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# BASELINE DETERMINATION

## AN EXAMINATION WITH SPECIAL REFERENCE TO THE LOW-WATER MARK

by

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FUNCTIONS

The Institute monitors developments in the Law of the Sea both at the International level and in the context of Southern Africa. Its functions include keeping interested parties, in both the public and private sectors, informed of these developments in particular through its newsletter SEA CHANGES and by publishing substantial articles of an academic nature from time to time as monographs or occasional papers.

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Note: For previous Institute publications see back cover.

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Cape Town, December 1986 Holger Kühl

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## ABBREVIATIONS I

| | |
|---|---|
| AF | Annuaire Français |
| AJIL | American Journal of International Law |
| AusLR | Australian Law Reports |
| AV | Archiv des Völkerrechts |
| BFSP | British and Foreign State Papers (1806-1970) |
| BGBl. | Bundesgesetzblatt |
| BYIL | British Yearbook of International Law |
| CILSA | The Comparative and International Law Journal of South Africa |
| CLR | Commonwealth Law Reports |
| Cmnd | Papers presented to Parliament by Command of His/Her Majesty |
| Col.LR | Columbia Law Review |
| CS | The Canadian Surveyor (Canadian Institute of Surveying, Ottawa) |
| C.Rob.Adm. (C.Rob.) | Christopher Robinson's Admiralty Reports (165 ER) 1799-1808 |
| CWILJ | California Western International Law Journal |
| CYIL | Canadian Yearbook of International Law |
| D | The Digests |
| GYIL | German Yearbook of International Law |
| I | The Institutiones |
| ICJ | International Court of Justice |
| ICLQ | International and Comparative Law Quarterly |
| IJECL | International Journal of Environmental and Coastal Laws |
| ILM | International Legal Materials |

| | |
|---|---|
| ILCY | Yearbook of the International Law Commission |
| ILR | International Law Reports |
| JIR | Jahrbuch für Internationales Recht |
| LIS | Limits in the Sea: US Dep. of State, International Boundary Study, Series A |
| McGillLJ | McGill Law Journal (Montreal) |
| MP | Marine Policy |
| MPR | Marine Policy Reports (University of Delaware) |
| MR (Suppl) | Supplement au recueil des principaux traites ...., 1802-08 (G F de Martens) |
| ODIL | Ocean Development and International Law |
| QB | Law Reports, Queen's Bench 1891-1901, 1952 - (UK) |
| RdC | Recueil de Cours |
| SC | Sea Changes (University of Cape Town) |
| SDLR | San Diego Law Review |
| S.I. | Statutory Instruments |
| UMLR | University of Miami Law Review |
| UNTS | United Nations Treaty Series |
| ...US... | United States Supreme Court Reports |
| Vict.C | Victoria, Chapter (United Kingdom) |
| VJIL | Virginia Journal of International Law |
| WLR | The Weekly Law Reports (United Kingdom) |
| ZaöRV | Zeitschrift für ausländisches öffentliches Recht und Völkerrecht |

## ABBREVIATIONS II

| | |
|---|---|
| AW | Archipelagic Waters |
| EEZ | Exclusive Economic Zone |
| IW | Internal Waters |
| LON | League of Nations |
| LOSC | 1982 Convention on the Law of the Sea |
| LTE | Low-Tide Elevation |
| LWM | Low-Water Mark |
| MLWN | Mean Low Water Neap Tide |
| MLWS | Mean Low Water Spring Tide |
| MHWN | Mean High Water Neap Tide |
| MHWS | Mean High Water Spring Tide |
| TS | Territorial Sea |
| TSC | 1958 Convention on the Territorial Sea and the Contiguous Zone |
| UN | United Nations |
| UNCLOS I-III | United Nations Conference on the Law of the Sea I - III |

## I INTRODUCTION

### (i) History

Since it is essential that all frontiers, whether on land or at sea, should be certain and definite, all rights which depend for their exercise upon territorial sovereignty must be valid up to a given line and there stop.[1]

Numerous methods have been used to delimit maritime boundaries as evidenced by State practice. But when exact sea boundary measurement was initiated in the last century all methods were based on the concept of LWM as a line of limitation. Although today the concept of LWM is one of fundamental importance for the application of a variety of international sea law rules, 200 years ago and further back in the era of ancient Rome, the LWM was held to be of no consequence.

According to Roman law the air, running water, the sea and the sea-shore may be mentioned as examples of "things" being common to all (res commune).[2] That means that the sea was a "thing" belonging to no-one and the maritime boundary lay at the sea-shore. However, even if a res commune in its entirety was not susceptible to private ownership, it was nevertheless possible to acquire ownership of a specific portion thereof,[3] (e.g. by fishing).

According to the account of the birth of territory[4] in the 16th century, Bartolus was the first who claimed absolute sovereignty of a State concerning the coastal waters.[5] Then the breadth (and concomitantly the measuring of the breadth) of the coastal waters came into question. There were many differing criteria as to what such limits were, the concept of breadth has always

been a matter of controversy. Many treaties and ordinances of the 16th and 17th centuries fixed the limit by the range of visual horizon.[6] Later, the extent of a State's territorial dominium over the marginal sea was measured by the range of a cannon firing from the shore.[7] ("imperium terrae finiri ubi finitur armorum potestas.")[8]

In 1782 Galiani suggested[9] that it would be reasonable to adopt a three-mile limit along the whole coast. And in the United States the idea of a three-mile limit for neutrality purposes was adopted in 1793.[10] This gained widespread and rapid acceptance in Europe as well and furnished for example the legal foundation for Lord Stowell's decision in The Anna case 1805, where he said that since the introduction of firearms the boundary of territorial waters "has usually been recognised to be about three miles from the shore."[11]

However, the expression "shore" was soon seen to be as not exact enough and many countries started to use the term "Low Water Mark" to indicate the three-mile zone. They were in favour of the LWM instead of the high-water mark for simple reasons: the further the baseline out to sea, the further the territorial sea could extend. Chile, for example, provided as early as 1855:[12]

> "La mer qui touche les cotes (adjacante) jusq'u a' la distance d'unc lieu marine, mesuree a compter de la ligne de la plus basse maree, est mer territoriale ..."

Great Britain used the term LWM in 1878 in the "Territorial Waters Jurisdiction Act"[13] to lay down a coastal zone. Section 7 enacts

"any part of the open sea within one marine league of the coast measured from low-water-mark shall be deemed to be open sea within the territorial waters of Her Majesty's dominions."

The Deutsches Reich also used the term in 1909:[14]

"Das Prisenrecht ist nicht geltend zu machen: (a) innerhalb neutraler Hoheitsgewässer, d.h. innerhalb eines Seengebiets, das in seiner Breitenausdehnung von 3 Seemeilen von der "Niedrigwasserküste" gerechnet die Küste und die zugehörigen Inseln begleitet."

Furthermore, the "Institut de Droit International" in 1894 and the "American Institute of International Law" in 1924[15] used the term "LWM" in their suggestions for measuring the territorial sea. In 1930 at the Hague Conference for the Codification of International Law a first attempt was made to institute international rules concerning the territorial sea. Because of preparatory conferences the LWM could be used as a starting-point in dealing with baselines.[16]

However, the actual results achieved at the conference were "somewhat meager",[17] because they were never embodied in signed instruments, despite a wealth of documentation.[18] In considering the subject of territorial waters, the second committee of the Conference encountered great political obstacles. It was obvious from the beginning, that very divergent views were held by the different delegations with regard to the extent of the territorial or marginal sea. The committee failed to reach a reconciliation of all views.[19] Only when it dealt with the point of "Determination of the Baseline for Measurement of the

Breadth of Territorial Waters"[20], a vast majority of States voted for drawing a line following all the sinuosities of the coast from a baseline of mean low-water spring tide.[21] But as can be read in the "Observations" on this point:[22]

> "various replies call attention to the different meanings which can be given to the expression 'low-water'. This is a question which must be brought to the notice of the Governments in order that they may submit it for examinations by their experts so as to enable the latter to agree at the conference upon the best expressions to employ ... For the moment it is possible to maintain the traditional expression 'low-water mark'."

So far the Conference concurred at least in determining the LWM - roughly - as the fixing-line. Another point of interest the committee dealt with, was the question of how the breadth of the territorial waters should be measured. Two suggestions were made: first, that the baseline should simply be the low-water line along the coast, following all the sinuosities, or second, that the baseline should be taken as an imaginary line connecting particular salient points of the coast, measured from LWM as well (straight baselines).[23] The majority of States were in favour of the first formula, because it appeared more practical.[24] The experts then formulated the rule "following all the sinuosities of the coast" quite strictly. But at the same time they were obliged to admit many exceptions relating to bays, islands near the coast and rivers.

Hence it was not a surprise when in 1951 the International Court of Justice (ICJ) acknowledged an exception to the proposal of the 1930 conference.[25] The

court stated that where a coast is deeply indented and cut into, as is that of Eastern Finland, the baseline could also be drawn from points on or near the shore over portions of water to other points on or near the shore.[26]

But the court had no difficulty in finding that, for the purpose of measuring the breadth of territorial waters, the LWM or the mean between two tides should be used. This had generally been adopted in the practice of all States.[27] Later the ILC referred again to the ambiguity of the term "LWM", stating:

> "that the traditional expression LWM may have different meanings and that there is no standard by which States in practice determine the line."[28]

Following this discussion, the Preparatory Committee for the Geneva Conference on the Law of the Sea 1958 (UNCLOS I) proposed two ways of measuring territorial waters. According to the International Law Commission, the baseline for determining the extent of the territorial sea should be either the low-water line along the coast or, in special circumstances, straight baselines independent of the low-water line.[29] In the Geneva Convention on the Territorial Sea and the Contiguous Zone 1958 the above proposal found its expression in Article 3 and Article 4. Explicit exceptions to this LWM provision are stated in Articles 7 - 13 (concerning bays, outermost permanent harbour works, roadsteds, islands, LTE, coasts of opposite or adjacen States, rivermouths).

For the first time, and after long and careful studies by the International Law Commission (ILC) and the various preparatory committees, rules on sea boundary

delimitation were written down in a convention.[30] But since the 1958 Convention was neither able to agree upon the extension of the Territorial Sea nor to accept the establishment of Fishing Zones,[31] the development proceeded apart from it largely on the basis of State practice. It was only during UNCLOS III (1973-1982) and then in the 1982 Convention that almost every aspect of the public law of the sea was dealt with. In general, the 1982 Convention is a series of compromises between different States, yet it forms an integral whole,[32] and is based mainly on international customary law and the 1958 Convention. Some parts of it, though, are entirely new[33] and "virtually revolutionize the law of the sea".[34] The Convention is, however, the newest and most reliable source of sea law even if it is not yet in force. An examination of baseline problems must to be based on it although in some cases the question of whether a certain article represents customary law or merely constitutes new conventional law will need special attention.

## I(i) FOOTNOTES

1 H A Smith: p. 9

2 1: 2,1,1; D: 1:8:2, 43.8.3.1

3 Silberberg/Shoeman: p. 18

4 Churchill/Lowe: p. 53

5 Bartolus, cit. in Colombos: p. 79; The first treaty concerning the sea was the treaty of Tordesillas (1494)

6 ibid: fn 3

7 ibid: fn 5

8 Bynkershook: lib I, C. viii

9 Galiani: p. 432

10 Churchill/Lowe: p. 59

11 5 C. Rob 373, 385 (1805)

12 Chilian Civil Code of Dec 15th, 1855: Art 593, cit. in Rosenne: Cod. 2, p. 61

13 41 and 42 Vict. C. 73

14 Prisenordung für das Deutsche Reich vom 30.9.1909: cit. in Rosenne: Cod. 2, p. 61

15 Cit. in Rosenne Cod. 2, p. 61

16 See Cleminson: 6 BYIL 1925, pp. 144

17 Hudson: 24 AJIL 1930, p. 447

18 See Rosenne: Conf. 1-4

19 Hudson: 24 AJIL 1930, p. 447 at 456

20 Bases of Discussion point IV, see Rosenne Conf. 2: pp. 253

21 e.g. see reply of SA Government, Rosenne, p. 253

22 Rosenne, ibid: p. 256

23 Rosenne: ibid. p. 253; see e.g. Waldock: 28 BYIL 1951, p. 125 at 131

24 Rosenne, ibid.

25 Anglo-Norwegian Fisheries Case 1951, ICJ Report, p. 116 (1951)

26 ICJ Report 1951: p. 116 at 130; in England, King James I already used such a method in 1604 to delimit the coastal sea, the so-called "King's Chambers"; cf. Alexander: 23 VJIL 1983, p. 503 at 504

27 ICJ - Report 1951: p. 116 at 128

28 Report of ILC, 8th session 1956: 51 AJIL 1951, p. 154 at 182

29 See ibid: but note that the basepoints are of course dependant on the LWM

30 See also: Conventions on the Continental Shelf, Convention on the High Seas and Convention on Fishing and Conservation of the Living Resources of the High Seas

31 An attempt made in 1960, at UNCLOS II, to resolve the question, failed. See Whiteman 4: pp. 1113

32 cf. T. Koh, Chairman of UNCLOS III in 1982, cit. by Manner in Makarczyk (ed) p. 626 at 638

33 Esp. e.g. Deep Seabed Mining and EEZ

34 v. Münch: p. 64

## I(ii) The Coastal Zones

The baseline question in the Law of the Sea is, of course, deeply connected with the status of the coastal water. Thus a short summary shall be given of the zones dealt with by the LOSC. As already mentioned, the law relating to coastal zones is not a 20th century invention. The relevant articles may rather be seen as the result of a development extending over 500 years, which has its original legal basis in the studies of Hugo Grotius.[1]

In the LOSC, special rules are provided for Internal Waters, the Territorial Sea, the Contiguous Zone, Archipelagic Waters, the Exclusive Economic Zone, the Continental Shelf and the High Seas. Additionally, the status of straits is dealt with in a special part.

### 1 INTERNAL WATERS (Article 8)

All waters which lie on the landward side of a baseline from which the Territorial Sea and the other zones are measured are Internal Waters. As with inland lakes and rivers, the coastal State enjoys full sovereignty over Internal Waters, restricted only by international treaties.[2] However, one important duty limits the rights of the coastal State. It must allow ships in distress access to ports in order to gain safety.[3]

### 2 ARCHIPELAGIC WATERS (Article 46-54)

Archipelagic Waters are all waters within straight archipelagic baselines. Although an Archipelagic State has sovereignty over its Archipelagic Waters, other States have certain rights in it too (Articles 49, 57). Thus its status is not the same as that of Internal Waters. The Archipelagic State is however free to draw, even inside the archipelago, closing lines across bays

and river-mouths to delimit areas as Internal Waters.[4]. The Territorial Sea of an Archipelagic State begins seaward of the straight archipelagic baseline.

3 TERRITORIAL SEA (Articles 2-32)

The oldest and best known term in coastal zone law is "Territorial Sea". It refers to those parts of the sea which lie beyond a coastal State's land territory and the Internal or Archipelagic Waters.

The breadth of the Territorial Sea is laid down in the LOSC as "not exceeding 12 nautical miles" (Article 3), mainly because delegates could not agree to a certain distance. State practice ranges from three to twelve miles, although some States claim - more or less without success - 200 miles.[5]

The status of the Territorial Sea is basically the same as that of the territory of a State. However, sovereignty is subject to Articles of LOSC and "to other rules of international law" (Article 2(3)). The most important restriction is the right of innocent passage for ships of other States (Article 17). This imposes a duty on the coastal State not to hamper such passage and to provide appropriate navigational help (Article 24). General rules, such as those relating to peaceful settlement of disputes etc. are also applicable.[6]

4 THE CONTIGUOUS ZONE (Article 33)

The Contiguous Zone extends beyond the Territorial Sea up to 24 miles. It is less important than other zones but nevertheless allows the coastal State to exercise control to prevent infringement of customs, fiscal, immigration or sanitary regulations. Additionally, Article 303(2) prohibits unauthorized removal of archaeological and historical objects found in the zone.

## 5 EXCLUSIVE ECONOMIC ZONE (Articles 55-75)

The Exclusive Economic Zone (EEZ), a new concept in the LOSC, can be seen as something of a compromise between the States advocating a 200 miles Territorial Sea and those opposed to this suggestion.[7] It extends 200 miles from the baseline (Article 57) and within it the coastal State is allowed to explore and exploit, manage and conserve natural resources (Article 56).

Some States - South Africa, Germany, United Kingdom, United States and the USSR among others - do not claim an EEZ, but an EFZ, an Exclusive Fishing Zone of equal extent. This was done mainly before LOSC was adopted. The intention was not to prejudice the negotiations.

With its explicit articles about exploitation, rights and duties, the EEZ is one of the more controversial parts of the LOSC. For example, no attention was paid to the judgement of the ICJ in 1974, concerning the meaning of exclusive zones.[8] However, in general, the EEZ has been accepted as international customary law, since most coastal States claim such a zone.[9] The crucial points concern rather the details, for instance the method of measuring the EEZ and the Continental Shelf.

## 6 CONTINENTAL SHELF (Article 76-85)

Already at the beginning of the twentieth century, the idea of proprietary rights over the coastal sea became generally accepted. In 1945, the USA became the first State to claim that the natural resources in the Continental Shelf off its coasts were subject to its jurisdiction and control.[10] By 1958 the Continental Shelf doctrine was firmly established in international law, and found expression in the Continental Shelf Convention.[11]

LOSC confirms the concept in Part VI, Article 77(1), which provides: "The coastal State exercises over the Continental Shelf sovereign rights for the purposes of exploring it and exploiting its natural resources." The breadth of this area is - depending on the shape of the actual continental shelf - 200 to 350 miles (cf. Article 76). Although overlapping with the EEZ, the legal basis is different (customary law) and they do not necessarily cover the same geographical area.[12] Moreover, the Continental Shelf does not affect the status of superjacent waters (Article 78).

7 HIGH SEAS (Article 86-120)

The High Seas are open to all States, whether coastal or not (Article 87). This concerns those parts of the sea not included in coastal zones (Article 86). The freedom is to be exercised under the conditions laid down by LOSC. It comprises especially freedom of navigation, overflight, fishing and scientific research (see table in Article 87).

It is doubtful whether the freedom of the High Seas includes deep seabed mining. It is mainly because of deep Icebed mining that most Western States refuse to ratify the Convention.[13] They do not want to acknowledge the provisions of part XI LOSC (Regime of the Deep Seabed). The United States for example insists that the customary international law of freedom of the High Seas applies to the Deep Sea-bed as well. However, this is not the opinion to which the majority of States subscribe. A way of reconciliation has not yet been found.[14]

8 STRAITS (Articles 34-44)

Part III of the LOSC regulates passage through straits

in the interests of international navigation. In all other respects the regime of straits follows the general rules (cf. Article 34(1)).[15]

Usually every coastal State has its Internal Waters, Territorial Sea, Contiguous Zone, EEZ or EFZ and Continental Shelf Zone. Archipelagic States may claim Archipelagic Waters as well. Because of the enormous breadth of the Continental Shelf or EEZ, opposite and adjacent States have to find ways to delimit overlapping zones.[16]

## I(ii) FOOTNOTES

1 For history see Oudendijk: Status and Extent of Adjacent Waters

2 See e.g. Panama Canal, Suez Canal

3 See discussion in: McDougal/Burke: p.42

4 Churchill/Lowe: p. 95

5 Churchill/Lowe: p. 125

6 See Verdross/Simma: p. 683

7 See list in Churchill/Lowe: pp. 302

8 cf. O'Connell: p. 542; "Claims to Maritime Zones" UK v Iceland, Germany v Iceland, see Fisheries Jurisdiction Cases.

9 See claims to maritime zones in Churchill/Lowe: pp. 302

10 See Churchill, ND: p. 106

11 cf. Churchill/Lowe: p.7

12 cf. esp. Knight: pp. 13-39/40; O'Connell I: pp. 579/80; see Art 56(3) LOSC

13 Germany, Japan, United Kingdom, USA

14 See Churchill/Lowe: pp. 156/156; for conventional rules. Hauser: The Legal Regime ...

15 cf. Alexander: 13 ODIL 1983, pp. 269

16 cf. Channel Continental Shelf Arbitration (UK-France, 1979): Continental Shelf Case (Lybia-Tunisia, 1982); Gulf of Maine Case (USA v Canada, 1984).

## II THE NORMAL BASELINE

### (i) The LWM: Geographical Construction

In delimiting the territorial waters or any other zone the point of measurement, as indicated above, is the LWM. The expression LWM appears at first sight to be very exact. It is usually defined as the lowest level attained by the sea-surface relative to the land.[1] It is however almost impossible in practice to establish an accurate line which shows the low-water line along a coast. This is so because there is no mark left by ebb-tide on a seacoast, such as is left by high waters in many areas where transported sand, algae and other growth form a visible line. A definition like that of LWM ignores too the time scale over which it is to apply. Extreme events occur over increasing time intervals and a fundamental law of probability states that any record will be broken in time. Thus a LWM lower than any ever experienced will occur, but over a time interval that is extremely long. This open-ended sequence precludes any absolute limit being established for a LWM.[2] A more appropriate measurement is a mean LWM which is taken from the average height of the low-water tide. However, according to the variability of the tides, the question which arises here is, over which period of time this mean LWM should be measured.

Probably for these reasons both Article 3 TSC and the similar Article 5 LOSC do not include the problem of defining the LWM. They state only that the normal baseline is the low-water line along the coast "as marked on large-scale charts officially recognized by the coastal State".

So the difficulty of arriving at a solution as to how to draw an accurate LWM is a problem for every single

country. This is a fact which does not lend itself to international standardisation and which has led and will lead to many controversies about whether the method chosen by a State is in accordance with international law.

In order to explain the difficulties of finding and defining a LWM it is worthwhile to consider the geographical and hydrographical aspects of the problem.

The tidal theory has its origin in Newton's law of universal gravitation, according to which a body attracts every other body with a force acting in a straight line between them. The gravitational effects of sun and moon on the waters of the oceans are accordingly responsible for the periodic changes in the tides. If an annual series of water level records for a tidal coast is examined, several periodicities may be recognized, dependant on the situation of sun, moon and earth. Noteworthy are the semi-diurnal and the diurnal tide, the spring and neap tide recurring at 15 day intervals and the semi-annual tide the maximum range of which is attained at the equinoxes. Finally, of less importance is the 18.6-year nodal tidal circle although it is worth recording for research of the mean tide level.[3]

In connection with this the tide levels officially used by hydrographers are the following:[4]

Lowest/Highest Astronomical Tide:
These are the lowest and highest levels respectively which can be predicted to occur under average meteorological conditions and under any combination of astronomical conditions.

Mean Low/High Water Springs:
The height of mean high/low water springs is the average throughout a year when the average maximum declination of the moon is 23.5 degrees, or the heights of two successive high/low waters during those periods of 24 hours when the range of the tide is greatest.

Mean Low/High Water Neaps:
As above (II), when the range of the tide is least.

Mean Level or Mean Sea Level:
The mean of the heights of MHWS, MHWN, MLWS and MLWN.

There are other different tide levels used for hydrographic purposes which are less important (e.g. mean higher/lower high water and mean lower/higher low water[5]) but which impede an exact definition of the term LWM for the law of the sea.

To construct a boundary determined by the course of the tide, two surveying aspects are involved: a vertical one and a horizontal one. The vertical is fixed on the height reached by the tide during its vertical rise and fall. The horizontal aspect is predicated on the line where the tidal plane intersects the shore. The first one fixes the tidal datum and is to be found by observation. The second one is then dependant on this although further influenced by accretion and erosion. (Fig. I)

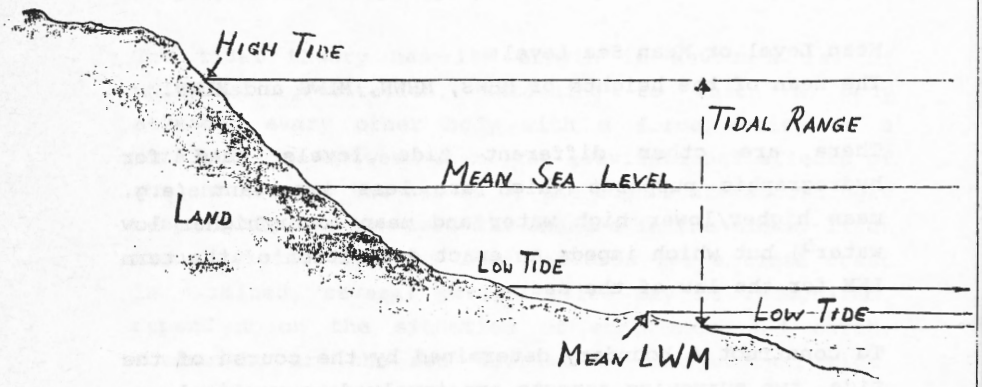


FIG. I : THE TIDAL SCHEME

An example of the importance of a well defined LWM may be observed on the coastline of Essex, UK, north of the mouth of the River Thames. There the gradient of the mudflat shore is 0.00124, the tidal range is approximately 4.5 m. The tide here daily swamps the coast to a depth of about 3.5 km; a sea level rise of only 1 cm means a horizontal change of the baseline of 8 m.[6] Nevertheless, not many coasts have this extreme low gradient or the extreme high tide range of the Bay of Fundy, USA, where it is 12 m.

It is obvious that an exact hydrographical definition of the LWM is almost impossible. A legal definition on charts will always be a mean LWM, and according to the plurality of possible definitions the LWM chosen by a State as a baseline will normally be acknowledged. A State in establishing a LWM should however arguably observe at least the international customary law principle of "good faith" in doing so.

When once the LWM along a coast is found it is the normal baseline for measuring the Territorial Sea and other zones.[7] The method most frequently used to draw the outer limitation of the Territorial Sea or any other zone, is a line at a certain distance following all the sinuosities of the coast. (Fig. II)[8] Another suggestion had already been put forward at the 1930 Conference when the US delegation recommended a line every point of which should be precisely three nautical miles (or any other distance) from the nearest point on the coast.[9] This method was intended to meet the actual requirements of a navigator, especially when a coastline is relatively straight and unindented. ("envelopes of arcs of circles", Figure II, III).

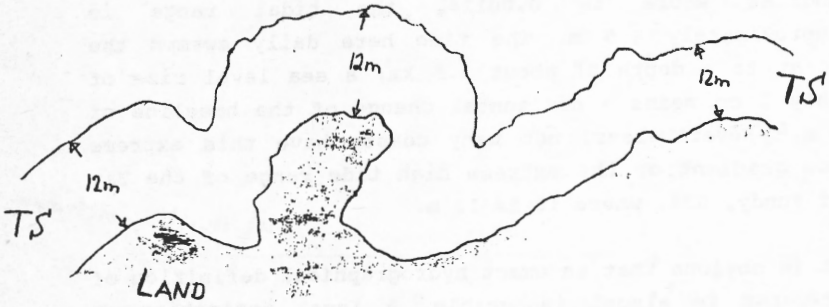


FIG II : OUTER LIMITATION OF THE TS
(following all the sinuosities)

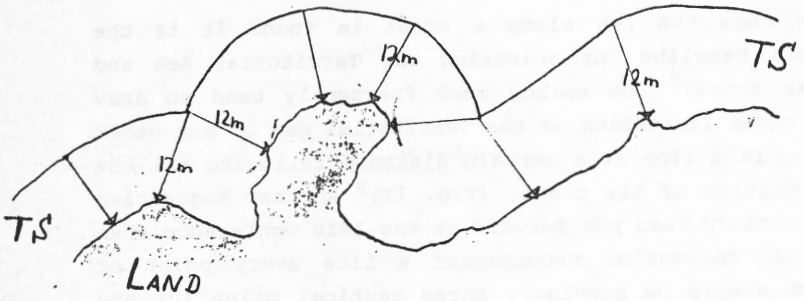


FIG III : OUTER LIMITATION OF THE TS
(envelope of arcs of circles)

## II(i) FOOTNOTES

1 See Aurrocoechea: 1 IJECL 1986, p. 29 at 32

2 Aurrocoechea: ibid; cf. O'Connell II: p. 635

3 O'Connell: I: p. 173; G Knight: p. 5-11

4 See e.g. SA-Tide Table 1986: p. viii

5 O'Connell, I: pp. 173-174; for a discussion see Nicholls/McLaughlin: 38 CS 1984, p. 193 at pp. 195

6 Aurrocoechea: 1 IJECL 1986, p. 29 at 30

7 Art 5 LOSC; Art. 3 TSC

8 See e.g. Waldock: 128 BYIL 1951, p. 125 at pp. 131

9 See Boggs: 24 AJIL 1930: p. 541 at 544

## II(ii) Examples of Legal Definitions

The expression LWM is the most common term used by many States in order to delimit the Territorial Sea. However, only a few cases have occurred in the past in which a more exact definition - and for legal purposes - came into question.

### 1 United States

The United States was one of the few countries which made early attempts to define the term LWM. The Submerged Lands Act[1] grants the States ownership and proprietary use of all lands under their navigable water for a distance of three nautical miles from their coast lines or the seaward boundaries. Section 2(c) defines the coastline as "the line of ordinary low water along that portion of the coast which is in direct contact with the open sea and the line marking the seaward limit of inland waters". The background to this legislation is the ruling of the Supreme Court in the so called Submerged Land Cases US v California[2] US v Louisiana[3] and US v Texas.[4] In addition to the main issues, where the court was dealing with the problem of rights in the submerged lands of the open sea, the term "ordinary low-water mark" came into question. In the case US v California a Special Master was appointed to make recommendations on the question of which criteria should be used in order to ascertain the ordinary low-water mark on the coast of California. In his answer the Special Master's opinion was a compromise:[5] "The ordinary low-water mark on the coast of California is the intersection with the shoreline (as it exists at the time of survey) of the plane of the mean of all low waters, to be established, subject to the approval of the Court, by the United States Coast and Geodetic

Survey from observations made over a period of 18.6 years."[6]

But the Special Master's Report - although concerning the LWM, an equitable approach[7] - was not taken up by the Supreme Court. When in 1963 the Court conclusively dealt with the case,[8] it held that a position other than that of the Special Master represented the better view. Since the US Submerged Lands Act defined coastline in terms of the "line of ordinary low-water" and the then current 1958 Convention used "the low water line along the coast as marked on large-scale charts officially recognized by the coastal State", the Court stated: "We interpret the two lines thus indicated to conform and on the official United States coastal charts of the Pacific Coast prepared by the US Coast - and Geodetic Survey, it is the lower low water line which is marked".[9]

Leaving aside the fact that every definition is subject to criticism[10], the Court's decision gives at least an orientation which is needed by the surveyor and the lawyer to determine the national sea boundary of the United States.

## 2 Australia

In Australia, a definition such as that in the United States does not exist. In the 1967 Amendment to the Fisheries Act of 1952 the Parliament intended the baseline to apply until such time as it might be changed in accordance with international law, and in international customary law the baseline has been for long the low-water line[11] as marked on large-scale charts. But at the time of the latest decision of the High Court of Australia concerning the new boundary in 1972, official charts had not been issued. Nevertheless,

the Court rejected in two cases the argument of the accused that the absence of official charts marking the low-water line made it impossible to define the inner, and therefore the outer, limit of a zone:[12] "The low-water line does not depend for its existence and significance upon any chart."[13] This logical but surprising argument obstructs an accurate definition of the LWM in Australia for the benefit of navigators, surveyors and lawyers.

### 3 South Africa

In South Africa, a legal definition of the term LWM is to be found in Sec. 1 of the Territorial Waters Act of 1963:[14] "Low water mark means the lowest line to which the water of the sea recedes during periods of ordinary spring tides."

In spite of this the final decision on the position of the line is in the hands of the surveyor: he has to settle the lengths of the periods and the meaning of the word "ordinary".

### 4 Europe

In most of the European countries, the LWM is more or less well defined,[15] usually in a similar way to South Africa, although in some States the Acts concerning territorial waters refer to official large scale charts.[16]

Even in the United Kingdom the definition of LWM in Case Law lacks precision. In the case of Post Office v Estuary Radio[17] the Court refused to enter into the details of defining the low-water line. Instead the judgement seems to indicate that as well as the periodic

tidal series, the non-periodic sea level changes - such as wind and pressure-induced variations, may be used in a definition of LWM.[18] In addition, three different LWM's are defined throughout the United Kingdom on survey maps, "mean low water" in England and Wales, "mean low water springs" in Scotland and on the large-scale charts of the Admiralty "lowest astronomical tide."[19]

In spite of many differences a widely accepted reference line to interpret the vague expression "LWM" is the Mean Low Water Spring Tide (MLWS).[20] The average would be calculated from the predicted tide, without reference to non periodic data, over a period covering the 18.6 nodal tide period and referred to an established datum point marked on the land.

A reference to the lowest astronomical tide is also an equitable approach. Thus, an international standardisation about LWM as baseline is not required if States are prepared to define their maritime boundaries with sufficient exactness.

However, on the whole exact delimitation lines have not yet been settled.

## II(ii) FOOTNOTES

1 Public Law 31, 67 Stat. 29, 1953

2 332 US 19 (1947)

3 339 US 699 (1950)

4 339 US 707 (1950)

5 US v California, The Special Masters Report No 6, original October Term 1952, Reprinted in 57 ILR (1980), p. 54

6 Note the application of the 18.6 year nodal tidal circle

7 Shalowitz: 54 Col LR 1954: p. 1021 at 104

8 US v California: 381 US 139 (1964)

9 ibid. at 176

10 See e.g. O'Connell I: p. 182; Shalowitz: cit. above.

11 See Marston: 51 BYIL 1980 p. 263, 264

12 Chen Yin Ten v Little: 11 Austr. LR 353 (1976) Li Chia Hsing v Rankin: 141 CLR 182 (1979)

13 141 CLR 182 at 192

14 See also Sea Shore Act of 1935

15 cf. Durante/Rodino: Western European ...

16 Norway, Portugal, Spain, Germany; see Durante/Rodino: cit. above

17 2 QB 740 (1968)

18 Aurrocoechea: 1 IJECL 1986, p. 29 at 39

19 ibid: p. 38

20 Aurrocoechea: 1 IJECL 1986, p. 29 at 39

## III ESTABLISHMENT OF THE BASELINE IN SPECIAL CASES

The establishment of a baseline along a coast is dependant on the establishment of a LWM. As described above, different methods exist to define the low-water line in ordinary cases. In addition to that it is obvious that a low-water line as a baseline cannot be drawn along every coast without some exceptions. Apart from finding the exact LWM on the shore, many geographical features have to be taken into account. The straight baseline system helps in dealing with difficult matters like deeply indented coasts. Other special provisions have to be found for rivermouths, bays, islands, archipelagoes, harbours and low-tide elevations. Some references are made in the 1982 Convention, and it is necessary therefore to examine how the establishment of the baseline is affected.

### III(i) Bays

To deal with the special circumstances of bays, that is, to enclose the water inside a bay, the concept of Internal Waters is important.

The earliest attempt to handle this problem was made in 1604 by James I of England. He issued a proclamation that the Crown's officers should protect merchant shipping from attack on the coasts near to harbours within straight lines drawn from "headland to headland".[1] Those segments of waters under special jurisdiction were called "King's Chambers".

A more relevant event in the legal history of bays took place in 1818, when a United States - Great Britain Convention was signed. In that Convention the United States renounced the right "forever, any liberty

heretofore enjoyed or claimed by the inhabitants thereof, to take, dry, or cure fish on, or within three marine miles of any of the coasts, bays, creeks, or harbours of his Britannic Majesty's dominions, in America."[2] Although in general rather a treaty concerning the Territorial Sea, the question of bays was brought to a Court of Arbitration. In 1910, in the North Atlantic Coast Fisheries Tribunal, the Permanent Court of Arbitration in the The Hague had to decide seven questions arising from the Convention. It stated:

> "In case of bays, the three marine miles are to be measured from a straight line drawn across the body of water at the place where it ceases to have the configuration and characteristics of a bay. At all other places the three marine miles are to be measured following the sinuosities of the coast."[3]

The Court did not define what a bay in legal terms is, but for the first time - apart from some acts and treaties[4] - a multinational institution acknowledged the special status of bays: Waters which were to be treated as inland (internal) water, enclosed by a line which, at the same time, would constitute the baseline for the Territorial Sea.

However, this decision only reflected international practice. Customary Law has always recognized that bays have a close connection with land and that it is more appropriate to consider them as Internal or Inland Waters.[5] But at the same time, it failed to provide clear rules on two essential points: the criteria by which an indentation of the coast would be recognised as a bay and the maximum length of the closing line.

During the several conferences held later, experts tried to resolve these questions. Some suggestions were made at the 1930 Conference concerning the problem of distinguishing bays from mere indentations in the coastline.[6] The most important one was that of the United States delegation,[7] which was the basis of the so-called semi-circle method. This method, which provides an easy way of ascertaining a bay, was finally incorporated in the 1958 Convention (Art. 7(2)) and also in the 1982 Convention (Art. 10(2)):

> "For the purpose of the Convention, a bay is a well-marked indentation whose penetration is in such proportion to the width of its mouth to contain land-locked waters and constitute more than a mere curvature of the coast. An indentation shall not, however, be regarded as a bay unless its area is as large as, or larger than, that of a semi-circle whose diameter is a line across the mouth of that indentation. (Art. 10(2) LOSC)."

That paragraph provides a relatively clear definition of a bay. In connection with the other paragraphs, Art. 10 LOSC gives almost an objective, legal determination of a geographical feature,[8] although certain ambiguities are left.[9] The area of the bay is to be measured from the LWM around the shore[10] and, if necessary, from the LWM along all rivers and creeks as long as they are tidal.[11] (Fig. IV, V).

Concerning the question of the length of the closing line, divergent views were expressed over the years. In his memorandum for the second sub-Committee at the 1930 Conference, the German delegate, Schücking, proposed the idea of a length of twice the breadth of the Territorial Sea, which he determined as 6 miles.[12] There was,

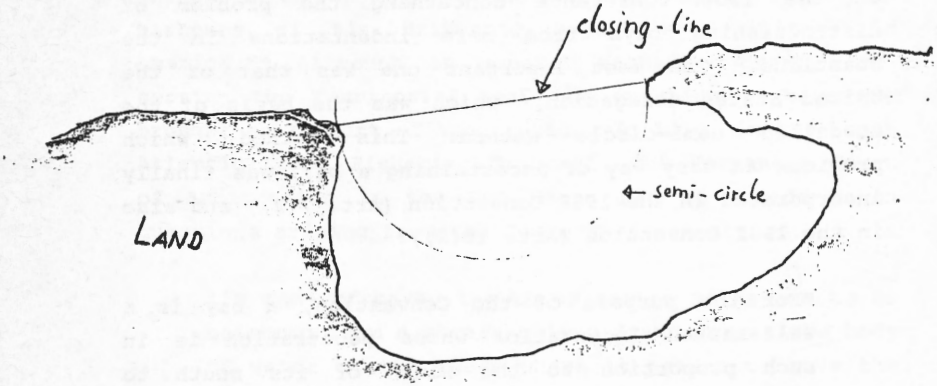


FIG IV : BAY

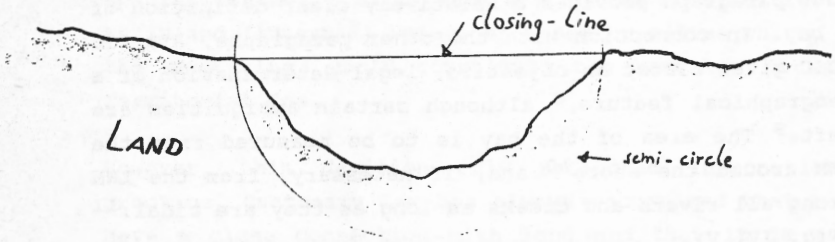


FIG. V : INDENTATION

however, no agreement on the matter apart from a general statement, that a closing-line should not be longer than 10 miles.[13] During the preparations for the 1958 Conference, the ten-miles rule was proposed again,[14] although the International Court of Justice had just rejected that view.[15]

At the Convention itself in 1958, the delegates supported a 24 mile closing line, which was then adopted in the 1958 Convention (Art. 7(4)) and also accepted in the 1982 Convention (Art. 10(4)). It reflects the conception of twice the breadth of the Territorial Sea too.

It is necessary to examine some special problems which arise out of the application of Art. 10 LOSC:

1 The Closing-Line

One of the major problems of the application of Art. 10 LOSC is the mere drawing of the closing-line. In Art. 10(3) provides that for the purpose of measurement the closing-off line is a line "joining the low-water mark of its [the bay's] natural entrance points."

If the indentation is well marked and if it is more than only a curvature of the coast as provided in paragraph 2, the bay will inevitably have natural entrance points which are clearly discernable. But as it is, there are only a few indentations which are easy to close off by finding the appropriate points. Usually "headlands" are subject to almost limitless variations. Most of the bays have (at least on one side) a coastline which makes it almost impossible to ascertain the natural entrance point. In some cases there will be indentations on both sides to make a determination impossible. However, the

number of these formations is infinitely small, Strohl - after consulting numerous charts - even pointed out that he was unable to find even one.[16] Be that as it may, in the case of quite a few bays the matter at issue is that they offer alternative entrance points, so that an unequivocal determination is almost impossible.

In this connection the best-known case is that of Post Office v Estuary Radio Ltd,[17], where the English Court of Appeal had to decide whether the Thames Estuary is legally a bay. Although in principle a bay is not the same as a rivermouth, for some reasons it can be dealt with similarly to cases where the rivers do not flow directly into the sea but enter it via estuaries. The question of the baseline should then be governed by the provisions concerning bays.[18]

To fulfil the qualifications of Art. 7, TSC which was applicable in English Law, the closing-off line of the Thames Estuary had to lie at certain points. Otherwise, it would have failed the semi-circle test (Art. 7(2)). The experts, called on behalf of the Post Office, gave their opinion on the problem of the natural entrance points. They stated that one need only look at the low-water line as delineated on the chart round and adjacent to the indentation to see if there can be found two points which can be considered as natural entrance points. These points must mark the coast line sufficiently as to be identifiable as the points at which the indentation begins.[19]

The expert opinion evidence introduced by Estuary Radio was the opposite. To find the natural entrance points the test is not purely cartographical but has to take a number of other factors into account: the geology of the coastal area, the tide streams, the position of shoals

etc.[20]

On this matter the Court preferred the evidence of the Post Office. It held that the purpose of the 1958 Convention was to enable the boundaries of the Internal and Territorial Waters to be ascertained.[21] To make this as easy as possible only cartographical aspects had to be taken into account.

In accordance with this argument, the Thames Estuary qualified as a bay. This could be established by a semi-circle drawn from the line The Nace - Foreness.

The Court made it clear that only cartographical aspects matter for determining the natural entrance points. Yet the difficulties inherent in deciding where the entrance of a bay is, can be seen in the judgement itself. It stated that to constitute a bay, an indentation must be well marked and in particular must have an indentifiable and measurable mouth. In addition, there had to be points on the coastline at each side of the bay by means of which the entrance could be ascertained.[22] That definition does not really help. Although The Nace and Foreness are identifiable points, it is not at all obvious that they are the only possible natural entrance points.[23]

It is thus rather difficult to define the entrance of a bay objectively and without ambiguity. However, already in 1952 a Special Master Report, submitted to the Supreme Court in the United States v California case,[24] showed quite a practical way to resolve the problem.[25] In the case of pronounced headlands, the appropriate landmark should be the point of intersection of the plane of ordinary low water with the outermost extension of the natural headlands. Where there is no pronounced

headland, it suggests bisecting the angle formed by a line coinciding with the general trend of the low-water mark along the open coast, and a line coinciding with the general trend of the low-water mark along the bay or tributary waterway.[26] (Fig. VI) The weak point of that proposal is, as it is in the straight-baseline discussion, the general direction or trend of the coast,[27] but in spite of that it gives a satisfactory solution for equivocal entrance points.[28]

In cases where the entrance of an indentation can be determined at least on one side, the problem is reduced. Besides the method just mentioned a closing-off line can also be drawn from the well marked side to the closest point of land on the opposite side.[29] (Fig. VII) If the length is less than 24 miles, the Coastal State may use another point to ensure a length of exactly 24 miles to acquire the greatest possible area of Internal Waters.[30] If the length is more than 24 miles, the line can be used to prove the existence of a bay under the semi-circle rule.

2 Islands as Headlands

In drawing the closing line of a bay, certain physiographic and geometric principles are followed in ascertaining the exact points of the headlands between which the line is to be drawn. The question arises here whether islands or even low-tide elevations can be used as points of departure or arrival for that line, because the LOSC does not clarify this point (Art. 10 (2:3)).

This problem was dealt with in the case United States v Louisiana[31]. The United States argued that the then 1958 Convention would prohibit the drawing of closing lines to islands, since a true bay was only an indentation in

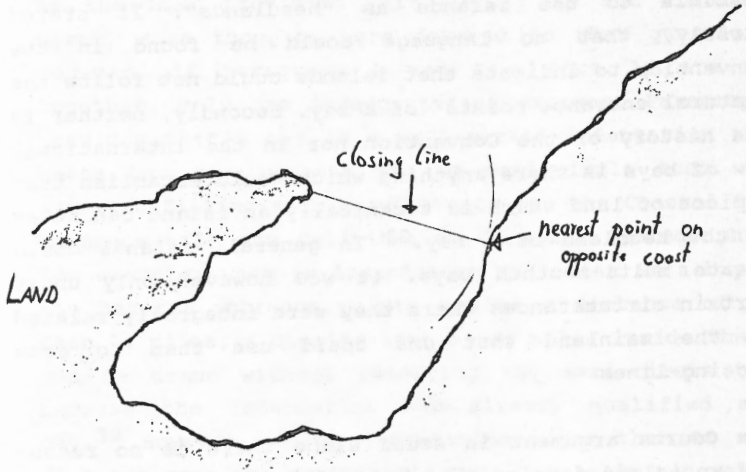


FIG. VII: BAY WITH ONLY ONE PRONOUNCED HEADLAND

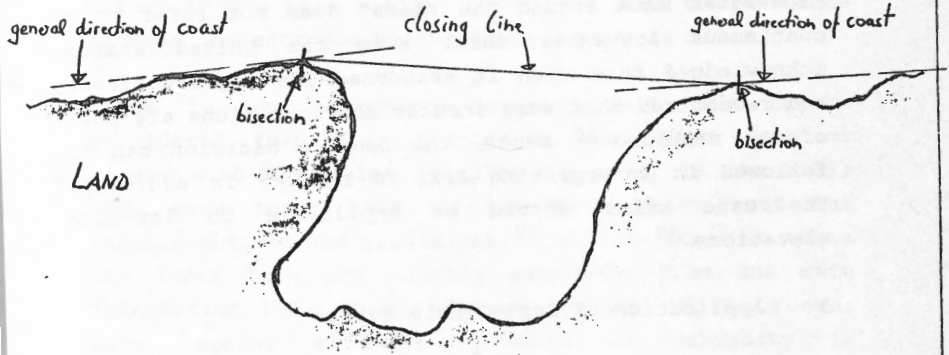


FIG VI: BAY WITHOUT PRONOUNCED HEADLAND

the mainland.[32] The Court however held that it is also possible to use islands as "headlands". It stated firstly, that no language could be found in the Convention to indicate that islands could not follow the "natural entrance points" of a bay. Secondly, neither in the history of the Convention nor in the International Law of bays is there anything which would establish that a piece of land which is technically an island can never be the headland of a bay.[33] In general, islands could create multi-mouthed bays. It was however only under certain circumstances where they were integrally related to the mainland that one could use them to draw closing-lines.

The Courts argument is sound since there is no reason why an island forming the obvious turning point of a bay and coast must not be taken into account for measurement.[34] Waters do not cease to be "landlocked" if an additional narrow opening to the sea is conceded, provided they already have that characteristic, and the "low-water mark around the shore" does not refer to a continuous low-water mark. Even the United States acknowledged this when it abandoned its rigid position and recognized that some insular configurations are part of the mainland.[35] Hence, the Court's decision can be followed in interpreting Art. 10 LOSC.[36] In addition, the same rules should be applicable to low-tide elevations.[37]

### 3 Application of Semi-Circle Rule

At this point it is necessary to examine where the semi-circle test is to apply. The two possibilities are firstly the line connecting the natural entrance points of the indentation and, secondly, if this line is longer than 24 miles, the 24 miles closing-line.

As the LOSC provision (Art. 10(2)) is not absolutely clear, some thoughts were devoted to that question.[38] However, if paragraph 2 and 3 of Art. 10 are read together, only one interpretation emerges. Paragraph 2 provides that a bay is a well-marked indentation which meets the requirements of the semi-circle test. Only after fulfilling such requirements can the Coastal State commence with the delimitation of zones (paragraph 3). For example: when an indentation qualifies as a bay but the natural entrance points are at a distance of more than 24 miles, a closing-line of 24 miles inside the bay can be drawn without repeating the semi-circle test, because the indentation has already qualified as a bay.[39] However, if an indentation wider than 24 miles does not meet the semi-circle test, it is in general not possible to apply the test on a 24 mile line within the indentation to constitute it a bay. Since the whole indentation "landwards" of the natural entrance points is not a bay, parts of it cannot qualify as a bay either.[40] The same applies of course when the distance between the entrance points is less than 24 miles.

There is one exception however which has to be considered. Even if an indentation, when taken, does not comply with the rules relating to bays, it can still have some inner bays or sub-bays, which meet the requirements of the provisions.[41] This is possible where the inner bays are clearly separable from the main indentation by natural entrance points of their own. Here, again, a certain amount of ambiguity is inevitable.[42]

## 4 Closing-Line inside an Indentation

Another problem concerning the drawing of a closing line emerges, when more than one closing line is possible. This is the case when the distance between the natural entrance points is more than 24 miles. Then, a straight baseline of 24 miles can be drawn within the bay in such a manner as to enclose the maximum area of water that is possible with a line of that length (Art. 10 (5)). Since there are many ways of ascertaining such a line the decision is left to the Coastal States - independently of the need for a headland.[43] (Fig. VIII) For example, the Gulf of Taranto (Italy, 75 miles across) meets the semi-circle requirement at its entrance. Within the bay, more than one closing-line with a length of 24 miles is possible and the obvious geographical choice for the location of such a line is not the location which yields the maximum area of enclosed water.[44] However, according to Art. 10(5) LOSC Italy is allowed to draw the line where it might best serve its interests. The reason for this is the fact that the 24 miles closing-line is an arbitrary limitation only, without any reference to geographic features,[45] except that it must be drawn from point to point along the low-water mark.

In addition the closing-line is also independent of the straight-baseline provision concerning the "general direction" of the coast[46] - it can be determined therefore irrespective of all provisions except that which allows the State "to enclose the maximum area of water that is possible with the line of that length."

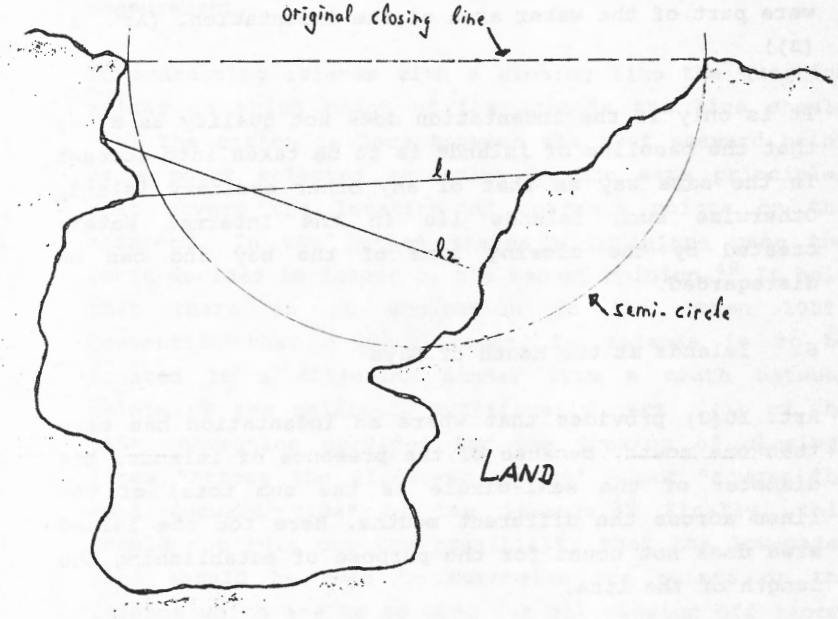


FIG. VIII : BAY WITH CLOSING LINE > 24 m

(new closing line is inside the bay, $l_1$ or $l_2$, without new semi-circle test)

## 5 Islands inside an Indentation

If islands are located within an indentation, they have no influence on the closing-line as baseline. For the purpose of measurement they shall be included as if they were part of the water area of the indentation. (Art. 10 (3))

It is only if the indentation does not qualify as a bay that the baseline of islands is to be taken into account in the same way as that of any other ordinary island. Otherwise such islands lie in the Internal Waters created by the closing line of the bay and can be disregarded.

## 6 Islands at the Mouth of Bays

Art. 10(3) provides that where an indentation has more than one mouth, because of the presence of islands, the diameter of the semi-circle is the sum total of the lines across the different mouths. Here too the island area does not count for the purpose of establishing the length of the line.

Geography, however, accounts for bays where the islands do not lie in a direct line between the entrance points. Some are partly inside, others just outside. In the latter case a reasonable approach is to draw the closing line not strictly from point to point on the mainland but to connect the islands to construct a new closing-line.[47] This would not only simplify the baseline (otherwise each island has its own baseline) but also corresponds to the general regime of bays. According to Art. 10(1), a bay should contain "landlocked" waters, and islands situated in the immediate vicinity intensify this situation.

Islands completely within a bay do not therefore count and islands outside can form a new closing line.[48] As far as islands which are partly along the direct closing line are concerned, the island area inside the indentation does not count for the purpose of measurement.

In connecting islands with a closing line the question arises on which point of the islands the line should lie. The option is here between the most seaward point or a point selected according to the same principles that govern the location of entrance points on the mainland. In the United States v Louisiana case the Court decided in favour of the second opinion.[49] It held that there is no suggestion in the (then 1958) Convention that a mouth caused by islands is to be located in a different manner from a mouth between points on the mainland. Additionally, Art. 7(3) of the 1958 Convention provided for the drawing of closing-lines "across the different mouths" - not "across the most seaward tips" of the islands.[50] Finally, this should not rule out the possibility that the low-water line should be used to determine the points on the islands which are to be used for all closing off lines. The baseline on the outer coasts of the islands between the termination of one shared closing line and the commencement of another should be the ordinary low-water mark. The selection of low-water marks on islands at the natural entrance points to the bay (rather than at the tip of the islands) will serve to shorten the overall length of the straight closing line since this is calculated by adding together the largest of the various closing lines. The area of the semi-circle to be used for area calculation will thus be reduced somewhat and this could favour the State by allowing it to close off a bay whose area exceeded that of the semi-circle in

question but would not exceed the area of a semi-circle whose diameter was the total length of straight base-lines drawn around the tips of islands. (Fig. IX)

## 7 Historic Bays

Historic bays are referred to in Art. 10(6), which states that the foregoing provisions - Art. 10 para 2-5, concerning bays the coasts of which belong to a single State - do not apply to them. A positive definition is neither included in the 1982 nor the 1958 Convention.

However, a way for coastal zone delimitation must be found too, although the whole question of Historic bays is still unsettled in conventional law.[51] It is necessary to ascertain waters which are regarded historically by States as belonging to their area,[52] since at present about 20 States claim historic bays, including the USA (Chesapeake Bay), the USSR (Peter the Great Bay) and Canada (Hudson Bay).[53] The closing-lines of most of them would be more than 24 miles.

If a bay is internationally acknowledged as a historic bay because of a valid historical claim by a State,[54] the baseline for coastal zone measurement should be drawn according to the general conventional rules concernig "true" bays. Although it seems at first view to contradict Art. 10 (6), at least two supporting reasons can be found: Simplification and the interests of States. Firstly, the main interest of a State in claiming a bay as historic is to exercise certain territorial rights over its waters and hence to draw a closing line at the entrance of the bay. Secondly, the construction of a closing line for a Historic bay should not deviate unnecessarily in form from the construction of a closing line of a true bay.

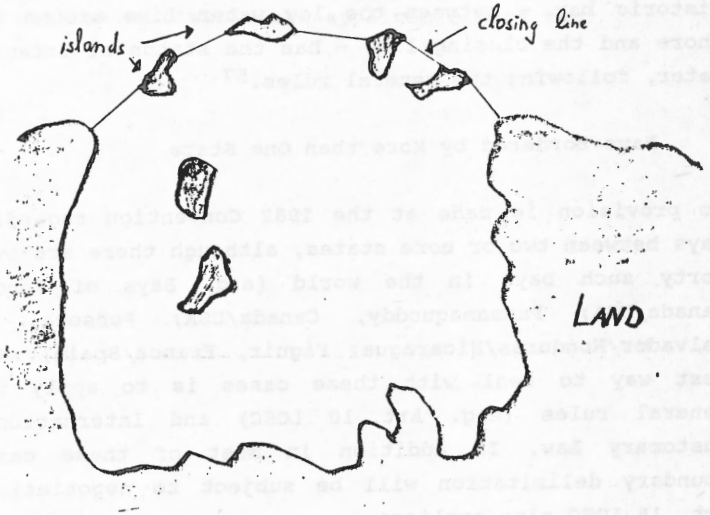


FIG IX : CLOSING LINE OF MULTI-MOUTHED BAY

In practice this means that the closing line of a historic bay is to be drawn from the LWM at the two natural entrance points according to the rules for true bays. Taking into account that the main aim of Art. 10(6) is only to define Historic bays, this appears to be a reasonable approach.[55] The exception is that a limitation of 24 miles for the closing line is here obviously not applicable.[56] The water area within the Historic bay - between the low water line around the shore and the closing line - has the status of Internal Water, following the general rules.[57]

8 Bays Bordered by More than One State

No provision is made at the 1982 Convention regarding bays between two or more states, although there are over forty such bays in the world (e.g. Bays of Fundi, Canada/USA; Passamaquoddy, Canada/USA; Fonseca, El Salvador/Honduras/Nicaragua; Figuir, France/Spain). The best way to deal with these cases is to apply the general rules (e.g. Art. 10 LOSC) and International Customary Law. In addition in most of these cases boundary delimitation will be subject to negotiation. Art. 15 LOSC also applies:

> "The above provision [median line] does not apply where it is necessary by reason of historic title or other circumstances to delimit the Territorial Seas of the two States in a way which is at variance therewith."

For example, in the case of Fonseca Bay the Central American Court of Justice (now defunct) decided that the bay was closed-off by a straight baseline. The three riparian States Nicaragua, Honduras and El Salvador were the co-owners of the water-area, but each of them had an

exclusive 3 mile Territorial Sea.[58]

In general, it is impossible to draw up a binding rule applicable to all cases because each bay of this type is in itself a special situation where State practice has evolved over many years.[59]

However, the provisions regarding the LWM and the baseline as a whole are applicable here too.

## III(i) FOOTNOTES

1 Knight: pp. 5-32; see Chapter I, Fn. 26

2 Moore I: (text of Convention) pp. 780-781

3 Award of the Tribunal: I North Atlantic Court Fishing Arbitration 1910, p. 96

4 Norwegian, Russian, English and French Treaty: see Memorandum 2nd Subcommittee 1930 Conference

5 Churchill/Lowe: p. 30; see also Knight: ibid

6 See in detail O'Connell I: p. 339

7 Text in Boggs: 24 AJIL 1930, pp. 541-551

8 Hodgson/Smith: p. 237

9 See infra: The Closing-line, p. 35

10 Analogy to Art. 10(3)

11 cf. infra: Post Office v Estuary Radio p. 54

12 In Rosenne Cod. 2: p. 65

13 Rosenne Conf. 4: Report of 2nd Subcommittee pp. 217-218

14 ILC-Yearbook 1952 VI, p. 34; repeated 1953 II, p. 4

15 Anglo-Norwegian Fisheries Case ICJ - Report 1951, p. 116 at 130

16 Strohl: p.62

17 United Kingdom 1968 2 QB 740

18 Churchill/Lowe p. 34; Strohl: p. 59

19 1968 2 QB 740 at 758

20 Ibid.

21 Ibid: at 759

22 Ibid. at 755

23 Churchill/Lowe: p. 32

24 332 U.S. 19

25 The Special Master's Report No 6, original October Term 1952 (Reprinted in 57 ILR 1980, p. 54)

26 Ibid; see also Shalowitz I: p. 64

27 O'Connell I: p. 412; see chapter III iii 1

28 cf. US v California 382 US 448 at 451 with a similar recommendation

29 Strohl: p. 63

30 However only when one side of the bay has clearly no pronounced headland

31 394 US 11 (1969)

32 Ibid. at 61

33 Ibid. at 61/62

34 O'Connell I: p. 413

35 394 US 11, at 63 (the bay referred to in 394 US 11 was East Bay, Mississippi Delta, Louisiana. See also Louisiana v Mississippi: 202 US I at 45, 46

36 cf. Strohl p. 76 (Saronikos-Golf, Greece); Shalowitz I: p. 162 ("each case must be individually considered"); Boggs in 45 AJIL 1951: pp. 240-258

37 O'Connell I: p. 413. The distance between the island and the mainland should be closed by a line following the same principle as in the case of multi-mouthed bays, although the length is negligible.

38 See the opinion given by Strohl: p. 62

39 O'Connell I: p. 409

40 Strohl: p. 62; O'Connell I: ibid; different opinion Shalowitz I: p. 223

41 O'Connell I: p. 410

42 cf. Peter the Great Bay, see Strohl: pp. 332

43 Shalowitz I: p. 224

44 Example from Strohl: p. 64; but see his conclusion, ibid.

45 Shalowitz I: p. 224 fn. 36 wfr.

46 O'Connell I: p. 408; see chapter III iii 1

47 Shalowitz I: p. 225; cf. Alexander: 23 VJIL 1983, p. 503 at 507

48 cf. O'Connell I: p. 405

49 394 US 11 at 55/56

50 Ibid. at 56; cf. O'Connell I: p. 405

51 For customary law cf. Strohl: p. 330

52 cf. O'Connell I: p. 425

53 Resources: Churchill/Lowe p. 32; Strohl: pp. 253-268

54 See for validity of such claims Barrie: VI CILSA 1973, p. 39 at 61; cf. with the discussion of Peter the Great Bay in Strohl: p. 332

55 Churchill/Lowe: p. 32

56 Ibid.

57 Barrie: VI CILSA 1973, p. 39 at 43; but cf. view of Canada concerning Hudson Bay: "the entire body of waters ... is regarded by Canada as part of its Territorial Waters." (Under-Secretary of State for External Affairs 19.11.65).

58 See Strohl: p. 376

59 Ibid.

## III(ii) River Mouths, Estuaries and Deltas

### 1 River Mouths

Waters of rivers are treated as belonging to the surrounding State. They are referred to as Internal Waters in the 1982 Convention (Art 9, 8(1)). At river mouths Art. 9 provides baselines:

> "If a river flows directly into the sea, the baseline shall be a straight line across the mouth of the river between points on the low-water line of its banks."

This article is almost similar to Art. 13 of the 1958 Convention.

The problem faced in drawing a baseline across a river mouth is identical to that of drawing a closing-off line at bays - the current usually has no influence on the width of the mouth. The equivalent of the "natural entrance points" is here "the mouth of the river". No special criteria are laid down to determine the legally and geographically appropriate points, so in general for drawing the closing line one should apply the rules for bays.[1] Additionally, suggestions have been made which ranged from the concept of the general direction of the coast and navigability to changes in the freshness or salinity of the water.[2]

However, the baseline of a rivermouth is of less importance than that of a bay because only a few rivers have a width of such a length that different basepoints would shift the outer limit of the Territorial Sea to a noticeable extent (e.g. Amazonas, Orinoco). The great majority of rivers are relatively small and a closing

line across their mouth will have little influence on an extension of the Territorial Sea.[3]

If a mouth of a river is wider than 24 miles, a baseline can be drawn without the length restriction imposed by Art. 10. The length of the closing-lines of rivers is therefore not restricted to 24 miles.[4]

2 Estuaries

As the text clearly indicates ("if a river flows directly into the sea"), Art. 9 does not apply to rivers which reach the sea via an estuary. The mere fact though, that a river broadens as it approaches the sea does not make it an estuary, for the deep current may not continue beyond the point where the river loses its stream-shape and assumes the configuration of a bay.[5] No special provision is made for this case either in the 1982 Convention or the 1958 Convention, although a paragraph regarding estuaries was suggested by the ILC but later dropped at UNCLOS I.[6]

However, the usual approach is to apply the rules for bays (Art. 10) to estuaries too.[7] That may be appropriate where the estuary flows into a gradually widening indentation so that the rules for bays are also geographically relevant in the case. On the other hand, it can lead to rather curious forms of measurement. The following two examples may illustrate this:

a) Post Office v Estuary Radio

In the Post Office v Estuary Radio case, the baseline for the Thames estuary was governed by the provisions of the 1958 Convention concerning bays. The questions arose whether the Thames would qualify as a "bay" with the

natural entrance points Oxfordness and Foreness.

The estuary would have met the required semi-circle test only by taking into account the low-water line of the Thames up to Richmond lock including the subsidiary rivers as far as they were tidal. This view was contended by the Post Office,[8] whereas Estuary Radio Ltd pleaded for at least closing off the subsidary rivers at their mouths.[9]

By examining a map, the impression is created that both parties misinterpreted the original intention of the expression "bay". The Thames at Richmond lock can hardly be described as a bay. Nevertheless, it is admitted that the whole semi-circle test as proposed in both Conventions is an artifical construction which is applicable not only to "natural" bays. In an earlier stage of the proceedings, O'Connell J came to this conclusion and said, obiter:

> "One has to go up every river and creek which has got a low-water line to it, to the limit, and difficult as it may be to produce the resultant calculation, that is the right way to do it ... I see no logical ground for stopping at any particular place on the low-water line."[10]

No answer to this question was given by the Court of Appeal because it held The Nace and Foreness to be the natural entrance points, thus enclosing the controversial area by another closing line. Diplock L J explicitly declined a ruling since it would not have affected the appeal.[11]

b) The River Plate

The second well-known example of an estuary is the River Plate. It has a surface area of about 40 000 square miles and a closing line corresponding with the general direction of the South American coast would be 190 miles in length.[12]

In terms of salinity and tidal stream the river ends at a line joining Montevideo and Punta del Indio. Officially, Argentina and Uruguay - the two coastal States - issued a joint declaration drawing a baseline across the mouth of the estuary (1961).[13] The line is 120 miles long and joins Punta del Este in Uruguay with Cabo San Antonio (Puerta Rosa) in Argentina.

Both States regard the River Plate as a river in accordance with Art. 9 LOSC (or the then Art. 13 of the 1958 Convention) and not as an estuary. This is understandable because as a "bay" the whole estuary would not meet the semi-circle test. The claim is however not likely to be internationally acknowledged. It faces protests by various States,[14] regarding location and the fact that the estuary has in the past been claimed, inconsistently with the present claim, as a Historic bay.[15]

Another problem here is that the straight baseline in question connects two States.[16] No provision is made for this case in the LOSC and it is obvious that such a construction encloses another huge water area and endangers the freedom of the sea.

Nevertheless, to compare rivers like the Thames with bays, or others like the River Plate with ordinary rivers is unsatisfactory. The problem of estuaries

remains "obscure and its solution difficult to propound".[17] It appears to be preferable to deal with rivers which flow into an estuary and with rivers which flow directly into the sea in the same way. The mouths of all rivers should be closed off under the rules of Art. 9. The question of the estuary should then be handled like every other indentation, the area of water is measured around the low-water mark where the river is tidal and the closing-off line will be at the river mouth.

### 3 Deltas

In the case of deltas[18] Art. 9 and Art. 10 would not furnish an appropriate solution to the problem of closing lines. Hence there is a special rule in the straight baselines Article 7 relating to deltas. Paragraph 2 states that straight baselines may be drawn in delta conditions to close off the river. The furthest seaward extents of the low-water line can be selected as basepoints. This line even remains effective when the delta retreats.[19] Art. 7(2) thus provides for the only exception in the Convention where a baseline can be completely independent from the LWM.

The general rules, especially those independant of the LWM relating to islands and low-tide elevations are valid here too.

## III(ii) FOOTNOTES

1 Shalowitz I: pp.62-63

2 Ibid; wfr; O'Connell I: pp. 221, 224

3 Although this is applicable probably only to estuaries; Hodgson/Smith: p. 237

4 Hodgson/Alexander: p. 3; Churchill/Lowe: p. 33; Alexander: 23 VJIL 1983, p. 503 at 513

5 estuary: partly enclosed coastal body of water in which river water is mixed with sea water. Estuaries occupy a wide range of geographical situations. The important characteristics of an estuary are its physical dimensions, which restrict wave actions, the action of its tides and the variations in its salinity between its fresh river water and sea water. In common with deltas, estuaries are zones of coastal sedimentation. Unlike deltas, however, they are generally submerged daily by tidal waters. Encyclopaedia Britannica, Micropaedia: "estuary"

6 UNCLOS I, Official Records Vol III: p. 193

7 Shalowitz I: p. 62-63; Churchill/Lowe: p. 34; (1968) 2 Q.B. 740 (Court of Appeal)

8 1968 2 Q.B. 740 at 760

9 Ibid

10 WLR 1967 I, p. 847 at 864

11 1968 2 Q.B. 740 at 760

12 Dates from: Politica exterior de la Republica: Cuestiones de limites: Rio de la Plata (Publ. by Uruguay Foreign Ministry 1964)

13 Test of declaration: LIS No. 44, 1972

14 USA, France, UK, Italy, Netherlands

15 Churchill/Lowe: p. 34

16 See supra p. 66

17 O'Connell I: p. 398 fn 32

18 delta: low-lying plain that is composed of stream-borne sediments by a river at its mouths. The presence of a delta represents the continuing ability of rivers and river systems to supply and deposit stream-borne sediments more rapidly than they can be removed by waves and ocean currents.
Encyclopaedia Britannica, Micropaedia: "delta"

19 Bangladesh - Amendment (Ganges Delta)

### III(iii) Straight-Baseline System

In International Customary Law it has been established for a long time,[1] the straight-baseline system is an important method of measuring coastal zones. Although it is constructed quite differently from the standard low-water line, it too relies on the LWM for every single basepoint. Moreover, it is still only a substitution for the "ordinary" baseline, but is recognised as a distinct one for delimitation purposes.[2]

The straight-baselines method authorized by Art. 4 TSC and Art. 7 LOSC, reflects the 1951 decision of the ICJ in the Anglo-Norwegian Fisheries Case, which dealt with a straight baseline system for the Norwegian coast. Because only a few amendments were made in Art. 4 TSC and Art. 7 LOSC, the general rules, as laid down by the Court, are still valid. The ICJ also articulated the reasons for establishing the straight-baseline system in International Law. It pointed out, that in certain areas, there is a close dependence of the Territorial Sea upon the land domain and a unique relationship between sea areas and the land formations which divide or surround them. Additionally a State must be able to adapt its sea boundary delimitations to its practical needs, which are different in countries e.g. like Italy or Iceland.[3] The Court's decision took into consideration that coastal zone law has to make allowances not only for a special geographical situation but also for the local requirements of a region.

The idea, which is the basis of the application of the rules relating to bays, shall only be used in the case of a coast, the geographical configuration of which is as unusual as that of Norway.[4] Both the Conventions also regard the method as being limited to exceptional

geographical circumstances.[5]

## 1 Establishment of Straight Baselines

Art. 7(1) LOSC provides that where a coastline is "deeply indented or cut into" or where a "fringe of islands" lies along the coast, the use of straight baselines can be considered. These descriptions are relatively clear, they only state the requisite conditions.[6]

Apart from them, Art. 7 further limits the use of straight baselines by means of some extra provisions of a general nature. Paragraph 3 says that the drawing of straight baselines must not depart to any appreciable extent from the general direction of the coast. Even more so than the provisions of paragraph 1, paragraph 3 seriously lacks precision.[7] No universally accepted criteria exist for determining whether or not a baseline system follows the general direction of the coast.[8] Where a coast is deeply indented, with many points not representing any special direction - in fact often running in quite different directions - it is almost impossible to recognize the general trend. Furthermore, there are practical difficulties. The problem is how much of the coast has to be taken into account for the purposes of making such a determination. But even with the best formula, the concept of the general direction of the coast is rather a matter of appreciation than of scientific discovery. A considerable margin of appreciation in favour of the coastal state must therefore be allowed.[9] Already the ICJ had admitted that the straight-baseline system is "devoid of any mathematical precision".[10] The concept of connecting the outermost points of the outermost islands as a determinant of the general direction is slightly

deceptive. Using this method, any line connecting any two islands would follow the general direction of the coast. Hence, this rule leaves it more or less in the hands of the coastal state to ascertain the baseline in a reasonable way. As a guiding principle, the suggestion has been made that single segments of the straight baselines should not depart more than 15° from the general direction of the coastline[11] - which only helps, of course, if the direction is determined.

Another supposition is to be found in paragraph 5. By drawing straight baselines, account may be taken of "economic interests peculiar to the region concerned, the reality and importance of which are clearly evidenced by long usage". The intention is that economic interests alone do not justify the use of straight baselines, only the whole configuration of the coastline does that.[12] The most obvious example is here fishing, which was, not surprisingly the interest at issue in the Fisheries Case. But special ports or oil production are other points which may count. On the other hand, even with the application of paragraph 5, it is clear in every instance where straight baselines have been employed, that the motivation has been mainly economic - pushing the outer limit of zones further seaward to protect national interests. Certain disadvantages could even follow from the term "which are clearly evidenced by long usage". For coastal countries without an established maritime tradition, it may be difficult to make use of this argument in justifying a particularly long baseline.

In establishing straight baselines the question of the possible length of every single baseline has to be dealt with. Yet, in the Fisheries Case, the Court specifically rejected the idea of any fixed limit for such length.[13]

However, it is obviously an element in accessing reasonableness.[14] Generally speaking, the longer the baseline the greater the chance for manifest abuse. Nevertheless, a segment of the line 100 miles long which "skims" a fringe of islands at distances of a few miles would be far more acceptable than a line of 60 miles in length which, in certain areas, is tens of miles from the intervening basepoint.[15] It follows, as far as the length is concerned, that almost any system of straight baselines may be drawn, because there is no maximum length of line and the breadth of the bodies of water determines the necessary baseline.[16] Nevertheless, as said above, reasonableness and good faith are here too an important factor.

An interesting test which can be used in investigating straight baseline systems is to establish the land/water ratio within the whole system. An ideal measurement relates to the land/water ratio contained within the straight baseline system and the normal baselines of the coast. The Norwegian ratio in the Fisheries Case was determined to be 1/3-5, a ratio which still appears reasonable.[17]

It is of further interest to quote some elements which O'Connell, (in the light of the judgement in the Fisheries Case), deemed to be of particular importance in employing a straight-baseline system.[18] Even though now 35 years old, the Judgement still is one of the main sources for the interpretation of Art. 7, since many of the paragraphs of the Article are directly based on the Court's decision.

(i) the coast does not constitute a clear dividing line between land and sea;[19]

(ii) the outer limit of a coastal barrier (skjaergaard) is to be taken into account;[20]

(iii) in this situation, the baseline becomes independent of the low-water mark, and can only be determined by means of a geometric construction;[21]

(iv) the coast must be viewed as a whole;[22]

(v) the Court followed the Norwegian contention that it was invoking history, together with other factors, to justify the way it was applying general law, rather than to prove exceptional rights.[23]

(vi) toleration by foreign States was not of the essence of the matter: it merely evidenced the reasonableness of the Norwegian claim;[24]

(vii) the coastal State may adapt its delimitation to practical needs and local requirements, provided it does not depart to any appreciable extent from the general direction of the coast;[25]

(viii) the inhabitants of the coast derive their livelihood essentially from fishing;[26]

(ix) certain economic interests peculiar to a region are considerations not to be overlooked, the scope of which extends beyond purely geographical factors.[27]

Yet after all, with the creation of the Exclusive Economic Zone the need for the straight-baseline system decreases.[28] Its use is now rather to be found in

simplifying the outer zone delimitation and to secure greater certainty and security for the administration of the law.[29] Therefore, it is still of great importance for sea boundary measurement and abolishing it does not appear either viable or desirable.[30] Furthermore, it is enshrined in International Law.

## 2 State Practice

As it is, the rules governing the use of straight baselines laid down in Conventional Law are relatively imprecise and thus allow States considerable latitude in the way they draw their baselines. The exceptional character of straight baselines postulated in Art. 7(1) LOSC, has been increasingly undermined. It is apparent that there is a trend for straight baselines to be used in ways which break the spirit and letter of the rules.[31]

Shortly after the ICJ decision in 1951, Iceland undertook to draw a series of straight baselines about the island for fishing purposes.[32] Other countries followed suit and today some 50 States (more than half of all coastal States) have enacted legislation which enables them to draw straight baselines.[33]

Of the forty straight-baseline systems so far analysed by The Geographer of the US Department of State, no fewer than 25 are considered in one way or another not to comply with the conventional rules.[34] However, it should be realised that this is a matter of interpretation, and only one point of view - the opinion of the Geographer. Others state that most of the proclaimed straight-baselines appear to conform - at least in general - with the provisions of Art. 7.[35]

In his research about breaches of Art. 7 LOSC, Prescott found five ways in which the rules have been ignored or circumvented by States.[36]

(i) Construction of baselines along coasts which are not deeply indented (12 countries)

(ii) Drawing straight baselines along coasts which possess some offshore islands but which do not form a fringe in the immediate vicinity (3 countries)

(iii) The application of archipelagic baselines by continental states (5 countries)

(iv) The definition of straight baselines not by visible basepoints but just by mathematical points in the sea (10 countries)

(v) The use of undeclared baselines, for example the definition of only the outer limit of the zones (4 countries)

Looking at this, points (i) - (iii) seem to be examples of the difficulties encountered in trying to interpret Art. 7. It is therefore in most cases impossible to characterize actions taken as constituting deliberate breaches of the rules. Every State tries rather to push the limit as far as possible and usually encounters no opposition.

Apart from point (v), where Art. 7 is obviously ignored, the most interesting case is point (iv). The problem is here, that some countries decided to share baselines, for example West Germany and Denmark. They draw one baseline between the Romo-island (Denmark) and the Sylt

Island (West Germany). Both countries start to measure their zones from the boundary, a fictitious intersection of the baseline, drawn from the land boundary. As it is, the boundary point is in the middle of the sea, marked only by latitude and longitude.[37]

It is questionable whether the technique is in conformity with the rules of the LOSC. The rationale in Art. 7(5) is, that straight baselines must be ascertained from appropriate points, which are visible and usually above water. On the other hand this method simplifies the procedure for constructing straight baselines. If no real violence is done to the reasonableness of the straight baseline system as a whole, a circumvention of Art. 7 in this way may be allowed. Especially within Western Europe, "breaches" of Art. 7 like that on the Danish/German border normally do not face protests by other States. This is due to the similar political philosophies of the coastal States and a system of treaties.[38]

Nevertheless, an entire straight baseline system such as that created by Bangladesh in 1974, without even a single basepoint on a low-water mark, cannot be accepted.[39] However, it is probably still too early to say that because of the many breaches of the substance and spirit of Art. 7 this provision is in danger of becoming a dead letter.[40] In this regard one may remark that it is strange that countries like Cuba, Iceland and Senegal have already ratified the Convention although their straight baseline systems most probably contravene Art. 7.

South Africa has not yet taken advantage of this possibility, although its coast complies with Art. 7.[41]

Two examples may be given of straight baseline systems. First there is the United Kingdom, which chose a more conservative way, and second Vietnam.

The United Kingdom has confined its use of straight baselines under the Territorial Waters Order in Council of 1964 (4)[42] to one section of its coastline, the north-west coast of Scotland. It is drawn from the Mull of Kintyre in the south over Islay and Lewis to Cape Wrath in the north. The area to which the system is applied can reasonably be regarded as to be complicated and fringed with islands and the United Kingdom does not take into account the outlying islands of St Kilda.[43] Hence it does not depart to any extent from the general direction of the coast.

A far more radical system was announced by Vietnam in November 1982.[44] It starts at one island 13 miles off the coast near Hue and ends 850 miles south west at another island some 80 miles off the mainland juncture of the Vietnam/Kampuchea boundary with the coast. Single segments of straight baselines are between 150 and 160 miles long, the area of Internal Waters enclosed within the claimed baselines equals 27 000 square miles. Not only that but the statistics of this baseline system appear to be exhorbitant. It is also highly questionable whether the coast of Vietnam qualifies at all for the use of the straight baseline system.[45]

In conclusion it should be mentioned however, that even with the decreasing importance because of the Exclusive Economic Zone, and the difficulties inherent in the interpretation of Art. 7, certain straight baselines may already have set precedents which will possibly be regretted later.[46] Additionally, unchallenged breaches of Art. 7 will make it more difficult to enforce and

define other rules of the LOSC. They will undermine the legal stability of the convention as a whole.

## III(iii) FOOTNOTES

1 See chapter I: fn 27

2 Churchill/Lowe: p. 28

3 ICJ Report 1951: p. 133

4 ICJ Report 1951: p. 123

5 Art. 4 1958 Convention. Art 7 LOSC

6 However, see for State practise infra p. 64 and Atlas of Straight Baselines

7 Cf. already Fitzmaurice: 31 BYIL 1954, p. 371 at 404

8 Alexander: 23 VJIL 1983, p. 503 at 515

9 O'Connell I: p. 214 w/r

10 ICJ Report 1951: p. 116 at 142

11 See Hodgson: Islands p. 21

12 Cf. O'Connell I: p. 216; ILC Yearbook 1956 Vol II p. 268

13 ICJ Report 1957: p. 116 at 131

14 Fitzmaurice: 31 BYIL 1954, p. 371 at 409 cf. Pharand: p. 78

15 Hodgson Islands: p. 22

16 Hodgson/Smith: 3 ODIL 1976, p. 225 at 240

17 Hodgson Islands: p. 23

18 O'Connell I: p. 217

19 ICJ Report 1951, p. 116 at 127

20 Ibid, at 128

21 Ibid, at 129

22 Ibid, at 129

23 Ibid, at 133

24 Ibid, at 138

25 Ibid, at 133

26 Ibid, at 128

27 Ibid, at 133

28 Hodgson/Smith: 3 ODIL 1976, p. 225 at 240

29 O'Connell I: p. 218

30 Hodgson/Smith: 3 ODIL 1976, p. 225 at 240

31 Prescott: 8 MPR 1986, p. 1 at 2

32 LIS No. 34, 1974 (Iceland)

33 Data from The Geographer, US Department of State, US; see O'Connell I: p. 211

34 See LIS; cf. Churchill/Lowe: p. 30

35 Cf. Alexander: 23 VJIL 1983, p. 503 at 517

36 Prescott: 8 MPR 1986, p. 1 at pp. 2

37 cf. Atlas of Straight Baselines: p. 44-45

39 cf. Prescott: pp.292; note however the extension of the West German Territorial Sea in 1984 for parts of the Deutsche Bucht (precautionary area), see BGBl. 1984 I, p. 1366, comments by Kokott/Gündling: 45 ZaöRV 1985, pp. 675; Wolfram: 24 AV 1986, pp. 247

39 Prescott: 8 MPR 1986, p. 1 at 5

40 Prescott: ibid.

41 See Devine: 19 CILSA 1986, p. 85 at 85/86

42 S.I. 1965 III, p. 645

43 Atlas of Straight Baselines: pp. 132-133

44 Atlas of Straight Baselines: pp. 134-135

45 Alexander: 23 VJIL 1983, p. 503 at 519

46 Prescott: 8 MPR 1986 p. 1 at 5

## III(iv) Islands

> "Smaller in size than continents but situated above mean high water at all times are more than one-half million pieces of distinctly subcontinental land territories defined generically as islands. With a combined area exceeding 3 823 000 square miles, islands range in size from mere dots or pinnacles, virtually without measurable surface, to such extensive masses as Greenland, which possesses an area of more than 840 000 square miles."[1]

The rules for measuring the baselines of islands are in general the same as for those of the mainland shore[2] although certain deviations are important enough to be listed. Additionally, special rules are applicable to special island-formations or islands in extraordinary positions such as for example those inside the Territorial Sea.

First of all, however, the question of how to define an island arises. In simple geological terms, an island is a relatively small piece of land surrounded by water,[3] an elevation from the seabed which either approaches or breaks the surface of the sea.[4] Many terms are used to describe different "elevations": islets, rocks, reefs, cays, banks, shoals, atolls and archipelagoes. The problem is which of these features have legal significance, and for this purpose account must be taken of considerations which go beyond those with which the geographer is concerned.[5] In other words, a legal definition in this connection pursues the aim of boundary delimitation and therefore has to find optimum criteria. For example, even though the area of an island may be negligible, it can have a considerable area of EEZ and Continental Shelf. A circular shaped island,

having a 7 mile radius will be 154 square miles in land area. Based on this it can claim 133 533 square miles by way of EEZ, together with the seabed and subsoil of the Continental Shelf extending beyond 200 nautical miles.[6] Provisions relating to islands of different kinds are therefore important.

## 1 Definition

It was not until the 1930 Conference that a conscious attempt was made to define just what the expression "island" comprises. Art. 2 of the 1930 Draft Convention defines an island as "an area of land, surrounded by water, which is permanently above high-water mark". At later conferences, the only significant modification, which was made by an American proposal during the work for the 1958 Convention,[7] was the interpolation of the words "naturally-formed". Purely for the purpose of definition of an island, Art. 121(1) of the 1982 Convention reads as follows:

> "An island is a naturally-formed area of land, surrounded by water, which is above water at high tide."

In order to clarify this article, it is necessary to look into the meaning of the predominant criteria "high tide" and "naturally formed".

### a) Emergence at High Tide

The indispensable characteristic of an island is the "above-surface" requirement. In the phraseology of the 1982 Convention, this is merely "above high tide". In most circumstances, the matter is not doubtful - for example England, Ireland, Greenland etc. It could

however become a controversial issue in some extreme cases like sandbanks, rock-islands and similar elevations.[8]

Is it necessary for a formation to be an island, that it is always above high tide? At the fourth session of the International Law Commission this problem was met with the words: (emerged at high tide) "in normal circumstances",[9] but the 1958 Conference rejected this amendment - at least for the text of the final Convention.

The crucial point here is, of course, the distinction between islands and low-tide elevations, which are described in Art. 13(1) LOSC as naturally formed areas of land which are surrounded by and above water at low-tide but submerged at high-tide. The theoretical approach is easy and logical: the one is above high-water and the other below. But because there is no certain high-water mark defined in international law, and no standard low-water mark, the approach cannot be conclusive. In England, for example, an island is defined in conformity with the 1958 and 1982 Conventions as a naturally formed area of land surrounded by water "which is above water at mean high-water spring tides".[10] Similarly, a low-tide elevation is an area of dry land surrounded by water "which is below water at mean high-water spring tides".[11]

Unfortunately, England provides no standard definition of "mean high-water spring tide". The expression is moreover not entirely exact,[12], although the United Kingdom Delegation during the Channel Continental Shelf Arbitration did refer to it as being "in accord with international state practice".[13]

The uncertainty here is however similar to that of the low-water mark definition and should be resolved in a similar way.[14]

In any case, it is noteworthy to draw attention to the point that an offshore formation is an island within the meaning of the 1982 Convention, even if it is submerged at exceptional tides.[15] On the other hand, Art. 121(1) clearly indicates that an island should normally be above high-tide,[16] whereas the definition of low-tide elevations in Art. 13 says that such formations are normally submerged by the sea, at least one-half of every 24 hours.[17]

b) Naturally-Formed

The second prerequisition of the legal definition of an island, that it should be "naturally-formed", is even more ambiguous than the first. With a certain amount of good will it is feasible to ascertain a high-water line, but to interpret the precise meaning of "naturally-formed" is almost impossible, since different explanations are possible. Does the expression, for example, refer to the materials of construction or to the element of human activity in the process of reclamation? Obviously, completely man-made structures cannot be regarded as naturally-formed. However, it is questionable whether it excludes for example reefs, which are made permanently dry by an accumulation of sand or rubble.[18]

For interpretation purposes, valuable indications can be found by referring to the history of the expression in question, including different views on the problem of artificial islands.

During the 1930 Conference, some delegations were of the opinion that artificial constructions should be assimilated to natural islands provided they rest on the sea-bed and have human habitation.[19] Others delegations, for example the United Kingdom, were more strict and opted for a definition which would not include artificial islands.[20] The vague compromise in the draft report[21] did not exclude artificial islands, "provided these are true portions of the territory and not floating works, anchored bouys etc."[22] This definition of an island, contained in Art. 17 of the draft-report, was then adopted by the International Law Commission in 1956. It stated in addition that certain man-made structures erected on the seabed could be considered to be "islands", although lighthouses and technical installations were not to be taken into account.[23] In spite of these distinctions, some writers did not want to distinguish between artificial and natural islands. It was stated to be "of no primary importance whether an island is natural or artificial".[24] However, in view of developments in science and technology, Jessup's warning became reality. He wrote as early as 1927 that it would be a dangerous doctrine to allow States to appropriate new areas of water by means of artificial structures on hidden shoals.[25]

In the 1958 Convention, only a few references were made to islands. Apart from the above mentioned Art 10 on the legal definition, Art. 4(3) and Art. 9 provided exceptions for artificial installations. Another provision concerning artificial islands can be found in Art. 5(4) of the Convention on the Continental Shelf 1958, which prevents installations connected with the exploitation of natural resources and located on the Continental Shelf from having the status of islands. The entire trend here would seem to be to deny a Territorial

Sea to artificial installations other than those referred to.[26]

Later, Rumanian Draft Articles on the delimitation of ocean space between opposite and adjacent States, submitted at the UNCLOS III in 1974, supported this view.[27] The proposal in question ruled out the use of "man-made islands, regardless of their dimensions and characteristics" as having an influence in the delimitation of marine or ocean space. Although not adopted by the Conference, it expressed the general concerns of opinion about artificial islands.[28]

Art 60(8) and 11(2) of the 1982 Convention follow this trend in support of Art. 121(1), the very words of which appear to be a recipe for confusion and conflict.[29] It can be said, that the usual academic view has been that lack of direct human intervention in whatever form is the vital criterion of insular status, so that in interpreting LOSC, artificial islands, however composed, presently do not qualify for the juridical status of an island.[30]

Certain relief from this rigorous prospect can be noted. For if the processes of nature can change an area from being seabed to being an island, then assisting the powers of nature by reclamation, even if it can be called "artificial" is not altogether "unnatural".[31] Reclaimed land or pollers on the shore have been regarded as territory over the centuries. Additionally, if certain man-made structures can be regarded as forming part of the coast (Art. 11 LOSC) or are to be taken into account for a baseline system (Art 7(4) LOSC), it is difficult to place limits on this. How far off the coast, for example, is a state allowed to build harbour works or roadsteads?

To reconcile the different views, suggestions have been made to find new criteria for establishing territorial claims to artificial islands such as: permanency of the installation; visibility in normal weather conditions; capability for habitation; susceptibility to economic use; national security interests and strong links to the coastal state.[32] However, as these provisions have never been regarded as being of any importance for the definition of islands, only naturally-formed islands according to the above mentioned interpretation are presently to be considered for the measurement of the Territorial Sea.[33]

As we have seen the island definition for the purpose of measuring the Territorial Sea is more or less generally formulated and needs interpretation. Fitzmaurice's proposition in 1959 is still valid, that in the absence of a special agreement to the contrary, any natural formation (even a mere rock), permanently visible at all states of the tide, generates a Territorial Sea.[34] But since islands in general present a great number of complexities, it seems a little unfair to criticize UNCLOS III for sidestepping the problems. The suggestion was made for example, to leave more detailed questions in the hands of smaller groups consisting of lawyers, geographers, hydrographers and surveyors,[35] who would be able to clarify subjects like "artificial islands".

2 The Island-Baseline and the Territorial Sea

If a feature can be defined as an island, the method of drawing baselines around it conform with those used on the mainland shore itself (Art 121(2) LOSC). In situations where the normal, low-water mark is used as a baseline, three different situations must be considered

taking into account regarding the position of an island.

1 In the standard case of a single island lying at a distance of more than twice the breadth of the Territorial Sea (> 24 miles) off the mainland (or off any other island), no problems arise. This island has its own Territorial Sea, measured from the low-water line or baseline. (Fig X) Only a situation in which a long narrow belt of High Seas was left between areas of Territorial Sea could create further problems.[36] The possibility of assimilating such parts of the High Seas to the surrounding Territorial Sea has however as yet no basis in International Law.

2 If the island lies less than 24 miles off the coast (or off another island), it retains its baseline and the two Territorial Seas coalesce.[37] However, it is also possible, and in most cases probable, that in these circumstances States will use the straight-baseline system. (Fig XI)

3 Islands which are situated within the Territorial Sea of the mainland or another island should be dealt with like those in 2 immediately preceding (Fig XII). And yet, a different approach can be discerned here too. The argument is that in such a situation the mainland and island form a unit and should be legally regarded as being one. Therefore, the two Territorial Seas do not coalesce, but the two baselines should be connected.[38] In the result, this approach is similar to that of the straight-baseline system, though, with certain disadvantages:[39] firstly the construction of the straight baseline from the mainland to the island presents difficulties, since the points of departure and

arrival are uncertain. Secondly, waters landwards of the island would become internal waters, since according to Art. 80 LOSC. "Waters on the landward side of the baseline form part of the Internal Waters." Although Art. 8(2) provides that the right of innocent passage exists in Internal Waters created by a straight- baseline system, coastal areas with unnecessarily mixed zones of Territorial Sea and Internal Waters are undesirable. Moreover, it is not clear whether Art. 8(2) covers this kind of baseline too.

Hence the better way to ascertain the Territorial Sea here is to follow the provision that every island has its own belt of coastal waters.[40] Hence it simply enlarges the coastal zones of the mainland by creating a bulge in the outer limit. This very simple conception embodies the idea that any point in the sea less than 12 miles distant from the land is within a Territorial Sea.

The above discussion describes three different kinds of islands depending on situations and their respective consequences for the Territorial Sea and other coastal zones of a mainland or another island. The discussion covers only cases in which island and mainland belong to the same State. Adjacent islands belonging to another State which are less than 24 miles off the coast, should be treated in accordance with Art. 15 LOSC. This Article provides a median boundary line for the two Territorial Seas, "every point of which is equidistant from the nearest points on the baselines."

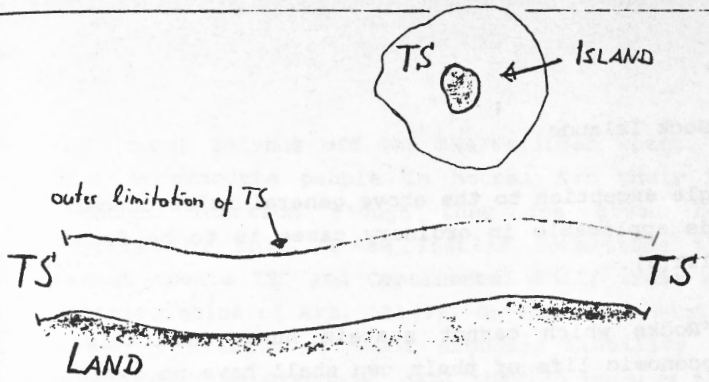


FIG X : ISLAND (outside the TS of mainland)

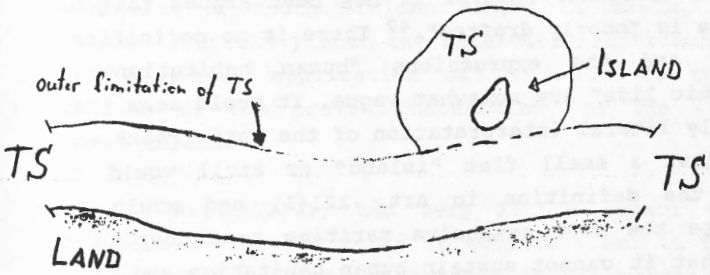


FIG XI : ISLAND (less than 24m off mainland)

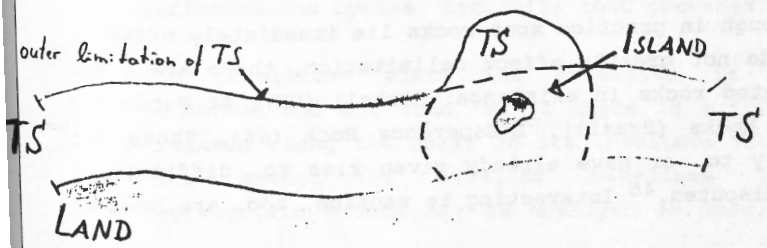


FIG XII ISLAND (inside the TS of mainland)

## 3 Rock Islands

A single exception to the above general rules concerning islands applicable in ordinary cases is to be found in Art. 121(3).

> "Rocks which cannot sustain human habitation or economic life of their own shall have no exclusive economic zone or continental shelf."

This provision creates an anomaly in that the baseline is not the same for all maritime zones since such a rock can generate only a Territorial Sea - with a low-water line as baseline. However it has been argued that this Article is "poorly drafted".[42] There is no definition of "rock" and the expressions "human habitation" and "economic life" are somewhat vague. It would seem that a strictly literal interpretation of the word "rock" would mean that a small flat "island" or atoll would fall under the definition in Art. 121(1) and would thus generate the more extensive maritime zone despite the fact that it cannot sustain human habitation and has no economic life of its own. So far, Art. 121(3) is only applicable to rocks: a State cannot claim an EEZ and a Continental Shelf for a rock by injecting an artifical economic life into that rock, based on resources from other land territory of the State in question.[43] A minimum requirement should be at least the availability of fresh water.[44]

Although in practice most rocks lie immediately offshore and do not greatly affect delimitation, there are a few isolated rocks in existence: Rockall (UK), St Peter and Paul Rocks (Brazil), L'Esperance Rock (NZ). Those are likely to, or have already given rise to, difficulties and disputes.[45] Interesting to mention, too, are some of

the (rock) islands off the SWA/Namibian coast. Most of them accommodate people in houses for their specific economic function though they are given necessary supplies by ship. These insular formations therefore cannot create EEZ and Continental Shelf under a strict interpretation of Art. 121(3). On the other hand one can argue, by virtue of their economic viability (natural resources like diamonds, gas) they do possess the means to "sustain human habitation" - as most of them have for over a century.[45] The potential problem concerns the pattern of jurisdiction which would result if South Africa and SWA/Namibia each claimed an EEZ. The area available to SWA/Namibia would be intersected by lateral corridors of South African zones. It seems, however, extremely unlikely that any international tribunal would use a direct application of Art. 121 in this case because of the present uncertainty of the status of these islands.

So far Art. 121(3) had very little impact on State practice.[46] The ICJ found it equitable not to take into account even uninhabited islands in the construction of the median line because of the disproportionate effect it would have on the course of the median line.[47]

4 Islands and the Straight-Baseline System

Apart from measuring zones from the LWM of an island, islands are an important factor in the use of the straight-baseline system. Art. 7(1) LOSC provides:

> In localities where the coastline is deeply indented and cut into, or if there is a fringe of islands along the coast in its immediate vicinity, the method of straight baselines joining appropriate points may be employed in drawing the

baseline from which the breadth of the Territorial Sea is measured.

The case in which islands were used and introduced as basepoints for straight baselines, was again the Anglo-Norwegian Fisheries Case in 1951. The International Court of Justice confirmed here the general principle that a straight-baseline system is in conformity with international law. In particular, it ackowledged that all the islands, islets, rocks and reefs, known by the name of "skjaergaard" (literally: rock rampart), could be taken into account for the purposes of constructing a baseline off the coast of Norway.

However, the provisions of Art. 7 LOSC - and indeed the earlier court judgement in 1951 - make it quite clear that a coastal State does not have an unfettered discretion as to how it draws straight baselines. It is only in certain circumstances that islands will justify the use of the straight baseline method. The circumstances are the following:

1 If there is a fringe of islands along the coast and in its immediate vicinity (Art. 7(1)).

2 If the existence of an island influences the general direction of the coast (Art 7(3)).

3 If economic interests peculiar to the region are concerned (a port or fishing activity for example) (Art 7(6)).

## III(iv) FOOTNOTES

1 Knight: pp. 5-17

2 Art. 121(2) LOSC

3 Symmons: p. 3 wfr

4 Bowett: p. 1

5 Bowett: ibid

6 Example from: Rahman: 34 ICLQ 1985, p. 368 at 371

7 UN Doc. A/Conf. 13/C.1/L. 112; Official Records, Vol III, p. 242

8 Cf. Channel Continental Shelf Arbitration 1978 (Eddystone Rock); cf. LTE discussion in Chapter III(v)

9 ILCY 1954 Vol I: p. 95

10 British Territorial Waters Order-in-Council: Art. 5(1)

11 Ibid.

12 Cf. Symmons: p. 45

13 Cmmd. 7438: p. 124

14 See supra Chapter II(i), see also infra Chapter III(v)

15 Symmons: p. 43

16 Cf. Bowett: p. 6

17 UN. Doc. A/Conf. 13/C.1/L.116; Official Records Vol III: p. 242 (1958 Conference)

18 O'Connell I: p. 197

19 Denmark, Germany, Netherlands; see Rosenne Conf. 2: pp. 270-271

20 Ibid.

21 See Rosenne Conf. 2: pp. 206

22 See Observations to Art. 17, Rosenne: ibid. at p. 207

23 ILCY 1956, Vol II: p. 270

24 See Johnson: 4 ILQ 1951, p. 203 at 212

25 Jessup: p. 69

26 Churchill/Lowe: p. 37

27 A/Conf. 62/C.2/L.18, see Platzöder: Vol V, p. 138

28 Cf. Papadakis: p. 93

29 Rahman: 34 ICLQ 1985, p. 368 at 371

30 See Lagoni: 18 JIR 1975, p. 241 at 272; Münch: 38 ZaöRV 1978, p. 933 at 951; Papadakis: p. 97; Bowett: p. 135; however, a 500 meter Safety Zone is allowed, Lagoni: ibid.

31 Papadakis: p. 86

32 See Durfee: 15 SDLR 1977/78, p. 603 at 616

33 cf. O'Connell I: p. 481; as said above, reclaimed land is the only exception - other artificial structures like bridges, platforms etc., may only be surrounded by a Safety-Zone, Lagoni: ibid., pp. 272-273

34 Fitzmaurice: 8 ICLQ 1959, p. 73 at 85

35 Ibid.

36 See: 23 AJIL 1929, Spec. Suppl., p. 241 at 244 (Art. II); ILCY 1956, Vol. II: p. 241

37 See to 1 and 2: Bowett, p. 16

38 See already 1930 Conference, Territorial Waters: Rosenne: Conf. 2, pp. 266, 268, 271; also Bowett: p. 15/17

39 Rosenne: ibid.

40 cf. Colombos: p. 103 wfr; Dahm: Völkerrecht I, p. 652

41 Churchill/Lowe: p. 36

42 See Bowett: p. 34

43 See discussion in Heins: 2 SC 1985, p. 63 at 70

44 The UK claim of an EEC (Rockall) meets opposition: Ireland, Denmark, see Symmons: pp. 116-117, 126 and the same author: 35 ICLQ 1986, pp. 344

45 See Brand: 4 SC 1986, pp. 88

46 Churchill/Lowe: p. 36 and pp. 128

47 cf. Tunisia-Lybia Continental Shelf Case 1982; Lybia-Malta Continental Shelf Case 1985

## III(v) Low-Tide Elevations

The standard rule confirming the low water mark as the baseline for the measurement of the Territorial Sea is applied to all features which are territorially part of the coastal State and which are permanently dry, including islands, islets and rocks. The significance of a low-tide elevation, or drying rock or shoal, is that it is above water only at low-tides. It is therefore a matter of dispute, whether it can be regarded as an island or not.

Since the beginning of the 19th century even the smallest offshore features have been classified as territory with Territorial Waters. Two decisions by Lord Stowell founded this point of view.[1] However, until the codification of the 1920's there was considerable doubt as to when such features were to be taken into account in the calculation of the Territorial Sea.[2] Customary Law has been flexible for reasons of navigational practise and convenience.[3] Where low-tide elevations have rendered an area inherently non-navigable, the requirement that the features be permanently dry has not been advanced with the same degree of persistence as where such features occur in navigable waters.

But at the 1930 Conference uncertainty was resolved and the use of islands to measure the Territorial Sea off a coast was then permissible, if they did not lie outside the limit of the Territorial Sea as measured from the mainland.[4] Also included in this definition were low-tide elevations, described as "rises in the soil, situated within the Territorial Sea, even when exposed only at low-tide."[5]

The meaning of this was, that an island or low-tide elevation inside an existing territorial sea would create an additional bulge in the outer limit, simply because the LWM on the island or low-tide elevation would be used as an additional point of departure for measurements.

In 1951, when the International Court of Justice had to settle the Anglo-Norwegian Fisheries Case, both Norway and the United Kingdom acknowledged the suggestion of the 1930 Conference to deal with low-tide elevations inside the Territorial Sea in the the same way as with islands, although there was no complete agreement about this point.[6] When at its third session in 1951 the International Law Commission decided to initiate work on the topic of the regime of territorial waters, some attention was given to the question of low-tide elevations.[7] The outcome of this work, together with the work in the 1958 Convention, is still valid and appears in Art. 13 LOSC - with only one additional interpolation concerning straight baselines.[8] At first sight, these rules explain very clearly the application of low-tide elevations to the concept of the Territorial Sea.[9] But in spite of that there are still some points which require special attention and which will now be considered.

1 LTE and Tidal Datum

Again the first problem which arises from Art. 13 is related to the expression low-tide and high-tide. Which tidal datum should be used for the purposes of establishing whether an offshore feature is a low-tide elevation or not? Can it be assumed that the same datum is to be used as in the case of measurement from the coast? For reasons of simplicity this should be the

case. On the other hand, as O'Connell pointed out the purpose of distinguishing offshore-features which are permanently dry from those which are not is different from the purpose of distinguishing between the high and low-tide marks on the shore. In the former case, the main purpose is to identify features which a mariner would always be able to see in order to fix his position. In the latter case the only task is exact boundary delimitation. According to this point of view[10], the arguments in the Channel Continental Shelf Arbitration[11] become more understandable. Here, France and the United Kingdom went to a special Court of Arbitration to settle the question whether a single offshore feature, Eddystone Rock off the coast of Devon, qualified as a basepoint for drawing the baseline. (Eddystone Rock is covered at high-water equinoctial spring tides, but two feet above mean high-water and therefore for navigational purposes not always eligible.) Apart from this dispute, the United Kingdom argued in favour of a uniform low-water mark on the shore as well as on low-tide elevations. It further submitted certain explanations of its views regarding "mean high water spring tides" as the criterion for determining whether a geographical feature has the legal status of an island or a low-tide elevation. Not only under Customary law but also under Art. 10 of the 1958 Convention the relevant high-water lines were based on the mean high-water spring tide. Furthermore, all official British Admiralty Charts use this tide too, following international law.[12]

The British Delegation did not mention any difference between shore and offshore features. Its arguments were supported by the (English) Territorial Waters Order 1964, implementing the 1958 Convention, Art. 5(2), which defines low-tide elevations: "The expression 'low-tide

elevation' means a naturally formed area of drying land surrounded by water which is below water at mean high water spring tides." It is to be regretted, however, that the Court of Arbitration Tribunal was not concerned in these proceedings to decide the general question of the legal status of Eddystone Rock itself or of its entitlement to a Territorial Sea.

In the Post Office v Estuary Radio Case, the English Court of Appeal faced the same problem, but again only as a minor point for the decision. The conflict therefore remained unsettled whether the Territorial Waters Order and the 1958 Convention (or today the 1982 Convention) are equivocal concerning the tidal datum of low-tide elevations. Also, no explanation was furnished with regard to the 1958 Convention. Diplock L J, giving judgement on behalf of the Court, said: "... interesting and difficult questions arise as to whether a 'low-tide elevation' must be above water at all low-tides experienced from time to time (and if so, how often) in the course of the year, or at lowest astronomical tides. Some day, some court, municipal or international, may have to decide this."[13]

But even taking this statement into account, it is difficult to follow another argument than that advanced by the British delegation above, although the meaning of the term "mean high-water spring tide" is arguable. The purpose of identifying offshore features for the benefit of navigation - as mentioned by O'Connell[14] - is nowadays rather of historical interest, at least for professional shipping. Of far more importance for states is the question of boundary delimitation, and here two different standards in measuring the low-water and the high-water mark respectively would make it more difficult and unnecessarily so.

The imposition of a single standard means of course a change in the "use" of low-tide elevations. Granting them under special circumstances the same qualifications as islands[15], has however already altered their purpose.

## 2 LTE and the Straight Baseline System

The second question which still remains partly unsettled concerns the connection between low-tide elevations and straight baselines.

As early as 1951 the dispute in the Anglo-Norwegian Fisheries Case referred briefly to the problem whether straight baselines could ever validly be drawn to and from low-tide elevations. The Court did not finally decide this. It stated only that "the parties ... agree that in the case of a low tide elevation (drying rock) the outer edge at low water of this low-tide elevation may be taken into account as a basepoint for calculating the territorial sea."[16]

In later discussions[17] and then in the 1958 and 1982 Conventions, the use of low-tide elevations in a straight baseline system was conceded only in special circumstances.

Art 4(3) of the 1958 Convention provided: "Straight baselines shall not be drawn to and from low-tide elevations, unless lighthouses or similar installations which are permanently above sea level have been built on them." And Art. 7(4) of the 1982 Convention states in addition: "... or except in instances where the drawing of baselines to and from such elevations has received general international recognition."

These exemptions from the general rule are, unfortunately, not very distinctly formulated.[18] Suggestions were made to rewrite this Article for the 1982 Convention[19] but only the above mentioned supplement was inserted. It is for example not clear, whether there is any restriction as to the time at which the lighthouse or similar installation has to be built on the low-tide elevation or what an installation similar to a lighthouse is. Concerning the time-limit it must be pointed out that any restriction here, for example only lighthouses in use for many years, is not to be recommended because it would raise additional questions and problems to be solved. Concerning installations similar to a lighthouse, an approach which would use all installations which in any way serve navigational purposes can be considered as a suitable one.

Another problem is, whether straight baselines may be drawn to and from low-tide elevations situated outside the Territorial Sea. Here a possible argument is that the whole concept of dealing with low-tide elevations in the same way as with islands is only applicable inside the Territorial Sea. Outside, the Territorial Sea they have no significance for straight baselines. Furthermore, a straight baseline drawn to a low-tide elevation outside the Territorial Sea could be departing from the general direction of the coast or might lead to the enclosing of areas which were not sufficiently closely linked to the land.[20] However, Art. 7(4) LOSC allows already certain exceptions to the main rule where they have received "general international recognition". The use of low-tide elevations as basepoints for a straight baseline system even beyond the limit of the Territorial Sea could be permissible in special circumstances - provided they qualify as basepoints by

reference to the other criteria for drawing straight baselines and that there is a permanently dry artificial construction upon them.[21]

The possibility of using low-tide elevations in a straight baseline system under Art. 7(4) should not be confused with Art. 13(1), which provided for low-tide elevations inside the Territorial Sea of the mainland on its own baseline for a Territorial Sea.[22] In some cases, this extends the area of the Territorial Sea and creates a "bulge" in the outer limit. In all cases however, it is required by Art. 13(1) that the low-tide elevation be situated less than the breadth of the Territorial Sea from the mainland or an island. "Leapfrogging" from one low-tide elevation to another is prohibited.[23] (Fig XIII)

The status of waters landward of low-tide elevations used for measuring the territorial sea as described in Art. 13 and Art. 7(4) of the 1982 Convention needs no particular examination.

Historically, an LTE inside the Territorial Sea may be treated as an island, thus creating its own Territorial Sea which partly covers the already existing Territorial Sea of the mainland. Its advantage and the only use of it is the additional bulge in the outer limit which it creates. The Territorial Waters on the landward side are not affected.

Low-tide elevations as basepoints in a straight-baseline system are exceptional. Waters on the landward side of the baseline of the Territorial Sea are part of the Internal Waters of the State (Art. 8(1) LOSC 1982). (Fig. XIV)

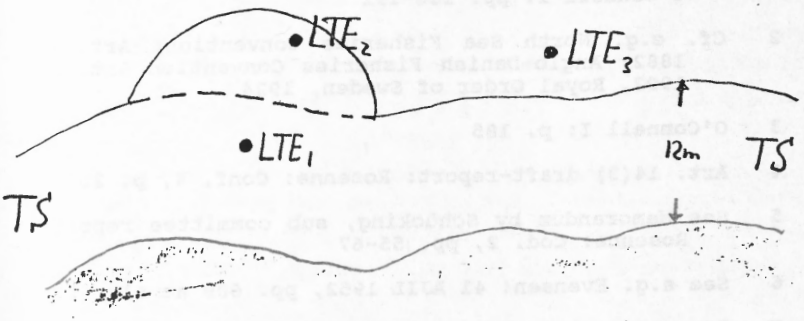


FIG XIII LTE (only LTE1 has its own TS)

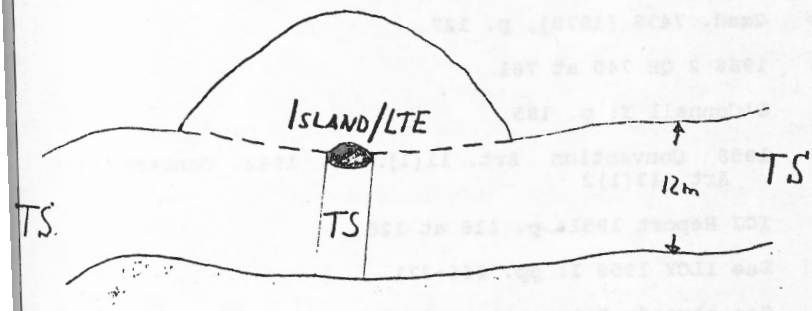


FIG XIV: ISLANDS/LTE (the status of waters landswards of islands/LTEs is TS)

## III(v) FOOTNOTES

1 See Twee Gebroeders - case (1800); C. Rob 162; 165 E.R. 42 and The Anna - case (1805): C. Rob 373; 165 E.R. 809; Cf. "portico doctrine" in O'Connell I: pp. 186-191

2 Cf. e.g. North Sea Fisheries Convention, Art. 2, 1882; Anglo-Danish Fisheries Convention Art. 2, 1902, Royal Order of Sweden, 1924

3 O'Connell I: p. 185

4 Art. 14(3) draft-report: Rosenne: Conf. 4, p. 207

5 See Memorandum by Schücking, sub committee report: Rosenne: Cod. 2, pp. 55-67

6 See e.g. Evensen: 41 AJIL 1952, pp. 609 at 612/613

7 See Marston: 46 BYIL 1972/73, pp. 405 at 410 f.c,

8 Art. 4(3), 11 (1958); Act 7(4), 13 1982. See for development of the Article Scovazzi: pp. 142-145

9 O'Connell I: p. 184

10 O'Connell I: p. 184

11 United Kingdom v France 1978; see Bowett: 49 BYIL 1978, pp. 1

12 Cmnd. 7438 [1978], p. 127

13 1968 2 QB 740 at 761

14 O'Connell I: p. 185

15 1958 Convention Art. 11(1) 2; 1982 Convention Art. 13(1)2

16 ICJ Report 1951: p. 116 at 128

17 See ILCY 1956 I: pp. 266-271

18 See already Fitzmaurice: 8 LCLQ 59, p. 73 at 86

19 Marston: 46 BYIL 72/73, p. 414 at pp. 419

20 Ibid. at 423; see also argument of the UK in the Fisheries Case: ICJ Report 1951, p. 116 at 128

21 O'Connell I: p. 210

22 Cf. Fitzmaurice: 8 ICLQ 59, p. 73 at 87

23 Churchill/Lowe: p. 35

## III(vi) Archipelagoes and Reefs

### 1 Archipelagoes

A subject similar to that of the straight baseline system is dealt with in Art. 46-54 of the 1982 Convention. The question of archipelagoes is relatively new and received at the first and second UNCLOS 1958 and 1960 respectively little consideration. However, one aspect arose already in the Fisheries Case. In allowing the use of straight baselines where there was a "fringe of islands" the Court treated a special type of islands - the so-called coastal archipelagoes - in a special way.

Not without good reasons then some archipelagic States like Indonesia and the Philippines claimed the application of a similar method to their territory. Yet, at that time the majority of maritime States opposed these attempts to create new rules for mid-ocean archipelagoes.[1] They feared that such a regime would result in huge areas becoming Internal Waters which had previously been High Seas. But with the establishment of the seabed committee at the United Nations in 1970, a group of archipelagic States began lobbying hard to have the archipelago principle incorporated in International Sea Law.[2] The essential feature or element present in their approach was that a system of straight baselines should close off areas of water within the island group. Those archipelagic straight baselines should enclose Archipelagic Waters, the status of which would be almost the same as that of Internal Waters.

Since over the years quite a few archipelagic States became independent, their united efforts succeeded and part IV of the 1982 Convention now lays down the rules

relating to mid-ocean archipelagoes precisely. As already suggested earlier,[3] they are now treated as having a special regime in which the archipelagic State has special rights. For many reasons, geographical, historical, economic and the interests of national security these provisions meet with the needs of the States in question and justify the application of the new system.[4]

Since the archipelagic provisions of the LOSC are quite explicit,[5] and the problems - especially the application of the LWM - are almost identical to those of an ordinary straight baseline system, the discussion can be limited to a few points.

a) Definition

Art. 46 LOSC defines the expressions "Archipelagic State" and "Archipelago". An archipelago is defined as a group of islands, including parts of islands, interconnecting waters and other natural features which are so closely related that they form an intrinsic entity. An archipelagic State is constituted wholly of one or more archipelagoes.

Excluded from this definition are mainland States which possess non-coastal (mid-ocean) archipelagoes like Denmark (Faroes) or Portugal (Azores).[6] States like the United Kingdom, Japan and New Zealand are not necessarily included,[7] although they consist of islands; but the definition in Art. 96 is rather wide and imprecise.

b) Archipelagic Baselines

The basic method of drawing archipelagic baselines is

described in Art. 47(1): an archipelagic State may draw straight archipelagic baselines joining the outermost points of the outermost islands and drying reefs of the archipelago.

The other paragraphs provide the specific requirements, the land-water ratio of 1 to 9 etc.

The straight baseline system requisite of ascertaining the baseline in such a way as not to depart to any appreciable extent from the general direction of the coast finds its counterpart in Art. 47(3): the drawing of an archipelagic baseline shall not depart from the general configuration of the archipelago. As in the former case, the expression "general configuration" is equally unclear and difficult to determine - it may even be determined only by ascertaining the straight baselines around several scattered islands.[8]

Low tide elevations are dealt with exactly as in the straight baseline system, Art. 47(4).

Of further interest here is the fact that the length of single archipelagic straight baselines is limited to 100 or 125 miles Art. 67(2). (Fig. XV)[9]

c) State Practice

Because of the short time which has elapsed since the 1982 Convention was adopted and the comparative novelty of the provisions there have not yet been enough formal declarations of archipelagic baseline delimitations to attempt any generalisation as to how the provisions of the Convention are actually working.

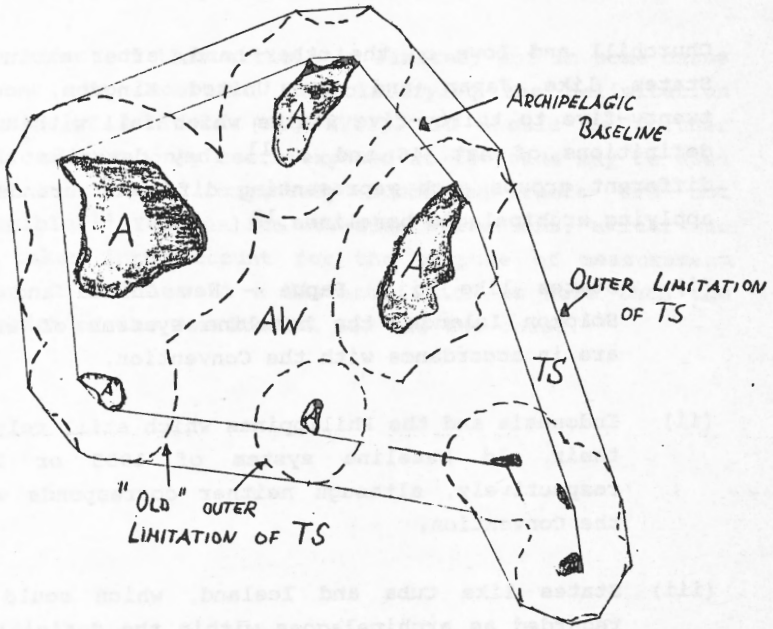


FIG XV : LOSC ARCHIPELAGIC PROVISIONS

Recent State practice is diverse. O'Connell is even of the opinion that, strictly speaking, part III of the LOSC is applicable to five States only.[10] Other archipelagic States would have to regulate their "archipelagic" situations by using more restricted criteria.

Churchill and Lowe on the other hand, after excluding States like Japan and the United Kingdom, count twenty-five to thirty-five States which fall within the definitions of Art. 46 and 47.[11] They describe three different groups each representing different trends in applying archipelagic baselines.[12]

(i) States like Fiji, Papua - New Guinea and the Solomon Islands, the baseline systems of which are in accordance with the Convention.

(ii) Indonesia and the Philippines which still rely on their old baseline system of 1955 or 1957 respectively, although neither corresponds with the Convention.

(iii) States like Cuba and Iceland, which could be regarded as archipelagoes within the definitions but whose straight baselines of which are explicitly indicated as not being archipelagic. This could apply too to the United Kingdom, Japan and New Zealand.[13]

2 Reefs

Related to archipelagoes is the case of Reefs dealt with in Art. 6, another new subject in the 1982 Convention. Although discussed by the ILC in 1953, no provision on reefs was included in the 1958 Convention.

> Art. 6: "In the case of islands situated on atolls or of islands having fringing reefs, the baseline for measuring the breadth of the territorial sea is the seasonal low-water line of the reef as shown by the appropriate symbol on charts officially recognized by the coastal States."

The effect of this article is limited, but in some cases it may be important for clarifying the delimitation system of a State (Fig XVII). It should be further noticed that only reefs exposed at low tide may be used for baselines. Completely submerged reefs are not eligible.[14] Yet, unlike low-tide elevations, a reef can be taken into account for the purpose of measurement even if it lies at a distance which is more than the breadth of the Territorial Sea off the coast.[15]

## III(vi) FOOTNOTES

1 See Churchill/Lowe: p. 91

2 See Andrew: 2 MP 1978, p. 46

3 Amerasinghe: 23 ICLQ 1974, p. 539 at 579; see to Eversen: p.

4 O'Connell I: p. 236; O'Connell: 45 BYIL 1971, p. 1 at 58/59 wfs for history of work of UNCLOS III (archipelagoes): Andrew: 2 MP 1978, p. 46 at 55-58; cf. Amerasinghe: 23 ICLQ 1974, p. 539 at 539

5 Cf. Hodgson/Smith: 3 ODIL 1976, p. 225 at 242

6 Churchill/Lowe: p. 92

7 Ibid.

8 Ibid.

9 Cf. Hodgson/Smith: 3 ODIL 1976, p. 225 at 244; O'Connell I: p. 258

10 O'Connell: p. 258

11 Churchill/Lowe: p. 93

12 Ibid., p. 97

13 For details to (iii) see O'Connell I: pp. 246

14 Churchill/Lowe: p. 93

15 Note that the Great Barrier Reef, Australia, 150 miles off the coast is probably too far away, Churchill/Lowe: ibid.

## III(vii) Polar Regions

### 1 Antarctic

With a surface area of some 14,2 million square kilometers the continent of Antarctica is almost twice as large as Australia, and this does not include the various ice-formations. Mainly because of its numerous natural resources, its legal status is a matter of controversy. Some States already claim sovereignty in it,[1] whereas others refuse to recognize any of these territorial claims[2] or advocate internationalization.[3] Leaving these problems aside, the issue in question is how to treat the continent and the various ice formations for the purpose of coastal zone management. Even though the sovereignty status of Antarctica is not as yet clear, a way must nevertheless be found to ascertain and determine the boundary of the adjacent sea.[4]

Hence, an examination of the geographical aspects of the region is necessary. The whole south polar area consists of two sub-areas: the Antarctic mainland and the marine zones. Both are connected by the unique climate which makes it possible that not only huge water areas are covered with ice, but also almost the whole mainland.[5] The ordinary way of drawing a baseline by finding the low-water mark on the mainland is therefore not possible. Here, ice formations too have to be taken into account.

The particular problem is whether ice in the Antarctica is only frozen water, and therefore should be dealt with as "sea", or whether it can be considered as a special kind of "land". The determination is significant because of the different rules in international law applicable

to the territorial acquisition of land and sea and no provision is laid down in conventional law on ice. The difference in treating ice as land or as sea is obvious. Land is subject to sovereignty claims whereas only water in the immediate vicinity of a coast can be claimed territorially. Otherwise it is "High Seas". All parts of the sea that are not included in the Exclusive Economic Zone, the Territorial Sea or the Internal or Archipelagic Waters are High Seas and open to all States.[6]

Generally, ice does not meet the definition of a landmass at all, yet under the south polar climate certain similarities may be found which bring it very close to it. However, the three ice forms in Antarctica are different and require different legal treatment. To find the area that can be regarded under the rules of International Law as "land", a separate examination of the three forms - sheet ice, shelf ice and pack ice - is requisite.

a) Sheet Ice

The Antarctic sheet ice is up to 3,2 kilometers thick and covers 98 percent of the mainland. It is in a state of equilibrium, the very light precipitation is balanced by a likewise slight current flow towards the continental margins.[7] Since it lies almost entirely over the continent itself, no major legal difficulties are presented by this type of ice. It should be governed by a juridical regime generally associated with land.[8]

b) Shelf-Ice

The ice sheet extends by more than one-tenth beyond the end of the Antarctic mainland.[9] Its shelves are usually

found in bays or other sheltered areas[10] and are between 200 and 1300 meters thick. Although attached to and formed by the sheet ice, they are composed of seawater whereas the former is basically of fresh water origin. Naturally, the shelves are firmly anchored to land and remarkably stable except for their margins which are subject to sudden changes.[11] Nevertheless, shelf ice is sea-ice and not merely ice on a land surface. Therefore criteria must be found which prove either divergence from or concurrence with a landmass.

Legal commentators usually use the permanency principle and the susceptibility of navigation to determine whether ice is to be assimilated to land or to sea.[12] Shelf ice is definitely not susceptible to navigation and should be dealt with by this criterion as "land". However, it is doubtful if one can consider it completely as a permanent land-area. The margin is quite unstable. Because of the seaward movement of the ice, icebergs are "calved" at a rate of approximately 1,800 cubic kilometers per year[13] apart from the losses and extensions through temperature. Because of this, Auburn opts for treating the shelf neither as land nor as sea but rather as a form of territory sui generis since it partakes of some of the characteristics of both of them.[14]

Yet other writers equate it with land[15] and compare the calving with the natural process of erosion on land which certainly does not diminish the susceptibility of land to claims of sovereignty.[16] This is convincing in so far as the shelf ice has most of the physical and utilitarian qualities of the Antarctic "mainland". The sheet ice, moreover, unlike the water of the High Seas, is a solid substance upon which human beings can build habitations and live for an almost indefinite period of

time.[17]

However, ice - and even shelf ice - is never completely the same as land, so that the sui generis theory mentioned above is preferable to interpretation which would treat the ice as land,[18] although for delimitation purposes the distinction is of less importance.

c) Pack-Ice

The third ice formation in the Antarctica is pack ice. In its fluctuation it is completely opposite to the sheet ice. During the winter the girdle of pack-ice extends the Antarctic ice region by more than double its size and in "summer", the pack ice is comparatively thin, weak and riddled by channels.[19]

As to the criterion "permanency" and "susceptibility of navigation", both are not met by pack ice: the fluctuation and flotation over the year and, moreover, the passages of ships through it prevents any assimilation of pack ice to land susceptible to territorial claims.[20]

Pack ice should thus be subject to the same legal regime as that applicable to the High Seas and not be subject to claims of sovereignty.[21]

We have seen that sheet ice is definitely to be included in land-area and pack ice must be treated as having the status of High Seas.

The question of the status of shelf ice should be resolved as follows. For the purpose of drawing baseline it should be equated with the land of Antarctica. This view is supported by the Antarctic Treaty of 1959,[22]

Art. VI of which states: "The provisions of the present Treaty shall apply to the area south of 60° Latitude, including all ice shelves ..." Thus, the ice shelves in the Antarctic region are subject to the regime of the Antarctic itself. Considering that the entire Antarctic Continent is south of 60° South Latitude, all ice shelves of the region have therefore the legal status of Antarctica.[23] This does not conflict with the view which would treat the ice shelf as an area sui generis. In respect of sea boundary delimitation, shelf ice therefore corresponds rather to land.[24]

If one does not take the shelf ice into account, the problem of drawing a baseline is almost insoluble. A baseline, following all the sinuousities of "coastline" of the mainland Antarctica, disregarding the ice, would be merely a mathematical construction. This "coastline" is usually deep under ice and thus invisible. The same would apply to a straight baseline system connected to the mainland. For those who were not thoroughly acquainted with the geography of Antarctica, the baselines would appear as meaningless, scattered lines on the ice. Moreover, they would probably lie permanently miles away from the open sea and all sea law rules, applicable normally to water, would be futile. Generally speaking, the law of the sea - and here especially coastal zone law - is not made for stable, dry areas, even where they consist of ice.

It is obvious that the drawing of baselines in Antarctica should preferably be at the edge of the shelf ice, where it meets the open sea or at least pack ice. Here, it seems possible to comply with the definition of Art. 5 LOSC "the normal baseline is the low-water line along the coast."

However, an ice shelf is not an ordinary coast nor does it have any feature similar to a low-water line.[25] The seaward margin of it is in a permanent change because one has to deal with the problem of calving. The Antarctic phenomenon of calving of icebergs can lead to sudden losses of hundreds of kilometers of ice. Over a year, one is dealing with a separation of several thousands of square kilometers of ice.[26] Although these losses are compensated by natural increases in other places, the result is a completely unstable edge of shelf ice, which makes it difficult to determine a baselne there. In fact, it must be highly doubtful whether such a baseline can ever be drawn, although the losses could be compared to avulsion and erosion.

It appears finally, that the only way to ascertain baselines in Antarctica is to apply a straight baseline system around the shelf ice. In the 1982 Convention, straight baselines are provided only for special circumstances: where the coast is deeply indented and cut into or if there is a fringe of islands along the coast in its immediate vicinity (Art 7(1)). Additionally, a State may draw straight baselines across bays, rivermouths and deltas (Art. 9, 10).

It can be assumed that the "coast" of the shelf ice probably corresponds to the definition in Art 7(1). However, the problem which follows immediately is the determination of the basepoints for the straight baselines. The text of Art. 7(1) states only "appropriate points", an expression that does not help in the case of Antarctica. Usually, straight baselines are drawn by joining the outermost points of a coastline.[27] Yet because of the instability of the ice shelf margin, this system fails to function here. Where a coastline is regularly in a state of fluctuation, and

where this fluctuation is as big as in Antarctica, no fixed points can be set on it. But to use basepoints more landwards would not satisfy the special circumstances of the ice and furthermore would not meet the above mentioned difficulties.

In addition to that there is yet another problem. As already stated, the enormous fluctuation at the margin of the shelf ice can be compared to erosion or avulsion, or the so-called loss of State territory by operation of nature.[28] Were these principles accepted, a state would continue to retain jurisdiction over precisely the same geographical area even though a portion of it had become open sea. In the case of Antarctica this would mean that the baseline remained the same although the original edge of the shelf ice had changed. Without going into the details of avulsion, erosion and accretion[29] it can be said that the application of these theories on ice is questionable: the dimensions of calving are quite different to those of ordinary erosions. However, the main obstacle is that these principles directly contravene conventional law. Both the 1958 and the 1982 Conventions state, except where otherwise provided a State's Territorial Sea (and the other zones) shall be measured from the low-water mark on the shore.[30] The exceptions, such as straight baselines, bays and rivermouths do not include a receding coastline. Only in one special case - for the benefit of Bangladesh[31] - the baseline may remain the same even if the actual coastline changes.[32] Yet, this paragraph is valid only for deltas, other coasts which may recede are not provided for. Within the LOSC, it seems, there is no possibility of drawing a baseline in Antarctica.

Thus, arbitrary baselines have been suggested,[33] calculated on average fluctuations of the ice shelves

observed over a period of several years. As a point of departure, the location of the ice edge at a given date may be taken. Although the establishment of such baselines would need as much geographical survey as legal work, it would find support in the international law developed specifically to deal with problems presented by highly irregular coastlines: as in the Fisheries-Case "economic" considerations justified the use of straight baselines[34], in Antarctica "geophysical" considerations could justify arbitrary baselines.[35] Since no articles on ice are provided for in the LOSC[36] and the general principles - as shown - are not adequate, a solution like arbitrary baselines is a way to resolve the problem.[37] Even though the principles of avulsion and erosion are included in this sytem - they form the legal basis of the acquisition of the changing ice-territory - they do not completely contravene conventional law. The theories have in fact never been entirely dismissed by Law of the Sea Conventions, and are at least accepted as exceptions (Art. 7(2) LOSC).

In addition to the case mentioned in Art. 7(2) LOSC, the arbitrary baseline could represent a second case, where a baseline is fully separated from and independent of the low-water line.

The present status of Antarctica does not allow declarations of zones from the baseline. Because of attitudes to sovereignty over, independence in, and effective occupation of this continent, the propriety of the legal status of such zones would be questionable and highly suspect.[38]. For the time being, one has to regard the Antarctic seas as High Seas within the meaning of Art. 86 LOSC.

## 2 The Arctic

The distinctive fact about the Arctic is that most of it consists of an ice covered ocean - unlike Antarctica which is mainly ice covered landmass.[39] The Arctic Ocean is surrounded by remote islands and peninsulas of continents which are claimed by five States - Canada, Denmark, Norway, the United States and the Soviet Union - as belonging to their territory. The claims were originally based on discovery and occupation and later on the Arctic Sector Theory. This theory says that States, whose territories lie close to the Arctic, may claim all land to be found between a line extending from its eastern extremity to the North Pole and another line extending from its western extremity to the Pole.[40] It was meant to monopolize the sovereignty over islands in a certain sector whether discovered or not by the State concerned.[41] Although never a generally accepted rule in International Law,[42] it still has validity for classifying the Arctic territories.

The determination of baselines in the Arctic is less problematic than in the Antarctica. At least, ice only frequently obscures the distinction between land and sea.[43] The problem is rather, whether the sector principle is used to include the waters as well as the landmass into a State's territory. In that case, every baseline construction on the shore would be unnecessary because of the sector borderlines. However, this interpretation was only adopted by some Soviet writers, who based it on the immobility and permanence of the Arctic pack ice.[44] In fact, the Arctic pack ice is neither immobile nor comparable to the solid mass of Antarctic sheet ice,[45] so that the majority of authors as well as States consider the ice covered Arctic Ocean as High Seas.[46] Presently, the great maritime powers

especially the United States and the USSR stress the freedom of the Arctic Ocean[47] mainly because of a desire for free navigation. On the other hand, Canada is in favour of a more pragmatic approach involving restriction of activities in the area.[48]

Hence, sea boundary delimitation in the Arctic follows the same rules as everywhere[49], even though ascertaining the baselines can be more difficult here. In cases where too much shelf ice prevails near the coast in the Arctic, the baseline should be fixed according to the Antarctic suggestion. Since there is less glacial activity in the Arctic, baselines can even be drawn from the outermost points of the shelf ice at a given date, with corrections being made at periodic intervals.[50]

Apart from doubtful claims by the Soviet Union to include the Sea off the Northern Siberian coast in its Internal Waters,[51] one Canadian position should also be mentioned: the claim to an Arctic Archipelago. This region is regarded by Canada as "national terrain",[52] with Internal Waters,[53] although these have not yet been enclosed by straight or archipelagic straight baselines. The problem lies in the fact that the archipelago does not completely meet the requirements of either Art. 7 LOSC (straight baselines) or Art. 47 LOSC (archipelagic straight baselines). Canada deals with it unofficially as "historic title".[54] However a solution has still to be found. Pharand judges it as a special case which is only to be compared with the special case of the Norwegian coast 35 years ago in the Fisheries Case. Thus, the Canadian Arctic Archipelago needs a new treatment too.[55] Yet in conventional law, he admits, "I have really never been able to answer it."[56]

## III(vii) FOOTNOTES

1 Argentina, Australia, Chile, France, New Zealand, Norway and the United Kingdom

2 United States and Soviet Union; see already Hackworth I: pp. 447; Joyner: 18 SDLR 1980/81, pp. 415

3 See Mouton: 107 RDC 1962 III, p. 175 at pp. 269

4 Antarctic-regime in general: see Oxman: 33 UMLR 1978, pp. 285 wfr; Antarctic Treaty 1959 see 402 UNTS 71; Bush I: p. 46; for Jurisdiction see Auburn: pp. 184; Hook: 33 UMLR 1978, pp. 489

5 de Blij: 33 UMLR 1978, p. 299 at pp. 305

6 Cf. Art. 86, 87 LOSC; Art 1, 2 Convention on the High Seas 1958

7 de Blij: 33 UMLR 1979, p. 299 at 307

8 Auburn: p. 34; van Zyl: 2 SC 1985, p. 41 at 57

9 de Blij: 33 UMLR, p. 299 at 308

10 Ross Ice Shelf, Filchner Ice Shelf; see Bernhardt: 5 CWILJ 1975, p. 297 at 302

11 Auburn: p. 32 wfr.

12 Bernhardt: 5 CWILJ 1975, p. 297 at 303; Alexander: 33 UMLR 1978, p. 371 at 385; cf. Balch: 4 AJIL 1910, p. 265 at 266; Lakhtine: 24 AJIL 1930, p. 703 at 712

13 Cf. Mouton: 107 RdC 1962 III, p. 175 at 192; Zuccaro: 9 CWILJ 1979, p. 405 at 419

14 Auburn: p. 35; cf. Munckman: 46 BYIL 1972/73, p. 1 at 69

15 Hayton: 54 AJIL 1960, p. 349 at 359/60; Lakhtine: 24 AJIL 1930, p. 703, 712; Zuccaro: 9 CWILJ 1979, p. 405 at 414 wfr. (Antarctic Treaty)

16 Bernhardt: 5 CWILJ 1975, p. 297 at 305

17 "In 1975 a plane landed at Spitsbergen carrying a group of Soviet women with double beds, accompanied by officials. This was an unambiguous affirmation that the Soviet Union was there to stay," (Auburn: p. 41/42)

18 Auburn: p. 35; Alexander: 33 UMLR 1978, p. 371 at 387

19 de Blij: 33 UMLR 1978, p. 299 at 311

20 de Blij: ibid; Alexander: 33 UMLR 1978, p. 371 at 384

21 Auburn: p. 38; Kish: p. 35; Hayton: 54 AJIL 1960, p. 349 at 360

22 In force 1961, 402 UNTS 71; Bush I: p. 46

23 Bernhardt: 5 CWILJ 1975, p. 297 at 302; Kish: p. 33

24 Cf. Auburn: p. 36

25 van Zyl: 2 SC 1985, p. 41 at 53

26 Auburn: p. 36

27 Cf. Churchill/Lowe: p.27

28 Mouton: 107 RdC 1962 III, p. 175 at 196

29 See v. Glahn: pp. 273, 303; Whiteman 2: p. 1084; cf. Zuccaro: 9 CWILJ 1979, p. 405 at 418

30 Art. 3, 1958 Convention; Art 5 LOSC

31 Hodgson/Smith: p. 238

32 Art. 7(2) LOSC

33 Auburn: p. 36; Zuccaro: 9 CWILJ 1979: p. 405 at 419 wfr.

34 ICJ Report 1951: p. 116

35 Zuccaro: ibid.

36 Art. 234 LOSC only permits certain additional rights in ice covered areas

37 Even by following the controversial Sector Theory in Antarctica the problem remains the same: the decrees on the different sectors refer only to islands and mainland, baselines still have to be drawn; Mouton: 107 RdC 1962 III, p. 175 at 206

38 cf. Kish: p. 33/34; Boyner: 13 ODIL 1983, p. 277 at 279

39 See Encyclopaedia Britannica: "Arctic"

40 v. Glahn: p. 284

41 Mouton: 107 RdC 1962 III, p. 175 at 244

42 See Kish: p. 284; cf. Hackworth I: p. 463/464; Mouton ibid.; v. Glahn: p. 284

43 Shusterich: 14 ODIL 1984, p. 235 at 237

44 See Lakhtine: 24 AJIL 1930, p. 703 at 712; cf. Mouton: 107 RdC 1962 III, p. 175 at 197/198

45 Already Balch: 4 AJIL 1910, p. 265 at 266; cf. Mouton: ibid., p. 201/202

46 Except for the restriction of Art. 234 LOSC (environmental rights for ice-covered areas)

47 Boyd: 22 CYIL 1984, p. 98 at 114 and 118; Jenisch: 28 GYIL 1985, p. 297 at 313/314

48 Boyd: ibid, at pp. 103; cf. Pharand: p. 175

49 Jenisch: 28 GYIL 1985, p. 297 at 303

50 Cf. Boyd: 22 CYIL 1984, p. 98 at 138/139

51 See Mouton: ibid, at 198

52 See Shusterich: 14 ODIL 1984, p. 235 at 248

53 See Pharand in Gamble: p. 182

54 Pharand in Gamble ibid.: cf. Pharand: p. 97 for application of straight baselines, where he still supported the drawing (1973)

55 Pharand in Gamble: p. 240 at 241 (Discussion and Questions)

56 Pharand in Gamble: p. 240 (Discussion and Questions)

## VI CONCLUSIONS

Baseline determination has become a task requiring the combined efforts of geographers, surveyors and lawyers. Many legal rules, often of an abstract nature, exist to cope with different coastal formations. These rules take into account various physical features of the coast. Though man-made structures are occasionally used, natural-physical features play a far more prominent role. Of the natural physical features used in baseline determination the most important would appear to be the low-water mark. In all but one case baselines cannot be constructed without using the low-water mark. The importance of the low-water mark here is indicated by the following factors inter alia:

1 The normal baseline is the low-water mark along the coast (Art 5 LOSC). Only if there are exceptional geographical circumstances present can one depart from this line. The exceptional circumstances are specified in Article 7 LOSC.

2 In the case of bays and river mouths the closing line is constructed from a point on the low-water mark on the coast (see Chapter III(i) and (ii)). Where a bay is closed off by a series of straight baselines drawn to and from the mainland to islands in the mouth of the bay and between the latter inter se, the straight baselines in question will use as their points of reference the low-water mark on the mainland or the islands as the case may be. The low-water mark points on the islands will not be selected on the outermost tips of the same but at natural entrance points of the bay. Hence the low-water mark on the outward coasts of such islands between the selected natural entrance points will assume importance and will constitute the seaward baseline in

the area in question. The selection of the low-water mark at natural entrance points on the islands (rather than at the tips thereof) could also give an advantage to a State wishing to close off a bay on the criterion of area.

3 The area of bays and rivermouths must be calculated for the purpose of closing them. This is to be done by measuring the low-water mark within the bay or river mouth.

4 The general rules in 1-3 apply to islands as well as to mainlands. The low-water mark therefore enjoys the same degree of prominence on islands as it does on the mainland (see Chapter III(iv)).

5 In the case of islands situated on atolls or of islands having fringing reefs the low-water line on the reef is used as the baseline (Art. 6 LOSC). It may then enclose substantial areas of Internal Waters.

6 The straight-baseline system, when this is permissible, uses the low-water mark as its point of departure. Thus a straight baseline may be constructed from point to point on the low-water mark:

(a) On a deeply indented coast.
(b) On a fringe of islands in the immediate vicinity of the coast.
(c) On a delta or highly unstable coastline (Art. 7 LOSC).

7 Archipelagic States may draw straight archipelagic baselines from point to point on the low-water mark of outer islands (see Chapter III(vi) 1.b and (v)). In addition the respective areas of land and water for the purpose of calculating the land/water ratio within the

baselines will be established by using the low-water mark around the islands. Finally, the landward limits of archipelagic sea lanes for passage purposes are established with reference to the nearest low-water mark.

The exception where baselines are not dependant on the low-water mark concerns the polar regions. In these cases a final solution will have to be found (see Chapter III(vii)).

Apart from the low-water mark various other natural features play an important role in establishing baselines. These include the general direction of the coast whether indented or otherwise, the presence of fringing reefs of islands, atolls, deltas, unstable coastlines, bays, rivers, estuaries and low-tide elevations: the configuration of bays (whether sufficiently indented or not) or the idea of the "mouth" of a river as the "natural entrance points" of a bay.

In a few cases artificial features may be taken into account in establishing baselines. These include outermost permanent harbour works (Art. 11 LOSC) and low-tide elevations on which lighthouses or similar installations have been built. They are used in determining straight baselines. Roadsteads (Art. 12 LOSC) are not relevant as they only affect the outer limits of the Territorial Sea. Reclaimed land, as in the Netherlands and northern Germany cannot be regarded as being artificial since it is completely assimilated to the land. Artificial islands, structures and installations are irrelevant to baseline determination (see Chapter III(iv) 1.b).

Especially since the advent of the Law of the Sea Convention 1982 it can be said that the natural geographical features of the coast are not the only relevant factors in baseline determination though they continue to be by far the most important ones to be taken into consideration. In this respect the low-water mark is a natural feature which plays a cardinal role that cannot be overlooked. The 1982 Convention has not come into operation but many of its provisions, especially the articles concerning baselines, are widely regarded as giving expression to an international customary law situation which has developed over a long period.[1] The general applicability of the articles in question is not a matter of doubt.

Many of the issues for the future will revolve around the interpretation of the concepts mentioned above. What, for example, is the "general direction of the coast" or what are the "natural entrance points of a bay"? In such cases it is necessary to look at the geographical circumstances in each particular case in order to apply the conventional law.[2] The fact that some of the LOSC provisions are rather vaguely formulated complicates the task and requires an interpretation in good faith. The principles of good faith should naturally apply also in the establishment of the low-water mark itself, perhaps even more than in the case of other concepts involving natural features, since the low-water mark is going to be the starting point in determining baselines even where other geographical features are present and relevant.

## VI FOOTNOTES

1 cf. Gamble/Frankowska: 21 SDLR 1983/86, p. 431 at 498; MacRae: 13 CWILJ 1983, p. 181 at 221/222; see additionally the similarity to the TSC.

2 cf. the Canadian Arctic Archipelago, which is beside the polar regions the only geographical configuration where conventional law is not sufficient (see Chapter III(vii))

## TABLE OF TREATIES AND CONVENTIONS

| | | |
|---|---|---|
| Treaty of Tordesillas (1494) | - | 1 MR (Suppl), 373 |
| United States/Great Britain Convention (1818) | - | Moore I, 780 |
| Anglo-French Fisheries Convention (1839) | - | 27 BFSP 983 |
| Anglo-French Fisheries Convention (1861) | - | 57 BFSP 8 |
| North Sea Fisheries Convention (1901) | - | 94 BFSP 29 |
| Convention on the Territorial Sea and the Contiguous Zone (1958) | - | 576 UNTS 205; 52 AJIL 1958, 834 |
| Convention on the High Seas (1958) | - | 450 UNTS 82; 52 AJIL 1958, 842 |
| Convention on the Continental Shelf (1958) | - | 499 UNTS 311; 52 AJIL 1958, 858 |
| Convention on Fishing and Conservation of the Living Resources of the High Seas (1958) | - | 559 UNTS 285; 52 AJIL 1958, 857 |
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| Convention on the Law of the Sea (1982) | - | UN Dec. A/Conf. 62/122; 21 ILM 1261 |

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|---|---|
| Australia | Fisheries Act of 1952-1973<br>- Acts of the Parliament 1901-1973 Vol. 5, p. 765 |
| Chile | Chilian Civil Code of Dec 15th, 1855<br>- Rosenne: Cod. 1, p. 61 |
| Federal Republic of Germany | Bundesgesetzblatt 1984 I, p. 1366 |
| German Empire | Prisenordnung für das Deutsche Reich v. 30.9.1909<br>- Rosenne: Cod. 2, p. 61 |
| South Africa | Sea Shore Act No. 21 of 1935<br>Territorial Waters Act No. 87 of 1963<br>- Statutes of the Republic of South Africa, Vol. 23 |
| United Kingdom | Territorial Waters Jurisdiction Act of 1878<br>- 41/42 Vict. C. 73<br>Territorial Waters Order in Council<br>S.I. 1965 III p. 645 |

SELECTED PROVISIONS

OF THE 1982 CONVENTION ON THE LAW OF THE SEA

## Article 2

(1) The sovereignty of a coastal State extends, beyond its land territory and internal waters and, in the case of an archipelagic State, its archipelagic waters, to an adjacent belt of sea, described as the territorial sea.

(2) This sovereignty extends to the air space over the territorial sea as well as to its bed and subsoil.

(3) The sovereignty over the territorial sea is exercised subject to this Convention and to other rules of international law.

## Article 3

Every State has the right to establish the breadth of its territorial sea up to a limit not exceeding 12 nautical miles, measured from baselines determined in accordance with this Convention.

## Article 4

The outer limit of the territorial sea is the line every point of which is at a distance from the nearest point of the baseline equal to the breadth of the territorial sea.

## Article 5

Except where otherwise provided in this Convention, the normal baseline for measuring the breadth of the territorial sea is the low-water line along the coast as marked on large-scale charts officially recognized by the coastal State.

## Article 6

In the case of islands situated on atolls or of islands having fringing reefs, the baseline for measuring the breadth of the territorial sea is the seaward low-water line of the reef, as shown by the appropriate symbol on charts officially recognized by the coastal State.

## Article 7

(1) In localities where the coastline is deeply indented and cut into, or if there is a fringe of islands along the coast in its immediate vicinity, the method of straight baselines joining appropriate points may be employed in drawing the baseline from which the breadth of the territorial sea is measured.

(2) Where because of the presence of a delta and other natural conditions the coastline is highly unstable, the appropriate points may be selected along the furthest seaward extent of the low-water line and, notwithstanding subsequent regression of the low-water line, the straight baselines shall remain effective until changed by the coastal State in accordance with this Convention.

(3) The drawing of straight baselines must not depart to any appreciable extent from the general direction of the coast, and the sea areas lying within the lines must be sufficiently closely linked to the land domain to be subject to the regime of internal waters.

(4) Straight baselines shall not be drawn to and from low-tide elevations, unless lighthouses or similar installations which are permanently above sea level have been built on them or except in instances where the drawing of baselines to and from such elevations has received general international recognition.

(5) Where the method of straight baselines is applicable under paragraph 1, account may be taken, in determining particular baselines, of economic interests peculiar to the region concerned, the reality and the importance of which are clearly evidenced by long usage.

(6) The system of straight baselines may not be applied by a State in such a manner as to cut off the territorial sea of another State from the high seas of which are clearly evidenced by long usage.

## Article 8

(1) Except as provided in Part IV, waters on the landward side of the baseline of the territorial sea form part of the internal waters of the State.

(2) Where the establishment of a straight baseline in accordance with the method set forth in article 7 has the effect of enclosing as internal water areas which had not previously been considered as such, a right of innocent passage as provided in this Convention shall exist in those waters.

## Article 9

If a river flows directly into the sea, the baseline shall be a straight line across the mouth of the river between points on the low-water line of its banks.

## Article 10

(1) This article relates only to bays the coasts of which belong to a single State.

(2) For the purposes of this Convention, a bay is a well-marked identation whose penetration is in such proportion to the width of its mouth as to contain land-locked waters and constitute more than a mere curvature of the coast. An indentation shall not, however, 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 that indentation.

(3) For the purpose of measurement, the area of an indentation is that lying between the low-water mark around the shore of the indentation and a line joining the low-water mark of its natural entrance points. Where, because of the presence of islands, an indentation has more than one mouth, the semi-circle shall be drawn on a line as long as the sum total of the lengths of the lines across the different mouths. Islands within an indentation shall be included as if they were part of the water area of the indentation.

(4) If the distance between the low-water marks of the natural entrance points of a bay does not exceed 24 nautical miles, a closing line may be drawn between these two low-water marks, and the waters enclosed thereby shall be considered as internal waters.

(5) Where the distance between the low-water marks of the natural entrance points of a bay exceeds 24 nautical miles, a straight baseline of 24 nautical miles shall be drawn within the bay in such a manner as to enclose the maximum area of water that is possible with a line of that length.

(6) The foregoing provisions do not apply to so-called "historic" bays, or in any case where the system of straight baselines provided for in article 7 is applied.

Article 11

For the purpose of delimiting the territorial sea, the outermost permanent harbour works which form an integral part of the harbour system are regarded as forming part of the coast. Off-shore installations and artificial islands shall not be considered as permanent harbour works.

Article 12

Roadsteads which are normally used for the loading, unloading and anchoring of ships, and which would otherwise be situated wholly or partly outside the outer limit of the territorial sea, are included in the territorial sea.

Article 13

(1) A low-tide elevation is a naturally formed area of land which is surrounded by and above water at low tide but submerged at high tide. Where a low-tide elevation is situated wholly or partly at a distance not exceeding the breadth of the territorial sea from the mainland or an island, the low-water line on that elevation may be used as a baseline for measuring the breadth of the territorial sea.

(2) Where a low-tide elevation is wholly situated at a distance exceeding the breadth of the territorial sea from the mainland or an island, it has no territorial sea of its own.

Article 14

The coastal State may determine baselines in turn by any of the methods provided for in the foregoing articles to suit different conditions.

Article 15

Where the coasts of two States are opposite or adjacent to each other, neither of the two States is entitled, failing agreement between them to the contrary, to extend its territorial sea beyond the median line every point of which is equidistant from the nearest points on the baselines from which the breadth of the territorial seas of each of the two States is measured. The above provision does not apply, however, where it is necessary by reason of historic title or other special circumstances to delimit the territorial seas of the two States in a way which is at variance therewith.

Article 47

(1) An archipelagic State may draw straight archipelagic baselines joining the outermost points of the outermost islands and drying reefs of the archipelago provided that within such baselines are included the main islands and an area in which the ratio of the area of the water to the area of the land, including atolls, is between 1 to 1 and 9 to 1.

(2) The length of such baselines shall not exceed 100 nautical miles, except that up to 3 per cent of the total number of baselines enclosing any archipelago may exceed that length, up to a maximum length of 125 nautical miles.

(3) The drawing of such baselines shall not depart to any appreciable extent from the general configuration of the archipelago.

(4) Such baselines shall not be drawn to and from low-tide elevations, unless lighthouses or similar installations which are permanently above sea level have been built on them or where a low-tide elevation is situated wholly or partly at a distance not exceeding the breadth of the territorial sea from the nearest island.

(5) The system of such baselines shall not be applied by an archipelagic State in such a manner as to cut off from the high seas of the exclusive economic zone the territorial sea of another State.

(6) If a part of the archipelagic waters of an archipelagic State lies between two parts of an immediately adjacent neighbouring State, existing rights and all other legitimate interests which the latter State has traditionally exercised in such waters and all rights stipulated by agreement between those States shall continue and be respected.

(7) For the purpose of computing the ratio of water to land under paragraph 1, land areas may include waters lying within the fringing reefs of islands and atolls, including that part of a steep-sided oceanic plateau which is enclosed or nearly enclosed by a chain of limestone islands and drying reefs lying on the perimeter of the plateau.

(8) The baselines drawn in accordance with this article shall be shown on charts of a scale or scales adequate for ascertaining their position. Alternatively, lists of geographic co-ordinates of points, specifying the geodetic datum, may be substituted.

(9) The archipelagic State shall give due publicity to such charts of lists of geographical co-ordinates and shall deposit a copy of each such chart or list with the Secretary-General of the United Nations.

Article 48

The breadth of the territorial sea, the contiguous zone, the exclusive economic zone and the continental shelf shall be measured from archipelagic baselines drawn in accordance with article 47.

Article 50

Within its archipelagic waters, the archipelagic State may draw closing lines for delimitation of internal waters, in accordance with articles 9, 10 and 11.

Article 121

(1) An island is a naturally formed area of land, surrounded by water, which is above water at high tide.

(2) Except as provided for in paragraph 3, the territorial sea, the contiguous zone, the exclusive economic zone and the continental shelf of an island are determined in accordance with the provisions of this Convention applicable to other land territory.

(3) Rocks which cannot sustain human habitation or economic life of their own shall have no exclusive economic zone or continental shelf.

## Article 234

Coastal States have the right to adopt and enforce non-discriminatory laws and regulations for the prevention, reduction and control of marine pollution from vessels in ice-covered areas within the limits of the exclusive economic zone, where particularly severe climatic conditions and the presence of ice covering such areas for most of the year create obstructions or exceptional hazards to navigation, and pollution of the marine environment could cause major harm to or irreversible disturbance of the ecological balance. Such laws and regulations shall have due regard to navigation and the protection and preservation of the marine environment based on the best available scientific evidence.

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