

[Rapporteur’s Note: Footnotes in bold indicate that I have not checked them against the cited sources or have not completed/corrected formatting.]

1.0 Introduction and Background

1.1 The International Law Association Committee on Baselines under the International Law of the Sea (the Committee) was formed with the approval of the ILA Executive Council in November 2008, with Professor Dolliver Nelson as Chair and Dr Alex Oude Elferink as Rapporteur.¹ In the autumn of 2009, Dr Oude Elferink stepped down and Mr Coalter Lathrop was approved to take his place as Rapporteur of the Committee. The Committee has been given a two-part mandate: first, to “identify the existing law on the normal baseline” and, second, to “assess if there is a need for further clarification or development of that law.”² This draft report will introduce the issues, attempt to identify the existing law on the normal baseline, and suggest possible clarification or development of that law. It is envisioned that a final report on this topic will be submitted prior to the ILA Biennial Conference in 2012.

1.2 The normal baseline is the subject of Article 5 of the United Nations Convention on the Law of the Sea (UNCLOS or the Convention). Article 5 is concise. It provides that:

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.³

This is substantially the same language as in Article 3 of the 1958 Convention on the Territorial Sea and Contiguous Zone (the 1958 Convention).⁴

1.3 Although seemingly straightforward, this language can be difficult to apply in practice. Article 5 is subject to two possible interpretations: (1) the normal baseline is the low-water line shown on the charts officially recognized by the coastal State; or (2) the normal baseline is the low-water line along the coast at the vertical, or tidal, datum indicated on the charts officially recognized by the

¹ Minutes of Meeting of Executive Council, Nov. 15, 2008, Charles Clore House, London.

² See, ‘Proposal for the establishment of a new committee on baselines,’ attached to this report.

³ United Nations Convention on the Law of the Sea, Dec. 10, 1982, 1833 UNTS 397.

⁴ Convention on the Territorial Sea and the Contiguous Zone, Apr. 29, 1958, 516 UNTS 206. The words “this Convention” replaced “these articles.”

coastal State.⁵ In the first interpretation the *charted* low-water line is the legal normal baseline and the chart itself is the legal document that determines the position of that baseline irrespective of the physical realities of the coast. In the second interpretation the *actual* low-water line is the legal normal baseline and charts, although not insignificant, are not determinative, and do not preclude consideration of other evidence of the physical coastal realities or the actual coastal configuration.

[Rapporteur’s Note: Will it be useful to include a discussion about the “official baseline” as distinct from the legal baseline? The former represented by the claim of the coastal State either to a charted low-water line or to a series of coordinates defining straight baselines, the latter represented by the actual low-water line.]

- 1.4 It is often true that the application of either interpretation will result in the same line or in lines that differ in minor and unimportant ways. In these circumstances the issue that the Committee intends to address in this draft report does not arise at all or the law does not concern itself – *de minimis non curat lex*. However, in other circumstances the application of these two interpretations of Article 5 can result in baselines that are quite different – in absolute spatial terms – or that are different in small but important ways.⁶ In these circumstances the interpretation of Article 5 has significant consequences.

⁵ Prescott and Schofield have identified these different understandings and have framed the issue accordingly, with reference to several prominent members of this Committee. They write:

“Under normal circumstances it might be considered that the low-water line shown on a chart officially recognized by a country is the baseline from which its territorial sea is measured and that this will prevail in any dispute. That is certainly the attitude of the British and Dutch governments (Carleton, pers. comm., 2001; Elferink, pers. comm., [May] 2001). According to this view it is the chart that is the legal document determining the position of the normal baseline and this remains the case even where the coastline’s configuration has changed. Thus, if the coastline has altered, but it has not been published, the legal baseline is that on the published chart. Where this is the case, the normal baseline will only come to reflect the physical change in the coastline if a fresh survey is undertaken and the chart correspondingly updated (Carleton and Schofield, 2001: 24-25).

However, Reed (2000: 180) records that members of the International Law Commission, during the preparation of draft articles for the 1958 Convention, expressed views that if the charted baseline departed appreciably from the actual low-water line the chart could be challenged in any legal tribunal. There does not appear to be any precise definition of the term ‘appreciably’ found in the *travaux préparatoires*. Reed records that in domestic cases even minor deviations have been raised and taken into account (Reed, 2000: 182).”

Victor Prescott & Clive Schofield, *The Maritime Political Boundaries of the World*, (2d ed. 2005, Leiden) 101.

⁶ For example, the transformation of a low-tide elevation into a fully submerged feature could result from only a small physical change but could significantly reduce the size of a state’s territorial sea.

- 1.5 The question before the Committee is, in essence, whether the legal normal baseline is a line on a chart (the charted low-water line) or a line on the ‘ground’ (the actual low-water line). Prescott and Schofield note that

[i]n practice it seems likely that the dispute over whether the charted or actual low-water line should prevail will only arise in two situations. The first is when a country realises that the actual line lies significantly seawards of the charted line. The second is when a foreigner, accused of improperly entering a maritime zone, realizes that the actual line lies significantly landwards of the low-water line shown on the chart.⁷

While there may be other situations in which the dispute between interpretations of Article 5 could arise,⁸ the authors capture the basic set of interests: coastal states have an interest in maintaining the most seaward normal baseline; other ocean users (including opposite or adjacent coastal states involved in a maritime delimitation) have an interest in pushing back landward.

- 1.6 The prospect of disputes such as these raises a subsidiary question: if a party to an international arbitration or adjudication (delimitation or otherwise) contends that the low-water line depicted on officially recognized large-scale charts is inaccurate, will or should a court or tribunal accept and consider evidence of the location of the actual low-water line, or is the charted low-water line dispositive?
- 1.7 In regard to the first question – the correct interpretation of Article 5 as a theoretical matter – *the Committee reaches the preliminary conclusion* that the normal baseline is the actual low-water line along the coast at the vertical, or tidal, datum indicated on the charts officially recognized by the coastal State. In regard to the second question – the role, in the settlement of disputes, of the large-scale charts officially recognized by a coastal State – *the Committee reaches the preliminary conclusion* that, while charts may be challenged, there is a presumption in favor of the charted low-water line.
- 1.8 In the following sections of this draft report we set out background information on the baseline issue and provide support for the above conclusions. In Section 2 we provide additional background on the significance of the normal baseline in international law. In Section 3 we provide a brief description of the technical reasons for the difference – in some circumstances – between the charted and actual low-water line. In Section 4 we review briefly the two cases that prompted the question before the Committee, take note of a third, more recent international case with some relevance to this discussion, and point to several current cases in which this issue is likely to arise. In Section 5 we provide support for the

⁷ *Maritime Political Boundaries*, *supra* note 5, at 101.

⁸ Prescott and Schofield do not appear to include the delimitation scenario in which an opposite or adjacent state challenges its neighbor’s charted line.

conclusions stated above. In Section 6 we address the issue of human-induced change to coastline configuration, including through sea level rise. We conclude in Section 7 with this Committee’s assessment of the need for further clarification or development in the law of normal baselines.

2.0 The Significance of the Normal Baseline

- 2.1 Before delving into our search for the existing law of normal baselines we put the significance of that law into perspective. The baseline – whether the Article 5 normal baseline or other, related, baselines contemplated in the law of the sea⁹ – plays three important, but distinct, roles. *First*, the baseline divides the internal waters of a coastal State from the territorial sea – the most landward of the belts of offshore jurisdiction. The international rights and duties of coastal States and flag states differ substantially between internal waters and the territorial sea. Coastal State regulations may also differ substantially between these two zones, making it important for citizens and foreigners alike to know where the line of division is located.
- 2.2 *Second*, the outer limits of the territorial sea,¹⁰ contiguous zone,¹¹ exclusive economic zone,¹² and, under certain circumstances, the continental shelf¹³ are measured from the baseline. Here too, the rights and duties of the coastal state and of other ocean users will differ substantially depending upon the jurisdictional zone in which an activity occurs.¹⁴
- 2.3 *Third*, baselines form the starting point in delimitations between adjacent or opposite states with overlapping claims to maritime area. It is this third role – the role of baselines in the bilateral delimitation of maritime boundaries – that, at

⁹ These “other” baselines include Article 7 straight baselines, Article 9 baselines across the mouths of rivers, Article 10 bay closing lines, and Article 47 archipelagic baselines. It should be noted that the low-water line serves as the anchor for the other baselines contemplated in the law of the sea. To be valid in international law each of these baselines – which deviate from the location of the normal baseline – still must attach to or link up with the low-water line at their endpoints, and intermediate turning points. So, while the focus of this draft report is on the normal baseline, the issues raised here between the charted and actual low-water line are no less important for locating the other baselines contemplated in the Convention.

¹⁰ Law of the Sea Convention, *supra* note 3, art. 3.

¹¹ *Id.*, art. 33(2).

¹² *Id.*, art. 57.

¹³ *Id.*, art. 76(1) & (5).

¹⁴ In some federated countries, such as the United States, the federated states or entities within the country may have jurisdiction over certain maritime areas off their coasts. While the rules governing the relationship between the federal and regional powers within a federation are not part of international law, the relationship can give rise to judicial consideration of international law rules (such as those governing baselines) within municipal legal systems.

least in part, prompted the formation of this Committee. The parties to two recent maritime delimitation cases argued, among other things, “that the baselines depicted on the chart did not reflect the situation on the ground.”¹⁵ A third maritime delimitation case, decided after the formation of this Committee, raised other issues related to the roles of baselines.¹⁶ It is land territory, and the coast of that territory in particular, that generates entitlements to maritime area. As such, coastal geography, or the configuration of the coastline is of paramount importance in delimiting boundaries between coastal states with overlapping claims to maritime area. Specific reference is made to the role of baselines in territorial sea delimitations. Article 15 of the Convention provides – with an exception for historic title or other special circumstance – that

[w]here 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.¹⁷

As a consequence, each State’s baseline also becomes of primary importance in negotiating or litigating lateral or opposite maritime boundaries.

- 2.4 The location of the baseline in each of these three roles is important to the coastal State, its citizens, foreign mariners who are approaching its coast, and adjacent or opposite coastal States with overlapping claims to maritime area. The first and second roles – establishing the line that separates territory (land or inland waters) with its full suite of sovereign characteristics from the territorial sea in which foreign vessels enjoy important navigational rights and establishing the line from which distance-based zones are measured – share a common feature: they both establish the outer limits of various zones of coastal state jurisdiction beyond which the international community enjoys certain rights. In these roles, the establishment and use of the baseline is largely a unilateral process for unilateral purposes. The third role – as a starting point for maritime boundary delimitation – differs in that the baseline is here primarily of bilateral concern. The differences among these roles do not affect the Committee’s preliminary conclusions with respect to the existing law of the normal baseline. However, the way in which a baseline challenge might be framed or a question posed to a court or tribunal, and the likely venue for the dispute could be impacted by role the challenged baseline plays in the controversy. For example, bilateral delimitation cases are heard in public international law forums, while claims challenging

¹⁵ Committee proposal, *supra* note 2, referring to *Territorial and Maritime Dispute Between Nicaragua and Honduras in the Caribbean Sea* (Nicaragua v Honduras), 2007 ICJ General List No 120 (Oct. 8) and *Guyana v Suriname* (UN Law of the Sea Annex VII Arb. Trib. Sept. 17, 2007) 47 ILM 166 (2008).

¹⁶ *Maritime Delimitation in the Black Sea* (Romania v Ukraine), 2009 ICJ General List No 132 (Feb. 3).

¹⁷ Law of the Sea Convention, *supra* note 3, art. 15.

coastal State enforcement are more likely to be heard in the national courts of the coastal State.

3.0 Actual versus Charted: Why the Difference?

[Rapporteur’s Note: Members with hydrography background please check this section for accuracy of terminology and concepts.]

- 3.1 It may be useful to pause here to look at the technical reasons behind the problem that is the focus of this draft report: the difference between actual and charted low-water lines. These differences, when they occur, can be attributed to any combination of the following: (1) the low-water line is elusive; (2) coastal zones are highly dynamic zones that undergo constant morphologic change; (3) the main purpose of nautical charts is safety of navigation; and (4) there is a significant lag time in the charting process.
- 3.2 The low-water line is the line of intersection of the sea with the coast at low tide. This general definition is problematic in two ways: (1) the line of intersection between land and sea is constantly in flux, and (2) there is no international agreement on a universal low tide datum. That the line of intersection between land and sea is constantly in flux is true at many different spatial and temporal scales. At the micro-spatial/micro-temporal scale wave action changes this line of intersection by the second or minute. Over the course of a single tidal cycle this line of intersection changes. The tidal cycle, which is easily observed over the course of hours, also exhibits longer-term, seasonal, annual, and decadal fluctuations. And, at the macro-spatial/macro-temporal end of the spectrum this line of intersection changes by virtue of erosion, accretion, dredging, land reclamation, and sea level changes.
- 3.3 With respect to the changes in the location of the low-water line caused by the tidal cycle, this line can be fixed by identifying the single vertical, or tidal, datum (among several used in the hydrographic community) to represent low tide. This vertical datum is the “zero level” to which elevation and depth measurements are reduced. The intersection of the sea – when it is at that chosen level – with the coast is the low-water line. The low-water line thus defined is an elusive feature if not a purely conceptual construct. For example, the vertical datum recommended by the International Hydrographic Organization for use on nautical charts – the lowest astronomical tide (LAT) – is defined as “[t]he lowest tide level which can be predicted to occur under average meteorological conditions and under any combination of astronomical conditions.”¹⁸ The low-water line defined using the LAT datum will only appear once every full metonic cycle of 18.6 years provided the meteorological conditions are normal. This means the low-water line will actually be underwater during all but the very lowest tides. For our purposes, it may be sufficient to note the difficulty of proving the existence of

¹⁸ International Hydrographic Organization, *Hydrographic Dictionary*, Special Publications No 32, (5th ed. 1994), at 135.

something that does not make an appearance but once every two decades, and then only for a short time.

- 3.4 Beyond the issue of tidal fluctuations, the coastal zone is an area of constant physical change brought about by the forces of wind and water. These forces contribute to the actual change in the morphology, or shape, of the coast. Some coastal areas are particularly high-energy, others less so. This will affect the rate of morphologic change. Coastal material – sand, mud, pebbles, rock, coral reef, mangrove, etc. – will also influence the rate at which the change occurs. This change, which will lead to a loss or gain of territory through erosion or accretion, can be slowed (and sometimes inadvertently accelerated elsewhere) by the construction of coastal defenses. It is this morphologic change to coastal configurations and its relationship to the chart-making process that is the crux of the problem faced by this Committee.
- 3.5 As for chart making, the primary purpose of nautical charts is safety of navigation. This has several important repercussions here. The focus of updates and corrections to charts is on new navigational hazards or changes to navigational aids, not necessarily on changes to coastal configuration. Nautical charts err on the side of caution. The vertical datum to which depths are referenced on a chart are chosen because they represent the worst case tidal scenario, not because they reflect the reality of the low-tide line under normal or average conditions. Finally, hydrographic agencies focus their resources on updating and producing large-scale charts of high traffic areas. This leaves the less-traveled stretches of coast under-researched and uncorrected even if these areas are important for the purposes of defining outer limits of maritime zones or delimitating boundaries with neighbors.
- 3.6 Conceptually, the low-water line is made stationary by the selection of a vertical datum from which to measure depths and elevations. This hydrographic fiction neutralizes the impact on the low-water line of tidal fluctuation. It does not, however, neutralize the impact of morphologic change to the coast, either natural or human-induced. To the extent that morphologic change occurs and the charted low-water line does not reflect that change, differences between the actual and charted low-water line will arise. To prevent or minimize the differences between the two the detection and depiction of these changes must occur rapidly. It is sufficient to say that even with modern detection technology (*e.g.*, satellite sensors, global positioning systems, and aerial photography) and analysis and depiction technology (*e.g.*, geographic information systems (GIS) and electronic chart display and information systems (ECDIS)) charting agencies are far from achieving real-time chart making and distribution. To the contrary, there are coasts in the world for which the best available charted low-water line is based on surveys made in the late-1800s. Needless to say, in these circumstances any morphologic changes to the coast that have occurred in the interim will not be reflected in the charted low-water line.

4.0 Baseline Cases

- 4.1 Two international maritime boundary delimitation cases are mentioned in the proposal for the establishment of this Committee: the arbitration between Guyana and Suriname instituted under Annex VII of the Convention and the ICJ case concerning *Territorial and Maritime Dispute between Nicaragua and Honduras in the Caribbean Sea* (Nicaragua v Honduras). The problem arises in both cases as a result of morphologic change to coasts outpacing the chart making process. In this section we give a brief overview of the baseline issues in these two cases. The support that these cases lend to the Committee's conclusions is evaluated in Section 5. In this section we also review relevant baseline issues in *Maritime Delimitation in the Black Sea* (Romania v Ukraine), and take note of pending maritime delimitation cases before the ICJ, the International Tribunal for the Law of the Sea (ITLOS), and an Annex VII arbitration tribunal in which baseline issues are likely to be raised.
- 4.2 The arbitration between Guyana and Suriname involved, among other things, the delimitation of a lateral maritime boundary from the land boundary terminus of the adjacent coastal states out to the 200 nautical mile outer limit. In this region of northeastern South America the coasts tend to be low-lying. In addition, massive shoals of soft "sling mud" migrate along this coast originating in the mouth of the Amazon River and carried slowly from east to west by the Guyana current. These shoals of mud are of substantial size and "the presence of these mud banks complicates survey work along the coast."¹⁹ One large shoal of mud attached to Suriname's coast near Vissers Bank contributed to the charted low-water line depicted on the most recent large-scale chart of the area officially recognized by Suriname: Netherlands Hydrographic Office Chart 2218 (2005 ed.). The newly charted low-water line was located several kilometers seaward of the charted line shown on earlier charts of this area. In the arbitration, Suriname selected a base point on Vissers Bank – S 14 – from chart NL 2218. Guyana challenged that base point on the grounds that the charted low-water line on NL 2218 did not represent the actual coastal configuration of Vissers Bank.²⁰ The tribunal was faced with the dilemma posited above between the charted low-water line and evidence indicating that it was not an accurate reflection of the actual low-water line.
- 4.3 In the maritime delimitation case between Nicaragua and Honduras in the Caribbean Sea, the ICJ was faced with an equally unstable coast line. Here the land boundary along the Rio Coco ends in a prominent delta – Cape Gracias a Dios – created by sediment transported down the river. The parties to the case agreed that sediment transport caused the delta "as well as the coastline to the

¹⁹ 'The production of the June 2005 edition of chart NL 2218,' Suriname Rejoinder, Annex SR43, Guyana v Suriname, *supra* note 15.

²⁰ See, **Guyana Reply, para. 3.19.** *supra* note 15.

north and south of the Cape, to exhibit a very active morpho-dynamism.”²¹ The Court also recognized that, generally, there was a process of accretion in the delta area by which the actual low-water line continued to move seaward.²² In these circumstances, the Court found it impossible to identify base points for constructing a provisional equidistance line.

- 4.4 In the most recent maritime delimitation case between Romania and Ukraine in the Black Sea, the issue of base points and baselines also was raised. Here, however, the question was not between the charted and actual low-water lines, but rather the Court questioned which features should be given effect in the delimitation. For the purpose of delimiting the boundary, the Court eliminated the Ukraine’s Serpents’ Island and Romania’s Sulina Dyke. The Court did not question whether these features were part of the normal baseline of the respective party for the purpose of measuring the breadth of its maritime zones, instead the Court questioned whether the use of base points on the low-water line of those features would produce an equitable delimitation. The Court decided they would not.
- 4.5 While the Court in *Black Sea* did not address directly the issue before this Committee, for our purpose it is important to note the distinction made by the Court between two of the roles identified earlier in this draft report.

The Court observes that the issue of determining the baseline for the purpose of measuring the breadth of the continental shelf and the exclusive economic zone and the issue of identifying base points for drawing an equidistance/median line for the purpose of delimiting continental shelf and exclusive economic zone between adjacent/opposite States are two different issues.²³

- 4.6 Disputes are likely to continue to arise between parties to delimitation cases as to whether the charted or actual low-water line is the legal baseline or which should prevail in the event they are different. The Court in *Territorial and Maritime Dispute* (Nicaragua v Colombia) is asked to determine sovereignty over several small insular features in the southwestern Caribbean Sea and, in light of its decision regarding sovereignty, to determine the course of the maritime boundary between the parties.²⁴ Bangladesh and Myanmar are currently arguing their

²¹ *Territorial and Maritime Dispute*, *supra* note 15, at para 277.

²² *Id.*

²³ *Black Sea*, *supra* note 16, at para 137.

²⁴ For additional information about the case between Nicaragua and Colombia, including the pleadings of the parties and the Court’s 2007 judgment on preliminary objections, see the Court website at <http://www.icj-cij.org>.

maritime delimitation case before ITLOS,²⁵ and Bangladesh and India have formed an arbitration tribunal under Annex VII of the Convention to resolve their outstanding maritime delimitation. The judges and arbitrators in these two cases will undoubtedly have to contend with disputes over the location of the low-water line along the notoriously unstable deltaic coast in the northern Bay of Bengal, including the disputed but apparently disappeared New Moore/South Talpatti Island.

5.0 Preliminary Conclusions Regarding the Legal Baseline

5.1 As noted in the introductory section of this draft report, the text of Article 5 allows for two different interpretations of what constitutes the legal normal baseline: the actual low-water line or the charted low-water line. This Committee concludes that, as a theoretical matter, the legal baseline is the actual low-water line at the vertical datum chosen or indicated by the particular coastal State. Support for this preliminary conclusion is presented below using as a general guide the framework provided by Article 38(1) of the ICJ Statute: starting with conventional law and working through to the teachings of the most highly qualified publicists.²⁶

5.2 Conventional law: the legislative history of normal baselines articles

5.2.1 Interpreting the text of Article 5 in light of the general rule of interpretation set forth in Article 31 of the 1969 Vienna Convention on the Law of Treaties – namely interpreting the treaty “in accordance with the ordinary meaning to be given to the terms of the treaty in their context and in the light of its object and purpose”²⁷ – leaves the meaning ambiguous. Alternatively, if the ordinary meaning of the text is interpreted to be that the legal baseline is “the low-water line . . . as marked on large-scale charts,” we submit that this can lead to results that are “manifestly absurd or unreasonable.”²⁸ It would, in some circumstances, lead to a result in which zones of maritime jurisdiction are ascribed to territory that does not, in reality, exist. We therefore turn to the supplementary means of interpretation set forth in Article 32 of the Vienna Convention; in particular, an analysis of the preparatory work of the treaty.

[Rapporteur’s Note: Should we insert a more complete textual analysis of Article 5 here before going on to the travaux? This may also be the most

²⁵ For additional information about the case between Bangladesh and Myanmar, see the Tribunal website at <http://www.itlos.org>.

²⁶ Special acknowledgment is due to Committee member Michael Reed who researched and drafted Section 5 and much of Section 6 of this report.

²⁷ Vienna Convention on the Law of Treaties art. 31(1), May 23, 1969, 1155 UNTS 331.

²⁸ *Id.*, art. 32.

appropriate place for a discussion of Article 7(2) and the exception that proves the rule.]

- 5.2.2 Article 5 is not new with UNCLOS. Various versions have been considered since preparations for the 1930 Hague Conference, more than 80 years ago. We find no evidence of an intent to change the requirements of the normal baseline provision in all of that time. We do believe, however, that this history provides help in understanding Article 5.
- 5.2.3 In advance of the Hague Conference of 1930, its preparatory committee distributed a questionnaire to governments which included the following inquiry. “Along the coasts. Is the [coast]line that of low tide following the sinuosities of the coast; or a line drawn between the outermost points of the coast, islands, islets or rocks; or some other line?”²⁹ A substantial majority of countries responding opined that the line of low tide following the sinuosities of the coast is the proper baseline. However, it was immediately clear that a treaty provision which merely referred to mean low tide would be inadequate for two reasons. First, as Germany pointed out in its response, there are at least six tidal datums which might be so described. And, second, there is no international agreement as to which of these is to be employed for charting purposes.³⁰ Numerous, different, “low-water” datums are actually used.
- 5.2.4 The problem before the Hague conferees was selecting a common datum for adoption as the “normal” coastline. But that presented another concern. If international law identified a specific datum as representing the “normal” coastline, a significant number of coastal States would be immediately out of compliance with the law, requiring expensive survey and charting processes to come into compliance. The solution was to sidestep the question by declining to identify a single low-water datum as representing the coastline and, instead, ratifying the use of any “reasonable” datum already in use.
- 5.2.5 Germany was the first to suggest this solution. After noting the array of low-water datums in use around the world it suggested, in its response to the pre-conference questionnaire, that “The German Government considers that the baseline to be adopted in the Convention on Territorial Waters should be the ‘sea level adopted in the charts’ ...of the coastal State, which may be based on any of the above-mentioned criteria...”³¹ At the Conference, the United States proposed language which “defined the low-water mark as that ‘...which is employed by the coastal State for the particular coast.’”³²

²⁹ *League of Nations, Conference for the Codification of International Law. Volume II. Territorial Waters, C.74.M.39.1929.V, at 35.*

³⁰ *Id.*

³¹ *Id.*

³² *4 Whiteman, Digest of International Law, (1965) 182.*

5.2.6 Sub-committee II, charged with considering delimitation issues, submitted a draft provision which read:

For purposes of this Convention, the line of low-water mark is that indicated on the charts officially used by the coastal State, provided the latter line does not appreciably depart from the line of mean low water spring tides.³³

We believe that the proposed language makes two points. The normal coastline may be any derived from various low-water datums. And, the resulting line may not appreciably depart from a coastline derived from that using mean low water spring tides datum. Of course the 1930 Conference did not produce a Convention. Nevertheless, its work on coastlines was not done in vain.

5.2.7 The International Law Commission relied heavily on the Hague precedents in its work on what became the 1958 Convention on the Territorial Sea and the Contiguous Zone. The ILC began by noting that it “was of the opinion that, according to the international law in force, the extent of the territorial sea is measured either from the low-water line along the coast, or...from straight baselines independent of the low-water mark. This is how the Commission interprets the judgment . . . in the Fisheries Case between the United Kingdom and Norway.”³⁴ It went on to reiterate that “[t]he traditional expression ‘low-water mark’ may have different meanings; there is no uniform standard by which States in practice determine this line.”³⁵

5.2.8 A Committee of Experts was once again relied upon, being asked specifically, “[a]ssuming the territorial sea to be measured from the low-water line, what line might then preferably be taken as such?” Clearly, the experts were being asked to identify the “criteria” (or identify a tidal datum) for constructing a baseline. But they declined to answer that question, taking the practical approach of opting for “whichever criteria are being used to depict that coastline on large scale charts.”³⁶

³³ *C.<30.M.117.V.,p.11*. Shalowitz explains that “[t]he Committee observed that different States employ different criteria to determine the line of low water on their charts but that these are slight and may be disregarded. However, in order to guard against abuse, the [final] proviso was added.” A.L. Shalowitz, *Shore and Sea Boundaries*, vol I (1962) 29, footnote 19.

³⁴ International Law Commission, *Report of the International Law Commission on the Work of its Eighth Session*, at 266-67, A/CN.4/104 (Apr. 23 - July 4, 1956), in *Yearbook of the International Law Commission 1956*, vol II, referring to *Fisheries Case* (United Kingdom v Norway), 1951 ICJ 116 (Dec. 18).

³⁵ *Id.*

³⁶ *For additional justification for the experts’ approach see: Report of the International Law Commission on the Work of Its Eighth Session, 25 Oct. 1956, A/C.6/L.378, at 26.*

5.2.9 This distinction may be more clearly laid out in a footnote to that discussion in the ILC's Report. It explains that:

The traditional expression 'low-water mark' may be interpreted in different ways and requires definition. In practice different States employ different criteria to determine this line. The two following criteria have been taken more particularly into consideration; first the low-water mark indicated on the charts officially used by the Coastal State, and, secondly, the line of mean low-water spring tides. Preference was given to the first, as it appeared to be more practical.³⁷

The special rapporteur had asked the experts to identify a datum ("criteria") for identifying a coastline. That is what the experts provided, although not a single datum for all coasts as the rapporteur may have wished.

5.2.10 One thing that the experts did not say is that the coastline is whatever line is shown on the large scale charts of the area. That interpretation would have put the location of the coastline entirely within the discretion of the coastal sovereign, without regard to international law principles for governing baseline determination. The ICJ had clearly rejected such a notion in its judgment in the *Fisheries Case*, where it said:

"The delimitation of sea areas has always an international aspect; it cannot be dependent merely upon the will of the coastal State as expressed in its municipal law. Although it is true that the act of delimitation is necessarily a unilateral act, because only the coastal State is competent to undertake it, the validity of the delimitation with regard to other States depends upon international law."³⁸

5.2.11 The ILC had a clear understanding of this principle, as indicated throughout its discussion by reference to a tribunal's presumed authority to correct "appreciably" inaccurate or "abusive" depictions on nautical charts.³⁹

³⁷ *Ibid.* note 1.

³⁸ *Fisheries Case* (United Kingdom v Norway), 1951 ICJ 116, 132 (Dec 18).

³⁹ See, for example, reported statement of: Mr. Amado that "if the low-water mark on official charts departed appreciably from the line of mean low-water spring tides, those charts would not be accurate and their validity would be questioned by any legal tribunal. *Yearbook of the International Law Commission 1952, Vol. I, p. 172, para. 33.* See also reported remarks of: Mr. Hudson "to accept a line indicate on official chart which, incidentally, frequently omitted to show the low-water mark properly, would be inconsistent with the judgment of the Court." *Id.* at p. 173, para. 43. Mr. Lauterpacht "It was accordingly important to recognize, either in the text or in the commentary on it, that the validity of a delimitation by a State of its territorial sea was of international concern and subject to review by an international authority." *Id.* at p. 174, para. 49. Mr. Francois "had followed the Sub-Committee in giving preference to the first criterion, as it appeared to be the more practical, but in order to guard against abuse had added a proviso that the line indicated on the chart must not depart appreciably from the more scientific criterion. *Id.* at p. 178, para. 48. And Mr. Yepes "If a dispute arose as to whether a

- 5.2.12 Article 3 of the Convention on the Territorial Sea is taken directly from the normal baseline provision of the 1930 draft. The 1958 version provides that: “Except where otherwise provided in these articles, 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.”
- 5.2.13 The only substantive change from 1930 is its omission of any requirement that the baseline not depart, appreciably, from mean low water spring tides. As discussed, this provision was now considered unnecessary.⁴⁰
- 5.2.14 This takes us to the normal baseline provision in effect today. Interestingly we find no change from the 1958 provision. Article 5 of UNCLOS states that: “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.” The only change was replacing “these articles” with “this Convention” in the first line. Clearly no substantive alteration was intended. This is confirmed by the authoritative legislative history of UNCLOS which notes that “In the Main Trends Working Paper (Source 9), Provision 4, Formula A, repeated article 3 of the 1958 Convention, and became the basis for the final text of the 1982 Convention.”⁴¹
- 5.2.15 A subsequent study sponsored by the United Nations Office for Ocean Affairs and the Law of the Sea is helpful in understanding the concepts being dealt with here.⁴² It defines the ‘low-water line’ as “the intersection of the plane of low-water with the shore,” and distinguishes the ‘low-water mark on a chart’ as “the line depicting the level of chart datum.”⁴³
- 5.2.16 That distinction alone may not seem to provide a resolution of our initial inquiry – whether the legal baseline is a line on a chart or a line on the shore itself – but a

chart did or did not ‘appreciably’ depart from that criterion, it could be referred to an international tribunal.” Id. at p. 178, para. 49. In addition, “Mr. Scelle wondered...whether the Commission could not find a more general criterion than the ‘scientific’ criterion set forth in that clause, since first it was apparently open to question on scientific grounds, and secondly it would not exclude charts which were unacceptable on other grounds, as being out of date, for instance.” Id. p. 178, para. 52.

⁴⁰ Note 17 *supra*, and accompanying text.

⁴¹ Satya N. Nandan and Shabtai Rosenne, ed., *United Nations Convention on the Law of the Sea, 1982: A Commentary Vol. 2, 1993 at 88.*

⁴² *The Law of the Sea, Baselines: An Examination of the Relevant Provisions of the United Nations Convention on the Law of the Sea. (UN Office of Ocean Affairs and Law of the Sea, 1989). The group of 20 technical experts involved in this study is an international Who’s Who of authorities in the law of the sea. Ibid. at 63-65.*

⁴³ *Ibid.* at 2, para. 9.

subsequent statement appears to be dispositive. There the UN's group of technical experts declared that "[t]he low-water line along the coast is a fact irrespective of its representation on charts." And it continues, "[t]he territorial sea exists even if no particular low-water line has been selected or if no charts have been officially recognized."⁴⁴ These statements are at odds with any contention that an international tribunal may not rely upon proffered evidence that a large scale chart is out of date or otherwise does not accurately depict the actual land/water interface at the designated datum.

5.3 International custom: examples of state practice

5.3.1 This Committee has not been able to identify a robust or wide spread set of relevant state practice. However, the United States Supreme Court has contemplated on several occasions the issue before the Committee in disputes between the United States Government and those of coastal federated states of the United States. The decisions of the United States Supreme Court support the Committee's conclusions.

5.3.2 The United States Supreme Court has, in at least three cases, dealt with the very question we are faced with here, whether the baseline depicted on officially recognized nautical charts, as described in Article 3 of the 1958 Convention on the Territorial Sea and the Contiguous Zone (which is identical to that of UNCLOS Article 5) can be challenged as inaccurate. The issue arises because in 1953 the federal legislature granted each of its coastal states mineral rights seaward (generally) to 3 nautical miles from the coast.⁴⁵ When questions arose between California and the federal government on how to define the "coast" for purposes of that grant the Court concluded that "The Convention on the Territorial Sea and the Contiguous Zone...provides such definitions. We adopt them for purposes of the Submerged Lands Act. This establishes a single coastline for both the administration of the Submerged Lands Act and the conduct of our future international relations...."⁴⁶

5.3.3 The first controversy to reach the Court which involved challenges to charted baselines came from Louisiana. That state's coastline, like that at the Honduras/Nicaragua land boundary terminus, is in constant motion. Deposits from the Mississippi River not only alter the mainland coastline, but create, and then destroy, offshore islands and low-tide elevations. Louisiana argued that the drafters of Article 3 purposely adopted the charted line, believing that it would err

⁴⁴ *Ibid.* at p. 3, para. 12. See also: Torsten Gihl, *The Baseline of the Territorial Sea* (1967) at 129, where the author says "The coast is, of course, the place where the land and the sea meet, and where the area of the sea that will be subjected to the state's sovereignty consequently begins....The situation of the coast is a geographical fact. The coast lies where it lies...."

⁴⁵ Submerged Lands Act, 43 USC 1301, 1311.

⁴⁶ *United States v. California*, 381 U.S. 139, 165 (1965).

on the side of navigational safety and the federal government should not be allowed to disprove its official charts. The Supreme Court disagreed and both sides were allowed to introduce the best available evidence to prove the present location of the actual coastline.⁴⁷

- 5.3.4 California returned to the Supreme Court in 1980 when the federal government was found to have made errors in its charts which worked to the state's advantage.⁴⁸ Like Louisiana, California contended that "pursuant to Article 3, the United States is bound by these charts and may not now argue against using the piers for measuring the territorial sea."⁴⁹ The Supreme Court's Special Master recommended that the charts, showing an island with a low-water line and resulting territorial sea, not be treated as conclusive evidence of the coast's location.⁵⁰ The Court agreed.⁵¹
- 5.3.5 Finally, Alaska and the federal government disagreed as to the status of an offshore feature in the Arctic Ocean near the Prudhoe Bay oil field. The feature, known as Dinkum Sands, had been observed by hydrographic surveyors, and charted as an island, with a low-water line since 1949. But by the 1980's it had slumped significantly and, apparently, seldom appeared above water. If it were an island Alaska would have been entitled to the oil and gas within three miles. If not, those minerals would belong to the federal government. The parties offered extensive evidence regarding Dinkum Sands' potential qualification to be considered an island. That evidence involved its present elevation, composition and transiency. The Supreme Court's Special Master concluded, officially recognized charts notwithstanding, that Dinkum Sands does not have a baseline.⁵² The Supreme Court agreed.⁵³
- 5.3.6 The same approach appears to be taken in Australian courts. O'Connell cites to an Australia High Court decision, Chia Hsing v. Rankin.⁵⁴ After setting out Article 3 of the 1958 Convention he says that "the High Court of Australia has held that the precise position of the baseline is a question of fact for the court and is not

⁴⁷ *United States v. Louisiana*, 394 U.S. 11, 40-41 n.48 (1969) and 420 U.S. 529 (1975).

⁴⁸ Most of those errors resulted from the unintended use of coastal piers as base points for swinging 3 mile arcs to describe the territorial sea and the state's Submerged Lands Act limits.

⁴⁹ *United States v. California, Report of the Special Master (August 20, 1979) 25.*

⁵⁰ *Ibid.*

⁵¹ *United States v. California*, 447 U.S. 1, 6-7 (1980).

⁵² *United States v. Alaska, Report of the Special Master (March 1996) at 310.*

⁵³ *United States v. Alaska*, 521 U.S. 1, 27 (1997).

⁵⁴ (Shearer ed.) vol. 1, 1982 [p. 171, n. 9] citing to Chia Hsing v Rankin (1979) 23 ALR 151.

dependent on the existence of large-scale charts; in the absence of any charts, the relevant baseline is the low-water mark." Although this case has not been studied in depth it appears to be consistent with the Committee's preliminary conclusions that the legal baseline is the actual low-water line and that the charted line may be challenged.

- 5.3.7 US Supreme Court practice is fairly clear on this issue: evidence may be introduced to attempt to prove that officially recognized nautical charts do not accurately depict the actual low-water line. The practice of the Australia High Court appears to lend support. For the purpose of this draft report, we have not been able to find additional evidence from other jurisdictions.

[Rapporteur's Note: Insert additional examples of state practice here.]

5.4 General Principles

- 5.4.1 This Committee is tasked with studying the normal baseline in the context of public international law. This involves the entitlements of coastal States under the law of the sea to maritime zones generated by and measured from the baseline. In order to understand the rules related to the normal baseline, it may also be useful to look at the general principles of law with respect to this topic. In the context of municipal systems of law, the closest analog to territorial sovereignty is real property ownership. It may inform our analysis to look at how municipal law deals with title to real property under conditions of change in the coastal zone.

- 5.4.2 Although the particulars vary among the federated states of the United States, as a general matter private land ownership ends at the high tide line and the land between the high tide and low tide lines is public. As discussed throughout this draft report, the locations of both lines are prone to change. In the United States, "[u]nder traditional common law rules governing erosion, the migration of the mean high tide line will change ownership of locations from private owners to the public. . . . Private owners, of course, have the incentive to resist these outcomes, either through armoring the shore or through legal arguments."⁵⁵ There is a clear analogy to be made between private property owners in the municipal law system and coastal States in the system of international law. The common law rule appears to favor the actual high tide line over any line on a plat or survey of the private landholding.

[Rapporteur's Note: I imagine there are many more examples from other municipal law systems around the world. This is where those examples would go if we can track them down.]

⁵⁵ J. Peter Byrne, *Rising Seas and Common Law Baselines: A Comment on Regulatory Takings Discourse Concerning Climate Change*, 11 VT. J. ENVTL L. 627, 628 (2010) citing Henry Philip Farnham, *The Law of Waters and Water Rights* 320-23 (The Lawbook Exchange, Ltd. 2006) (1904).

5.5 International judicial decisions

5.5.1 Although neither of the cases which prompted this Committee's mandate directly raised the questions of present concern, they did raise related issues. The parties' and tribunals' approaches to those issues help to inform our analysis.

5.5.2 We look first at the approaches taken in the arbitration between Guyana and Suriname. As noted in Section 4 this case involved a delimitation of a lateral offshore boundary between adjacent coastal States. The specific controversy in that case which is of interest to this Committee concerned the existence, or non-existence, of a potential base point along the Suriname coast – point S 14. After the proceedings had begun, Suriname introduced a newly-produced, officially-recognized, nautical chart of its coastline – chart NL 2218 – which depicted a charted low-water line several kilometers seaward of earlier depictions. Guyana contended that the new chart inaccurately depicted Suriname's low-water line, and supported that contention with additional map and satellite evidence.⁵⁶ Guyana urged the tribunal to disregard the chart,⁵⁷ and cited to other international boundary cases in which it was said that “[i]n general, the value as evidence attached to [maps] by international courts and tribunals is corroborative or confirmatory of conclusions arrived at by other means unconnected with the maps, because the maps as such are not legal title.”⁵⁸

5.5.3 Suriname countered with an explanation of how the new chart was constructed and noting that data was used from older charts, aerial photography, and ship-based echo sounders, and that chart NL 2218 was “produced in accordance with the requirements for the safety of navigation, the primary purpose of nautical charts.”⁵⁹ The memorandum acknowledged the difficulty of establishing the exact location of the low-water line, especially in the presence of large migratory banks of mud, and concluded that “[t]he exact location of the low-water line is not known. The safest (for the shipping) estimate based on available survey data is visualized by a dashed line (in accordance with International Hydrographic Organization (IHO) publication M4/411.2 (inadequate survey data)).”⁶⁰

⁵⁶ See, *Analysis of Recent Shoreline Revisions to the 2005 Edition of Dutch Nautical Chart NL 2218*, Guyana Reply, Annex R2.

⁵⁷ Guyana Reply, at 40, note 31 (“It is plain that the hastily-prepared June 2005 version of chart NL 2218 should be given no weight.”)

⁵⁸ Guyana Reply, at 40, note 31 quoting *Maritime Delimitation and Territorial Questions between Qatar and Bahrain* (Qatar v Bahrain), 2001 ICJ 40, 274, para 37 (Mar. 16) (Dissenting Opinion of Judge Torres Bernardez).

⁵⁹ Suriname Rejoinder, Annex SR43 (memorandum from the Hydrographer of the Royal Netherland Navy), supra note ??.

⁶⁰ Id.

- 5.5.4 Here, the Tribunal admitted the evidence from both parties but ultimately rejected Guyana's challenge to the charted line, explaining that "[t]he Tribunal is not convinced that the depiction of the low-water line on chart NL 2218, a chart recognised as official by Suriname, is inaccurate. As a result, the Tribunal accepts the basepoint on Vissers Bank, Suriname's basepoint S 14."⁶¹ The Tribunal ultimately delimited an equidistance boundary using Suriname's basepoint S 14.
- 5.5.5 The relevance for our purpose is not the outcome in this case, but the approaches of the participants. Neither party contended that the chart was dispositive, even though it was a large-scale chart officially recognized by the coastal State. Instead, both sides introduced evidence in support of, or in opposition to, the accuracy of the chart and, in particular, the charted low-water line. Nor did the Tribunal refuse to accept that evidence. It accepted the evidence, weighed it, and reached conclusions based upon it, notably that the party challenging the officially recognized large-scale chart had not convinced the Tribunal of the chart's inaccuracy. All participants proceeded on the assumption that officially recognized charts may be challenged before an international tribunal and that the actual location of a baseline may be resolved at trial.
- 5.5.6 The arbitration between Guyana and Suriname produces two conclusions regarding charts and the normal baseline. First, the accuracy of a charted low-water line may be challenged before an international tribunal. Second, the charted low-water line is apparently to be given a presumption of accuracy - imposing a burden of proof on the party challenging a charted line. Both of these conclusions support the preliminary conclusion reached by this Committee that Article 5 must be interpreted to mean that the legal baseline is not the charted low-water line, but the actual low-water line at the datum selected or indicated by the coastal state on its officially recognized charts.
- 5.5.7 *Nicaragua v Honduras* provided different but equally interesting questions about delimitation off highly morpho-dynamic coasts. Again, adjacent sovereigns sought to resolve their common lateral boundary in the Caribbean. And again, difficult questions existed as to the location, and particularly the stability, of mainland base points which might contribute to a delimitation line. Here, however, the charted low-water line was not at issue. In the nearly 100-page long judgment dealing primarily with the delimitation of a maritime boundary between the coasts of the parties, the Court does not once mention nautical charts or charted low-water lines. It does not appear that the parties introduced nautical charts into evidence nor does it appear that they argued their positions on the basis of charts or the charted low-water lines.⁶² Instead, both parties introduced

⁶¹ *Guyana v Suriname Award*, para 396.

⁶² Insert footnote re vintage of best available charts and surveys of this area.

relatively current satellite images of the mouth of the Rio Coco to demonstrate the location of the low-water line and the fact that the Rio Coco delta has moved seaward over time.⁶³

- 5.5.8 The morphological change in the vicinity of the land boundary terminus created a problem for the Court, specifically with respect to identifying valid base points. It is instructive to see how the Court grappled with this issue. Referring to the ever-shifting low-water line at the mouth of the river the Court wrote:

These geographical and geological difficulties are further exacerbated by the absence of viable base points claimed or accepted by the Parties themselves at Cape Gracias a Dios. In accordance with Article 16 of UNCLOS, Honduras has deposited with the Secretary-General of the United Nations a list of geographical co-ordinates for its baselines for measuring the breadth of its territorial sea . . . The Honduran Executive Decree identifies one of the points used for its territorial sea baselines, “Point 17”, as having co-ordinates 14°59.8' N and 83°08.9' W. These are the exact co-ordinates the Mixed Commission identified in 1962 as being the thalweg of the River Coco at the mouth of its main branch. This point, even if it can be said to appertain to Honduras, is no longer in the mouth of the River Coco and *cannot be properly used as a base point (see UNCLOS, Art. 5.)* Nicaragua has not yet deposited the geographical co-ordinates of its base points and baselines.⁶⁴

Although neither party appears to have invoked officially recognized large-scale charts to support its version of the low-water line, two points relevant to this Committee’s task can be gleaned from this part of the Court’s judgment. First, despite the fact that Honduras deposited a list of coordinates of the points used to draw its straight baselines mere months after Nicaragua filed its Application in this case, the Court did not hold Honduras to them as the base points “claimed or accepted” by Honduras. Second, invoking Article 5 of the Convention, the Court concluded that a base point that is not on the actual low-water line “cannot be properly used as a base point.” Both of these points appear to support this Committee’s preliminary conclusion that the legal baseline is the actual low-water line.

- 5.5.9 Ultimately the Court avoided the baseline dilemma by positioning the starting point of its delimitation well off shore and using a delimitation methodology – angle bisector – that is, ostensibly, less sensitive to coastal change. That it is for the Court to delimit boundaries using methods other than strict equidistance and without full accounting of every sinuosity or change to the coast was confirmed in

⁶³ See Nicaragua Memorial, vol. 1, fig VII (SPOT satellite image from Feb 25, 2000); Honduras Rejoinder, plate 46 (including Landsat 7, Thematic Mapper image from 2001).

⁶⁴ Nic v Hond para 278 (emphasis added)

Black Sea, in particular in the passage quoted in Section 4 of this draft report distinguishing between boundary delimitation and the delineation of the outer limits of maritime zones.

- 5.6 Teachings of the most highly qualified publicists
- 5.6.1 Turning to the views expressed on this issue by the most highly qualified publicists, including several members of this Committee, we find additional support for the preliminary conclusions that the legal baseline – when there is a difference – is the actual, not the charted, low-water line, and that the charted low-water line may be challenged.
- 5.6.2 Alexander writes: “Normal baselines may change over time as the low-water line changes because of erosion, deposition or the emplacement of man-made structures on the shore. Official baselines have been, and will continue to be challenged by affected parties.”⁶⁵
- 5.6.3 Caron, referring to the outer limits of maritime zones as “boundaries,” writes: “maritime boundaries under the 1982 Convention generally are contingent upon the continued existence of the baseline. If the baseline moves, the boundary moves. If a baseline point such as an exposed rock disappears, the boundary generated by that point also disappears. Although this is obviously an important principle, it often goes unstated.”⁶⁶ Caron arrives at this conclusion through an analysis of other provisions in the Convention, in particular Article 7(2) which allows for the fixing of the legal baseline in certain limited circumstances, “notwithstanding subsequent regression of the low water line.”⁶⁷ Caron concludes that “in other than article 7(2) situations, the outer boundary of the exclusive economic zone, the contiguous zone, and the territorial sea are ambulatory in that they will move with the baselines from which they are measured.”⁶⁸
- 5.6.4 Soons also indicates that the outer limits of most maritime zones will move with movement of the baseline.⁶⁹ Soons suggests that loss of maritime area resulting from landward movements of the baseline can be prevented through the “artificial conservation of the baseline.”⁷⁰ He writes that “[a]s far as the *low-water line* is

⁶⁵ Lewis M. Alexander, *Baseline Delimitations and Maritime Boundaries*, 23 VA. J. INT’L L. 503, 535 (1983).

⁶⁶ David D. Caron, *When Law Makes Climate Change Worse: Rethinking the Law of Baselines in Light of a Rising Sea Level*, 17 ECOLOGY L.Q. 621, 634 (1990).

⁶⁷ *Id.* quoting Convention art. 7(2).

⁶⁸ *Id.* at 635.

⁶⁹ A.H.A. Soons, *The Effects of a Rising Sea Level on Maritime Limits and Boundaries*, 37(2) NETHERLANDS INT’L L.R. 207, 216-218 (1990).

⁷⁰ *Id.* at 222.

concerned, this means the construction or reinforcement of sea defences (shoreline protection).”⁷¹ No suggestion is made that artificial conservation of the baseline can be achieved by publishing, recognizing or maintaining charts that depict a low-water line that does not reflect the physical realities of the coast.

[Rapporteur’s Note: There may be other publicists that should be included here. If so, please let me know the author and specific information about the publication that should be referenced.]

6.0 Human-Induced Change and the Normal Baseline

- 6.1 The baseline issues that arose in the two international cases reviewed in Section 5 were caused, primarily, by natural changes to the shape of the coast: migrating mud banks and accretion at the mouth of a river. Human-induced change can also impact the shape of coasts and the location of the intersection between land and sea. In addition to the dual mandate of the Committee recited in the opening paragraph of this draft report, the proposal on which the Committee was formed contained the following observations: “Climate change and the resulting sea level rise are impacting on the normal baselines. Low lying small island developing states may in particular be negatively affected by this phenomenon. . . . Human activities in the sea are increasing. This among others concerns the artificial extension of existing coasts, which may have a huge impact on the location of the normal baseline.”⁷² In this section we consider, first, the existing law of the normal baseline in relation to the artificial extension of existing coasts, and second the existing law of the normal baseline in relation to sea level rise.
- 6.2 It is understood that the low-water line is an ambulatory feature, subject to constant flux through natural processes. But not all changes in the interface of land and sea are the product of nature. Man may also play a role. Two examples are immediately recognizable. First, humans regularly construct structures adjacent to, or seaward of, the natural coast, producing a new land/water interface along the length of that structure. Second, many such structures will affect the remaining natural shoreline, usually moving it seaward on the up current side and landward on its down current side. Our inquiry here is whether, under international law, the legal baseline also changes with such human-induced activities.
- 6.3 Harbour works
- 6.3.1 The case that harbour works constitute part of the legal baseline is fairly clear cut, although exactly which structures fall into this category has been the subject of

⁷¹ Id.

⁷² *Cite baselines committee proposal*

some debate over the years. Article 11 of UNCLOS speaks directly to certain artificial structures along the shore. It reads that:

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

That is to say, the low-water line along such structures is part of the legal baseline from which the territorial sea and other maritime zones are measured. Identical or similar provisions were offered at the 1930 Hague Conference and again in ILC drafts preceding the 1958 Convention. In fact, Commentary to the ILC's 1954 version indicated that "the article is 'consistent with the positive law now in force.'"⁷³

6.3.2 Although Shalowitz opined that "this provision is open to interpretation as to what constitutes a 'harbour system' and 'harbour works'" there has been surprisingly little controversy associated with either term.⁷⁴ Authorities in international law have tended to define "harborworks" with examples. These examples help determine which structures may be treated as part of the legal coastline. We look now at some of those experts' examples.

6.3.3 Jessup weighed in early in the process, recommending that stone jetties and breakwaters connected with the shore should extend the territorial sea.⁷⁵ Experts assembled by the United Nations to examine the baseline provisions of UNCLOS included: "jetties, moles, quays or other port facilities, coastal terminals, wharves, breakwaters, sea walls, etc." as harborworks.⁷⁶ In their commentary on Article 11 those experts noted that "[t]his would include features like detached

⁷³ Report of the ILC, Sixth session, 3 June-28 July 1954, p. 15.

⁷⁴ I Shalowitz, *Shore and Sea Boundaries* at 229-230. Shalowitz was referring to Article 8 of the Convention on the Territorial Sea and the Contiguous Zone, but that article is identical to the portion of UNCLOS Article 11 quoted above. Although he might have included the requirement for "permanence" as being open to interpretation, he was apparently correct in excluding it. We have found no international situation in which a structure has been denied "harborwork" status on that ground. The United States has twice sought to disqualify coastal structures as basepoints for lack of permanence and on neither occasion did the United States Supreme Court find the argument persuasive. *United States v. California*, Report of the Special Master, August 20, 1979 at 27, note 21. [the United States did not take exception to the Master's findings before the Supreme Court]. See also: *United States v. Alaska*, Report of the Special Master of March 1996 at 316-323.

⁷⁵ Philip C. Jessup, *The Law of Territorial Waters and Maritime Jurisdiction* (1927) at 69-70.

⁷⁶ *The Law of the Sea - Baselines: An Examination of the Relevant Provisions of the United Nations Convention on the Law of the Sea* (1989), at 54.

breakwaters....”⁷⁷ A later UN publication emphasized that same point.⁷⁸ Professor Walker adds “piers” to the UN list.⁷⁹ The ILC commented that “[p]ermanent structures erected on the coast and jutting out to sea (such as jetties and coast protective works) are assimilated to harbour works.”⁸⁰ Prescott and Schofield observe that “[s]ometimes protecting walls will lie *along* [emphasis added] the coast and cover the normal low-water line rather than jutting out to sea. Nevertheless they are clearly to be regarded as part of the baseline from which territorial waters are measured.”⁸¹ Sohn and Noyes cite to a member of the ILC’s comment that the Commission’s recognition of “jetties and piers” as part of the baseline assumed that those features “would be of such a type as to constitute a physical part of the coastline” and those authors go on to point out that the United States Supreme Court declined to include open-pile piers on the California coast as part of the baseline, in part on the reasoning that they provided no coast protective function.⁸² Percy has cited “piers and breakwaters” as the most common examples of harborworks, but cautioned that they must be connected to the shore or an installation on the shore.⁸³ Shalowitz defined “harborworks” as “structures along the seacoast at inlets or rivers for protective purposes, or for enclosing sea areas...to provide anchorage and shelter.”⁸⁴

6.3.4 The common denominator appears to be “coastal protection.” No authority has suggested that only the “outermost” of harborworks form part of the coast.⁸⁵ Nor

⁷⁷ *Ibid.* at 33.

⁷⁸ “Under Article 11, ‘the outermost permanent harbour works which form an integral part of the harbor systems’ are regarded as forming part of the coast. This would include features such as detached breakwaters....” Handbook on the Delimitation of Maritime Boundaries (2000), at 7, para. 39. This understanding is important because without it detached breakwaters would arguably be treated as artificial islands and ineligible as basepoints.

⁷⁹ George K. Walker, Terms in the 1982 U.N. Convention on the Law of the Sea or in Convention Analysis that the Convention Does not Define (2009) at 202, para. 79.

⁸⁰ Report of the International Law Commission, 8th sess. at 16 (1956). In its 1954 Report the ILC had also identified “dykes” as harborworks. Report of the International Law Commission, 6th sess. at 15.

⁸¹ Victor Prescott and Clive Schofield, *The Maritime Political Boundaries of the World*, 2nd ed. (2005) at 135.

⁸² Louis B. Sohn and John E. Noyes, *Cases and Materials on the Law of the Sea* (2004), at 278, n. 3, referring to *United States v. California*, 447 U.S. 1, 8 (1980).

⁸³ G. Etzel Percy, “Measurement of the Territorial Sea,” XL *Bulletin*, Department of State, No. 1044, June 29, 1959. Some years later, in a deposition being taken by the Deputy California Attorney General in his litigation to include piers as part of that State’s baseline, Dr. Percy testified that he had not been referring to open-pile structures, such as those along the California coast.

⁸⁴ 1 Aaron Shalowitz, *Shore and Sea Boundaries* (1962) at 292.

⁸⁵ This term may have been included in Article 11 to make clear that the “outermost” feature of a port may be used for purposes of defining the limit of its internal waters, as was determined by the

has “permanency” been an issue. Although the reference to their “integral part of a harbor system” has been commented upon, we find no authority who suggests that coast protective works must be associated with harbors to qualify for treatment as baselines. As McDougal and Burke have said, “There would seem to be no substantial objection to assimilating ‘coast protective works’ to harbor installations even when they are isolated structures if, as is usually the case, they are not extensive.”⁸⁶

6.3.5 Some authorities have also identified coastal projects which, they contend, should not be assimilated to harborworks or form part of the coast. These include: piers which do not provide a coast protective function,⁸⁷ bridges,⁸⁸ causeways,⁸⁹ dredged channels⁹⁰ and “excessively long artificial structures jutting out to sea.”⁹¹

6.4 Land reclamation, accretion resulting from human activity, dredging, and beach nourishment

6.4.1 Other human-induced alterations of the natural coastline which do not fall within the definition of “harborworks” include land reclamation projects unrelated to a harbor system, natural accretion and erosion that often occur in the vicinity and as a direct result of coastal structures and defenses, and the intentional disposition of sand or spoil in beach restoration or dredging. These situations have attracted almost no comment that we are aware of.

Supreme Court’s Special Master with respect to the port of Los Angeles-Long Beach, rather than to suggest that more landward harborworks are not part of the coastline. Report of the Special Master in *United States v. California*, August 20, 1979 at 128-135. The United States did not take exception to the Master’s recommendation and it was adopted by the Court. *United States v. California*, 447 U.S. 1 (1980).

⁸⁶ Myres McDougal and William Burke, *The Public Order of the Oceans* (1962) at 422-423.

⁸⁷ U.S. Supreme Court, *United States v. California*, 447 U.S. 1, 8 (1980).

⁸⁸ G. Etzel Percy, *supra* n. 11 at 4-5.

⁸⁹ *Ibid.*

⁹⁰ Louisiana argued that dredged offshore channels leading to ports constitute “harborworks” and should be treated as baselines for the territorial sea (and the State’s offshore boundary in the Gulf of Mexico). But the Supreme Court disagreed, reasoning that “[a]s part of the coast, the breadth of the territorial sea is measured from the harbor works’ low-water lines, attributes not possessed by dredged channels.” *United States v. Louisiana*, 394 U.S. 11, 38 (1969). In reaching that conclusion the Court explained that the term “harborworks” describes “structures and installations” that are part of the land and in some sense provide shelter. *Ibid.* at 36-37.

⁹¹ In 1956 the ILC questioned the status of a jetty extending several kilometers offshore. However, it declined to state an opinion, purportedly because of the rareness of the situation. Report of the International Law Commission, 8th sess. (1956) at 16. Apparently the issue did not arise in later deliberations.

6.4.2 However, the U.S. Supreme Court considered the dredging issue in tidelands litigation in which the State of Louisiana contended, among other things, that its “coastline” included a spoil bank created during dredging operations in the Mississippi River delta. The artificial bank extended offshore from the natural coastline and would, if treated as part of the coast, expand the State’s offshore mineral rights. The federal government argued that the spoil bank should not be treated as coast reasoning that spoil banks are not useful and are likely to be short-lived. The Court was terse in its rejection of the federal contention, noting simply, “it suffices to say that the Convention contains no such criteria.”⁹²

6.4.3 The determination leaves little room for debate. Were the spoil bank separated by any distance from the natural coast it would have been an artificial island and excluded from use as part of the baseline. But we see no basis for treating such extensions of the shore in any way other than that described in Article 5 - part of the baseline from which the territorial sea is measured.

[Rapporteur’s Note: Chris Carleton recently presented a paper in which he concludes with respect to reclaimed land: “Provided the reclaimed land is an integral part of the mainland or an island, State practice would indicate that it is acceptable to consider it part of the State’s coast for the generation of maritime limits.” (See “Problems relating to Man-made Basepoints under UNCLOS” presented in Dublin, June 2010) We must wait to quote from this piece but it could provide additional support here.]

6.4.4 From the foregoing the Committee concludes that existing international law recognizes any coast protective work, which extends above the chart datum, and any human-induced extension of the natural coast, as part of the coast for purposes of Article 5.

6.5 Sea level rise, erosion

6.5.1 It follows that if the legal baseline changes with human-induced extensions (seaward) of the actual low-water line, then it must also change with contractions (landward) of the actual low-water line. These contractions could occur, for example, from the actual loss of coastal material through erosion or from rising sea levels which, over time, would submerge territory. In theory, these contractions could occur to such an extent that the entire territory, and actual low-water line, of certain low-lying small island nations would be below the datum, thereby eliminating entirely their legal baseline and any entitlement to maritime area that it generated.

6.5.2 This possibility raises concerns of equity and fairness and begs the question posed as the second part of the Committee’s mandate: to “assess if there is a need for the further clarification or development of that law.” This possibility was a topic

⁹² **United States v. Louisiana, 394 U.S. 11, 41 (1969).**

addressed by both Caron and Soons in the articles referenced in Section 5 of this draft report.⁹³ Rayfuse has also written recently on the topic of the disappearing state, baselines, and the impact on maritime entitlements.⁹⁴ All three authors appear to agree that under the existing law the legal baseline can disappear along with the territory that it once circumscribed, and the maritime entitlements it once generated. Short of actual physical protection of the coast the authors do not find that the current law provides for any other mode of protecting the legal interests of states threatened with a total loss of territory.

6.5.3 However, all three authors propose changes to the existing law. After acknowledging that States may protect their coasts through the creation or reinforcement of sea defenses, Soons suggests that “[a] less expensive, but probably also less dependable means for these States to prevent negative consequences as a result of sea level rise . . . is to contribute towards the creation of a new rule of customary international law which allows coastal States in case of sea level rise to maintain the original outer limits of their maritime zones.”⁹⁵ In order to succeed, these States would need to “gain approval for this practice in the relevant international fora.”⁹⁶ Caron argues for a “collective alteration of the rule” and recommends that “maritime boundaries, most importantly the boundary of the exclusive economic zone, should be frozen on the basis of presently accepted baselines.”⁹⁷ Rayfuse also acknowledges that “[c]urrent international law does not adequately address the continued maintenance of [maritime] entitlements in the context of sea level rise,”⁹⁸ and suggests that “a more lasting solution to the challenges to coastal states posed by sea level rise will require the international community to adopt new positive rules of international law to freeze existing baseline claims.”⁹⁹ She continues: “For states whose very existence is threatened, recognition of a new category of state, able to capitalize on existing maritime entitlements, will also be need.”¹⁰⁰

7.0 Committee recommendations

⁹³ These authors’ prescience is noteworthy considering that both articles were published 20 years ago.

⁹⁴ **Rosemary Rayfuse, “International Law and Disappearing States: Utilizing Maritime Entitlements to Overcome the Statehood Dilemma” in S. Silverburg (ed) International Law: Contemporary Issues and Future Problems (Westview Press) (forthcoming 2010) [change this cite to reflect changes in title and location in which to be published]**

⁹⁵ Soons at 231.

⁹⁶ Id.

⁹⁷ Caron at 653 using ‘boundaries’ to refer to the outer limits of maritime zones.

⁹⁸ Rayfuse manuscript at 12.

⁹⁹ Id at 12-13.

¹⁰⁰ Id. at 13.

- 7.1 As a preliminary matter, the Committee finds that the legal baseline is the actual low-water line along the coast at the vertical, or tidal, datum indicated on the charts officially recognized by the coastal State. The Committee also finds that while charts may be challenged, there is a presumption in favor of the charted low-water line.
- 7.2 The Committee finds a need for further clarification regarding the strength of the presumption in favor of the charted line and the evidence that may be used successfully to challenge the charted line.
- 7.3 The Committee also recommends that further consideration be given to the impact on small island developing nations of the existing law on the normal baseline and to the possible development of a new rule in the context of sea level rise.