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John Corkill

December 2012

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Abstract

This paper posits nine key principles of property law relevant to lands bounded by tidal waters. They are core elements of the

Contents

1/ Introduction

This paper began as a small contribution to a panel discussion at the Queensland Coastal Conference in 2009 where nine principles of common law relating to the shoreline were postulated, as the early results of my research.

The context of and the relevance of these pr

In the interests of further discussion of this important area of law I would welcome comments from readers which identify and discuss other legal considerations relevant to the impact of greater coastal erosion on private and public coastal land and their interaction with the principles of shoreline law posited here.

I have not dwelt overlong on the problems confronting shorelines since there are many dynamic challenges posed by rising sea levels and increased storminess.

I have however noted several problems for shoreline law which are discussed briefly.

Further, I have identified several problems of current shoreline law which have real potential to affect how we use the legal principles postulated here, in responding to the impacts of global climate change. These problems, and possible remedies, are also briefly discussed.

I bring the paper to a close by explaining the four conclusions I have drawn about shoreline law and its future application and development under conditions likely to be dominated by climate change impacts.

Finally, six discussion questions, developed for earlier presentations, are included.

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that global climate change - spec

The Commonwealth Scientific and Industrial Research Organisation (CSIRO) used three scenarios to estimate future sea level rise and concluded that use of the high end scenario to inform decision making was 'justified'.[24]

Subsequently, in 2009 the Australian Government adopted an increase in sea level of 1.1m, relative to the 1990 level, by 2100 as 'a plausible value' for its preliminary risk assessment of the likely impacts of climate change on the Australian coast.[25]

However, the report acknowledged that upper end projections of an increase in sea level of 1.1m over the 1990 baseline by 2100 did not absolutely define the potential increase in sea level by 2100, and noted that higher levels were possible.[26]

The report also noted that there was credible evidence to support the proposition that sea levels could continue to rise over several centuries, even millennia,[27] with increases of 1.5m over 1990 levels being possible by the end of the 21st century.[28]

In 2009 the NSW Government adopted sea level rises of 0.4m over 1990 levels by 2050 and 0.9m over 1990 levels by 2100, as benchmark figures for coastal planning and hazard impact assessment by local and state government agencies.[29]

Both the Australian Government assessment report and the NSW benchmark report note that projections of likely increases in sea level will be refined as more data are collected and further analysis is undertaken.[30]

It is not necessary to adopt a particular rate of sea level rise to assert the relevance of global climate change to shoreline law. The important fact is that sea levels are rising,[31] and will continue to rise over the next century, at least.[32]

These physical realities being so, the principles of shoreline law, which relate directly to the interface between land and water and the movement of natural boundaries, will

[24] Australian Government *Climate Change Risks to Australia's Coast – a First Pass National Assessment* (2009) at 27.
[25] Ibid at 28, Box 2.2.
[26] Ibid at 27.
[27] Id at 26. See S Solomon et al 'Irreversible climate change due to carbon dioxide emissions' *Proceedings of the National Academy of Sciences,* 106(6): 1704-1709.
[28] Australian Government *Climate Change Risks to Australia's Coast – a First Pass National Assessment* (2009) at 26.
[29] NSW Government *NSW Sea-level Rise Policy Statement* (2009) at 1; NSW Government, Department of Environment, Climate Change and Water NSW (DECCW) *Derivation of the NSW Government's sea-level rise planning benchmarks – Technical Note* October 2009, at 1. See also NSW Government, Department of Planning

be highly relevant to the legal and policy challenges posed by higher sea levels and greater erosion of coastal land.

Thus, due to the projections of increases in sea level briefly described above, global climate change provides a very tangible physical context in which the principles of shoreline law have great relevance.

2.2. Shoreline law exists within a complex legal & policy framework

The second factor which provides a crucial context for the operation of the principles of shoreline law is the wider framework of law and policy which govern the administration of land titles and the management of Australia's coastal areas.

Though the doctrine of accretion came to Australia as part of English common law,[33] some elements have been modified[34] or repealed by legislation,[35] and so the principles of shoreline law applying in eastern Australia today exist within a complex legal framework of stat

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Thus, greater inundation and erosion are likely to produce a range of impacts on a wide range of coastal species including, but by no means limited to, human beings. [72]

Indeed it's the likely impacts on humans which have dominated public discussion about climate change in Australia and to date these debates have tended to focus on the impacts of higher sea levels[73] and greater coastal erosion on private property.[74]

This is not surprising since 85% of Australia's population live within 50 kilometres of the coast,[75] and privately owned coastal properties constitute a significant portion of the private wealth of the nation.[76] The coastal areas of New South Wales and Queensland make up significant proportions of this national figure.[77]

However, as important as these impacts on private property are, they are only a sub-set of a wider range of likely social and economic impacts on contemporary Australian society.[78]

Higher sea levels and greater coastal erosion also have the potential to significantly damage or destroy publicly owned coastal lands,[79] public infrastructure located on

[72] See the examples of impacts on human activities and society listed in A Barrie Pittock, 'Impacts: why be concerned' in *Climate Change The Science, Impacts and Solutions* (2009) at 108. See also the adverse indirect human health impacts cited by Robert J Nicholls 'Impacts of and Responses to Sea-level Rise' in John A Church, Philip L Woodworth, Thorkild Aarup and W Stanley Wilson (eds) *Understanding Sea-level Rise and Variability* (2010) at 24-5.

[73]

coastal land,[80] diminish public coastal resources, such as fisheries,[81] and reduce the range of public uses possible on the beach or in near-shore coastal waters.[82]

Already large areas of publicly owned coastal lands, originally reserved as storm buffers, recreational resources and wildlife corridors, have been lost to erosion[83] and many local and state government agencies are now seeking to identify public assets which are vulnerable to inundation and/or coastal erosion, with a view to relocation.[84]

Recognising the wider impacts of higher sea levels and greater coastal erosion on the bio-diversity and ecological functioning of coastal ecosystems, and on socially and economically significant publicly-owned coastal land, infrastructure, and coastal resources is important because doing so provides some very important context for the operation of shoreline law.

While private property boundaries may be changed under the principles of shoreline law, these adjustments occur in the context of, and not in isolation from, the movement of other property boundaries, including publicly owned land.

Similarly, it is important to bear in mind that changes in private property boundaries wrought by higher sea levels and coastal erosion are not the only impacts on human interests in coastal land. Consequently the principles of shoreline law, as they relate to private property, operate in the context of a suite of

3/ Nine Key Principles Underpinning Shoreline Law

As a result of my research I have summarised the fundamental concepts underpinning the doctrine of accretion by stating nine principles of shoreline law.

They are:

1/ The legal boundary between tidal waters and adjacent land is the High-Water Mark (HWM).

2/ Where land is bounded by water, the legal boundary of the land changes to reflect changes in the position of the waters' edge, but only if certain conditions are met;

3/ To be recognised in law, changes in a water boundary must be 'gradual' and 'natural';

4/ New land formed gradually by accretion belongs to the adjoining landowner;

5/ The doctrine of accretion includes gradual changes brought about by erosion, and by the advance or retreat of waters (diluvion or dereliction).

6/ Land below the high-water mark (<HWM) belongs to the Crown and is held in trust for public purposes

Principle 1

In Queensland, 'the high-water mark at spring tide' denotes the height and position of the high water at its monthly *highest,* [111] under ordinary conditions.

In other cases, lands bordered by non-tidal waters may have had their boundaries defined not as *ad medium filum aquae* but as 'the bank'.[124]

It is relevant to note however that in NSW where local government areas include land bounded by tidal waters, the boundary of the local government area is defined by the low-water mark.[125]

In Queensland, the seaward boundary of local government areas is not defined by statute.[126] Local government areas are described by regulation.[127]

The extent of a state's coastal waters is also defined by reference to mean low water mark[128] and the Australian territorial seas are measured from the baseline of the low-water mark[129] or a straight baseline which approximates the position of low-water.[130]

These lines of delimitation at low-water mark are not property boundaries, but denote the boundaries of the relevant jurisdiction.[131]

Principle 2

Where land is bounded on one or more sides by water, the legal boundary of the land changes to reflect changes in the position of the water's edge, but only if certain conditions are met.

This statement of principle quotes a current Australian law text.[132]
It is the essence of the common-law doctrine of accretion.[133]

Broadly speaking, this doctrine applies to all lands bounded by water, affected by the natural geomorphological process of accretion i.e. the accumulation of sediments deposited by action of wind and, or, water.

It has been specifically held to apply to the ocean coast, arms of the sea, tidal and non-tidal rivers & streams[134] and may apply to tidal[135] and some non-tidal lakes.[136]

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[124] E.g. the Murray River See *Ward v Rex* (1980) 142 CLR 308, *Hazlett v Presnell* (1982) 149 CLR 107.
[125] See s.205 of the *Local Government Act 1993* (NSW).
[126] See LexisNexis *Halsbury's Laws of Australia* 265 Local Government / 1 Administration and Structure of Local Government/ (2) Nature and Structure of Local Government (F) River and Coastal Boundaries [265-280]
[127] made under s.8(4) of the *Local Government Act 1993* (Qld).
[128] See Schedule 2 of the *Petroleum (Submerged Lands) Act 1967* (Cth) repealed, referred to in s.3 of the *Coastal Waters (State Title) Act 1979* (Cth).
[129] *Seas and Submerged Lands Act 1973* (Cth) Schedule, Parts II, IV & V of the *United Nation's Conv.0022 von* , Part II – Territorial Sea and Contiguou.002s Zone, Articles 5 & 6.
[130] Ibid, Article 7.
[131] See the discussion of 'baselines' under .17hhaw ofthe Sea Convechel Baird and Dona-aB56ld R Rothwell
[132] Legal Online, *T17hhaws of Australia,*Real Property > Physical Limits to Land > Boundarie

[133] T17hprinciples applying to natural boundaries formed by water bodies have been referred to as 'the doctrine of accretioce .17hterm was first used in *Foster v Wright* (1878) 4 CPG 438, by Lindley J at 447. In *Hindson v Ashb-a[1896]* 2 Ch 1, Lindley J again used t17hterm at 13,14.
[134] In *Attorney General (Ireland v McCarthy* (1911) 2 IR 260, Palles CB obserAttorneyt5.2(cipl)66(otes)Tserhcussiot

In NSW, the common law continues to apply and in lands bounded by tidal waters, the position of the boundary changes to reflect the gradual changes in the position of high water mark of the bounding waters.[137]

In lands bounded by non-tidal waters, the boundary position changes to reflect gradual changes in the position of the 'ad medium filum'[138] or 'bank' of the bounding waters,[139] according to the nature of the boundary described in the land title.[140]

In Queensland this principle of a moving tidal boundary applies under a specific statutory provision.[141]

Thus under the doctrine, where the boundary of land extends due to the gradual build up of sediment, the adjoining owner gains that land.[142] Conversely, where the boundary contracts due to erosion, the area gradually reduces and the owner loses that area of land.[143]

These results of the logical application of this first principle are further considered in Principle 4 below.

The 'certain conditions' which apply are described in Principle 3 below.

Principle 3

To be recognised in law, changes in a water boundary must be 'natural' and 'gradual'.

This statement of principle is intended to encapsulate the 'certain conditions' referred to in Principle 2.

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[135] The doctrine was held to apply to Lake George, a tidally influenced lake, in *Southern Centre of Theosophy Inc v South Australia* [1982] 1 All ER 283, by Lord Wilberforce at 287

[136] One element of the doctrine of accretion, the *ad medium filum* rule, was found to apply to non-tidal lakes by Street J in *Booth v Williams* (1909) 9 SR(NSW) 592, but this finding was not confirmed, but only left open as a possibility, by the High Court of Australia in *Williams v Booth* (1910) 10 SR(NSW) 834. By later amendment of the *Crown Lands Consolidation Act 1913* (NSW) inserting s.235A, the doctrine was stated to not apply, and to have never applied, to non-tidal lakes in NSW.

[137] *Scratton v Brown* (1825) 4 B & C 485, Bayley J at 498, 499. *Verrall v Nott* (1939) 39 SR(NSW) 89. Nicholas J, at 97, adopts the term 'ambulatory' boundary.

[138] *Lanyon PL v Canberra Washed Sands PL* (1966) 115 CLR 342,

[139]

Though it was once said that there is 'one condition of the operation of the rule'[144], it is now generally accepted these are two 'certain conditions' which must be met.[145]

These two conditions: that the accretion must be 'natural' and 'gradual', are discussed in the following sections.

i) accretion must be 'natural'

The first condition which must be satisfied is that the accretion be 'natural'.[146] That is, the process of increasing the area of land, must be through natural processes.[147]

'Natural processes', such as by the gradual build up of soil and sediment, or by the gradual retreat of the bordering body of water, have historically referred to the movement of water against land,[148] but this key condition of the doctrine has been extended through analogy to include another natural force, the wind.[149]

Thus changes to the bounding water line brought about by accretion caused by the deposition of windswept sand are now recognized as falling within the ambit of the doctrine of accretion.[150]

The non-natural build up of soil, such as land reclamation by the dumping of fill, is explicitly excluded from the doctrine.[151]

ii) accretion must be 'gradual, slow & imperceptible'

The second condition which must be satisfied is that any formations of new land must be 'gradual, slow and imperceptible'.[152]

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[144] *Attorney General of Southern Nigeria v John Holt & Co* [1915] AC 599. Lord Shaw said at 613, 'Although various points were brought before their Lordships in the direction of questioning the law of accretion, their Lordships, for the reasons stated, do not doubt its general applicability to lands like those of the respondents' abutting on the foreshore. Nor do they, however, doubt the one condition of the operation of the rule. That is that the accretion should be natural, and should be slow and gradual – so slow and gradual as to be in a practical sense imperceptible in its course

Action	Effect	Result
By movement of water and air, (natural forces) to gradually …	**property boundary moves …**	**property ownership changes from…**
build up alluvion & sediment above water-line or HWM	retreat from previous position of water-line or HWM	

i) accretion

In some specific jurisdictions, these submerged lands are within the control and administration of a Crown agent, such as the Sydney Harbour Fo

Lord Wilberforce was also explicit in his statement of this principle in his decision in *Southern Centre of Theosophy Incorporated v South Australia* [1982] where he said

> 'If part of an owner's land is taken from him by erosion, or diluvion (i.e. advance of the water) it would be most inconvenient to regard his boundary as extending into the water; the landowner is treated as losing a portion of his land.[245]

In NSW, this principle was employed by the Land & Environment Court, in *Environment Protection Authority (EPA) v Eric Saunders & Leaghur Holdings PL* (1994).[246]

In that case the EPA sought to prosecute Saunders and his company for the pollution of waters, arising from Saunders' attempts to reclaim lands inundated by the tides.

Bannon J considered the evidence of survey reports and witnesses and observed that many allotments of land shown in the survey plans were below high-water mark.[247] He expressed his view of the applicable law, saying that

> … where the boundary is a fixed boundary, the title is open to correction or amendment if land is gained or lost by accretion or erosion… While it is open to the Crown to grant title to the bed of a river, a grant defined by metes and bounds as set out in a certificate of title is not to be presumed to be a grant of the bed of a tidal river, or of land elsewhere below high water mark. The Torrens system was intended to provide certainty as to title, but not to otherwise displace those parts of the law of property dealing with the gaining or loss of title by accretion or diluvion. Defined boundaries make no difference.[248]

Bannon J found that the allotments of land registered as owned by Leaghur PL, now situated below HWM, could not be owned or occupied by the company as real property, since:

> 'the definition of land in s.3 of the *Real Property Act 1900* was not intended to affect the bed of the sea or tidal waters below High Water Mark, and, it follows, land below High Water Mark in tidal estuaries (unless otherwise indicated on the Certificate of Title)… The Torrens system is not a guarantee of the permanence of land. In the course of history, land is created and land disappears owing to the movements of nature. The Torrens system only guarantees title to existing land…' [249]

Bannon J then appeared to conclude that title to these allotments had been effectively extinguished. He said that he was inclined to the view that

> …in spite of the Certificates of Title which became Exhibit AE, there was no land in the subdivision extending beyond High Water Mark as depicted in Mr Gibson's surveys …as at the date of the two notices. Those Certificates of Title need to be corrected pursuant to s.42 of the *Real Property Act 1900*'. [250]

The court found that the pollution offences were proven against Saunders but, because the allotments had been found not to exist as real property and hence the

[245] *Southern Centre of Theosophy Inc v South Australia* [1982] 1 All ER 283, at 287.
[246] *Environment Protection Authority v Eric Saunders and Leaghur Holdings PL* (1994) 6 BPR 13,655.
[247] Ibid at 13,658.
[248] Ibid at 13,659.
[249] Ibid at 13,660.
[250] Ibid.

company could not be the occupier, the offences were not proven against the company.[251]

The definition of 'land' in s.3 of the *Real Property Act 1900* (NSW) held by Bannon J to mean "land above high-water mark",[252] provided an important clarification of an issue which is likely to become more significant as higher sea-levels and greater coastal erosion affect lands bounded by the tidal waters.

The EPA appealed in order to pursue the prosecution of Leaghur Holdings PL.[253]

The appeal focused on whether the registered proprietor of allotments of land now located below HWM, could be held to be the owner and occupier of the allotments, and therefore liable for criminal prosecution for pollution emanating from them.[254]

The NSW Court of Criminal Appeal in *Environment Protection Authority v Leaghur Holdings PL* (1995), rejected the appeal, affirming the decision of Bannon J. [255]

In the unanimous decision of the Court, Allen J unequivocally supported Bannon J's declaration of the law regarding 'land lost to the sea', and said

> I have no doubt his Honour was correct in holding that there was evidence to the contrary. It was that the relevant land had been lost to the sea, becoming part of the bed of the sea. This evidence raised as a reasonable possibility that the company, albeit registered as proprietor, did not own the land so taken back by the sea.
>
> His Honour found as fact that the land lost to the sea was lost to erosion which was "gradual and imperceptible" within the meaning of those terms as explained by Lord Wilberforce in *Southern Centre of Theosophy Inc v State of South Australia* [1982] AC 706 at 720" and that the ownership of it reverted, accordingly, to the Crown.
>
> He held, further, that the reversion of ownership to the Crown ensued notwithstanding the provisions of the *Real Property Act 1900* (NSW). The correctness of the law in that regard as stated by his Honour, is not challenged.[256]

Thus, it can now be confidently said that where land is gradually lost to the sea and comes to lie below HWM, it ceases to be 'land' which is considered 'real property'.[257]

While the Queensland legislation does not explicitly define 'real property', the issue was put beyond doubt by the explicit provisions of the *Land Act 1994* (Qld) which state that 'all land below high-water mark is the property of the State.'[258]

The mechanism for the change in ownership of land lost to the sea.

There is no formal process of notification of a change in the ownership of such land gradually lost below HWM, and the English authorities state the situation simply: this

[251] Ibid at 13,662.
[252] Ibid at 13,660.
[253] *Environment Protection Authority v Leaghur Holdings PL* (1995) 87 LGERA 282 at 287.
[254] *Environment Protection Authority v Leaghur Holdings PL* (1995) 87 LGERA 282 at 283.
[255] Ibid at 290.
[256] Ibid at 287.
[257] Ibid.
[258] Section 9 of the *Land Act 1994* (Qld).

much of the property is lost and 'is thus silently transferred by the law to the proprietor of the seashore' [259] i.e. the Crown.

That the mechanism of the change of ownership is a 'silent transfer' is perhaps due to the assumptions that the changes are so small and insignificant[260] that they do not deserve close legal examination or repeated minor amendment, or that they are of so little value that they do not warrant the time and energy needed for complicated calculations for compensation.[261]

It is likely, however, that the 'silent transfer' will be given voice, when the property is sold and its boundaries are next described in the instrument of conveyance.

Since landholders can only sell what they own at the time of sale, a property gradually reduced in area by erosion or diluvion, cannot be offered for sale using its original description of boundaries (or area), where those original boundaries (or area) inclits

mechanism of land transfer in the feudal system of land tenure, now described as 'the doctrine of tenure'.[266]

Under the old doctrine of tenure, lower and middle ranking landowners held title to their land under grants from a lord, who held his estate under grant from the King.[267]

The principle of escheat referred specifically to the return of land titles and estates to the English Crown, as the original owner, under certain circumstances,[268] but its application in Australia has been substantially abolished by legislation.[269]

Butt described the 'only remnants of the doctrine of escheat' as operating under Commonwealth legislation,[270] but he noted that 'the conventional understanding is that land escheats to the Crown in the right of the State which granted it.'[271]

It is apparent that in addition to this remnant operation under Commonwealth statute, the doctrine of escheat has survived as a vestige of this old feudal law as the means for the reversion of the title to the Crown, when land, which was previously 'real property' above HWM, falls below HWM due to erosion or diluvion.

In this sense the doctrine of escheat continues to operate in NSW as an element of the common law doctrine of accretion and in Queensland as the means of giving ffect to the statute.

While it has been said that the doctrine of escheat now has little practical significance,[272] it is likely that this part of the old Crown prerogative will soon be recognised as having great practical significance since it plays a crucial role in the doctrine of accretion and the operation of shoreline law.

Land lost to the sea cannot be regained except by new accretions

While a landholder can lawfully take action to prevent erosion,[273] taking action to regain land lost to the sea is fraught with difficulties[274] and may be impractical.[275]

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[266] LegalOnline *The Laws of Australia,* Real Property > Principles of Real Property > Doctrine of Tenure [28.1.410], [28.1.460]. See also LexisNexis *Halbury's Laws of Australia* 355 Real Property (I) Introduction (I) Historical Foundation of Real Property in Australia (E) Doctrine of Tenure [355-70].

[267] LegalOnline *The Laws of Australia,*

Any sudden act by the benefiting landholder to deliberately increase the area of their land, such as the dumping of fill,[276] or the construction and backfilling of a wall on the foreshore is considered reclamation[277] and outside the operation of the doctrine of accretion.[278] Land formed by reclamation works is owned by the Crown.[279]

Title to land eroded by the sea may be regained by the landholder, if land later gradually builds up above HWM, through natural accretion, against a remaining area of their land, held under good title.[280]

Principle 8

Ambulatory natural boundaries supplant and rescind surveyed boundaries.

This statement of principle makes explicit less concise rulings of the courts.

Boundaries to land formed by water bodies are one kind of natural boundary.[281]

Land boundaries formed by tidal waters - the high-water mark - and by non-tidal waters – both the line *ad medium filum* and 'the bank' – are ambulatory,[282] in that they gradually change their position to reflect gradual changes in the relevant waterline.[283]

Many allotments of land did not have water boundaries at the time of the parcel's first registration under the *Real Property Act 1900* (NSW) only 'right-line' boundaries described by 'metes and bounds'. Such boundaries are however subject to change.

If an ambulatory boundary were to move landward, through gradual erosion or diluvion, it's possible that eventually it may cross a 'right-line' property boundary originally defined by survey measurements.[284]

If that occurs, the ambulatory boundary will supplant and rescind the previous surveyed right-line boundary and become the new legal boundary.[285]

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reference to a key condition, 'sudden intrusion' is consistent with the limiting doctrine of avulsion. Part of the difficulties faced by a landowner seeking to regain land lost to the sea is that they are no longer the owner of the land so lost. Such a landowner could not lodge a development application for work on land below HWM without the consent of the State government as the owner of the land.
275

In the case of tidal waters, this boundary change occurs because the court has ruled that land lost below HWM ceases to be 'real property'.[286]

The definition of land contained in s.3 of the *Real Property Act 1900*

Though an original measurement of the location of the tidal water boundary may be shown on a title plan, this measurement does not determine the location of the boundary, if the position of the bounding water body has changed.[296]

The tidal water boundary of high-water mark, has been held to mean the location of HWM wherever it is 'from time to time'.[297]

Because the courts have ruled that 'the highest regard is had to natural boundaries',[298] it appears that natural boundaries have precedence, and in the event of any inconsistency measured boundaries must give way.[299]

It follows then that a private property owner does not own a section of the beach below the tidal HWM boundary, on the basis that the original measured dimensions shown on the property plan, included the land now below HWM.[300]

Once that originally surveyed land is lost below HWM, it ceases to be real property[301] and 'the title is open to correction or amendment' [302].

For these reasons it is erroneous to assert that a reference to a 'fixed' boundary, or to a boundary 'fixed by survey' means that the boundary is, and must remain, static and unchanging.[303] While the boundary was originally defined, or 'fixed' by survey, it does not remain fixed if it is affected by the movement of a natural boundary.[304]

Thus it is incorrect to assert that the doctrine of accretion does not apply to right-line or 'fixed' boundaries,[305] that the boundary of real property may, due to erosion, extend beyond the high-water mark,[306] or to infer that there are two kinds of boundaries, ambulatory and fixed, which exist independently of each other.[307]

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[296] *Attorney General (Ireland) v McCarthy* (1911) 2 IR 260, Palles CB at 284; *Beames v Leader* (2000) 1 Qd R 347.

[297] *Scratton v Brown* (1825) 4 B & Cr 485, Bayley J at 499.

[298] *Donaldson v Hemmant* [1901] 11 QLJ 35, Griffith CJ at 41. The Queensland Court of Appeal affirmed this decision in *Beames v Leader* (2000) 1 Qd R 347, and at 358 said ''… the natural feature remains the primary boundary, and that lines on maps, if subordinated by description of the natural feature, are merely secondary guides which are capable of correction from time to time.'

[299] In *Attorney General (NSW) v Wheeler* (1944) 45 SR(NSW) 321, Jordan CJ, at 330, cited *National Trustee etc. v Hassett* [1907] VLR 404 and referred to the decision of Cussen J, at 412, where he said, '… where there is a discrepancy the actual boundaries of the allotment sold prevail over the measurements and bearings shown in the grant, the map or plan being intended merely as a picture of what is found on the ground.'

[300] *Environment Protect Authority v Eric Saunders and Leaghur Holdings PL* (1994) 6 BPR 13,655. As Bannon J ruled, at 13,660, 'Defined boundaries make no difference'.

[301] 'Land' as defined in s.3 of the *Real Property Act 1900* (NSW), is limited to land above high-water mark according to Bannon J in *Environment Protection Authority (NSW) v Eric Saunders and Leaghur Holdings PL* (1994) 6 BPR 13,655 at 13,660

[302] Ibid at 13,659.

[303] This assertion was made by Byron Shire Council in its submission to the 2009 House of Representatives Inquiry into the coastal zone. See House of Representatives Standing Committee on Climate Change, Water, Environment and the Arts *Managing our Coastal Zone in a Changing Climate – the time to act is now* (2009), Submission no.43, quoted at 147.

[304] *Environment Protection Authority (NSW) v Eric Saunders and Leaghur Holdings PL* (1994) 6 BPR 13,655. As Bannon J said, at 13,659,'Defined boundaries make no difference'.

[305] See Bruce Thom 'Beach Protection in NSW' (2003) 20 *EPLJ* 325 at 342.

[306] Ibid at 343.

[307] Ibid.

Property that acquires an ambulatory boundary gains littoral / riparian rights.

If the whole of the area of a land title bounded by water is eroded away so that no remnant of it remains, the whole title is lost by the private property owner.[308]

In such a situation the adjoining 'backlot' property (which originally had a 'right-line boundary') acquires an ambulatory boundary and the landowner becomes entitled to littoral or riparian rights.[309] One of the littoral[310] or riparian rights enjoyed by an owner in such a position is the right to claim any subsequent accretions.[311]

Thus, any future accretion against the former 'backlot' (now bounded by water) forms an increase in the area of that property, and does not accrue to the former land owner[312] nor revive the title of the lands formerly wholly eroded away.[313]

Eroded land may only be regained if it later accretes naturally, against an area of remaining land held under good title.[314]

Principle 9

No compensation is payable for either gradual loss or gain of land.

This statement of principle has been produced by parsing longer statements of law made by learned judges.

It has been expressed as a statement of principle in only a few cases, but these are such unequivocal statements that they cannot be overlooked.

This principle, that no compensation is payable for either the gain or loss of land by a landholder, is derived from common law decisions, but it is supported by the lack of relevant applicable legislative provisions.

This principle is based on the observation made by Lord Hale in his treatise *De Jure Maris*[315] when he discussed the precedent of the *Abbot of Ramsey's case* [316]

[308] This was the situation in *Environment Protection Authority v Eric Saunders and Leaghur Holdings PL* (1994) 6 BPR 13,655. See the comments by Bannon J at 13,660.
[309] *Doebbeling v Hall* (1925) 41 ALR 382. Graves J at 389 quotes Gould

And note, here is no custom at all alledged;(sic) but it seems he relied upon the common right of

> Every proprietor whose land is thus bounded is subject to loss by the same means which may add to his territory; and as he is also without remedy for his loss in this way, he cannot be held accountable for his gain'.[327]

The principle operates in such a way that any additional land gained by accretion (or dereliction) is compensation for any lands lost to erosion or diluvion, and vice versa.

Thus, the only compensation possible under the doctrine of accretion is land formed by reciprocal natural processes. No payment of compensation is required by the common law.

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Land may be acquired for a range of purposes under this Act by the State of Queensland, a local government body or a constructing authority,[333] and a notice of the intention to resume land must be provided to the landowners. [334] A claim for compensation

The court observed that there have been instances of validly made state legislation compulsorily acquiring property without compensation[343] and noted that while the terms of the NSW legislation at issue could validly deny the payment of any compensation at all,[344] the arrangements put in place by the NSW Government had not done so, but had capped the compensation payable at $60 million.[345]

The court noted that the situation of the states is quite different from that of the Commonwealth.[346]

Constitutional guarantees of compensation

Under the Commonwealth Constitution,[347] the Commonwealth government is constitutionally bound to only acquire private property on payment of compensation on just terms,[348] and it follows that any Commonwealth legislation which might seek to limit or rescind the right to compensation on just terms would be held invalid.[349]

The New South Wales and Queensland Parliaments are able to enact legislation to compulsorily acquire private property with limited or no compensation, because such prescriptive terms do not appear in the constitution Acts of New South Wales and Queensland, and the legislative p6les andpear in the constit7ptive telth gover

Land lost below HWM in either NSW or Queensland reverts to, and is effectively acquired by the states,[353] not the Commonwealth, and hence the implied right to compensation on just terms under s.51(xxxi) of the Commonwealth Constitution does not apply.

The 'right' to right to compensation on just terms is an important element of law in the United States of America[354] and the right to just compensation for the compulsory acquisition of private property rights by the State, known as 'takings',[355] has been extensively litigated[356] and discussed.[357]

Because the citizen's 'right' to compensation for the federal government's acquisition of their private property is based on the specific terms of the Constitution of the United States of America, as amended, the authoritative decisions of US courts upholding such a right are not relevant or applicable to cases involving claims of compensation against Australian States. For this reason those US decisions are not canvassed here.

Other nations possess similar constitutional guarantees of just compensation for the compulsory acquisition of private property by the State.[358]

[353] Land between HWM and LWM have been part of the territory of the states under common law since the reception of English common law into Australia. Title to and power over submerged lands, for 3 nautical miles to the seaward of the LWM, were granted to the states under Commonwealth legislation, *Coastal Waters (State Powers) Act 1980* (Cth) and *Coastal Waters (State Title) Act 1980* (Cth).

[354] It is one of the subjects of the Fifth Amendment to the Constitution of the United States of America ratified in 1791.

[355] See James G Titus, 'Rising Seas, Coastal Erosion, and the Takings Clause: How to save wetlands & beaches without hurting property owners' (1998) 57 *Maryland Law Review* 1279, at 1334 *et seq.*

Australian states have the constitutional power to make property laws

The Commonwealth Constitution does not give the Commonwealth government power over property or land law,[359] except on Commonwealth land[360] and the Australian states retained the power to make laws in these fields of law when the leaders of the then colonies negotiated the terms of the powers of the then proposed Commonwealth Parliament.[361]

Thus the constitutional power to make laws relating to property in Australian states is operated by state Parliaments,[362] not the Commonwealth.[363]

[359] Simon Evans, 'Property and the Drafting of the Australian Constitution' (2001) 29(2) *Federal Law Review* 121, at 125.
[360] S.122 of the *Commonwealth Constitution Act 1901* (Cth) cited in Simon Evans 'Property and the Drafting of the Australian Constitution' (2001) 29(2) *Federal Law Review* 121, at 125.
[361] Simon Evans 'Property and the Drafting of the Australian Constitution' (2001) 29(2) *Federal Law Review* 121, at 125-7.viee Austrta133.1003 Tm -.0006 Tc 0 Tw 05D ( )Tj 6.48 13 10.02 951 10.02Ibid.Tw (.)Tj /T

4/ Other relevant legal considerations

The principles of shoreline law do not operate in isolation from other relevant principles of law. Many other principles or rules of law may relevantly apply to circumstances where private property is subject to inundation or coastal erosion.

It is beyond the scope of this paper to exhaustively detail all of these other relevant legal considerations. However, in order to illustrate the complexity of the current legal framework and to answer some pressing questions, I briefly outline in the following section five additional elements of law, and explain their relevance to, and interaction with, shoreline law.

CONSIDERATION 1

Statute law is superior to, & may extinguish part of, the common law.

This is a relevant legal consideration because some private property owners may mistakenly assert that they have continuing property rights under common law, which exist and operate despite local government regulations or state legislation.

This consideration, that statute law extinguishes the common law, is a fundamental rule of law.[364]

Because Parliament is recognised in Westminster systems of parliamentary democracy as the supreme law maker, the legislation or statute law it creates has the most senior position in the law.[365]

Statutes include Acts of Parliament and delegated legislation such as Regulations, statutory planning schemes and environmental planning instruments (EPIs).[366]

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The court then further considered whether the erosion of land by the sea constituted a ‘seizure of property’ by the Crown, ‘because land lost to the sea vests in the Crown’, for which compensation would be payable.[389]

The court questioned whether ‘erosion by the sea constitutes a “seizure” in the
0 355.2 741und 65a “seizure” in the

The provisions of these statutes are determinative and they define the rules w .2274 rule11.3-25

A comprehensive treatment of this area of law is beyond the scope of this paper, so the following remarks are necessarily brief.

In NSW, under the current legal framework, a council's duty of care is exercisable at the development approval stage[410] and does not arise subsequently after the issue of a development consent.[411]

However, as discussed by Durrant,[423] there may be circumstances in which a local Council may be held liable,[424] and so local authorities have sought 'broader indemnification for climate-change-related decisions'.[425].

In NSW, further exemptions from liability were subsequently provided by the passage of the *Coastal Protection and Other Legislation Amendment Act 2010* (NSW) which inserted into s.733(3) of the *Local Government Act 1993* (NSW) additional matters for which councils could not be held liable.[426] The insertion of these additional statutory exemptions would appear to have now immunised local councils in NSW from any liability from climate change related impacts, provided they continue to act 'reasonably' and 'in good faith'.

Because most, if not all, NSW coastal councils operate under the relevant manual[427] and thus receive this extended exemption from liability, NSW local councils' liability for the impact of coastal erosion on coastal properties is very limited indeed. Earlier concerns about councils' liability for the impacts of coastal hazards such as coastal erosion,[428] may now, in the light of recent changes in NSW legislation, be put to rest.

Though questions of council's 'duty of care' and liability in the face of greater coastal erosion have been discussed, little attention has been paid to the 'duty of care' and liability of landowners who invite family, guests, clients or tradespeople onto their property while knowing that it is affected by a coastal erosion hazard.

Because councils' or a state government's liability under the possible application of tort law, to remedy damages to or loss of private land caused by coastal erosion, have been considered by other writers[429] and since a more detailed discussion of this issue is beyond the scope of this paper, further comment on liability under tort has not been attempted here.[430]

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[422] Environmental Defenders Office (EDO) *Coastal Councils Planning for Climate Change: An assessment of Australian and NSW legislation and government policy provisions in relation to*

The implications of tort law reform on these matters have added further complexity to this area of law. [431] The status and operation of torts such as public or private nuisance or negligence need to be further canvassed in some detail to ascertain their relevance and application where private land is lost to coastal erosion or diluvion. [432]

CONSIDERATION 4

Registration of land creates an indefeasible title to land

This is a relevant consideration because coastal landowners may believe that the registration of their land under Torrens title[433] creates an indefeasible title to land which prevents any part of it reverting to Crown ownership due to erosion or diluvion.

The concept of indefeasible title to land lies at the core of the Torrens systems of land title registration[434] and indeed at the heart of the dream of home ownership.

The Torrens system of a central register of land titles was developed to address the difficulties under the old general land law of providing satisfactory proof of an unbroken, exclusive chain of title to land for the purposes of the land's further sale and conveyance.[435]

Under the Torrens system, a record in the register of land titles is full and adequate

Such a record of ownership of title is however subject to any other interests in the property, such as a person or corporation holding a mortgage over the property, also being shown on that same land title in the land register.[438]

Indefeasibility of title was one of the explicit objectives sought to be achieved by the introduction of the Torrens system[439] when the then colonial South Australian Parliament passed the necessary enabling legislation in 1858.[440] Torrens system legislation was subsequently enacted by other Australian state legislatures.[441]

Even though erosion and diluvion operate under the doctrine of accretion to reduce the area of land,[442] this reduction does not affect indefeasible title.[443]

Indefeasible title to land only provides priority of title to the registered proprietor as against any other claimant.[444] It does not guarantee the permanency of land,[445] nor does registration of a title certify the boundaries.[446] Land and its boundaries are essentially subject to change by natural processes,[447]

that may have been included in the certificate by a wrong description of parcels or boundaries.[448]

All the relevant state Torrens legislation give the Registrar General (or equivalent)[449] power to correct errors on the register[450] and in NSW this power extends to a capacity to review and determine boundaries in doubt.[451]

While Certificates of Title and attached plans of land constitute proof of ownership of land as against any other claimant under the Torrens system, such documents are not absolute proof of the existence of land and its boundaries for all time,[452] and these documents too may be amended by the Registrar General.[453]

Where such amendments are made, indefeasibility of title is not usually affected[454] because the title to the land which is 'real property' remains with the registered proprietor and is secure against any other claimant.

In this way, the original title to the land which remains ‘real property’ continues undisturbed and indefeasible, i.e. with the registered owner.

What has changed is not the primary claim to ownership of the title to the land but the precise location of the land’s boundaries and the area of land held under the title.

In one case where land, held under indefeasible Certificate of Title issued under the *Real Property Act 1900* (NSW), had become entirely submerged below high-water mark the Court ruled it had been lost to the sea through gradual erosion.

enters a contract to buy land with their eyes open, and a vendor is not liable later for a defect in the property which the purchaser failed to detect on their inspection.[468]

In NSW planning certificates disclosing encumbrances on a property title are required to be prepared and maintained under the *Environmental Planning and Assessment Act 1979*.[469] These certificates include information such as easements, zonings and whether the property is affected by a hazard, such as flooding or coastal erosion.[470]

The s.149 certificate for any parcel of land can be obtained from the local council at any time,[471] but it is usually sought by a purchaser when they are considering purchasing a property. Thus a prospective buyer is able to know all the relevant matters relating to planning which affect the property before purchasing it.

In addition to these certificates disclosing all relevant planning controls, a prospective purchaser could quickly ascertain for themselves whether the property is affected by coastal erosion, by an inspection of the relevant boundary.

Thus a new owner, who has had the opportunity to inspect the s.149 certificate and the property's boundaries themselves, buys the property knowing that there is a risk that part of the land may be lost to erosion by the sea.

Under this principle of law, a purchaser of land may not repudiate or seek the rescission of the contract of sale because of an erosion hazard, nor might they justly complain about further episodes of coastal erosion, because they bought the property knowing that the property was affected by that hazard.

[467] *Fair Trading Act 1987* (NSW)
[468] Peter Butt (ed) *LexisNexis Concise Australian Law Dictionary* (4th ed 2011) at 80.
[469] s.149 of the *Environmental Planning and Assessment Act 1979*.
[470] s.149(2) states that the relevant matters may be prescribed. Clause 279 of the *Environmental Planning and Assessment Regulation 2000* refers to Schedule 4 of the Regulation, which sets out the matters to included in a s.149 certificate. See especially articles 4, 4A & 5, re coastal protection, beaches and coast, and charges for coastal protection works, and article 7 re hazards.
[471] S.149(1) of the *Environmental Planning and Assessment Act 1979*.

5/ Some Problems affecting shorelines and current shoreline law

apply to the courts to recognise their claimed 'property rights' and order the payment of compensation for lost land; or direct the construction of coastal defences.[472]

Indeed a 'storm of litigation' may well pose problems for the court in applying current shoreline law if the court is asked to do what it cannot lawfully do.

A key problem for shoreline law could be that litigation focuses on narrow points of law and contests over facts at great cost of time and money but does little to further the development of shoreline law or to resolve the wider policy and legal issues raised by higher sea levels and greater coastal erosion.

An emphasis on litigation may soon reveal the limits of such an approach, since the common law courts are essentially backwards looking, and can only apply the law as it currently stands.

Thus a big problem for shoreline law may be that landowners mistake the court as the relevant agency for the amendment and development of current shoreline law, rather than state legislatures.

PROBLEM 2 – Current shoreline law is not well known or understood

A second problem for shoreline law, as it currently stands, is that its principles are relatively unknown and its modes of operation are not well understood.

This is a problem for shoreline law because straightforward answers to questions commonly asked by landowners and policy makers have not been readily provided, nor discussed, and in their absence mistaken views have become entrenched.[473]

Further, very little has been written in scholarly journals about the relevant elements of shoreline law applicable to the impacts of higher sea levels and greater coastal erosion on coastal lands, and what has been written has not accurately described the current legal situation.[474]

[472] See for example the proceedings between a coastal landowner, John Vaughan and Byron Shire Council: *Byron Council v Vaughan* [1998] NSW LEC 158, Byron Shire Council v Vaughan & Anor [No. 2] [2000] NSWLEC 216, *Vaughan v Byron Council* [2002] NSW LEC 157, *Vaughan v Byron Council (No.2)* [2002] NSW LEC 158, *Byron Shire Council v Vaughan, Vaughan v Byron Shire Council [2009]* NSWLEC 88, *Byron Shire Council v Vaughan; Vaughan v Byron Shire Council* (No 2) [2009] NSWLEC 110.

[473] An example of this confusion and mistaken understanding is shown in the submission by Byron Shire Council to the 2009 House of Representatives Inquiry into the coastal zone and climate change. Council wrongly asserted that '(r)ight line property boundaries do not change even if the beach recedes into those properties', that 'the beach can end up on coastal private properties' and called for government intervention if 'the beach becomes privately owned'; submission 43, at 10, cited in House of Representatives' Standing Committee on Climate Change, Water, Environment and the

Moreover, important authoritative decisions of the courts[475] which have clarified the operation of current shoreline law and pr

earlier periods of rising and falling sea level,[480] global climate change and forecast higher sea-levels pose a distinct challenge to the principles of shoreline law in Australia today.

Legal proceedings might be commenced by private coastal landowners to test how the doctrine of accretion and the principles of shoreline law will apply under changed conditions brought about by global climate change, such as higher sea-levels.

Key questions which might be explored in proceedings before the courts include:

* is greater coastal erosion caused by higher sea levels and increased storminess as a result of human induced climate change, to be considered as 'natural' erosion and subject to the relevant principles of shoreline law?

* can 'natural' erosion and climate change induced coastal erosion be separately identified and their impacts on coastal land dealt with differently using shoreline law?

* are changes in shoreline position brought about by coastal erosion during temporary increases in sea level, such as storm surge, to be considered 'avulsion' and thus exempt from the doctrine of accretion and the principles of shoreline law?

* is compensation for loss of land to the sea claimable from governments or corporations responsible for causing or contributing to global climate change?

It is possible that the court could provide satisfactory answers to these questions but not to the satisfaction of the applicants who commenced proceedings.

PROBLEM 5 – Litigation won't solve difficult legal and policy challenges

A procession of lengthy, and potentially unsuccessfully litigation, by private land holders, and decisions by the courts on narrow questions of law won't pro-actively address the range of public policy and legal issues enlivened by rapidly rising sea-level and greater coastal erosion.

A pre-occupation with litigation, due to an undue emphasis on issues of liability may produce other problems. It may:

* absorb crucial financial resources in legal fees, which could have been spent on other avenues of addressing higher sea levels and greater coastal erosion;

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[478] The doctrine's application in English custom and law was recognized by in *Attorney General (Ireland) v McCarthy* (1911) 2 IR 260, by Palles CB at 285, where he referred to the decision of Best CJ in *Gifford v Yarborough* (1828) 5 Bing 163, and said that in *Gifford* the custom's 'existence from time immemorial was established by satisfactory legal evidence'. The phrase 'since time immemorial' is usually understood to mean before Richard 1st's accession to the throne in 1189.

[479] The doctrine's roots in the civil law of the Romans as shown in the *Institutes of Gaius* (2nd Century AD) and the *Institutes of Justinian*, (published c.533 AD) were noted by Walters J in *Southern Centre of Theosophy Incorporated v South Australia* (1978) 19 SASR 389, at 393. See also

* deflect or distract the focus of public authorities from developing appropriate responses to the range of public policy and legal issues, and/or
* continue the 'tunnel vision' and 'crisis management' approaches;
* hinder or prevent the development of wider more integrated (adaptation) responses which address other ecological, social and economic priorities;
* delay the adoption and implementation of other effective mitigation measures;
* distort public authorities' policy response priorities: ignoring more urgent matters;
* slant the wider debate about appropriate responses to, and priorities for dealing with, the range of public policy and legal issues triggered by rising sea-levels.;
* make policy makers and politicians reluctant or risk averse to making timely legislative changes, since parliamentary counsel's approach is usually to wait and see what the court decides before contemplating any special legislation;
* have unintended and foreseen impacts on other public policy and legal issues.

All of these potentially adverse consequences are avoidable, if carefully considered timely responses are developed and implemented.

PROBLEM 6 – Shoreline law may be seen to produce 'unjust' outcomes

A further problem of current shoreline law is that while its principles may answer specific questions, such as what happens to the title of land lost to the sea, it does not offer any long-term solutions to the difficulties faced by coastal residents and communities whose homes and community resources are already physically threatened by higher sea levels and greater coastal erosion.

Indeed, perhaps the greatest problem of shoreline law is the justifiable perception that its operation under its current principles produces an unjust and inequitable result: the loss of private land without any compensation.

This problem – the likelihood of an unjust outcome – was specifically considered by Barker J in proceedings in the High Court of New Zealand, *Falkner v Gisborne District Council* (1995).[481]

Barker J noted that the operation of the statutory scheme of coastal management created by the *Resource Management Act 1991* (NZ), justified by the New Zealand legislature because of its benefits for wider public purposes,[482] nonetheless had significant adverse implications for some coastal landowners.[483]

While he found that, under the st

landowners affected by coastal erosion,[484] Barker J suggested that such a result could be seen to be unfair.[485]

Consequently he included in his judgement[486] a recommendation to the relevant Minister that consideration be given to including in the Act provisions similar to the *Coast Protection Act 1949* (UK), which permitted the payment of compensation in specified circumstances.

This issue, the apparent unfairness of the lack of compensation for lands lost to sea, is therefore another substantial problem of the current shoreline law.

REMEDIES for PROBLEMS

All of the problems for and of shoreline law identified above may be addressed and potentially remedied by the enactment of new statute law by state governments.

The dim prospects of a 'storm of litigation' seeking to clarify 'grey areas' or determine current shoreline law's applicability under climate change conditions could be averted by legislation which specifically addresses and resolves the questions at issue.

The third conclusion I've drawn is that law can, and needs to, be part of a holistic adaptive response to these complex issues,