

## LOCATING THE MOUTH OF A RIVER IN AUSTRALIAN LAW

### ABSTRACT

The identification of the mouth of a river at law is a more difficult prospect than may first appear. Geography and the action of tides can make the location of a river mouth a difficult prospect. The law has had to face the question of identifying the mouth of a river over the centuries and a volume of statute and common law has built up, presenting a range of solutions. This article considers the historic approaches taken in statute and common law, with a view to distilling the key elements necessary to locate the mouth of a river.

### I INTRODUCTION

It is a usual assumption that rivers run to the sea, although in practice not all rivers actually reach the ocean. The assumption may come with a mental picture of a wide sweeping river that meets the ocean, perhaps spanned by a bridge, the mouth of which can be completely viewed from either bank. Yet the geographical circumstances of rivers flowing into the sea vary greatly, ranging from narrow shallow openings that are often closed by sandbanks, through to wide estuaries that may stretch many miles across.

Through all the possible configurations, there is an important legal question to be borne in mind. The mouth of a river marks the point at which the law of the terrestrial world is replaced with the law of the sea. Sovereignty swings from the absolute, where a State determines what ships may enter and in what circumstances, to a more permissive regime, where foreign ships can assert a right of innocent passage, without reference to the permission of a coastal State.<sup>1</sup> Similarly, certain rights may be held over land that are not possessed over water,<sup>2</sup> and statutes enacted by a state

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<sup>1</sup> Stuart Kaye, 'Freedom of Navigation in the Indo-Pacific Region' (Research Paper No 22, Sea Power Centre, 2008) 5–13. See, eg, the *United Nations Convention on the Law of the Sea*, opened for signature 10 December 1982, 1833 UNTS 3 (entered into force 16 November 1994), art 17 ('*Convention on the Law of the Sea*').

<sup>2</sup> See, eg, *Risk v Northern Territory* (2002) 210 CLR 392, where the High Court held that the *Aboriginal Land Rights (Northern Territory) Act 1976* (Cth) only operated on land and not in the adjacent bays and gulfs of the Northern Territory.

Parliament will not typically operate extraterritorially.<sup>3</sup> Identification of a river's mouth is therefore a significant question, although not one that will necessarily arise frequently. This article will explore the applicable statute and common law that have been used to describe where the mouth of a river is located.

## II AUSTRALIAN STATUTE LAW

The term 'mouth of the river' is one found in many statutes in Australian law, although there is typically no definition provided for it. The most relevant use of the phrase is in s 7 of the *Seas and Submerged Lands (Territorial Sea Baseline) Proclamation 2016* (Cth) ('*Proclamation*'), which establishes the effective coastline from which Australia's territorial sea is measured.<sup>4</sup> Section 7(b) of the *Proclamation* provides that for rivers flowing directly into the sea on the coast, the baseline is

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<sup>3</sup> The law of an Australian state or territory does not typically apply at sea. There are a number of reasons for this. At common law, there is a rebuttable presumption that legislation does not have an extraterritorial effect. The presumption can be rebutted explicitly by Parliament, or by necessary implication from the nature of the legislation: *Ex parte Iskra*; *Ex parte Mercantile Transport Co Pty Ltd* (1962) 5 FLR 219, 228 (Sugerman J); *Jumbunna Coal Mine NL v Victorian Coal Miners' Association* (1908) 6 CLR 309, 363 (O'Connor J). Even where a state indicates elements of its criminal law will operate extraterritorially, it is also necessary to establish a nexus between the activity the state is trying to regulate and the state itself: *Union Steamship Co of Australia Pty Ltd v King* (1988) 166 CLR 1, 14. However, legislation enacted according to the Offshore Constitutional Settlement gives the states and the Northern Territory responsibility for their 'coastal waters', an area up to three nautical miles from their coasts, and commencing from the mouth of a river where appropriate. While this belt of territorial sea technically remains extraterritorial to the state or Northern Territory, the relevant legislature now has jurisdiction to pass laws over those waters. Accordingly, any law passed by a state legislature would apply inside the mouth of a river, but only laws deemed to have extraterritorial effect will apply beyond the river mouth: see *Coastal Waters (Northern Territory Powers) Act 1980* (Cth); *Coastal Waters (State Powers) Act 1980* (Cth); *Constitutional Powers (Coastal Waters) Act 1979* (NSW); *Constitutional Powers (Coastal Waters) Act 1980* (Qld); *Constitutional Powers (Coastal Waters) Act 1979* (SA); *Constitutional Powers (Coastal Waters) Act 1979* (Tas); *Constitutional Powers (Coastal Waters) Act 1980* (Vic); *Constitutional Powers (Coastal Waters) Act 1979* (WA). See also Stuart Kaye, 'The Offshore Jurisdiction of the Australian States' (2009) 1(2) *Australian Journal of Maritime and Ocean Affairs* 37.

<sup>4</sup> The *Seas and Submerged Lands (Territorial Sea Baseline) Proclamation 2016* (Cth) ('*Proclamation*') was made under the *Seas and Submerged Lands Act 1973* (Cth) s 7. Although less than two years old, the *Proclamation* is only the most recent of a series of proclamations fulfilling this role under the *Seas and Submerged Lands Act 1973* (Cth). They are updated periodically to reflect changes in the coastline and more accurate charting of the territorial sea baseline.

the straight line drawn across the mouth of the river between points on the low-water lines of its banks, except where that line is landward of a line mentioned in paragraph (c) or (d)...<sup>5</sup>

Section 7 therefore provides that the effective coastline for the purpose of calculating the width of Australia's territorial sea is across the mouth of a river. This indicates, from a statutory point of view at least, that the waters of a river are perceived as distinct and different from the sea. From a legal perspective, the character of a river will be distinct from the sea.

However, frustratingly neither the *Proclamation*, nor the *Seas and Submerged Lands Act 1973* (Cth) from which it draws authority, provide any methodology for the calculation of a river mouth. Instead of proclaiming the baseline by representing it on a set of charts, the *Proclamation* nominates precise basepoints, rather than leave the interpretation of the location of such points to a diagrammatic representation. Basepoints are described to the nearest second of latitude and longitude, and while each relates to a particular physical feature, no such features are referred to by name. The *Proclamation* also specifies that where the coast itself provides the territorial sea baseline, it should be measured from the Lowest Astronomical Tide.<sup>6</sup>

There are 397 ordinary baselines prescribed in the *Proclamation*, as well as four baselines specifically for historic bays in South Australia.<sup>7</sup> While the *Proclamation* does set down the basepoints for these baselines, it also indicates that these lines are by no means exhaustive. Rather, it adopts general language, indicating the mouth of a river may be enclosed by a territorial sea baseline not otherwise described.<sup>8</sup>

Since the *Proclamation* does not distinguish between the type of enclosure used for its designated 397 baselines, it is not clear which may be viewed as enclosing a river, or which baselines, if any, may represent a river mouth. The *Proclamation* does not define what a river is, nor how the mouth of a river should be identified. This can be contrasted with the detailed definition of what constitutes a bay for the purposes of drawing a territorial sea baseline across its mouth.<sup>9</sup> That said, the language used to describe additionally enclosed rivers in ss 7–9 of the *Proclamation* indicates that the enclosure of a bay into which a river flows prevents the enclosure of the mouth of

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<sup>5</sup> The reference to additional lines in s 7(c)–(d) applies to straight baselines that may be drawn to enclose certain bays, indent coastlines or fringing islands.

<sup>6</sup> *Proclamation* (n 4) s 5.

<sup>7</sup> In addition to the *Proclamation* (n 4) sch 2 pt 2 dealing with the four historic bays, there is also the *Seas and Submerged Lands (Historic Bays) Proclamation 2016* (Cth). For a discussion of these bays, see Stuart Kaye, 'The South Australian Historic Bays: An Assessment' (1995) 17(2) *Adelaide Law Review* 269.

<sup>8</sup> *Proclamation* (n 4): s 7(b) applies to mainland Australia; s 8(b) to mainland Tasmania; and s 9(b) to islands off the coasts of the states or the Northern Territory.

<sup>9</sup> *Proclamation* (n 4) s 6.

river. From this it may be inferred that where a river discharges into a bay, the mouth of the bay will not be equated with the mouth of the river.<sup>10</sup>

The predecessor of the current baseline *Proclamation* was considered in the context of a river mouth in *Wandarang v Northern Territory*.<sup>11</sup> In determining the land claimed by a native title application, Olney J in the Federal Court of Australia stated the definition of the claimed area with respect to the Roper River was ‘the portion of the bed and banks of the Roper River which is ... described as being bounded by ... the territorial sea baseline across the mouth of the river.’<sup>12</sup>

The baseline in question was not one for which coordinates are provided in the *Proclamation*, nor is it marked on nautical charts. It is represented in a sketch map accompanying the registered native title claim, the relevant portion of which appears in a diagram accompanying the judgment.<sup>13</sup> It extends from the headland and follows the general direction of the coast, making use of land rather than low tide elevations, which are indicated on the charts for the area.

Other references to the ‘mouth of a river’ in state or territory legislation are relatively rare. In New South Wales, the only statutory reference to a river mouth is in the definition of a ‘coastal bar’ in the *Marine Safety Regulation 2016* (NSW), where such a feature is described as an area of sediment ‘across a river mouth, lake, estuary or harbour entrance’.<sup>14</sup> This perhaps suggests, given the list of items are distinct and different rather than categories of the same thing, that a river mouth is distinct from an estuary or harbour entrance. There is a similar definition in the *Marine Regulations 2009* (Vic), referring to the mouth of a ‘bay, inlet, river or waterway’, as well as the *Water Act 1999* (Vic), which makes it clear that the mouth of the Yarra River does not include Port Phillip Bay.<sup>15</sup>

<sup>10</sup> This approach is also consistent with that of the ICJ in *Land, Island and Maritime Frontier Dispute (El Salvador v Honduras: Nicaragua intervening)* (*Merits*) [1992] ICJ Rep 351 (‘*Gulf of Fonseca Case*’), where the ICJ had the opportunity to consider the location of the mouth of the Gaoscoràn River, which formed the boundary between El Salvador and Honduras. The Gaoscoràn River had been agreed as the boundary between the land territory, although it was disputed as to whether the boundary ought to follow the present course of the River, or an earlier ancient riverbed. The Court adopted the existing stream, and ultimately selected a branch opening into the Bay of La Unión. What is notable in the context of the river mouth is that it was the position of the Court, and that of both of the parties, that the mouth of the river was to be located at the point at which the Gaoscoràn River entered the Bay of La Unión, and not the opening of the Bay: at 27–8 [306]–[321].

<sup>11</sup> (2000) 104 FCR 380; *Seas and Submerged Lands (Territorial Sea Baseline) Proclamation 2006* (Cth).

<sup>12</sup> *Wandarang v Northern Territory* (n 11) 429–30 [118].

<sup>13</sup> See, eg, ‘National Native Title Register Details’ *National Native Title Tribunal* (Web Page) <[http://www.nntt.gov.au/searchRegApps/NativeTitleRegisters/Pages/NNTR\\_details.aspx?NNTT\\_Fileno=DCD2000/002](http://www.nntt.gov.au/searchRegApps/NativeTitleRegisters/Pages/NNTR_details.aspx?NNTT_Fileno=DCD2000/002)>.

<sup>14</sup> *Marine Safety Regulation 2016* (NSW) cl 3.

<sup>15</sup> *Marine Regulations 2009* (Vic) reg 104: the definition here is of an ‘ocean bar’; *Water Act 1989* (Vic) s 188A.

Victoria goes further in its *Fisheries Regulations 1998* (Vic) with the following definition:

‘Mouth’ in relation to any water flowing permanently or intermittently into the sea or into any lake, bay or inlet connected with the sea, or into any other lake, means an imaginary line running between the extreme seaward or outward point of either bank or side, to the opposite extreme seaward or outward point...<sup>16</sup>

Again this would seem to indicate that the waters of a bay are distinct and different from the waters of any river flowing into the bay.<sup>17</sup>

There is less guidance as to where the mouth of a river might be in relation to an estuary, although a conservative approach seems to be favoured. The *Tasmanian Inland Fisheries (Seaward Limits) Order 2004* (Tas) indicates that the seaward limit of inland fisheries in the Derwent Estuary is at Dogshear Point at Claremont, which is north of central Hobart, beyond both the Tasman and Bowen Bridges.<sup>18</sup> The other states provide no definitions at all.

The nature of a river and an estuary are considered at greater length within Northern Territory legislation. The Northern Territory has adopted a statutory approach to the calculation of a mouth of a river within the *Fisheries Regulations 1992* (NT), made pursuant to the *Fisheries Act 1988* (NT). Regulation 3 of the *Fisheries Regulations 1992* (NT) provides a definition of ‘coastline’, which is entirely congruent with the High Court’s approach in *Risk v Northern Territory*:<sup>19</sup>

*coastline* means:

- (a) except in relation to the mouth of a river, an imaginary line drawn along the coast at the Highest Astronomical Tide; or
- (b) in relation to the mouth of a river, an imaginary line, contiguous with the adjacent coastline, drawn across the mouth of the river.<sup>20</sup>

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<sup>16</sup> *Fisheries Regulations 1998* (Vic) reg 105. The regulations go on to specify different mouths from the above definition for certain specific rivers, typically in relation to existing bridges and other human constructions.

<sup>17</sup> Tasmania adopts a similar approach by distinguishing the waters of a bay from the waters of a river, although it does so by describing each river individually: *Inland Fisheries (Seaward Limits) Order 2004* (Tas). Queensland takes a similar approach: *Transport Operations (Marine Safety) Regulation 2016* (Qld).

<sup>18</sup> *Inland Fisheries (Seaward Limits) Order 2004* (Tas) sch 1.

<sup>19</sup> *Risk v Northern Territory* (n 2).

<sup>20</sup> *Fisheries Regulations 1992* (NT) reg 3.

This is expanded upon in reg 3(3) of the *Fisheries Regulations 1992* (NT):

If, under these Regulations, a point, line, area or relative position is to be calculated by reference to the coastline or an imaginary line along the coastline (whether or not along a particular water line on the coast) the coastline or imaginary line along the coastline is taken to include:

- (a) in relation to a river specified in Schedule 5 of the *Barramundi Fishery Management Plan* as in force from time to time, the river closure line specified in that Schedule for that river; and
- (b) in relation to any other river, an imaginary straight line across the mouth of the river calculated in the same manner as for the calculation of the baseline for the purposes of the *Seas and Submerged Lands Act 1973* (Cth) had all off-lying islands and historical bays and waters been ignored.<sup>21</sup>

The *Barramundi Fishery Management Plan 1998* (NT) ('*NT Fishery Plan*'), which is promulgated as subordinate legislation made under the *Fisheries Act 1998* (NT), goes further, and defines the mouth of a river as

an imaginary line drawn from the most seaward extremity at Mean High Water Springs of one bank of the river to the most seaward extremity of the next bank at the same height of tide.<sup>22</sup>

The *NT Fishery Plan* is particularly useful to consider in the present context because it permits the taking of barramundi in the territorial sea during the barramundi season, but closes access to rivers from fishing. It establishes a series of closure lines to achieve this, and where closure lines are not in place, the mouth of the river or stream is used. In effect, the *NT Fishery Plan* is a statutory instrument which distinguishes sea areas, where fishing can take place, from rivers, where it cannot.

What can be taken from consideration of the statutory provisions is that there is no clear indication of where to locate the mouth of a river. The Commonwealth in defining the baseline of the territorial sea does not give any real guidance, and the states do not definitively deal with the issue either. The assumption seems to be that an individual will know a river mouth when they see one, and while that may be true in some cases, it will not address more complex geography where there is a large tidal range or where movements in sediment flows see features appear and disappear over time.

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<sup>21</sup> Ibid reg 3(3).

<sup>22</sup> *Barramundi Fishery Management Plan 1998* (NT) cl 4(1).

### III COMMON LAW

In the absence of meaningful statutory guidance, it is useful to consider what approach might be gleaned from the common law. This presents a challenge as there has been little case law with respect to the identification of a river mouth. There are a number of reasons for this. First, since it is clear that a river falls within the jurisdiction of a state, and states also typically possess an Admiralty jurisdiction, there is little reason to seek to determine the status of waters in harbours, bays or rivers with any great precision.<sup>23</sup>

Secondly, where issues do arise, it is typically in the waters of a bay or gulf. Where a river has a simple and easily defined mouth, there is no need for a dispute as to the river's extent. Where the river widens into an estuary, the rules pertaining to bays are applied. It was on this basis, for example, that the Supreme Court of the Northern Territory in *Kitaoka v Commonwealth* found that Boucaut Bay was not within the common law limits of the Northern Territory, without any reference to the Blyth River, which flowed into Boucaut Bay.<sup>24</sup>

While the cases are relatively few in number, it is useful to consider how the courts have constructed a methodology around the identification of the mouth of a river. There are essentially two circumstances where courts have had to undertake this task. The first is where the river extends into a widening estuary, where the distinction between river and sea is a gradual process. The second is where there are low tide features in issue, making it unclear exactly where the river enters the sea, as the action of the tide makes a definitive location difficult to pinpoint.<sup>25</sup> Both of these present some level of difficulty to a court as to the identification of a river mouth between two obvious headlands. However, the nature of the common law is only to form out of cases before the courts — and a case about a clear and obvious river mouth is unlikely to ever be brought, since by its nature, the location of the river mouth is obvious. The following analysis will consider in turn the common law in the context of estuaries, and then low tide elevations.

#### A *Estuaries*

An estuary is defined by the *Encyclopaedia Britannica* as a

partly enclosed coastal body of water in which river water is mixed with seawater. In a general sense, the estuarine environment is defined by salinity boundaries rather than by geographic boundaries. The term *estuary* is derived from the Latin words *aestus* ('the tide') and *aestuo* ('boil'), indicating the effect generated when tidal flow and river flow meet.<sup>26</sup>

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<sup>23</sup> The *Admiralty Act 1988* (Cth) gives Admiralty jurisdiction to State Supreme Courts.

<sup>24</sup> [1938] NTJ 198 (Wells J).

<sup>25</sup> A low tide elevation is a piece of land which is clear of the water at low tide, but submerged at high tide. In areas where the tidal range is great, low tide elevations may be very substantial.

<sup>26</sup> *Encyclopaedia Britannica* (online at 29 March 2019) 'estuary'.

Geoscience Australia estimates there are approximately 1,000 estuaries around Australia, varying substantially in size and configuration.<sup>27</sup> Arguably the best-known estuary in Australia is the Derwent Estuary in Tasmania, which sees the Derwent River flow into an ever-widening embayment of the sea, ultimately becoming Storm Bay. Nonetheless, precise geographical criteria to identify an area of coastline as an estuary do not presently exist.

The common law has always sought to distinguish a river from the estuary into which it flows. In *Kitaoka v Commonwealth*, Wells J of the Supreme Court of the Northern Territory quoted Lord Blackburn in the *Conception Bay Case* quite extensively.<sup>28</sup> The quotations include references that estuaries ought to be equated to bays in the assertion of jurisdiction.<sup>29</sup> While a river will always be within the jurisdiction of a state, a bay will only typically be within the jurisdiction in more limited circumstances, where certain rules are met. Significantly, Lord Blackburn equated estuaries with bays:

The few English law authorities on this point relate to the question, as to where the boundary of counties ends and the exclusive jurisdiction at common law of the Court of Admiralty begins, which is not precisely the same question as that under consideration; but this much is obvious, that *when it is decided that any bay or estuary of any particular dimensions is or may be a part of an English county*, and so completely within the realm of England, it is decided that a similar bay or estuary is or may be part of the territorial dominions of the country possessing the adjacent shore.<sup>30</sup>

The case relied upon by Lord Blackburn in this statement was *R v Cunningham*.<sup>31</sup> There, the three defendants had been convicted of wounding a man on an American ship, anchored in the Penarth Roads in the Bristol Channel (Figure 1).<sup>32</sup> They appealed on the basis that the convicting jury had been drawn from the county of Glamorgan, when it was unclear that the offence had taken place in Glamorgan at all.

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<sup>27</sup> 'Australia's Coasts and Estuaries' *Geoscience Australia* (Web Page) <<http://www.ga.gov.au/scientific-topics/marine/coasts-estuaries>>.

<sup>28</sup> *Kitaoka v Commonwealth* (n 24); *Direct United States Cable Co Ltd v Anglo-American Telegraph Co Ltd* (1877) 2 AC 394 ('*Conception Bay Case*').

<sup>29</sup> *Conception Bay Case* (n 28) 416.

<sup>30</sup> *Ibid* (emphasis added).

<sup>31</sup> (1859) 169 ER 1171, 1172; Mitchell P Strohl, *The International Law of Bays* (Springer Netherlands, 1963) 290–291; William R Edeson, 'Australian Bays' (1969) 4 *Australian Yearbook of International Law* 10, 21.

<sup>32</sup> Strohl (n 31). Strohl notes that the offence occurred 'when seagoing life could still be one of the more brutal of human experiences, and anti-social behaviour on board ships in port was annoyingly common': at 291. Neither at the appeal nor at first instance were similar sentiments expressed.

**Figure 1: Penarth Roads, Bristol Channel**

Source: Google Maps.<sup>33</sup>

The Court quickly rejected this argument, and stated that they were of the view that the Bristol Channel was an ‘inland sea’ and that the waters closest to the littoral of any county facing onto the Channel were part of that county — in this instance since the ship was closer to Glamorgan, that was where the offence had taken place.<sup>34</sup> While the Court’s analysis of why the Bristol Channel should constitute an inland sea is unfortunately sparse,<sup>35</sup> it is clear that the Court regarded the waters of the Channel as British territory, although its mouth exceeded 100 nautical miles across.<sup>36</sup> What is clear is that whatever the basis, there was no suggestion that the Bristol Channel was the extension of the jurisdiction enjoyed over the River Severn.

<sup>33</sup> ‘Cardiff’, *Google Maps* (Web Page) <<https://www.google.com/maps/@51.4505456,-3.0731916,11.03z>>.

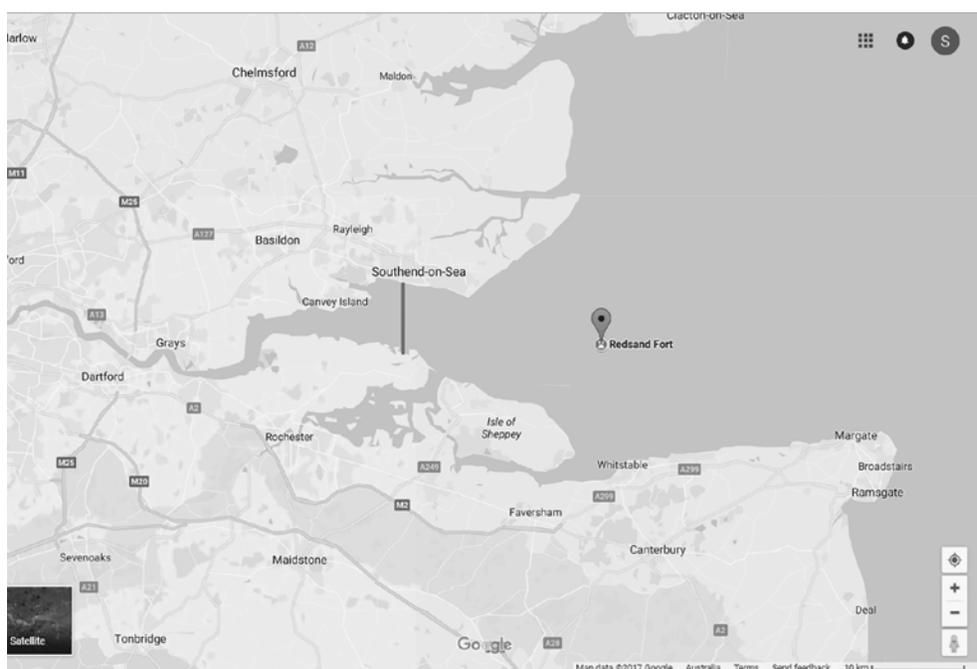
<sup>34</sup> *R v Cunningham* (n 31) 1177.

<sup>35</sup> The judgment of the Court was only 17 lines long, while the report of the case runs over 7 pages, filled largely with the argument of counsel.

<sup>36</sup> It is worth noting that the width of the Bristol Channel in the vicinity of Penarth is less than 20 miles across. However in a later case, *Cornish Coast v Società Nazionale di Navigazione; The Fagernes* [1926] P 185, Hill J held that the waters of the Channel at a point where it was over 20 miles wide were *inter fauces terrae* (‘within the territory of the United Kingdom’): at 196. This finding was later overturned by the Court of Appeal, largely due to the intervention of the Attorney-General, who indicated that the Minister for Home Affairs was of the view the place concerned was beyond ‘the territorial sovereignty of His Majesty’: *Cornish Coast v Società Nazionale di Navigazione; The Fagernes* [1927] P 311, 330; see also, Pleadings, ‘Memorial of the United Kingdom’ *Fisheries Case (United Kingdom v Norway)* [1951] ICJ Pleadings 13, 64–5 (WE Beckett); ‘Counter-Memorial of Norway’ *Fisheries Case (United Kingdom v Norway)* [1951] ICJ Pleadings vol II, 287–8 (Sven Arntzen).

There have been a number of estuary cases in the United Kingdom which may also be persuasive to an Australian court, that again strongly indicate that an estuary ought to be equated with the sea rather than the more constrained waters of a river. In *Post Office v Estuary Radio Ltd*, Lord Diplock considered the legality of a prosecution of a pirate radio station broadcasting from a disused fort in the Thames Estuary, the location of which can be seen in Figure 2 (Redsand Fort).<sup>37</sup> While the fort was found to be within the jurisdiction of the United Kingdom, this was because the Estuary had been enclosed within a territorial sea baseline drawn to enclose the area as a bay.<sup>38</sup> Lord Diplock was concerned that the Thames Estuary was not literally a bay, but accepted the evidence of Royal Navy officers that the application of the ‘semi-circle’ rule under art 7 of the *Convention on the Territorial Sea and Contiguous Zone* was a mechanical activity, applied to a coastline, whether it might be described as a bay or not.<sup>39</sup> Significantly, his Lordship did not simply state the fort was within the

**Figure 2: Mouth of the Thames River**



Source: Google Maps.<sup>40</sup>

<sup>37</sup> [1968] 2 QB 740, 760.

<sup>38</sup> *Ibid* 862.

<sup>39</sup> *Convention on the Territorial Sea and Contiguous Zone*, opened for signature 29 April 1958, 516 UNTS 205 (entered into force 10 September 1964): now adopted by the *Convention on the Law of the Sea* (n 1).

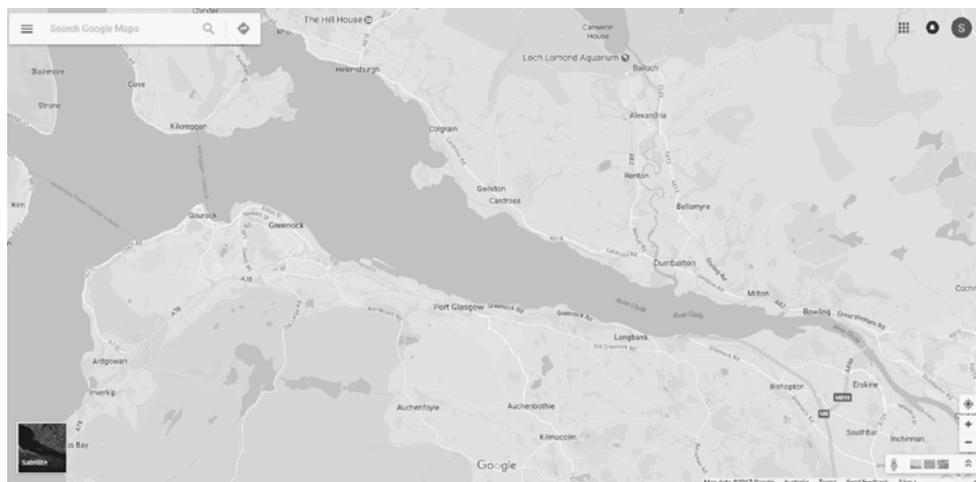
<sup>40</sup> ‘Redsand Fort’, *Google Maps* (Web Page) <<https://www.google.com/maps/@51.4769033,0.9888167,17z>>.

Thames Estuary, and therefore was within the realm of England. In fact, it has long been settled that the mouth of the Thames River lies at its junction between Yantlet Creek and the Crowstone near Southend-on-Sea.<sup>41</sup> This was provided for in a Charter granted by Richard I in 1197 to the City of London.<sup>42</sup>

A similar approach was taken in *Turbine Steamers Limited v McLaughlin*, where it was held that the Firth of Clyde was an ‘inlet of the sea’ and not a river for the purposes of a voyage between Greenock and Campbeltown.<sup>43</sup> The Court expressed the view the entire voyage was on the sea, indicating an argument that the waters were enclosed or inland waters was rejected.<sup>44</sup> The Firth originates in the River Clyde, which flows through Glasgow, and at Greenock is approximately two kilometres wide. The Firth of Clyde is illustrated in Figure 3.

Since the voyage terminated at Greenock, it was unnecessary to determine where the mouth of the Clyde might be. The extent of the Clyde Estuary was again considered in *Western Ferries (Clyde) Ltd v Commissioner for Her Majesty’s Revenue & Customs*,

**Figure 3: Firth of the Clyde**



Source: Google Maps.<sup>45</sup>

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<sup>41</sup> Marked as a red line on Figure 2.

<sup>42</sup> Daniel P O’Connell, ‘The Measurement of the Territorial Sea’ in Ivan A Shearer (ed), *The International Law of the Sea* (Clarendon Press, 1982–1988) vol 1, 170, 221–2.

<sup>43</sup> 1923 SLT (Sh Ct) 20, 22 (*‘Turbine Steamers’*).

<sup>44</sup> *Ibid.*

<sup>45</sup> ‘Firth of Clyde’, *Google Maps* (Web Page) <<https://www.google.com/maps/place/Firth+Of+Clyde/@55.5718714,-5.4560244,9z/data=!3m1!4b1!4m5!3m4!1s0x4889ba1302f3eadd:0x2a0c681a3baac770!8m2!3d55.5253989!4d-4.9332546>>.

where a definition of the Clyde Estuary in Scotland was relevant.<sup>46</sup> The Tribunal stated that

[r]eference was made in evidence and in submissions to a number of EC Directives and United Kingdom subordinate legislation implementing them, which relate *inter alia* to the management and treatment of water and waste water. The purpose of this line of evidence and argument was to examine various definitions such as *transitional waters* and use those definitions to show what are the likely boundaries of the Clyde Estuary. While it is neither necessary nor appropriate to examine these Directives in their entirety or in great detail, it is relevant to quote some of the definitions in order to show how some of the witnesses, particularly expert witnesses have reached their conclusions on the boundaries of the Clyde Estuary.

Article 2.6 of the Water Framework Directive defines *transitional waters* as

‘bodies of surface water in the vicinity of river mouths which are partially saline in character as a result of their proximity to coastal waters but which are substantially influenced by freshwater flows.’

The definition of *transitional waters* thus has a resonance with what the characteristics of an estuary might normally be assumed to have although not complete identity. *Transitional waters* probably cover a wider area than an estuary.<sup>47</sup>

All of these cases equate the estuary with the sea, and therefore indicate that the mouth of the river must be where the waters are significantly more enclosed. The determination of where the river is placed appears to be based on where the court is of the view the influence of the sea is lost because of the constrained nature of the waters. This seems to have been the approach in a string of cases involving rivers discharging into bays, which were themselves constrained, with the courts preferring to treat the bay as an inlet of the sea.<sup>48</sup> This includes the United States Supreme Court in *Knight v United Land Association*, where it held the waters of a creek entering San Francisco Bay had its mouth where the creek entered the Bay, and not at the Bay’s relatively constrained mouth.<sup>49</sup> This was in spite of the fact that the entrance to San Francisco Bay is sufficiently narrow to be spanned by the Golden Gate Bridge.

It is significant however that that any assessment of the extent of an estuary and the mouth of its river is not based around salinity, nor the impact of the tides. The salinity of the water or tidal movement do not appear determinative of the status of a river or

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<sup>46</sup> [2011] UKFTT (TC) 243 (*Western Ferries*).

<sup>47</sup> Ibid [52]–[54] (Members Reid and Malcolm).

<sup>48</sup> See, eg, *Booth Fisheries Co v United States*, 6 F 2d 500 (9<sup>th</sup> Cir, 1925); *Rustad v United States*, 258 F 2d 563 (9<sup>th</sup> Cir, 1958).

<sup>49</sup> 142 US 161 (1891).

the location of its mouth.<sup>50</sup> What appears most critical is that the waters are regarded as an inlet of the sea, and are therefore not within the river, but are seaward of the mouth.<sup>51</sup>

An exception to this jurisprudence appears to come from the High Court of Australia in *Gibbs v Mercantile Mutual Insurance (Australia) Ltd*.<sup>52</sup> In that case the High Court was divided on whether the Swan River should be regarded as part of the sea for the purposes of maritime insurance. An accident occurred on an area of the Swan River known as Perth Water, many miles upstream from what would be viewed as the ‘logical’ mouth of the Swan River at Fremantle. There was a dispute as to whether the accident should be covered by the *Insurance Contracts Act 1984* (Cth), applicable to inland waters, or the *Marine Insurance Act 1909* (Cth), which applied on the ocean. While the case was not ultimately decided on this point, it did afford some opportunity to consider the status of the Swan River. Chief Justice Gleeson was of the view that anywhere affected by the range of the tide was estuarine, and therefore part of the sea, although his Honour did not provide authority for this proposition.<sup>53</sup> On the other hand, McHugh J produced a detailed and exhaustive survey of marine insurance cases involving rivers and lakes, and was of the view that the Swan River was not part of the sea.<sup>54</sup>

While the High Court did not reach a conclusion on the issue, there is authority to suggest that the presence of salt water is not determinative of a river mouth. Chief Justice Gleeson’s approach was largely based on the application of the *Navigation Act 1912* (Cth) to tidal waters, rather than the confines of a legally-defined river. There are good reasons why the regulation of shipping in tidal ports is under a common scheme, as it is logical that vessels passing to and from riverine ports to the open sea should be managed under the same regulatory and safety scheme. However, this motivation is not relevant in the context of other uses of rivers, and so this approach has not been relevant in other cases within Australia and overseas. As such, the detailed analysis of McHugh J is to be preferred in respect of the wider question of the location of a mouth of a river. His Honour was dismissive of the use of tides and salinity of the water.<sup>55</sup> Depending on the rate of flow of a river, salt may be found some distance upstream. The courts in a number of jurisdictions appear to recognise

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<sup>50</sup> *Gibbs v Mercantile Mutual Insurance (Australia) Ltd* (2003) 214 CLR 604, 634–5, [86]–[87] (McHugh J); *H Jones & Co Pty Ltd v Kingborough Corporation* (1950) 82 CLR 282, 325 (Dixon J) (‘*H Jones & Co*’); *Horne v Mackenzie* (1839) 9 ER 365, 380 (‘*Horne*’); *Dalglish v Duke of Atholl* (1816) 3 ER 1330, 1332.

<sup>51</sup> *Post Office v Estuary Radio Ltd* (n 37); *Simlessa v Perry* (2003) 177 FLR 285; *Turbine Steamers* (n 43); *Risk v Northern Territory* (n 2): see also, *Gulf of Fonseca Case* (n 10); *Convention on the Law of the Sea* (n 1) art 9, especially the French text. The French text is explained well in John RV Prescott and Clive H Schofield, *The Maritime Political Boundaries of the World* (Martinus Nijhoff, 2<sup>nd</sup> ed, 2005), 131.

<sup>52</sup> *Gibbs v Mercantile Mutual Insurance (Australia) Ltd* (n 50).

<sup>53</sup> *Ibid* 613–14, [16]–[18] (Gleeson CJ).

<sup>54</sup> *Ibid* 634–9, [85]–[102] (McHugh J).

<sup>55</sup> *Ibid*.

that the presence of salt of itself does not determine whether waters are within the confines of a river's mouth.<sup>56</sup>

Finally, the High Court has indicated that public international law can be a legitimate influence on the common law, and therefore it is potentially useful to consider whether international treaty law distinguishes between rivers and estuaries.<sup>57</sup> The *Convention on the Law of the Sea* ('*Convention*') does refer to the mouths of rivers.<sup>58</sup> The *Convention* is in part incorporated into the *Seas and Submerged Lands Act 1973* (Cth), including art 9 dealing with river mouths.<sup>59</sup> Article 9 provides that the baseline of the territorial sea may be calculated as extending '[in] a straight line across the mouth of the river between points on the low-water line of its banks.'<sup>60</sup>

Of itself, this does not provide guidance. However, the French version of art 9 deals directly with the existence of estuaries:

Embouchure des fleuves — si un fleuve se jette dans la mer sans former d'estuaire, la ligne de base est une ligne droite tracée à travers l'embouchure du fleuve entre les points limites de la laisse de basse mer sur les rives.

[Mouths of rivers — If a river flows directly into the sea *without forming an estuary*, the baseline shall be a straight line across the mouth of the river between points on the low-water line of its banks.]<sup>61</sup>

This notes that the closing of a river mouth is possible where it does not form an estuary. This makes it clear that estuaries are treated differently for the purpose of drawing a territorial sea baseline than rivers flowing directly into the ocean. The fact that Australia is an English-speaking country is not relevant in the interpretation

<sup>56</sup> As much was noted by Pepys LC in *Horne* (n 50) at 380, where his Lordship noted that freshwater may predominate in the sea proper where large rivers discharge in the vicinity. A similar view was expressed in *McAdam v Halliday*, summarised in John C Alcock and Sir Joseph Napier, *Reports of Cases Argued and Determined in the Courts of King's Bench and Exchequer Chamber, in Ireland, from Trinity Term, 1 W IV, to Trinity Vacation, 3 W IV, 1831–1833* (Hodges and Smith, 1834) 459. See also, *H Jones & Co* (n 50) 235 (Dixon J).

<sup>57</sup> *Mabo v Queensland (No 2)* (1992) 175 CLR 1, 42 (Brennan J); see, eg, Ivan Shearer, 'The Relationship between International Law and Domestic Law' in Brian Opeskin and Donald Rothwell (eds), *International Law and Australian Federalism* (Melbourne University Press 1997) 34, 61; Sir Gerard Brennan, 'The Role and Rule of Domestic Law in International Relations' (1999) 10(3) *Public Law Review* 185, 190; Wendy Lacey, 'Judicial Discretion and Human Rights: Expanding the Role of International Law in the Domestic Sphere' (2004) 5(1) *Melbourne Journal of International Law* 4, 5.

<sup>58</sup> *Convention on the Law of the Sea* (n 1).

<sup>59</sup> *Seas and Submerged Lands Act 1973* (Cth) sch 1 art 9.

<sup>60</sup> *Convention on the Law of the Sea* (n 1) art 9.

<sup>61</sup> *Ibid* art 9 (emphasis added).

of art 9. The *Convention* is equally authoritative in each of the six languages of the United Nations, and each can be used as an aid to interpretation.<sup>62</sup>

This differentiation of estuaries from rivers in international law has a long history. Prescott and Schofield note that the differentiation was explicit as early as 1930, and is supported in the writings of numerous academic publicists.<sup>63</sup> They note that there is no settled definition of an estuary, citing the difficulties in identifying sufficiently objective criteria.<sup>64</sup>

### B *Low Tide Elevations*

The action of the tide, and variations in the discharge of water from a river due to drought or seasonal rainfall, can mean that the banks of a river may not be stable. Movement of many metres may be common over a period of months or years, and in extreme cases, the entire river may significantly move to a new location. As such, any consideration of the location of the mouth of a river must take into account that the river is a dynamic environment, the course or even location of which may physically move.<sup>65</sup>

Further, some rivers discharge significant quantities of sediment into the sea, creating islands or banks which may appear at low tide and disappear again as the tide turns and the ocean rises. Consequently, small islands may appear and disappear where the river meets the sea, or parts of the river bank may be submerged by the ocean at low tide. Any methodology applied by a court to determine the mouth of a river must take this dynamic nature into account.

The question of river mouths and submerged banks and features has been considered by courts in the United Kingdom, although more commonly in Scotland than in other parts of the United Kingdom. The most oft cited case is that of the *Duke of Atholl v Maule* which pertained to the legality of fixed fishing nets in the estuary of the Tay River.<sup>66</sup> To place nets in the Tay was unlawful, but to place nets in the sea was not unlawful, so the case turned on the extent of the river. The Court of Session found that the Tay River extended out from the land and included the waters enclosed by

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<sup>62</sup> Ibid art 320.

<sup>63</sup> John RV Prescott and Clive H Schofield (n 51) 130–4.

<sup>64</sup> Ibid.

<sup>65</sup> For example, the course of the Rio Grande moved substantially in the latter half of the 19<sup>th</sup> century, leading to a dispute between Mexico and the United States over the location of the border: see *Convention between the United States and Mexico for the Arbitration of the Chamizal Case* (1911) 5(2) (Supplement) *American Journal of International Law* 117.

<sup>66</sup> *Duke of Atholl v Maule*, summarised in William Buchanan, *Reports of Certain Remarkable Cases in the Court of Session, and Trials in the High Court of Justiciary* (Archibald Constable, 1813) 254.



circumstances, neither the Court of Session, nor ultimately the House of Lords, were prepared to locate a mouth further to the west.

What is clear from the case is that the banks of a river extending up to its mouth need not always be clear of water. As was the case in *Duke of Atholl v Maule*, the fact that what the court regarded as parts of the river bank were submerged at high tide was not relevant.<sup>71</sup> What was important was the contiguity between the parts of the river clear of the water at high tide and those portions that were submerged.<sup>72</sup>

The identification of headlands was also considered by the United States Supreme Court in *Georgia v South Carolina*.<sup>73</sup> The case involved a dispute as to the location of the boundary between the states of Georgia and South Carolina, which had been designated in colonial times by agreement as running along the course of the Savannah River.<sup>74</sup> The course of the River had changed over time, including the shifting of its mouth further southward as a result of the United States Corps of Engineers' work on the creation of a safe channel for ships wishing to use the River. The lower reaches of the River were characterised by low swampy areas that consisted of mudflats and islands. In giving the judgment of the majority, Blackmun J stated the following:

It seems to us that this portion of the controversy between the two States centers on the determination of the 'mouth' of the Savannah River and encounters no inconsistency with what this Court said in *Georgia v South Carolina*. The Savannah River's 'mouth' was not defined in the *Treaty of Beaufort*. Georgia argues that the mouth, as referred to in the Treaty, must be located in the vicinity of Tybee Island, rather than somewhat upstream. Tybee lies south and east of Cockspur. We accept that submission and regard Tybee as forming the south side of the river's mouth. Usually, there are two opposing 'headlands' marking and constituting the mouth of a river. See *Knight v United Land Association*. This is the 'headland-to-headland' principle used in defining the limits of bays and rivers. It is not always that simple, however. Sometimes the mouth of a river is difficult to delineate. Because of the absence of a reasonably close headland to the north, Georgia is driven to argue that the boundary at the mouth of the Savannah River must be the geographical middle between Tybee and the closest points of land in South Carolina, that is, Daufuskie Island, lying north and northeastward of Turtle Island, and Hilton Head Island, almost six miles north of Tybee.

We conclude that this is not a realistic determination of the Savannah River's mouth, and we agree with the Special Master in rejecting the argument.

The difficulty lies in the fact that Tybee Island, the most seaward point of land on the southern side of the river, has no counterpart of high land on the northern side. The geographical feature taking the place of the customarily present opposing

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<sup>71</sup> *Duke of Atholl v Maule* (n 66).

<sup>72</sup> *Ibid.*

<sup>73</sup> 497 US 376 (1990).

<sup>74</sup> *Treaty of Beaufort*, Georgia–South Carolina, (signed and entered into force 28 April 1787), referred to in *Georgia v South Carolina* 497 US 376 (1990).

headland is, instead, a shoal, long recognized as confining the river. It is true, of course, that the Corps of Engineers affected the flow by its training wall and hydraulic fill. But the shoal which directed that flow has been recognized for many years. Furthermore, Hilton Head Island and Daufuskie Island are so far distant that it is impossible to say that they even touch the Savannah River.

Given this somewhat uncommon type of river mouth, the Special Master's conclusion that the northern side of the Savannah's mouth is the underwater shoal is not unreasonable. To accept Georgia's proposition here would result in having Georgia waters lie directly seaward of South Carolina's coast and waters.

Georgia's exception with respect to Oyster Bed Island and the mouth of the Savannah River is overruled.<sup>75</sup>

The extract of a chart below at Figure 5 illustrates the Court's approach. Similarly to Figure 4, beige shades represent land, green shades low tide elevations, and blue shades water (with water depths given in metres).

**Figure 5: Savannah River, between Oyster Bed Island and Tybee Island**



Source: Fishing App GPS Nautical Charts. The original map is in colour and is accessible online.<sup>76</sup>

<sup>75</sup> *Georgia v South Carolina* (n 73) 398–400; see also Aaron L Shalowitz, *Shore and Sea Boundaries* (US Government Printing Office, 1962–2000) vol 2, 367; see also Stephen B Jones, *Boundary-Making: A Handbook for Statesmen, Treaty Editors, and Boundary Commissioners* (Carnegie Foundation, 1945) 130.

<sup>76</sup> 'Fishing Marine Charts Navigation', *Fishing App GPS Nautical Charts* (Web Page) <<http://fishing-app.gpsnauticalcharts.com/i-boating-fishing-web-app/fishing-marine-charts-navigation.html?title=SAVANNAH+RIVER+AND+WASSAW++SOUND+boating+app#12.66/32.0343/-80.8850>>.

Oyster Bed Island on the northern side of the Savannah River is marked with a yellow marker. Tybee Island is to the south and south-east of the marker.

It is evident from the chart extract that much of Tybee Island is submerged at high water. While referred to as an island, the land can be seen as an extension of the southern bank of the River, broken only by shallow and swampy creeks.

The same approach is taken in the north, with Oyster Bed Island, which over time has lost its separated character and become affixed to Jones Island, forming the northern bank. In addition, the river mouth is extended to the east, by the partially submerged training wall constructed by the United States Corps of Engineers. This feature, although artificial, is also connected to the land at Oyster Bed Island, making for a continuous extension of the bank, albeit one that is submerged at high tide.

This approach is entirely consistent with the earlier British cases. Where there are islands or low tide elevations in the vicinity of a river entering the sea, such features form part of the mouth of the river and are directly associated with the banks of the river, not separated by deep water.<sup>77</sup>

#### IV CONCLUSION

As was stated at the outset, there is significance in the identification of the mouth of a river at law. The lack of precision in how that mouth is located is a concern, although given the tremendous variations in geographical features, finding a precise methodology to identify a river mouth might be difficult to do. However, the common law and limited statutory law do permit some conclusions to be made. First, there is a clear distinction in the common law, with limited support from the statutory sources, between rivers and estuaries, with the latter seen as inlets of the sea while the former are associated with the land. Estuaries are typically characterised by large embayments, relative to the size of any rivers or creeks that enter them.<sup>78</sup> Second, salinity of the water or tidal movement are not determinative of the status of a river or the location of its mouth.<sup>79</sup> That said, where waters are regarded as an inlet of the sea, they will not be within the river and will be seaward of the mouth.<sup>80</sup> Third, as noted

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<sup>77</sup> *Georgia v South Carolina* (n 73); *Duke of Atholl v Maule* (n 66), affirmed in *Dalglish v Duke of Atholl* (n 50).

<sup>78</sup> See *Conception Bay Case* (n 28); *Simlesa v Perry* (n 51); *Gulf of Fonseca Case* (n 10); *Knight v United Land Association* (n 49); *Booth Fisheries Co v United States* (n 48); *Turbine Steamers* (n 43); *Post Office v Estuary Radio Ltd* (n 37); *Risk v Northern Territory* (n 2); *Western Ferries* (n 46).

<sup>79</sup> *Gibbs v Mercantile Mutual Insurance (Australia) Ltd* (n 50) 634–5, [86]–[87] (McHugh J); *H Jones & Co* (n 50) 325 (Dixon J); *Horne* (n 50) 380; *Dalglish v Duke of Atholl* (n 50).

<sup>80</sup> *Post Office v Estuary Radio Ltd* (n 37); *Simlesa v Perry* (n 51); *Turbine Steamers* (n 43); *Risk v Northern Territory* (n 2); *Gulf of Fonseca Case* (n 10); *Convention on the Law of the Sea* (n 1) art 9.

above, in cases where there are low tide elevations in the vicinity of a river entering the sea, such features form part of the mouth of the river and are directly associated with the banks of the river.<sup>81</sup>

While there is clearly no simple definition, partly because of the variations in coastal geography, it is possible to venture an opinion as to where the mouth of a river might be. The critical element seems to be whether the waters in question are seen as riverine in nature or as an arm of the sea. If the waters are an arm of the sea, then the mouth must be closer to land. This will not be based on tides or salinity, as both can impact upon waters which have been treated as riverine in cases and legislation. Rather it will be based on the geographical configuration of the coastline in the vicinity of which the river flows into the sea. A wide and open estuary will typically be regarded as an arm of the sea, whereas islands close to the mainland near a river will be deemed to be part of the rivers banks if they are physically attached to the mainland at low tide, or at least separated only by shallow water.

Therefore, while the sources are scattered, rules for the determination of the mouth of a river within Australian law can be identified, allowing the divide between the law of the sea and that applicable to the land to be made clear. This in turn has important regulatory consequences in terms of property and usufructuary rights, which have increasing importance in the regulation of human activities.

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<sup>81</sup> *Georgia v South Carolina* (n 73); *Duke of Atholl v Maule* (n 66), affirmed in *Dalgleish v Duke of Atholl* (n 50).