



Estuaries

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A. Notion

1 Although well-established in scientific literature, the meaning of the term '**estuary**' has attracted only limited consideration in international law. Scientific literature has defined it as 'denoting a semi-enclosed coastal body of water which has a free connection with the open sea and within which sea water is measurably diluted with fresh water derived from land drainage' (Cameron and Pritchard). A glossary drawn up to assist the understanding of the 1982 United Nations Convention on the Law of the Sea ('UN Convention on the Law of the Sea') defines the term as follows: 'The tidal mouth of a river, where the seawater is measurably diluted by the fresh water from the river' (A Manual on Technical Aspects of the United Nations Convention on the Law of the Sea Appendix I: Glossary, para. 32; see also Law of the Sea).

2 Salinity forms the basis of a well-established definition of an **estuary** used by most estuarine scientists. According to accepted practice in the scientific community, in this transitional area, any waters with a salinity level of between 5 and 34 parts per thousand are generally considered to be estuarine. Another criterion is found in the topography test, based on features relating to the character of the waters, such as tidal movements and sediments. **Estuaries** are often known as bays, lagoons, harbours, inlets, or sounds (Bays and Gulfs). However, not all water bodies addressed by those names are necessarily **estuaries**.

B. Estuaries in the Legal Sphere

3 In the legal sphere, the term surfaced during the preparations of The Hague Codification Conference of 1930 (see also Law of the Sea, History of). Since several countries had indicated their desire that rivers flowing directly into the sea without an **estuary** should be considered inland waters, irrespective of their breadth, this was included in the Basis of Discussion at 18, to which the following sentence was added: 'If a river flows into an **estuary**, the rules applicable to bays apply to the **estuary**'. This provision, restricted to single State **estuaries**, found its way into the report of Sub-Committee II of the Second Committee and was taken up by rapporteur JPA François in his preparation for the 1958 Convention on the Territorial Sea and the Contiguous Zone (see also Conferences on the Law of the Sea; Territorial Sea; Contiguous Zone). In a comment, the International Law Commission (ILC) expressed its uncertainty since it lacked sufficient geographical data to appreciate the impact of this provision on all **estuaries** and one country had particularly raised the specific issue of the River Plate. During the conference itself, the United States of America ('US') pointed at the lack of a precise legal or geographical meaning of the term '**estuary**' and argued that reference to the concept of bays was superfluous because the latter would apply anyway if a particular **estuary** fulfilled the requirements of a juridical bay. The provision passed the First Committee, but not the plenary session, where it was defeated. It is nevertheless interesting to point out the difference which exists in this respect between the English text on the one hand, and the French on the other, for the latter has retained the term in the first paragraph of Art. 13: 'If a river flows directly into the sea' corresponds with '[s]i un fleuve se jette dans la mer sans former d'estuaire'. The Russian and the Spanish authentic texts rather follow the English structure.

4 Against this background, the rule has developed that when rivers form an **estuary**, their baselines are determined under the provisions relating to juridical bays. This was confirmed by national court decisions, first by the US Supreme Court in the *United States v California Cases*, where the Court stated in early 1966 that '[a]n **estuary** of a river is treated in the same way as a bay' (*United States v California [Supplemental Decree]* para. 4 (d)), and a few months later by British courts having to decide whether broadcasting activities from a structure in the Thames **estuary** about 5 nautical miles ('nm') from the nearest coast, fell under the 3nm jurisdiction claimed at that time by the United Kingdom. The British court finally held that these activities had taken place in internal waters, thus accepting that the Thames **estuary** could be closed off by a closing line since it constituted a juridical bay. It should nevertheless be noted that by making use of the concept of juridical bays, the latter's imperfections are also taken over such as the unanswered question of how to treat **estuaries** the coasts of which belong to two or more States.

5 The term resurfaced during the preparations for the UN Convention on the Law of the Sea, but in two different spheres, namely anadromous fish species on the one hand and pollution, especially land-based pollution, on the other. Only Romania tried to follow up on, and even further develop, the legal discussions of the term during previous codification attempts by submitting draft articles on delimitation of which the very last sentence read: 'The terminal point of a river frontier shall be considered as the immediate confluence of the river and the sea, irrespective of whether the river flows into the sea in the form of an **estuary**' ('Romania: Draft Articles on Delimitation of Marine and Ocean Space' Third United Nations Conference on the Law of the Sea [23 July 1974] UN Doc A/CONF.62/C.2/L.18). This proposal did not meet with success, for the 1982 Convention on the Law of the Sea, except for the French version of Art. 9 that was taken over from the 1958 Convention on the Territorial Sea and the Contiguous Zone as explained above, only refers to **estuaries** in two particular instances. First, when defining 'pollution of the marine environment' as meaning 'the introduction by man...of substances or energy into the marine environment, including **estuaries**' (Art. 1 (4) UN Convention on the Law of the Sea), and second, when providing that States are required to adopt laws and regulations and other necessary measures to prevent, reduce, and control pollution from land-based sources, including rivers and **estuaries** (ibid Art. 207 (1) and (2)). The reference to **estuaries** with respect to the life cycle of salmon only made it into a working paper of the Second Committee. Since States are to act in particular through competent international organizations or a diplomatic conference in order to endeavour to establish global and regional rules, standards and recommended practices with respect to land-based pollution, the notion '**estuary**' is often encountered in international environmental instruments, such as the 1992 Convention on the Protection of the Black Sea against Pollution or the 1995 Global Programme of Action for the Protection of the Marine Environment from Land-Based Activities. The term also figures in EC law, eg Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora ('Habitats Directive'). But in none of these instruments is the term '**estuary**' defined.

C. **Estuaries** in the European Context

6 In the European context, the question of the meaning of the term '**estuary**' arose in 1996 before the English High Court, which, for the first time, provides guidance as to the judicial characteristics of an **estuary**. At the heart of the dispute was the correct way of establishing the outer limit of an **estuary** in accordance with the definitions of '**estuary**' and 'coastal waters' in EEC Directive 91/271 concerning Urban Waste Water Treatment. The conditions for certain water discharges were much more restrictive, and thus costly, in **estuaries** than in coastal waters. For the purpose of this Directive, Member States of the European (Economic) Community (EC) are required to establish the outer seaward limits of **estuaries**. It defines '**estuaries**', as to the nature of the receiving waters, as 'the transitional area at the mouth of a river between fresh water and coastal waters' (Art. 2 (12) Directive 91/271). 'Coastal waters' are defined as 'the waters outside the low-water line or the outer limit of an **estuary**' (Art. 2 (13) Directive 91/271). No definition of 'fresh water' is provided, nor is there any specification on which criteria to apply when establishing an outer estuarine limit. In this case, the defendant took the view that in addition to salinity or topography, the cost of treatment of the waste water could also be considered when determining what constitutes an **estuary**. For that reason, the Secretary of State had chosen two bridges over the Humber and the Severn **estuaries** as their outer boundaries in the framework of this Directive—for the former this is about 43km further inland—allowing the municipalities to discharge waste water beyond this point without having to comply with the more stringent and expensive requirements of secondary treatment. The judge did not interpret the Directive as confining the Member States to the criteria of salinity or topography when establishing outer estuarine limits. These were not the only relevant considerations which could be taken into account when making a 'genuine and rational assessment...of what actually constitutes an **estuary**' (*R v Secretary of State for the Environment, ex parte Kingston upon Hull City Council and R v Secretary of State for the Environment, ex parte Bristol City Council and Woodspring District Council* 344). However, the cost of treatment of waste water was not a relevant consideration in that exercise. The English High Court seems to have been guided by a teleological interpretation since the Directive distinguished between **estuaries** and coastal waters exactly because the latter have a better capacity to assimilate the discharge of waste water.

7 Moreover, the directive's preamble referred to a 1988 EEC Council Resolution adopted pursuant to the 1987 Second International Conference on the Protection of the North Sea. The Ministerial Declaration of that conference supported the distinction between **estuaries** and coastal waters in taking precautionary action to protect the marine environment. The principal convention on which such measures are based was the 1974 Paris Convention for the Prevention of Marine Pollution from Land-Based Sources ('Marine Pollution Convention'). The latter defined the 'maritime area' for establishing the geographical coverage of the convention, as extending in the case of watercourses up to the 'freshwater limit', which is defined as 'the place in the watercourse where, at low tide and in a period of low freshwater flow, there is an appreciable increase in salinity due to the presence of seawater' (Art. 3 Marine Pollution Convention). Identical formulations were found in a number of subsequent agreements on land-based sources of marine pollution, recognizing salinity as a relevant criterion in differentiating between these separate bodies of water.

D. Estuaries and International Watercourses

8 The term has also found a new field of expansion in the area of the law of international watercourses. Since the adoption of the 1997 Convention on the Law of Non-Navigational Uses of International Watercourses, where in Art. 23 on the protection and preservation of the marine environment **estuaries** are explicitly included, this has served as an example for other regional agreements, eg in Art. 4 (2) (d) of the 2000 Revised Protocol on Shared Watercourses in the Southern African Development Community (SADC), and the concrete river basin agreements concluded under its auspices, eg the 2002 Interim Agreement for Co-operation on the Protection and Sustainable Utilisation of the Water Resources of the Incomati and Maputo Watercourses, between Mozambique, South Africa and Swaziland, where the **estuaries** are not only included in the definition of these rivers, but where in cases of drought, the estuarine ecosystems will only suffer in the last resort as specifically provided in Annex I Arts 4 (5) [Incomati] and 6 (5) [Maputo]. Much scientific research has already been done as to the effect of water use upstream and dam building on the downstream estuarine ecosystem of the Incomati, for instance, suggesting that **estuaries** of rivers, and their ecosystems, should receive a more prominent role in the quest of the parties to arrive at an equitable and reasonable utilization of the water resources, as provided in Art. 3 (b) of the latter agreement (Equitable Utilization of Shared Resources).

E. Conclusion

9 The conclusion therefore seems to be justified that **estuaries**—which by their very nature belong as much to the freshwater regime as to the seawater regime—have in law for a long time been treated in a stepmotherly fashion by freshwater law as well as the law of the sea, being located at the outskirts of both disciplines. At present, only a scientific definition of the term '**estuary**' exists at the international level, not a legal one, even though more and more legal documents appear to make use of it.

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