(a).

²⁸ 15 United States Code, sec. 696.

²⁹ 15 United States Code, sec. 636(c).

³⁰ Production Credit Associations, 12 United States Code, secs. 2071 *et seq.*

³¹ *Massachusetts Fisheries: A Report of the 200 Mile Fisheries Work Group*. Boston, Commonwealth of Massachusetts, 1977, p. 19. *Canadian Counter-Memorial, Annexes*, Vol. IV, Annex 38.

³² Banks for Cooperatives, 12 United States Code, secs. 2121 *et seq.*

³³ Trade Adjustment Fund, 19 United States Code, secs. 2101 *et seq.*

projects taking place in trade impacted areas, which could be very helpful to the New England fishing industry (both harvesting and processing sectors).

- (e) The Department of Housing and Urban Development Community Development Block Grants³⁴ could be used to finance on-shore fishing facilities. A number of Massachusetts fishing ports, including New Bedford, Boston and Gloucester, are eligible for such grants³⁵.
- (f) Thirty percent of the gross receipts collected by United States Customs on fisheries products is paid into the Import Duties Fund³⁶ managed by the Secretary of the Interior. This \$10 million fund is to promote domestically-produced fisheries products by conducting a fisheries educational service, and technological, biological and related research programs (although prior to recent amendments the fund was used entirely to finance the National Marine Fisheries Service).

20. The above list does not exhaust the sources of United States federal assistance to the fishing industry. Some of the above United States programs of assistance are discussed in the OECD study of *Financial Support to the Fishing Industry of OECD Member Countries*³⁷, which Canada has deposited with the Court. All of the above sources, and other federal sources as well, have been identified as available to assist the Massachusetts fishing industry in *Massachusetts Fisheries: A Report of the 200 Mile Fisheries Work Group* (hereinafter "*Massachusetts Fisheries*")³⁸, which Canada has also deposited.

B. REGIONAL ASSISTANCE TO THE FISHING INDUSTRY IN THE UNITED STATES

21. In addition to the above federal programs, *Massachusetts Fisheries* identifies a number of regional and Commonwealth of Massachusetts programs providing financial assistance to the fishing industry. They include, for example, the following:

- (a) The New England Regional Economic Commission participates in what is described as a "highly successful" revolving loan program administered under the aegis of the Cape Ann Commercial Fisherman's Fund³⁹.

³⁴ Community Blocks Grants, 42 United States Code, sec. 5303(d).

³⁵ *Massachusetts Fisheries: A Report of the 200 Mile Fisheries Work Group*, p. 21. *Canadian Counter-Memorial, Annexes*, Vol. IV, Annex 38.

³⁶ Import Duties Fund, 15 United States Code, sec. 713c-3.

³⁷ Organisation for Economic Cooperation and Development, *Financial Support to the Fishing Industry of OECD Member Countries*. Paris, OECD, 1965, pp. 213-218 and 246.

³⁸ *Massachusetts Fisheries: A Report of the Massachusetts 200 Mile Fisheries Work Group*, pp. 3-24. *Canadian Counter-Memorial, Annexes*, Vol. IV, Annex 38.

³⁹ *Massachusetts Fisheries: A Report of the Massachusetts 200 Mile Fisheries Work Group*, p. 6. *Canadian Counter-Memorial, Annexes*, Vol. IV, Annex 38.

- (b) The Massachusetts Community Development Finance Corporation provides financing for the purpose of reducing "conditions of blight, economic depression or widespread reliance on public assistance"; it has been identified as a potential source of assistance for vessel construction and renovation and for private on-shore facilities⁴⁰.
- (c) The Massachusetts Industrial Mortgage Insurance Agency can be called upon to provide state loan guarantees for land-based fisheries support facilities⁴¹.
- (d) Massachusetts Industrial Development Finance Authorities and Economic Development Industrial Commissions can provide assistance to large-scale ship repair yards and other on-shore activities⁴².
- (e) The Massachusetts Division of Land and Water Use has authority to construct or reconstruct piers or waterfront terminals, and also to provide as much as 50 percent financing for harbour improvements (75 percent for dredging operations)⁴³.
- (f) The Massachusetts Business Development Corporation makes loans to any private, profit-making firm that is Massachusetts based and contributes to the expansion of employment opportunity in the state⁴⁴.

22. In addition to the above, *Massachusetts Fisheries* identifies other potential and actual state and local sources of financing to the fishing industry. With its much greater resource base, Massachusetts can much more readily assist its fishermen, fish processors and fishing support industries than can the relatively disadvantaged Province of Nova Scotia.

Conclusion

23. The United States has tried to suggest that the Nova Scotia scallop industry has been unfairly or improperly advantaged by Canadian federal subsidies for vessel construction. In fact, this is not the case, since — among other reasons — the United States provided comparable assistance to New England fishermen under its own federal Subsidies Act. Like most developed countries (including Canada), the United States has a considerable number of financial assistance programs at federal, regional, State and local levels aiding its fishermen, fish processors and the fishing industry generally.

⁴⁰ *Massachusetts Fisheries: A Report of the Massachusetts 200 Mile Fisheries Work Group*, pp. 8 and 24. *Canadian Counter-Memorial, Annexes*, Vol. IV, Annex 38.

⁴¹ *Massachusetts Fisheries: A Report of the Massachusetts 200 Mile Fisheries Work Group*, p. 7. *Canadian Counter-Memorial, Annexes*, Vol. IV, Annex 38.

⁴² *Massachusetts Fisheries: A Report of the Massachusetts 200 Mile Fisheries Work Group*, p. 8. *Canadian Counter-Memorial, Annexes*, Vol. IV, Annex 38.

⁴³ *Massachusetts Fisheries: A Report of the Massachusetts 200 Mile Fisheries Work Group*, p. 7. *Canadian Counter-Memorial, Annexes*, Vol. IV, Annex 38.

⁴⁴ *Massachusetts Fisheries: A Report of the Massachusetts 200 Mile Fisheries Work Group*, p. 8. *Canadian Counter-Memorial, Annexes*, Vol. IV, Annex 38.

DOCUMENTARY APPENDICES TO PART I

THE HUMAN DIMENSION: SUPPLEMENTARY SOCIO-ECONOMIC EVIDENCE

Documentary Appendix 1

DOCUMENTS USED IN THE CALCULATION OF INCOME AND UNEMPLOYMENT IN MASSACHUSETTS

Document 1: Excerpt from *Employment and Earnings*, Vol. 29, No. 12, United States Department of Labor, Bureau of Labor Statistics, Washington, Government Printing Office, December 1982, p. 6

Document 2: Excerpts from *Survey of Current Business*, Vol. 62, No. 8, United States Department of Commerce, Bureau of Economic Analysis, Washington, Government Printing Office, August 1982, p. 57

Document 3: Excerpt from *Statistical Abstract of the United States, 1981*, United States Department of Commerce, Bureau of the Census, p. 392

[Not reproduced]

Documentary Appendix 2

EXCERPT FROM *NEW ENGLAND ECONOMIC INDICATORS*, FEDERAL RESERVE BANK OF BOSTON, BOSTON, MASSACHUSETTS, JUNE 1982, TABLES 2 AND 3, P. A-5

[Not reproduced]

Documentary Appendix 3

EXCERPT FROM *THE LABOUR FORCE, 1980*, STATISTICS CANADA, CATALOGUE NO. 71-001, 1980, P. 130

[Not reproduced]

Documentary Appendix 4

EXCERPT FROM *NEW ENGLAND FISHERY MANAGEMENT COUNCIL, FISHERY MANAGEMENT PLAN, FINAL ENVIRONMENTAL IMPACT STATEMENT, REGULATORY IMPACT REVIEW FOR ATLANTIC SEA SCALLOPS (PLACOPECTEN MAGELLANICUS)*, JANUARY 1982, PP. 33 AND 36

[Not reproduced]

Documentary Appendix 5

EXCERPT FROM *1980 CENSUS OF POPULATION, CHARACTERISTICS OF THE POPULATION, GENERAL POPULATION CHARACTERISTICS*, MASSACHUSETTS, WASHINGTON, GOVERNMENT PRINTING OFFICE, JUNE 1982, P. 23 - 7

[Not reproduced]

Documentary Appendix 6

EXCERPTS FROM TASK FORCE ON ATLANTIC FISHERIES, *NAVIGATING TROUBLED WATERS, A NEW POLICY FOR THE ATLANTIC FISHERIES*, OTTAWA, MINISTER OF SUPPLY AND SERVICES CANADA, DECEMBER 1982, PP. 24, 57, 95 AND 275

[Not reproduced]

Documentary Appendix 7

EXCERPTS FROM *THE ECONOMIC AND SOCIAL BASE OF SOUTH WESTERN NOVA SCOTIA*, SOUTHWEST NOVA SCOTIA STUDY TEAM, 1977, PP. 139 AND 183-184

[Not reproduced]

Documentary Appendix 8

EXCERPTS FROM *VISITOR TRAVEL TO NOVA SCOTIA, 1978*, DEPARTMENT OF TOURISM, PROVINCE OF NOVA SCOTIA, PP. 11-12

[Not reproduced]

Documentary Appendix 9

EXCERPT FROM G. A. MACKAY, *THE UK NORTH SEA EXPERIENCE*, A REPORT FOR MOBILE OIL CANADA LTD. AND DPA CONSULTING, NOVEMBER 1982, P. 55

[Not reproduced]

Documentary Appendix 10

EXCERPTS FROM *MANUFACTURING INDUSTRIES OF CANADA: NATIONAL AND PROVINCIAL AREAS, 1980*, STATISTICS CANADA, CATALOGUE NO. 31-203, DECEMBER 1982, PP. 4-5 AND 50-51

[Not reproduced]

Documentary Appendix 11

EXCERPTS FROM *ANNUAL STATISTICAL REVIEW OF CANADIAN FISHERIES, 1980*, VOL. 13, OTTAWA, DEPARTMENT OF FISHERIES AND OCEANS, PP. 42, 56, 69, 80

A 115

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Documentary Appendix 12

EXCERPTS FROM NORTHWEST ATLANTIC FISHERIES ORGANIZATION, *STATISTICAL BULLETIN*, VOL. 30, 1980, PP. 224-243

[Not reproduced]

Documentary Appendix 13

EXCERPTS FROM *ANNUAL STATISTICAL REVIEW OF CANADIAN FISHERIES, 1978*, VOL. 11, OTTAWA, DEPARTMENT OF FISHERIES AND OCEANS, PP. 42, 51, 64, 74 AND 80

[Not reproduced]

Documentary Appendix 14

EXCERPT FROM MARGARET E. DEWAR, *INDUSTRY IN TROUBLE*, PHILADELPHIA, TEMPLE UNIVERSITY PRESS, 1983, P. 68

[Not reproduced]

Documentary Appendix 15

"PROPOSALS FOR ASSISTING SHIPPING AND SHIPYARDS", *RECORD OF CABINET DECISION*, 6 SEPTEMBER 1961, OTTAWA, PRIVY COUNCIL OFFICE, 11 SEPTEMBER 1961

[Not reproduced]

Documentary Appendix 16

EXCERPTS FROM HOUSE COMMITTEE ON MERCHANT MARINE AND FISHERIES,
"PROVIDING A PROGRAM OF ASSISTANCE FOR THE CONSTRUCTION OF FISHING
VESSELS", HOUSE OF REPRESENTATIVES, REPORT NO. 770, 86TH CONGRESS,
1ST SESSION, 1959, PP. 2-3

[Not reproduced]

Documentary Appendix 17

EXCERPTS FROM HOUSE COMMITTEE ON MERCHANT MARINE AND FISHERIES,
"FISHING VESSEL CONSTRUCTION", HOUSE OF REPRESENTATIVES, REPORT
NO. 1524, 88TH CONGRESS, 2ND SESSION, 1964, PP. 2-3

[Not reproduced]

Documentary Appendix 18

EXCERPTS FROM SENATE COMMITTEE ON COMMERCE, "FISHING VESSEL
CONSTRUCTION BILL", SENATE REPORT NO. 481, 88TH CONGRESS, 1ST SESSION,
1963, PP. 20-21

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Documentary Appendix 19

EXCERPTS FROM HOUSE COMMITTEE ON MERCHANT MARINE AND FISHERIES,
"EXTENSION OF UNITED STATES FISHING FLEET IMPROVEMENT ACT", HOUSE OF
REPRESENTATIVES, REPORT NO. 394, 91ST CONGRESS, 1ST SESSION, 1969, PP. 6-9

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**PART II. THE HISTORY OF THE CANADIAN FISHERIES:
SUPPLEMENTARY EVIDENCE**

INTRODUCTION

1. The United States alleges that Canada had no fishery on Georges Bank until the 1950s and that the United States fishery in that area was an exclusive one until that time. This allegation is demonstrably erroneous for three reasons. *First*, the general historical sources relied upon by the United States deal with the existence of a United States fishery during the historical period from the nineteenth century to the present and simply do not address the existence or importance of a Canadian fishery. *Secondly*, the direct evidence of a Canadian fishery during the historical period, as set out in Volume II of the Annexes to the Canadian Counter-Memorial, is abundant and unequivocal. *Thirdly*, the statistical evidence relied upon by the United States as the basis for comparison of Canadian and United States fish catches is derived from sources that *did not even attempt to measure Canadian catches by area of capture during most of the historical period.*

Section I. The Non-Statistical Evidence: Commentary on Annexes to the United States Counter-Memorial (Volume IV, Annex 7)

2. The United States challenges the Canadian Memorial's presentation of the history of the Canadian fishery on Georges Bank, stating that Canada has produced insufficient and questionable evidence in support of its contentions¹. In its Counter-Memorial, the United States offers three lines from a 1945 article to contradict Canada's evidence². In addition, the Annexes to the United States Counter-Memorial (Volume IV, Annex 7) contain a paragraph-by-paragraph commentary on the history of the Canadian fishery as presented in the Canadian Memorial.

3. Volume II of the Annexes to the Canadian Counter-Memorial, entitled "A History of the Canadian Fisheries in the Georges Bank Area", reviews in detail the development of the Canadian fishery from its inception in the nineteenth century. The several volumes of evidence filed with the Court in support of Volume II answer any criticism as to the insufficiency of evidence provided by Canada. Indeed, this incontrovertible evidence refutes the United States allegation that the Canadian Georges Bank fishery in the nineteenth century was isolated and insignificant³. Moreover, it amply supports the statements by Thomas Knight, H. W. Johnston and the 1928 Royal Commission that it was the practice of Nova Scotia fishermen to resort to Georges Bank⁴.

4. The comments in the Annexes to the United States Counter-Memorial (Volume IV, Annex 7) do not impugn the direct evidence

¹ *United States Counter-Memorial*, pp. 52-53, para. 66; *United States Counter-Memorial, Analytical Annexes*, Vol. IV, Annex 7, p. 10, para. 15; p. 14, para. 22.

² *United States Counter-Memorial*, p. 52, para. 66.

³ *United States Counter-Memorial, Analytical Annexes*, Vol. IV, Annex 7, p. 1, para. 2.

⁴ *Canadian Memorial*, p. 83, para. 181; pp. 85-86, para. 186.

relied upon by Canada to support its assertions concerning the history of the fishery. It is no answer to call into question the accuracy of newspaper reports and Canadian Government documents⁵. Moreover, the *Documents and Proceedings of the Halifax Commission, 1877*, cited once again by the United States as evidence that only one Canadian vessel fished on Georges Bank during the nineteenth century, report that vessels from the western ports of Nova Scotia were trawling on Georges Bank in the late 1860s or early 1870s⁶.

5. The United States has reproduced excerpts from F. W. Wallace's article entitled "Thirty Years Progress in Canada's Fish Industry, 1914-1944"⁷. Wallace's estimates of the number of vessels fishing offshore in 1914 from Shelburne, Yarmouth and Digby are seriously deficient. This is evident from a review of the annual report of the Department of Marine and Fisheries for 1913-1914⁸. It should be noted that Wallace wrote the account some 30 years after the events in question. In the "Foreword" to the article, he stated that "[s]ince printed or written records are fragmentary, or difficult to secure without lengthy research . . .", it had been necessary for him ". . . to rely to a considerable extent upon memory . . ." for which he made ". . . no claims to infallibility⁹ . . .". It is more prudent to rely on sources produced at the time of the events they describe, such as the statements made by Wallace himself during the period from 1914 to 1922, when he wrote of Canadian activity on Georges Bank during those years¹⁰.

6. The United States Counter-Memorial denies the existence of a Canadian Georges Bank fishery prior to 1922¹¹, even in the face of evidence published by the United States recording Canadian landings of Georges Bank fish in United States ports. The *Report[s] of the United States Commissioner of Fisheries* for the years 1918 to 1922 document that one-third of recorded Canadian landings made at the United States ports were taken from Georges Bank¹².

7. The Annexes to the United States Counter-Memorial (Volume IV, Annex 7) dispute Canada's contention that Nova Scotia entrepreneurs registered their vessels in the names of United States owners

⁵ *United States Counter-Memorial, Analytical Annexes*, Vol. IV, Annex 7, p. 10, para. 15; p. 14, para. 22.

⁶ *Canadian Counter-Memorial, Annexes*, Vol. II, "A History of the Canadian Fisheries in the Georges Bank Area", p. 11, para. 19 and footnote 17.

⁷ *United States Counter-Memorial, Analytical Annexes*, Vol. IV, Annex 7, pp. 6-7, para. 11.

⁸ *Forty-Seventh Annual Report of the Department of Marine and Fisheries, 1913-14, Fisheries*, Sessional Paper No. 39, Ottawa, King's Printer, 1914, pp. 90-95. See Documentary Appendix 1.

⁹ *United States Counter-Memorial, Analytical Annexes*, Vol. IV, Annex 7, Appendix A, p. 3.

¹⁰ *Canadian Memorial*, p. 84, para. 184 and footnote 46. It is likely that Wallace was also the author of the statement quoted in the *Canadian Memorial* on p. 85, para. 184.

¹¹ *United States Counter-Memorial, Analytical Annexes*, Vol. IV, Annex 7, p. 12, para. 19.

¹² *Canadian Counter-Memorial, Annexes*, Vol. II, pp. 25-26, para. 39; p. 27, Table 1.

who had little more than nominal ownership interests in order to circumvent United States laws prohibiting direct marketing of foreign catch in that country¹³. As explained in the Canadian Memorial¹⁴, these "flag of convenience" vessels often sailed out of Nova Scotia ports and were crewed by Canadian seamen. In the Annexes to the United States Counter-Memorial (Volume IV, Annex 7) the United States contends that its laws would have prevented such a practice¹⁵. However, in his autobiography, F. W. Wallace explained that:

"American law, however, decreed that the skipper be a United States citizen. To comply with this, one member of the crew held citizenship papers and acted as nominal captain in entering and clearing the ship¹⁶."

8. It is curious that the United States cites only pre-1874 evidence in support of its contentions concerning the loss of life in the Gloucester fisheries¹⁷. This evidence appears to be based on lists of names of lost men whose origins in most instances were not stated. In contrast, the evidence produced in Volume II of the Annexes to the Canadian Counter-Memorial, concerning Canadian men lost in the Gloucester fisheries, covers the periods 1891 to 1900 and 1909 to 1916, when information in the Notice of Loss documented the nationality of the deceased¹⁸. Contrary to the United States admission that "Canadian fishermen occasionally sailed as crew members aboard United States vessels sailing from New England ports¹⁹", Volume II of the Annexes to the Canadian Counter-Memorial confirms that the average percentage of Canadian men lost in the Gloucester fisheries during the period 1891 to 1900 is 52.4 percent; during the years 1909 to 1916 the average is 72.7 percent²⁰.

9. The quotations in the Annexes to the United States Counter-Memorial (Volume IV, Annex 7) from N. Bourne's *Scallops and the offshore fishery of the Maritimes* confirm the evidence adduced by Canada that the voyage of the *Mary E. Kenny* in 1945 marked the beginning of the Canadian scallop fishery on Georges Bank²¹. It should be noted, however, that the United States references to Bourne's article

¹³ *United States Counter-Memorial, Analytical Annexes*, Vol. IV, Annex 7, p. 11, para. 17.

¹⁴ *Canadian Memorial*, p. 86, para. 187.

¹⁵ *United States Counter-Memorial, Analytical Annexes*, Vol. IV, Annex 7, p. 11, para. 17.

¹⁶ F. W. Wallace: *Roving Fisherman. An Autobiography Recounting Personal Experiences in the Commercial Fishing Fleets and Fish Industry of Canada and the United States, 1911-1924*. Gardenvale, Quebec, Canadian Fisherman, 1955, p. 101. See Documentary Appendix 2. See also *Canadian Counter-Memorial, Annexes*, Vol. II, p. 13, para. 22, footnote 24.

¹⁷ *United States Counter-Memorial, Analytical Annexes*, Vol. IV, Annex 7, p. 14, para. 22.

¹⁸ *Canadian Counter-Memorial, Annexes*, Vol. II, p. 161, Appendix II.

¹⁹ *United States Counter-Memorial, Analytical Annexes*, Vol. IV, Annex 7, p. 3, para. 6.

²⁰ *Canadian Counter-Memorial, Annexes*, Vol. II, p. 161, Appendix II.

²¹ *United States Counter-Memorial, Analytical Annexes*, Vol. IV, Annex 7, pp. 17-19, para. 24.

are selective and the emphasis has thus been altered. Following his comment that the Canadian scallop fishery "continued in a rather sporadic fashion until 1953"²², Bourne continues on the same page as follows:

"Such boats as the Elaine W., Janet Douglas, Charlotte I, Mispah and Aristocrat were all rigged as offshore scallopers and for the most part made rewarding trips. All boats, however, only scalloped offshore in the good-weather months, April to November. During the winter they either laid up or switched to groundfishing in inshore waters. In some years the boats went swordfishing when that proved more profitable but nevertheless interest in offshore scalloping slowly grew and more boats were involved"²³. [*Italics added.*]

Thus, Bourne's article does not derogate from Canada's assertion that "[b]y 1947, Canadian scallop draggers were making regular trips to Georges Bank, and during the early 1950s the Bank's scallop grounds became a major engine of growth in the Nova Scotia fishery"²⁴.

10. The paragraph-by-paragraph commentary on paragraphs 179-196 of the Canadian Memorial as contained in the Annexes to the United States Counter-Memorial (Volume IV, Annex 7) in no way controverts Canada's case on the history of the Canadian fishery. The Canadian pleadings have demonstrated unequivocally that this fishery has deep historical roots, and that the United States allegation that there was no Canadian fishery on Georges Bank until the 1950s is demonstrably erroneous.

Section II. The Statistical Evidence

11. The United States comparisons of Canadian and United States fish catches on Georges Bank are based entirely upon two reports issued by the International Commission for the Northwest Atlantic Fisheries (ICNAF) in 1952. These reports depend upon a historical data base that did not identify the location of catch; thus they provide no information as to which fishing grounds were actually used by the Canadian fleet. The United States evidence on this subject is accordingly devoid of probative value. Moreover, as the following paragraphs demonstrate, the absence of Canadian catch statistics for this area in the pre-ICNAF era in no way signifies the absence of a significant Canadian fishery.

²² *United States Counter-Memorial, Analytical Annexes*, Vol. IV, Annex 7, pp. 17-19, para. 24.

²³ N. Bourne: *Scallops and the offshore fishery of the Maritimes*, St. Andrews, Fisheries Research Board of Canada, Bulletin No. 145, 1964, p. 22. See Documentary Appendix 3.

²⁴ *Canadian Memorial*, p. 87, para. 190.

A. THE EARLY STATISTICAL SYSTEM: 1869-1930

12. An "official" statistical account of the fisheries of Canada's Maritime Provinces has been recorded annually since 1869. As was stated in the Canadian Memorial and Counter-Memorial, however, the systematic collection of statistics on the location and quantities of catches did not develop until recent years²⁵.

13. During the period 1869 to 1910, annual fisheries statistics were composed of estimates by local fishery officers of quantities and values of fish products originating from various districts in each province. These estimates were tabulated and published in the annual reports of the Department of Marine and Fisheries²⁶. Landings of groundfish were first recorded in 1910-1911, when a new system of monthly reporting was introduced that distinguished between the quantities of fish landed and the quantities marketed²⁷. The monthly statistical returns *did not reflect area of capture* and, therefore, the annual statistics published by the Department of Fisheries²⁸ reported the quantity and value of *landings with no indication as to where the fish were caught*²⁹. In 1917, revisions to the system of data collection resulted in more detailed statistics, particularly with respect to the processing of fish catches. A significant development took place in 1918, when the published statistics first included a table identifying the proportion of catch taken offshore. However, there was still *no identification of the fishing grounds used*³⁰.

14. Attempts were made, shortly after the North American Council on Fishery Investigations (NACFI) was formed in 1920, to develop a Canadian statistical system that would reflect the location of catches so that the statistics would serve biological as well as economic purposes. These attempts, prompted by the passage of resolutions by NACFI (then the International Committee on Marine Fishery Investigations)³¹, were not successful. The program depended for its success on

²⁵ *Canadian Memorial*, p. 83, para. 180; *Canadian Counter-Memorial*, p. 135, para. 343.

²⁶ See, for example, *Twenty-Ninth Annual Report of the Department of Marine and Fisheries, 1896, Fisheries*. Ottawa, Queen's Printer, 1897, pp. 94-95, reproduced in Documentary Appendix 4.

²⁷ *Forty-Fourth Annual Report of the Department of Marine and Fisheries, 1910-11, Fisheries*. Sessional Paper No. 22, Ottawa, King's Printer, 1911, pp. xx-xxi. See Documentary Appendix 5.

²⁸ The expression "Department of Fisheries" is used here to designate the department of government known by that name during certain periods, but known by other names (e.g., Department of Marine and Fisheries, Department of Naval Services, Fisheries Branch) at other periods.

²⁹ See, for example, *Forty-Fourth Annual Report of the Department of Marine and Fisheries, 1910-11, Fisheries*, pp. 126-129, reproduced in Documentary Appendix 5.

³⁰ See, for example, *Fisheries Statistics, 1918*. Ottawa, Dominion Bureau of Statistics, King's Printer, 1920, pp. xxvi-xxix and 14-29, reproduced in Documentary Appendix 6.

³¹ "Resolutions, Meeting Of International Committee On Marine Fishery Investigations, Montreal, June 23rd, 1921", p. 1, Resolution No. 1: Minutes of second meeting of International Committee on Marine Fishery Investigations, Boston, November 4th, 1921, p. 1, Resolution No. 1. See Documentary Appendices 7 and 8. See also letter of 14 February 1922 from A. Johnston, Deputy Minister of Marine and Fisheries, to all "Owners of Bank Fishing Vessels", reproduced in Documentary Appendix 9.

cooperation and participation by the fishing captains, which was not forthcoming. As noted in the *Fifty-Sixth Annual Report of the Fisheries Branch, Department of Marine and Fisheries, For The Year 1922*:

"The number of captains who complied with the department's request for this information was relatively small. It is hoped, however, that a greater number will co-operate next season³²."

The obstacles, however, were never overcome. The *North American Council on Fishery Investigations, Proceedings 1921-1930, No. 1* records the failure and eventual abandonment of this program:

"Efforts to obtain more detailed statistics of the place and time of the catches of the offshore grounds were initiated at the first meeting of the council in 1921 by a resolution recommending that they be obtained 'in as great detail as may prove to be feasible.' At that time the monthly catches in a large number of districts on the Canadian coast were recorded but no information was available on the places where the offshore catches were made.

Later in 1921 a form for the use of vessel captains was recommended by the council. The form included a part on which to record the position of the vessel each day and the amount of gear used and a second part for the catches each day of the various species of ground fish (with size categories for cod and haddock). The Canadian authorities met with considerable difficulty in their attempts to induce the fishing captains to use these forms and they were finally abandoned³³."

This outcome was, in fact, predicted at the outset of the program by a Canadian fisheries official who wrote that the cooperation of skippers "... will probably prove to be a real difficulty, at first, as masters who discover a prolific spot on some fishing bank are usually very chary about imparting information as to its exact location³⁴."

15. Another factor that contributed to the failure of this system of data collection was the complexity of the form required to be filed by the fishing captains. As noted in the document quoted in paragraph 14, the form required information as to the number of days spent fishing, the grounds used each day, the hours fished, the gear used and the amounts and varieties of fish caught each day. The fishermen were reluctant to report their activities in such time-consuming detail. In the

³² *Fifty-Sixth Annual Report of the Fisheries Branch, Department of Marine and Fisheries, For the Year 1922, Sessional Paper No. 29, Ottawa, King's Printer, 1923, p. 12. See Documentary Appendix 10. See also, letter of 17 March 1923 from W. A. Found, Assistant Deputy Minister of Fisheries, to Ward Fisher, Chief Inspector of Fisheries, which states that "... while a number of captains sent in returns as desired, the response to the appeal was not very general". See Documentary Appendix 11.*

³³ *North American Council on Fishery Investigations, Proceedings 1921-1930, No. 1, Ottawa, King's Printer, 1932, pp. 19-20. See Documentary Appendix 12. A copy of the form referred to is reproduced in Documentary Appendix 13, together with sample copies of other statistical forms.*

³⁴ J. J. Cowie: "Memo for Mr. Found — International Co-operation in the Collection of Sea Fisheries Information." Ottawa, 21 June 1921. See Documentary Appendix 14.

United States, on the other hand, the system of port reporting required an identification of broad area of capture for each fishing trip as a whole. This, together with the long tradition of catch reporting established in cooperation with the industry itself as a measure to assist fishermen in locating the best grounds, contributed to the greater success of statistics collection by United States officials³⁵.

16. Although the published Canadian statistics distinguished only between "inshore" and "offshore" catches³⁶, certain unpublished data classified landings into three broad regions on the east coast of Canada. These were: (i) the banks west of Halifax; (ii) the banks east of Halifax; and (iii) the Gulf of St. Lawrence. A memorandum prepared about 1924 — "Memo. For Mr. Cowie. Re Fishery Statistics" — appears to have originated the practice. It said that statistics should be kept on the following basis:

"Similarly, divide the banks into sections. Three would be enough, — those west of Halifax, those east of Halifax, and those in the Gulf would be a reasonable division, and make a statement of each kind of fish caught as in No. 1³⁷."

The minutes of the ninth annual NACFI meeting held in 1925 indicate that Canada brought this innovation to the attention of the organization at that time³⁸. Clearly, however, a geographical division along these lines was of little assistance in identifying catches from Georges Bank or other portions of the Gulf of Maine area³⁹.

B. THE PRE-ICNAF STATISTICAL ERA: 1931-1952

17. In 1931, a practice was initiated of categorizing catches in the published tables according to the statistical areas defined by NACFI. However, the relevant figures do not reflect the *catches* taken from fishing grounds within those areas. Rather, they represent *landings* at ports located within the coastal regions corresponding to the NACFI areas. The format of the tables could potentially have given rise to misunderstandings on a casual reading, but there is no real doubt about the

³⁵ *North American Council on Fishery Investigations, Proceedings 1921-1930, No. 1*, pp. 8-9. See Documentary Appendix 12.

³⁶ See examples of published fisheries statistics reproduced in Documentary Appendix 15.

³⁷ "Memo. For Mr. Cowie. Re Fishery Statistics." See Documentary Appendix 16. The memorandum is unsigned and undated, but is believed to be *circa* 1924.

³⁸ "Minutes of the Ninth Meeting, held in the McAlpin Hotel, New York, N.Y., on Friday, May 8th, 1925." NACFI, 1925, p. 1. See Documentary Appendix 17.

³⁹ In the *North American Council on Fishery Investigations, Proceedings 1921-1930, No. 1*, it is stated at p. 20:

"In 1925, however, the Canadian statistics were improved . . . when the offshore catches were given for three areas—the gulf of St. Lawrence and the Atlantic banks east and west of Halifax. But this left much to be desired both in the lack of sufficient detail and in the recording of the data by fishery officers on shore rather than by the captains."

See Documentary Appendix 12.

nature of the information they contain. As examination of the tables makes clear, the total catches shown for each NACFI statistical area generally correspond to the sum of landings in the various counties or districts adjacent to that statistical area⁴⁰.

18. Thus, "Area 22", which corresponded in the NACFI system to ICNAF subarea 5 (except that it included the northern half of the Bay of Fundy) is described in the following terms in the footnote that was appended to each of the post-1937 tables:

"Comprises the counties of Albert, St. John and Charlotte and the Bay of Fundy side of Westmorland county in New Brunswick⁴¹."

In other words, Area 22 was treated in the statistical tables as *a stretch of coast in which landings were made, and not as an area of the sea in which the fishery was conducted*. Similar definitions were given for Area 19 (the Gulf of St. Lawrence coasts) and Area 21 (the Nova Scotia coast outside the Gulf of St. Lawrence) [Figure 1]. Consequently, the statistics for Area 22 represent the total landings in ports along the Fundy shore of New Brunswick, including those taken in Area 21 on the southern side of the Bay of Fundy. Similarly, the statistics for Area 21 represent the total landings on the Atlantic coast of Nova Scotia — including catches taken from grounds in the Gulf of St. Lawrence (Area 19) and Georges Bank (Area 22)⁴².

19. In a memorandum dated 15 October 1932, it was stated that "in many cases the inspectors calculate the catch figures by working back from the processed quantities"⁴³. This is corroborated in a study entitled *Historical Statistics Of Canada*:

"Before the recent procedures [based on sales slips] were introduced, in the nineteen-fifties, heavy reliance was placed on working back from data on processed fish and fish products, with the use of conversion factors to estimate the landings in primary form from the processed form data⁴⁴."

Obviously, this method could not provide information on the place of capture, particularly from the offshore areas where the correlation

⁴⁰ See examples of post-1930 statistical tables reproduced in Documentary Appendix 18. This practice of categorizing catches by NACFI statistical areas continued until 1951.

⁴¹ See examples of statistical tables reproduced in Documentary Appendix 18. The practice of appending these footnotes to the statistical tables originated in 1938.

⁴² Only one exception to the pattern of recording catches by area of landing appears in the published statistics and in the footnotes thereto. Nova Scotia landings from the Grand Banks (Area 20) were specifically excluded from the statistics and shown in a separate column. These quantities were estimated by fishery officers in the ports concerned and are probably little better than educated guesses. According to the footnotes to the tables, however, these were the *only* catches that were not recorded on the basis of the area in which they were landed. See examples of statistical tables reproduced in Documentary Appendix 18.

⁴³ "Memorandum Re: Appendix A of the Minutes of the 1931 Meeting of the North American Council." 15 October 1932, p. 1. See Documentary Appendix 19.

⁴⁴ M. C. Urquhart and K. A. H. Buckley, eds.: *Historical Statistics of Canada*. Cambridge, The University Press, 1965, Section M, p. 388. See Documentary Appendix 20.

between the place of landing and the place of capture is necessarily far less consistent for this portion of the fleet. As was stated in a 1941 memorandum:

"The statistics provide information on the catches of various species at various places and times which is relatively complete and detailed for the inshore fisheries but much less so for offshore fisheries⁴⁵."

20. Among a great variety of records that were used in collecting statistics, only one reporting form was specifically designed to provide information on offshore landings; but *it did not require any reporting of the area in which the catches were made*. This form, introduced in the 1940s, was entitled "Report of Landings by Vessels Fishing Offshore", and was known as the "F.S. 13" form⁴⁶. As was stated in a Department of Fisheries memorandum dated 29 March 1951 entitled "Collection Of Fisheries Statistics, (Landing statistics)" prepared for the 1951 ICNAF Meeting:

"The catch is reported for each individual vessel, the port of landing is indicated, the date sailed and the date landed. However, *no mention is made as to the area where the fish is caught*⁴⁷." [*Italics added.*]

Moreover, even this limited reporting system extended to only a portion of the Canadian fishing fleet⁴⁸.

21. The instructions and manuals for fishing officers periodically issued by the Department of Fisheries also confirm that no effort was made to identify the source of the catch, except for a general separation of "inshore" and "offshore" catches⁴⁹.

⁴⁵ A. W. H. Needler: "Memorandum Re Improvement Of Fisheries Statistics For Biological Purposes." Fisheries Research Board of Canada, April 1941, p. 2. See Documentary Appendix 21.

⁴⁶ Examples of the "F.S. 13" and other statistical forms are reproduced in Documentary Appendix 13.

⁴⁷ "Collection of Fisheries Statistics, (Landing statistics)." Ottawa, Department of Fisheries, Markets and Economics Service, 29 March 1951, p. 3. See Documentary Appendix 22.

⁴⁸ W. R. Martin: "Canadian Atlantic Fisheries Statistics Meeting, St. Andrews, New Brunswick, March 12-15, 1952." Ottawa, ICNAF, 20 March 1952, p. 2; "Notes Re Statistical Discussions, St. Andrews, N.B., March 13-15, 1952". Ottawa, 18 March 1952, p. 2. See Documentary Appendices 23 and 24.

⁴⁹ See, for example, *Fishery Officers Manual*, Instructions to Fishery Officers and Staff of Department of Fisheries. Ottawa, 1 May 1948, Part I, Sec. 15, B, 1(c), which reads:

"(c) The catch, i.e. quantities landed, should be reported as accurately as possible. Fish buyers and processors should report both the landings of their own boats and their purchases of unprocessed fish from independent fishermen landing catches within the district—including fishermen (Canadian or foreign) making the district temporarily their home port.

If there is an 'off-shore' fishery in the district the in-shore and off-shore catches should be shown separately. By the off-shore catch is meant the catch on the deep-sea fishing grounds. In general, this would be the total for the month of the catches reported weekly on the F.S.13 form—including the landings by the salt bankers (converted to "cash drawn weight")."

22. One reason why catches were not recorded in terms of the area of capture is that *Canadian statistics were collected primarily for economic rather than biological reasons*. Thus a Fisheries Research Board memorandum of April 1941 states that "the fisheries statistics as they are now collected are intended primarily as trade statistics⁵⁰". Along with the economic orientation of the statistical system, *a further reason why Canadian statistics did not attempt to record the specific area where catches were made was the geographical dispersion of the fishery*. In the United States the fishery was concentrated in a handful of large ports, such as Gloucester and Boston, but the Canadian fishery was spread over hundreds of villages and towns — as it is today. This geographical dispersion of the fishery is cited in a report dated 18 December 1951 as the principal reason for the deficiency of the Canadian catch statistics⁵¹. Indeed, it has been cited as a hindrance to the collection of accurate statistics as early as 1910, in a memorandum for the Deputy Minister of Fisheries:

"Many difficulties at present stand in the way of the collection of absolutely accurate fishery statistics in Canada; amongst the chief of these being the enormous multiplication of small fishing hamlets scattered along great distances of coast-line, and the impossibility of having a reporting officer at each⁵² . . ."

23. Consequently, although the Canadian statistics were in many respects both sophisticated and thorough from an economic perspective, they provided no information on the volume of catches from individual offshore banks. The problem was clearly recognized by the Canadian authorities in an internal report written shortly after ICNAF came into being:

"The basic statistics required by the Commission will be provided by the majority of countries fishing in the Northwest Atlantic area, covering the year 1951 and in many cases back years. United States statistics have been published monthly and annually in detail. The European groundfish statistics for the Convention area do not present a great problem since small fleets of large vessels fish a small number of trips each year, and land their catches in a relatively small number of fishing ports. *Canadian statistics, on the other hand, are not adequate for Commission purposes, and*

⁵⁰ A. W. H. Needler: "Memorandum Re Improvement of Fisheries Statistics For Biological Purposes", p. 1. See Documentary Appendix 21. The new form recommended in this report was never put into effect.

⁵¹ R. W. Martin, Acting Executive Secretary, ICNAF: "Memorandum to: A.W.H. Needler, Canadian adviser. Re: Canadian Statistics for the International Commission for the Northwest Atlantic Fisheries", 18 December 1951, pp. 3-4. See Documentary Appendix 26.

⁵² J. J. Cowie: "Memorandum for the Deputy-Minister re Fisheries Intelligence and Statistical Work." Ottawa, 21 April 1910, p. 2. See Documentary Appendix 27. See also "Memorandum Re: Appendix A of the Minutes of the 1931 Meeting of the North American Council", where it is stated at p. 2:

"It would seem impossible for our officers to collect with accuracy and completeness the information contemplated. If the landings were concentrated at two or three ports, instead of being made at many places, the situation would be otherwise."

See Documentary Appendix 19.

at present represent the weak link in the chain of statistics required for a compilation of records of Northwest Atlantic fishing by all countries.

The problem is very much greater in Canada than in other countries fishing in the Convention area, since *the Canadian Atlantic groundfish catch is taken by a large fleet of boats and vessels landing frequently at a great many fishing ports spread out over a long coastline*⁵³. [Italics added.]

24. It is evident that before ICNAF commenced operations in 1952, Canadian fisheries statistics recorded the area in which the catch was landed — i.e., the coastal area in which the ports were located — instead of the area in which the fish were caught. The data as collected made no provision for reference to the location of capture. In a letter dated 28 February 1941, Dr. A. H. Leim, the then-Director of the Atlantic Biological Station of the Fisheries Research Board of Canada, described the system as follows:

“The biological value of the fishery statistics largely depends on knowing where the catches are made. The ‘Fisheries Statistics of Canada’ as at present published are deficient in this regard in that the catch as landed is referred to the place of landing rather than to the place of catching⁵⁴.”

The pre-ICNAF data thus represent landings from any source at points along the coast within a designated area, and not landings from grounds within that same area⁵⁵. It is therefore not possible to quantify the Canadian catch from any particular location, such as Georges Bank, on the basis of the official statistics collected and published during this period.

C. THE HISTORICAL DATA PUBLISHED BY ICNAF IN 1952

25. The documentation produced by the United States in support of its statistical comparisons for the pre-ICNAF era consists of two reports prepared by the ICNAF Secretariat in 1952, shortly after

⁵³ R. W. Martin: “Memorandum to: A.W.H. Needler, Canadian adviser. Re: Canadian Statistics for the International Commission for the Northwest Atlantic Fisheries”, pp. 3-4. See Documentary Appendix 26. Similarly, a report by M. A. Graham dated May 1963 entitled *The Development Of The New Statistical System For The Maritime Provinces* described the problem at p. 1 as follows:

“Landings [up to the early years of the 1950s] were based on an indefinite ‘inshore’ ‘offshore’ breakdown. . . . Sometimes landings had to be calculated by applying conversion factors to product weights. Monthly figures on production were merely an estimate of the probable disposition of the catch expressed in landed weight.”

See Documentary Appendix 28.

⁵⁴ Letter of 28 February 1941 from Dr. A. H. Leim, Director, Atlantic Biological Station, to D. H. Sutherland, Fisheries Research Board of Canada. See Documentary Appendix 29.

⁵⁵ See examples of statistical tables reproduced in Documentary Appendix 18. See also M. C. Urquhart and K. A. H. Buckley, eds.: *Historical Statistics of Canada*, Section M, pp. 387-407. See Documentary Appendix 20.

ICNAF began its operations. Because most of the Canadian statistics set out in these reports were based upon the data which have been described above, they provide no basis whatever for a historical comparison of the Canadian and United States fisheries on Georges Bank. The first report, "Statistics of Landings of Groundfish from the Convention Area", forming Part 4 of *International Commission for the Northwest Atlantic Fisheries, Second Annual Report, for the year 1951-52*, contains tables detailing the landings of the contracting parties up to 1951. The second report, *International Commission for the Northwest Atlantic Fisheries, Statistical Bulletin, Vol. 2, for the year 1952*, provides the same data in the form of graphs, along with commentary by the Commission statistician⁵⁶.

26. The historical tables in these reports do not purport to represent the totality of the Canadian fishery. Instead they represent only the *groundfish* species. Consequently, no effort was made to reflect the swordfish fishery, which was then Canada's largest Georges Bank fishery. Also omitted was Canada's early scallop fishery on the Bank. Even on their face, therefore, the reports do not provide the basis for a valid comparison.

27. To a limited degree, the manner in which these tables were compiled can be inferred from the source notes that appear as footnotes to the tables, and from certain contemporary documents from Canadian Government files. Basically, the source notes for the Canadian data provided by Canada distinguish between two periods: 1910/1911-1932, and 1933-1951⁵⁷. For the first period, the tables provide only the total Canadian catches from the entire Convention Area — i.e., the northwest Atlantic as a whole — with no breakdown by subarea. Consequently, these tables are of no assistance in determining where the Canadian fishery took place up to 1933 and thus provide no evidence in support of the comparisons made by the United States. For the second period, 1933-1951, the source notes indicate that the figures were "[e]stimated for subareas from official sources by the Atlantic Biological Station" (of the Fisheries Research Board)⁵⁸. Again, however, it has been shown that the

⁵⁶ *International Commission for the Northwest Atlantic Fisheries, Second Annual Report, for the year 1951-52*, Part 4, St. Andrews, N.B., 1952, pp. 35-68, reproduced in *United States Counter-Memorial, Documentary Annexes*, Vol. V, Annex 16. The second report, published in Halifax in 1954, is reproduced in *United States Memorial, Documentary Annexes*, Vol. III, Annex 46.

⁵⁷ The tables list Canadian landings for cod, haddock, redfish, halibut, flounders and "other groundfish" (i.e., miscellaneous groundfish species). In the case of cod, landings are recorded for 1869-1951, but there is no breakdown by subarea until 1933. In the cases of haddock, halibut and flounders, landings are recorded for 1910/1911-1951; breakdown by subarea begins in 1933. In the case of redfish, landings are listed by subarea for 1936-1951. "Other groundfish" are listed by subarea for 1933-1951. See *International Commission for the Northwest Atlantic Fisheries, Second Annual Report*, pp. 41-42, 49, 53, 57, 62 and 65.

⁵⁸ Redfish and "other groundfish" landings are exceptions to this system. In the case of redfish, the landings for 1936-1945 were "estimated by Department of Fisheries, Ottawa", and those for 1946-1951 were "estimated by Atlantic Biological Station". In the case of "other groundfish", landings for 1933-1945 were "[e]stimates by Department of Fisheries, Ottawa", and those for 1946-1951 were "[e]stimates by the Atlantic Biological Station". See *International Commission for the Northwest Atlantic Fisheries, Second Annual Report*, pp. 42, 53 and 65.

official sources were inherently incapable of providing a reliable basis for such estimates. Although the post-1930 tables in the published fisheries statistics used the NACFI areas to record total catches, *the figures represented the area in which the catches were landed and not the area where they were actually made.*

28. A description of the method used to estimate Canadian groundfish landings from 1933 to 1951 appears as "Item B" attached to a letter dated 6 June 1952 from the Acting Executive Secretary of ICNAF. It states that groundfish landings had been "allocated by area of capture in the annual published 'Fisheries Statistics of Canada' since 1931⁵⁹". Paragraphs 17 to 24 have shown unequivocally, however, that this was simply not the case, even though the format of the published statistics could well have been misleading. This ICNAF document also indicates exactly how the figures were "estimated" up to 1947 from official sources:

"The landings from areas 19, 21 and 22 [reported in *Fisheries Statistics of Canada*] were totalled to give landings [i.e., presumed catch] from Subarea 4 and those from Area 20 provided data for Subarea 3⁶⁰."

As the Canadian statistics recorded catches by area of landing rather than capture, the figures in the ICNAF tables for subarea 4 do not represent Canadian catches from that subarea, at least up to 1947. Rather, they report *all landings* — other than the Grand Banks catches that were segregated in the original statistics — made at ports in the Gulf of St. Lawrence (Area 19), the Fundy shore of New Brunswick (Area 22) and the Atlantic coast of Nova Scotia (Area 21). *Canada's Georges Bank landings were thus absorbed into this total figure and misrepresented as subarea 4 catches.*

29. The same document — Item B — also indicates that, for the period 1947 to 1951, special fisheries statistics collected by the Canadian Fisheries Research Board were utilized by ICNAF in compiling its tables, rather than the official statistics used for the previous years. This program was described in a Fisheries Research Board circular of May 1952, entitled "1947 Landings Of Fresh Groundfish By Offshore Vessels At Nova Scotia Ports⁶¹". Data collection involved a review of F.S. 13 forms detailing groundfish landings statistics collected from fish buyers. Statistics of area fished, gear used, and fishing effort for individual trips were collected directly from fishing captains using a system of log-book records supplemented by wharf interviews. However, there are a number of reasons why this program was not helpful in determining Georges Bank groundfish landings during that period:

⁵⁹ Letter of 6 June 1952 from Acting Executive Secretary of ICNAF to Stewart Bates, Canadian Deputy Minister of Fisheries, with attachments. See Documentary Appendix 30.

⁶⁰ Letter of 6 June 1952 from Acting Executive Secretary of ICNAF to Stewart Bates. See Documentary Appendix 30.

⁶¹ W. R. Martin and F. D. McCracken: "1947 Landings of Fresh Groundfish By Offshore Vessels At Nova Scotia Ports." St. Andrews, N.B., Fisheries Research Board, Statistical Series, No. 1, 1952. See Documentary Appendix 31.

- (a) only a *sample* of the fleet (six large dory schooners and six large otter trawlers) was used to determine area of capture;
- (b) while the identity of the 12 vessels is unknown, the charts illustrated in the circular show that these vessels concentrated their efforts almost wholly on the banks *east of Halifax*; the sample was therefore strongly biased in favour of the Halifax fleet, while *the southwest Nova Scotia fleet was in all probability excluded from the sample*⁶²;
- (c) only the *largest* class of vessel was considered for this purpose;
- (d) only "pure trips" (those made to a single bank) were included, whereas all or most groundfish trips to Georges Bank would have involved at least some *en route* fishing on the other southwestern banks.

30. The foregoing analysis deals with the tables contained in Part 4 of *International Commission for the Northwest Atlantic Fisheries, Second Annual Report, for the year 1951-52*. As noted above, the Commission shortly thereafter published a further report, *International Commission for the Northwest Atlantic Fisheries, Statistical Bulletin, Vol. 2, for the year 1952*, which depicted some of this information in the form of graphs with commentary by the Commission statistician. In this supplementary document, the statistician appears to have made some entirely unfounded assumptions and to have compounded the problem through internal inconsistencies. As stated above, the tables published in the *Second Annual Report* attempt no breakdown by subarea until 1933, and therefore provide no evidence as to the location of the Canadian fishery prior to that date⁶³. However, one of the six graphs in the *Statistical Bulletin* — the one dealing with cod — appears to make the assumption that Canadian catches prior to 1933 were taken in subarea 4⁶⁴. No evidence or reasons are offered for this assumption, which appears to be no more than a conjectural effort by the statistician to complete the record. The other graphs in the *Statistical Bulletin* that extend back to the period before 1933 — relating to haddock, halibut and flounders — simply depict the *total* Canadian landings from the Convention Area during that period, and do not attempt a breakdown by subarea. Hence the graphs in the *Statistical Bulletin*, like the tables in the *Second Annual Report* on which they are apparently based, provide no support for the United States comparisons of Canadian and United

⁶² While it is possible that some vessels from the Lunenburg fleet, which frequented the banks east of Halifax, were included in the sample, it is highly unlikely that vessels from ports further to the southwest were included.

⁶³ Moreover, the breakdown with respect to redfish begins only in 1936.

⁶⁴ *United States Memorial, Documentary Annexes*, Vol. III, Annex 46, p. 10. See, however, "Corrections and Additions" to *International Commission for the Northwest Atlantic Fisheries, Statistical Bulletin, Vol. 2, for the year 1952*, where it is indicated that pre-1933 landings attributed to subarea 4 include landings from subarea 3. Again, however, no explanation is offered for the assumption that these landings were from either subarea 3 or subarea 4. See Documentary Appendix 32.

States catches⁶⁵. Furthermore, while the graphs purport to represent catches by subarea for the later period, they were presumably based on the figures in the tables which have already been shown to provide no reliable evidence on the areas where the Canadian fishery was actually conducted.

31. In summary, the 1952 ICNAF reports, which form the sole basis of the United States historical comparisons of Canadian and United States catches, were based upon a fundamental misunderstanding of the statistical record. The official sources that provided the bulk of the data did not even purport to indicate the area of capture, and the Fisheries Research Board surveys used as a supplementary source of data for the last few years were incomplete and provided no reliable information on the fishing patterns of the southwest Nova Scotia fleet. Even on their face, moreover, the reports provide no information whatever on the area of pre-1933 catches (apart from a conjectural surmise in the graph dealing with cod), and the basis for the United States assertions regarding this early period remains shrouded in mystery.

D. THE POST-1952 PERIOD

32. As shown in the passage from the report of 18 December 1951 quoted in paragraph 23, it was recognized immediately after the creation of ICNAF that Canadian statistics were deficient in providing the information on the area of capture that was required by the Commission. There is evidence that measures were gradually taken to improve the situation. For example, it was recognized that many vessels were not using the F.S. 13 form (the reporting form for offshore landings) to report fishing activity, and steps were taken to expand its use⁶⁶.

33. In 1954, a major report on the Canadian statistical system was prepared by Dr. S. Sinclair: *A Statistical Service For The Fisheries of the Maritime Provinces: A Report to the Working Committee of the Interdepartmental Committee on Maritime Fisheries Statistics*⁶⁷. This study recommended the introduction of a new statistical system based on purchase slips (vouchers recording the transaction at first sale of fish as landed), an innovation that was brought into general use in 1957 after an experimental test period from 1954 to 1956. These data, which did not include information on area of capture, were used in conjunction

⁶⁵ In the case of haddock and halibut, the textual commentary suggests that most of the landings came from subarea 4, but no evidence or reasons are given for this apparently conjectural statement.

⁶⁶ Memorandum from J. N. Lewis to I. S. MacArthur: "Re: Offshore Landings", 22 February 1952, pp. 2-3. See Documentary Appendix 33. See also, circular directive, E. D. Fraser: "To four District Protection Officers in Nova Scotia and four District Protection Officers in New Brunswick", Halifax, 21 March 1952. See Documentary Appendix 34.

⁶⁷ Dominion Bureau of Statistics, 1954. See Documentary Appendix 35.

with log-book data collected by the Fisheries Research Board in order to reach estimates of the information required by ICNAF⁶⁸.

34. In 1962, the Canadian authorities began the collection of off-shore statistics based on the smaller statistical units *within* the ICNAF grid that were adopted by Canada and the United States for their own purposes — i.e., areas 5Zej (523), 5Zem (524), 5Zeh (522) and 5Zen (525) on Georges Bank. *Only with the introduction of this system did it become possible to determine the levels of catches on Georges Bank* (as distinct from subdivision 5Z or 5Ze as a whole), and on the eastern portion of Georges Bank in particular. Even during the 1960s, however, it was recognized that the statistical system was still imperfect. A report in 1965 noted that:

“During 1964, the Fisheries Research Board collected log records from 208 of the 518 vessels in the mobile fleet. Thus the Board obtained 40 per cent overall coverage in 84 ports. Unfortunately, this 40 per cent coverage was not distributed equitably among the ports as the coverage ranged from zero to 100 per cent. In some ports where more than one class of vessel operated only one type was covered. It is apparent that some revision in the sampling technique is required⁶⁹.”

Since the early 1970s, log-book reporting has been compulsory, and (apart from the exclusion of small-boat activity) the statistical system has now attained a reasonably satisfactory level of comprehensiveness and accuracy.

CONCLUSION

35. Volume II of the Annexes to the Canadian Counter-Memorial details the development of Canada's Georges Bank fishery from its inception in the nineteenth century. This history is amply supported by the several volumes of evidence filed as a supplement to Volume II. The commentary offered by the United States in its Annexes to the United States Counter-Memorial (Volume IV, Annex 7) in no way refutes the fact of Canada's historical presence in the Georges Bank fishery.

⁶⁸ M. A. Graham: *The Development Of The New Statistical System For The Maritime Provinces*, pp. 3-4 and 8-9. See Documentary Appendix 28. The procedure used to produce the ICNAF tabulations for Canada was as follows: information from sales slips (supplemented by information on quantities processed) was tallied to provide an annual coast-wide record of landings; slips recording landings identified as being made by units of the “mobile fleet” (i.e., fishing craft over 25 tons displacement) were transmitted to the Fisheries Research Board engaged in collecting log-book data from a sample of that fleet; the Board used the sample log-book data to derive, by extrapolation, the area of capture for the landings made by the mobile fleet as a whole; the resulting estimate was transmitted to ICNAF.

⁶⁹ *A Report Concerning The Need For Consolidating Fisheries Statistical Responsibilities In The Maritimes Area*. Halifax, Department of Fisheries, Economic Branch, 5 February 1965, p. 4. See Documentary Appendix 36.

36. The comparisons in the United States pleadings of Canadian and United States catches from Georges Bank are without any foundation in fact because they are based exclusively on statistical evidence that does not reveal the area of capture of the fish landed in Canadian ports. The evidence relied upon by the United States is therefore inherently incapable of supporting its contentions concerning the Canadian Georges Bank fishery prior to the introduction by Canada of a modern statistical system in the late 1950s and early 1960s.

DOCUMENTARY APPENDICES TO PART II
THE HISTORY OF THE CANADIAN FISHERIES: SUPPLEMENTARY EVIDENCE

Documentary Appendix 1

EXCERPTS FROM *FORTY-SEVENTH ANNUAL REPORT OF THE DEPARTMENT OF
MARINE AND FISHERIES, 1913-14, FISHERIES, PP. 90-95*

5 GEORGE V., A. 1915

RETURN showing the Number of Fishermen, etc., the Number and Value of Vessels and Boats, and the Quantity and Value of all Fishing Gear, etc., used in the Fishing Industry in the County of Shelburne, Province of Nova Scotia, during the year 1913-14.

Fishing Districts.	Vessels, Boats and Carrying Smacks.														
	Steam Vessels.			Sailing and Gasoline Vessels.			Boats.			Carrying Smacks.					
Number.	Tonnage.	Value.	Men.	(40 tons and over) Number.	(20 to 40 tons) Number.	(10 to 20 tons) Number.	Value.	Sail.	Value.	Gaining.	Value.	Men.	Number.	Value.	Men.
<i>Shelburne County.</i>															
1 Woods Harbour		8			1		500	5	875	110	2500	198		8	
2 Chag Harbour and Bear Point							500	11	27	1050	45	11560	4	1000	62
3 Cape Island						3	4300	67	46	5300	218	52800	4	400	12
4 Barrington						2	325	8	3	30	10	2800			20
5 Port La Tour and Baccaro					6	2135	46	45	575	47	8180	143	2	350	4
6 Cape Negro and Blanche							535	28	500	82	5000	82			4
7 Port Saxon, Clyde Riv. N. E. and N. W. Harb.							634	8	1790	40	1500	40			1
8 Black Point, Red Head and Round Bay							700	10	1560	33	4830	115			8
9 Roseway, Carleton Village and McNutt Is.						8	2000	1	82	1120	10	1800	1	200	6
10 Gunning Cove, Charelover and Birchtown						1	200	2	33	372	10	1300			9
11 Shelburne and Sandy Point				2	4	5	13500	80	93	1900	36	11000			11
12 Jordan East and West				1	1	1	500	9	42	346	31	3380	1	200	27
13 Lockeport				5	5	15	45000	164	196	3735	67	10000	3	1900	913
Totals	2	50	11000	8	8	54	72960	416	681	16325	653	137690	15	4050	38

SESSIONAL PAPER No. 39

RETURN showing the Number of Fishermen, etc., the Number and Value of Vessels and Boats, and the Quantity and Value of all Fishing Gear, etc., used in the Fishing Industry in the County of Shelburne, Province of Nova Scotia, during the year 1913-14—*Cont.*

Fishing Districts.	Gill nets, seines, trap nets, and Smelt nets, etc.				Trawls.				Hand Lines.				Lobster Traps.		Lobster Canneries.		Other Material.				Persons Employed in Canneries, Freezers and Fish-houses.
	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	
<i>Shelburne County.</i>																					
1 Woods Harbour.....	347	3160	10	20	94	94	14735	6	4000	2	220	15	3000	23	4500	6	1300	13	3350	6	1300
2 Shag Harbour and Bear Point.....	273	1638	11	27	93	93	6483	2	700	7	1250	33	2734	18	3350	4	800	18	3350	7	1000
3 Cape Island.....	1868	13623	369	736	780	800	50100	4	3130	3	300	37	7566	31	7000	57	3500	37	7566	6	1300
4 Barrington.....	28	130	62	124	513	513	6180	1	500	3	300	24	2400	7	1000	24	2400	7	1000	7	1000
5 Port La Tour and Baccaro.....	343	2289	82	193	55	55	5000	1	150	1	30	4	800	4	800	4	800	4	800	4	800
6 Cape Negro and Blanche.....	310	2289	82	193	55	55	5000	1	150	1	30	4	800	4	800	4	800	4	800	4	800
7 Port Saxon, Clyde Riv. and N. E. & N. W. Harb.	37	503	40	280	60	60	715	1	150	1	30	4	800	4	800	4	800	4	800	4	800
8 Black Point, Red Head and Round Bay.....	300	2560	40	280	80	80	4000	1	200	1	200	55	13500	11	600	24	2400	11	600	11	600
9 Roseway, Carleton Village and McNutt Id.	400	2400	88	616	200	200	4300	1	200	1	200	90	2000	34	2530	90	2000	34	2530	90	2000
10 Gunning Cove, Churchover and Birchtown	193	824	20	140	80	80	1000	1	200	1	200	25	1800	15	1500	25	1800	15	1500	25	1800
11 Shelburne and Sandy Point.....	709	5246	544	3808	300	300	3000	2	300	2	300	56	5600	40	2000	56	5600	40	2000	56	5600
12 Jordan, East and West.....	335	2564	50	350	150	150	2937	2	300	4	14000	67	3000	41	1000	67	3000	41	1000	67	3000
13 Lockport.....	773	9019	716	4829	366	366	9000	2	6300	4	14000	41	3450	69	57200	41	3450	69	57200	41	3450
TOTAL.....	5033	49433	2025	11517	2821	2821	111312	19	15500	20	14250	534	33194	312	82160	534	33194	312	82160	534	33194

5 GEORGE V., A. 1915

RETURN showing the Number and Value of Vessels and Boats, and the Quantity and Yarmouth, Province of Nova Scotia.

Number.	Vessels, Boats and Carrying Smacks.																				
	Fishing Districts.				Steam Vessels.				Sailing and Gasoline Vessels.				Boats.			Carrying Smacks.					
					Number.	Value.	Value.	Men.	40 tons and over.) No.	(20 to 40 tons.) Number.	(10 to 20 tons.) Number.	Value.	Men.	Sail.	Value.	Gasoline.	Value.	Men.	Number.	Value.	Men.
	Yarmouth County.				\$	\$	\$				\$			\$	\$	\$		\$		\$	
1	Port Maitland									1	1500	13		3	1200	38	11100	108			
2	Sandford												12	180	36	10800	92				
3	Yarmouth	6	180	22000	26			4	2	6	10300	110	11	1100	33	21000	160	1	350	3	
4	Arcadia												5	300	30	9000	60				
5	Pinkney's Point												6	350	32	9500	62				
6	ComEAU Hill									2	700	7	12	510	61	18300	146	2	600	4	
7	Wadgoport	3	70	11000	18				1	2	1200	0	10	425	110	33000	240	2	600	6	
8	Salmon River												20	115			165				
9	Puskot										300	2	101	606			105				
10	Col Brook												11	132	3	800	16				
11	Argyle									6	1700	17	0	150	35	11500	79				
12	Pubnico								4	2	23300	143	10	285	67	20100	166	2	600	1	
	Totals	0	250	33000	44			8	6	32	48000	307	210	5383	605	152100	1207	7	2150	16	

SESSIONAL PAPER No. 39

Value of all Fishing Gear, etc., used in the Fishing Industry in the County of during the year 1913-14.

Fishing Gear.										Can- nories.		Other Material.							
Gills Nets, Seines, Trawl and Smelt Nets, etc.		Weirs.		Trawls.		Hand Lines.		Lobster Traps.		Lobster Canaries.		Frozen and Ice Houses.		Smoke and Fish Houses.		Fishing Piers and Wharves.		Persons employed in canneries, Freezers and Fish-Cases.	
Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.
\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$		
196	3175	.....	.....	80	100	85	85	8100	8100	3	1800	1	150	10	1300	1	1200	65	1
187	7920	.....	.....	60	300	80	80	6100	6100	1	100	1	150	1	1000	1	100	50	2
410	4208	.....	.....	150	750	700	700	14005	14005	3	3200	4	5000	20	20000	10	220000	350	4
131	601	.....	.....	12	60	25	25	6150	6150	2	1200	.....	.....	.....	.....	.....	1200	30	4
170	850	.....	.....	15	75	15	15	1000	1000	.....	.....	.....	.....	3	150	2	400	5	5
260	1300	.....	.....	10	200	260	260	12100	12100	3	3000	.....	.....	5	3000	3	2100	75	6
421	4100	.....	.....	20	100	500	500	19100	19100	3	3000	1	100	25	2000	7	7700	100	7
42	210	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	8
370	1065	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	23	1050	2	1000	30	0
32	418	.....	.....	.....	.....	.....	.....	350	350	.....	.....	.....	.....	.....	.....	.....	600	.....	10
297	1612	.....	.....	30	100	20	20	6650	6650	1	100	.....	.....	7	500	2	1200	10	11
412	3250	.....	.....	15	75	350	350	12100	12100	5	4000	3	4100	33	4300	6	6000	130	12
2916	29560	13	4300	412	2060	2155	2155	88510	88510	21	18300	10	7100	129	34200	43	241800	801	.....

5 GEORGE V., A. 1915

RETURN showing the Number of Fishermen, &c., the Number and Value of Vessels and Industry in the County of Digby, Province

Number.	Fishing Districts.	Vessels, Boats and Carrying Snacks.														Gill Nets, Seines, Trap and Snack Nets, etc.			
		Steam Vessels.			Sailing and Gasoline Vessels.			Boats.				Carrying Snacks.			Number.	Value.			
		Number.	Tons.	Value.	Men.	Number.	Number.	Value.	Men.	Sail.	Value.	Gasoline.	Value.	Men.			Number.	Value.	Men.
<i>Digby County.</i>																			
1	Digby and vicinity				6	2	37000	140			10	3000	20	2	1600	12			
2	Bay View and Culloden									12	600	17	3100	68				34	340
3	Cullivers Cove to Watford								2	15	750	16	3200	38				74	740
4	Centerville	1	32	6000	6		1200	2	25	500	25	10000	60	1	100	2		60	400
5	Sandy Cove and Mink Cove					1	1000	3	30	410	16	4000	50	1	200	2		56	1200
6	Little River and Whale Cove						1000	2	30	850	22	6500	50	2	1700	4		51	600
7	Toddville and East Perry								17	650	18	4500	53					65	680
8	Worton and Central Grove					2	2500	6	20	600	75	22500	180	2	1200	4		202	2200
9	Proport				3		6000	46	75	1000	60	18000	150	4	6000	12		130	1300
10	Westport					1	700	3	60	600	65	19500	154	1	1000	2		250	2500
11	Smith's Cove and Brighton								33	650	8	1600	37					8	80
12	Plympton to Weymouth								16	320	20	6000	50					101	1040
13	New Edinburgh								5	70	20	6000	60					110	1100
14	Belle View and White Cove								11	280	17	4200	62					76	760
15	Grosso Cogue								4	80	10	2500	28					15	150
16	Church Point					3	1000	16	10	200	5	1200	30					20	200
17	Little Brook and Comestaville					1	1200	6	75	390	18	4400	38					4	40
18	Santherville								12	120	8	1600	40					10	100
19	Atalgan River								9	320	6	1200	30					20	200
20	Atalgan				2	1	1000	15	20	100	8	1650	16	1	1800	3		40	400
21	Comest's Cove								9	180	6	1260	28					10	100
22	Bear Cove								20	300	11	2750	62					20	200
23	Cap St. Mary's					11	4300	66	10	600	43	10750	100	1	400	2		100	1000
24	Salmon and Beaver River								16	360	6	1000	40					20	200
	Totals	1	32	6000	6	8	621	212	167	9980	607	130800	1620	16	13200	33		1470	16610

SESSIONAL PAPER No. 39

Boats, and the Quantity and Value of all Fishing Gear, &c., used in the Fishing of Nova Scotia, during the year 1913-14.

Fishing Gear:								Canneries:				Other Material:				Persons employed in Canneries, Freezers and Fish-houses:			
Weirs		Travls.		Hand lines.		Lobster Traps.		Lobster Canneries.		Salmon Canneries.		Freezers and Ice-houses.		Smoke and Fish-houses.		Fishing-Piers and Wharves.		Persons employed in Canneries, Freezers and Fish-houses.	Number.
Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.		
	\$		\$		\$		\$		\$		\$		\$		\$		\$		
6	1120	450	3050	25	25	1500	1500					9	11400	30	40000	13	31800	150	1
			516	20	20	2000	2000							6	200				2
1	500	90	672	50	50	2000	2000							7	300				3
		200	1400	25	25	1500	1500	1	27000			6	500	23	1700	1	500	70	4
2	1300	66	403	45	45	1600	1600	1	1500			8	1500	13	1800				5
		150	1050	25	25	2000	2000	4	12000			4	500	20	2700	15	10000	45	6
		74	618	320	320	1600	1600					1	25	13	700	3	500		7
		760	5250	500	500	4500	4500	1	1500			2	900	47	7500	24	20000	100	8
1	700	321	2238	155	155	3000	3000					4	700	73	8305	25	4100	15	9
		275	1925	300	300	3500	3500					6	1500	24	3110	35	11500	25	10
7	2100	10	105	35	35	200	200					3	70	7	300				11
2	500	80	550	105	105	1100	1100					4	200	17	500	5	2000		12
1	150	175	1050	50	50	2000	2000	1	300					9	1200			10	13
1	800	150	900	50	50	400	400			1	1800			18	1140			25	14
4	500	40	240	10	10	400	400	1	800					4	200			18	15
		25	150	60	60	750	750			1	1000			10	850			25	16
		12	72	100	100	2400	2400	1	500					20	800			25	17
				80	80	1800	1800							24	950				18
2	300	20	120	40	40	1000	1000							5	300				19
				80	80	2100	2100	1	400					10	300			20	20
				65	65	1700	1700							7	170				21
		20	120	100	100	2000	2000							10	200				22
		20	120	400	400	5000	5000	2	900					35	575			80	23
				40	40	400	400							3	45				24
26	8176	3020	20578	2682	2682	44450	44450	13	44000	2	2800	45	17455	432	73855	121	80500	613	

Documentary Appendix 2

EXCERPT FROM F. W. WALLACE, *ROVING FISHERMAN. AN AUTOBIOGRAPHY
RECOUNTING PERSONAL EXPERIENCES IN THE COMMERCIAL FISHING FLEETS AND
FISH INDUSTRY OF CANADA AND THE UNITED STATES, 1911-1924*, p. 101

[Not reproduced]

Documentary Appendix 3

EXCERPT FROM N. BOURNE, *SCALLOPS AND THE OFFSHORE FISHERY OF THE
MARITIMES*, p. 22

[Not reproduced]

Documentary Appendix 4

EXCERPTS FROM *TWENTY-NINTH ANNUAL REPORT OF THE DEPARTMENT OF
MARINE AND FISHERIES, 1896, FISHERIES, PP. 94-95*

RETURN showing the Number, Tonnage and Value of Vessels and Boats, and the Quantity and Value of all Fishing Material, &c.—
Nova Scotia—Continued.

Number.	DISTRICTS.				FISHING VESSELS AND BOATS.						FISHING MATERIAL.						KINDS OF FISH.				
	Shelburne County.				Vessels.		Boats.		Gill-Nets.		Trap-Nets.		Seines.		Salmon, fresh, in ice, lbs.	Herring, salted, brls.	Mackerel, salted, brls.	Mackerel, fresh or preserved, in cans, lbs.	Number.		
	Number.	Tonnage.	Value.	Men.	Number.	Value.	Men.	Fathoms.	Value.	Number.	Value.	Number.	Fathoms.	Value.							
1	Barrington.	2	110	55000	30	69	15500	65	14000	1300					300	600		1	1		
2	Wood's Harbour.	3	73	3000	30	130	25500	136	19500		1	2000	1	1600		2000		2	30000		
3	Slag Harbour.	2	31	1000	16	43	1100	46	16000	1400						800		3	2000		
4	Bear Point.	2	28	600	12	42	1075	30	10000	950						200		4	2000		
5	Cape Island.	23	553	30600	280	365	7275	470	60000	6050	6	11000				10000		5	300000		
6	Port la Tour and Baccaro.	3	80	3200	21	252	3575	136	50500	6950						1800		6			
7	Upper Port la Tour.	3	50	1200	18	36	350	34	14500	550						700		7			
8	Cape Negro and Blanche.					84	1030	44	12500	900						1200		8	1000		
9	Cape Negro Island.					56	1250	60	14400	1090	1	1500				3000		9	1500		
10	Port Clyde.					6	80	8	700	130								10			
11	North-east Harbour.	1	17	1000	6	15	1250	32	6400	1050	3	30				400		11	10		
12	Black Point and Round Bay.	2	39	1500	12	50	2000	76	10000	2400	8	95				1027		12	81		
13	Roseway and McNitt's Island.					52	3700	83	15000	2500						1880		13	89		
14	Gunning Cove, Oluarchovee and Birchtown.	10	610	16800	100	52	1350	73	8300	1385	80	360				360		14	1820		
15	Shelburne and Sandy Point.	1	95	3500	18	50	1500	68	12500	2080	16	208				650		15			
16	Jordan.	20	1120	63000	220	115	9000	306	36000	6500	145	1835						16			
17	Lockeport.					1457	41335	1744	321200	37735	200	17090	1	1600		8410		17	334500		
	Totals	77	2712	130000	768											181746			3220	40140	
	Values																			230	334500

RETURN showing the Number, Tonnage and Value of Vessels and Boats, and the Quantity and Value of all Fishing Material, &c.—
Nova Scotia—Continued.

Number	Districts.	KINDS OF FISH.										FISH PRODUCTS.		Total VALUE	Number.		
		Lobsters, preserved in cans, lbs.	Lobsters, alive or fresh, tons.	Cod, dried, cwt.	Hake, dried, cwt.	Haddock, cwt.	Pollack, cwt.	Trout, lbs.	Halibut, lbs.	Smelts, lbs.	Alwives, brls.	Cans, brls.	Fels, brls.			Fish oils, galls.	Fish used as bait, brls.
<i>Shelburne County.</i>																	
1	Barrington		100	2500		1500	250	500	1600	400	050	20	20	1200	1800	33,735 00	1
2	Wood's Harbour	80170	700	800		200	100	1000	1000					225	4000	87,063 80	2
3	Shag Harbour	17000	90	1000		475	200	4500	200	25				180	600	21,164 50	3
4	Rear Point	35000	50	975		175	80	1000						50	600	19,620 00	4
5	Cape Island	60000	900	9750		4200	300	12000	2800	200	60	60	6000	3500	6500	234,045 00	5
6	Port la Tour and Baccaro		233	3000		700	1800		2800						1400	50,705 00	6
7	Upper Port la Tour		70	375		170	280	1500	340						423	12,306 00	7
8	Cape Negro and Blanche		319	475		600	200	1200	480						180	34,700 60	8
9	Cape Negro Island		230	425		275	180	2800	2800						800	38,355 00	9
10	Port Clyde	9000							620	500						3,732 00	10
11	North-east Harbour	15648	65	795		140	65	800		60	5				400	14,160 20	11
12	Black Point and Round Bay		10	461		8	31	2000		45					400	10,655 00	12
13	Roseway and McNutt's Island		12	525		600	50	1000		15	14				673	15,938 00	13
14	Gunning Cove, Churchover, and Brechtown			625		357	180	500		43					350	13,136 00	14
15	Shelburne and Sandy Point	24000	65	8625		250	117	550	4500	80	175	10	1500	200	200	65,910 00	15
16	Jordan		43	210		350	12	2400		5000					150	18,363 00	16
17	Lockport		322	1924		1900	784	2000	11000	40	650	6	2200	150	150	120,573 00	17
	Totals	239818	3122	51063	1300	12301	4617	6070	157700	5600	1708	905	114	19040	16955	.....	.....
	Values	33375	234150	259811	3250	43053	11542	607	15770	280	6832	1335	1140	7616	25432	796,182 00	.....

Documentary Appendix 5

EXCERPTS FROM *FORTY-FOURTH ANNUAL REPORT OF THE DEPARTMENT OF MARINE AND FISHERIES, 1910-11, FISHERIES*, PP. XX-XXI AND 126-129

[Not reproduced]

Documentary Appendix 6

EXCERPTS FROM *FISHERIES STATISTICS, 1918*, PP. XXVI-XXIX AND 14-29

[Not reproduced]

Documentary Appendix 7

“RESOLUTIONS, MEETING OF INTERNATIONAL COMMITTEE ON MARINE FISHERY INVESTIGATIONS, MONTREAL, JUNE 23RD, 1921”

[Not reproduced]

Documentary Appendix 8

EXCERPT FROM MINUTES OF SECOND MEETING OF INTERNATIONAL COMMITTEE ON MARINE FISHERY INVESTIGATIONS, BOSTON, 4 NOVEMBER 1921, P. 1

[Not reproduced]

Documentary Appendix 9

LETTER OF 14 FEBRUARY 1922 FROM A. JOHNSTON, DEPUTY MINISTER OF MARINE AND FISHERIES, TO ALL "OWNERS OF BANK FISHING VESSELS"

[Not reproduced]

Documentary Appendix 10

EXCERPT FROM FIFTY-SIXTH ANNUAL REPORT OF THE FISHERIES BRANCH, DEPARTMENT OF MARINE AND FISHERIES, FOR THE YEAR 1922, P. 12

[Not reproduced]

Documentary Appendix 11

LETTER OF 17 MARCH 1923 FROM W. A. FOUND, ASSISTANT DEPUTY MINISTER OF FISHERIES, TO WARD FISHER, CHIEF INSPECTOR OF FISHERIES

[Not reproduced]

Documentary Appendix 12

EXCERPTS FROM NORTH AMERICAN COUNCIL ON FISHERY INVESTIGATIONS, PROCEEDINGS 1921-1930, No. 1, PP. 8-9 AND 19-20

[Not reproduced]

Documentary Appendix 13

EXAMPLES OF STATISTICAL REPORTING FORMS

[Not reproduced]

Documentary Appendix 14"MEMO FOR MR. FOUND — INTERNATIONAL CO-OPERATION IN THE COLLECTION OF
SEA FISHERIES INFORMATION"*[Not reproduced]*

Documentary Appendix 15EXAMPLES OF PRE-1931 PUBLISHED CANADIAN FISHERIES STATISTICS, *FISHERIES
STATISTICS OF CANADA, 1929*, DOMINION BUREAU OF STATISTICS, KING'S PRINTER,
1931, PP. 42-47*[Not reproduced]*

Documentary Appendix 16

"MEMO. FOR MR. COWIE. RE FISHERY STATISTICS"

[Not reproduced]

Documentary Appendix 17

EXCERPT FROM NORTH AMERICAN COMMITTEE ON FISHERY INVESTIGATIONS,
"MINUTES OF THE NINTH MEETING, HELD IN THE MCALPIN HOTEL, NEW YORK,
N.Y., ON FRIDAY, MAY 8TH, 1925", P. 1

[Not reproduced]

Documentary Appendix 18

EXAMPLES OF POST-1930 PUBLISHED CANADIAN FISHERIES STATISTICS,
COMPARATIVE STUDY, PP. 412-414, AND *FISHERIES STATISTICS OF CANADA, 1938*,
DOMINION BUREAU OF STATISTICS, KING'S PRINTER, 1940, PP. 56-115 AND 225

[Not reproduced]

Documentary Appendix 19

"MEMORANDUM RE: APPENDIX A OF THE MINUTES OF THE 1931 MEETING OF THE
NORTH AMERICAN COUNCIL", PP. 1-2

[Not reproduced]

Documentary Appendix 20

EXCERPT FROM M. C. URQUHART AND K. A. H. BUCKLEY, EDs., *HISTORICAL
STATISTICS OF CANADA*, SECTION M, P. 388

[Not reproduced]

Documentary Appendix 21

EXCERPTS FROM "MEMORANDUM *RE* IMPROVEMENT OF FISHERIES STATISTICS FOR
BIOLOGICAL PURPOSES", PP. 1-2

[Not reproduced]

Documentary Appendix 22

EXCERPT FROM "COLLECTION OF FISHERIES STATISTICS (LANDING STATISTICS)",
P. 3

[Not reproduced]

Documentary Appendix 23

EXCERPT FROM MINUTES OF "CANADIAN ATLANTIC FISHERIES STATISTICS
MEETING, ST. ANDREWS, NEW BRUNSWICK, MARCH 12-15, 1952"

[Not reproduced]

Documentary Appendix 24

EXCERPT FROM "NOTES *RE* STATISTICAL DISCUSSIONS, ST. ANDREWS, N.B.,
MARCH 13-15, 1952", P. 2

[Not reproduced]

Documentary Appendix 25

EXCERPT FROM *FISHERY OFFICERS MANUAL*, 1948, PART I,
SECTION 15, B, 1 (a)-(d)

[Not reproduced]

Documentary Appendix 26

EXCERPTS FROM "MEMORANDUM TO: A. W. H. NEEDLER, CANADIAN ADVISER.
*RE: CANADIAN STATISTICS FOR THE INTERNATIONAL COMMISSION FOR THE
NORTHWEST ATLANTIC FISHERIES*", PP. 3-4

[Not reproduced]

Documentary Appendix 27

EXCERPTS FROM "MEMORANDUM FOR THE DEPUTY-MINISTER *RE FISHERIES
INTELLIGENCE AND STATISTICAL WORK*", P. 2

[Not reproduced]

Documentary Appendix 28

EXCERPTS FROM M. A. GRAHAM, *THE DEVELOPMENT OF THE NEW STATISTICAL
SYSTEM FOR THE MARITIME PROVINCES*, PP. 1-4 AND 8-9

[Not reproduced]

Documentary Appendix 29

LETTER OF 28 FEBRUARY 1941 FROM DR. A. H. LEIM, DIRECTOR, ATLANTIC BIOLOGICAL STATION, TO D. H. SUTHERLAND, FISHERIES RESEARCH BOARD OF CANADA

[Not reproduced]

Documentary Appendix 30

LETTER OF 6 JUNE 1952 FROM ACTING EXECUTIVE SECRETARY OF ICNAF TO STEWART BATES, CANADIAN DEPUTY MINISTER OF FISHERIES, WITH ATTACHMENTS

[Not reproduced]

Documentary Appendix 31

EXCERPTS FROM W. R. MARTIN AND F. D. MCCrackEN, "1947 LANDINGS OF FRESH GROUND FISH BY OFFSHORE VESSELS AT NOVA SCOTIA PORTS", PP. 3-6

[Not reproduced]

Documentary Appendix 32

"CORRECTIONS AND ADDITIONS" TO INTERNATIONAL COMMISSION FOR THE NORTHWEST ATLANTIC FISHERIES, STATISTICAL BULLETIN, VOL. 2, FOR THE YEAR 1952

[Not reproduced]

Documentary Appendix 33

EXCERPTS FROM MEMORANDUM FROM J. N. LEWIS TO I. S. MACARTHUR, "RE: OFFSHORE LANDINGS", PP. 2-3

[Not reproduced]

Documentary Appendix 34

E. D. FRASER, "TO FOUR DISTRICT PROTECTION OFFICERS IN NOVA SCOTIA AND FOUR DISTRICT PROTECTION OFFICERS IN NEW BRUNSWICK"

[Not reproduced]

Documentary Appendix 35

EXCERPTS FROM S. SINCLAIR, *A STATISTICAL SERVICE FOR THE FISHERIES OF THE MARITIME PROVINCES: A REPORT TO THE WORKING COMMITTEE OF THE INTERDEPARTMENTAL COMMITTEE ON MARITIME FISHERIES STATISTICS*, PP. 1-4

[Not reproduced]

Documentary Appendix 36

EXCERPT FROM *A REPORT CONCERNING THE NEED FOR CONSOLIDATING FISHERIES STATISTICAL RESPONSIBILITIES IN THE MARITIMES AREA*, P. 4

[Not reproduced]

**PART III. THE CONDUCT OF THE PARTIES:
SUPPLEMENTARY EVIDENCE ON CONTINENTAL SHELF
ACTIVITIES**

INTRODUCTION

1. The following paragraphs respond to — and demonstrate the erroneous assumptions of — certain arguments made by the United States concerning United States geophysical survey permits. In its Memorial and Counter-Memorial, the United States suggests that it has been routinely issuing geophysical permits for the northeastern part of Georges Bank since 1964. This, quite simply, is not the case. On the contrary, in the 1960s, the agency responsible for United States policy with regard to offshore permits was apparently assuming the use of a median line boundary on Georges Bank. It was not until some time in the 1970s, after the United States decided to reverse its policy regarding a median line boundary, that geophysical surveys were carried out pursuant to United States permits in what had by then become the disputed area. A close examination of the United States permits themselves reveals that no work was actually done under the authority of United States exploratory permits on the northeastern part of Georges Bank in the 1960s. What exploratory work was later done in the disputed area appears to have been conducted pursuant to the authority of both United States permits and Canadian licences and authorizations.

2. Before discussing the United States contentions and the United States permits themselves, however, it is helpful to recall the differences in the terminology used by the Parties. United States geophysical “permits” grant temporary authority to do seismic or other geophysical research in large areas off the coasts of the United States, and they are generally equivalent in form and purpose to what Canada calls exploratory “licences”. Canadian “permits”, on the other hand, are long-term instruments that confer the prospect of exclusive resource production rights, and they are therefore analogous to United States offshore “leases”. The United States, having issued no continental shelf leases covering the northeastern portion of Georges Bank, seeks to support its continental shelf claims by invoking geophysical permits that authorized seismic research involving no fixed operations and seldom requiring contact with the continental shelf. Canada, by contrast, has invoked its issuance of permits conferring the prospect of exclusive production rights; unlike the United States, Canada does not rely upon temporary exploratory licences for *high seas activities* in support of its contentions regarding the conduct of the Parties. (The “Eastern United States Coastal and Ocean Zones Data Atlas”, published by the United States Government and reproduced in part as Figure 31 in the Canadian Counter-Memorial, shows the offshore areas under United States lease or Canadian permit as of that time.)

3. It is also useful to point out that, in its discussion of United States continental shelf activities, the United States Counter-Memorial defines the “northeastern portion of Georges Bank” as including the *whole area* of the Bank, commencing at the Great South Channel and extending to the northeast tip of the Bank¹. This view is inconsistent with

¹ *United States Counter-Memorial*, pp. 78-79, para. 101; p. 81, Figure 13.

that advanced by the United States Counter-Memorial in its discussion of the fishing activities of the Parties, where it is noted that "[t]he Northeastern Portion of Georges Bank refers to Statistical Units 5Zej and 5Zem. . .". Canada regards the northeast portion of Georges Bank as comprising generally that part of the Bank claimed by Canada (i.e., roughly equivalent to the area included in ICNAF statistical units 5Zej and 5Zem).

Section I. The Contentions in the United States Memorial and Counter-Memorial Are Misleading and Ambiguous

4. Analysis of what the United States has actually claimed — or, rather, failed to claim — with regard to its geophysical "permits" is revealing. The fact is that neither in its Memorial nor in its Counter-Memorial has the United States denied that it regarded a median line as an equitable and appropriate boundary in the Gulf of Maine area in the 1960s.

5. In its Memorial, the United States makes the expansive claim that:

"Beginning in 1964, the United States Geological Survey issued permits for geophysical exploration of areas covering the continental shelf off New England, including Georges Bank. . . Since 1964, approximately 19,185 miles (30,869 kilometers) of geophysical data have been collected, under some 24 United States' exploration permits, in the northeastern part of Georges Bank alone³."

6. The first sentence of the above quotation says in quite general terms that United States permits covered areas off the New England coasts, and that some included Georges Bank; it does not indicate whether they included that part of Georges Bank which is in dispute. The second sentence does contend quite specifically that a certain number of line miles of seismic research on the "northeastern part" of Georges Bank was conducted under some 24 permits listed in the Annexes to the United States Memorial (Volume II, Annex 40, which includes permits issued until 1982). Close scrutiny of the permits themselves, however, refutes this claim; indeed, it demonstrates that no work was actually done pursuant to United States geophysical permits on the northeastern part of Georges Bank until the 1970s, probably 1972⁴.

7. Only four of the permits listed in the Annexes to the United States Memorial (Volume II, Annex 40) date from the period before the United States reversed its acquiescence in a median line boundary on Georges Bank in late 1969; and, judging from the "Reproduction" maps

² *United States Counter-Memorial*, p. 71, Table B, footnote 2.

³ *United States Memorial*, p. 58, para. 93.

⁴ The fact that the United States defines the "northeastern portion of Georges Bank" as including the whole area of the Bank, commencing at the Great South Channel and extending to the northeast tip of the Bank, may explain the conflict between the United States contentions and the evidence offered in support of those contentions.

provided by the United States⁵, of these four, only the "sample" permit contained in the Annexes to the United States Memorial (Volume II, Annex 40) may have authorized operations extending into the part of Georges Bank claimed by Canada⁶. This possible exception is United States permit E2-68, issued in the spring of 1968 to Exploration Surveys, Inc. This same company, having written to the Canadian Government offering for sale the results of its survey on Georges Bank, was advised that no work could be done in the area of Georges Bank claimed by Canada except pursuant to authority granted by the Canadian Government. The company indicated, however, that all of its operations during 1968 had been "offshore New Jersey and Long Island . . ." and assured the Canadian Government that "[n]o work was done in the area in question [i.e., that part of Georges Bank claimed by Canada] during 1969. . . ."⁷

8. The United States made much more limited assertions in its Counter-Memorial with regard to its continental shelf activities. Paragraphs 100 and 101 of the United States Counter-Memorial require particularly careful scrutiny⁸. Basically, there is a three-step process of misleading assertions:

(a) The United States Counter-Memorial first contends that:

"In 1960, a program to explore the continental shelf off the east coast of the United States was begun, and permits for exploration of the continental shelf off New England were issued beginning in 1964¹⁰."

This says nothing about any United States geophysical permits authorizing work on the Canadian side of the median line.

⁵ The "Reproduction" maps were filed with the Court together with a letter dated 20 January 1983 from the Agent for the United States.

⁶ Although the map submitted by the company to the United States Geological Survey with the letter of application included all of Georges Bank as the area to be surveyed, the United States Geological Survey authorized the company to conduct its operation "in that *portion of the requested area* which lies in the 'outer Continental Shelf' as that term is defined in Section 2 of the Outer Continental Shelf Lands Act of August 7, 1953. . . ." [*Italics added.*] See *United States Memorial, Documentary Annexes*, Vol. II, Annex 40. Section 2(a) of the *Outer Continental Shelf Lands Act* defines "outer Continental Shelf" as "all submerged lands . . . beneath navigable waters . . . and of which the subsoil and seabed appertain to the United States and are subject to its jurisdiction and control". The *caveat* contained in the letter authorizing the company's operations suggests that the United States Geological Survey approved only those operations conducted on that part of Georges Bank not claimed by Canada.

⁷ Letter of 13 October 1969 to M. Bell, Conservation Engineer, Resource Administration Division, Canadian Department of Energy, Mines and Resources, from Shelby D. Pitts, Senior Vice-President, Exploration Surveys Inc. *Canadian Memorial, Annexes*, Vol. II, Annex 50.

⁸ Letter of 3 December 1969 to D. G. Crosby, Chief, Resource Administration Division, Canadian Department of Energy, Mines and Resources, from Shelby D. Pitts, Senior Vice-President, Exploration Surveys Inc. *Canadian Memorial, Annexes*, Vol. II, Annex 50.

⁹ *United States Counter-Memorial*, pp. 78-79, paras. 100-101.

¹⁰ *United States Counter-Memorial*, p. 78, para. 100.

- (b) The United States Counter-Memorial then proceeds to state that “[t]he first United States exploration permit pertaining to Georges Bank was issued in 1965¹¹”. Again, this says nothing about any purported exercise of United States jurisdiction on the Canadian side of the median line.
- (c) Finally, the United States Counter-Memorial asserts that “[m]any other such permits have followed” and that “. . . over 20,000 nautical miles of seismic survey lines have been collected on the northeastern portion of Georges Bank alone¹²”. This says nothing about any United States permits authorizing surveys on the Canadian side of the median line at any particular time — say prior to the early or mid-1970s.

9. In any event, as has been noted in the Canadian Counter-Memorial¹³, when Canada in the 1960s was issuing offshore permits conferring lasting rights based on the median line — with full awareness by the United States — Canada neither knew nor had any reason to know of any United States temporary geophysical permits authorizing surveys on the northeastern portion of Georges Bank (other than the Exploration Surveys Inc. case, discussed in paragraph 7). Indeed, it is worth pointing out once more that, as late as 5 November 1969, the United States Department of State assured the Canadian Government in an aide-mémoire as follows:

“The Government of Canada has already issued exploration permits for the northern portion of the Georges Bank continental shelf. The United States is concerned that, pending settlement of the boundary question, substantial investment in exploration and exploitation of the area could greatly increase the difficulty of negotiating a satisfactory boundary. *For this reason, the United States has refrained from authorizing mineral exploration or exploitation in the area*.” [Italics added.]

Section II. The United States Assumed the Use of a Median Line Boundary on Georges Bank

10. It is not surprising that the United States should experience difficulties in its efforts to imply that it was authorizing seismic research on the northeastern portion of Georges Bank in the 1960s in view of the fact that, as the evidence shows, the United States authorities at the time were of the view that a median line was an equitable and appropriate boundary on Georges Bank. Among the strongest evidence of this fact is, of course, the correspondence between the United States Department of the Interior and the Canadian Department of Northern Affairs and National Resources, which has already been discussed in the plead-

¹¹ *United States Counter-Memorial*, pp. 78-79, para. 101.

¹² *United States Counter-Memorial*, pp. 78-79, para. 101.

¹³ *Canadian Counter-Memorial*, pp. 145 and 147, para. 366.

¹⁴ United States aide-mémoire of 5 November 1969. *Canadian Memorial, Annexes*, Vol. III, Annex 13; *United States Memorial, Documentary Annexes*, Vol. IV, Annex 56.

ings of both Parties¹⁵. This dialogue over the "precise" location of the median line as defined in Article 6 of the Convention on the Continental Shelf need not be repeated here. It must be noted, however, that even if the United States had been issuing geophysical permits authorizing surveys beyond the median line, that hypothetical fact would be irrelevant for at least two reasons:

- (a) The United States geophysical permits, as is apparent from the pleadings of the United States itself, authorized seismic, gravity and magnetic work only¹⁶. This work involves solely navigational or research activities, and seldom requires any contact with the continental shelf or ocean floor. Thus, in contrast to Canada's "permits", which are long-term instruments that confer the prospect of exclusive resource rights over the areas in question, the United States "permits" may be understood as conveying no rights in the shelf and as constituting simply an exercise of regulatory jurisdiction over the activities of United States nationals (since all of the permittees listed in the Annexes to the United States Memorial (Volume II, Annex 40) do appear to be United States corporations) on the high seas.
- (b) The United States, moreover, never claimed in connection with its early permits that such exercises of regulatory jurisdiction constituted "proprietary" claims. Indeed, the solicitor of the United States Interior Department took the position that the United States permits were *not* tantamount to assertions of jurisdiction in respect of the *areas* in question¹⁷.

Section III. The United States Permits Reflect a Median Line Boundary

11. Apart from the fact that close examination of the United States geophysical permits reveals that the United States was not in fact authorizing research in the northeastern portion of Georges Bank before the 1970s (with the possible exception discussed in paragraph 7), these permits are of interest for another reason as well. The United States permits appear to demonstrate quite clearly that, through the 1960s and into the 1970s, at least some United States authorities and several dozen oil companies in their operations presumed the use of a median line or similar boundary on Georges Bank, and the United States Geological Survey issued permits accordingly.

12. The assumption that the boundary would divide Georges Bank is readily evident from a review of the history of United States

¹⁵ *Canadian Memorial*, pp. 93-96, paras. 206-210; pp. 162-167, paras. 393-403; *United States Memorial*, pp. 82-83, paras. 136-140; *Canadian Counter-Memorial*, pp. 151-152, para. 377; *United States Counter-Memorial*, pp. 171-177, paras. 267-284; *Canadian Reply*, paras. 220 and 223-224.

¹⁶ *United States Memorial. Documentary Annexes*, Vol. II, Annex 40.

¹⁷ Letter of 3 June 1968 from Dr. M. B. Schaefer, Science Adviser, United States Department of the Interior, to R. B. Krueger. Cited in R. Krueger, *et al.*: *Study of the Outer Continental Shelf Lands of the United States*, Washington, 1968, p. 20. A copy of the letter is reproduced in *Documentary Appendix 9*.

permit E3-75. In the Annexes to the United States Memorial (Volume II, Annex 40) it is alleged that this permit covered the greatest number of line miles in the northeastern portion of Georges Bank (4400) — although, in fact, as depicted on the map filed by the United States¹⁸, permit E3-75 impinges on the northeastern portion of Georges Bank scarcely or not at all [*Figure 1*]. Permit E3-75 also warrants special study for the further reasons that it was issued to Digicon Geophysical Corporation acting for a group of approximately three dozen oil companies, and because it clearly seems to follow an approximate median line boundary on Georges Bank.

13. In order to understand the information conveyed by permit E3-75, it is necessary to examine the background to at least three previous United States geophysical permits: E2-69, E1-70 and E2-72¹⁹. These permits were also issued to Digicon. Canada's information on these permits, however, is far from complete, since the materials filed with the Court by the United States on 20 January 1983 do not provide all of the pertinent information. Therefore, although Canada has obtained numerous additional documents, some of what follows is necessarily an exercise in deductive reasoning.

A. UNITED STATES PERMIT E2-69

14. In 1969, United States permit E2-69 was issued to Digicon Inc. For reasons that Canada does not understand, this permit was omitted from the list of permits in the Annexes to the United States Memorial (Volume II, Annex 40) and from the materials filed with the Court by the United States²⁰. It was requested by Chevron Oil Company, acting as Digicon's agent and in collaboration with 26 other oil companies, and all of the companies together were known as the "1969

¹⁸ See p. 543, footnote 5.

¹⁹ United States permit E1-74 is also of interest in this regard. The United States has filed with the Court certain documents pertaining to permit E1-74, including a map purporting to show that the areas surveyed extended into that part of Georges Bank claimed by Canada. Canada has obtained other documents relating to this permit tending to show that the survey area extended only to an approximate median line on Georges Bank. It is necessary to obtain further information on this permit before any conclusions may be drawn. Documents pertaining to permit E1-74 are reproduced in Documentary Appendix 4. A large-scale map depicting the areas surveyed has been deposited with the Court.

²⁰ Operations under permit E2-69 were suspended before reaching the Georges Bank area, and this might be the reason for the omission. The same is true, however, for other United States permits that were listed and included in *United States Memorial, Documentary Annexes*, Vol. II, Annex 40. Permit E2-68 (the Exploration Surveys Inc. permit discussed in para. 7) is an example, and there may be others.

East Coast Joint Survey²¹". Attachment V to one of the documents pertaining to this permit notes the following:

"Permit E2-69 authorized operations along the numbered lines shown on plat received with the application insofar as they lie within the 'outer Continental Shelf' as defined in Section 2 of the Outer Continental Shelf Lands Act of August 7, 1953. *Portions of two of the lines extend to the Canadian side of the BLM line.* Operations under the permit commenced September 13, 1969, and are currently in progress. The large plat is in U.S.G.S. files²²." [Italics added.]

15. This reference to certain lines crossing the "BLM line" reinforces the conclusion from the correspondence between the United States Bureau of Land Management (BLM) and the Canadian Department of Northern Affairs and National Resources that, through the 1960s, the United States authorities were assuming the application of a certain boundary on Georges Bank, and that the boundary in question was a median line. In its correspondence in the 1960s, the Bureau of Land Management did not indicate how it constructed its median line, and the United States has not filed with the Court the plats referred to in the passage quoted in paragraph 14.

B. UNITED STATES PERMIT E1-70

16. The year following the issuance of permit E2-69, Chevron Oil Company, acting as agent for Digicon Inc. and in collaboration with 25 other oil companies, again requested the United States authorities to issue a research permit to Digicon. Permit E1-70 (which is listed in the Annexes to the United States Memorial (Volume II, Annex 40) and is included in the materials filed by the United States) states that it was a continuation of E2-69. In connection with their 1970 application, the group of oil companies referred to themselves as the "1969-70 East

²¹ The oil companies collaborating in the 1969 East Coast Joint Survey were the following: Chevron Oil Company — *Chairman*; Anadarko Production Company; Atlantic Richfield (formerly Sinclair); Cities Service Oil Company; Columbia Gas Company; Continental Oil Company; Getty Oil Company; Gulf Oil Company — U.S.; Hamilton Brothers Oil Company; Highland Resources, Inc.; Humble Oil & Refining Company; Kerr-McGee Corporation; Louisiana Land & Exploration Company; Marathon Oil Company; Mobil Oil Corporation; Occidental Petroleum Corporation; Pan American Petroleum Corporation; Phillips Petroleum Company; Skelly Oil Company; Sun Oil Company; Superior Oil Company; Texaco, Inc.; Texas Eastern Transmission Corporation; Texas Gulf Sulphur Company; Transocean Oil Company, Inc.; Union Carbide Petroleum Corporation; and Union Oil Company of California.

²² Attachment V is reproduced in Documentary Appendix I, together with other documents pertaining to United States permit E2-69.

Coast Joint Survey²³). As depicted in the "Reproduction" map filed by the United States (obviously prepared at a later date²⁴), the area covered by E1-70 stopped short of a median line, except in its northeast corner [Figure 2].

C. UNITED STATES PERMIT E2-72

17. The next permit helpful to this history, United States permit E2-72, was also issued to Digicon Inc. In applying for this permit, Digicon was once more acting for a large group of oil companies, referred to as the "1972 East Coast Joint Survey" or "1972 Atlantic Ocean Group Seismic Survey²⁵".

18. It is apparent from the map accompanying the permit filed by the United States that this permit did in fact cover all of Georges Bank [Figure 3]. What is *not* revealed in the materials filed by the United States, however, is that, after the original survey lines had been agreed to, one company suggested 380 miles of additional program, apparently within the original survey area. After objections from companies with operating entities in Canadian waters, the extension was divided into two parts: 246 miles in "U.S." waters and 134 miles in "Canadian" waters. A ballot [Figure 4] was then circulated to the members of the joint survey group; 28 oil companies expressed a willingness to participate in the "U.S." extension and 25 became participants in the "Canadian" extension.

²³ The following oil companies participated in the 1969-70 East Coast Joint Survey: Chevron Oil Company — *Chairman*; AGIP-Direzione Mineraria; Anadarko Production Company; Atlantic Richfield Company; Champlin Petroleum Company; Cities Service Oil Company; Consolidated Gas Supply Corporation; Getty Oil Company; Gulf Oil Company — U.S.; Hamilton Brothers Oil Company; Highland Resources, Inc.; Humble Oil and Refining Company; Louisiana Land & Exploration Company; LVO Corporation; Marathon Oil Company; Mobil Oil Corporation; Ocean Drilling & Exploration Company; Pan American Petroleum Corporation; Pennzoil United, Inc.; Phillips Petroleum Company; Preston Oil Company; Sun Oil Company; Superior Oil Company; Texaco, Inc.; Texas Eastern Transmission Corporation; Texas Gulf Sulphur Company; Transocean Oil, Inc.; Union Carbide Petroleum Corporation; and Union Oil Company of California. Documents pertaining to United States permit E1-70 are reproduced in Documentary Appendix 2.

²⁴ The "Reproduction" map shows COST wells that were not drilled until the late 1970s.

²⁵ The companies participating in the 1972 East Coast Joint Survey were the following: Amoco Production Company; Anadarko Production Company; Atlantic Richfield Company; Ashland Exploration Company; BP Alaska, Inc.; Champlin Petroleum Company; Chevron Oil Company; Cities Service Oil Company; Consolidated Gas Supply Corporation; Continental Oil Company; Getty Oil Company; Gulf Oil Company — U.S.; Hamilton Brothers Oil Company; Highland Resources Inc.; Humble Oil & Refining Company; Louisiana Land & Exploration Company; LVO Corporation; Marathon Oil Corporation; Mobil Oil Corporation; Ocean Drilling & Exploration Company; Pennzoil United, Inc.; Phillips Petroleum Company; Preston Oil Company; Shell Oil Company; Skelly Oil Company; Sun Oil Company; Superior Oil Company; Tenneco Oil Company; Texas Eastern Transmission Corporation; Texas Pacific Oil Company, Inc.; and Union Oil Company of California. Documents pertaining to United States permit E2-72 are reproduced in Documentary Appendix 3. A large-scale map depicting the survey area has been deposited with the Court.

19. Thus, it appears that some 28 or more oil companies assumed that a large part of Georges Bank was "Canadian". As to the precise boundary they considered to be applicable — bearing in mind that it was generally the same group of companies that participated in the 1969 East Coast Joint Survey under permit E2-69, where reference was made to the "BLM line" — it is logical to conclude that they adopted an equidistance boundary, which was indeed the case. Moreover, the correspondence from the Bureau of Land Management (discussed at length in the pleadings of both Parties to date²⁶), confirms that the Bureau was using a median or equidistance line.

20. The BLM line referred to in the documentation pertaining to permit E2-69 is depicted in *Figure 5*. The boundary line used by the 28 or more oil companies in connection with permit E2-72 (as shown on the maps deposited with the Court) is close to this line, although the companies (and perhaps the United States Bureau of Land Management) may have moved the equidistance line slightly to the northeast, based on a different technique of construction.

D. UNITED STATES PERMIT E3-75

21. Permit E3-75 was issued to Digicon Geophysical Corporation²⁷. In this instance, Digicon was acting for a group of 35 oil companies called the "1975 Atlantic Ocean Group Seismic Survey"²⁸.

22. The designation of the survey area for the 1975 Atlantic Ocean Group Seismic Survey, as appears from the permit materials filed by the United States, was on the same base map that was used to designate the area for the 1972 Atlantic Ocean Group Seismic Survey under permit E2-72 [*Figure 3*]. The materials filed by the United States do not reveal that there were, in fact, not one but *two* maps submitted to the

²⁶ See p. 545, footnote 15.

²⁷ On 31 March 1975, Digicon Inc. transferred substantially all of its geophysical collection data and processing operations to a new wholly-owned subsidiary, Digicon Geophysical Corporation. The purpose of this transfer of both assets and liabilities was to allow the parent company to diversify into other lines of business, through separate subsidiaries.

²⁸ The following companies were participants in the 1975 Atlantic Ocean Group Seismic Survey: Allied Chemical Company; Amerada Hess Corporation; American Independent Oil Company; American Petrofina Exploration Co.; Amoco Production Company; Atlantic Richfield Company; Burmah Oil and Gas Company; Buttes Gas & Oil Company; CNG Producing Company; Chevron Oil Company; Cities Service Oil Company; Columbia Gas Development Corporation; Continental Oil Company; Diamond Shamrock Corporation; Exxon Corporation; Farmers Union Central Exchange, Inc.; Gulf Oil Company — U.S.; Hamilton Brothers Oil Company; Kerr-McGee Corporation; Louisiana Land & Exploration Company; Marathon Oil Company; Mobil Oil Corporation; Ocean Production Company; Pennzoil Company; Phillips Petroleum Company; Shell Oil Company; Skelly Oil Company; Sonat Exploration Company; Sun Oil Company; Superior Oil Company; Tenneco Oil Company; Texaco Incorporated; Texas Eastern Transmission Company; Transco Exploration Company; and Union Oil Company of California. Documents pertaining to United States permit E3-75 are reproduced in Documentary Appendix 5.

United States Geological Survey in connection with permit E3-75. The United States Geological Survey initially approved seismic research on 15 May 1975 for the area shown on the map filed by the United States, and later approved the addition of an "extended area" on 28 August 1975. These areas appear on the second map, depicted in *Figure 6* (compare *Figure 1*).

23. It will be noted that the line designating the original area covered by permit E3-75 is in the general vicinity of Canada's equidistance line and of the boundary assumed for permit E2-72, and that the extended area later designated under the same permit extends beyond these lines to include the whole of Georges Bank. It would seem, therefore, that a large number of oil companies acted on the assumption that a median line or something approximating a median line was a *de facto* boundary on Georges Bank, an assumption presumably pre-dating the reference to the BLM line in permit E2-69, issued for the 1969 East Coast Joint Survey involving the same core group of companies.

E. UNITED STATES PERMIT E16-75

24. United States permit E16-75 (another permit omitted from the materials filed by the United States) is also of interest²⁹. This permit was issued to Columbia Gas System, a company which was a participant in the 1969 East Coast Joint Survey but not in the subsequent joint surveys. *Figure 7* reproduces a map provided by Columbia Gas System to the United States Geological Survey in connection with permit E16-75, and it clearly shows that the company was assuming the use of an approximate median line boundary on Georges Bank. This line appears to coincide with the equidistance line followed by the numerous other oil companies participating in the joint surveys discussed above.

25. The foregoing examination of the United States seismic permits issued in the 1960s and 1970s confirms a number of important points made by Canada. *First*, as is apparent from the correspondence between the United States Bureau of Land Management and the Canadian Department of Northern Affairs and National Resources, the Bureau assumed a median line as an appropriate and equitable boundary, pursuant to Article 6 of the Convention on the Continental Shelf, and had a particular line in mind, apparently known as the BLM line. *Secondly*, some three dozen or more oil companies and Digicon made and acted upon a similar assumption, and applied to the United States for geophysical permits based on that assumption. And *thirdly*, United States permits reveal no evidence to contradict or in any way call into question the assertions made by Canada concerning United States acquiescence in Canada's use of the equidistance line.

²⁹ Documents pertaining to United States permit E16-75 are reproduced in Documentary Appendix 6.

F. COMPARISON OF UNITED STATES PERMITS AND CANADIAN LICENCES

26. Applications to the United States for research on the southwestern portion of *Georges Bank* were matched by concurrent applications to Canada for research on the northeastern portion of *Georges Bank*. In both countries, it appears that Chevron Oil Company took the lead in offshore exploration on *Georges Bank*. In 1965, Chevron Standard Limited (The California Standard Company) applied for and received Canadian exploratory licence 927, and was authorized to do research up to the median or equidistance line on the northeastern portion of *Georges Bank* [Figure 8]. Two years later, in 1967, Chevron Oil Company, acting on behalf of an eight-company combine³⁰, applied for and received United States permit E3-67, for research on the southwestern portion of *Georges Bank* [Figure 9].

27. Subsequently, it was again Chevron Oil Company that took the lead in applying for United States permits E2-69 and E1-70, as Chairman of the 1969 East Coast Joint Survey, and the next year as Chairman of the 1969-70 East Coast Joint Survey. Both of these permits were for seismic work on the southwestern portion of *Georges Bank* [Figure 2], although, as discussed in paragraph 15, two of the proposed 1969 seismic survey lines apparently strayed over the BLM line. At the same time, in 1969, Chevron Standard Limited applied for and received Canadian exploratory licence 1283, and was authorized to conduct seismic work on the northeastern portion of *Georges Bank*³¹ [Figure 10].

CONCLUSION

28. The analysis in the preceding paragraphs confirms that officials responsible for the United States offshore exploration program were assuming that the continental shelf boundary in the Gulf of Maine area would divide *Georges Bank*. The correspondence between the United States Bureau of Land Management and the Canadian Department of Northern Affairs and National Resources, as confirmed by close study of the United States permits, reveals that United States officials, in particular those in the Bureau of Land Management within the Department of the Interior, were presuming the use of a median line in accordance with Article 6 of the Convention on the Continental Shelf — a line apparently known as the BLM line. The conduct of the Canadian Government and the United States Government in connection with the issuance of offshore exploration licences and permits affords evidence of what both government and corporate officials considered to be equitable and acted upon as such; and the activities of the oil and survey companies are logical only on this basis.

³⁰ The eight companies involved in the combine applying for United States permit E3-67 were the following: Chevron Oil Company — *Chairman*; Continental Oil Company; Gulf Oil Corporation; Humble Oil & Refining Company; Mobil Oil Company; Pan American Petroleum Corp.; Tenneco Oil Company; and Union Oil Company of California. Documents pertaining to United States permit E3-67 are reproduced in Documentary Appendix 7.

³¹ Documents pertaining to the Canadian exploratory licences discussed in paras. 26 and 27 are reproduced in Documentary Appendix 8.

DOCUMENTARY APPENDICES TO PART III
THE CONDUCT OF THE PARTIES: SUPPLEMENTARY EVIDENCE ON CONTINENTAL
SHELF ACTIVITIES

Documentary Appendix 1

DOCUMENTS PERTAINING TO UNITED STATES PERMIT E2-69

[Not reproduced]

Documentary Appendix 2

DOCUMENTS PERTAINING TO UNITED STATES PERMIT E1-70

[Not reproduced]

Documentary Appendix 3

DOCUMENTS PERTAINING TO UNITED STATES PERMIT E2-72

[Not reproduced]

Documentary Appendix 4

DOCUMENTS PERTAINING TO UNITED STATES PERMIT E1-74

[Not reproduced]

Documentary Appendix 5

DOCUMENTS PERTAINING TO UNITED STATES PERMIT E3-75

[Not reproduced]

Documentary Appendix 6

DOCUMENTS PERTAINING TO UNITED STATES PERMIT E16-75

[Not reproduced]

Documentary Appendix 7

DOCUMENTS PERTAINING TO UNITED STATES PERMIT E3-67

[Not reproduced]

Documentary Appendix 8

DOCUMENTS PERTAINING TO CANADIAN EXPLORATORY LICENCES 927 AND 1283

[Not reproduced]

Documentary Appendix 9

LETTER OF 3 JUNE 1968 FROM DR. M. B. SHAEFER, SCIENCE ADVISER, UNITED STATES DEPARTMENT OF THE INTERIOR, TO R. B. KRUEGER

[Not reproduced]

**PART IV. MISCELLANEOUS DOCUMENTS CITED IN THE
REPLY SUBMITTED BY CANADA**

Annex 1

EXCERPT FROM H. LAUTERPACHT, *THE DEVELOPMENT OF INTERNATIONAL LAW BY
THE INTERNATIONAL COURT*, NEW YORK, FREDERICK A. PRAEGER,
P. 213

[Not reproduced]

Annex 2

EXCERPT FROM A. L. W. MUNKMAN, "ADJUDICATION AND ADJUSTMENT —
INTERNATIONAL JUDICIAL DECISION AND THE SETTLEMENT OF TERRITORIAL AND
BOUNDARY DISPUTES", *THE BRITISH YEAR BOOK OF INTERNATIONAL LAW*,
VOL. XLVI, 1972-1973, PP. 100-102

[Not reproduced]

Annex 3

EXCERPTS FROM INTERNATIONAL BOUNDARY COMMISSION, *JOINT REPORT UPON
THE SURVEY AND DEMARCATION OF THE BOUNDARY BETWEEN THE UNITED STATES
AND CANADA FROM THE SOURCE OF THE ST. CROIX RIVER TO THE ATLANTIC OCEAN*,
WASHINGTON, GOVERNMENT PRINTING OFFICE, 1934 (DOCUMENTS 1 AND 2)

Document 1: Appendix I, p. 145

Document 2: Appendix II, pp. 162-163

[Not reproduced]

Annex 4

EXCERPTS FROM INTERNATIONAL BOUNDARY COMMISSION, *JOINT REPORT UPON THE SURVEY AND DEMARCATION OF THE BOUNDARY BETWEEN THE UNITED STATES AND CANADA FROM THE SOURCE OF THE ST. CROIX RIVER TO THE ATLANTIC OCEAN*, WASHINGTON, GOVERNMENT PRINTING OFFICE, 1934, PP. 1-18

[Not reproduced]

Annex 5

EXCERPT FROM INTERNATIONAL BOUNDARY COMMISSION SPECIAL REPORT NO. 3, 1962, PP. 494-496

[Not reproduced]

Annex 6

J. S. SCHLEE AND K. D. KLITGORD, "GEOLOGIC SETTING OF THE GEORGES BANK BASIN", IN P. A. SCHOLLE AND C. R. WENKAM, EDs., *GEOLOGICAL STUDIES OF THE COST NOS. G-1 AND G-2 WELLS, UNITED STATES NORTH ATLANTIC OUTER CONTINENTAL SHELF*, UNITED STATES DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY CIRCULAR 861, WASHINGTON, GOVERNMENT PRINTING OFFICE, 1982, PP. 4-10

[Not reproduced]

Annex 7

EXCERPT FROM L. K. SCHULTZ AND R. L. GROVER, "GEOLOGY OF GEORGES BANK BASIN", *THE AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS BULLETIN*, VOL. 58, NO. 6, PART II, 1974, P. 1164

[Not reproduced]

Annex 8

EXCERPT FROM J. A. WADE, "THE MESOZOIC-CENOZOIC HISTORY OF THE NORTHEASTERN MARGIN OF NORTH AMERICA", *PROCEEDINGS OF THE 10TH ANNUAL OFFSHORE TECHNOLOGY CONFERENCE 1978*, VOL. 3, P. 1850

[Not reproduced]

Annex 9

EXCERPT FROM L. R. SYKES, "INTRAPLATE SEISMICITY, REACTIVATION OF PREEXISTING ZONES OF WEAKNESS, ALKALINE MAGMATISM, AND OTHER TECTONISM POSTDATING CONTINENTAL FRAGMENTATION", *REVIEWS OF GEOPHYSICS AND SPACE PHYSICS*, VOL. 16, NO. 4, 1978, P. 674

[Not reproduced]

Annex 10

EXCERPT FROM J. B. FLETCHER, M. L. SBAR AND L. R. SYKES, "SEISMIC TRENDS AND TRAVEL-TIME RESIDUALS IN EASTERN NORTH AMERICA AND THEIR TECTONIC IMPLICATIONS", *GEOLOGICAL SOCIETY OF AMERICA BULLETIN*, VOL. 89, NOVEMBER 1978, DOC. NO. 81106, P. 1656 AND FIGURES 1, 2, 3, AND 9

[Not reproduced]

Annex 11

EXCERPT FROM E. UCHUPI, *ATLANTIC CONTINENTAL SHELF AND SLOPE OF THE UNITED STATES — PHYSIOGRAPHY*, UNITED STATES DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY PROFESSIONAL PAPER 529-C, WASHINGTON, GOVERNMENT PRINTING OFFICE, 1968, PP. C5 AND C28

[Not reproduced]

Annex 12

EXCERPT FROM D. A. GREENBERG, "A NUMERICAL MODEL INVESTIGATION OF
TIDAL PHENOMENA IN THE BAY OF FUNDY AND GULF OF MAINE", *MARINE
GEODESY*, VOL. 2, No. 2, 1979, P. 172

[Not reproduced]

Annex 13**CANADIAN AND UNITED STATES DIPLOMATIC NOTES OF 19 JUNE 1974
(DOCUMENTS 1 AND 2)****Document 1: Canadian Diplomatic Note No. FLA-362 of 19 June 1974****Document 2: United States Diplomatic Note No. 106 of 19 June 1974**

DOCUMENT 1: CANADIAN DIPLOMATIC NOTE NO. FLA-362 OF 19 JUNE 1974**Department of External Affairs Ministère des Affaires extérieures
Canada****Ottawa, June 19, 1974.****No. FLA-362****Excellency,**

I have the honour to refer to the discussions between representatives of our Governments in Washington, D.C. and in Ottawa concerning the establishment of joint pollution contingency plans for waters of mutual interest, leading to the development of a joint Canada-United States Marine Contingency Plan for spills of oil and other noxious substances.

I have the honour to propose that the joint Canada-United States Marine Contingency Plan for spills of oil and other noxious substances, shall be promulgated by the Canadian Ministry of Transport and the United States Coast Guard and shall be maintained in force, as amended from time to time, to coordinate responses to significant pollution threats to the waters covered by the provisions of the Plan.

It would be the responsibility of the Canadian Ministry of Transport and the United States Coast Guard to administer and maintain the Plan as promulgated, or as amended from time to time.

Maintenance of the Plan and actions thereunder would be without prejudice to the positions of the Governments of the United States and of Canada, with respect to coastal state jurisdiction over pollution, and without prejudice to any other positions of the two Governments regarding the extent of territorial or maritime jurisdiction.

If the foregoing proposals are acceptable to the Government of the United States, I have the honour to propose that this Note, which is equally authentic in English and French, and Your Excellency's reply shall constitute an Agreement between Canada and the United States which shall enter into force on the date of your reply.

Accept, Excellency, the renewed assurances of my highest consideration.

(Signed) Mitchell SHARP
Secretary of State
for External Affairs

His Excellency, The Honourable William J. Porter,
Ambassador of the United States of America, Ottawa.

DOCUMENT 2: UNITED STATES DIPLOMATIC NOTE NO. 106 OF 19 JUNE 1974

EMBASSY OF THE
UNITED STATES OF AMERICA

Ottawa, June 19, 1974.

No. 106

Sir:

I have the honor to acknowledge receipt of your note No. FLA-362 of June 19, 1974 which reads as follows:

"Excellency,

I have the honour to refer to the discussions between representatives of our Governments in Washington, D.C. and in Ottawa concerning the establishment of joint pollution contingency plans for waters of mutual interest, leading to the development of a joint Canada-United States Marine Contingency Plan for spills of oil and other noxious substances.

I have the honour to propose that the joint Canada-United States Marine Contingency Plan for spills of oil and other noxious substances, shall be promulgated by the Canadian Ministry of Transport and the United States Coast Guard and shall be maintained in force, as amended from time to time, to coordinate responses to significant pollution threats to the waters covered by the provisions of the Plan.

It would be the responsibility of the Canadian Ministry of Transport and the United States Coast Guard to administer and maintain the Plan as promulgated, or as amended from time to time.

Maintenance of the Plan and actions thereunder would be without prejudice to the positions of the Government of the United States and of Canada, with respect to coastal state jurisdiction over pollution, and without prejudice to any other positions of the two Governments regarding the extent of territorial or maritime jurisdiction.

If the foregoing proposals are acceptable to the Government of the United States, I have the honour to propose that this Note, which is equally authentic in English and French, and Your Excellency's reply shall constitute an Agreement between Canada and the United States which shall enter into force on the date of your reply.

Accept, Excellency, the renewed assurances of my highest consideration."

I have the honor to inform you that the foregoing proposals are acceptable to the Government of the United States of America and to confirm that your Note, which is equally authentic in English and French, and this reply shall constitute an Agreement between our two Governments which shall enter into force on the date of this reply.

Accept, Sir, the renewed assurances of my highest consideration.

(Signed) William J. PORTER.

The Honourable Mitchell Sharp, P.C.,
Secretary of State for External Affairs,
Ottawa

Annex 14

EXCERPT FROM G. J. VERMEIJ, *BIOGRAPHY AND ADAPTATION: PATTERNS OF MARINE LIFE*, BOSTON, HARVARD UNIVERSITY PRESS, 1978, PP. 2-3

[Not reproduced]

Annex 15

EXCERPT FROM J. E. HAZEL, *ATLANTIC CONTINENTAL SHELF AND SLOPE OF THE UNITED STATES — OSTRACODE ZOOGEOGRAPHY IN THE SOUTHERN NOVA SCOTIAN AND NORTHERN VIRGINIAN FAUNAL PROVINCES*, UNITED STATES DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY PROFESSIONAL PAPER 529-E, WASHINGTON, GOVERNMENT PRINTING OFFICE, 1970, P. E5

[Not reproduced]

Annex 16

STATEMENT OF SENATOR GEORGE J. MITCHELL, EFFECTS ON NEW ENGLAND OF CANADIAN TIDAL DEVELOPMENT: HEARING BEFORE THE COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS, U.S. SENATE, 98TH CONGRESS, 1ST SESSION, 25 JULY 1983, AUGUSTA, MAINE

[Not reproduced]

Annex 17**UNITED STATES DIPLOMATIC NOTE OF 27 AUGUST 1981**

The Department of State refers the Embassy of Canada to the possible construction of tidal power dams in the Upper Bay of Fundy.

It is the Department's understanding that two areas are now being investigated by Canadian scientists and engineers with regard to several dam sites in the Upper Bay of Fundy, in particular Shepody Bay and Minas Basin. It is the Department's concern that these proposals, if they are to be implemented with resultant tidal flow impediment, would have pronounced effects on the entire Gulf of Maine, hundreds of kilometers removed from the actual dam sites. This is because the proposed dams will enhance the natural tidal resonance of both the Bay of Fundy and Gulf of Maine.

The Department has been informed that present estimates of changes in tidal behavior indicate that the mean tidal range in Portland, Maine, will be increased by 8 to 28 centimeters, while for Boston, Massachusetts, increased by 8 to 30 centimeters relative to the Shepody Bay and Minas Basin projects respectively. Indeed, at extreme high water periods in Portland, the Minas Basin project alone may increase the mean tidal range by as much as 45 centimeters. Tidal current velocities would also be altered over large portions of the Gulf of Maine. These effects would be realized from the southern Bay of Fundy to south of Boston and the effects would be additive if more than one tidal dam is constructed.

The consequences of altering the tidal regime either incrementally or massively, are widespread. An incremental increase of just a few centimeters may disrupt equilibriums of marsh and flat surfaces and affect patterns of productivity. Increases of 15 centimeters or more would inundate lowlands and accelerate loss of beaches. The extent of potential adverse environmental impacts resulting from the construction of tidal dams at Shepody Bay and Minas Basin would be extensive.

The Department therefore requests that the Embassy provide clarification as to the status of the Shepody Bay and Minas Bay Tidal Projects, or any other projects that may be under consideration involving construction of tidal dams in the Bay of Fundy.

Department of State,
Washington, August 27, 1981.

Annex 18

EXCERPT FROM LETTER FROM HON. TERRY LEITZELL, ASSISTANT ADMINISTRATOR FOR FISHERIES, NMFS-NOAA, U.S. DEPARTMENT OF COMMERCE TO SENATOR WILLIAM S. COHEN, 21 DECEMBER 1979, IN *MARITIME BOUNDARY SETTLEMENT TREATY AND EAST COAST FISHERY RESOURCES AGREEMENT*, "HEARINGS BEFORE THE COMMITTEE ON FOREIGN RELATIONS, UNITED STATES SENATE", 96TH CONGRESS, 2ND SESSION, 1980, PP. 185-186

[Not reproduced]

Annex 19

EXCERPT FROM I. C. MACGIBBON, "THE SCOPE OF ACQUIESCENCE IN INTERNATIONAL LAW", *THE BRITISH YEAR BOOK OF INTERNATIONAL LAW*, VOL. XXXI, 1954, PP. 170-171

[Not reproduced]

Annex 20

EXCERPT FROM D. H. N. JOHNSON, "THE CASE CONCERNING THE TEMPLE OF PREAH VIHEAR", *THE INTERNATIONAL AND COMPARATIVE LAW QUARTERLY*, VOL. 11, 1962, P. 1203

[Not reproduced]

Annex 21

EXCERPT FROM *FEDERAL REGISTER*, VOL. 47, No. 236, 8 DECEMBER 1982,
PP. 55313-55314

paleontology, socio-economics, and air quality.

All persons, groups and other government agencies with an interest in this planning area and its future management are requested to make their concerns known on or before March 15, 1983. Comments and requests for further information should be directed to Mac Berta, Area Manager or Jim Keeton, RMP Team Leader, Grand Junction Resource Area at the Grand Junction District Office, BLM, 764 Horizon Drive, Grand Junction, CO 81501 (Telephone Number 303-243-6552). Documents relevant to the planning process and other pertinent materials may be examined at the Grand Junction District Office between 7:30 a.m. and 4:15 p.m., Monday through Friday.

David A. Jones,
District Manager.

[FR Doc. 82-33382 Filed 12-7-82; 8:45 am]
BILLING CODE 4310-64-M

[M 56116]

Montana; Realty Action; Exchange Correction

In FR Doc. 82-30790 beginning on page 50763 in the issue of Tuesday, November 9, 1982, make the following correction:

On page 50763, middle column, eighteenth line from the bottom, "NW" should read "NE."

BILLING CODE 1505-01-M

Minerals Management Service

Extension of Comment Period for the Minerals Management Service Proposed Method for Exchanging Oil Shale Lands

The Minerals Management Service requested public comment on its Proposed Method for Exchanging Oil Shale Lands in the Federal Register of October 12, 1982, Pages 44888-44889. This notice provided for a 60-day comment period ending December 11, 1982.

The Minerals Management Service has received requests from the public for an extension of the comment period. The comment period is therefore extended to January 12, 1983.

Dated: November 26, 1982.

John B. Rieg.

Associate Director for Offshore Minerals Operations.

[FR Doc. 82-33394 Filed 12-7-82; 8:45 am]
BILLING CODE 4310-MR-M

Outer Continental Shelf; Notice of Jurisdiction of the Department of the Interior Relating to Minerals, Other Than Oil, Gas, and Sulphur

AGENCY: Minerals Management Service, Interior.

ACTION: Notice of jurisdiction.

SUMMARY: The jurisdiction of the Department of the Interior (DOI) for leasing and otherwise regulating the recovery of minerals, other than oil, gas, and sulphur on the Outer Continental Shelf (OCS) extends to the subsoil and seabed of all submerged lands underlying waters seaward of the territorial sea, to and including all subsoil and seabed underlying superjacent waters which admit of the exploitation of the natural resources of such submarine areas. The subsoil and seabed of the areas of Juan de Fuca and Gorda Ridge in the Pacific Ocean, west of the States of Washington and Oregon, contain polymetallic sulfides at a water depth which admits of exploitation and are within the regulatory jurisdiction and control of DOI.

SUPPLEMENTARY INFORMATION: On January 19, 1982, the Secretary of the Interior announced the development of a program for the leasing of minerals other than oil, gas, and sulphur on the Outer Continental Shelf (OCS). This program is authorized by section 8(k) of the OCS Lands Act, 43 U.S.C. 1337, which provides:

The Secretary is authorized to grant to the qualified persons offering the highest cash bonuses on a basis of competitive bidding leases of any mineral other than oil, gas, and sulphur in any area of the Outer Continental Shelf not then under lease for such mineral upon such royalty, rental, and other terms and conditions as the Secretary may prescribe at the time of offering the area for lease.

The term "Outer Continental Shelf" is defined by section 2(a) of the OCS Lands Act, 43 U.S.C. 1331, to mean:

* * * all submerged lands lying seaward and outside of the area of lands beneath navigable waters as defined in section 2 of the Submerged Lands Act, and of which the subsoil and seabed appertain to the United States and are subject to its jurisdiction and control.

Section 2 of the Submerged Lands Act, 43 U.S.C. 1301, defines "lands beneath navigable waters" to be those which extend seaward from the coast not more than 3 geographical miles into the Atlantic Ocean or the Pacific Ocean, and not more than 3 marine leagues into the Gulf of Mexico.

The Deep Seabed Hard Minerals Resources Act, 30 U.S.C. 1401 (1980), defines "Continental Shelf" to mean:

(A) The seabed and subsoil of the submarine areas adjacent to the coast, but outside the area of the territorial sea, to a depth of 200 meters or, beyond that limit, to where the depth of the superjacent water admits of the exploitation of the natural resources of such submarine area; and

(B) The seabed and subsoil of similar submarine areas adjacent to the coast of islands."

The definition of "Continental Shelf" appearing in the Deep Seabed Hard Minerals Resources Act is identical to the definition of "Continental Shelf" provided by Article I of the 1958 Geneva Convention on the Continental Shelf, April 29, 1958, 13 U.S.C. 471, ratified by the United States and entered into force with respect to the United States on June 10, 1964.

Pursuant to these legal authorities, the DOI, acting through the Minerals Management Service (MMS), has authority and responsibility under the OCS Lands Act to lease the OCS for the purpose of recovering minerals other than oil, gas, and sulphur (nonenergy minerals), 43 U.S.C. 1337. The jurisdiction of DOI in that regard extends to all mineral resources in the submerged lands of the continental shelf lying seaward and outside the area of lands beneath the navigable waters of the United States, 43 U.S.C. 1331. In the Atlantic Ocean and the Pacific Ocean, the submerged lands subject to DOI jurisdiction commence at a point 3 geographical (statute) miles from the coast. In the Gulf of Mexico, those submerged lands commence at a point 3 geographical (statute) miles from the coast, except that adjacent to Texas and the west coast of Florida, those submerged lands commence at the point 3 marine leagues (approximately 10.4 miles) from the coast, 43 U.S.C. 1301. The jurisdiction of DOI for purposes of leasing and regulating the recovery of nonenergy minerals in the OCS extends seaward to all the subsoil and seabed of the submerged lands which "appertain to the United States and are subject to its jurisdiction and control," 43 U.S.C. 1331. The jurisdiction and control of the United States extend on the OCS to "a depth of 200 meters or, beyond that limit, to where a depth of the superjacent water admits of the exploitation of the natural resources of such submarine area," 30 U.S.C. 1403, 15 U.S.T. 471. It also extends to "similar submarine areas adjacent to the coast of islands," 30 U.S.C. 1403, 15 U.S.T. 471.

Because the jurisdiction of DOI with respect to the leasing and regulation of nonenergy minerals located on the OCS beyond the water depth of 200 meters is coextensive with the capacity to exploit

the natural resources of the subsoil and seabed of such area, the DOI will announce periodically those areas of the seabed, superjacent to the territorial sea and lying at a depth greater than 200 meters beneath the surface of the water but at a depth which admits of the exploitation of the natural resources of the area.

Industry Interest. A number of private, industrial, energy, and minerals extraction firms have expressed to DOI their interest in the commercial recovery of polymetallic sulfides, especially in the Juan de Fuca and Gorda Ridge areas in the Pacific Ocean. The DOI's responsibility under Section 8(k) of the OCS Lands Act necessitates the clarification of its jurisdiction under that section so that the commercial recovery of the polymetallic sulfides can be pursued.

Juan de Fuca and Gorda Ridge. The areas of the Juan de Fuca and the Gorda Ridge in the Pacific Ocean, west of the States of Washington and Oregon, contain polymetallic sulfides and other minerals at a water depth which admits of exploitation, and such areas are within the jurisdiction and control of DOI for purposes of exploitation of the natural resources of those areas.

Those polymetallic sulfides are present in a variety of forms and are recoverable through numerous techniques appropriate to the configuration and context of the minerals. The polymetallic sulfides exist in hot springs. Ore-forming fluids, which result in the precipitation of metalliferous sulfides, are ejected from fissures in the seabed and may stream upwards in contact with the cold seawater. Such ejection, if collected, could provide a continuous source of metalliferous brine from which the metals could be directly extracted under controlled conditions. The capture of fresh water and petroleum fluids from submarine springs and fissures has been demonstrated where there has been a need to secure a source of potable water or to reduce the escape of crude oil pollutants to the marine environment. (*Sea Technology*, December 1979, Report on Ixtoc Blowout, page 42.)

The ease with which large submerged structures may be handled and emplaced within the ocean environment demonstrates the feasibility of capturing the hot metalliferous springs in the Juan de Fuca and Gorda Ridge areas.

The polymetallic sulfides may also be present in muds in these areas. Being fluid and fine grained, muds can generally be removed by pumping from a stationary gathering point towards which the ore materials will flow. Such an approach has been effective in the

production of fine sands in shallow waters and has also been used in the recovery of a 15,000 m³ sample of metalliferous muds and brines from the Red Sea at depths greater than 2,000 meters. (Mustafa, A. Z., and H. M. Amann, 1980. *The Red Sea Prepilot Mining Test, 1978: Offshore Technology Conference, Houston, U.S.A.* Proceedings No. 07C38974, pp. 197-210.) There are no technological problems in this approach.

Crusts of metalliferous oxides or sulfides may also be present in the Juan de Fuca and Gorda Ridge areas. Mining of these crusts could entail the use of remotely controlled bottom-supported mining machines, powered and controlled from a submarine in conjunction with a maneuverable surface vessel. A means would be required for breaking and separating the crust from the underlying bedrock and gathering the broken ore to a central point for transportation to the surface or ashore. This could be accomplished using a device with ripping teeth similar to a bulldozer in combination with a mobile scraper or shovel loader. Lifting and transporting similar material has been accomplished several times in tests for the mining of nodules at depths of 5,000 meters. (Commerce, 1981. *Deep Seabed Mining: U.S. Department of Commerce, NOAA, Final Programmatic Environmental Impact Statement*, Sept., V. 1, pp. 221-280.)

Sulfide deposits may also occur on the seabed in the Juan de Fuca and Gorda Ridge areas as individual stacks formed around a hydrothermal vent or a massive agglomeration formed by the proximity of a number of vents. Similarly, breccia deposits may be formed on the tall slopes of faults escarpments parallel to the spreading centers. To mine these deposits will require penetration and fragmentation of the ore prior to gathering and transporting it to the surface. While drilling and blasting of hard rock has been utilized in the mining of deposits submerged in shallow water (Cruikshank, M. J., and R. W. Marsden, 1973. *marine mining in Mining Engineering Handbook: Society of Mining Engineers, New York, p. 20.0001*), the transfer of these techniques to water depths of 2,000 to 3,000 meters, will call for hardware able to operate remotely or with a minimum of close supervision. The fabrication of such technology is well within the capabilities of present engineering, as demonstrated by recent underwater oil well systems advances (Silvestri, A., and V. Oliveri, 1981. *Manned Submersibles And Remotely Operated Equipment As Construction Tools For Advance offshore Projects:*

*Offshore Technology Conference, May 4-7, Houston, OTC 4107, pp. 505-514; Collard, M. J., and D. A. Kemp, 1981. Development of Seabed Dry One Atmosphere Chambers For Processing Hydrocarbons From Deep Water, Marginal And Sub-ice Regions: Offshore Technology Conference, May 4-7, Houston, OTC 3857, pp. 41-53) and deep drill hole reentry at depths in excess of 3,000 meters. (Edgar, Saunders, et al., 1973. *Initial Report of Deep Sea Drilling Project, V. 15: Washington U.S. Government Printing Office, pp. 1-1137.*)*

Deep seated massif or stockwork sulfide deposits would be amenable to solution mining, requiring the penetration of the deposit by drill holes, in the manner of oil and gas or Frasch sulfur recovery. These techniques are well proven on land (Carmahan, T., 1981. *Solution Mining: Proceedings Of Seminar For African Experts On New Mining Methods, UN/ECA, Kriroy Rog, USSR, 1-14, June*) and have been demonstrated in the production of cooper, uranium, salt, sulfur, and potash. One of the major technical problems which differs with each orebody is the method used to ensure percolation of the dissolving fluid. In the case of deep submarine deposits, the handling of the circulating fluids would be somewhat analogous to techniques used for oil and gas.

Current technology, developed primarily for aerospace research, deep oil recovery, and deep seabed mining, has rendered the deposits of polymetallic sulfides in the Juan de Fuca and Gorda Ridge areas available for exploitation. Technology available for exploitation of deep seabed resources has moved beyond that required for exploration. Under these circumstances, the Juan de Fuca and Gorda Ridge areas are clearly within the regulatory jurisdiction and control of DOI for purposes of mineral exploitation.

Harold E. Doley,

Director.

[FR Doc. 82-3457 Filed 12-7-82; # 43 en]

BELLING CODE 4310-MR-10

National Park Service

National Register of Historic Places; Notification of Pending Nominations

Nominations for the following properties being considered for listing in the National Register were received by the National Park Service before November 26, 1982. Pursuant to § 60.13 of 36 CFR Part 60 written comments concerning the significance of these properties under the National Register

Annex 22

DIPLOMATIC CORRESPONDENCE CONCERNING THE UNITED STATES *FEDERAL REGISTER* NOTICE OF 8 DECEMBER 1982 (DOCUMENTS 1 AND 2)

Document 1: Canadian Diplomatic Note No. 021 of 17 January 1983

Document 2: United States Diplomatic Note No. 49 of 23 February 1983

DOCUMENT 1: CANADIAN DIPLOMATIC NOTE NO. 021 OF 17 JANUARY 1983

Canadian Embassy Ambassade du Canada

FILE/CIRC/DIARY
c.c. AMBASSADOR
J. ROY
Marc LORTIE

Note No. 021

The Embassy of Canada presents its compliments to the Department of State and has the honour to refer to the "Notice of Jurisdiction of the Department of the Interior Relating to Minerals, other than Oil, Gas and Sulphur" on the outer continental shelf of the United States, published in the *Federal Register* (Volume 47, number 236, pages 55313-14) on December 8, 1982.

The said notice purports to assert the jurisdiction of the Department of the Interior of the United States over "the subsoil and seabed of the areas of Juan de Fuca and Gorda Ridge in the Pacific Ocean". The Department of State will be aware that the Juan de Fuca area includes areas of the seabed and subsoil that clearly fall within the jurisdiction and sovereign rights of Canada under international law. The Government of Canada must make clear that it does not recognize as valid any assertion of jurisdiction on the part of the United States Government or any of its departments or agencies with regard to any resources of the seabed or subsoil within the limits of the continental shelf of Canada off the Pacific Coast, to the seaward limit defined in Section 2 of the Canada Oil and Gas Act and to the southern limit of Canadian Fishing Zone 5 described in *Canada Gazette*, Part II, Volume III Extra, 1 January 1977; the Government of Canada formally reserves all its rights concerning the matters touched upon in the notice under reference and, in particular, wishes to emphasize that the site of the recent discovery of polymetallic sulfides on the Juan de Fuca Ridge in the vicinity of 48 degrees North latitude, 129 degrees West longitude, lies within the continental shelf of Canada as defined above, and that all activities relating to these resources fall under Canada's jurisdiction and control.

The Government of Canada further wishes to express its profound concern that the Government of the United States should have authorized the publication of an official notice that could be interpreted as asserting United States jurisdiction over an area of the continental shelf undisputably appertaining to Canada, and that wholly ignores Canada's sovereign rights and geographic presence in the region. The Government of Canada expects that such assertions

will not be repeated in future and that the Government of the United States will not take any action in respect of any Canada/USA maritime boundary region without prior notice and consultation. The outstanding maritime boundary questions between the two countries are such that it is incumbent on both sides to refrain from measures that would exacerbate disputes and make them more difficult to resolve.

The Canadian authorities, on another point, note that the document under reference also appears to assert jurisdiction over the continental shelf off the Pacific Coast of the United States beyond the seaward limit of the continental margin and beyond the seaward limit of the 200 mile fishing zone of the United States, on the basis of the "exploitability test" in the 1958 Convention on the Continental Shelf. The Canadian authorities would be grateful to learn whether this assertion represents the official policy of the United States with regard to the outer limit of the continental shelf under international law. At the same time, they would be grateful for information on the statutory basis, under United States law, for the assertion of United States jurisdiction over the seabed within 200 miles of the coast but beyond the outer edge of the continental margin.

The Embassy of Canada avails itself of this opportunity to renew to the Department of State the assurances of its highest consideration.

B. H. DICKSON.

Washington, D.C.
January 17, 1983.

DOCUMENT 2: UNITED STATES DIPLOMATIC NOTE NO. 49 OF 23 FEBRUARY 1983

EMBASSY OF THE
UNITED STATES OF AMERICA

No. 49

The Embassy of the United States of America presents its compliments to the Department of External Affairs of Canada and refers to the Embassy of Canada's Note No. 21, delivered in Washington on January 17, 1983.

The attention of the Government of Canada is directed to the *Federal Register* Notice of January 19, 1983, Vol. 48, No. 13, p. 2450. That Notice, a copy of which is attached, clarifies that pending further study of the limits of United States Continental Shelf Jurisdiction the *Federal Register* Notice of December 8, 1982 at p. 55313 is not intended to affect areas beyond 200 nautical miles from the baseline from which the breadth of the territorial sea is measured. In this connection the United States Government confirms that it has not modified its maritime boundary position as stated in the *Federal Register* on November 4, 1976, Vol. 41, No. 214, p. 48619-48620. This is the case with regard to the geographic coordinates set forth in the section of that notice entitled U.S.-Canada Juan de Fuca, and the explanatory statement contained in that notice which states that: "The limits of the maritime jurisdiction of the United States . . . are intended to be without prejudice to any negotiations with Canada or to any positions which may have been or may be adopted respecting the limits of maritime jurisdiction in such areas." As that notice indicates, the United States and Canada have not agreed on maritime boundaries seaward of the Strait of Juan de Fuca and the United States does not accept all of the geographic coordinates

which have been published by Canada as defining the limits of its jurisdiction *in this area*.

The Government of the United States assumes that the Notice of January 19, 1983 and this Note clarify matters sufficiently so that there is no need to respond further to all points in Embassy Note No. 021.

The Embassy of the United States of America takes this occasion to renew to the Department of External Affairs the assurances of its highest consideration.

Attachment

Embassy of the United States of America
Ottawa, February 23, 1983.

Annex 23

EXCERPT FROM *FEDERAL REGISTER*, VOL. 48, 19 JANUARY 1983, P. 2450

with 43 CFR, Part 4, Subpart D. The per capita shares of legal incompetents who do not have delinquent tribal debts shall be handled pursuant to 25 CFR 115.5. The per capita shares of minors shall be handled pursuant to 25 CFR 87.10(a) and (b)(1) and 115.4.

B. Programming Aspect. The remaining twenty (20) percent of these funds shall be utilized by the Nez Perce Tribal Executive Committee, subject to the approval of the Secretary, for social and economic programming purposes on an annual budgetary basis.

None of the funds distributed per capita or held in trust under the provisions of this Plan shall be subject to Federal or State income taxes, and the per capita payments shall not be considered as income or resources when determining the extent of eligibility for assistance under the Social Security Act."

Dated: January 7, 1983.

John W. Fritz,
Acting Assistant Secretary, Indian Affairs.

[FR Doc. 83-1410 Filed 1-10-83; 8:45 am]
BILLING CODE 4310-02-M

Bureau of Land Management (W-83950)

Wyoming: Invitation for Coal Exploration License Ark Land Company

January 10, 1983.

Ark Land Company hereby invites all interested parties to participate on a pro rata cost sharing basis in its coal exploration program concerning Federally owned coal underlying the following described land in Carbon County, Wyoming:
Lands in Application:

Sixth Principal Meridian

- T. 23 N., R. 83 W.,
Sec. 30, lots 1, 2, E½NW¼ (NW¼).
T. 24 N., R. 83 W.,
Sec. 28, W½NE¼, S½;
Sec. 29, N½NE¼, NE¼NW¼, NE¼SE¼.
T. 23 N., R. 84 W.,
Sec. 1, lot 2, SW¼NE¼, SW¼NW¼, SW¼;
Sec. 2, SE¼SE¼;
Sec. 11, NW¼NE¼, SE¼NW¼, E½SW¼,
SW¼SW¼;
Sec. 13, SW¼SW¼;
Sec. 14, E½, N½NW¼, SE¼NW¼;
Sec. 24, W½NE¼NE¼, NW¼NE¼, E½NE¼,
E½W½, SE¼;
Sec. 25, E½NE¼, N½NW¼;
Sec. 26, E½, E½SW¼;
Sec. 35, E½NW¼.
T. 24 N., R. 84 W.,
Sec. 36, E½SW¼, W½SE¼.
Containing 2973.88 acres.

A detailed description of the proposed drilling program is available for review during normal business hours in the following offices (under Serial Number W-83950): Bureau of Land Management, 2515 Warren Avenue, Cheyenne, Wyoming 82001, and the Bureau of Land Management, 1300 Third Street, Rawlins, Wyoming 82301.

This notice of invitation will be published in this newspaper once each week for two consecutive weeks beginning the week of January 17, 1983, and in the Federal Register. Any party electing to participate in this exploration program must send written notice to both the Bureau of Land Management and Ark Land Company, Western Exploration Division no later than thirty days after publication of this invitation in the Federal Register. The written notices should be sent to the following addresses: Ark Land Company, Western Exploration Division, Attention: Mr. Jack Cully, Manager, P.O. Box 340, Hanna, Wyoming 82327, and the Bureau of Land Management, Wyoming State Office, Attention: Branch of Energy Minerals, P.O. Box 1828, Cheyenne, Wyoming 82001.

The foregoing notice is published in the Federal Register pursuant to Title 43 of the Code of Federal Regulations, § 3410.2-1(d)(1).

Harold G. Stinchcomb,
Chief, Branch of Energy Minerals.

[FR Doc. 83-1400 Filed 1-10-83; 8:45 am]
BILLING CODE 4310-04-M

Minerals Management Service

Outer Continental Shelf Advisory Board; Renewal

This notice is published in accordance with the provisions of section 7(a) of the Office of Management and Budget Circular A-63 (Revised). Pursuant to the authority contained in section 14(a) of the Federal Advisory Committee Act (Pub. L. 92-463), the Secretary of the Interior has determined that renewal of the Outer Continental Shelf (OCS) Advisory Board is necessary and in the public interest.

The purpose of the OCS Advisory Board is to provide advice to the Secretary and other officers of the Department of the Interior in the performance of discretionary functions of the OCS Lands Act (43 U.S.C. 1331 et. seq.), including all aspects of leasing, exploration, development, and protection of the resources of the OCS.

The General Services Administration concurred in the renewal of this Board on December 2, 1982.

Further information regarding this renewal may be obtained from the

Deputy Associate Director for Offshore Leasing, Minerals Management Service, 12203 Sunrise Valley Drive, Reston, Virginia 22091, 202/343-3530.

Dated: January 12, 1983.

Harold E. Doley,
Director, Minerals Management Service.
[FR Doc. 83-1478 Filed 1-10-83; 8:45 am]
BILLING CODE 4310-04-M

Outer Continental Shelf; Notice of Jurisdiction of the Department of the Interior Relating to Minerals Other Than Oil, Gas, and Sulphur; Clarification

AGENCY: Minerals Management Service, Interior.

ACTION: Notice of jurisdiction; clarification.

SUMMARY: Pending completion of a study of the limits of U.S. Continental Shelf jurisdiction, nothing in the Notice dated December 8, 1982, at page 55313 of the Federal Register by the Department of the Interior shall be construed to apply to areas beyond 200 nautical miles from the baselines from which the breadth of the territorial sea of the United States is measured.

Dated: January 12, 1983.

Harold E. Doley, Jr.,
Director.

[FR Doc. 83-1437 Filed 1-10-83; 1:09 pm]
BILLING CODE 4310-04-M

Environmental Documents Prepared for Proposed Oil and Gas Operations on the Alaska Outer Continental Shelf (OCS)

AGENCY: Minerals Management Service, Interior.

ACTION: Notice of availability of environmental documents prepared for OCS mineral pre-lease and exploration proposals on the Alaska OCS.

SUMMARY: The Minerals Management Service (MMS), in accordance with Federal regulations (40 CFR § 1501.4 and § 1508.6) that implement the National Environmental Policy Act (NEPA), announces the availability of NEPA-related environmental assessments (EAs) and findings of no significant impact (FONSIs) prepared by the MMS for the following oil and gas pre-lease and exploration activities proposed on the Alaska OCS. This listing includes all proposals for which environmental documents were prepared by the Alaska OCS Region in the 3-month period preceding this notice.

Annex 24

DOCUMENTS PERTAINING TO CANADIAN EXPLORATORY LICENCE 2414

COMPANY FILE COPY



East Coast
Hudson Bay - Hudson Strait
West Coast

DEPARTMENT OF ENERGY, MINES AND RESOURCES
RESOURCE MANAGEMENT AND CONSERVATION BRANCH
OPERATIONS AND CONSERVATION DIVISION

Offshore Program Notice

This Notice is submitted in compliance with Section 52 of the "Canada Oil and Gas Land Regulations"

General Information

Exploratory Licence No: 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500
Permits or leases with group nos. This is a participation survey
Off-permit or off-lease areas involved:
Permits to which expenditures are to be applied:

Operational Data

Date of commencement: Aug. 20, 1975. Approx. duration: 45 days.
Estimated cost: On-permit Off-permit \$1,200,000.00
Type of work Reflection seismic approximately 3,000 miles
Equipment & no. of persons to be employed; including name of vessel: M.V. Gulf Seal (U.S. Registry)
M.V. Atlantic Seal
DFS # 3 Recording Instruments, Air guns, 8600 ft. streamer cable, 40 persons
Prime Contractor: Digicon Exploration Ltd., Phone: 209-3218
Address: #612 505 4th Ave. S.W.,
Calgary, Alberta
Other Information: (use back of form if required)

Signed: [Signature] Title: Manager
Date: Aug 5, 1975 Company: Digicon Exploration Ltd

Notes

- 1. A separate Notice should be submitted in triplicate for each program or survey 45 days prior to the commencement of work. This Notice covers all types of operations except drilling. It should be accompanied by 3 copies of a map showing the permit area concerned and the proposed lines to be run.
2. All Notice should be addressed to Director, Resource Management and Conservation Branch Department of Energy, Mines and Resources, Ottawa. One copy will be returned to the Company.
3. Certain other Government agencies must be informed of this program prior to its commencement and of any significant changes to it. The requirements and services of the Federal agencies concerned are outlined in the booklet "Offshore Exploration Information & Procedures".
4. The Project Number, which is assigned upon approval, should be used to identify the program in all subsequent references.

Approval

RESOURCE MANAGEMENT AND CONSERVATION BRANCH
APPROVED
AUG 13 1975
DEPARTMENT OF ENERGY, MINES AND RESOURCES

Handwritten initials: JAS, GR.

[Signature]
OPERATIONS AND CONSERVATION DIVISION
Project No. 8624-D1-6P

Digicon Geophysical Corp.,
3701 Kirby Drive,
Houston, Texas 77006
Telephone: 713 526-5611
Cable: DIGICON
Telex: 762577

November 21, 1975.

Mr. G. R. Yungblut,
Chief, Operations and Conservation Division,
Energy, Mines and Resources Canada,
580 Booth Street,
Ottawa, Canada KIA OE4

Re: 8624-D1-6P

Gentlemen:

No written report has been submitted since October 23, 1975 due to letters being returned by postal department.

The M/V Atlantic Seal has recorded only 14 miles since our last report on October 23, 1975. The last recording was on November 4, and on November 17, 1975 it was determined survey would be called complete.

The vessel has been in port twelve days of this period.

This gives a total of 3176 miles of line recorded in the survey.

I believe Mr. A. J. Stirling has been reporting from Calgary by telephone.

Sincerely,

DIGICON GEOPHYSICAL CORPORATION
(Signed) Vernal D. CLARK
Operations Coordinator

VDC: njs
cc: Mr. A. J. Stirling

Annex 25

AMENDMENT NO. 1697 OF 15 APRIL 1980 TO AGREEMENT ON EAST COAST FISHERY RESOURCES, EXECUTIVE V, 96TH CONGRESS, 1ST SESSION (1979), PROPOSED BY SENATOR TSONGAS (FOR SENATOR KENNEDY, FOR HIMSELF AND SENATORS CHAFEE, DURKIN, HUMPHREY, PELL, RIBICOFF AND WEICKER)

[Not reproduced]

Annex 26

EXCERPT FROM H. L. KEENLEYSIDE AND G. S. BROWN, *CANADA AND THE UNITED STATES: SOME ASPECTS OF THEIR HISTORICAL RELATIONS*, NEW YORK, ALFRED A. KNOPF, 1952, PP. 214-215

[Not reproduced]

Annex 27

ICNAF, ANNUAL MEETING, JUNE 1969, PROCEEDINGS NO. 11, APPENDIX I

[Not reproduced]

Annex 28

ICNAF, ANNUAL MEETING, JUNE 1970, PROCEEDINGS NO. 16, APPENDIX I AND ANNEX I

[Appendix I not reproduced]

Annex I

US Proposal on National Quotas in the Ad Hoc Working Group on Subarea 5 Fisheries

US proposes that the conclusions of STACREM be applied to the haddock stocks in Subarea 5 — and assuming that the Commission takes regulatory action on yellowtail flounder, to those stocks in Subarea 5 — in two stages, an "interim" stage and a "long-term" stage.

1. — For the "interim" stage the US proposes that, to offset the catastrophic effects on the US coastal fishery of the depletion of haddock stocks, fishing for haddock stocks in Subarea 5 be reserved to the US, with incidental catches only permitted to the fishermen of other member governments and with some special consideration for Canadian fishermen in view of the longstanding special relationship between Canada and US in the haddock fisheries in Subareas 4 and 5. The US proposes further that this interim regime continue in force until the haddock stocks in Subarea 5 are restored to normal yield levels.

2. — For the "long-term" stage the US proposes the following:

- (a) the allowable catch of haddock in Subarea 5 be divided into two portions, one equal to 75% of the total, the other equal to 25% of the total;
 - (b) of the 25% portion, 80% be allotted to the coastal state and the remaining 20% be left unallotted as an allowance for non-member states fishing in Subarea 5 and new entrant states;
 - (c) the 75% portion of the quota be allotted among Commission members on two bases, 80% in proportion to the average catches of haddock during the ten-year period ending on December 31, 1964, the remaining 20% in proportion to the average catches during the three-year period 1967-1969 inclusive;
 - (d) in the event that it is necessary in any year to reduce the quota below the maximum sustainable yield as calculated by STACRES, the coastal state share will not be reduced below an absolute amount equal to the coastal states percentage applied to the maximum sustainable yield;
 - (e) in the event that a member country takes more than its allocation in any year, its allocation in the following year is automatically reduced by an amount equal to the excess plus an amount determined by STACRES to be necessary to offset the impact of the excess catch on the stock;
 - (f) the regime will remain in effect for a period of five years with a mandatory review during the fifth year and other reviews at the option of a majority of the members of Panel 5 during the five years.
-

Annex 29

ICNAF, SPECIAL MEETING ON HERRING, JANUARY-FEBRUARY 1972,
PROCEEDINGS NO. 3 AND APPENDICES I AND II

[Not reproduced]

Annex 30

ICNAF, ANNUAL MEETING, JUNE 1972, COMMISSIONERS' DOCUMENTS 72/12
TO 72/17

[Not reproduced]

Annex 31

ICNAF, SPECIAL COMMISSION MEETING, JANUARY 1973, PROCEEDINGS NO. 5

[Not reproduced]

Annex 32

ICNAF, ANNUAL MEETING, JUNE 1973, COMMISSIONERS' DOCUMENT 73/13

[Not reproduced]

Annex 33

ICNAF, ANNUAL MEETING, JUNE 1971, PROCEEDINGS NO. 16, APPENDIX II

[Not reproduced]

Annex 34

ICNAF, SPECIAL COMMISSION MEETING, JANUARY 1973, PROCEEDINGS NO. 3

[Not reproduced]

Annex 35

ICNAF, ANNUAL MEETING, JUNE 1972, INFORMAL RECORD OF MEETING OF THE
AD HOC COMMITTEE ON QUOTA ALLOCATION

[Not reproduced]

Annex 36

ICNAF, SPECIAL COMMISSION MEETING, JANUARY 1973, PROCEEDINGS NO. 4,
APPENDIX I

[Not reproduced]

Annex 37

ICNAF, FOURTH SPECIAL COMMISSION MEETING, JANUARY 1974,
PROCEEDINGS No. 3

[Not reproduced]

Annex 38

ICNAF, ANNUAL MEETING, JUNE 1974, PROCEEDINGS No. 11

[Not reproduced]

Annex 39

ICNAF, FOURTH SPECIAL COMMISSION MEETING, JANUARY 1974,
PROCEEDINGS No. 5

[Not reproduced]

Annex 40

ICNAF, ANNUAL MEETING, JUNE 1973, PROCEEDINGS No. 10, APPENDICES VI
AND VIII

[Not reproduced]

Annex 41

ICNAF, ANNUAL MEETING, JUNE 1974, PROCEEDINGS NO. 10

[Not reproduced]

Annex 42

ICNAF, EIGHTH SPECIAL COMMISSION MEETING, JANUARY 1976,
PROCEEDINGS NO. 8

[Not reproduced]

Annex 43

ICNAF, SEVENTH SPECIAL COMMISSION MEETING, SEPTEMBER 1975,
PROCEEDINGS NO. 4, APPENDIX I AND ATTACHMENTS 1 AND 2

[Not reproduced]

Annex 44

ICNAF, SEVENTH SPECIAL COMMISSION MEETING, SEPTEMBER 1975,
COMMISSIONERS' DOCUMENT 75/IX/40

[Not reproduced]

Annex 45

ICNAF, SEVENTH SPECIAL COMMISSION MEETING, SEPTEMBER 1975,
COMMISSIONERS' DOCUMENT 75/IX/42

[Not reproduced]

Annex 46

ICNAF, SEVENTH SPECIAL COMMISSION MEETING, SEPTEMBER 1975,
COMMISSIONERS' DOCUMENT 75/IX/49 (2ND REVISION) AND ATTACHMENTS 1
AND 2

[Not reproduced]

Annex 47

ICNAF, SEVENTH SPECIAL COMMISSION MEETING, SEPTEMBER 1975,
PROCEEDINGS No. 5

[Not reproduced]

Annex 48

ICNAF, ANNUAL MEETING, JUNE 1959, PROCEEDINGS No. 10

[Not reproduced]

Annex 49

ICNAF, ANNUAL MEETING, JUNE 1969, PROCEEDINGS No. 15

[Not reproduced]

Annex 50

ICNAF, ANNUAL MEETING, JUNE 1969, PROCEEDINGS No. 17

[Not reproduced]

Annex 51

ICNAF, ANNUAL MEETING, JUNE 1971, COMMISSIONERS' DOCUMENT 71/17

[Not reproduced]

Annex 52

ICNAF, ANNUAL MEETING, JUNE 1971, COMMISSIONERS' DOCUMENT 71/18 AND
CORRIGENDA

[Not reproduced]

Annex 53

ICNAF, ANNUAL MEETING, JUNE 1975, COMMISSIONERS' DOCUMENT 75/32

[Not reproduced]

Annex 54

ICNAF, ANNUAL MEETING, JUNE 1975, COMMISSIONERS' DOCUMENT 75/33

[Not reproduced]

Annex 55ICNAF, FOURTH SPECIAL COMMISSION MEETING, JANUARY 1974, PROCEEDINGS
NO. 6, APPENDIX I*[Not reproduced]*

Annex 56ICNAF, ANNUAL MEETING, JUNE 1975, PROCEEDINGS NO. 4, APPENDIX I AND
ANNEX 6*[Not reproduced]*

Annex 57

EXCERPT FROM *ICNAF, ANNUAL PROCEEDINGS*, VOL. 12, FOR THE YEAR 1961-62,
HALIFAX, N.S., 1962, P. 10, PARA. 3

[Not reproduced]

Annex 58

ICNAF, TWELFTH ANNUAL MEETING, JUNE 1962, PROCEEDINGS No. 13

[Not reproduced]

Annex 59

LIST OF SCIENTIFIC PAPERS REPORTING CANADIAN RESEARCH ACTIVITIES RELATED
TO ICNAF/NAFO SUBAREA 5

[Not reproduced]

Annex 60

EXCERPTS FROM TASK FORCE ON ATLANTIC FISHERIES, *NAVIGATING TROUBLED
WATERS, A NEW POLICY FOR THE ATLANTIC FISHERIES*, OTTAWA, SUPPLY AND
SERVICES CANADA, 1982, PP. 62 AND 78

[Not reproduced]

Annex 61

EXCERPT FROM *DRAFT ENVIRONMENTAL IMPACT STATEMENT ON THE AGREEMENT BETWEEN THE UNITED STATES AND CANADA ON EAST COAST FISHERY RESOURCES*, WASHINGTON, UNITED STATES DEPARTMENT OF STATE, APRIL 1980, PP. 7-8

[Not reproduced]

Annex 62

EXCERPT FROM *NATIONAL FISHERMAN*, CAMDEN, MAINE, MAY 1980, P. 11

[Not reproduced]

Annex 63

EXCERPT FROM MARGARET E. DEWAR, *INDUSTRY IN TROUBLE*, PHILADELPHIA, TEMPLE UNIVERSITY PRESS, 1948, PP. 183-184

[Not reproduced]

Annex 64

EXCERPT FROM *NATIONAL FISHERMAN*, CAMDEN, MAINE, JULY 1980, P. 4

[Not reproduced]

Annex 65

OECD ECONOMIC SURVEYS, 1982, BELGIUM, LUXEMBOURG, P. 65, TABLE B

[Not reproduced]

Annex 66

EXCERPT FROM *OECD ECONOMIC SURVEYS*, 1980, FEDERAL REPUBLIC OF GERMANY, P. 64, TABLE A

[Not reproduced]

Annex 67

EXCERPT FROM *ANNUAIRE STATISTIQUE DE LA FRANCE, 1982*, PARIS, INSTITUT NATIONAL DE LA STATISTIQUE ET DES ÉTUDES ÉCONOMIQUES, 1982, P. 227, TABLEAU 3.01-1

[Not reproduced]

Annex 68

EXCERPT FROM *STATISTICAL ABSTRACT OF THE UNITED STATES, 1981*, WASHINGTON, UNITED STATES DEPARTMENT OF COMMERCE, BUREAU OF THE CENSUS, P. 424, TABLE 707

[Not reproduced]

Annex 69

EXCERPT FROM *JAPAN STATISTICAL YEARBOOK*, TOKYO, STATISTICS BUREAU, PRIME MINISTER'S OFFICE, JULY 1982, P. 539, TABLE 348

[Not reproduced]

Annex 70

EXCERPTS FROM *YEARBOOK OF INDUSTRIAL STATISTICS*, 1980 EDITION, VOL. 1, GENERAL INDUSTRIAL STATISTICS, NEW YORK, UNITED NATIONS, 1982, PP. 47, 174, 195, 217, 286 AND 553

[Not reproduced]

Annex 71

EXCERPT FROM *OECD ECONOMIC OUTLOOK*, VOL. 33, ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT, JULY 1983, P. 44, TABLE 12

[Not reproduced]

Annex 72

EXCERPT FROM R. W. SMITH, "THE MARITIME BOUNDARIES OF THE UNITED STATES", *THE GEOGRAPHICAL REVIEW*, VOL. 71, NO. 4, 1981, P. 402

[Not reproduced]

CERTIFICATION

I, the undersigned, L. H. Legault, Q.C., Agent for Canada, hereby certify that the copy of each document attached as a Documentary Appendix or Annex in Volume II of the Annexes to the Reply Submitted by Canada is an accurate copy, whether prepared by photographic means or by transcription.

(Signed) L. H. LEGAULT, Q.C.
